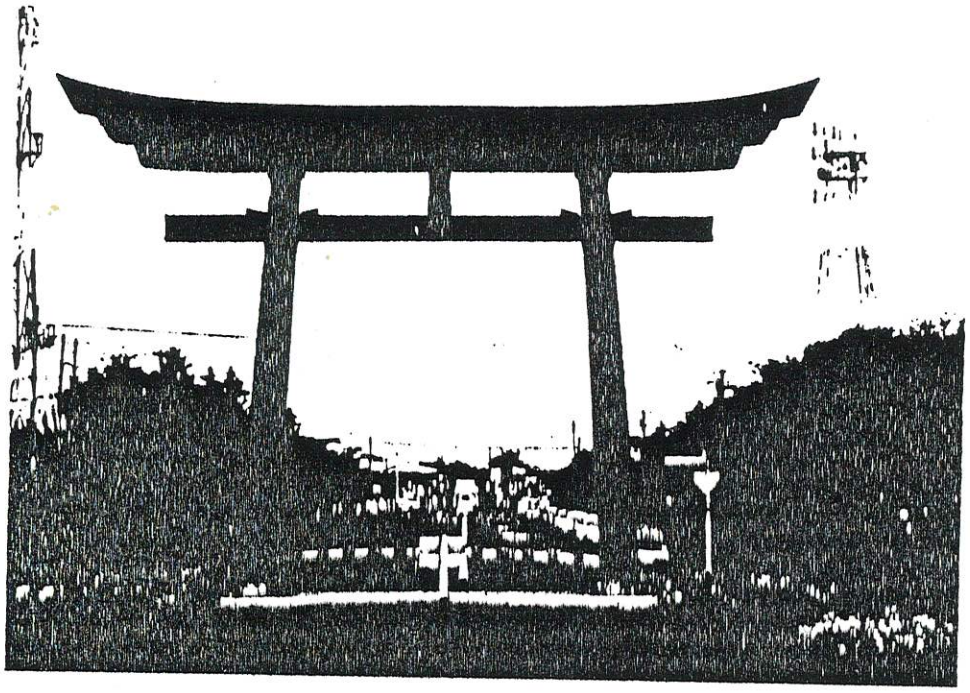
MASTER PLAN

U. S. NAVAL AIR FACILITY

ATSUGI, JAPAN



FINAL

1984年1月

DEPARTMENT OF THE NAVY
PACIFIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
FACILITIES PLANNING DEPARTMENT

EXECUTIVE SUMMARY

This master plan provides guidelines for land use and facility development at U.S. Naval Air Facility, Atsugi (NAF Atsugi) for the mid-range time frame (five to eight years). It was prepared by the Pacific Division, Naval Facilities Engineering Command (PACNAVFACENGCOM) and is an update of the master plan prepared in January 1976 and approved by the Chief of Naval Operations (CNO) in March 1976.

NAF Atsugi is located on Honshu, the largest of the four main islands of Japan. The facility is proximate to Tokyo, the largest city in Japan, and major U.S. military installations in the Kanto Plain area at Yokosuka, Yokota, and Camp Zama. Its primary mission is to provide services and material to support operations of aviation activities and units of operating forces.

General Planning Recommendations

The plan establishes a land use scheme that will reduce incompatible land uses and insure that adequate land area is available for the siting of new facilities needed to meet changing requirements and new missions. There are no major changes to the basic land use pattern. However, specific project sites and development proposals are provided which will enhance centralization and improve operations as well as insure that the environmental quality of NAF Atsugi is not degraded.

Specific Proposals

Specific proposals contained in this master plan include:

Exchange U.S. Navy (USN) hangars (Buildings 202 and 204) for a Japanese Maritime Self-Defense Force (JMSDF) hangar, (Building 195) thereby consolidating USN aircraft maintenance operations.

Consolidate Aircraft Intermediate Maintenance Department (AIMD) functions into a facility separate from the hangars to permit full utilization of existing hangars for squadron maintenance support and provide an efficient modern AIMD facility.

Reserve sites and adequate land to ensure that future expansion can be accommodated.

Preserve open areas where possible.

Develop a community commercial area around the Navy Exchange (NEX) Retail Store and the Commissary Store.

Develop a community services center organized around the Chapel.

Redevelop the Public Works Facilities, relocating the centroid of activity slightly to the east, thereby permitting expansion of the personnel support facilities.

Eliminate nonconforming land uses.

Develop a second aircraft maintenance complex in the East Operations Area.

Advantages

The advantages of adoption of the proposals of this Plan are:

Improvement of the overall environment by eliminating nonconforming land uses and improving personnel support facilities.

Preservation of environmental quality by insuring that existing open areas are compatibly developed.

Increased operational efficiencies achieved through centralization of administration, storage, and maintenance facilities.

Decreased maintenance costs and increased energy efficiency as a result of replacing aged temporary and semipermanent buildings with modern buildings of permanent construction.

B INTRODUCTION

1. Planning Area

Real estate for U.S. military bases in Japan is provided at no cost to the U.S. by the Government of Japan (GOJ) under Article VI of the January 1960 Treaty of Mutual Cooperation and Security. The land interest is vested in the U.S. Government rather than in its individual agencies. Accordingly, no Department of Defense (DOD) component "owns" or "leases" any real estate; rather, each service is assigned "control" over specific parcels as required. This master plan covers the 246 hectares of real estate controlled by NAF Atsugi within the boundaries of Atsugi Air Base. The remaining 259 hectares, or 52 percent of the installation's total land area, is controlled by the JMSDF. This plan will refer to the U.S controlled area as NAF Atsugi; the entire installation, including both U.S. and Japanese controlled lands, will be called the Atsugi Air Base.

No planning proposals are included for Tomioka Storage or for Kisarazu Auxiliary Landing Field (ALF) (see Figure B-1 for location of outlying areas). ALF Kisarazu is used only as a ferry point for damaged aircraft. The runway and the majority of airfield facilities at ALF Kisarazu are utilized by Japanese Ground Self-Defense Force (JGSDF).

2. Planning Objectives

The plan provides guidelines for the use of land and facilities within the boundaries of NAF Atsugi for the mid-range time frame (five to eight years).

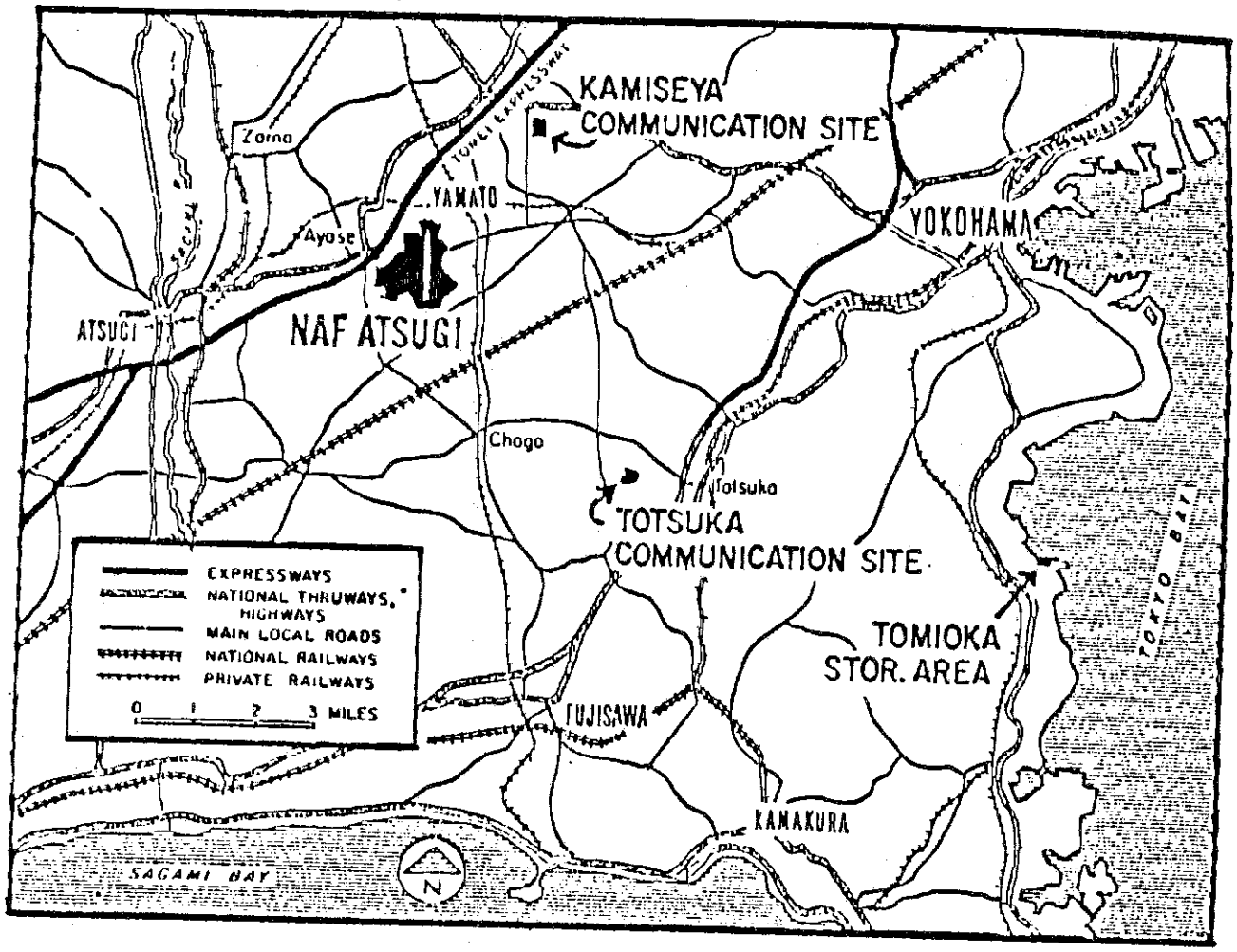
The master plan is primarily concerned with:

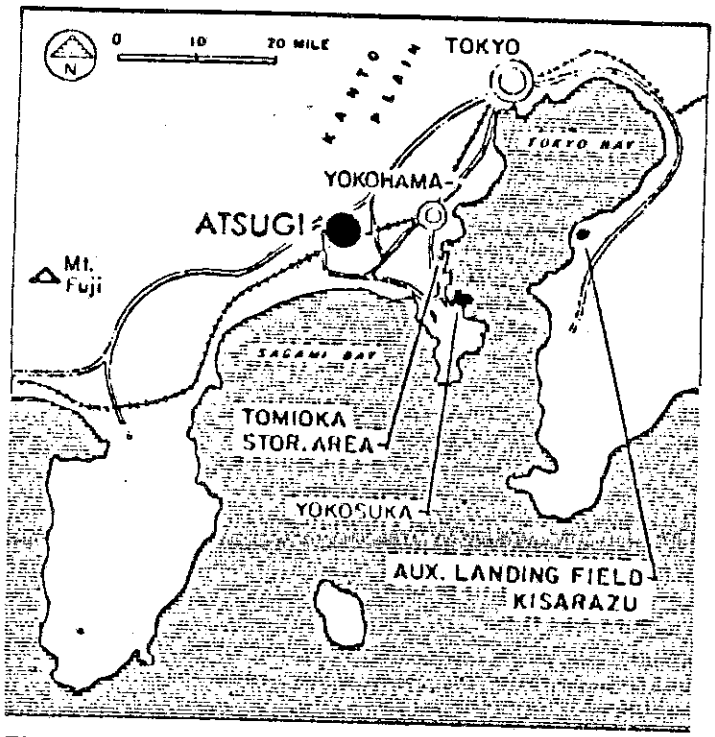
a. Establishing compatible land use patterns.

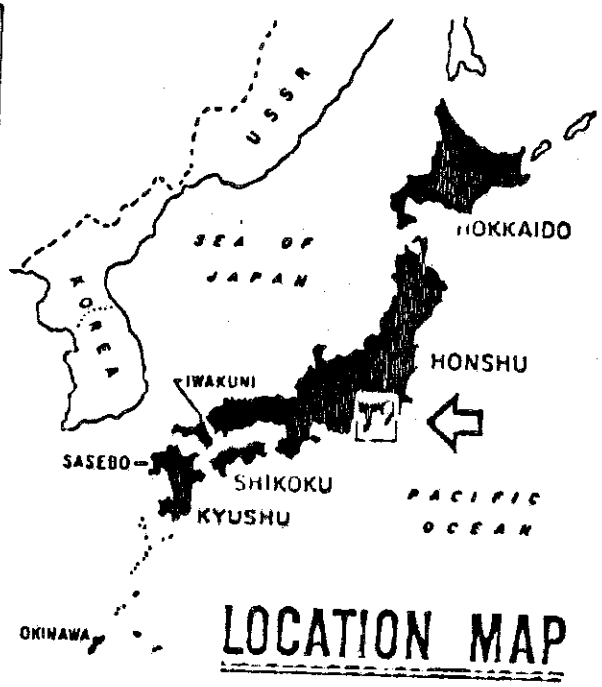
b. Examining facility requirements to insure that adequate land area is available for future expansion.

c. Promoting orderly and efficient physical development to satisfy the facility deficiencies.

d. Enhancing the quality of life on-base through the provision of amenities in a well-planned physical environment.







LOCATION MAP

NAF ATSUGI, JAPAN

Figure B-1

e. Promote safety by siting facilities in conformance with U.S. Navy airfield, explosive, and small arms ranges safety criteria.

3. Basis of Plan

The plan is based on the Shore Facilities Planning System (SFPS) documents dated August 1981. The Engineering Evaluation was conducted in April 1981. Information for specific facility requirements was developed by:

a. On-site discussions with station personnel.

b. Review of lists of proposed major projects and special projects.

4. Related Publication

PACNAVFACENGCOM has prepared a companion document, the Japan Regional Profile completed in October 1980, which is intended to be used in conjunction with this Master Plan. The Regional Profile describes the regional setting in which NAF Atsugi operates, presenting basic data on Japan such as history, economy, government, climatology, and profiles of USN installations in Japan. In addition, individual master plans have been prepared for each Navy and Marine activity in Japan. Of these, master plans for U.S. Naval Communication Station, Japan (NAVCOMMSTA Japan) and the Yokosuka Naval Base, are particularly relevant to the NAF Atsugi Master Plan.

5. Weight and Measurement Units

All weights and measures in this plan are expressed in metric units. Metric system terminology and U.S. equivalents are provided in Appendix B.

C. METHODOLOGY

The methodology for preparing this master plan includes the following steps:

1. Data Collection

Data collection consisted of the accumulation of all available information about the activity and surrounding area including the planning documents, maps, and environmental data. Historical data and land use constraints (natural and man-made) were also considered. Finally, the best available projections of future requirements were obtained. This data was supplemented by discussions with appropriate personnel at the activity and the chain of command.

2. Development of Planning Objectives

The development of planning objectives was accomplished in coordination with the activity and the chain of command following review of the basic data.

3. Evaluation and Analysis

An on-site evaluation of existing conditions was made by the planning team with activity personnel. Problem areas were reviewed and alternative solutions were discussed. An analysis was made of the data gathered from existing documents, from the on-site visit, and from discussions with activity personnel. The ability of NAF Atsugi to accommodate future requirements was evaluated. Conclusions/recommendations were developed to support the activity's mission and planning objectives, giving priority consideration to environmental and fiscal constraints.

