

Los Pinetos Nike Missile Site
(LA-94-L)(LA-94-C)
Angeles National Forest
South of Clara Road
Sylmar Vicinity
Los Angeles County
California

HAER No. CA-56

HAER
CAL.
19-SYLM.V,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
Western Regional Office
National Park Service
U.S. Department of the Interior
San Francisco, California 94102

HISTORIC AMERICAN ENGINEERING RECORD

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Location: Los Pinetos is 3 air miles northeast of Sylmar in the Angeles National Forest. The radar facility is located about 1 mile east of May Canyon Saddle on Santa Clara Road. Barracks and battery facilities are located further to the east along Santa Clara Road.

Quad: San Fernando, California

Radar Site:	11.391740.3804180	Launch/Barracks Site:	11.393880.3804390
	11.391740.3804420		11.393880.3804950
	11.392000.3804180		11.394360.3804390
	11.392000.3804420		11.394360.3804950

Date of Construction: 1955-1956. Altered in 1958, 1961

Engineer: Various

Builder: U.S. Army Engineer District, Corps of Engineers, Los Angeles

Present Owner: Angeles National Forest, U.S. Forest Service, U.S. Department of Agriculture

Present Use: ITT Company leases 1.87 acres under Special Use Permit No. 4068 from the U.S. Forest Service, including the former personnel shelter, tower structures, buildings, and fencing. The Los Angeles County Fire Department has established Fire Camp 9 there and keeps a fire crew at this location under Special Use Permit No. 1023.

Significance: The Los Pinetos NIKE site played an integral role in the Los Angeles Defense Area from 1955 to 1958. Los Pinetos is unique among Nike sites in the Los Angeles area in that the launch, administrative, and battery control facilities are located within a single line-of-site. This is also an unusual feature nationwide, because the battery control facilities were generally located in an area remote from other facilities. As a result, Los Pinetos presents a powerful visual representation of an operative Nike site within a single line-of-sight. Los Pinetos, along with Mt. Gleason, experienced the full range of the Nike development, including conversion from conventional Ajax to the nuclear capable Hercules missile.

PART I. HISTORICAL BACKGROUND

American military interest in guided missiles dates to 1940, when the Air Force established a "guided missiles" program which utilized glide-bombs launched from aircraft and guided to surface targets. A second generation glide-bomb was the "bat" which also began as an Air Force project but was eventually transferred to the Navy. This missile system was of particular interest, because radar was employed to lock a "bat" onto its target.

In 1943, the Army established its own Rocket Branch known as the Technical Division of the Office, Chief of Ordnance. The goal of this organization was to bring further development of the guided missile under more central management. In May 1944, the Army placed a contract with the Jet Propulsion Laboratory in Pasadena, California, for investigation of the feasibility and future use of guided missiles.

By contrast, Germany had worked on nearly 150 guided missile projects by the end of World War II. Many of these projects were related to anti-aircraft surface-to-air missiles, and were a direct result of the increasing impact of Allied bombing on German home territory. The most successful of the German projects were the "Enzian" (Gentian), "Schmetterling" (Butterfly), "Reintochter" (Daughter of the Rhine), and "Wasserfall" (Waterfall). These projects progressed little beyond the testing stage or they might have hindered the Allied war effort.

Despite the fact that surface-to-air guided missiles had never become a serious operational weapon, the implications of their development were clear. Using German technology with British radar, and the United States' nuclear device, a single country could virtually dominate any form of armed conflict. In effect, the race was on to develop all forms of both long- and short-range guided missiles.

In February 1945, the Army contracted with Bell Telephone Laboratories and the Western Electric Company to investigate an air-defense program. This was the beginning of what would become the NIKE program. The Army had established earlier, with some foresight, the White Sands Proving Ground in New Mexico, and it was here that much of the original testing of the NIKE was carried out. NIKE, however, was only one of a number of missiles being tested by the Army. In addition, the Air Force and the Navy were running separate and highly competitive programs.

As early as 1945, for example, Boeing was developing a ground-to-air pilotless aircraft (GAPA) under an Air Force contract. This was actually a highly advanced ramjet powered missile. In 1949, however, a high-level decision was made to force the Air Force to cancel its short-range anti-aircraft missile program. In response, one Boeing engineer remarked:

We were somewhat ahead of this missile in development at the time of cancellation. We had even developed our own ramjet power plants for this particular bird. We were making terrific progress, and had a weapon that could soon have been placed in operation. Then someone screamed that the Army was being crowded by our works and blooey! -- just like that, the whole thing was canceled. (Caidin 1958: 238)

The decision was clearly political. One clue as to why the decision was made is that General Omar Bradley, Chairman of the Joint Chiefs of Staff, had determined that each branch of the armed

services would conduct missile development according to its assigned mission. The Army was assigned the mission of manning antiaircraft (gun) artillery emplacements.

The Army's overall missile program was, however, in a state of disarray. In retrospect, therefore, it is perhaps unfortunate that the Air Force was ordered to cancel its program.

It was evident that after its excellent start, the Army's postwar missile program was foundering in a morass of financial want and procrastination. The Army had almost abandoned the entire Project Hermes. It had picked up the LaCrosse (tactical) missile program from the Navy, and had some other tactical missile irons in the fire. Its only major projects were the Corporal missile and a new ballistic missile, the proposed Redstone. (Caidin 1958: 238)

Due to these financial woes, which were shared by other branches of the armed services, the country's missile program languished. This continued until July 1950, when the opening shots were fired in Korea. The spectre of war shook the American people, and in particular, politicians, and the military command. As a result, money quickly became of less concern in relation to maintaining a state of military readiness.

A succinct example of the change of attitude can be seen in the missile budget. From 1945 to 1950, the missile program in this country averaged about \$70 million a year, gradually creeping up to \$800 million spent on missiles, and the second more than \$1 billion. (Parson 1962: 38)

Again, as a result of the Korean War, the Secretary of Defense, George C. Marshall, Army Chief of Staff during World War II, created the position of Director of Guided Missiles as part of his office. A number of missile programs were immediately funded, and they each became operative within a few years. As an article in the *Argus* notes, the general guidelines for the development of the NIKE system were as follows:

- Contracts were let and the NIKE System (NIKE, the Winged Goddess of Victory of Greek mythology) was begun.
- From the outset, the NIKE project had some specific objectives. NIKE would have these characteristics:

Supersonic speed and rocket power free of dependence on this atmosphere for its supply of oxygen.

Ground-based guidance equipment which would not be expended each time a missile was fired.

A warhead of sufficient power to destroy its target without scoring a direct hit.

Self-sufficient capabilities for covering the range of the air battle, if necessary, from detection through destruction of enemy target.

An open-end design -- that is, a system capable of accommodating improvement economically with the least obsolescence of existing components. (*Argus*: June 1964, p. 2)

The first of this series developed was the NIKE I, later renamed the NIKE-AJAX. By 1951, the first successful surface-to-air interception of an aircraft by a guided missile was accomplished. In 1953, the first prototype battery was tested at White Sands Proving Ground, and in March of 1954 the first combat operative Nike unit became operative in the Washington area. The NIKE quickly became the most important part of the Army missile program, both in terms of finance and responsibility (see Figure 1).

LOS ANGELES DEFENSE AREA DEPLOYMENT

In Los Angeles, the Department of the Army had directed, as early as December 1951 (letter, AGAO-S 381, December 1951), that future sites be located under the subject heading "AAA Defense Area and Projects Definitions." At this point in time, the investigation was ordered to proceed under strict security. On 6 May 1952, these guidelines were somewhat relaxed. A letter from General Bush, to the Commanding Generals (AGAO-S, 2 May 1952) notes:

2. Paragraphs 3a and c are modified to effect a downgrading of the classification of AAA projects to permit competitive bidding on the construction of the projects. Individual projects or groups of projects not exceeding six need not be classified. However, all correspondence and documents containing seven or more projects in any one defense area will be classified RESTRICTED SECURITY INFORMATION.

By July 1952, the "siting team" in the Los Angeles area had gathered considerable information on the location of future NIKE sites. L.B. Otterness, Chief of the Appraisal Branch, U.S. Army Corps of Engineers, Los Angeles District, placed a "memorandum for file" in response to a telephone inquiry from William Shawler, Sixth Army. He noted:

I informed Mr. Shawler that:

- a. The siting team, while in Los Angeles, had tentatively selected between 50 and 60 sites under the defense plan for Los Angeles.
- b. Although only 12 sites are being considered for operation at this time, each site requires alternates in the event complications arise at main sites selected, and for that reason the siting team had requested that rights of entry be obtained on the total number selected by the team.
- c. Information furnished by the siting team only pin-pointed the locations on a large map, and ownership data and address of owner had to be obtained prior to requesting acquisition to contact owners for necessary rights of entry.
- d. Ownership data has been obtained on approximately one-half of the sites. This data is [sic] being shown on smaller plats and will be furnished acquisition as soon as copies are run on individual sites.

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e. I quoted Message No. 63, dated 5 July, received from Commanding General, 47th AAA Brigade, Fort Baker, requesting information on progress made in procuring right of entry for the radar testing on 12 sites in Los Angeles.

f. As soon as rights of entry on 6 sites have been obtained, the AAA Brigade at Fort Baker will be notified. (SPLRH 601: 7 July 1952)

Efforts to acquire sites proceeded with all possible speed. However, the Corps of Engineers did experience some difficulty. This is evidenced in a letter from Col. Shuler, Army Corps of Engineers, Los Angeles District, to Col. Gerald Gibbs, Commanding Officer, 47th AAA Brigade at Fort MacArthur, Shuler writes:

Enclosed is a newspaper clipping from the Santa Monica "Outlook" dated 12 January 1953 which I desire to bring to your attention. You will appreciate, I am sure, that publicity of this nature adds greatly to the already difficult problem of obtaining real estate in the Los Angeles area for your project. Since none of my officers made the statement, it appears to me that perhaps one of yours may be involved. If so, I would appreciate it if in the future that releases of this type be carefully screened to avoid issuance of any information which tends to unnecessarily alarm the property owners.

Along the same line, it has been reported to me that in connection with the negotiations with the City of South Gate, one of your officers made a remark which the city officials evidently construed to mean that another site would do just as well as the park site. It is felt that this remark had a great deal to do with stiffening the opposition of the council members to leasing part of the park for your purposes. I feel that the Los Angeles District must take an unequivocal position in dealing with property owners, such position to be based on your statement that a certain property is required for defense purposes. Any statements to the contrary which reach the people with whom we are negotiating makes our job the more difficult.

In brief, the Army Corps of Engineers was aware of the difficulty of "selling" the NIKE missile to the public, and wanted no interference from Army Command.

In October 1953, real estate negotiations were temporarily suspended. The reason for this is not clear, but the delay was extremely short lived. A letter dated 12 November 1953 notes:

1. Reference is made to Teletype ENGLP 4187, dated 28 October 1953, directing the suspension of all real estate action on the NIKE program. This teletype is hereby rescinded and all real estate action is to be resumed immediately, consistent with the instructions set forth hereinafter. In this regard, informal information has been received from the Office of the Assistant Chief of Staff, G4, to the effect that Real Estate Planning Reports will continue to be processed and Real Estate Directives will continue to be issued based upon Real Estate Planning Reports in their present form without awaiting acreage and money revisions which will result from instructions set forth below. (Vol. 1 NIKE: 12 November 1953)

Acquisition and construction proceeded both immediately and simultaneously and in 1954 the first Los Angeles Defense Area System Nike Battery became operative in Chatsworth.

The siting teams of the Army Corps of Engineers operated under strictly defined and, at the time, classified guidelines. These guidelines were later reflected in all real estate and planning reports. Specific information requested by these guidelines included the minimum acreage, soils and topography, foundation conditions, utilities, availability of water and electrical supply, access, and communications conditions.

PART II. AIR DEFENSE ORGANIZATION: THE NIKE PERIOD

During the NIKE period, the Unified Action Armed Forces assigned the Army the following air defense function: to organize, train, and equip Army air defense units, including the provision of Army forces as required for the defense of the United States and in accordance with guidelines established by the Joint Chiefs of Staff. The combined command established for the defense of the continental United States, Canada, and Alaska was the North American Air Defense Command (NORAD). The unified command established to perform national air defense missions was the Continental Air Defense Command (CONAD) (see Figures 8 and 9). The command established to carry out the specific Army defense mission was the United States Army Air Defense Command (ARADCOM). ARADCOM was officially formed on 21 March 1957, as a redesignation of the U.S. Army Antiaircraft Command (ARAACOM) which was formed in 1950.

NORTH AMERICAN AIR DEFENSE COMMAND (NORAD)

NORAD was directly responsible to the United States Joint Chiefs of Staff. It was created in September 1957 and had jurisdiction over United States and Canadian Forces involved in aerospace defense. It comprised a number of "component forces" including ARADCOM which operated the NIKE system. Each of the component forces provided combat ready air defense units for operational control by NORAD, but the commanders of each component retained command, administration, training, and logistical control over their respective force. NORAD did, however, prepare operation plans, conduct tactical exercises, and coordinate plans and requirements for new air defense weapons (see Figure 2).

CONTINENTAL AIR DEFENSE (CONAD)

CONAD operated as a unified command under the Joint Chiefs of Staff, and performed all air defense missions of a national nature. CONAD was involved in broad national planning, separate from NORAD, while more detailed planning was accomplished by individual component commands including ARADCOM.

U.S. ARMY AIR DEFENSE COMMAND (ARADCOM)

As described in the *Field Manual for U.S. Army Air Defense Employment*, dated July 1988, ARADCOM duties and responsibilities included the following:

- a. The senior U.S. Army organization in the NORAD structure is ARADCOM which commands, trains, and administers the U.S. Army air defense units of NORAD.

b. ARADCOM units defend major industrial and population centers of the United States as well as selected Strategic Air Command (SAC) bases. NIKE-AJAX and NIKE-HERCULES sites are manned by ARADCOM personnel in CONUS and Greenland. In addition, National Guard units man NIKE-AJAX sites within CONUS.

c. Administrative training supervision over the widespread defenses of ARADCOM is diversified by the establishment of area commands (regions). [The region commanding the Los Angeles Defense Area was the 6th Region.]

d. Army air defense command posts (AADCP) are established for each defense at battalion, group, or brigade level. From the AADCP the Army air defense commander exercises operational control over all Army fire units within his defense. For normal operations, the AADCP is under operational control of the NORAD Sector Direction Center; however, for command, the AADCP is directly subordinate to the ARADCOM region commander. [The brigade with responsibility for the Los Angeles area was the 47th Brigade.]

Most important was the general Army philosophy which provided the individual unit commanders with wide discretionary powers. Specifically:

e. The Army philosophy of control of AD units is to delegate to the lowest practical level the authority to act, while preserving at the highest practical level the ability to coordinate. The result is maximum reaction to an enemy threat in a minimum of time. For an AD engagement, the fire unit commander is supplied information on which to base his decisions, and he is delegated authority to act. Only infrequently should it be necessary for an AD commander to exercise his authority to override the combat decision of AD commanders at subordinate echelons.

These powers clearly underscore the actual military significance of each NIKE site under a single battalion command.

AIR DEFENSE BRIGADE

The 47th Brigade at Fort MacArthur had command of the NIKE Los Angeles Defense Area System through most of its history. The AD brigade consisted of a brigade headquarters and headquarters battery, and all AD groups and battalions that were assigned or attached to it. The mission of the brigade was to provide tactical control and supervision to all AD units within its jurisdictional area. A brigade usually consisted of two or more air defense groups. In the Los Angeles area, these consisted primarily of the regular Army 56th and 65th Artillery, with elements of the 57th Artillery, 3rd Battalion, stationed at White Point, Fort MacArthur. The 57th Artillery group was eventually replaced by an Army National Guard (ARNG) Unit (see Figure 3).

AIR DEFENSE BATTALION

The battalion was the basic administrative unit of NIKE air defense. It generally consisted of a headquarters and headquarters battery with several firing batteries. As an administrative unit in the Los Angeles area, the battalion was directly responsible to the brigade headquarters (Figure 4).

AAA MISSILE FIRING BATTERY

The AAA Missile Firing Battery was the base unit that operated at each NIKE launch site (Figure 11). It consisted of a headquarters section, communications section, a fire control platoon, a launching platoon, a launching platoon headquarters, and a launching section. Their duties are described in the January 1956 manual *Procedures and Drills for the Nike I System*.

- a. Headquarters Section. The organization and responsibility of the headquarters section is essentially the same as in AAA gun batteries.
- b. Communications Section. This section is responsible for installing and maintaining the noncommercial communication nets, and operating the commercial communication nets within the battery.
- c. Fire Control Platoon. The fire control platoon consists of one launching platoon headquarters and three launching sections.
- d. Launching Platoon. The launching platoon consists of one launching platoon headquarters and three launching sections.
- e. Launching Platoon Headquarters. The launching platoon headquarters is responsible for the operation and training of the three launching sections. It contains technically trained personnel to assemble, test, and perform organizational maintenance on the NIKE I missile and booster and launching section equipment. It is responsible for assembling and testing missiles and boosters, and for the maintenance of the rounds at the launching section.
- f. Launching Section. The three launching sections are responsible for the preparation of the missile and booster for firing after they have been delivered to the launching section from the assembly and test area and for routine nontechnical tests, checks, adjustments, and organizational maintenance. (FM 44-80, January 1956)

In summary, the organization of the United States Defense Area System from NORAD to the individual AAA missile firing battery was designed specifically to give general guidance at the brigade level and above, with broad discretionary operating powers at the battalion level. This system served to maintain organizational responsiveness while maximizing the NIKE weapons system capability, utilizing quick response as an effective deterrent to enemy attack.

PART III. THE 6TH REGION AND 47TH ARTILLERY BRIGADE: BACKGROUND HISTORY

6TH REGION

The 6th Region ARADCOM was formed on 1 September 1950, as the Western Army Antiaircraft Command. It was redesignated twice, once in 1955 when it was renamed the 6th Army Antiaircraft Regional Command, and again, in March 1957, when it became the 6th Region ARADCOM.

The original command headquarters were located at Hamilton Air Force Base, California, but were later moved to Fort Baker, California. At the time the region was established, it commanded only gun batteries and was assigned the Army air defense of the entire West coast of the United States.

In 1954, the first NIKE-AJAX sites became operational on the Pacific Coast as part of a nationwide program to replace guns as a means of air defense. In September 1958, the first HERCULES missile base with nuclear capabilities became operational at Chatsworth.

A major change in 6th Region structure took place in July of 1960. At this time the 7th Region ARADCOM was formed; it took over the responsibilities of air defense in the Pacific Northwest. In 1961 and again in 1963, the boundaries of the 6th and 7th regions were changed to conform more closely with NORAD Region boundaries. In 1966, the 7th Region was eliminated and the 6th Region once again took over responsibility for the entire Pacific Coast and western United States.

In 1970, as part of a phased deactivation of the NIKE system, the geographic responsibilities of the 6th Region were expanded to include the entire western half of the United States, including portions of the Gulf of Mexico. These responsibilities remained largely in effect until the closure of ARADCOM in 1974.

In relation to California, the 6th Region operated two major defenses, each under command of a brigade: the 40th Artillery Brigade, San Francisco, and the 47th Brigade, Los Angeles Defense Area. The brigades operated throughout most of the NIKE period in California.

47TH BRIGADE

The 47th Artillery Brigade, headquartered at Fort MacArthur during the majority of the NIKE period, was formed on 19 January 1942, and was activated 3 days later at Camp Davis, North Carolina. It was originally formed as the 47th Artillery Brigade (AA), but on 5 September 1943, it was redesignated as Headquarters and Headquarters Battery, 47th Brigade (see Figure 5).

The brigade saw combat in Europe and, at the close of World War II, was deactivated on 16 December 1945 at Camp Kilmer, New Jersey. The brigade remained inactive until 1 April 1951, when it was returned to active Army duty as the 47th Artillery Brigade at Fort Stewart, Georgia. Duties involved training of the 3rd, 208th, and 227th AAA (Antiaircraft Artillery) groups which had been inducted from the ARNG.