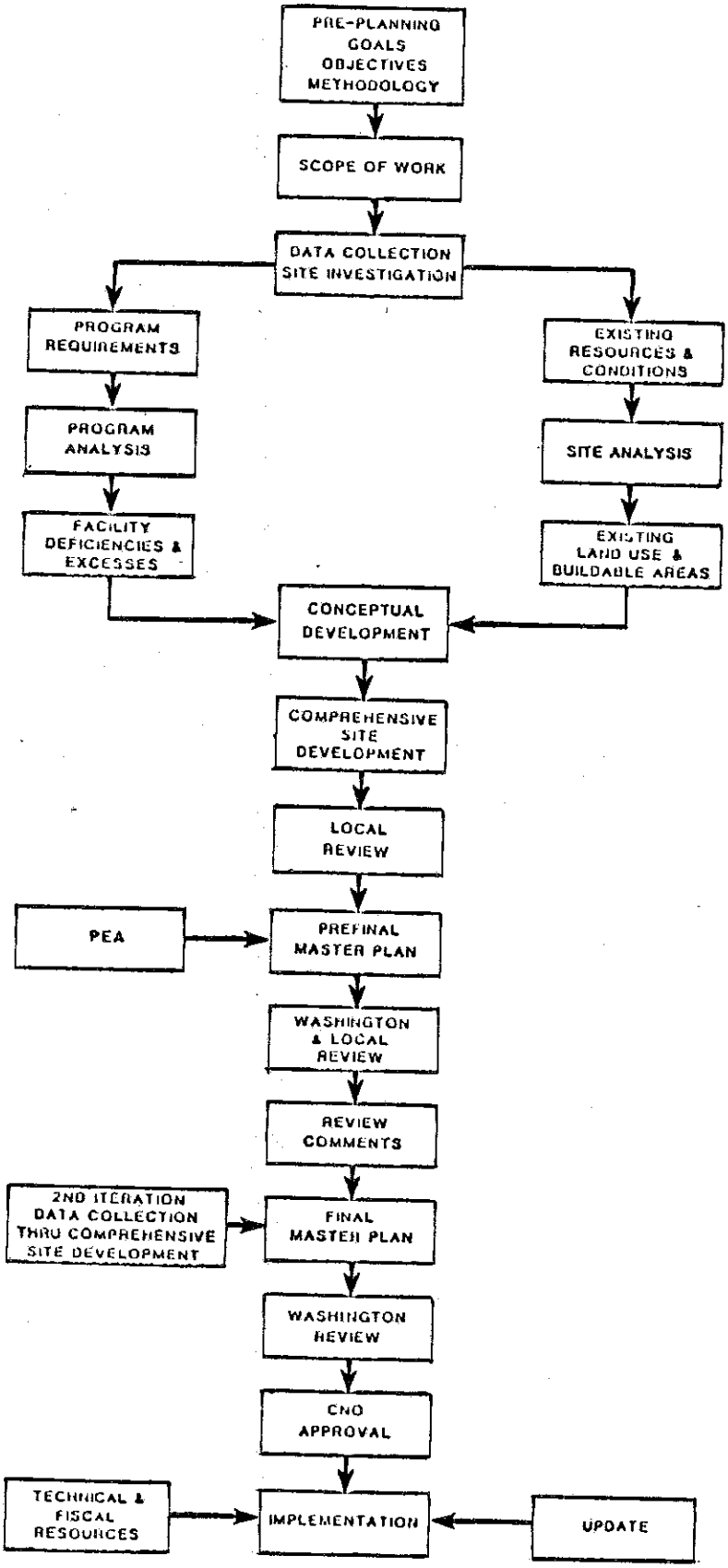
4. Final Report and Publication

The draft report was published and distributed for review in August 1982. Applicable comments received after review of the draft report have been incorporated into this plan. Upon approval by the Chief of Naval Operations (CNO), the plan will become the guide for future development at NAF Atsugi.

Normal methodology is shown in Figure C-1.

Figure C-1

MASTER PLAN METHODOLOGY



D. SITE ANALYSIS

1. Natural Environment

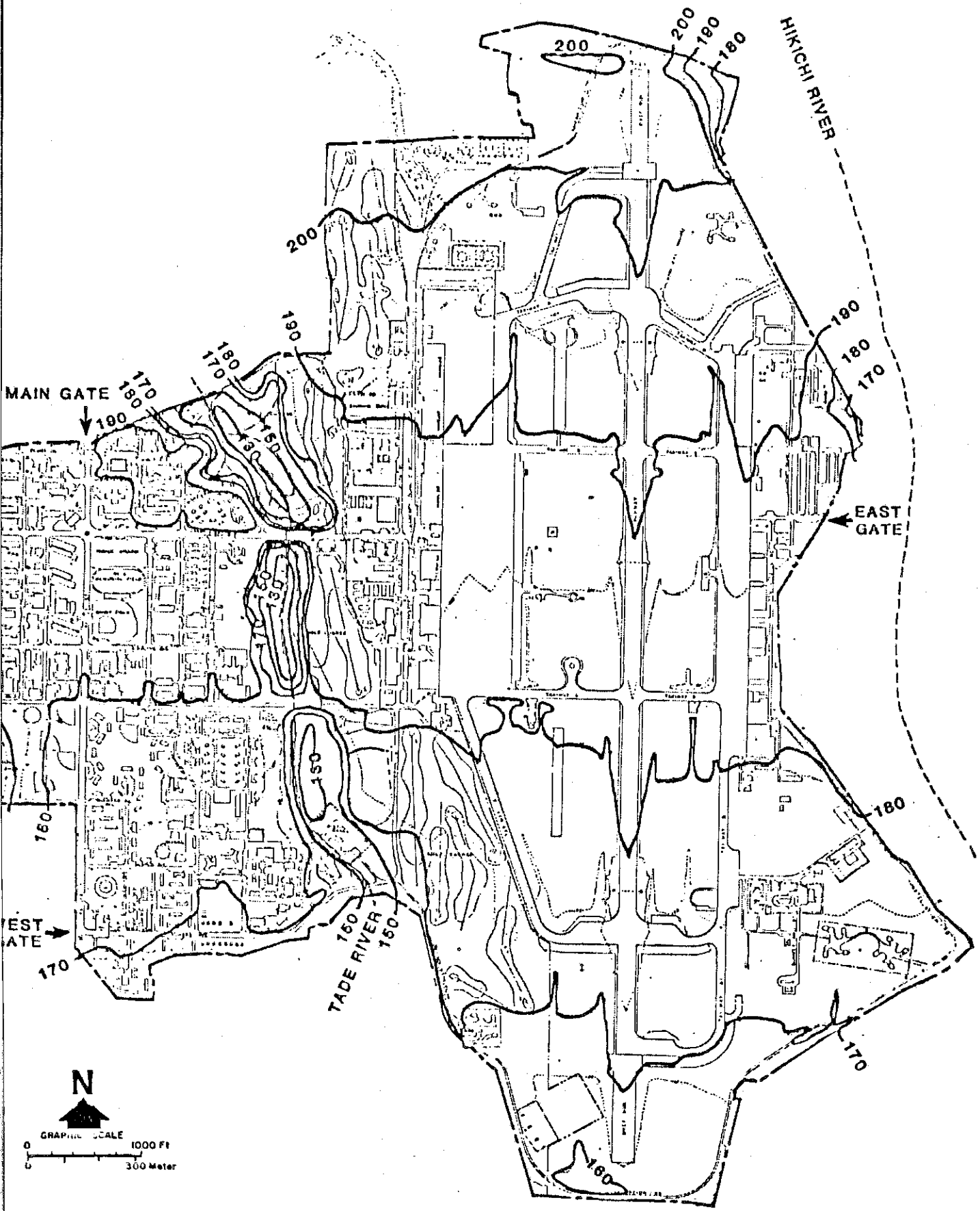
a. Location. Japan consists of a chain of islands lying along the western rim of the Pacific Ocean. The four main islands (Hokkaido, Honshu, Kyushu, and Shikoku) lie along a 2,400 km arc that stretches from Siberia in the north to Korea in the south.

NAF Atsugi is located in the Kanto Plain area on the island of Honshu, Japan. Tokyo and Yokohama, two of the largest cities in Japan, as well as major U.S. military installations at Yokosuka, Yokota, and Camp Zama, lie within a 30 km radius of the facility.

b. Topography. The island nation of Japan was originally a mountain chain of volcanic origin. A rise in the level of the oceans approximately 20,000 years ago submerged the low areas between the mountain peaks and created the islands of Japan. Only 5 percent of the 370,000 sq. km of land in Japan can be considered level. The majority of this level land is located on the Kanto Plain on the island of Honshu where NAF Atsugi is located. As shown on Figure D-1, NAF Atsugi is essentially level except for a small ravine formed by the Tade River which divides the facility in a north/south line. The eastern boundary of the facility also borders a similar ravine formed by the Hikichi River. As a result, the ravine is the only development constraint imposed by the topography.

c. Soils. The land on which NAF Atsugi is located was originally farms and pine forests that the Japanese developed into a naval air base in the early years of World War II. Subsurface soil profiles reflect the former agricultural use of the site. Typical subsurface soil structure includes two general divisions. The surface layer consists of a 5 meter thick layer of highly compressible organic clay of the OH classification. This surface layer is underlain by a stable, highly compact clay of the MH classification. Foundation designs for buildings and pavements must include stabilization of the surface layer to avoid the possibility of differential settlements.

d. Climate. The climate in the Tokyo-Yokohama area of Japan is much like that of coastal North Carolina. The average temperature ranges from 40°F in January (the coldest month) to 79°F in August (the hottest month).



TOPOGRAPHY

Figure D-1

TABLE D-1

CLIMATOLOGICAL DATA

Month	Temperature (°C)	Sky Cover (octas)	Precipitation (mm)	Relative Humidity (%)	Mean Ceiling (feet)	Winds (knots)
January	4.5	3.7	60.9	54.7	5,500	6.2
February	5.3	4.7	88.6	58.6	4,117	6.6
March	8.1	4.9	117.7	59.9	4,280	7.1
April	13.6	5.4	157.6	68.5	4,487	8.3
May	17.8	5.8	141.8	71.9	5,162	6.7
June	21.3	6.6	166.1	79.6	No data	6.7
July	24.7	5.7	179.4	80.9	3,589	6.4
August	26.2	5.2	143.6	77.4	No data	7.1
September	22.2	5.9	289.5	77.9	No data	6.7
October	17.1	No data	195.1	74.0	No data	6.5
November	11.9	No data	112.5	67.0	No data	6.5
December	7.0	3.4	53.8	61.3	No data	5.9

Relative humidity ranges from a mean of 55 percent in January to approximately 80 percent during the rainy seasons.

NAF Atsugi has two rainy seasons known as Bai-U seasons: the first occurring from mid-June to Mid-July and the second occurring from September through October. The average monthly rainfall ranges from 290 mm in September to 60 mm in December and January. Snow seldom falls in the area, averaging less than 7 cm per month in January and February. Table D-1 provides a summary of climatological data for NAF Atsugi. The statistics were extracted from the monthly climatological data summaries prepared by the U.S. Naval Oceanography Command Detachment, Atsugi (NAVOCEANCOMDET Atsugi).

Typhoons pose a serious threat in Japan. September is one of the peak months for tropical cyclone activity with normally four systems reaching typhoon intensity in the western Pacific. They usually develop near Guam and move toward Taiwan and Okinawa prior to recurving to the northeast. One of these cyclones can be expected to pass within 300 kilometers of Atsugi.

e. Plant and Wildlife. The real estate of NAF Atsugi is almost entirely developed except for the steep slopes of the Tade River ravine and a nine-acre parcel bordering the family housing area. These undeveloped areas are forested with native pine trees.

f. Seismic Zone. Japan is located in an active seismic zone. Buildings and structures must be designed for the highest earthquake probability zones (Seismic Zone 4).

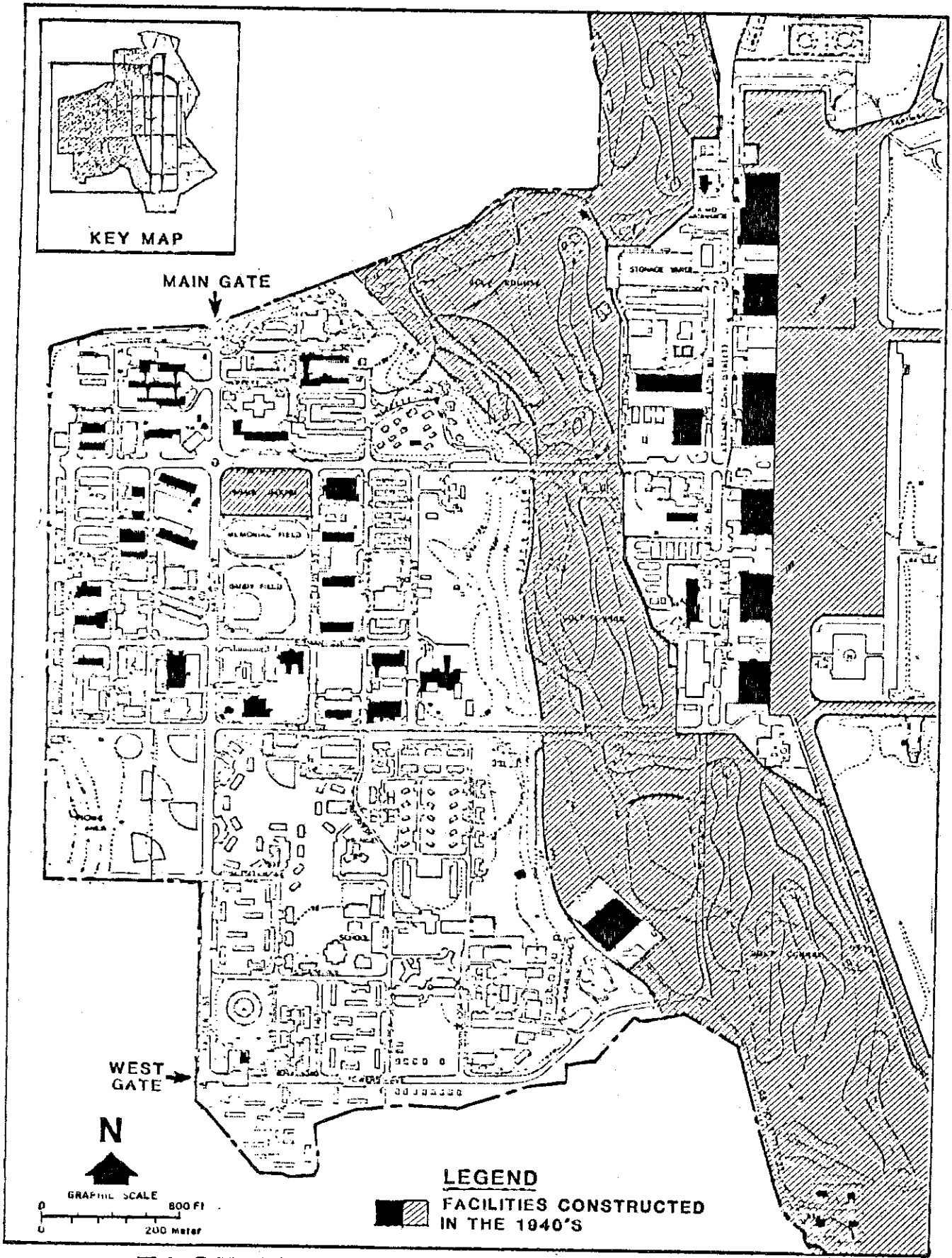
g. Historic Sites. There are no known historic sites at NAF Atsugi. Commander, U.S. Forces, Japan (COMUSJAPAN) is currently coordinating with the GOJ to determine the existence of any "official cultural assets" within the U.S Forces installations in Japan.

h. Flood Prone Areas. The Tade River Valley is prone to occasional flooding. The existing land uses - golf course and pistol range - are compatible with this environmental constraint.

2. Man-Made Environment

a. History. In 1938, the GOJ planned the construction of an airfield in an area of farms and pine forests near the town of Atsugi. Construction soon began but lack of funds brought construction to a near standstill until 1941. At the outbreak of World War II, construction activity increased rapidly so that by mid-1943 the base was completed and officially activated as Atsugi Naval Air Base. Many of the original buildings are still utilized today as shown in Figure D-2. The original runway was 1,500 meters (5,000 feet) long, consisting of concrete pavement varying in thickness from 5 to 8 cm (2 to 3 inches).

During the war, a Japanese Navy Air Group, dubbed the "Atsugi Fighters", was stationed here to defend the Kanto Plain. In spite of their heroic actions, Tokyo and other cities were turned into ruins by August 1945. Ironically, the Atsugi Naval Air Base was not touched. On 30 August 1945, General MacArthur, Supreme Commander of the Allied Powers, touched down at Atsugi Naval Air Base en route to the formal ceremony of surrender by the Japanese. On that day, 123 transports, carrying the first occupation troops, landed at Atsugi.



FACILITY DEVELOPMENT HISTORY

1940'S

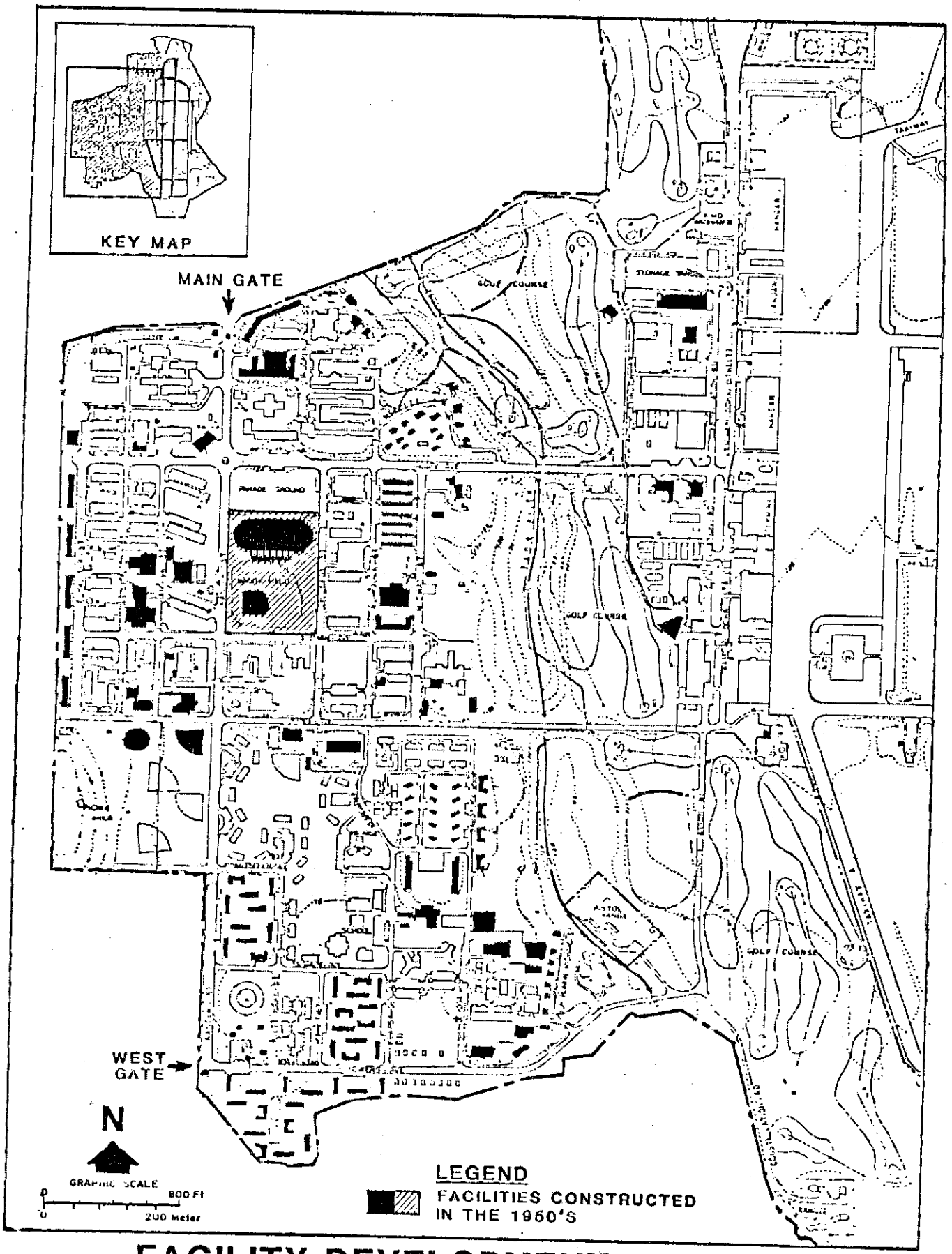
Following the war, the base entered a period of relative disuse. The principal activity at the base was an Army Replacement Training Center that was discontinued in March 1949. Atsugi was then unused until 1950, when the Commander in Chief, U.S. Pacific Fleet (CINCPACFLT) selected it to be the site for a major Naval Air Station (NAS) to accommodate shore-based patrol squadrons.

By this time, the base was in poor condition. The runway was pitted and contained ruts which made its use unsafe and the 220 wooden structures scattered throughout the 1,200-acre area were in varying stages of dilapidation. In October, an advance party of 13 Seabees arrived to begin the major job of reconstructing the base. In November, elements of the Fleet Aircraft Service Squadron II also arrived to begin construction of an 1,800 meter (6,000 foot) runway where the former strip had been. In December 1950, NAS Atsugi was commissioned.

During the 1950's, NAS Atsugi grew considerably, serving an average of 28 carrier groups annually. In 1954, the senior U.S. billet at Atsugi--Commander Fleet Air, Western Pacific (COMFAIRWESTPAC)--was established. It was also home for the Marine Aircraft Group (MAG) II. By 1955, the total on board count was over 4,700 persons with the contingent of Marines slightly outnumbering Navy personnel. At one point, there were as many as 250 aircraft assigned.

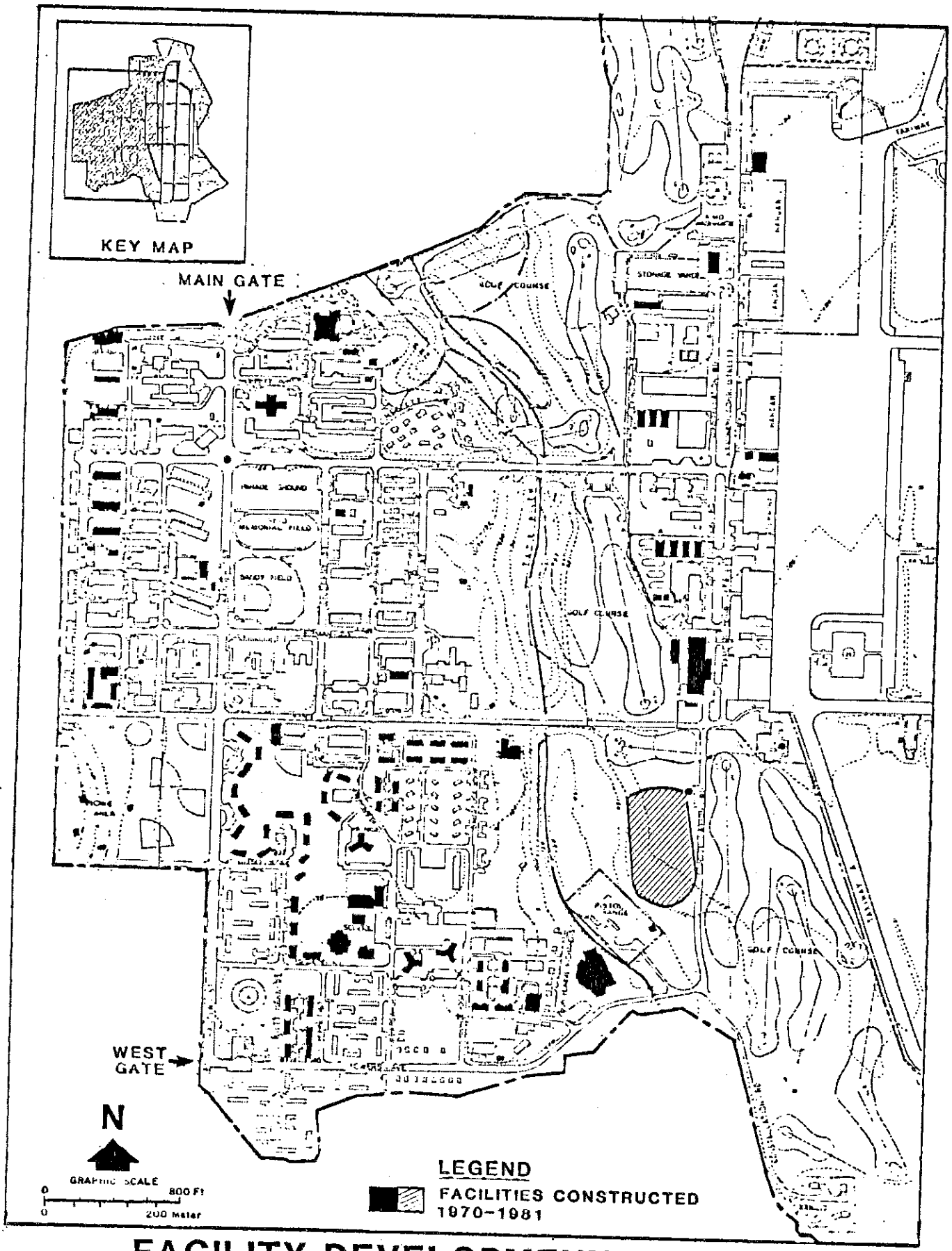
As the number of personnel swelled, support facilities at the base also came into being. The base mushroomed into a true military aviation community with the completion of a new photo lab, control tower, and parachute loft. Recreation facilities were added, including a bowling center, a station theater, and a swimming pool. Intramural and inter-station sports programs kept station personnel occupied when not on duty. Housing was constructed to accommodate the dependents that started arriving in 1951. The facilities constructed in the 1950's that are still being utilized today are shown in Figure D-3.

There was very little construction activity during the 1960's. During the latter half of the decade, NAS Atsugi's activities began to wind down. In 1965, the largest tenant--MAG II--was officially transferred to U.S. Marine Corps Air Station, Iwakuni (MCAS Iwakuni). In 1970, realignment plans were implemented and the major tenant commands (the squadrons) were directed to move elsewhere. Following this massive change, NAS Atsugi was redesignated a Naval Air Facility on 1 July 1971.



FACILITY DEVELOPMENT HISTORY

1950'S



FACILITY DEVELOPMENT HISTORY

1970-1981

The 1970's saw a period of diverse changes, the most significant of which was the arrival of the JMSDF and their assumption of operational and maintenance responsibility for more than one-half of the base, including the airfield. The first JMSDF squadron aircraft arrived in December 1971 and the headquarters of the JMSDF Fleet Air Force and the 4th Air Wing were established in December 1973. U.S. aviation activity in the early 1970's was limited to aircraft belonging to the detachments maintained there by reconnaissance squadrons VQ-1 and VRC-50. The pace quickened, however, when carriers pulled into Yokosuka Naval Base because many of the embarked aircraft flew to NAF Atsugi for routine or specialized maintenance. Finally, in 1973, the USS Midway was forward deployed at Yokosuka Naval Base and since then, NAF Atsugi has been the support base for her aircraft.

In the 1970's, the GOJ began constructing facilities at Atsugi for the U.S. as well as the JMSDF. The GOJ constructed for the U.S. 108 family housing units as part of the Yokohama Relocation Program, a 160-person Unaccompanied Enlisted Personnel Housing (UEPH) unit, a detached dining facility, the school gymnasium, and others. The GOJ also constructed for the JMSDF: aircraft operational and maintenance facilities, UEPHs, fuel tanks, etc. Toward the end of the decade, the GOJ construction pace accelerated and has carried over into the 1980's with the GOJ Facilities Improvement Program (FIP) for improving U.S. facilities. The JMSDF has its own construction program as well. The facilities constructed between 1970 and 1981 are shown in Figure D-4.

b. Mission. The mission of NAF Atsugi is to maintain and operate facilities and to provide services and material to support operations of Navy aviation activities and units of Navy operating forces and any other activities and units designated by CNO.

c. Organization. NAF Atsugi is organized under the line and staff concept (see Figure D-5). CNO exercises his command through Commander in Chief Pacific Fleet (CINCPACFLT). The Commander, U.S. Forces, Japan (COMUSJAPAN), headquartered in Yokota Air Force Base (AFB) serves as the DOD area coordinator for Japan (see Figure D-6) for Host Nation Construction Programs.

d. Personnel Base Loading. A listing of tenant activities of NAF Atsugi is shown in Table D-2. It is noted that the list does not include rotational/transient personnel; if included, the total officer and enlisted loading would be in the neighborhood of approximately 180 and 1,400 respectively. These activities include the following:

Figure D-5

ORGANIZATION CHART
NAF ATSUGI

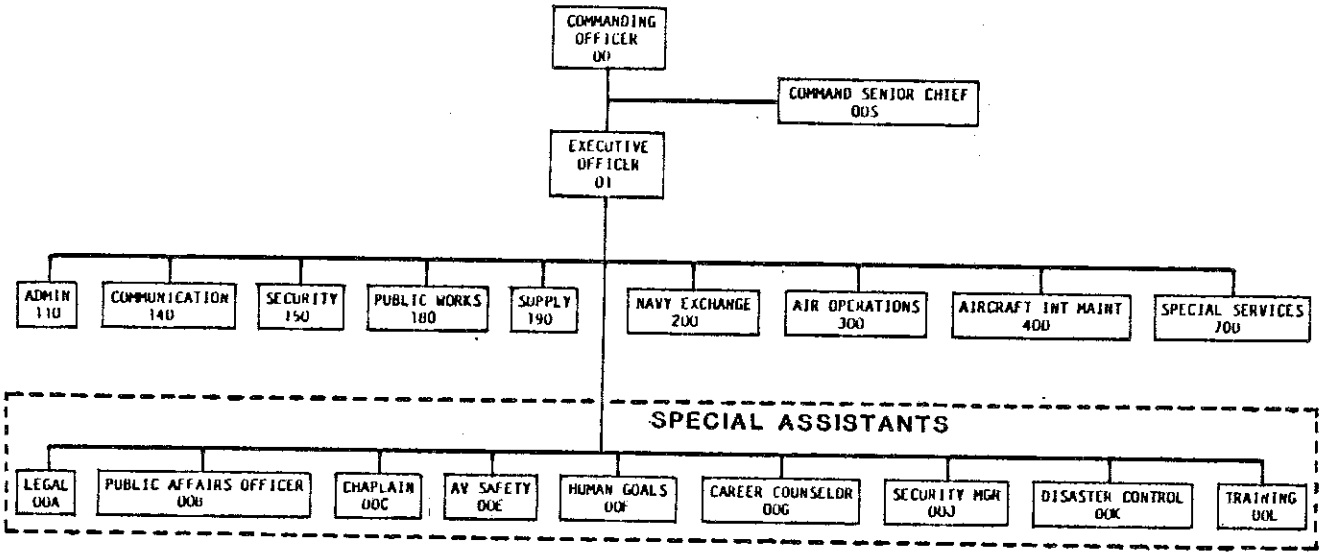
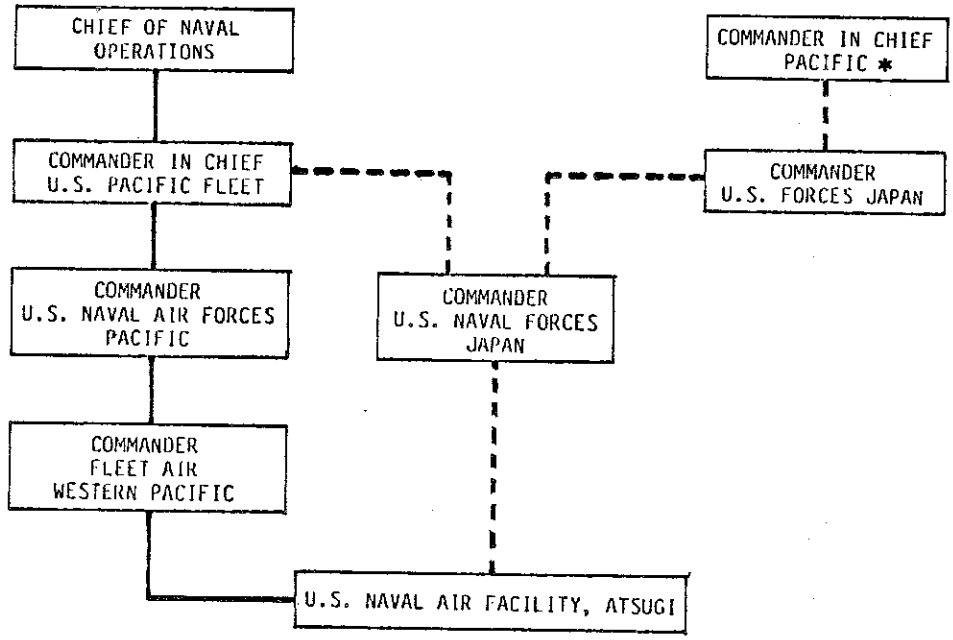