On 10 March 1952, the brigade was assigned to Army Antiaircraft Command and to the Western Army Antiaircraft Command which later became the 6th Region ARADCOM. The brigade was stationed at Fort Baker, California, during this period and was assigned the task of defending both northern and southern California AAA sectors.

On 20 November 1952, the brigade was transferred to Fort MacArthur, Los Angeles, California where it was assigned the mission of air defense of southern California. The brigade would remain at this station for 16 years, during which time it witnessed the end of gun-controlled air defense and the development of the NIKE-AJAX and NIKE-HERCULES missile systems.

The first responsibility of the brigade upon arrival in the Los Angeles area was to take control of the 466th AAA 40-mm gun battalion. This battalion was later converted to 75-mm "Skysweeper"

guns in August 1953. The 551st AAA 90-mm gun battalion was assigned to the brigade on 14 September 1953; on 17 August 1954, it was converted to a NIKE-AJAX site, the first operative (Chatsworth) in the Los Angeles area. This battalion was later redesignated (1 September 1958) as the 4th Missile Battalion, 65th Artillery, and remained in the brigade throughout its period in Los Angeles.

The 933rd AAA Missile Battalion was reactivated and assigned to the brigade on 15 December 1955. On 20 January 1959, it was reorganized as the 1st Missile Battalion 56th Artillery. Both the 65th and 56th Artillery groups were assigned extensive duty at the Angeles Forest NIKE sites.

The 720th AAA Missile Battalion of the California ARNG became the first operative NIKE ARNG unit in September 1958. It was later redesignated the 4th Battalion, 251st Artillery and remained an integral part of the Los Angeles NIKE Defense System until its closure in 1974. One of the best under its command was White Point. By December 1954, the brigade had four operational NIKE-AJAX sites. During the next 2-1/2 years, 12 additional NIKE-AJAX sites became operational.

In September 1958, four sites under brigade control were turned over to the California ARNG. These sites were manned by the 4th Missile Battalion, 251st Artillery. Interestingly, this battalion was named the top ARNG missile battalion in ARADCOM in 1961. This was a highly successful project pioneered by the 47th Artillery Brigade in California and eventually carried out nationwide.

The late 1950s and early 1960s witnessed the conversion of many NIKE-AJAX sites to NIKE-HERCULES sites. As a result, a Missile Master Control System was brought into operation on 1 March 1961. In 1962, the brigade had 13 operational NIKE sites, including 4 operated by the ARNG.

By 1968, many of the Los Angeles area sites had been deactivated and by 1969 the brigade was moved to Homestead AFB, Florida. This was part of a nationwide demobilization of the NIKE System. Mt. Gleason, the last NIKE site in the Angeles Forest to be deactivated, ceased military operation in 1974.

The 47th Brigade had a number of prominent commanders during the 1950s and 1960s. Among these were Major General Olaf Kyster, Jr., Brigadier General Willis A. Perry, Brigadier General John T. Honeycutt, Brigadier General C.D. Lang, Colonel Raymond P. Murphy, Colonel James G. Lail, and Colonel Basil D. Spalding.

Major General Kyster was one of the earliest and most prominent commanding generals of the 47th Brigade; it was in his memory that the Los Angeles Missile Master Facility was dedicated on 12 May 1961. The Los Angeles unit was the tenth and last of its type to be constructed in the United States.

Brigadier General Willis A. Perry commanded the 47th Brigade in 1958. Significant among his contributions was the development of the first family housing project in the Los Angeles area beginning in May 1958. The nationwide establishment of these projects was important as it allowed for the most efficient use of Army personnel in more remote areas. The site was located at Sand Canyon, approximately 7 miles east of Newhall.

General Perry was succeeded by General Honeycutt who commanded the brigade during the late 1950s and early 1960s. Honeycutt oversaw the development of several important innovations in the Los Angeles Defense Area System, including the conversion of NIKE-AJAX to NIKE-HERCULES sites. The first site to be converted was the Chatsworth site in August 1958. By May 1959, the conversion of the second site, located at Mt. Gleason, was nearing completion. The conversions were significant as the NIKE-HERCULES was "atomic-capable." An article in the *Argus* notes:

Until the conversion of all existing Nike-Ajax sites to Hercules, the Ajax missile will continue to be used. The Hercules site has the capability of firing either a Hercules or an Ajax missile... The Mount Gleason battery site is manned by members of Battery D, 1st Missile Battalion, 56th Artillery, commanded by Capt. Daniel T. Mahoney. (*Argus*, May 1, 1959, p. 7)

General Honeycutt also was involved in establishing the Missile Master Control System; he dedicated the site to General Kyster immediately prior to his replacement by General Lang in the fall of 1961.

Brigadier General C.D. Lang's presence as commander of the 47th Brigade was transitory, but it is significant in relation to local air defense as he was involved in the first of many major realignment and deactivation programs instituted by the 6th Region U.S. Army Air Defense Command in the Los Angeles area. Specifically, during his command, the 12th Air Defense Artillery group, headquartered in Pasadena, was deactivated.

Functions of the 12th Artillery group were assumed by two missile battalions: the 1st Missile Battalion, 56th Artillery, under the command of Lt. Col. Donald L. Ducey; and the 4th Missile Battalion, 65th Artillery, under the command of Lt. Col. Charles B. Cole (*Argus*, 1 July 1962, p. 8). Interestingly, components of the 56th and 65th Artillery were then stationed at all of the active Angeles Forest NIKE sites.

Colonel Raymond Murphy succeeded General Lang as commander of the 47th Brigade in the fall of 1962. Additional commanding officers of the brigade included Colonel James Lail and Colonel Basil Spalding, who also oversaw the initiation and establishment of NIKE deactivation programs (see Appendix A).

MT. GLEASON MILITARY HISTORY

From 1955 to 1956, Mt. Gleason was manned by Battery B of the 551st AAA Missile Battalion. In 1957, control of the site was transferred to Battery C of the 933rd Missile Battalion and in 1958 the site was operated by Battery D. On 20 January 1959, the battalion was reorganized as the 1st Missile Battalion, 56th Artillery. Battery D, 1st Missile Battalion, 56th Artillery, served at the site from 1958 to 1969. In 1970, the Mt. Gleason facility was transferred to Battery A of the 4th Missile Battalion, 65th Artillery. In 1972, the site was manned by Battery A of the 2nd Missile Battalion, 65th Artillery, which served at the site until its closure in 1974.

LOS PINETOS MILITARY HISTORY

The Los Pinetos NIKE installation was first manned by Battery A of the 551st Missile Battalion. This group was reorganized as the 4th Missile Battalion, 56th Artillery on 1 September 1958. Battery A served at the installation until its closure in 1968.

In summary, the 47th Brigade experienced constant and numerous changes of command at the headquarters level, while maintaining continuity at the battalion level, particularly with the continued presence of the 56th, 65th, and 251st Artilleries. As such, the brigade is highly representative of the U.S. Army Nike command structure nationwide. For example, the Los Pinetos Nike installation was under the operative command of the same battalion and battery throughout its history. In contrast, the Mt. Gleason installation experienced some changes in battery group, but was under the same battalion throughout most of its history (see Appendix B).

PART IV. ARADCOM DEACTIVATION: 1968-1975

A number of NIKE sites were deactivated nationwide prior to 1968 or were formally designated as excess real property. It was not until the fall of 1968, however, that a program targeting the deactivation of sites was initiated on a large scale nationwide. Official notification of this program declared that:

The action is the latest in a series of economy measures being taken by DOD to cut FY69 expenditures as required by the Revenue and Expenditure Control Act of 1968. (*Argus*, September 1968, p. 3).

This program was implemented for two major reasons. First, the NIKE system had been outdated by other antiballistic missile defense plans. Second, political pressures were beginning to be felt with regard to reducing defense expenditures in conjunction with the planned withdrawal from Vietnam. By 1971, this program had become a part of a major realignment of American defense forces. Thus, in an open message to the troops of his command, Lieutenant General George V. Underwood, Jr., the ARADCOM commanding general, noted the need to "reduce the cost of the defense program." He added:

Moreover, your selection for inactivation was not based upon your record of accomplishment in comparison with batteries scheduled for retention. The decision was based upon the following factors:

- a. The priority of the various defended areas.
- b. Retention of the maximum number of defenses.
- c. Providing the best possible all-around coverage within a particular defense.
- d. Retention of those batteries which contributed most to the tactical effectiveness of the defense.
- e. Maintaining sufficient active Army batteries to provide the necessary rotation base for our Air Defense Artillery units overseas and to preserve a source of personnel to man Safeguard ABM units. (*Argus*, March 1, 1971, pp. 4-5)

All West Coast operations were planned for deactivation by 30 June 1975. The Pentagon justified these actions as part of the final realignment of United States air defense. In brief:

DOD explained that a review by the Secretary of Defense of the mission of continental defense against the strategic nuclear threat recognized the changes in Soviet capability in intercontinental ballistic missiles in relation to that represented by their manned aircraft.

As the United States has relinquished the option for continental defense against strategic missiles, the Department of Defense has placed a lesser priority on maintenance of the existing posture for defense against manned aircraft.

Future efforts will be directed toward operations that will provide long-range warning of a bomber attack and improved air space surveillance and control. These efforts will also stress the importance of ensuring that the U.S. technological base keeps pace with potential airborne threats and that the U.S. continues its lead in antiballistic missile technology. The Department of Defense will also maintain and continue development of our field Army air defense systems and capabilities. (*Argus*, February 1, 1974, p. 2)

The disbanding of the NIKE system was carried out in an orderly manner, designed to reduce the impacts of the closure of individual units on both military and civilian personnel. Civilians were, for example, given all possible assistance in being transferred to other nearby positions. Military personnel were reassigned, and there was no programmed involuntary release from active service as a result of the deactivations. The closure of individual units was planned to take 180 days (Figure 6). It was, as may be expected, an extremely complicated process involving the packaging and shipping of equipment, drug testing, severing communications, disposal of excess equipment, and the final transfer of the site to facilities engineers.

As with all NIKE sites the closure of the installation was primarily the responsibility of the Army Corps of Engineers, following implementation of the previously described closure procedures by the Army. The final closure of the installation generally involved: notification by the Army that the property was in excess of its needs and requirements; physical securing of the site to prevent accident or vandalism; preparation of a Report of Excess Real Property by the Army Corps of Engineers; submittal of the Property Report to the General Services Administration; and investigation of the sale, demolition, interim use, or alternate use of the deeds or restrictions placed on the property at the time of acquisition.

PART V. LOS PINETOS

Los Pinetos was built in 1955-56. The site played an integral role in the NIKE system for the Los Angeles Defense Area from 1955 to 1968. It constitutes one of five NIKE sites built in the 1950s in Angeles National Forest. The Angeles National Forest sites are: Mt. Gleason, Barley Flats, Los Pinetos, Magic Mountain/Lang. Los Pinetos is unique among known recorded NIKE sites in the Los Angeles area in that the launch, administrative, and battery control facilities are located within view of each other. This is also an unusual feature nationwide because the battery control facilities were generally located in an area remote from the others. As a result, Los Pinetos

presents a powerful visual representation of an operative NIKE site within a single line-of-sight. Los Pinetos was deactivated in 1968 by the Department of the Army.

Overall, the Los Pinetos NIKE site is associated with an entire development period of military history which made a significant contribution both to industrial technology and the policymaking decisions of American government during the late 1950s and 1960s.

ACQUISITION

Land for the Los Pinetos NIKE installation was acquired under a special use permit allowing the Army use of federally-owned land (Figures 7 and 8). A 22 November 1954 letter addressed to the District Engineer, Commanding General Francis M. Day of 47th AAA Brigade summarized the Army's position on acquisition. Day notes:

c. LA-94-C and L; Los Pinetos. The entire site is located on federally-owned land, a part of the Angeles National Forest. No restrictive easement for line of sight purposes is necessary. Some removable mask in the form of 12-inch to 30-inch coniferous trees exist in the vicinity of the Control Site. These trees must be removed and their removal must be coordinated with the U.S. Forestry Service. Some access road easement and water line easement will be required.

Day's letter was drafted in response to a summary review of the site prepared by the Los Angeles District Engineer on 15 November 1954. A siting team consisting of various experts on foundations, roads, electrical equipment, and water, including a representative of the 47th AAA Brigade, had visited the site on 27 September 1954. Their visit was prompted by a 14 July 1954 directive to conduct surveys of Los Angeles Defense Area NIKE sites. Their report concluded that "from an engineering standpoint, no major problems are anticipated. The sites are considered feasible for construction of the proposed facilities." They did, however, note that developing a water supply would be difficult.

All sources of water are quite removed from the site and will require installation of a pipeline over difficult mountain terrain. The Los Angeles City System is the most reliable and could be reached by a pipeline approximately 2 miles in length. This supply would require pump stations to lift the water approximately 1300 feet. The Los Angeles City System could also be tapped at the Veteran's Administration Hospital approximately 2-1/2 miles distant.

Information obtained from a local rancher indicated a well had been drilled in Los Pinetos Canyon in the year 1900 at elevation 1900. Total depth of this well is 1000 feet with 12-inch surface casing with rock hole. The well has recently produced 5 GPM with only 6-foot drawdown with immediate recovery upon stopping the pump. This well is approximately 1-1/4 miles northeast of the launcher site and approximately 1100 feet below the site.

It is interesting to note here that the report concluded that "from an engineering standpoint" there would be no problem. Cost was, therefore, apparently not a consideration at the Los Pinetos site, for although the provision of water would be difficult and expensive, that was not an "engineering" problem.

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
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Day quickly updated his November memorandum by making a formal request to the Commanding General of the Western Army Antiaircraft Command at Fort Baker for the acquisition of the site. His 4 January 1955 letter also provides a good description of the site prior to construction.

1. Request authority to acquire the areas shown on enclosures 1 and 2 for use as a NIKE battery installation.
2. The entire site is located on government-owned land, a part of the Angeles National Forest. LA-94-C (EJBE 350215) is at elevation 3945, on a fairly sharp ridge. Three major fingers extend north and west from the top, and the use of all three ridges will be required to site dual control equipment. The primary sector is mask free. The secondary sector has masks to a maximum of 32 miles.
3. An administrative area site has been located at a lower elevation on the same hill mass as LA-94-C, and contiguous to the access road.
4. LA-94-L (EJBE 348212) is at an elevation of 3000 feet, 1450 yards west of the control area, and along a long narrow ridge. The latter statement will necessitate the use of nonstandard launcher area, however space exists for six magazines.
5. Access to both areas is over unpaved fire roads. Some road improvement will be required prior to site occupancy.
6. Radar testing of this site will not be feasible prior to spring, as no radar maintenance is performed during winter months. At the present time, access is gained by a 1/4-ton truck, only.

On 7 January 1955, a formal request was made by Fort Baker to the Commanding General, Army Antiaircraft Command at Colorado Springs. The request was approved on 21 January 1955 with the notation that acquisition should proceed "without delay."

Expedited acquisition procedures prescribed by message DA935870, Department of the Army, G4, 7 April 1953, are authorized, if deemed necessary, and will be coordinated with the appropriate District Engineer.

A request to the appropriate District Engineer for engineering designs and construction cost estimates is authorized. Immediate attention will be given to assisting the Engineer in final location of the site so that design and final acquisition may proceed without delay.

On 25 January 1955, a request was made to the Commanding General of the 6th Army to "take appropriate action to have the District Engineer, Los Angeles District, acquire a real estate interest" in the Los Pinetos site. On 5 February 1955, the Headquarters 6th Army made the final request to the Division Engineer, South Pacific Division, Corps of Engineers with a copy sent to Los Angeles. It notes, simply that:

It having been established that a military necessity exists for the acquisition of an appropriate interest in the real property identified in the preceding correspondence, it is requested that action be initiated toward its acquisition.

Negotiations were opened soon with the Forest Service, but it was not until 21 September 1955 that special use permit number LA-906 was signed. The special conditions of the permit were substantially the same as those for the Barley Flat NIKE site in Angeles National Forest. Additional conditions were, however, placed on the Los Pinetos site. These were:

Any roads constructed within the defense site areas which have grades in excess of 6% will require advance approval from the Forest Supervisor. Such approval will be based upon a report which conclusively shows that the route selected and grade and other design features proposed for the road are consistent with the objectives of good watershed management. This provision will be waived if the roads are paved, drainage facilities are adequate, and discharge from drainage structures is properly handled.

Provisions will be made to protect all road slopes from erosion.

Where drainage from paved areas and/or roads is collected in drainage structures, provision will be made to protect the existing Forest Service road from damage due to the increased flow of water.

Prior to construction of any of the above mentioned improvements of facilities, the Army will consult with the Forest Service so that the construction specifications may correlate with the Forest Service plans so far as consistent with the Army's use of the area.

The Forest Service truck trail shall be open at all times for through travel by the Forest Service, cooperating agencies of forest users on authorized forest business.

Clearly, the Forest Service was concerned about the use and maintenance of existing road surfaces. This may account for the delay between the 5 February 1955 authorization to acquire the land and actual signing of the permit on 21 September 1955.

CONSTRUCTION

1955

No construction records have been found for the Los Pinetos site. It is likely, however, that construction began with the simultaneous improvement of the road surfaces and the development of a suitable water supply. The existing roads, as noted in General Day's 4 January 1955 letter, were inadequate as access could only be gained by using a 1/4-ton truck. Actual construction probably began immediately following the 21 September 1955 signing of the special use permit, with the bulk of construction occurring in 1956 following the provision of an adequate water supply.

1958

Additional building history associated with Los Pinetos includes the 1958 construction of the first units of family housing in the Los Angeles Defense Area. These were located at 25600 Sand Canyon Road, Saugus, California on an 8.27 acre site.

1961

The only amendment to the original special use permit was approved by the Forest Service on 16 March 1961. This allowed the Army to acquire an additional 0.37 acre parcel for "new canine kennels in connection with conversion of NIKE facilities from Ajax to Hercules" missiles. The permit indicated that some additional construction took place at Los Pinetos in 1961 including additional fencing and additional radar control facilities associated with conversion to a Hercules capable site.

1975 - 1988

ITT Company leased this site from the Forest Service beginning in 1975 until the present time. Currently, they hold a year lease and use some of the old radar control platforms for their present facilities. A special use permit (No. 4068) authorizes ITT to use tower structures, buildings, and fencing on approximately 1.87 acres at the Los Pinetos site. The original personnel shelter is used by ITT for offices. The original radar control area is currently guarded 24 hours a day by a private security guard service.

A special use permit (No. 1023) was granted to the Los Angeles County Fire Department for use of the original NIKE administration buildings. The fire crew stationed here uses these facilities for their base camp (known as Camp 9).

OPERATION

The following will explain the equipment and operations procedures for the battery control, launch area, and missile itself.

THE MISSILES: NIKE AJAX

The NIKE system was the backbone of American missile antiaircraft defense from 1954 to the late 1960s. It encompassed the initial deployment of the NIKE-AJAX (originally NIKE 1), followed by the Sam-A-7, and eventually the NIKE-HERCULES (Sam-A-25). The designation of these missiles as "Sam" is an acronym for surface-to-air-missile.

The AJAX was the first in the Army's family of guided missiles. In addition, it was the first operational, supersonic United States missile. It was essentially designed to replace the 90-mm and 120-mm guns that had been operational throughout World War II. It was guided by a radar control system, and although it was outdated soon after its deployment, it can be regarded as the pioneering member of the American surface-to-air missile family.

Specifications and Data

Manufacturers: PRIME CONTRACTOR, Western Electric
AIRFRAME, Douglas
POWER PLANT, Aerojet-General (General Tire)
BOOSTER, Bell Aircraft
GUIDANCE SYSTEM, Bell Telephone Laboratories

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
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Type: Antiaircraft Rocket

Dimensions: LENGTH, 21 feet (with booster, 34 feet)
DIAMETER, 12 inches
WEIGHT, 1000 pounds
SPAN, 4 feet 6 inches

Guidance: COMMAND, Radar Beam Rider

Power Plant: SUSTAINER, Liquid-propellant rocket
BOOSTER, Solid-propellant rocket

Performance: SPEED, Mach 2 (1476 mph)
RANGE, 25 to 30 miles
CEILING, 65,000 feet

Armament: High Explosive

THE MISSILES: NIKE-HERCULES

The HERCULES was the second generation in the Army's guided missile system. This system was first deployed in 1958 and represented a major advance over the AJAX because it was nuclear capable. Unlike AJAX, the HERCULES utilized solid fuel for booster and sustainer. It was also faster and could reach a higher altitude. Eventually, it entirely replaced AJAX.

Specifications and Data

Manufacturers: PRIME CONTRACTOR, Westem Electric
AIRFRAME, Douglas
POWER PLANT, Thikol Chemical
BOOSTER, Goodyear Aircraft
GUIDANCE SYSTEM, Bell Telephone Laboratories

Type: Antiaircraft Rocket

Dimensions: LENGTH, 27 feet (with booster, 41.5 feet)
DIAMETER, 32 inches
WEIGHT, 10,000 pounds
SPAN, 9 feet 2 inches

Guidance: CCOMMAND, Beam Rider, Semi-active Radar Homing

Power Plant: SUSTAINER, Solid-propellant rocket
BOOSTER, Solid-propellant rockets

Performance: SPEED, 4,000 mph
RANGE, 50 to 75 miles
CEILING, 80,000 feet

Armament: Nuclear/High Explosive

BATTERY CONTROL

The NIKE guided missile was specifically designed to extend the capabilities of antiaircraft artillery far beyond that of artillery guns. To do this, the NIKE system employed a command guidance type of control, the first of its type to be widely deployed (see Figure 9). Briefly, the acquisition radar initially detected and engaged the target. The target tracking radar followed the engaged target throughout. An additional radar, the missile tracking radar, guided the missile throughout its entire flight. The two tracking radars fed position information into a computer in the battery control trailer. This information was subsequently analyzed and steering orders were issued to the missile in order to guide it to a point of interception. The battery control area contained a number of major equipment items.

- a. Acquisition Radar. This radar is composed of the acquisition antenna, receiver, and transmitter. The operator's controls and displays are located in the battery control trailer. It is used to detect, observe, identify, and designate selected targets.
- b. Target-tracking Radar. This radar is composed of the tracking antenna, receiver, and transmitter mounted on a drop-bed antenna trailer. The three operator's controls and displays (azimuth, elevation, and range) are located on the target console in the radar control trailer. The target-tracking radar tracks the designated target and furnishes target present position data to the computer.
- c. Missile-tracking Radar. This radar is composed of the missile-tracking antenna, receiver, and transmitter, mounted on a drop-bed antenna trailer. The operator's controls and displays are located on the missile console in the radar control trailer. The missile-tracking radar tracks the missile, supplies the computer with missile present position data, and provides a communication link for transmitting orders from the computer to the missile. The missile-tracking radar is similar in appearance to the target-tracking radar.
- d. Battery Control Trailer. The battery control trailer contains the acquisition radar cabinet assembly, the battery control console assembly, the computer assembly, an early warning plotting board, and an event recorder and switchboard cabinet assembly. The battery control console assembly contains the displays and controls required by the acquisition radar operator, the battery control officer, and the computer operator.
- e. Radar Control Trailer. The radar control trailer contains the target console assembly, the missile console assembly, the radar power cabinet assembly, and the radar range and receiver cabinet assembly. The missile and target consoles contain the controls and displays required for the missile-tracking and target-tracking radar operators.
- f. Radar Collimation Mast Assembly. This assembly is composed of the radar test set, the radar collimation mast, and the targethead assembly. It is used in collimating, testing, and adjusting the missile-tracking and target-tracking radars.

g. Electrical Generating Equipment. This equipment produces the necessary electrical power to operate the equipment in the fire control area. Commercial power with electrical converters (changers) to change 60-cycle power to 400-cycle power will be utilized where available.

h. Battery Control Area Cable System. This cable system interconnects the various elements in the battery control area.

i. Interarea Cable System. The interarea cable system includes the cables necessary to connect the battery control area with the launching area. When cable installation and easement costs for the interarea cables are excessive, wire and radio voice control will be utilized. The feasibility of developing a radio link to replace the three interarea cables is being studied by the Department of the Army.

j. Maintenance and Spares Trailer. This trailer provides facilities for storing portable test equipment, spare components, and spare parts. Components of the acquisition radar are carried in this trailer during march order. (*Procedures and Drills for the Nike I system, January 1956*)

The above command system was later updated throughout the greater Los Angeles Defense Area. The first of these was the installation of the Interim Battery Data Link (IBDL), which was in operation in Los Angeles by May 1958.

The IBDL permits electronic coordination of missile batteries, functioning as a target data link between firing batteries of air defense installations. The IBDL indicates to battery commanders, on their individual radar scopes, which targets are engaged by other batteries in the area. Possible targets, picked up by radar, appear on the screen of a scope which looks much like the television set in the average home. (*Argus*, 1 May 1959, p. 7)

This system coordinated individual battery control areas, providing each battery commander with information which assured that all targets within the greater area would be more efficiently engaged than was possible with individual battery unit control.

This system was replaced in 1961 by the Fort MacArthur installation of the Missile Master System. A contemporary description notes:

It is the first integrated system for tying together all elements of Army air defense from target detection to target destruction. Each system consists primarily of an automatic data communication network, and of automatic data processing and display equipment. This system is designed to achieve the maximum effectiveness in firing of all NIKES and other Army air defense weapons at any given installation.

Among the many advantages of the Missile Master is the ability to exercise control of each firing battery by directing it to commence firing or stop firing according to the needs of the defense. This virtually eliminates the chance that more than one battery might launch missiles at the same target. (*Argus*, 1 August 1958, p. 1)

LAUNCH AREA

The launching area contained the launching control area, launching section equipment, and the launcher loaders. The launching area was generally located at a distance from the battery control, and it was more often connected to it by means of the previously described interarea cable system. In brief, the launcher area provided for the maintenance, storage, testing, and firing of the NIKE missile. Most West Coast launcher areas were equipped with underground magazine storage similar to that found at the Angeles Forest sites. The equipment at each launcher included:

- a. Launching Control Trailer. The launching control trailer contains the launching control panel, the launching control switchboard, and the test responder. The launching control panel contains the controls, displays, and communications equipment necessary to supervise and monitor the activities of the launching sections during an engagement and to act as a relay station between the launching sections and the battery control area.
- b. Launching Control Cabinet. This cabinet, located in the underground magazine storage type site, or in the launching section revetment in aboveground installations, contains the necessary controls, indicators, and communication facilities to enable a launching section to control the preparation and firing of its rounds. It also coordinates the activities of the launching section with the launching control panel operator in the launching control trailer. It consists of a launching section control panel and a launching section power cabinet.
- c. Launcher-loader Assemblies. The launcher-loaders provide the equipment necessary to accomplish the physical operations at the launching site for storing, loading, and firing the rounds.
- d. Electrical Generating Equipment. Underground sites. Electric power for underground sites is supplied by 150-kW, 60-cycle diesel generators or commercial sources when available. Direct 60-cycle power is used for the elevator. Where 400-cycle power is required, the 60-cycle power is converted to 400-cycle power by means of frequency converters (changers).
- e. Launching Area and Cable System. This cable system interconnects the various elements in the launching area. (*Procedures and Drills Nike I Missile*, January 1956, p. 9)

The central feature of the launch area was the underground magazine and its associated launcher loader assembly. Storage racks held the missiles in the underground area using a system of locking pins (Figure 10). The missiles were then rolled to the elevator and onto the elevator launcher.

Each launcher loader included a launcher and five sections of loading racks (Figures 11 and 12). Three sections of racks were on the left side of the launcher and were used for storing missile-booster combinations. The sections on the right side of the launcher were used for storing empty launching and transport rails or rejected rounds. Each facility could accommodate four rounds, one on the launcher erecting arm and one at each of the stations flanking the launcher. Options were provided for the installation of additional racks. The entire unit was equipped with electric

and hydraulic systems for testing and erecting the round prior to firing. The actual firing process was strictly regulated, and a multitude of safety measures were incorporated into the process (see Figure 13).

SITE DESCRIPTION

Los Pinetos is one of five NIKE installations located within the boundaries of the Angeles National Forest. The sites are Mt. Gleason (LA-04), Barley Flats (LA-09), Los Pinetos (LA-94), Magic Mountain (LA-98-C), and Lang (LA-98-L). See Figure 1. These sites were built in a variety of configurations, designed in differing utilitarian architectural styles, and vary widely in condition and integrity. The sites overall were constructed during the period extending from 1954-1957. Deactivation of the sites began in 1961 and continued through 1974.

The typical NIKE missile battery site was divided into two major areas: battery control and launching facilities. These were most often located on two separate parcels of land. A third parcel, providing housing, was generally found only at remote area NIKE sites. The battery control area contained the fire control platoon equipment and the central radar and communications facility. The launching area contained all launching platoon equipment and a missile assembly and service area. These facilities tested, fueled, and stored the missiles.

LOS PINETOS

Access to the Los Pinetos NIKE base site is gained by Clara Road; a narrow winding paved roadway. The site consists of three components: 1) missile launching site, 2) barracks and support structures, and 3) a radar facility. The barracks/housing is located on a low point between the launch pad site and the observation area which are located on plateaus along a ridge extending east to west. The radar facility is located on a plateau at the far western end of the complex. The launch site is located on a plateau on the extreme eastern end of the site complex.

Forest Fire History

Four major forest fires impacted the Angeles Forest NIKE sites between 1959 and 1970. Research indicates that fires in remote area NIKE sites were a problem nationwide.

A fire impacted the Los Pinetos NIKE base in the fall of 1966. Stationed at the base was Battery A, 1st Missile Battalion, 56th Artillery. The fire was first noticed by members stationed at the NIKE site in the early morning of 1 November, near the radar control area. Fire control grades were immediately scraped around the administrative area, a measure which ultimately was determined to have saved the entire base. The fire was extremely intense. As one report describes:

In the administrative area, the flames were licking through the security fence toward the living quarters, scorching the trees, and setting fire to telephone poles in the area. The heat was so intense, it melted a TV antenna atop the billets. The fire continued to rage until noon around all three areas: IFC [radar], launcher, and administration. The troops received their first break when two back-up fire fighting crews from the 4th Msl. Bn. 65th Arty. arrived. Los Angeles Defense were ordered to the area (*Argus*, 1 December 1966, p.3)

The 2000-acre fire cut communications to the base and eventually claimed 11 fire fighters' lives before it was extinguished.

The accounts of forest fires in the Angeles National Forest are taken directly from articles published in the Army newspaper, *Argus*. It is important to note that official Forest Service records differ substantially from the *Argus* articles. Specifically, most of the fires mentioned in the official Forest Service files were smaller than the reports mentioned in the *Argus* and were not especially threatening to the bases. The Forest Service records regarding these fires are both detailed and accurately recorded. It must be assumed that the *Argus* accounts reflect a certain degree of over-zealous reporting.

ADMINISTRATIVE AREA

A 1976 inventory listed the following structures which still stand (see Appendix C):

Flag Pole	Water Storage Tank
Mess Hall	Gasoline Station
Multipurpose Bldg.	Pump House
Enlisted Men's Barracks and Bachelor Officer's Quarters	Water Storage Tank

No construction drawings exist for the Los Pinetos NIKE site; therefore, an exact date cannot be assigned to these structures. It can be presumed that construction began soon after the Forest Service authorized a permit on 21 September 1955. The permit allotted 100 acres for "construction and installing the necessary facilities and improvement for military protection of Los Angeles and adjacent territory." It authorized the Department of the Army to immediately "install facilities, to construct roads, trails, firebreaks, buildings, pipelines, telephone lines, and other construction."

The barracks complex consists of an office unit, fire station, helipads, and dormitories. They are constructed of concrete block with either shed or shallow pitched roofs. These structures have been trimmed with flagstone and cobble rockwork, which are recent alterations (see Figure 14).

Alterations/Additions: Family Housing

Preliminary plans were discussed for the construction of offsite family housing at the Los Pinetos site on 18 December 1957. After some discussion, these plans called for sixteen units to be located in adjacent communities approximately 3 miles away or within a 10-minute drive of the Los Pinetos NIKE site. The houses were planned to conform to site conditions and architectural style of existing adjacent structures using economical local materials. (Memo To: Division Engineer, Army Corps of Engineers, San Francisco; From: Woodward, Chief, Army Projects Division, Military Construction, 18 December 1957).

After much public opposition, the Army Corps of Engineers instead decided to build one offsite family housing development that would serve both the Los Pinetos site and the Magic Mountain site. The new site was located at Sand Canyon, approximately 7 miles east of Newhall. (Memo From: J. Moorhead, Col. Corps of Engineers, Asst. Chief, Real Estate Division, 25 July 1957).

Construction plans called for 16 duplex units, housing 32 families. From the Department of Army's point of view "the construction here at Sand Canyon should prove very satisfactory." General Perry of the 47th Brigade said during the dedication: "It will prove a closer community tie-in for Army families and facilitate personnel reaching their stations in case of an emergency. The additional families should also serve to aid the local economy." (*Argus*, 1 July 1958, p. 8).

The housing was completed by 1 July 1958. Landscaping and final touches, however, were added as late as 22 January 1960. The Department of Army transferred the Sand Canyon housing complex to the General Services Administration on 25 July 1975, after the Secretary of Defense phased out the NIKE air defense programs on 4 February 1974. The vacated housing complex was protected by a contract security guard service until the General Services Administration deeded the property of Merle and Patricia Thomsen on 9 June 1978. (Disposal Report No. 553, 25 July 1975; Quitclaim Deed, Document No. 78-625469, 9 June 1978.)

Extant Structures and Current Use

Two Dormitories (one used as a dormitory; one used as a classroom/office, 1988); Water Storage Tank, Pump House; Mess Hall (Mess Hall, 1988); Gas Station/Garage (Garage, which has been raised to house fire department vehicles, 1988).

LAUNCH AREA

A 1976 inventory listed the following structures which still stand (see Appendix C):

Sentry Box	Water Storage Tank
Paint and Oil Storage Bldg.	Acid Fueling Station
Missile Assembly and Test Bldg.	Athletic Court
Acid Storage Shed	Warheading Building - Added in 1961
Ready Room	Underground Missile Storage Structure South, Type B
Generator Building	Underground Missile Storage Structure - Modified 1961 Type C
Sentry Control Station - Added in 1961	Underground Missile Storage Structure - Modified 1961 Type C
Canine Kennels - Added in 1961	
Canine Equipment Storage - Added in 1961	
Personnel Shelter - Added in 1961	

The launching area contained all launching platoon equipment. Within the launching area there was also an assembly and service area which contained facilities for the testing, fueling, and storage of missiles. The configuration of the launch site is similar to other NIKE sites in the Angeles National Forest such as Mt. Gleason and Magic Mountain. The missile storage and launch pads are constructed of poured concrete with asphalt pavement covering the remaining area. The associated guard house and support structures are built of concrete block. Presumably, the structures identified above were constructed during the original NIKE building program in 1955. Modifications were added as noted above during the conversion from NIKE-AJAX to NIKE-HERCULES (see Figure 15).

Underground Missile Storage Silos

The underground missile storage silos are the only generally consistent feature of NIKE sites. The Los Pinetos site is covered with three missile storage facilities with associated launch pads, access

areas, and ground electrical units. Each pad has a double elevator door opening with a variety of launch units extending to each side, left and right of the elevator. Each unit also has several ventilator shafts and a single double door main entry. Each of the major entries are covered by heavy metal doors which have counter-weights for ease of opening and closure. The underground magazines are constructed of reinforced concrete; elevators are raised by means of a hydraulic jack. These facilities are described as follows:

At permanent CONUS installations, each NIKE section will be normally placed in an underground storage magazine site. Each section's site contains an underground room for storing the rounds (magazine room), an elevator to carry the rounds to the surface for firing, and four launcher-loader assemblies. Three of the launchers are permanently replaced above ground. These are referred to as satellite launchers. The fourth launcher is mounted on the elevator. When the elevator is down, a missile and booster can be pushed from the storage racks in the magazine room onto the launcher on the elevator. When the elevator is raised, the missile and booster on the elevator can be pushed from the elevator launcher onto the satellite launchers. The elevator may be raised, lowered, or stopped from the master control station in the magazine room, from the controls on the elevator, or from the launching section control panel in the personnel room. Doors are provided to close the elevator shaft opening when the elevator is down. Hydraulic power to operate the elevator and the doors is supplied by the elevator assembly power unit in the magazine room. Fresh air for personnel is provided by the air vent unit in the magazine room. (*Procedures and Drills for the Nike I System*, January 1956, p. 91) See Figures 16 and 17.

Men lived in the small underground personnel shelter on a 24-hour basis during "alert" stages. This shelter adjoined the underground magazine room; a heavy metal door sealed off the personnel room from the rest of the silo. A strong concrete wall separated the shelter from the magazine room. The shelters, once equipped with bunks and auxiliary equipment, had a personnel escape hatch which provided access to the outside.

The three battery units are largely intact at Los Pinetos. Bunks and equipment such as gas filters, ventilators, electrical machinery, fire equipment, and original signage were still in place as late as February 1987. However, a site inspection in March 1988 revealed that most of this equipment had been removed. A large, white, flat stylized missile is painted on the entrance door to the silo. Presumably, this piece of folk art was done by a soldier stationed at Los Pinetos during the NIKE period.

Alterations/Additions: Sentry Dog Facilities

The kennels and canine equipment storage were added in 1961 when Los Pinetos converted from Ajax to Hercules missiles. Generally, the base increased in military strength once it became nuclear-capable, but no more men were stationed there. Instead, all NIKE-HERCULES sites received sentry dogs. At Los Pinetos, the Forest Service issued a special use permit on 16 March 1961 for the addition of .37 acres. This addition was for the construction of new canine kennels.

Alterations/Additions: Hercules Conversion

The Warheading Building and Scenery Control Station were added sometime after 8 November 1960. Presumably, construction began in early 1961. (Memo, Control Estimate, Summary of Site 94L, 8 November 1960 by J. Greene)

Two of the missile silos received minor modifications sometime in 1960-61. A 2 June 1960 form sent to the Division Engineer, Army Corps of Engineers, San Francisco, authorized modifications on the elevator platforms, guides, hatchways, and circuit breakers as part of the necessary improvements for Hercules conversion.

Alterations/Additions: Personnel Shelter

Authorization for a fallout shelter was approved on 14 March 1961. The Los Pinetos site along with eight others in the Los Angeles Defense Area were scheduled for this addition. (Memo To: Division Engineer, U.S. Army Engineer Division, San Francisco, From: District Engineer, U.S. Army Engineer, Los Angeles)

Extant Structures and Current Use

Sentry Box (unused, 1988); Paint and Oil Storage Building (Storage, 1988); Missile Assembly and Test Building (used by ITT, 1988); Ready Room (Control Office, ITT, 1988); Three Underground Storage Magazine Sites (unused, 1988); Warheading Building (used by ITT, 1988); Sentry Control Station (not in use, 1988); Canine Kennels (not in use, 1988), Water Storage Tank.