Figure D-6

ORGANIZATIONAL RELATIONSHIPS
U. S. NAVY IN JAPAN



——— OPERATIONAL/FUNDING

– – – AREA COORDINATION

* FOR HOST NATION CONSTRUCTION ONLY

TABLE D-2

NAF ATSUGI AND TENANTS

NAF Atsugi and AIMD
Naval Aviation Engineering Service Unit DET
COMFAIRWESTPAC
NAVREGMEDCEN Clinic Branch Atsugi
NAVREGDENCEN Dental Clinic Branch Atsugi
Personnel Support DET
Direct Support Security Group DET Atsugi
Naval Oceanography Command DET
Branch Commissary Store, Atsugi
NAVSECGRUDET Atsugi
CVW-5 Beach Det
Navy Exchange
Navy Calibration Lab
Shirley Lanham School
Naval Courier Service DET Atsugi
Naval Investigative Service Resident Agency Atsugi (NISRA)
NAF Atsugi Base Communication/ Telecommunication
Fleet Air Reconnaissance Squadron VQ-1 Spintell DET, Navy Security Group Division
Naval Investigative Service Office
Naval Air Maintenance Trng DET Atsugi
COMFAIRWESTPAC (Neutral Duty-Camp Current)
Consolidated Civilian Personnel Office, Atsugi Branch
Defense Mapping Agency Hydro Office
Shorestamps COMFAIRWESTPAC
Corrosion Control Unit WESTPAC
Pacific Fleet Audio-Visual Center, Japan
OICC/ROICC Office
Consolidated Fire Department

Carrier Air Wing Five (CVW-5)
Fleet Air Reconnaissance Squadron One (VQ-1)
Light Airborne Multi-Purpose System (LAMPS) (four detachments)
U.S. Marine Corps (USMC) Helo Detachments, Camp Fuji
HC-1 Det 6
HC-3 Det 106
USS Midway COD
VRC-50 Det

e. Aircraft Base Loading. The U.S. and JMSDF aircraft base loading at Atsugi Air Base is classified information. However, for general information, the following list of U.S. aircraft are currently serviced by NAF Atsugi:

Aircraft Type

F-4S
A-7E
A-6
E-2B
EA-6B
C-12
P-3
C-1
SH-3
H-46
SH-2F (LAMPS)
Misc. transient aircraft

The F-4S and A-7E aircraft will be replaced with F-18 and A-18 aircraft in the mid-term time frame.

f. JMSDF. Atsugi Air Base is unique in that the base actually accommodates two separate, roughly comparable Naval air facilities: one U.S., the other Japanese. Although a few facilities are jointly utilized, such as the airfield and some recreational facilities, generally speaking, each government maintains its own separate facilities. For example, each has its own facilities for aircraft maintenance, public works, supply, administration, housing, dining, and exchange. Moreover, both are major users and serve large Naval air commands--the U.S. Navy activities serve CVW-5 (eight squadrons) and the JMSDF activities serve the Fleet Air Force (five squad- rons). This situation has resulted in competition for the use of the available land. The Japanese control the major portion of the real estate.

Figure D-7 depicts the JMSDF activities stationed at Atsugi Air Base with a short description of their missions. Atsugi is also headquarters for JMSDF Commander, Fleet Air Force. Figure D-8 shows the organization of Fleet Air Wing Four, the largest JMSDF activity at Atsugi Air Base. The functions performed by the JMSDF NAS Atsugi are similar to that performed by the USN NAF Atsugi.

Figure D-7

JMSDF ACTIVITIES AT ATSUGI AIR BASE

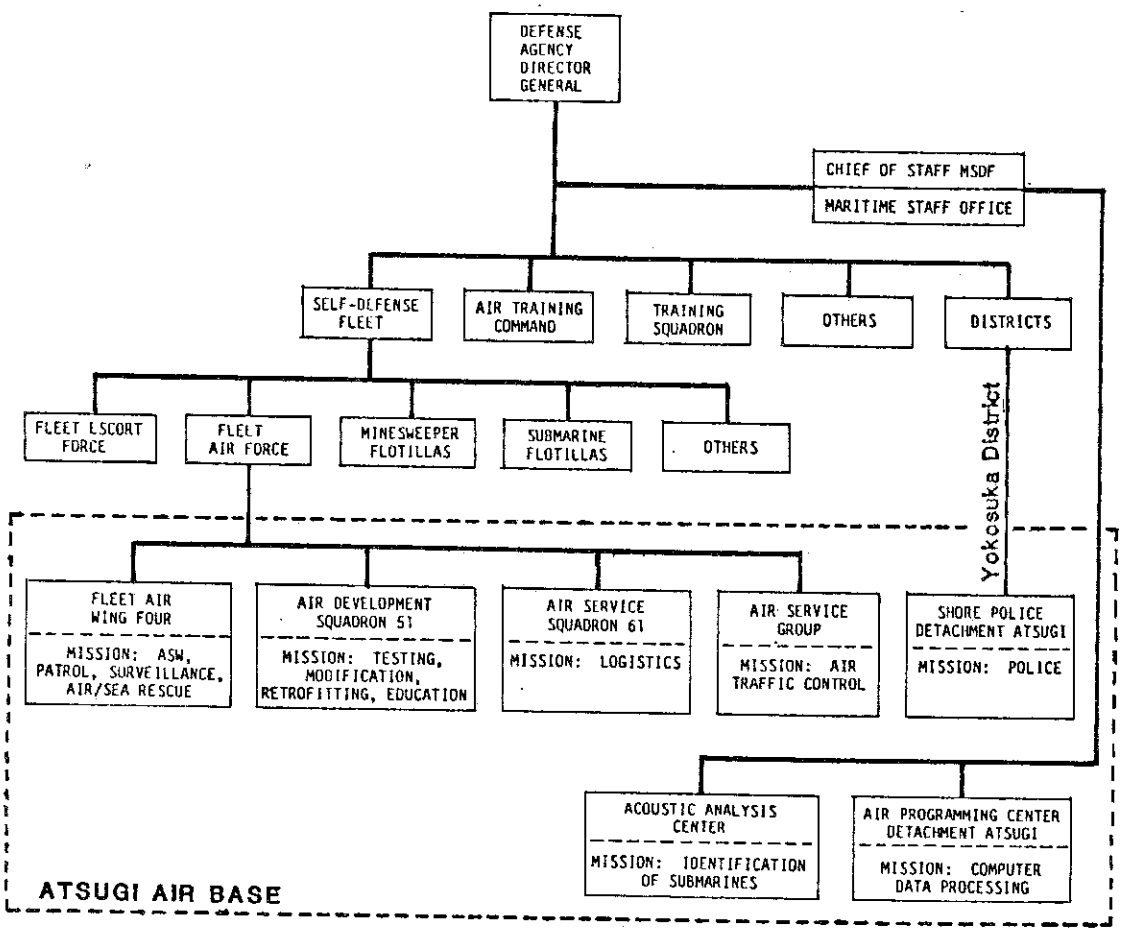
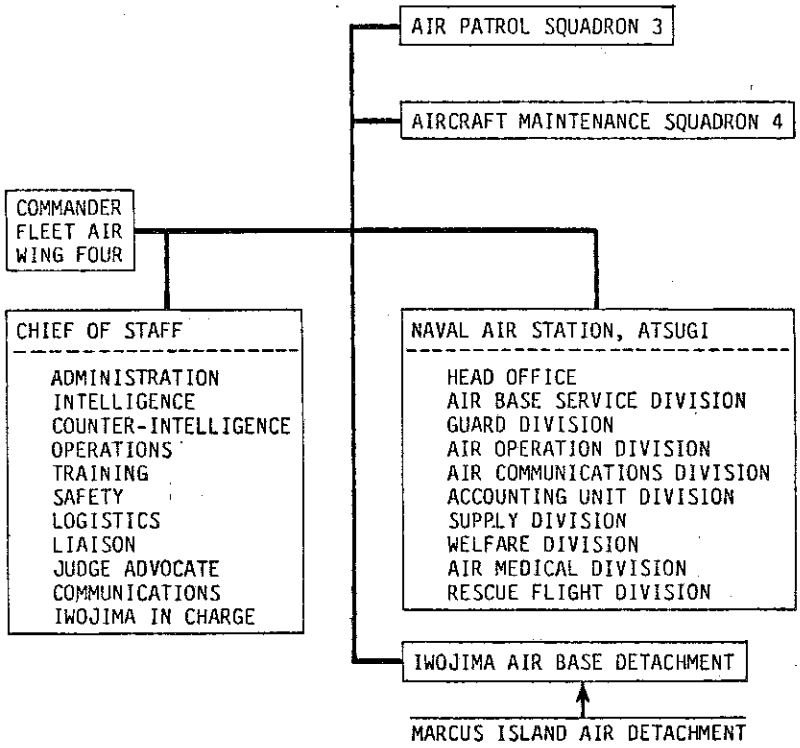


Figure D-8

ORGANIZATION CHART
JMSDF FLEET AIR WING FOUR



With the exception of the hangars, the main operations area is within the 70-74 Ldn noise environment; noise level reduction measures are only required in noise sensitive areas. Flight line facilities are compatible with their noise environment of 75 Ldn or greater and require only limited noise insulation or none at all.

Like the APZs, the noise footprint extends beyond the station boundaries and affects the surrounding community. The off-station effects are the responsibility of the GOJ. The GOJ does have an active noise abatement program at NAF Atsugi. In accordance with the U.S.-Japan Joint Committee Agreement of 19 September 1963, the following operational restrictions are observed:

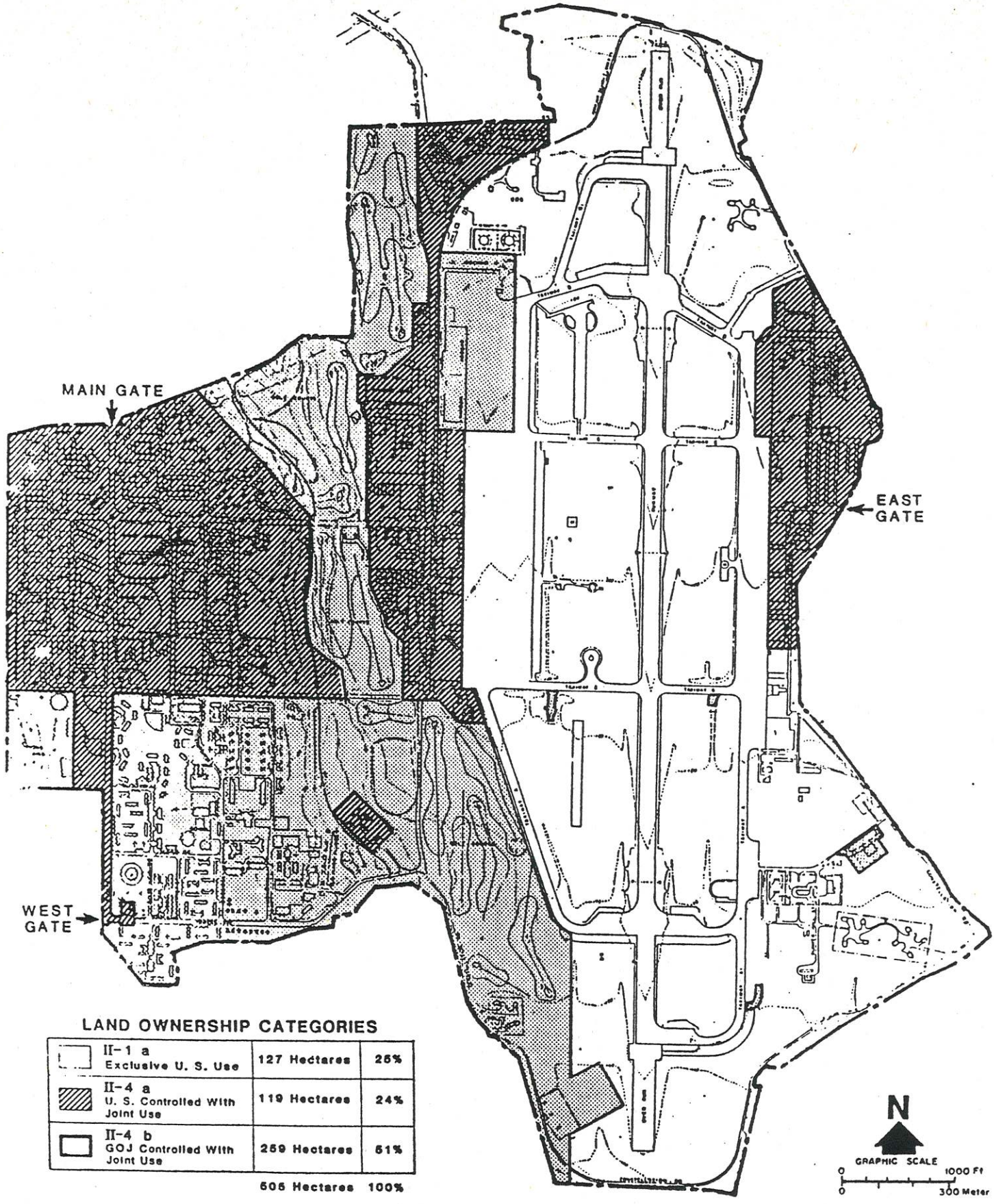
- Local flight operations are conducted only between the hours of 0600 and 2200 Monday through Saturday. Training flights on Sunday are minimized. Requests for mission essential flights outside of these hours are considered on a case by case basis.

- Ground tests and run-ups of jet engines are conducted only between the hours of 0800 and 1800 Monday through Saturday. Prop and turbo prop ground tests and run-ups are permitted only between the hours of 0600 and 2200 Monday through Saturday. However, engine run-ups conducted in the engine test cell (out-of-frame) and the power check pad with sound suppressor (in-frame) are permitted without restrictions.

- Landing practice at NAF Atsugi is restricted. The maximum number of consecutive VFR touch-and-go or low approaches is limited to four threshold crossings in the day and three in the night; helicopters, Flying Club aircraft, and the station UC-12B are not restricted. At the completion of the maximum threshold crossings, aircraft must leave the traffic pattern or make a full stop landing for ten minutes. Furthermore, aircraft shall not be flown at less than 800 feet above mean sea level.