RADAR CONTROL STATION

A 1976 inventory listed the following structures which still stand (see Appendix C):

Sentry Box	Sidewalks
Ready Room	Concrete Equipment Pads
IFC Operational Facility	Drainage Ditch
Eng. Gen. and FC Bldg.	Paved Area
Radar Tower, 20 ft.	Electrical Distribution
Lopar Tower, 10 ft.	Septic Tanks and Leaching Wells
TTR Tower Bldg	Roads
TRR Tower, 10 ft. Bldg.	Fence
Radar Bldg.	Radar Pads
Switch Station	Parking Areas
Water Storage Tanks	Retaining Wall
Revetment	Entrance Gates
Water Distribution System	Transformers
Sanitary Sewer	Enlisted Men's Barracks and Bachelor Officer's Quarters

The radar facility is located on a plateau at the far western end of the complex. It consists of several concrete block structures, a metal grate heli-pad, and several radar dome platforms. One platform appears to be intact and is now in use as a microwave telephone receiving station (see Figure 18).

Alterations/Additions

A March 1961 memo scheduled the future construction of a radar tower with timber crib in lieu of concrete. This document suggests that alterations were made at the radar site in accord with the conversion from NIKE-AJAX to NIKE-HERCULES. No other documentation was found to show which of the above structures were added at this time. (March 1961, Memo To: District Engineer, San Francisco)

Extant Structures and Current Use

Barracks and Officer's Quarters (ITT offices, 1988); Sentry Box (Sentry Box, 1988); 2 Radar Platforms (ITT microwave tower and radar testing unit, 1988); Mesh Helipad (not in use, 1988); Two Concrete Pads; Two Towers (not in use, 1988).

DEACTIVATION

The Los Pinetos site was under deactivation by the Army in the summer of 1968. The excess property report, however, was not prepared until 11 July 1969 (see inventory). In an 11 August 1969 letter from A. D. Stanley to the District Forester, Angeles National Forest, the formal request for transfer of the property was made. Stanley notes:

- a. Special Use Permit, our No. LA-906, issued by the U.S. Forest Service on 21 September 1955 to the Department of the Army, granting the conditional use of approximately 100.00 acres of land for the construction and installation of the necessary facilities and improvements for the military protection of Los Angeles and adjacent territories, on land described specifically within the said permit but located on Los Pinetos Mountain, Los Angeles County, California.
- b. Amendment No. 1, dated 16 March 1961, to the said permit providing for the use of an additional area of approximately 0.37 acre of land, described more specifically within the amendment but situated contiguous to the area acquired under the said permit.

As provided for in Army regulations, the permitted lands and the substantial improvements constructed by the Government thereon, together with all other minor interests therein, have been declared excess to the requirements of the military departments, and acceptance of this letter of transfer shall constitute relinquishment of the said lands by the Army.

This letter was countersigned by the Forest Service on August 29, to complete the deactivation and disposal of the Los Pinetos NIKE installation.

In summary, Los Pinetos NIKE installation is significant for several reasons. Early acquisition records (4 January - 5 February 1955) clearly indicate both the speed with which the Army could transmit information and expedite the acquisition process when necessary. It also illustrates the bureaucratic chain of command which had to be followed in order to obtain authorization for the acquisition of property. Los Pinetos did not locate its control site in a remote area like all the other NIKE sites in Angeles National Forest. The separation of control area from launch and

administrative areas was more typical of NIKE bases nationwide. The lack of consideration for the cost of supplying water to the base is a particularly interesting feature of the Los Pinetos site. This reflects both the urgent need to establish an air defense system and the need to site installations in optimum locations. The water line was in fact a major focal point of the deactivation and disposal process in consultation with the Forest Service. It was, and has since proven to be, a major asset in the prevention of forest fires in the region.

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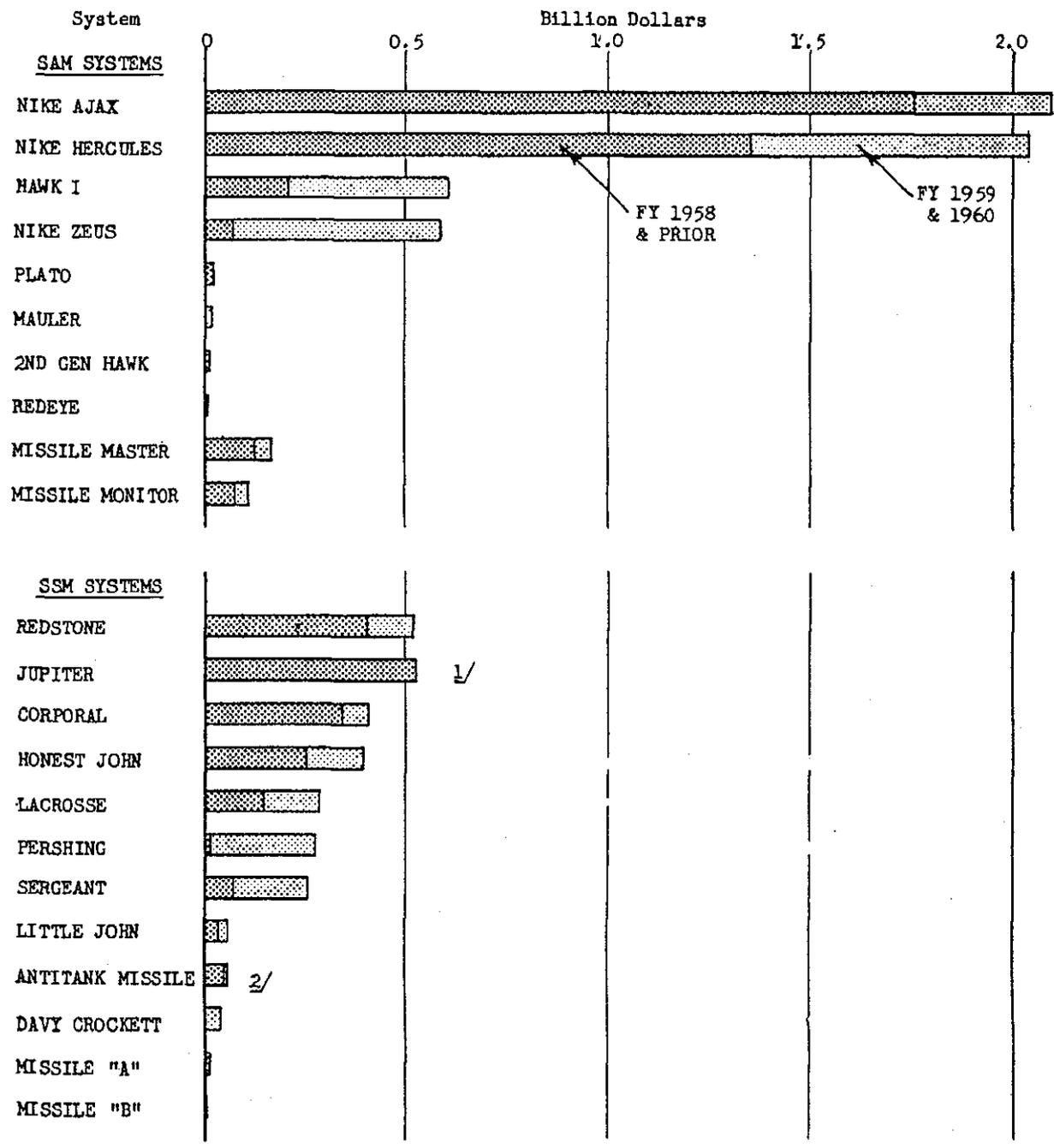
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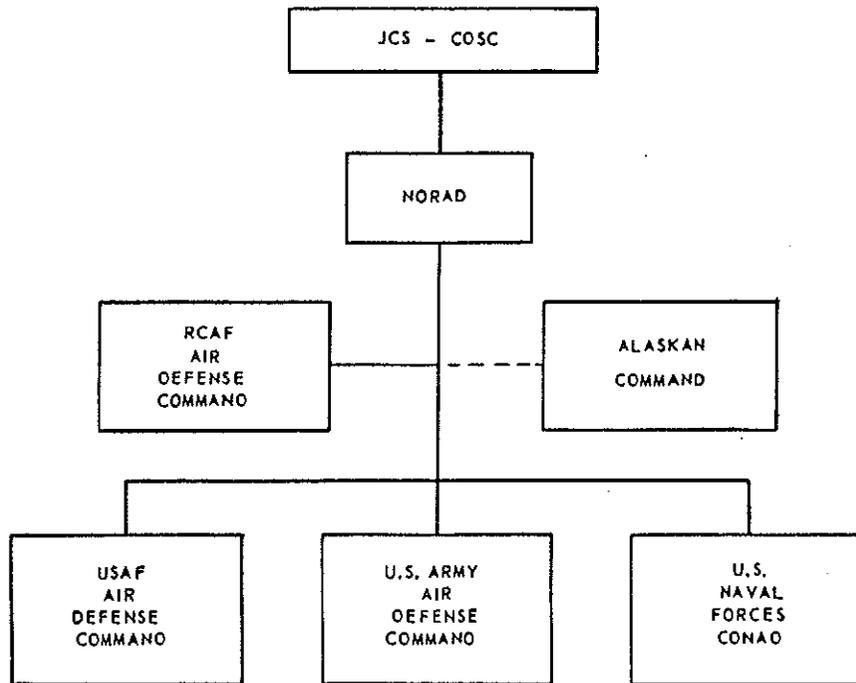
HAER CALI 19-SYLUM-V, 1-

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
 HAER No. CA-56
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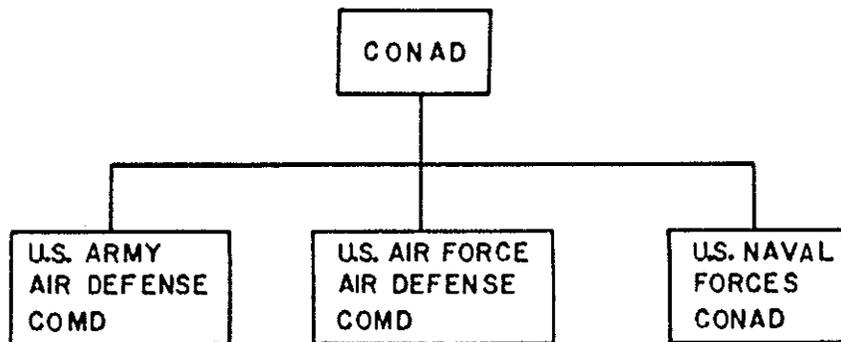
ESTIMATED DIRECT OBLIGATIONS FOR U.S. ARMY MISSILE SYSTEMS



1/ Funding beyond FY 1958 by USAF.
 2/ FY 1960 data not available.



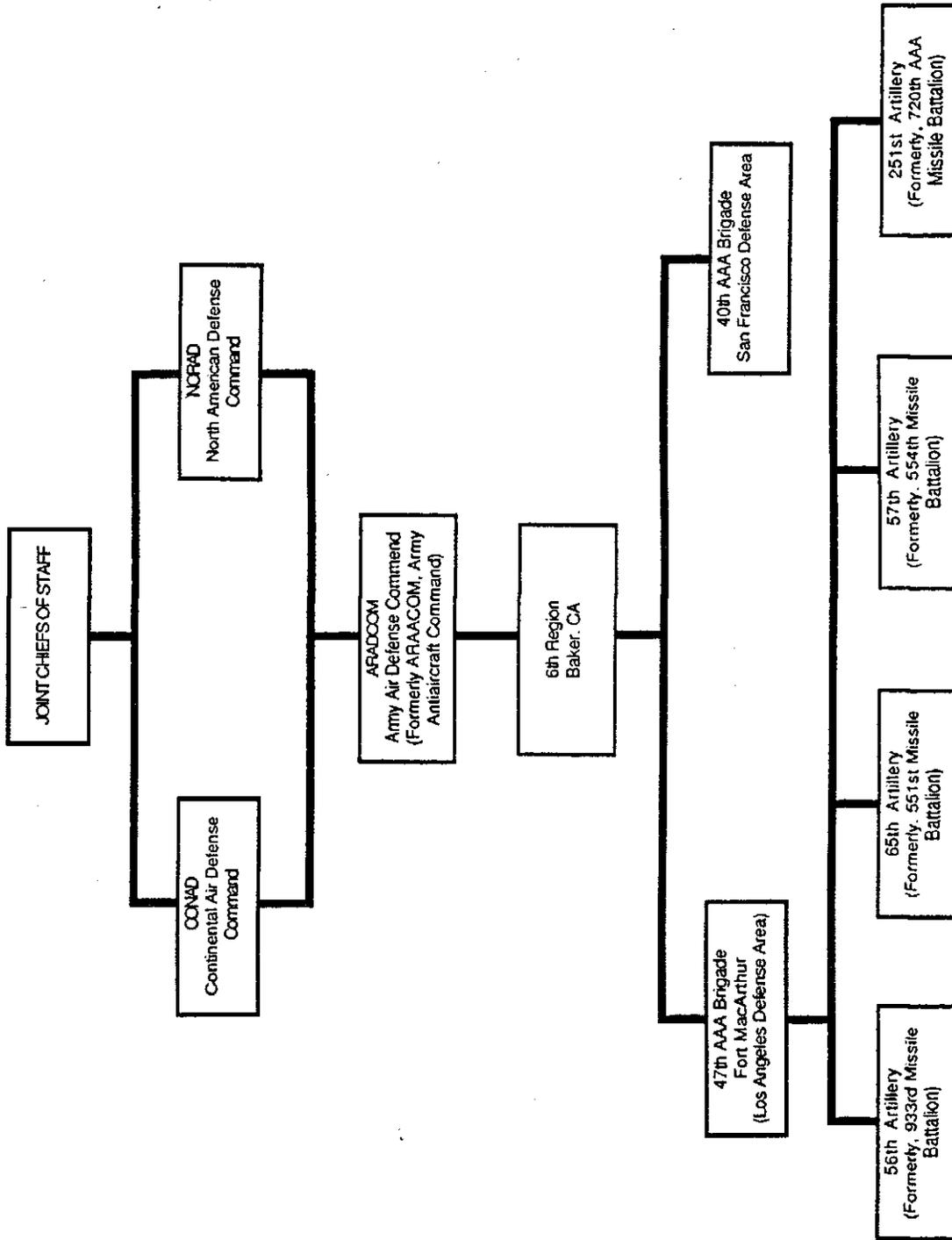
NORAD component commands.



CONAD structure.

NORAD Component Commands and CONAD Structure

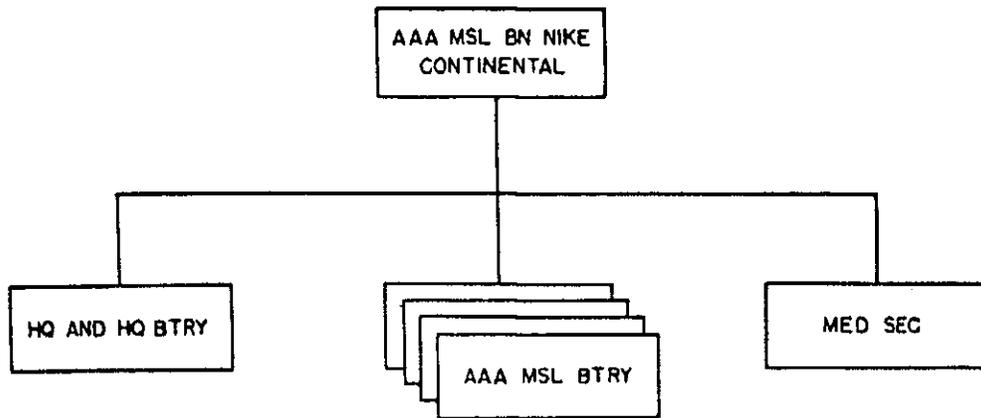
**FIGURE
2**



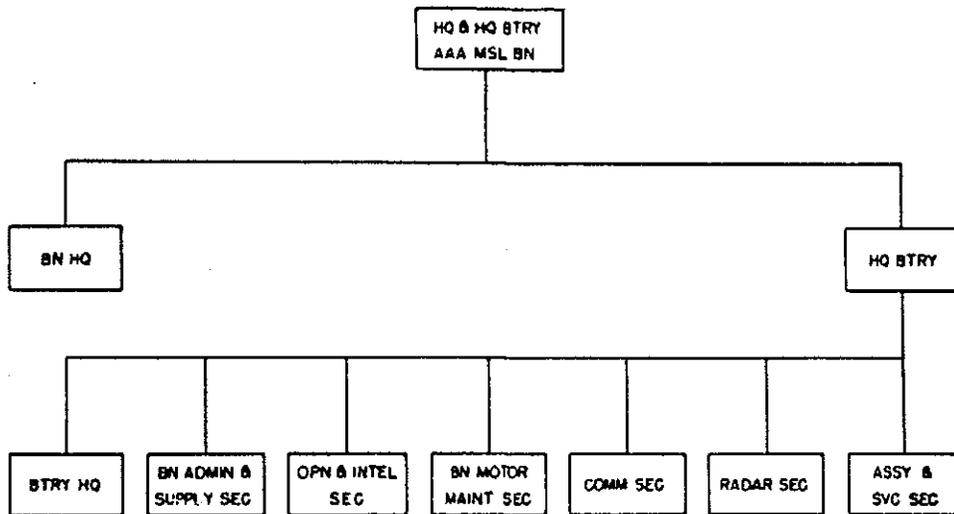
(See Figure 5)

Army Air Defense Command
6th Region

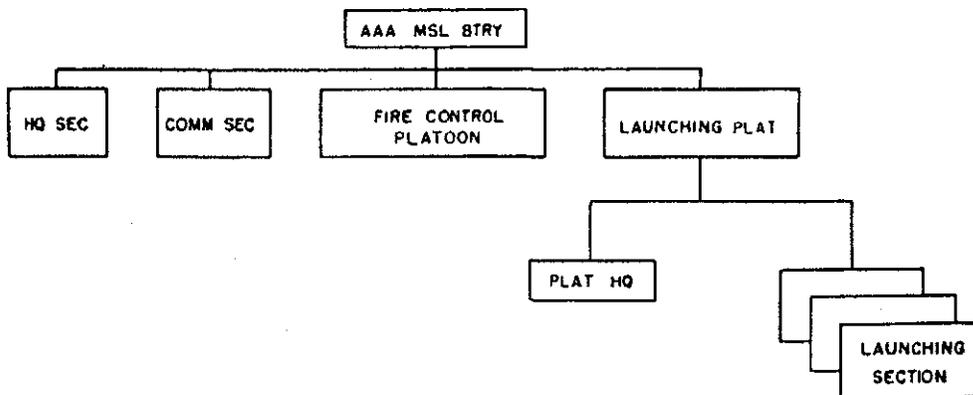
FIGURE



Nike I battalion.



Headquarters and headquarters battery.



AAA missile battery.