- Aircraft arriving in formation are limited to two aircraft at a time.

- The use of afterburners must be discontinued prior to reaching the installation boundary unless required for flight safety or operational necessity.



LAND OWNERSHIP

Figure D-14

(6) Land Ownership. The land ownership pattern imposes a constraint on the location of the respective government's facilities. For instance, the USN must negotiate with the JMSDF to obtain land for aircraft parking apron; conversely, the JMSDF must negotiate with the USN for land for personnel support and administrative facilities.

Figure D-14 shows the land ownership pattern on-base. The various categories are references to sections of the Agreement under Article VI of the Treaty of Mutual Cooperation and Security Between the United States of America and Japan, Regarding Facilities and Areas and the Status of the United States Armed Forces in Japan (Status of Forces Agreement (SOFA)). The applicable sections were extracted and shown below with their commonly accepted interpretation given in parentheses:

II-1a The United States is granted, under Article VI of the Treaty of Mutual Cooperation and Security, the use of facilities and areas in Japan. Agreements as to specific facilities and areas shall be concluded by the two Governments through the Joint Committee provided for in Article XXV of this Agreement. "Facilities and areas" include existing furnishings, equipment, and fixtures necessary to the operation of such facilities and areas.
(Exclusive U.S. use)

II-4a When facilities and areas are temporarily not being used by the United States armed forces, the Government of Japan may make, or permit Japanese nationals to make interim use of such facilities and areas provided that it is agreed between the two Governments through the Joint Committee that such use would not be harmful to the purposes for which the facilities and areas are normally used by the United States armed forces.
(U.S. controlled with joint use)

II-4b With respect to facilities and areas which are to be used by United States armed forces for limited periods of time, the Joint Committee shall specify in the agreements covering such facilities and areas the extent to which the provisions of this Agreement shall apply.
(GOJ controlled with joint use)

- Supersonic flight over land is prohibited.

In addition to these operational modifications, the GOJ has undertaken a range of measures to improve the living environment in airfield peripheral areas. Affected communities are eligible for Special Defense Facility Environs Improvement Adjustment Grants for improving public (traffic, medical, educational, and cultural) facilities.

Of special interest is the following GOJ classification of airfield peripheral areas based on the degree of nuisances caused by aircraft noise:

- Class 1 Area: area in which Weighted Equivalent Continuous Perceived Noise Level (WECPNL) is 75 or over.

- Class 2 Area: area within Class 1 Area, in which WECPNL is 90 or over.

- Class 3 Area: area within Class 2 Area, in which WECPNL is 95 or over.

The GOJ maintains its own noise monitoring system; however, a valid GOJ noise contour map is not available. On the other hand, Figure D-10 may be utilized for visualization purposes since the relationship between the U.S. noise descriptor (Ldn) and the GOJ noise descriptor (WECPNL) can be roughly approximated as: WECPNL = Ldn + 13.

Houses in the Class 1 and higher areas receive subsidies for noise insulation work. In addition, houses in the Class 2 area may be moved to other areas, in which case, the expenses for such relocation are compensated. Moreover, should local communities plan to improve roads, water service, drainage, and other public facilities at the relocation site, financial assistance is forwarded to them to facilitate the relocation. Furthermore, the Class 3 area is designated for use as a buffer zone between the airfields and civilian life to alleviate the noise of aircraft, and the government takes responsibility for purchasing the land and maintaining it as a green belt by turfing or the planting of trees. Should local communities wish to use such government-owned land as a public square or a similar use that can serve as a buffer zone, such land may be made available at no cost.

Transportation Systems

Off-Station Circulation. The highways in Japan do not meet the standards of highway systems in the U.S. Secondary roads in most areas are very narrow and, in some instances, are unpaved. The increasing number of vehicles and the barely adequate road system result in monumental traffic congestion which limits the amount of cargo and personnel that can be transported over highways. A major expressway system is rapidly being constructed which will link most major cities in Japan.

Railroad transportation systems in Japan are inexpensive and efficient. NAF Atsugi is served by four railroad lines which offer direct service to most of the major cities in Japan. Access to the systems from NAF Atsugi for freight is provided by a railroad siding. This provides the primary petroleum, oil, lubrication (POL) and cargo transportation capability for the facility. In addition to the railways and the convenience of driving one's own vehicle, an efficient and dependable bus system supplemented by an abundance of taxi cabs service the surrounding populated area.

Major highway and railroad routes in the Atsugi-Tokyo-Yokohama area are shown on Figure D-16.

On-Station Circulation. The on-station circulation pattern is influenced by the surrounding highways and cities. Three gates control ingress and egress to and from NAF Atsugi. The west side of the Station is serviced by both the Main Gate, which is open at all times, and the West Gate, which is open only during the peak morning and afternoon traffic hours. The east side of the Station is primarily accessible from the East Gate, which is open from 0600 to 1800 hours daily.

The interior road network, like the Japanese road system, is designed for left-side traffic flow patterns. This consistency in travel patterns between on- and off-base traffic operations relieves installation drivers of the problem of changing their driving patterns. The streets are generally marked for two-lane, two-way travel and are in good physical condition.

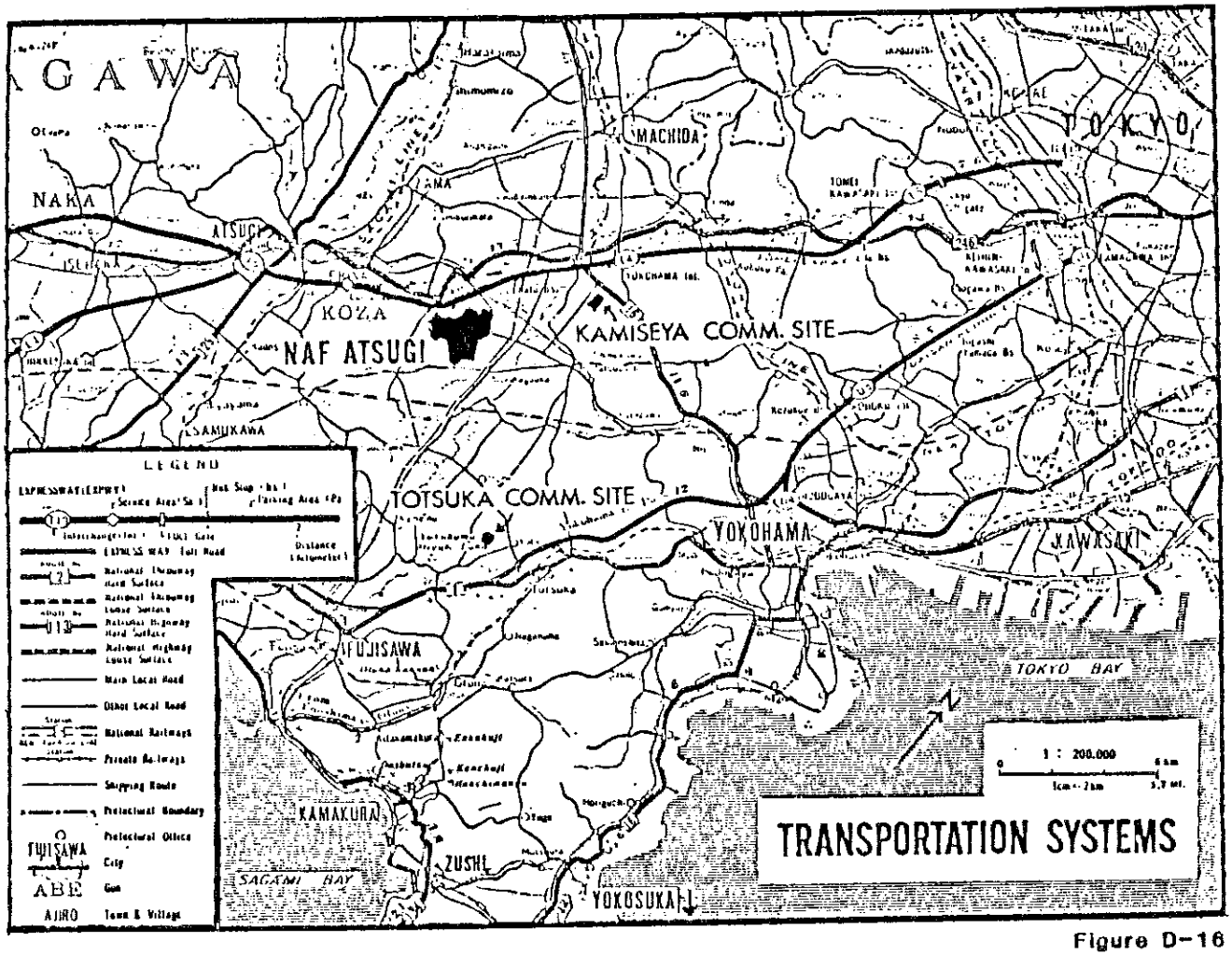


Figure D-16

The internal road network on the west side of the Station forms a grid pattern with Halsey and King Avenues forming the major east-west traffic corridors while Ranger and Yorktown Streets form the north-south corridors. On the east side of the Station, two roads, Kamome Dori Street in the north and Constellation Road in the south, form an elliptical route encircling the runway and flight operations areas. In traveling from the west to the east side or vice versa, both Halsey and King Avenues are the main routes of travel.

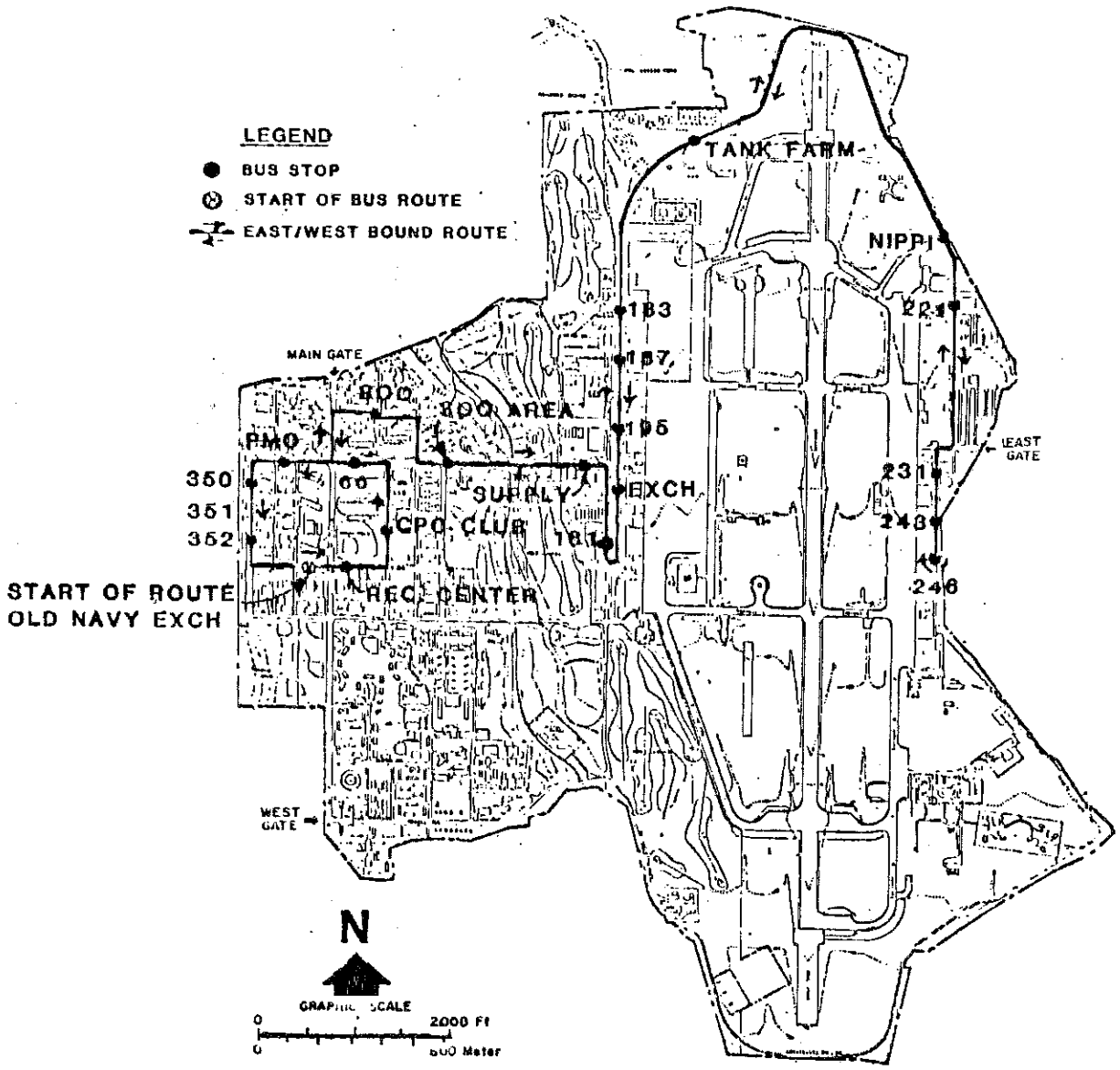
On-station transportation is predominantly government motor vehicles or privately-owned vehicles complemented by a bus system. The bus travels the main functional areas of the Station on a Monday to Friday shuttle schedule (holidays excepted) (see Figure D-17). The shuttle

ON-BASE SHUTTLE BUS SCHEDULE (RED ROUTE)

0645 - 1645 (MON - FRI)

	Min after the hr	
EAST BOUND	LV	LV
Navy Exchange site (Near Mini-Mart)	45	15
Cafeteria (Rec. Center)	46	16
CPO Club	47	17
Bldg. #66	48	18
BOQ	49	19
SOQ Area	50	20
Supply	51	21
VQ-1 Off. 181	52	22
Toyland	53	23
Hangar 195	54	24
Hangar 183	55	25
Tank Farm	56	26
Nippi	59	29
Flying Club 246	00	30

	Min after the hr	
WEST BOUND	LV	LV
Flying Club 246	00	30
Nippi	01	31
Tank Farm	04	34
Hangar 183	05	35
Hangar 195	06	36
Toyland	07	37
VQ-1 Off. 181	08	38
Supply	09	39
SOQ Area	10	40
BOQ	11	41
PMO	13	43
EM Bks. Area	14	44
Old Navy Exchange	15	45



ON - BASE BUS ROUTES

Figure D-17

schedule provides a 15-minute service during the rush hours of 0645-0730 and 1100-1300. During the remainder of the day a 30-minute service terminating at the Enlisted Dining Facility at 1715 hours is provided.

In addition to the above, official Public Works Department taxi transportation is provided on an "on call" basis for those activities without Class "B" vehicles. Another mode of transportation utilized is bicycles because of the close proximity of the functional areas within the west side of the Station.

Table D-5 provides statistics showing the average number of government and private vehicles on-station.

TABLE D-6

MOTOR VEHICLE OWNERSHIP

Year	Government	Private
1978	164	1,042
1979	202	963
1980	194	993

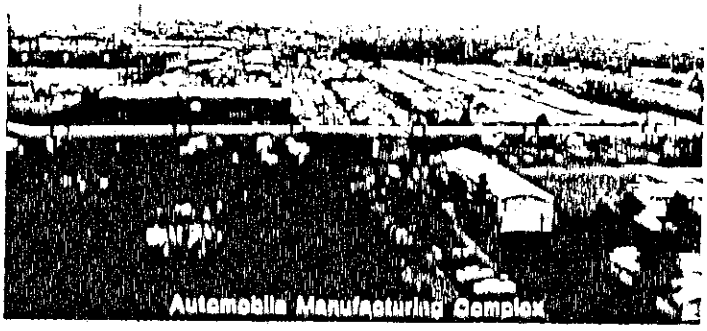
Community Support. The population of Japan is almost 120 million. Most of this population is centered in large urban areas. Tokyo and Yokohama have a combined population of 13 million people. All of the job skills required at the Station are available in Japan. However, due to competition with private industry for personnel and lack of stable employment prospects with the U.S. military, many positions remain unfilled. Low unemployment in Japan and generous pay increases compound the recruiting problem.