Nike I Battalion, Headquarters and Headquarters Battery,
 and AAA Missile Battery

**FIGURE
4**

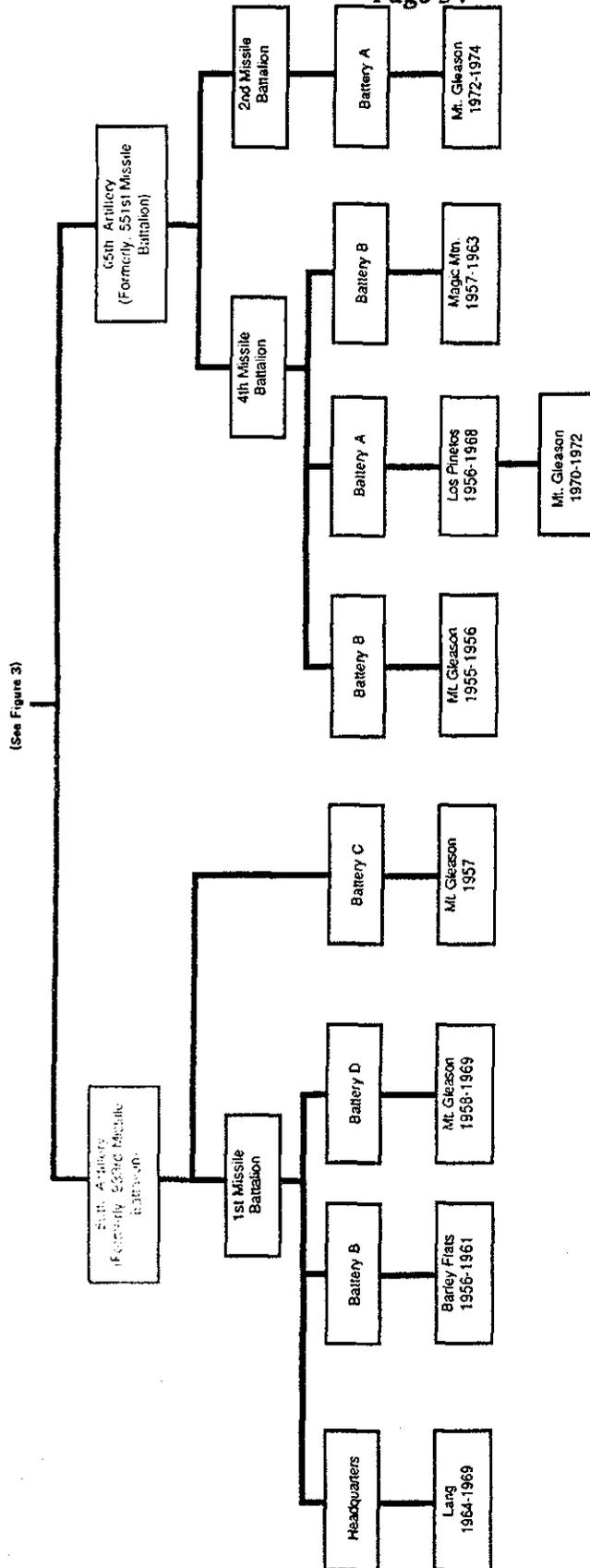
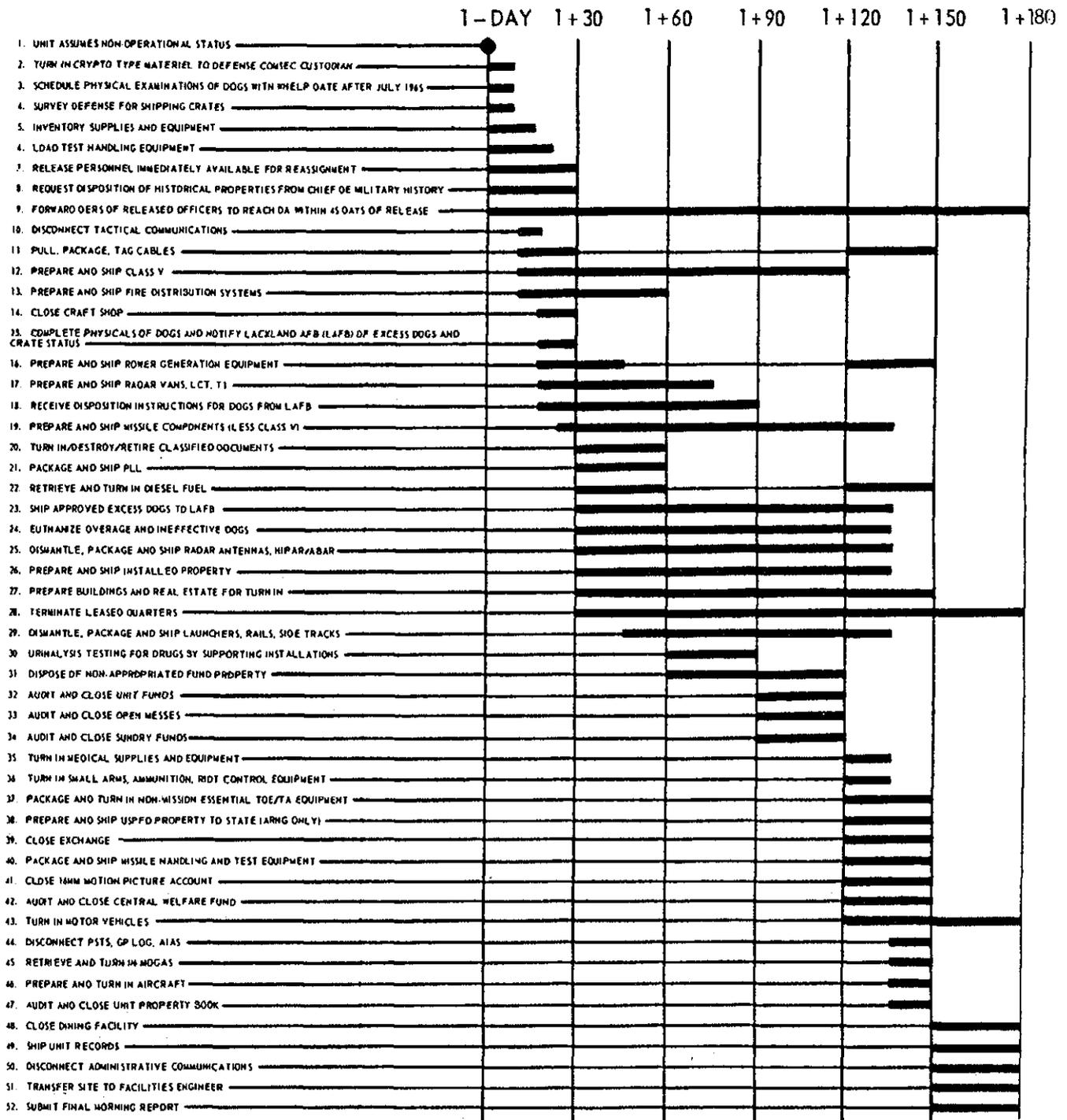


FIGURE 5

47th AAA Brigade, 56th and 65th Artillery
 Los Angeles Defense Area
 Angeles National Forest



Shown is the general schedule to be followed by most fire units during the phasedown. In some cases the sequence will be changed to accommodate the local situation.

(Sequence and timing may vary based on individual coordination with support agencies)

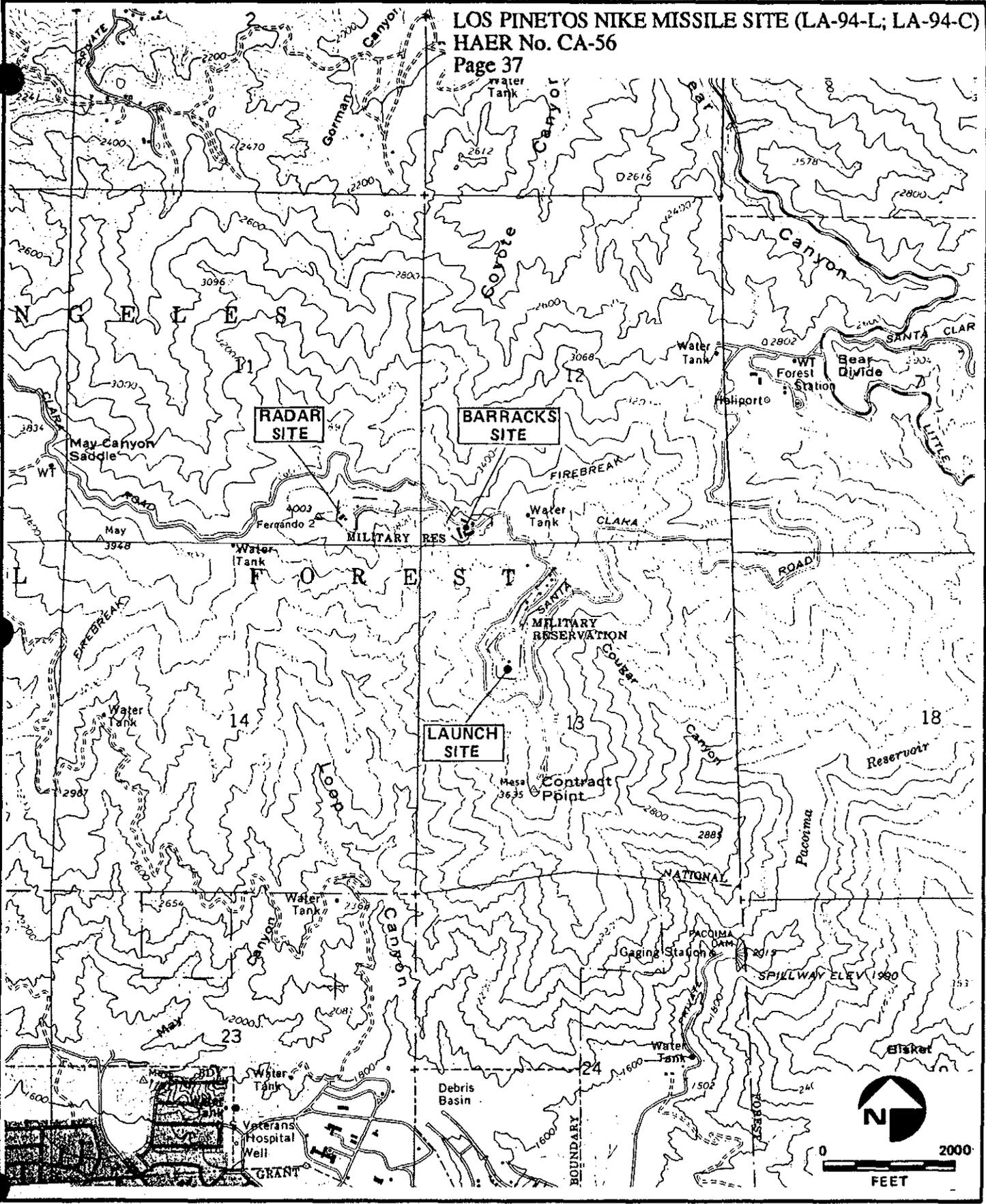
Sequence of Deactivation Events

FIGURE
6



FIGURE
7

Nike Site Locations
Angeles National Forest
Los Angeles County

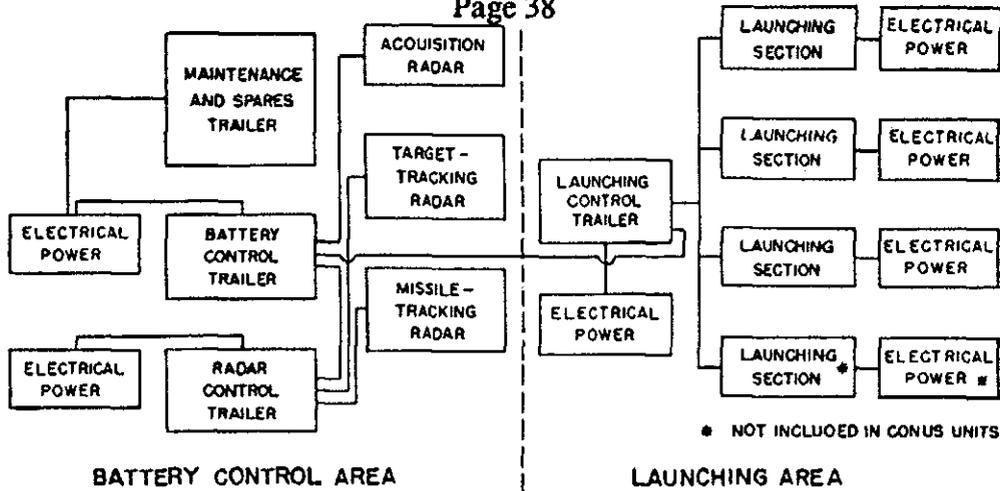


Los Pinetos Nike Site
Angeles National Forest
Los Angeles County

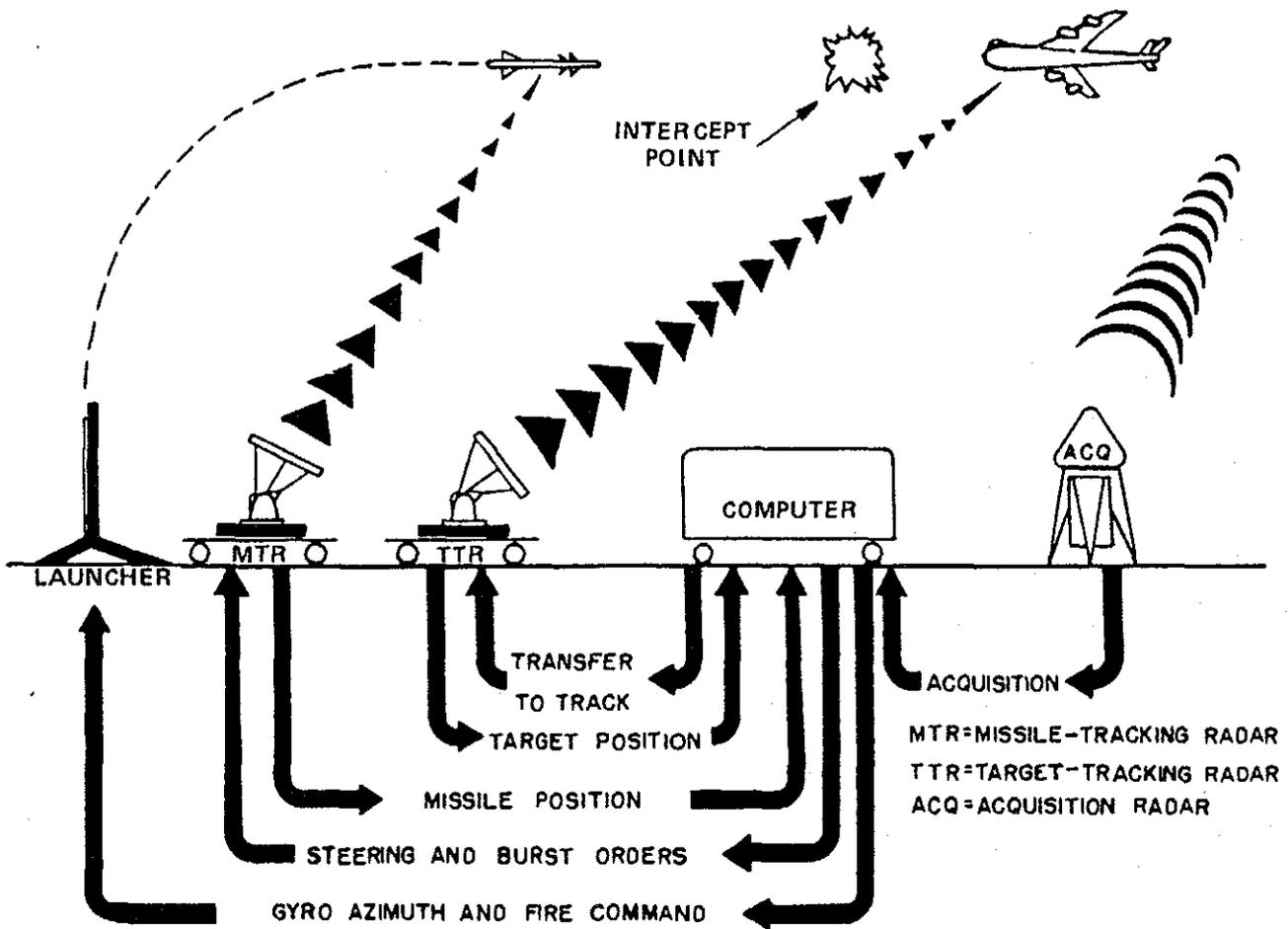
FIGURE
8

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
HAER No. CA-56

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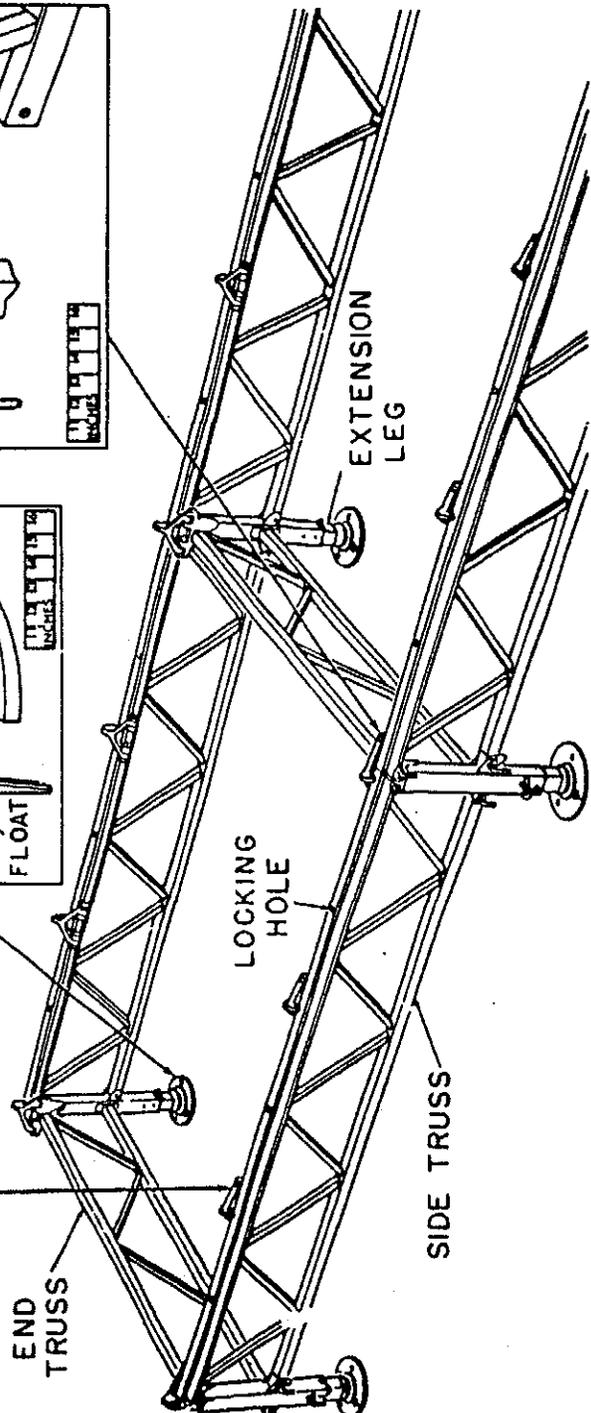
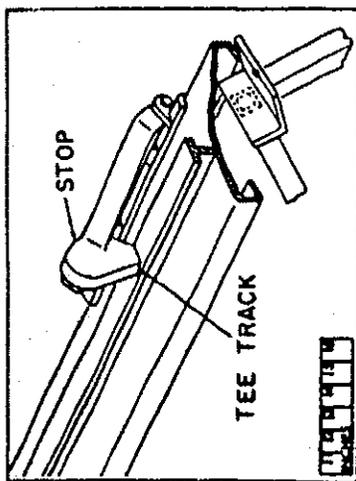
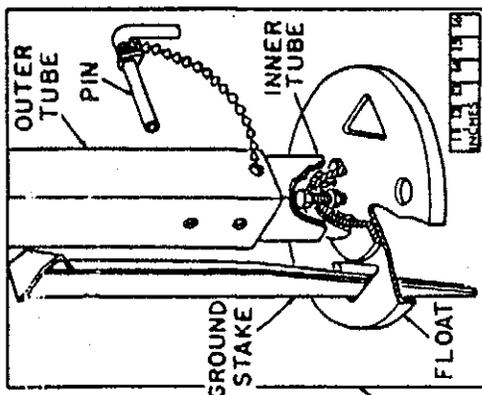
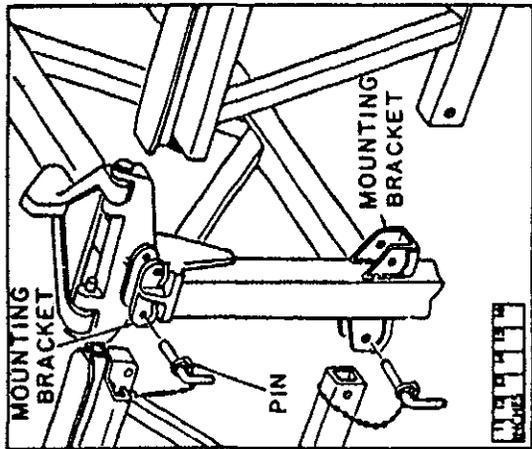
Nike I system.



Data flow.

Nike I System and Data Flow

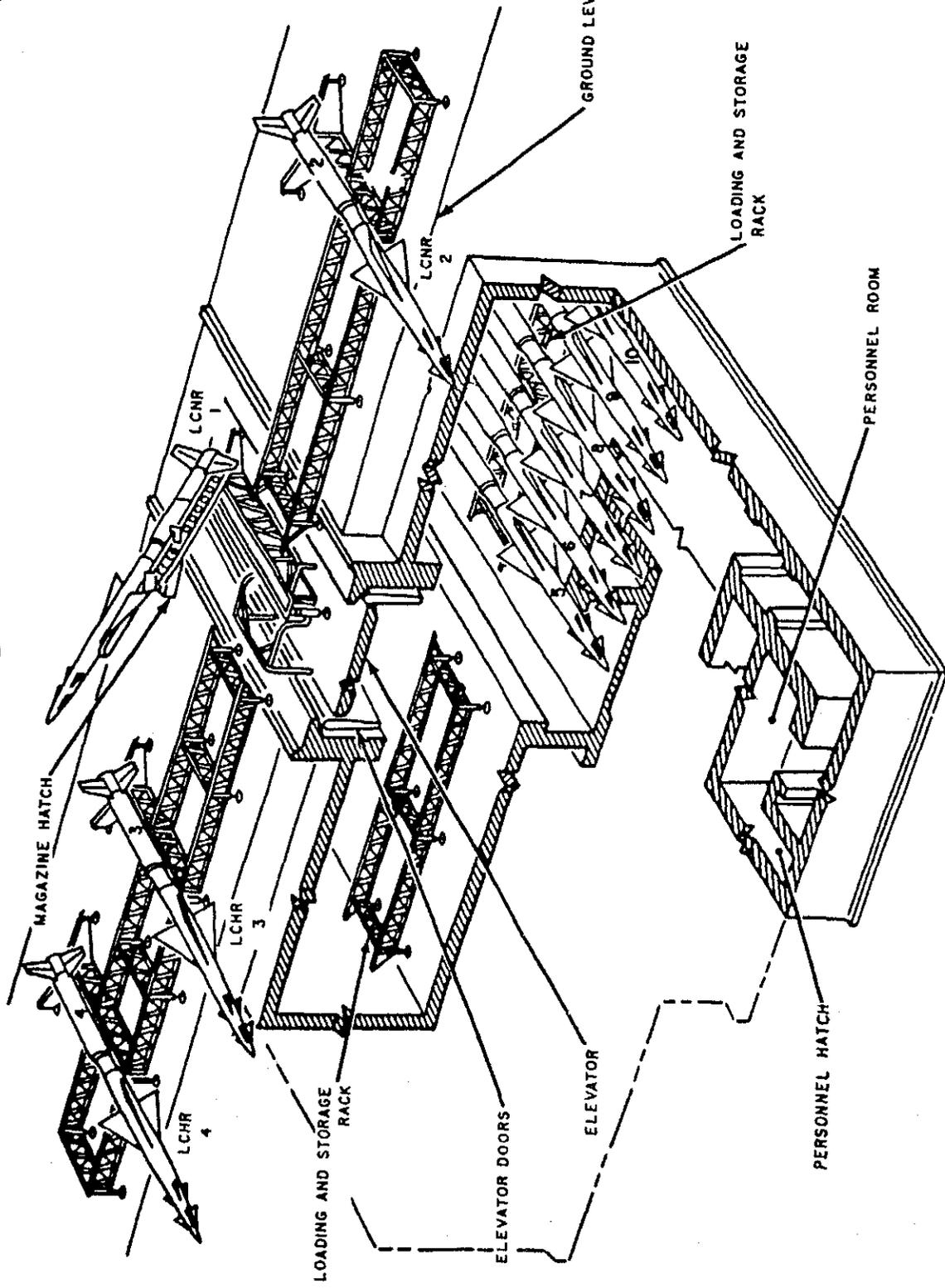
FIGURE 9



Taken from the Department of the Army
Technical Manual FM 44-80 Procedures
and Drills for the Nike I System

FIGURE
10

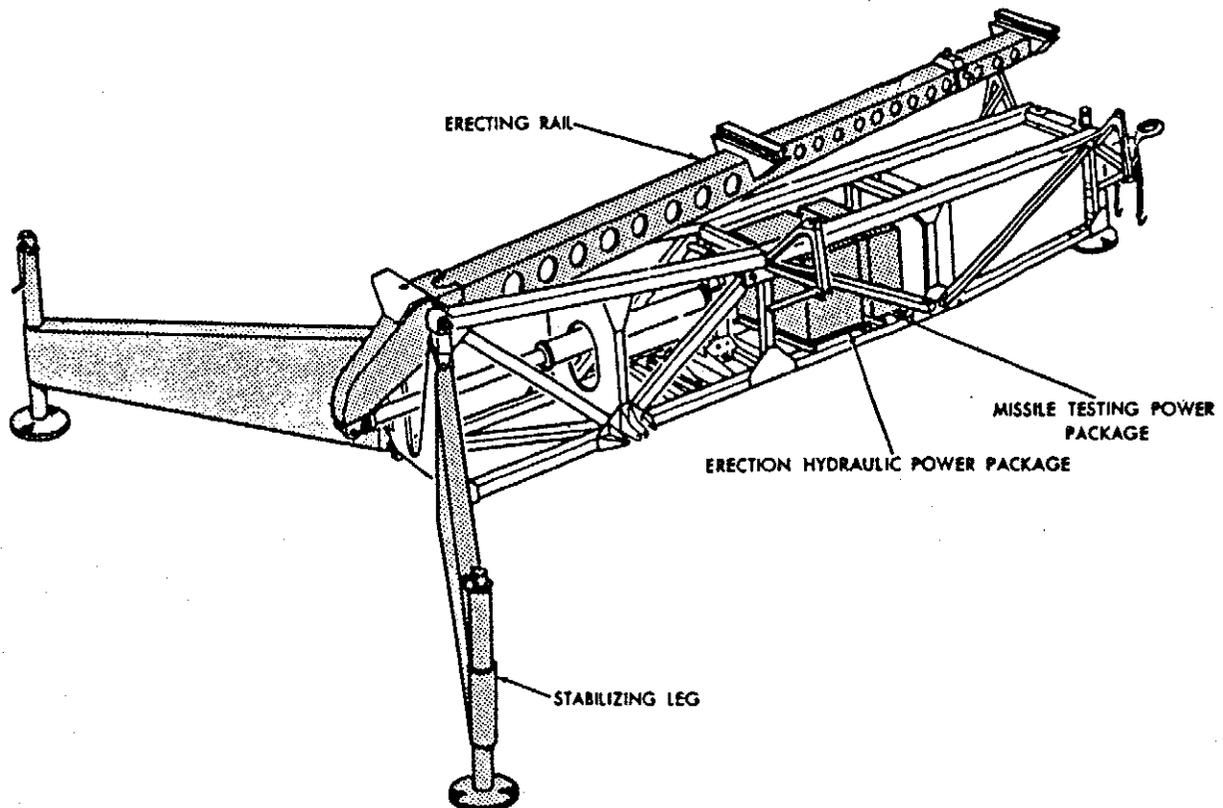
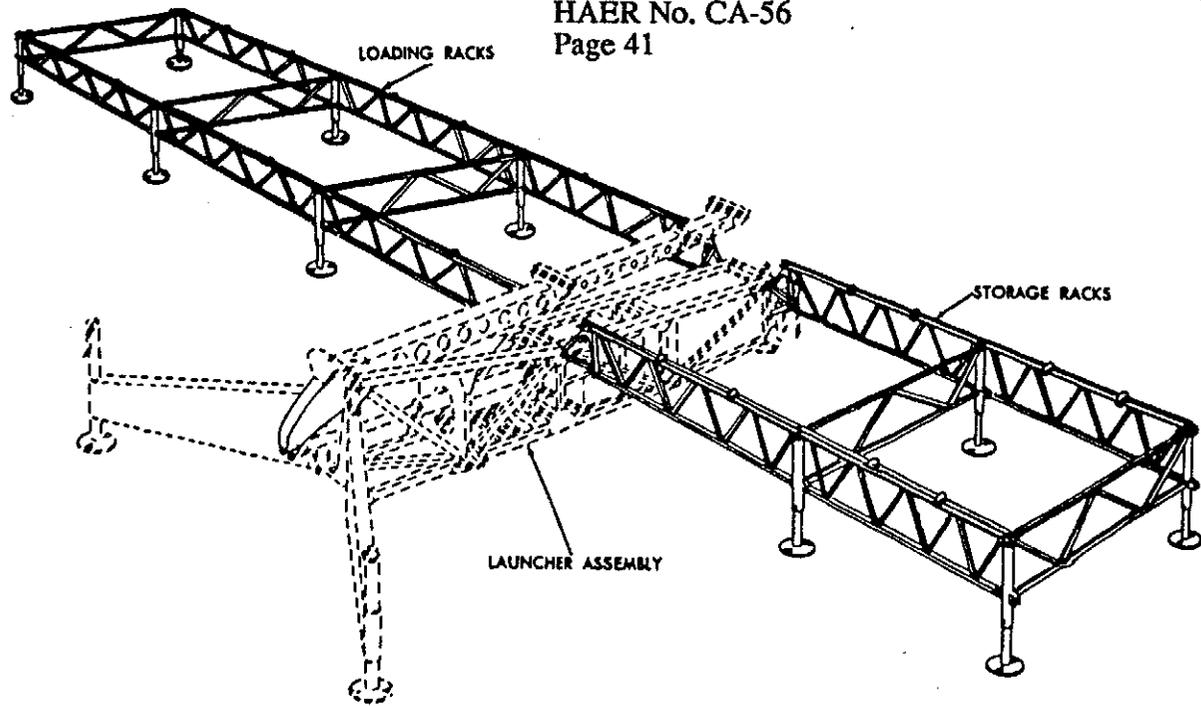
Storage Rack



Taken from the Department of the Army
Technical Manual FM 44-80 Procedures
and Drills for the Nike I System

FIGURE
11

Cutaway View of Underground Magazine



Taken from the Department of the Army
Technical Manual FM 44-80 Procedures
and Drills for the Nike I System

Launcher and Launcher-Loader Assembly

FIGURE
12

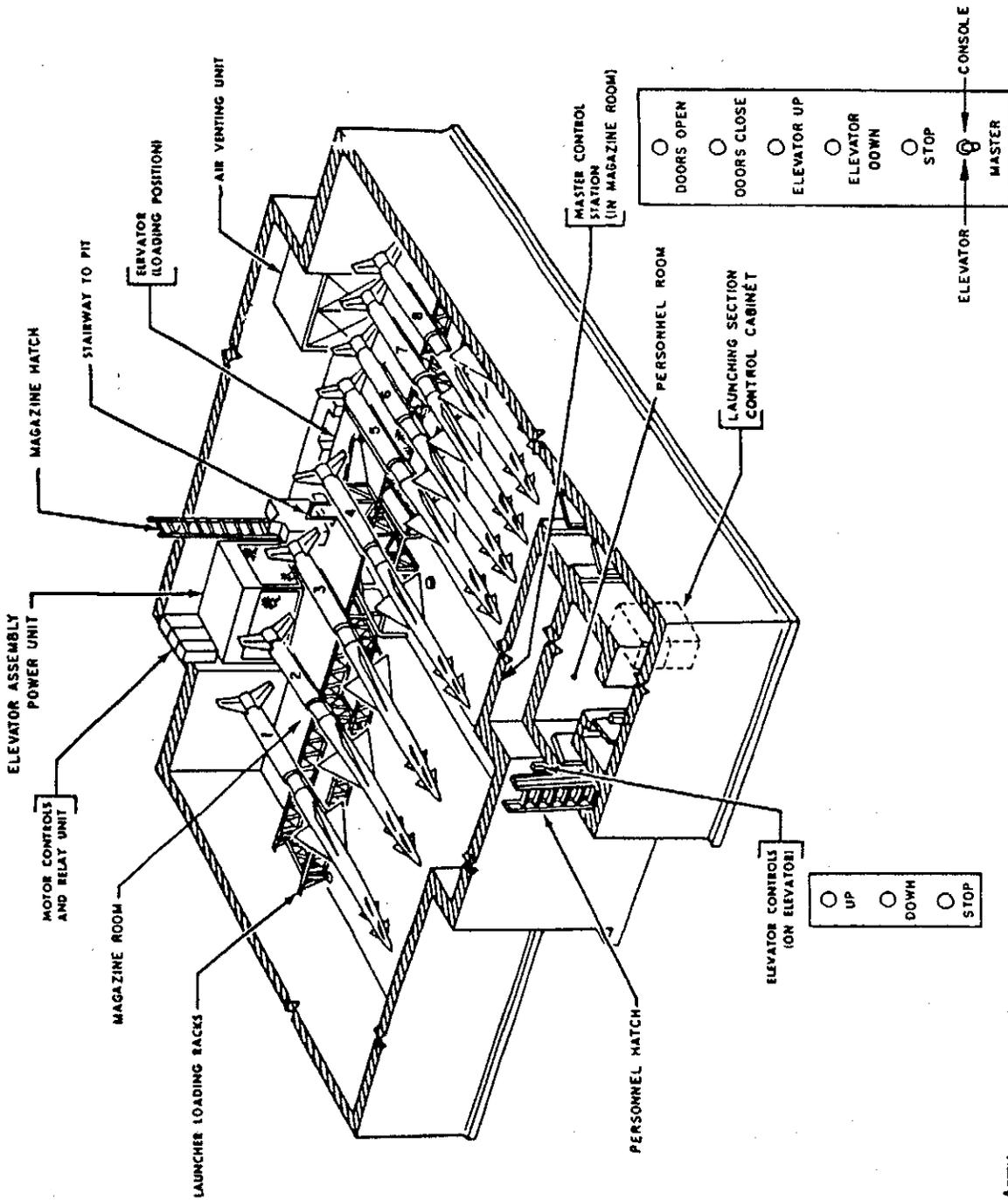
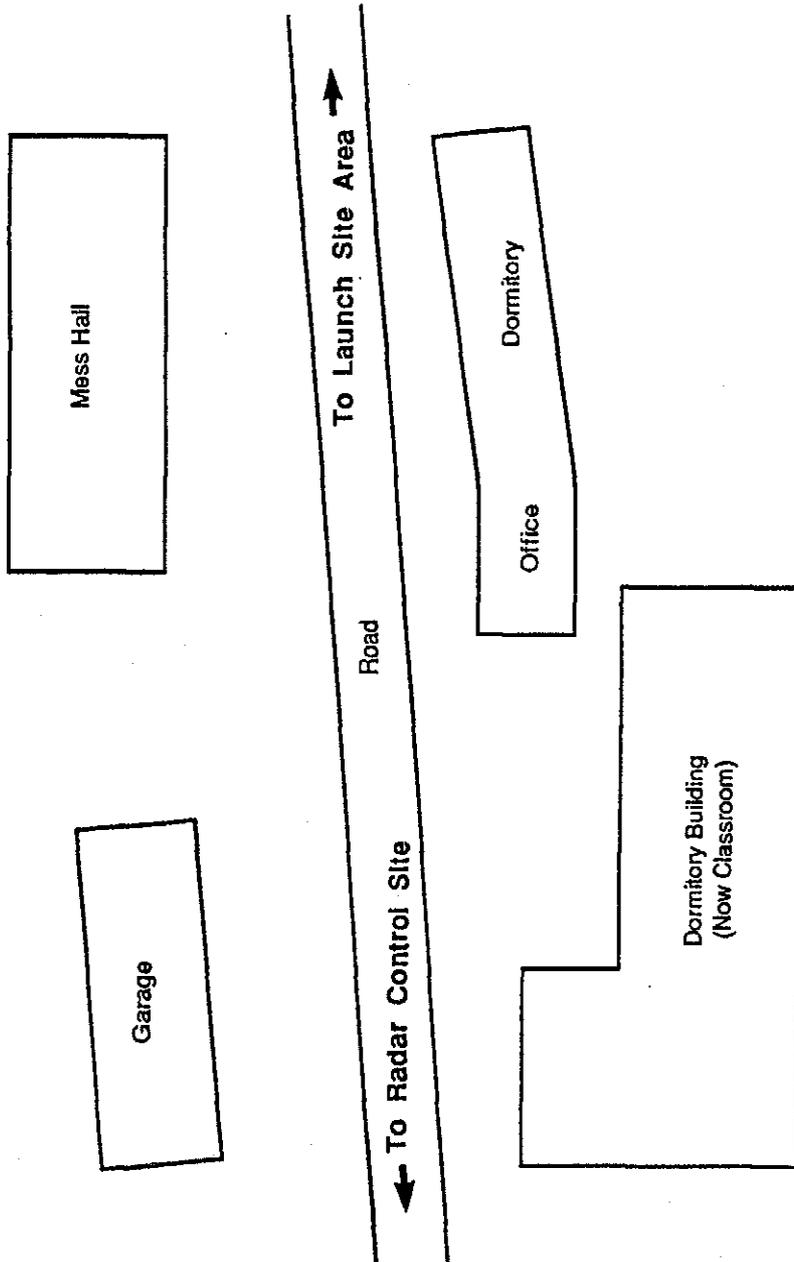


FIGURE 13

Elevator Controls, Underground Magazine

Taken from the Department of the Army
 Technical Manual FM 44-80 Procedures
 and Drills for the Nike I System