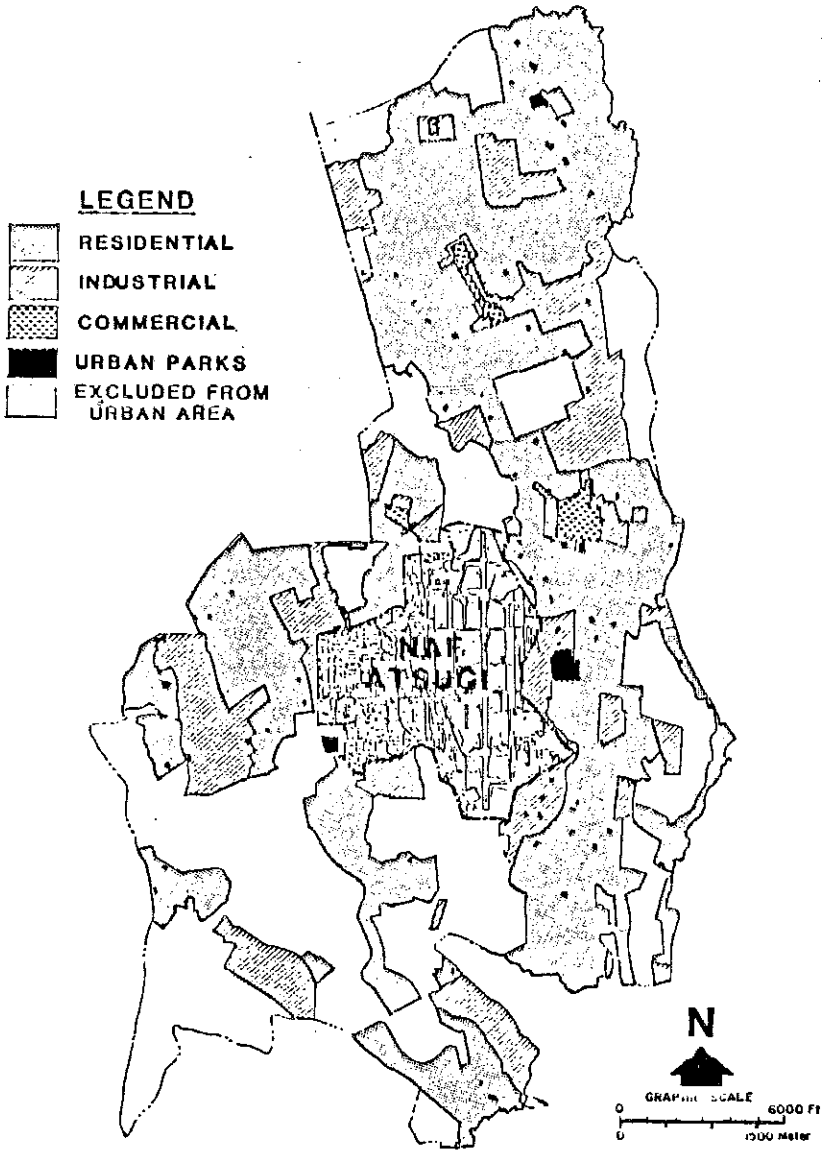
Although NAF Atsugi currently employs about 800 Japanese civilians and has an annual civilian payroll of about $17 million, the U.S. military presence at NAF Atsugi no longer has a major impact on the local economy because of the growth of major civilian industries in the area. This is dramatized in the inability of NAF Atsugi to compete with private industry in the recruitment of young workers. The average age of Japanese civilians employed by the NAF Atsugi Public Works Department is 50 years. Most of these workers have been employed by NAF Atsugi since the end of World War II and are nearing retirement age.

Local community support facilities include entertainment, shopping, parks and the many shrines, temples, and other historical sites. Approximately 200 housing units within the local community are being rented by NAF Atsugi personnel. However, in recent years, due to high prices resulting from devaluation of the dollar and the high rate of inflation in Japan, many civilian support facilities, such as shopping and entertainment, have lost their attractiveness to base personnel. In addition, most rental housing units are inadequate by U.S. standards due to flimsy construction, small floor areas, inadequate utilities, unsafe heating equipment, and unpaved, narrow service roads. Finally, language and cultural differences tend to discourage use of community facilities. Consequently, personnel must depend more and more on NAF Atsugi facilities for their daily needs.

Off-Station Land Use. NAF Atsugi is almost completely surrounded by civilian built-up areas. Civilian cities and towns around NAF Atsugi are Yamato City, Ebina City, and Ayase Town. These areas are a diverse mixture of residential, commercial, industrial, and agricultural land uses. It is not unusual to find many isolated industrial complexes located in areas which are predominantly residential/agricultural. As is common in many recently urbanized areas of Japan, farm plots and residences are frequently intermingled. However, the GOJ does have a National Land Use Plan governing the utilization of land at the national, prefectural, and municipal levels. The local municipalities' land use plans for the areas surrounding Atsugi Air Base are shown in Figure D-18.

Significant civilian developments along the facility's boundary, in addition to residential areas and farms, include an automobile manufacturing complex on the southwest boundary, a hog farm east of the automobile factory, and the Japan Aircraft Company airplane rework facility on the eastern boundary. Generally, the areas at each end of the runway, within the airfield clear zones, are sparsely developed. However, further out, in the airfield accident potential zones, there are many residences. The local land use plans reinforce the existing pattern of development.





OFF - STATION LAND USE PLAN

Figure D-18

Typical Family Housing Along The Western Boundary

Typical Development Along The Eastern Boundary

Typical Townhouse Development Along The Southern Boundary

3. Site Development Potential

Previous sections of this master plan have analyzed natural and man-made constraints to development on-station. The constraints are summarized in Figure D-19. The largest land use constraints are the airfield primary surface and clear zone, land ownership, and noise. These constraints more or less overlap and are generally confined to the airfield area. On the other hand, the personnel support area and the housing areas are almost constraint free, although a small portion is affected by aircraft noise.

Since no additional ordnance storage magazines or communication facilities are planned, Figure D-19 does not reflect EMR/EMI constraints for reasons of clarity.

4. Existing Land Use

a. General. NAF Atsugi is physically divided into east and west areas by a ravine formed by the Tade River. Land use on the installation is similarly divided (see Figure D-20). Residential, community support, recreational, administrative, and public works maintenance areas occupy the western portion, with the runway, aircraft maintenance, storage, POL, and other aviation-related activities generally occupying the eastern portion of the facility. These broad land use categories are located in well defined areas with very little mixing so that incompatible land uses are minimized.

The runway, taxiways, control tower, and many other airfield facilities at NAF Atsugi are owned and operated by JMSDF. Land uses in JMSDF controlled areas are generally compatible with land uses in adjacent U.S. occupied areas.

Civilian land uses along the Atsugi Air Base boundary are, for the most part, compatible with military land uses. Three exceptions are an automobile manufacturing complex adjacent to the installation's family housing area and civilian residential areas adjacent to the POL tank farm and within the aircraft approach zones at the ends of the runway.

4 Existing Land Use

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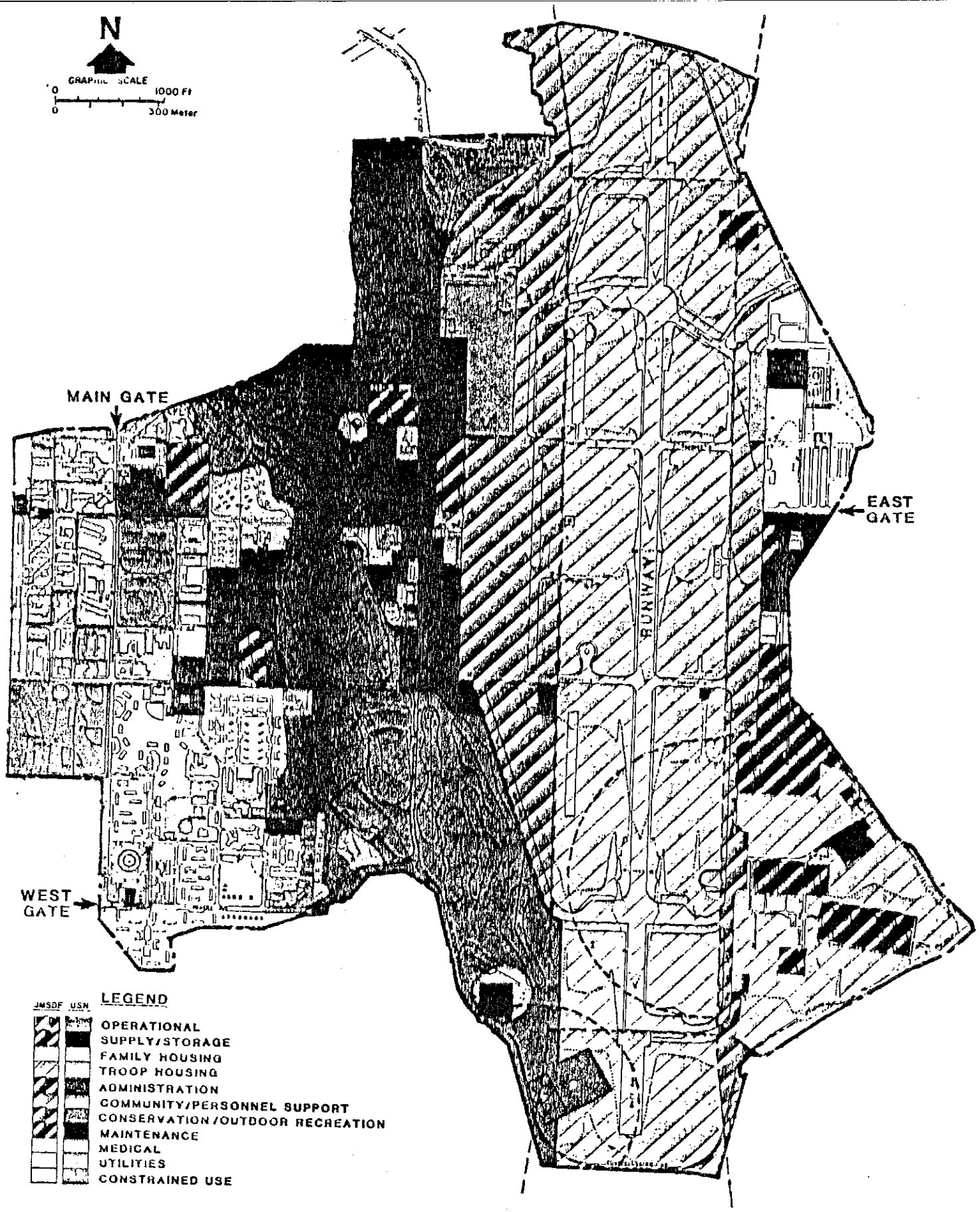
b. Existing Development. This section provides a general description of the existing Station development by major functional areas (shown in Figure D-21), pointing out major facilities and general area characteristics. It is intended to provide an overview; brief descriptions of specific facilities are provided in Section E, Program Analysis. This section thereby introduces a framework of reference points to assist the reader in conceptually organizing the Station's physical development in subsequent sections of the plan.

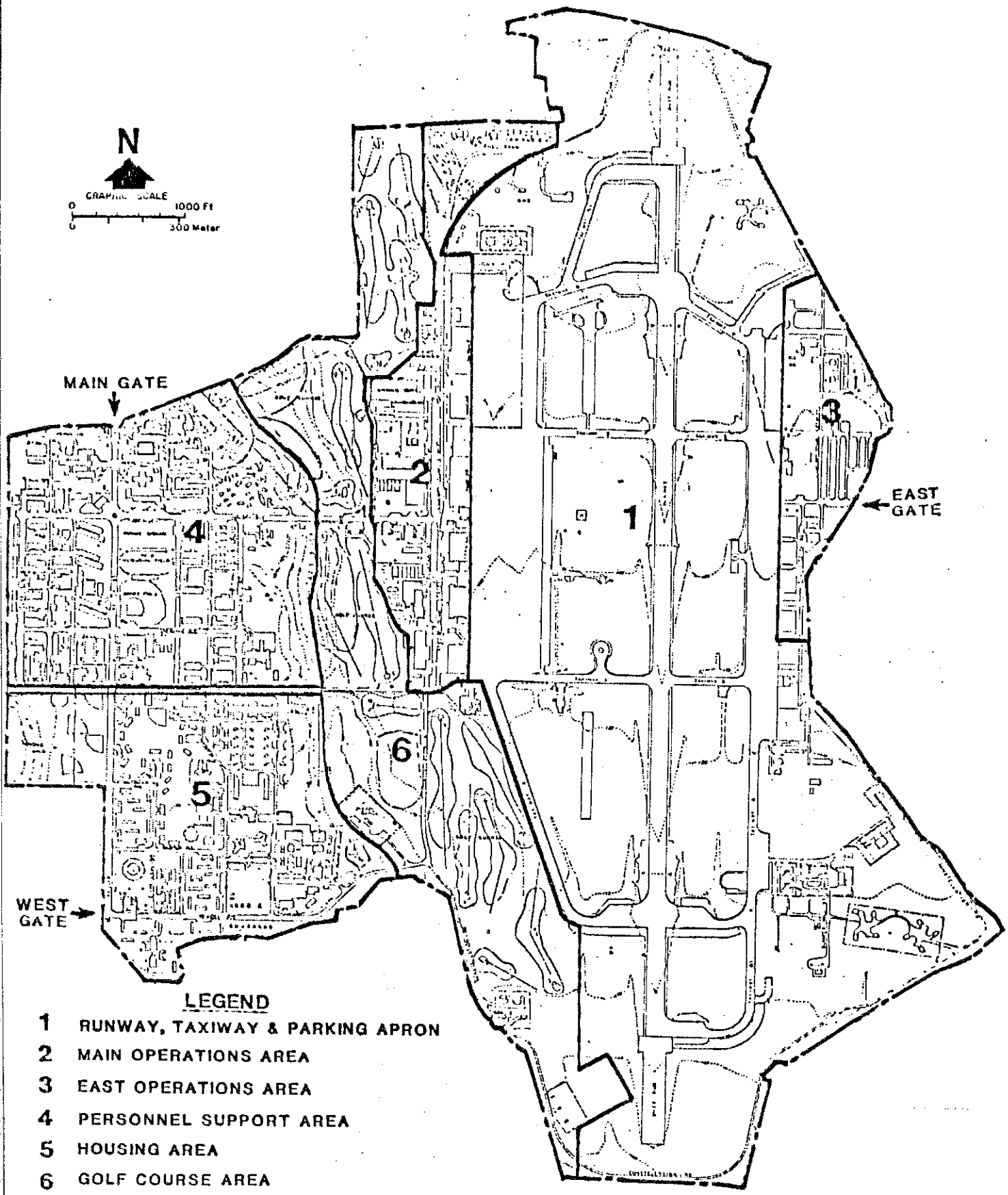
c. Personnel Support Area (see Figure D-25)

(a) Administration Facilities. The NAF Atsugi and the COMFAIRWESTPAC administration buildings are approximately 100 meters to the southeast of the main gate. NAF Atsugi's headquarters is in a two-story semipermanent structure constructed in the early 1940's. COMFAIRWESTPAC's headquarters is in a new two-story permanent structure recently completed in 1981. Both