**FIGURE
14**

Los Pinetos Barracks Area

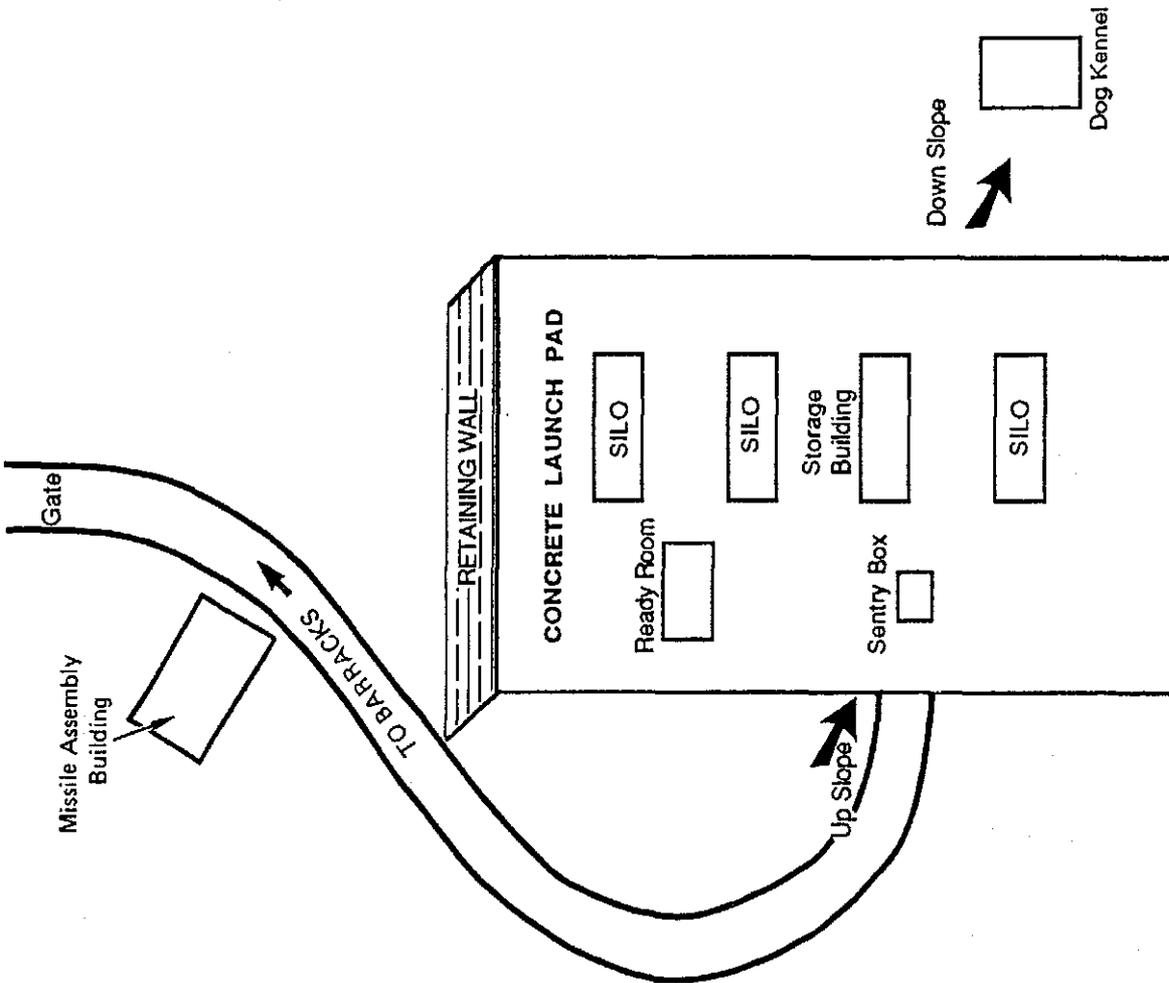
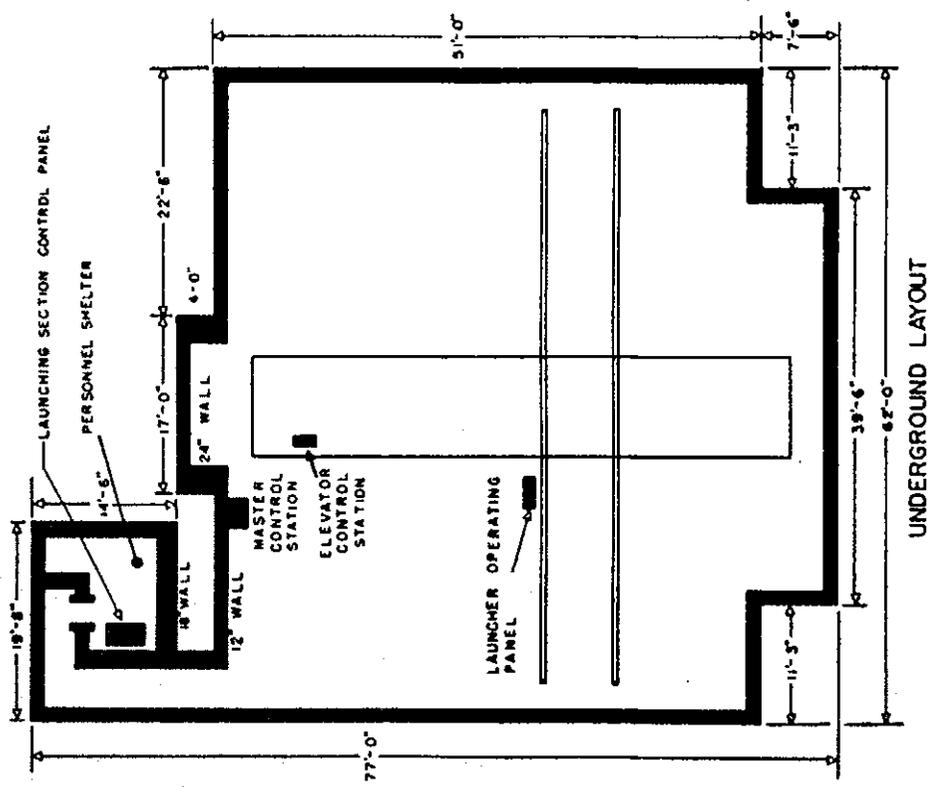
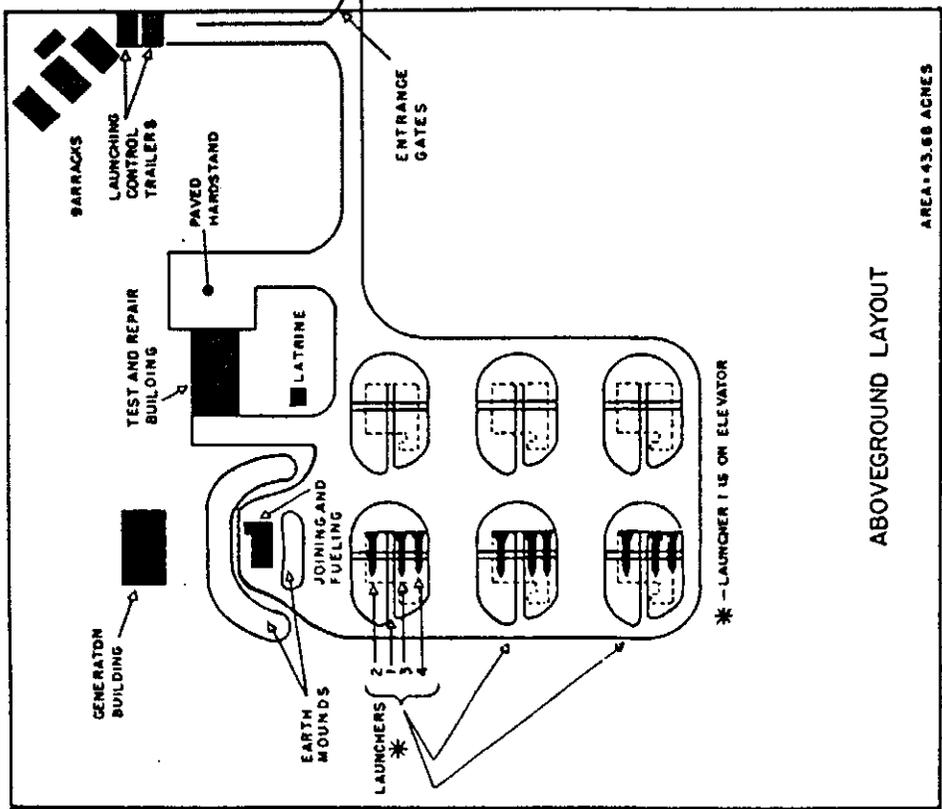


FIGURE 15

Los Pinetos Launch Area

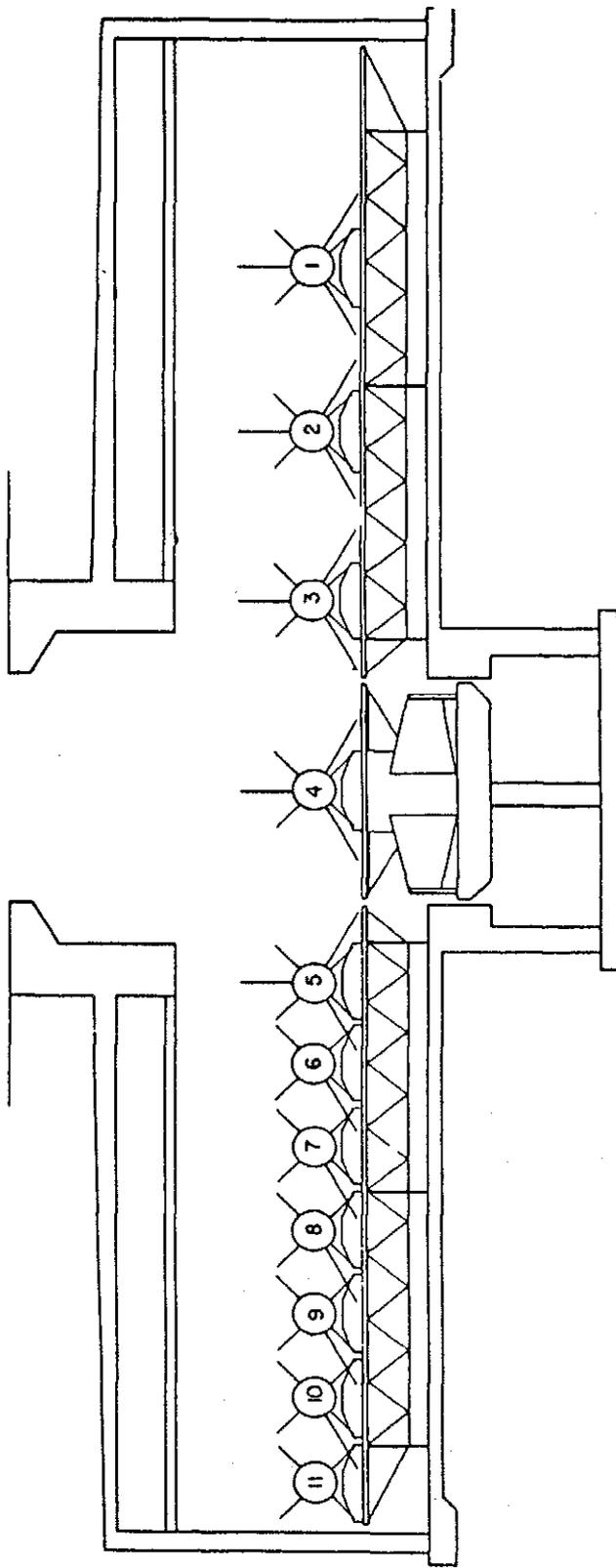




Taken from the Department of the Army
 Technical Manual FM 44-80 Procedures
 and Drills for the Nike I System

FIGURE 16

Underground Magazine Type Launching Area



Taken from the Department of the Army
Technical Manual FM 44-80 Procedures
and Drills for the Nike I System

FIGURE

17

Layout of Missiles in Magazine Room

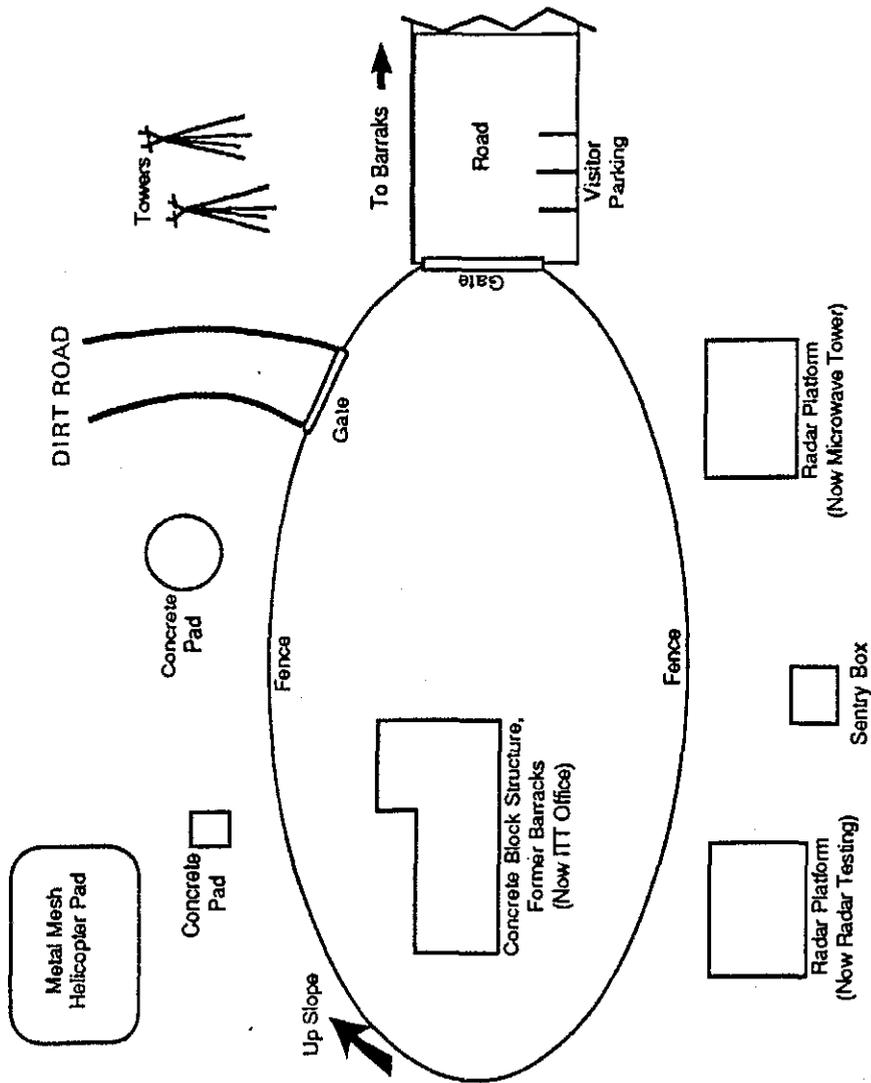


FIGURE
18

Los Pinetos Radar Control Area

HAER
CALI
19-SYLM.V,
1-

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
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APPENDIX A: ARAACOM/ARADCOM: GENERAL TIME LINE 1950-1966

The following is intended to highlight the major developments in the history of ARAACOM and ARADCOM with specific references to the Los Angeles Defense Area. The final years in this history (1968-1974) are described in the section of this report entitled ARADCOM Deactivation 1968-1974.

- 1950 General Order Number 20, Department of the Army, 20 June 1950, established the Army Antiaircraft Command (now United States Army Air Defense Command). The headquarters was located initially at the Pentagon, Washington, D.C.
- 1950 Major General Willard W. Irvine assigned as first commander to ARADCOM.
- 1950 Eastern and Western Army Antiaircraft Commands established by General Order Number 3, Headquarters Army Antiaircraft Command, 28 August 1950.
- 1950 Headquarters Army Antiaircraft Command moved from the Pentagon to Mitchel Air Force Base, New York.
- 1950 The Army Antiaircraft Command assigned responsibility for the detailed planning of the nation's antiaircraft artillery defense system.
- 1951 ARAACOM Headquarters moved to Colorado Springs, Colorado. The headquarters were first located in the Antlers Hotel and later were moved to their present location at Ent Air Force Base.
- 1951 All antiaircraft units allocated to the air defense of the United States were placed under the Army Antiaircraft Command.
- 1951 Central Army Antiaircraft Command established headquarters near Kansas City, Missouri. Central ARAACOM was the forerunner of the present 4th Region, U.S. Army Air Defense Command.
- 1952 Lt. General John T. Lewis became commanding general, Army Antiaircraft Command.
- 1953 First tactical Army troops fired the Nike. The event occurred at the Red Canyon (New Mexico) Range, near Fort Bliss, Texas. Firing personnel were assigned to the 36th AAA Missile Battalion.
- 1953 The 36th AAA Missile Battalion moved onsite at Fort George G. Meade, Maryland. This was the first operational missile unit in ARAACOM.
- 1954 Second and 5th Regions US ARADCOM, established as "AA Regional Army Administrative Units" by General Order Number 14, Headquarters ARAACOM, 1 July 1954.

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
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- 1954 Department of Defense combined elements of all military services into a single Continental Air Defense Command (now North American Air Defense Command), directly under the Joint Chiefs of Staff.
- 1954 Lt. General Stanley R. Michelsen became commanding general, Army Antiaircraft Command.
- 1955 Western Army Antiaircraft Command renamed 6th AA Region and Central ARAACOM became Central AA Region.
- 1955 The number of Nike-Ajax battalions deployed around principal cities and industrial areas equaled the number of conventional battalions similarly deployed.
- 21 Dec 1955 ARAACOM authorized for the first time to lease family housing units near Nike site. A total of 750 units were allocated regional commands.
- 11 Jan 1956 Department of the Army reassigned responsibility for supervision of training of National Guard nondivisional antiaircraft artillery units from Continental Army Command to the Army Antiaircraft Command.
- 01 Jul 1956 Central AA Region redesignated as 4th AA Region.
- 01 Sep. 1956 Antiaircraft units at Thule, Greenland, assigned to ARAACOM and further assigned to 1st AA Regional Command.
- 26 Feb 1957 A new Nike-guided missile, designated as Nike-Hercules, with nuclear capability and many times the destructive power of Nike-Ajax, underwent final tests.
- 21 Mar 1957 Army Antiaircraft Command redesignated as the United States Army Air Defense Command. In April 1957, the names of regional commands were changed to conform to the new designation.
- 11 Jun 1957 Successful development of the Hawk air defense missile was announced by Department of the Army. Hawk was designated to complement the defense provided by the Nike system by reinforcing Nike's low-altitude capability.
- 01 Nov 1957 Lt. General Charles E. Hart became the U.S. Army Air Defense Command's fourth commanding general.
- 05 Dec 1957 The first Missile Master, an electronic system for automatically coordinating air defense weapons, became operational in the Washington-Baltimore defense area under the 35th Air Defense Artillery Brigade.
- 20 Mar 1958 Names of "Antiaircraft Artillery" brigades and groups changed to "Air Defense Artillery."
- 24 Apr 1958 The 738th AAA Missile Battalion fired the first Ajax missile to be launched by tactical troops from the new universal Nike-Hercules system which was designed to fire either Ajax or Hercules.

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- 28 Apr 1958 Nike-Hercules fired for the first time by U.S. Army Air Defense Command troops. The first four units to fire Hercules were: 738th AAA Missile Battalion (28 April); 36th AAA Missile Battalion (29 April); 505th AAA Missile Battalion (1 May); 485th AAA Missile Battalion (2 May).
- 01 May 1958 Officer personnel authorized to wear the new artillery insignia. The new insignia incorporates the traditional crossed cannons of the artillery, with a stylized, upright missile superimposed over the center of the cannons. Enlisted men assigned to missile units were authorized the new insignia on 15 October 1958.
- 01 May 1958 The United States Army Air Defense Command uniform shoulder insignia was changed to eliminate the "AA" and add two symbolic radar beams. The new patch was more illustrative of the dynamic electronic and missile complexities of the command.
- 1958 A Nike-Hercules missile engaged and destroyed a Navy-developed Pogo-Hi target at an altitude of 20 miles and a HAWK missile was successfully fired at a QX-5 missile target, both at White Sands Missile Range, New Mexico.
- A newly designed drone target, launched at the Red Canyon firing range in New Mexico, was blasted from the sky by a Nike-Ajax fired by Battery C., 1st Missile Battalion, 56th Artillery, (Mt. Gleason), Los Angeles Defense Area, at a range of about 18 miles. Sentry dogs were assigned to Nike-Hercules site to ensure greater security at night.
- The first conference of regional commanders was held in Colorado Springs. Commanding generals attending the conference were Lt. Gen. Charles E. Hart, ARADCOM; Maj. Gen. Lagare K. Tarrant, 1st Region; Maj. Gen. Parmer W. Edwards, 2nd Region; Col. Leslie J. Staub, 4th Region; Maj. Gen. Eugene F. Cardwell, 5th Region, and Maj. Gen. Edward G. McGaw, 6th Region.
- 1959 Men at Battery B, 1st Missile Battalion, 56th Artillery, Los Angeles Defense Area, engaged in a 24-hour-a-day, 7-day vigil to save the mile-high Nike radar site on Mt. Disappointment from the blazing path of the 14,200-acre Angeles National Forest fire.
- 1960 For the first time, a missile unit won the ARADCOM Commander's Trophy for the best ARNG air defense unit. Previously, the trophy had been won by ARNG units using 90-mm guns.
- Nike-Zeus, the nation's first defense against ballistic missiles, "is no longer a question of scientific breakthrough, but one of funds," Lt. General Charles E. Hart, ARADCOM commanding general, stated at the dedication of the Army's Fort Lawton, Washington, Missile Master.
- A Nike-Hercules missile destroyed a Corporal ballistic missile in a demonstration 3 June at White Sands Missile Range, New Mexico.

Plans to strengthen the air defenses of 11 metropolitan areas by replacement of 19 Nike-Ajax missile batteries with a similar number of Nike-Hercules batteries were announced by the Department of the Army.

- 1961 The 4th Missile Battalion, 251st Artillery, (Brea) California ARNG, Los Angeles Defense Area, was awarded the ARADCOM Commander's Trophy as the best ARNG air defense unit.

An all-time firing record was set by an ARNG battalion in the Los Angeles Defense Area when four Ajax batteries of the 4th Missile Battalion, 251st Artillery, California ARNG, posted a score of 96.3 during Annual Service Practice.

Sp4 Dave Lawrence, 4th Missile Battalion, 65th Artillery, Los Angeles Defense Area, became the first amateur since 1953 to win the \$5,000 California State Open Golf Championship.

A distinctive decal portraying the Nike system as "a weapons family with a future" was approved by ARADCOM headquarters for command-wide use.

- 1962 The 12th AD Artillery Group was deactivated at Pasadena, California, and its functions assumed by the 1st Missile Battalion, 56th Artillery, and the 4th Missile Battalion, 65th Artillery, units under the 47th AD Artillery Brigade.

Changes in SNAP (short notice) firing operations were announced, including those in missile assembly, missile preparation, time limits, targets, scoring, and the selection of an honor battery.

- 1963 All Nike-Ajax units in ARADCOM completed their firing for the year and it was announced that henceforth, only Hercules and HAWK units would fire in the SNAP program.

- 1965 The Sprint missile was successfully launched from an underground cell at White Sands Missile Range, New Mexico. Lt. General Charles B. Duff, ARADCOM commanding general.

A reorganization of ARADCOM was announced under which 10 defenses would go under the control of group headquarters.

Sp6 Gilbert N. Curry, Battery D, 1st Missile Battalion, 56th Artillery, at Mt. Gleason, Los Angeles Defense Area, was awarded the Soldier's Medal for rescuing a driver from a burning vehicle.

- 1966 Battery D, 4th Missile Battalion, 251st Artillery, Los Angeles Defense Area, became the first unit in ARADCOM to fire a perfect score at McGregor Range, New Mexico, since FY 62.

A brush fire that claimed 11 lives at Los Pinetos as it swept through the San Gabriel Mountains in the Los Angeles area was turned back by missilemen of Battery A, 1st Missile Battalion, before it destroyed the battery site.

APPENDIX B: MILITARY HISTORY: ANGELES FOREST NIKE SITES

1955

551st	AAA Missile (NIKE) (Continental) (Army AA Comd) (Less Btrys A & B)	Los Angeles, CA Fort MacArthur
	Btry B	Mount Gleason, CA (Site 04)

1956

551st	AAA Missile (NIKE) (Continental) (Army AA Comd) (Less Btrys A & B)	Birmingham Hospital Van Nuys, CA
	Btry B	Mount Gleason, CA (Site 04)

1957

551st	AAA Missile (NIKE) (Continental) (US ARADCOM) (Less Btrys A, B, & C)	Birmingham Hospital Van Nuys, CA
	Btry A	Los Pinetos, San Fernando, CA (Site-94)
	Btry B	Magic Hill, San Fernando, CA (Site-98)
554th	AAA Missile (NIKE) (Continental) (US ARADCOM) (Less Btry B)	Fort MacArthur, CA
933rd	AAA Missile (NIKE) (Continental) (US ARADCOM) (Less Btrys A, B, C, & D)	Fort MacArthur, CA
	Btry B	Mt. Disappointment, CA (Site LA-09)
	Btry C	Mount Gleason, CA (Site-04)

1958

551st	AAA Missile (NIKE) (Continental) (US ARADCOM) (Less Btrys A, B, & C)	Birmingham Hospital Van Nuys, CA
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LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
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	Btry A	Los Pinetos, San Fernando, CA (Site-94)
	Btry B	Magic Hill, San Fernando, CA (Site-LA-98)
933rd	AAA Missile (NIKE-AJAX) (Continental) (US ARADCOM) (Less Btrys A, B, C, & D)	Pasadena, CA
	Btry B	Pasadena, CA (Site LA-09)
	Btry C	Pasadena, CA (Site-04)
<u>1959</u>		
56th Arty	1st Msl Bn (NIKE-AJAX) (US ARADCOM) (Less Btrys A, B, C, & D)	Pasadena, CA (PO Pasadena Area Spt Ctr, 95 S. Grand Ave.)
	Btry B	Pasadena, CA (Site LA-09)
65th Arty	4th Msl Bn (NIKE-HERCULES) (US ARADCOM) (Less Btrys A, B, & C)	Birmingham Army Hospital Van Nuys, CA
	Btry A	Los Pinetos, San Fernando, CA (Site-94)
	Btry B	Magic Hill, San Fernando, CA (Site-LA-98)
<u>1960</u>		
56th Arty	1st Msl Bn (NIKE-AJAX) (US ARADCOM) (Less Btrys A, B, C, & D)	McCormack Hospital Pasadena, CA (PO Pasadena Area Spt Ctr, 95 S. Grand Ave.)
	Btry B	Pasadena, CA (Site LA-09)
	Btry D	Pasadena, CA (Site LA-04)

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
HAER No. CA-56
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65th Arty Msl Bn (NIKE-HERCULES)
(US ARADCOM) (Less Btrys A, B, & C) Birmingham Army Hospital
Van Nuys, CA

Btry A Los Pinetos,
San Fernando, CA
(Site-94)

Btry B Magic Hill,
San Fernando, CA
(Site-LA-98)

1961

56th Arty 1st Msl Bn (NIKE-AJAX)
(ARADCOM) (Less Btrys A, B, C, & D) Pasadena, CA
(PO Pasadena Area
Spt Ctr, 95 S. Grand Ave.)

Btry B Pasadena, CA
(Site LA-09)

Btry D Pasadena, CA
(Site LA-04)

65th Arty 4th Msl Bn (NIKE-HERCULES)
(ARADCOM) (Less Btrys A, B, & C) Van Nuys, CA

Btry A Los Pinetos,
San Fernando, CA
(Site-94)

Btry B Magic Hill,
San Fernando, CA
(Site-LA-98)

1962

56th Arty 1st Msl Bn (NIKE-HERCULES)
(ARADCOM) (Less Btrys A, B, C, & D) Fort MacArthur, CA

Btry D Pasadena, CA
(Site LA-04)

65th Arty 4th Msl Bn (NIKE-HERCULES)
(ARADCOM) (Less Btrys A, B, C, & D) 15900 Victory Blvd.,
Van Nuys, CA

Btry A Los Pinetos,
San Fernando, CA
(Site-94)

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
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Btry B

Magic Hill,
San Fernando, CA
(Site-LA-98)

1963

56th Arty 1st Msl Bn (NIKE-HERCULES)
(ARADCOM) (Less Btrys A, B, C, & D)

Pasadena Area Spt Cntr,
95 S. Grand Ave, CA

Btry D

Pasadena, CA
(Site LA-04)

65th Arty 4th Msl Bn (NIKE-HERCULES)
(ARADCOM) (Less Btrys A, B, C, & D)

15900 Victory Blvd.,
Van Nuys, CA

Btry A

Los Pinetos,
San Fernando, CA
(Site-LA-94)

Btry B

Magic Hill,
San Fernando, CA
(Site-LA-98)

1964

56th Arty 1st Msl Bn (NIKE-HERCULES)
(ARADCOM) (Less Btrys A & D)

Pasadena Area Spt Cntr,
95 S. Grand Ave, CA

(To move to Site 98, Lang, CA on
25 June 64, on PCS)

Btry A

Pasadena Area Spt Cntr,
95 S. Grand Ave, CA

Btry D

Pasadena, CA
(Site LA-04)

65th Arty Btry A

Van Nuys, CA
(Site LA-94)
91401

1965

56th Arty 1st Msl Bn (NIKE-HERCULES)
(ARADCOM) (Less Btrys A & D)

Lang, CA (Site 98)
(PO Saugus, CA 91350)

Btry A

Van Nuys, CA (Site LA-94)

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
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Btry D Pasadena, CA (Site LA-04)

1966

56th Arty 1st Msl Bn (NIKE-HERCULES)
(ARADCOM) (Less Btrys A & D) Lang, CA (Site 98)
(PO Saugus, CA 91350)

Btry A Van Nuys, CA (Site LA-94)

Btry D Pasadena, CA (Site LA-04)

1967

56th Arty 1st Bn (WAW4) (NIKE-HERCULES)
(ARADCOM) (Less Btrys A & D) Lang, CA (Site 98)
(PO Saugus, CA 91350)

Btry A Van Nuys, CA (Site LA-94)

Btry D Pasadena, CA (Site LA-04)

1968

56th Arty 1st Bn (WAW4) (NIKE-HERCULES)
(ARADCOM) (Less Btrys A & D) Lang, CA (Site 98)

Btry A Van Nuys, CA (Site LA-94)

Btry D Pasadena, CA (Site LA-04)

1969

56th Arty 1st Bn (WAW4) (NIKE-HERCULES)
(ARADCOM) (Less Btrys A & D) Lang, CA (Site 98)
(PO Saugus, CA 91350)

Btry A Newhall, CA (Site LA-94)

Btry D Palmdale, CA (Site LA-04)

65th Arty 4th Bn (WAXE) (NIKE-HERCULES)
(ARADCOM) (Less Btrys A, B, C, & D) 15900 Victory Blvd.,
Van Nuys, CA 91401

Btry A Palmdale, CA (Site LA-04)

1970

65th Arty 4th Bn (WAXE) (NIKE-HERCULES)
(ARADCOM) (Less Btrys A, B, C, & D) 15900 Victory Blvd.,
Van Nuys, CA 91401

Btry A Palmdale, CA (Site LA-04)

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
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1971

65th Arty (To be Inactivated o/a 30 Jun 71)
4th Bn (WAXE) (NIKE-HERCULES)
(ARADCOM) (Less Btrys A, B, C, & D)

15900 Victory Blvd.,
Van Nuys, CA 91406

Btry A

Palmdale, CA (Site LA-04)

1972 - 1974

65th Arty 2nd Bn

Btry A

Palmdale, CA (Site LA-04)

APPENDIX C: TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY

ITEM NO.	CATEGORY CODE	FACILITY (Category description)	NO. OF UNITS	TYPE	UNIT OF MEAS.	TOTAL QUANTITY	COST	DRAWING NUMBERS	SER. NUMBER	DATE	JOB NUMBER	SERIAL NUMBER	CONT. NUMBER	TYPE OF TRANSACTION	
														NEW CONSTR.	EXISTING FAC.
1	69010	Flag Pole, Bldg. 1	1	S	ea	1	1,044			11 July 1969				<input type="checkbox"/>	<input type="checkbox"/>
2	72310	Mess Hall, Bldg. 2	2,656	S	SF	2,656	52,460.94							<input type="checkbox"/>	<input type="checkbox"/>
3	14185	Multi-Purpose Bldg., Bldg. 3	4,094	S	SF	4,094	7,935.72							<input type="checkbox"/>	<input type="checkbox"/>
4	72210	Enlisted Men's Bar. & BOQ (West), Bldg. 4	7,522	S	SF	7,522	117,307.02							<input type="checkbox"/>	<input type="checkbox"/>
5	84120	Water Storage Tank, Bldg. 6	75,000	S	Gal	75,000	11,705.40							<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	12311	Gasoline Station (1 Pump), Bldg. 7	1,000	S	Gal	1,000	5,221.							<input type="checkbox"/>	<input type="checkbox"/>
7	84220	Pump House (Offsite Water Supply, Bldg. 101	216	S	SF	216	11,707.53							<input type="checkbox"/>	<input type="checkbox"/>
8	84120	Water Storage Tank, Bldg. 102	4,000	S	Gal	4,000	2,476.45							<input type="checkbox"/>	<input type="checkbox"/>

NIKE SITE 94 - ADMINISTRATIVE AREA

28. ACCEPTED BY (Signature) *J. V. DeLorenzo*
 DEPARTMENT OF AGRICULTURE, FOREST SERVICE
 TITLE (Post Eng./Base Ctr. Engr./New Rep.)
 Regional Forester

DATE *14 Feb 69*

29. P. NO. *1354*

DD FORM 1 NOV 61 1354

TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY

ITEM NO.	CATEGORY CODE	FACILITY (Category description)	NO. OF UNITS	TYPE	UNIT OF MEAS.	TOTAL QUANTITY	COST	DRAWING NUMBERS	REMARKS
<p>FROM: (Category/Activity/Service) Department of the Army Post Engineer Fort MacArthur, California 90731</p>									
<p>9. TO: (Metal/Activity/Service) Regional Forester, U. S. Dept of Agriculture, Forest Service Regional Office, 630 Sansome Street, San Francisco 11, California</p>									
9	97230	Sentry Box, Bldg. 200	20	S	SF	39	\$ 2,789.55		
10	44240	Paint & Oil Storage Bldg. 201		S	SF	54	1,977.		
11	21230	Missile Assembly & Test Bldg., Bldg. 202		S	SF	1,573	27,966.25		
12	42310	Acid Storage Shed, Bldg. 203		S	SF	42	877.		
13	14132	Ready Room, w/Latrines, Bldg. 204		S	SF	1,239	25,980.69		
14	81110	Generator Building, Bldg. 205		S	SF	820	74,205.97		
15	14121	Un-Gr Mel Stor. Structure, Co. Type "B", Bldg. 206		S	SF	3,962	208,031.67		

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
 HAER No. CA-56
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TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY

PAGE 3 OF

1. FROM: (Installation/Activity/Service) Department of the Army Post Engineer	2. OPERATING UNIT	3. DISTRICT CODE	4. OPERATING AGENCY	5. DATE	6. JOB NUMBER	7. SERIAL NUMBER	8. COM. NUMB.						
1. FROM: (Installation/Activity/Service) Department of the Army Post Engineer	2. OPERATING UNIT	3. DISTRICT CODE	4. OPERATING AGENCY	5. DATE	6. JOB NUMBER	7. SERIAL NUMBER	8. COM. NUMB.						
17	18	19	20	21	22	23	24	25	26	27	28	29	30
ITEM NO.	CATEGORY CODE	FACILITY (Category description)	NO. OF UNITS	TYPE	UNIT OF MEAS.	TOTAL QUANTITY	COST	DRAWING NUMBERS	REMARKS				
16	14121	Un-Gr Hsl Stor. Structure, Type C, Hldg. 207	20	S	SF	3,660	\$ 205,015.	28					
17	14121	Un-Gr Hsl Stor. Structure, Type C, Hldg. 208		S	SF	3,660	190,462.87						
18	14990	Acid Fueling Station, Hldg. 210		S	SI	728	35,700.36						
19	75011	Athletic Court, Hldg. 211		S	SI	800	6,186.						
20	14120	Warheading Hldg. Hldg. 212		S	SF	1,137	20,425.						
21	37230	Sentry Control Station, Hldg. 214		S	SF	101	2,443.						
22	37240	Canine Kennels, Hldg. 215		S	SF	319	1,344.						
23	44222	Canine Equip. Storage Hldg., Hldg. 216		S	SF	120	7,299.						

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
HAER No. CA-56
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TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY

PAGE 4 OF

1. ITEM NO.	2. CATEGORY CODE	3. FACILITY (Category description)	4. NO. OF UNITS	5. TYPE	6. UNIT OF MEAS.	7. TOTAL QUANTITY	8. COST	9. OPERATING UNIT	10. OPERATING UNIT	11. DIS. TRICIT CODE	12. OPER. AGENCY	13. AC. COUNTING NUMBER	14. AC. COUNT. OFFICE NUMBER	15. TYPE OF TRANSACTION				16. PROJEC. NUMBER		
														17. NEW CNSTR.	18. EXISTING FAC.	19. CAPITAL IMP.	20. OTHER (Specify)			
17	16	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	
24	73050	Personnel Shelter, Bldg. 217		S	SF	1,925	\$ 105,415.													
25	84120	Water Storage Tank (UG) CONTROL STATION		S	Gal	3,400	1,775.36													
27	87230	Sentry Box, Bldg. 300		S	SF	39	2,789.55													
28	14132	Ready Room, w/Latrine, Bldg. 302		S	SF	1,239	27,186.98													
29	14190	IFC Operational Pac., Bldg. 303		S	SF	3,398	226,402.63													
30	81110	Eng. Gen. & FC Bldg. Bldg. 304		S	SF	760	92,596.91													
31	14940	Radar Tower, 20 Ft, Bldg. 305		S	L	1	14,167.00													
32	14940	Lower Tower, 10 Ft Bldg. 306		S	L	1	19,558.													

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
 HAER No. CA-56
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TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY

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ITEM NO.	CATEGORY CODE	FACILITY (Category description)	NO. OF UNITS	TYPE	UNIT OF MEAS.	TOTAL QUANTITY	COST	DRAWING NUMBERS	REMARKS	19. PROJ. NUMBER
17	12	19	20	21	22	23	24	28		
33	14940	TWR Tower, Bldg. 307		S	L	1	\$ 29,929.			
34	14940	TWR Tower, 10 Ft, Bldg. 308		S	L	1	18,499.			
35	13340	Radar Building, Bldg. 309		S	SF	416	10,235.			
36	13190	Switch Station, Bldg. 310		S	SF	61	2,918.			
37	34120	Water Storage Tank, Bldg. 311		S	Gal	10,000	4,262.78			
38	34120	Water Storage Tank, Bldg. 312		S	Gal	4,500	2,425.04			
39	14990	Revotment		S			19,009.			
40	34210	Water Dist. System		S	LF	16,716	182,360.58			
41	33210	Sanitary Sewer		S	LF	3,546	49,717.			

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
 HAER No. CA-56
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TRANSFER AND ACCEPTANCE OF MILITARY REAL PROPERTY

ITEM NO.	CATEGORY CODE	FACILITY (Category description)	NO. OF UNITS	TYPE	UNIT OF MEAS.	TOTAL QUANTITY	COST	DRAWING NUMBERS	REMARKS
42	85220	Sidewalks		S	SY	1,425	\$ 12,533.73		
43	85290	Concrete Equip Pads		S	SY	202	18,549.30		
44	87120	Drainage Ditch, Pav		S	LF	2,279	31,443.47		
45	85290	Paved Area		S	SY	7,698	202,594.		
46	81240	Electrical Dist., UG & OH		S	LF	22,282	137,590.39		
47	83120	Septic Tanks and Leaching Wells		S	EA	11	7,348.		
48	85110	Roads		S	SY	50,718	649,993.83		
49	87210	Fence		S	LF	10,284	44,352.50		
50	14980	Radar Pads		S	SY	77	1,205.00		
51	85210	Parking Areas		S	SY	1,516	11,565.83		
52	87150	Retaining Wall		S	LF	959	50,192.50		

LOS PINETOS NIKE MISSILE SITE (LA-94-L; LA-94-C)
 HAER No. CA-56
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DEPARTMENT OF THE ARMY
 Post Engineer
 Fort MacArthur, California 90731

NO: (Installation/Activity/Service)
 Regional Forester, U. S. Dept of
 Agriculture, Forest Service Regional
 Office, 590 Sansome Street, San
 Francisco 11, California

1. PROJECT NUMBER

2. OPERATING UNIT

3. DISTRICT CODE

4. OPERATING AGENCY

5. DATE

6. JOB NUMBER

7. SERIAL NUMBER

8. CON NUMB

9. TYPE OF TRANSACTION
 NEW CONSTR.
 EXISTING FAC.
 CAPITAL IMP.
 OTHER (Specify) Transfer

10. OPERATING UNIT

11. DISTRICT CODE

12. OPERATING AGENCY

13. ACCOUNTING NUMBER

14. ACCOUNTING OFFICE NUMBER

15. PROJECT NUMBER

HAER
CAL
19-SYLM.N
1-

Los Pinetos Nike Missile Site
(LA-94-L)(LA-94-C)
HAER No. CA-56
(Page 65)

Report Prepared by: Project Manager:

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WESTEC Services, Inc.
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