EXISTING LAND USE

Figure D-20



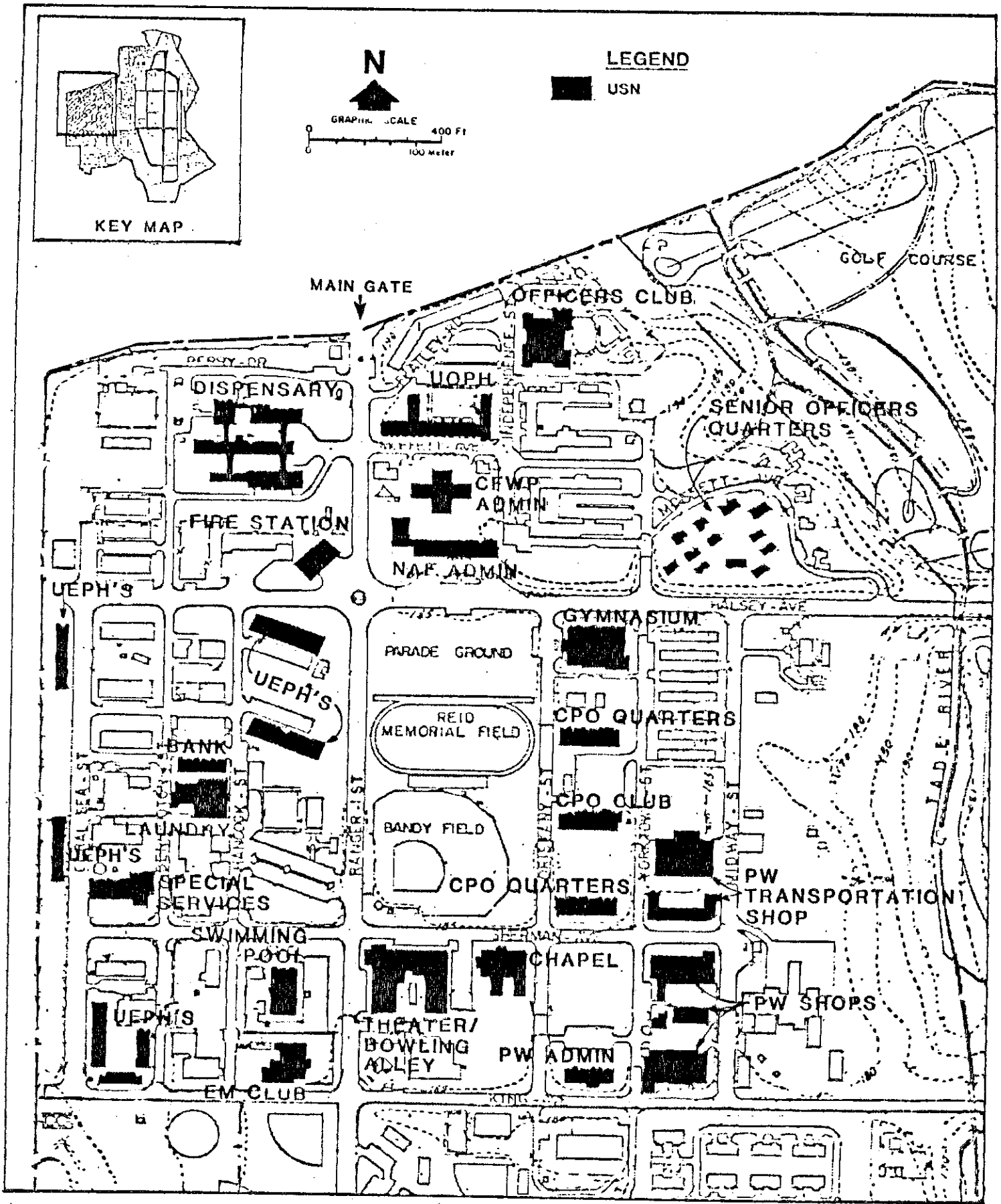
LEGEND

1 RUNWAY, TAXIWAY & PARKING APRON
2 MAIN OPERATIONS AREA
3 EAST OPERATIONS AREA
4 PERSONNEL SUPPORT AREA
5 HOUSING AREA
6 GOLF COURSE AREA

EXISTING DEVELOPMENT

FUNCTIONAL AREAS

Figure D-21



MAJOR FACILITIES

PERSONNEL SUPPORT AREA

Figure D-26

headquarters are within convenient walking distance for personnel in the Unaccompanied Officer Personnel Housing (UOPH) units and UEPHs and are accessible to other personnel support/recreational facilities.

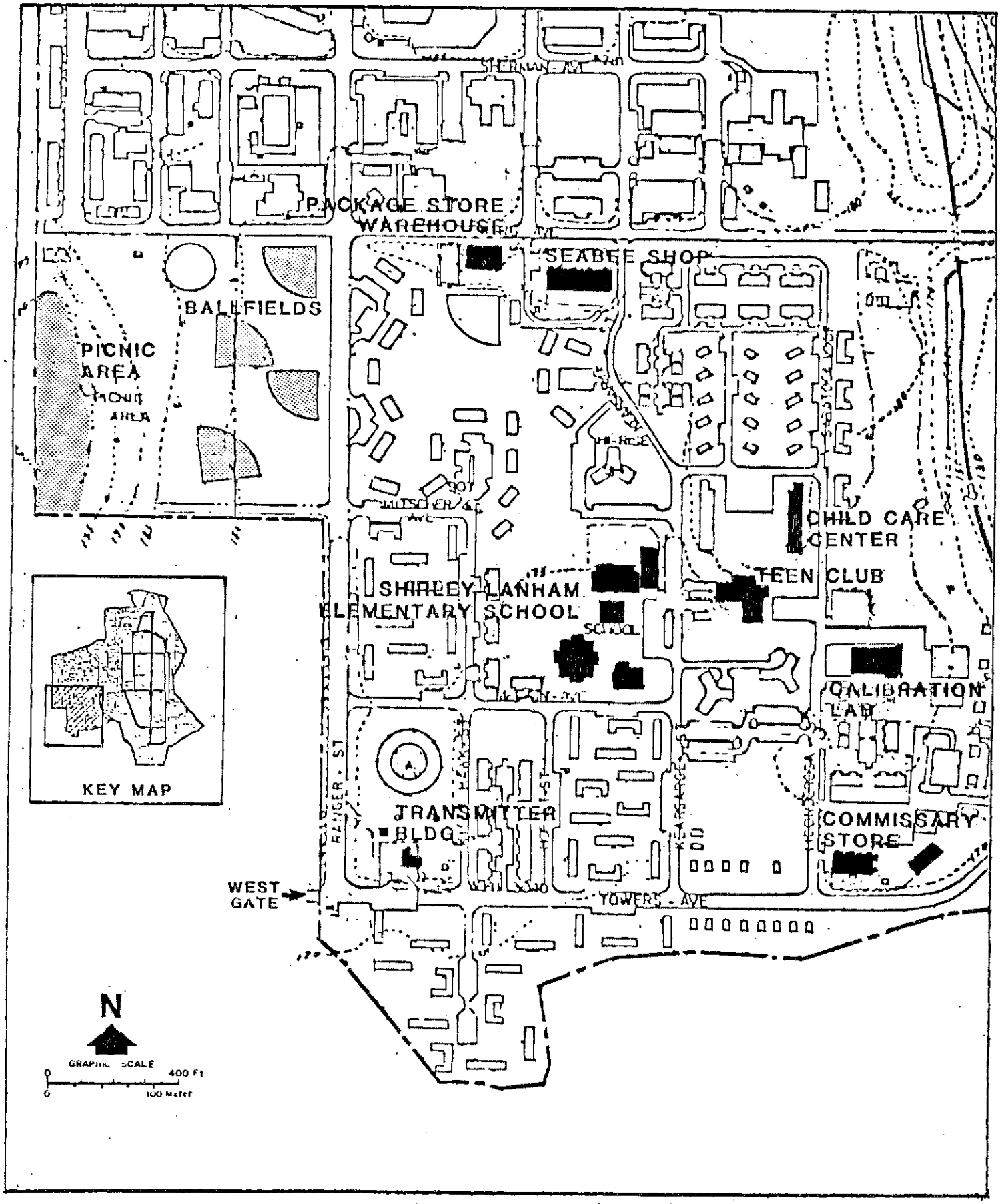
(b) Personnel/Community Support Facilities. The personnel/community support facilities are generally located at the west end of the Station, approximately 500 meters south of the main gate. Included are the Exchange, chapel, swimming pool, bowling alley/theater, ballfield, track, and parade grounds. The support area is conveniently located in the center of the personnel berthing and housing facilities.

(c) UOPH/UEPH. The UEPHs are situated in the western sector of the Personnel Support Area. The UOPHs and Chief Petty Officer (CPO) quarters are sited to the east of the parade grounds and playing fields. The structures are semipermanent and temporary type construction and were mainly constructed during the 1940's and 1950's. New permanent facilities are under construction or currently programmed to replace these 40-year-old bachelor personnel housing.

(d) Public Works Facilities. The Public Works Complex is composed of five semipermanent structures with an open storage area for heavy equipment and vehicles. The structures are single-story facilities and are of World War II vintage. The complex includes the public works administration, maintenance shops, storage facilities, and transportation shop.

(e) Housing Area (see Figure D-26). The majority of the housing area is located in the southwest corner of the Station. As of December 1981, there were 493 family housing units at NAF Atsugi. Of the 493 units, 153 units were constructed during the 1956-57 time frame. In 1970, an additional 130 units were constructed, including 1 highrise complex of 36 family units (Building 974). Subsequently, in 1981, an additional 210 units, including 2 highrise complexes of 48 family units each (Buildings 3042 and 3043) were completed. All structures are of permanent construction. The housing area also includes the Child Care Center, Teen Club, the Little Red School House, and the Shirley Lanham Elementary School.

(f) Golf Course Area. The 18-hole golf course is located in the Tade River Valley. It provides a natural separation between the airfield operations and the living areas. Since this last major area is self-explanatory, a facility locator map is not considered necessary.



MAJOR FACILITIES

HOUSING AREA

Figure D-26

CCN 730 Series: Personnel Support and Services

The Structural Fire Station occupies most of Building 22, a 30-year-old wood building. Only 54 square meters of the space is adequate, while the remaining 554 square meters is inadequate due to structural deficiencies. Since the requirement is 427 square meters, there is a deficiency of 373 square meters.

Under the Police Station category code, there are three facilities: Building 8, the Marine Guard Office, with 520 square meters of substandard space; Building 20, the Pass and ID Office, with 200 square meters of substandard space; and Building 23, the Provost Marshall Office, with 231 square meters of adequate space. All three facilities will be vacated and relocated to a new "Gate Facility" adjacent to the Main Gate. The Gate Facility, to be constructed by the GOJ in 1983, will satisfy the full requirement of 520 square meters.

There is a requirement for Lunch/Locker Rooms to support the Japanese National employees. Under this CCN, there are no adequate assets, one substandard asset with 111 square meters, and two inadequate assets. The deficiency therefore equals the requirement of 282 square meters.

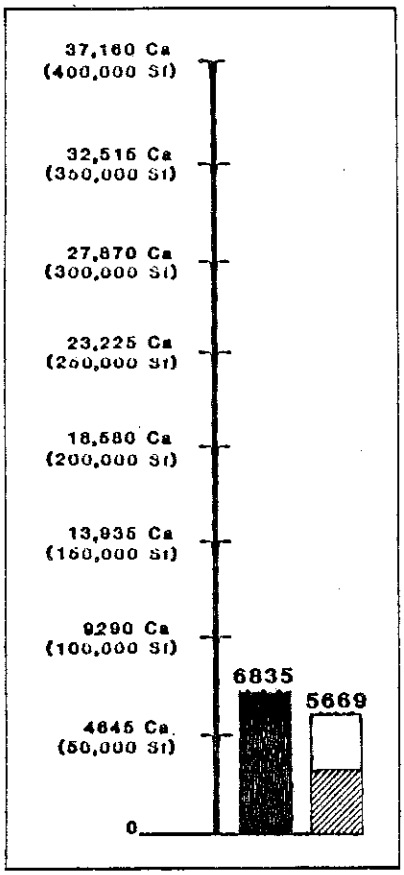
There is a 452 square meter requirement for a Kindergarten Dependent School for 70 students. Classes were formerly held in Building 143, a temporary metal building with 177 square meters; it is 40-year-old temporary metal building in very poor physical condition. Classes are now conducted in Building 990, the Grade School Building.

The Dependent Grade School, known as the Shirley Lanham Elementary School, provides for the schooling needs of children from grades 1 through 6; students in grades 7 through 12 receive instruction at Camp Zama's schools. The facility requirement is 3,070 square meters. The facility assets consist of one substandard semipermanent building--Building 990 with 1,445 square meters--and two adequate permanent buildings--Building 991 with 981 square meters and Building 992 with 357 square meters. These buildings were constructed in 1969-70 and are therefore in good condition. As a result, the deficiency of 1,731 square meters can be significantly reduced by repairing and renovating Building 990. The remaining shortfall has been satisfied by Building 993 with 542 square meters which was completed in 1981. Moreover, Project P-084, to be constructed by the GOJ in 1982, will provide an additional 390 square meters of space for four classrooms and a kitchen. The school is well situated and within convenient walking distance from all family housing units.

A new Kennel Facility, Building 26, was constructed for the Narcotic Interdiction Team and for base security in 1979. The Kennel Facility satisfies the requirement of 112 square meters.

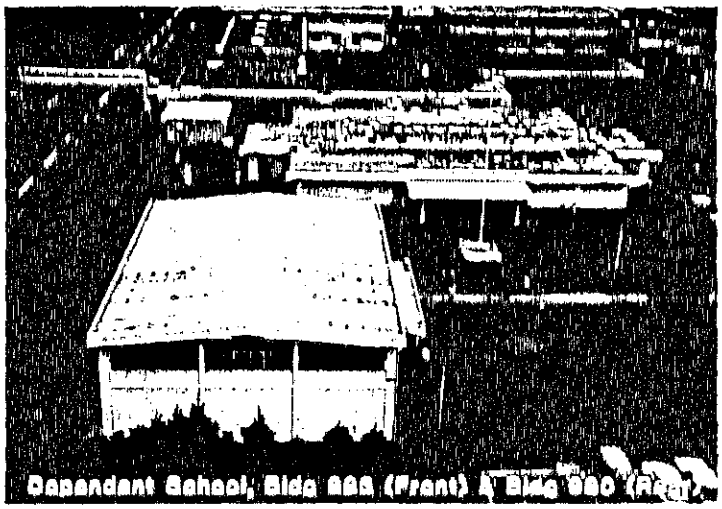
The Chapel and Religious Education Facility are housed in Building 79, constructed by the Japanese in 1942 as a Martial Arts Facility. The Chapel occupies the original building, which is constructed of wood and has 705 square meters of substandard space. The Religious Education function occupies two wings that were added to the main building; the wings consist of temporary prefabricated metal sheds that contribute 251 square meters of substandard space. These wings were once planned for demolition and replacement under Project P-111, Family Services Center, however, P-111 was subsequently reduced in scope and the space for religious education was deleted. The total requirement for the two functions is 1,598 square meters; since there are no adequate assets, there is a deficiency of 1,598 square meters.

The post office is housed in a pre-engineered metal building, Building 42. Although it is almost 30 years old and in need of repair, the building is rated adequate and it satisfies the requirement of 223 square meters. It is well situated in the personnel support core area.



LEGEND

- REQUIREMENT
- ADEQUATE ASSETS
- SUBSTANDARD ASSETS



FACILITY REQUIREMENTS & ASSETS

PERSONNEL SUPPORT & SERVICES

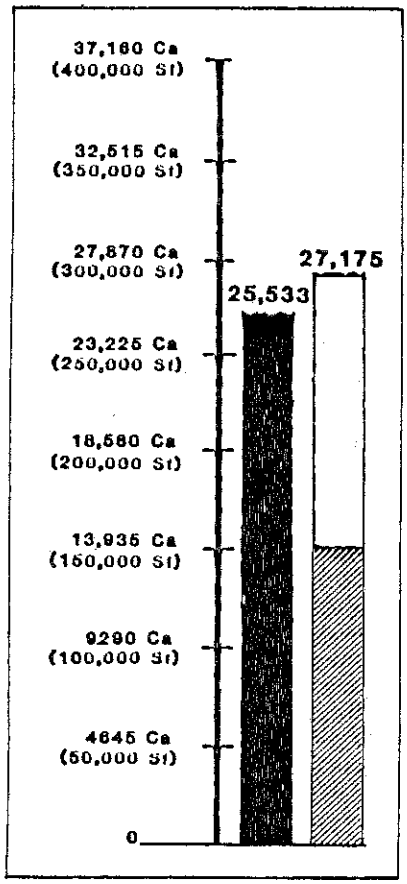
(CCN 730 SERIES)

Figure E-13

CCN 740 Series: Morale, Welfare, and Recreation Facilities - Interior

This CCN group has the third largest building requirement. Adequate assets satisfy 55 percent of the requirement and substandard assets contribute an additional 50 percent (see Figure E-14). Since this CCN group is so diverse, covering 40 CCNs, for readability, this subsection is organized into CCN subgroups corresponding to the following station organizations: NEX, Commissary, Special Services, Service Clubs and others.

In this CCN group, the NEX Department is the largest single user. The NEX total facility requirement of 8,365 square meters amounts to one-third of the series' total requirement of 25,533 square meters. The NEX's primary sales facility is the Exchange Retail Store. Building 202, the Air Terminal Building, has served as the temporary home for the Main Exchange Store ever since the original facility, Building 51, was destroyed by fire in December 1979. Building 202, previously described in the CCN 140 group, provides 1,446 square meters of substandard space. Building 935, located across the street from Building 202, is a pre-engineered building erected in 1977 and provides 372 square meters of adequate space for the NEX Furniture Mart. The Retail Store and Furniture Mart are malpositioned in the Main Operations Area. Other assets are Buildings 39 and 48, both of which are substandard wood-frame buildings built by the Japanese 40 years ago; and Building 182, an inadequate metal shed. These buildings provide a total of 697 square meters of space. The existing assets are considered temporary locations since project P-109, (NEX Store) will provide the full requirement of 2,171 square meters upon its completion.



LEGEND

- REQUIREMENT
- ADEQUATE ASSETS
- SUBSTANDARD ASSETS

FACILITY REQUIREMENTS & ASSETS

MORALE, WELFARE, & RECREATION - INTERIOR
(CCN 740 SERIES)

Figure E-14

In conjunction with the Retail Store, there are the following Exchange Service Outlets: a laundromat in Building 37 with 62 square meters; the Pack-and-Wrap Store and Automobile Sales Office in Building 38 with 189 square meters; the Flower Shop and Personalized Services Center in Building 41 with 98 square meters, a barber shop and beauty shop in Building 77 with 153 square meters, a laundromat in Building 292 with 95 square meters, and a Barber Shop in Building 59 with 57 square meters. These six buildings are wood-frame semipermanent buildings constructed in the early 1940's and 1950's. They are substandard due to poor physical condition and a lack of fire protection. In addition, although the Stars and Stripes Book Store is not operated by the NEX, it is included in the NEX service outlet CCN. The Book Store occupies Building 964, a steel frame permanent building construction in 1978 with 104 square meters of adequate space. These assets provide only 104 square meters of adequate space compared to a requirement of 2,508 square meters, leaving a deficiency of 2,404 square meters.

Of the remaining NEX categories, there are deficiencies in the following CCNs: the Exchange Cafeteria with 378 square meters of adequate but insufficient space in Building 77, a 30-year-old wood-frame building; the Exchange Snack Stands with 266 square meters of sufficient but generally substandard assets in four buildings; an Exchange Central Support Facility for refrigerated storage with 31 square meters of adequate but insufficient space in Building 776, a temporary reefer shed constructed in 1966; and the Exchange Laundry Plant with 1,374 square meters of sufficient but substandard space in Building 41, a 30-year-old metal building. These categories have a total requirement of 1,858 square meters, adequate assets of 436 square meters, and a resulting deficiency of 1,422 square meters.

NEX CCNs in which there are no deficiencies are: the Exchange Central Administration, the Mini-Mart/Stereo Shop, the Exchange Maintenance Shop, the Exchange Auto Repair Station, the Exchange Auto Parts Store, the Exchange Supplemental Gas Station, and the Exchange Installation Warehouse.

The Commissary represents the second major commercial activity on-base; however, its requirements and assets are under the plant account of the Regional Commissary Store, Yokosuka. The retail outlet is in Building 139, a converted aircraft maintenance facility with 738 square meters of adequate space. Backup storage is in Building 147, a pre-engineered metal building with 376 square meters of substandard space. Both buildings are

considered compatible with the housing area. However, they are in an isolated corner of the base and not conveniently located with respect to the remainder of the personnel support area. In addition, there is a large distance separation between the Station's two largest commercial activities: the NEX Store and the Commissary Store. The requirement is 1,765 square meters with adequate assets of 738 square meters; there is a deficiency of 1,027 square meters.

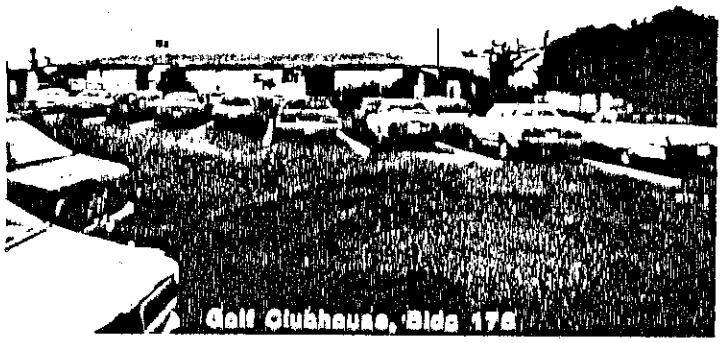
The Special Services Department is the second largest facility user in this CCN group; its total facility requirement of 7,673 square meters is about one-third of the series' total.

Building 77, the Recreation Building, is a major Special Services facility. It is a large single-story wood building constructed 30 years ago. It is well situated, conveniently located with respect to both the unaccompanied personnel housing and the family housing areas. The Recreation Building houses the Theater with 1,438 square meters, the Library with 192 square meters, the Amusement Center with 549 square meters, and the Bowling Alley with 842 square meters. The Theater is sufficient in size and in adequate condition with no deficiency; the Amusement Center and Bowling Alley are sufficient in size but in substandard condition, resulting in respective deficiencies of 167 square meters and 557 square meters; and the Library is in adequate condition but insufficient in size with a deficiency of 239 square meters. In addition, the Special Services Department wants to expand the Bowling Alley from 10 lanes to 18 lanes to satisfy customer demand; they are in the process of updating their requirement.

The Special Services Department has its offices in Building 14, a deteriorated wood building constructed 40 years ago; it is inadequate and should be replaced. The Special Services Issue Office occupies 773 square meters. Another asset in this CCN, Building 70A, is also inadequate, resulting in a deficiency for office space equal to the requirement of 232 square meters. Besides office spaces, the Arts and Crafts Hobby Shop also occupies Building 14, with 393 square meters of inadequate space. Another asset in this CCN, Building 379, is adequate with 16 square meters of space. Since there is a requirement of 474 square meters, for hobby shop space, there is a deficiency of 458 square meters.

Bldg 14

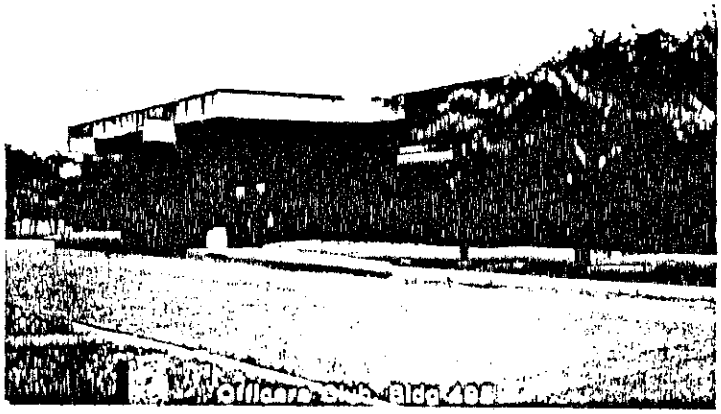
Gymnasium, Bldg 70



Golf Clubhouse, Bldg 175

MORALE, WELFARE, & RECREATION-INTERIOR

(CCN 740 SERIES)



MORALE, WELFARE, & RECREATION-INTERIOR

(CCN 740 SERIES)

Of the remaining Special Services categories, there are facility deficiencies in the following CCNs: the Automotive Hobby Shop with 394 square meters of substandard space in Building 423, a permanent building in the East Operations Area; Indoor Playing Courts with 269 square meters of adequate assets in Buildings 407 and 564, two handball courts adjacent to the gymnasium; Bathhouses with 211 square meters of adequate assets in Buildings 52, 53, and 56, which are located near the two swimming pools; and the Golf Club House with 1,351 square meters of generally substandard assets in eight buildings. These facility categories have a total requirement of 3,465 square meters, adequate assets of 585 square meters, and a resulting deficiency of 2,880 square meters.

Special Services categories in which there are no facility deficiencies are: Entertainment Workshop Center, Gymnasium, Youth Center, and Recreational Pavillion.

The last major organizational group is comprised of the Service Clubs: the Enlisted Men's Club--E1/E3, the CPO's Open Mess--E7/E9, and the Commissioned Officers' Open Mess. The Enlisted Men's Club has 1,487 square meters of substandard space in Buildings 55 and 55A. These buildings are proposed for demolition and replacement under Project P-097. Since there are no adequate assets, the deficiency is equal to the requirement of 1,812 square meters. The CPO Club has 1,058 square meters of substandard space in Building 75, a 40-year-old wood

building. An additional 128 square meters of substandard space is provided by Building 75A for club storage. Since there are no adequate assets, the deficiency is equal to the requirement of 743 square meters. Finally, the "O" Club has 1,765 square meters of adequate space in Building 495, a concrete building constructed in 1970. An additional 342 square meters of space, generally inadequate, are provided by five smaller buildings. There is no deficiency in "O" Club space.

The remaining categories are operated by various organizations. The Bank, operated by the American Express Corporation, shares Building 39 with the NEX Nippon Novelties. It occupies 230 square meters of substandard space in the 40-year-old wood building. Due to the age and condition of the building, a replacement facility fulfilling the requirement of 221 square meters should be considered. However, as an interim measure, the Bank was renovated in 1981.

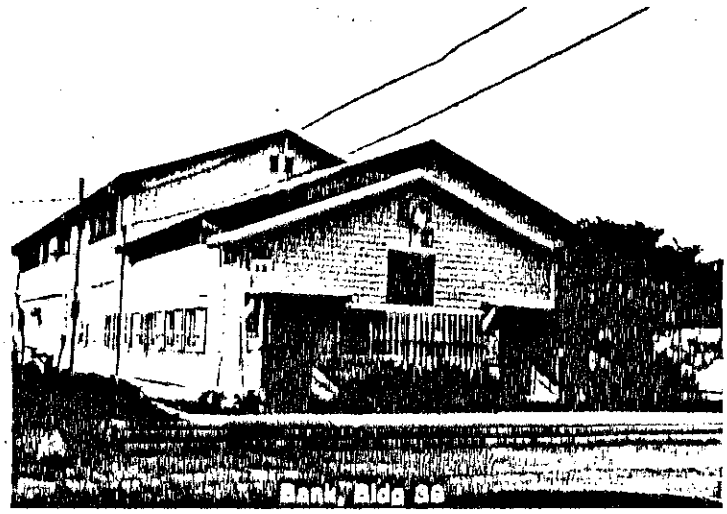
The Credit Union, a branch of the San Diego Navy Federal Credit Union, also shares space in Building 22, the fire station. It occupies 160 square meters of substandard space in the 30-year-old wood building. Due to the lack of adequate assets, the deficiency is equal to the requirement of 279 square meters.

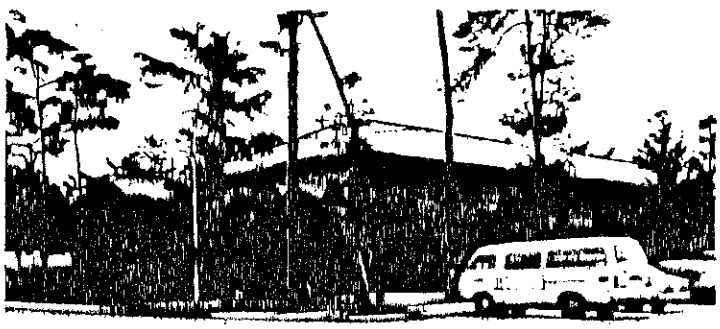
The Family Services Center requires 650 square meters of space to provide personal services to military personnel and dependents such as: drug counseling, liberty information, legal counseling, career counseling, family assistance, etc. Building 79, the Chapel, now provides 16 square meters of substandard space. Project P-111, to be constructed in the FY83 MCON program, will provide a new facility.

The Installation Restaurant is a dining facility serving local cuisine for Japanese National employees. It is housed in Building 150A with 287 square meters of substandard space. The facility is a metal buillding in poor physical condition that was constructed in 1954. Since there are no adequate assets, the deficiency is equal to the requirement of 808 square meters.

Building 150A is shared with the Thrift Shop, known as the Not-New-Shop, with 44 square meters of substandard space. It is operated by the Atsugi Wives' Club and features the sale of secondhand articles of clothing and other items at nominal prices. Since there are no adequate assets, the deficiency is equal to the requirement of 130 square meters.

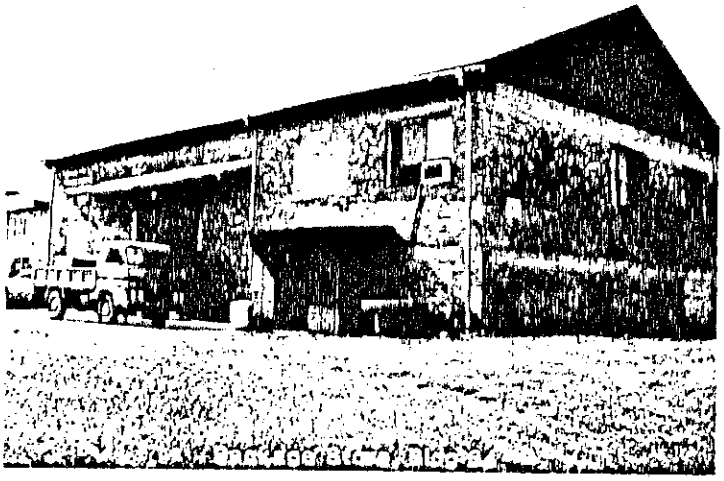
The Child Care Center, also operated by the Atsugi Wives' Club, provides nursery services that include a program of instruction and creative play; it is open six days per week. The Center currently operates from Building 291 with 398 square meters of sufficient but substandard space. The Child Care Center will be repaired and made adequate.





MORALE, WELFARE, & RECREATION-INTERIOR

(CCN 740 SERIES)



MORALE, WELFARE, & RECREATION-INTERIOR

(CCN 740 SERIES)

The Class VI package store, a Bureau of Naval Personnel operation, sells alcoholic beverages. The retail outlet is housed in Building 34 with 411 square meters of adequate space; the facility is a recently renovated concrete building. Building 34 is in danger of being displaced or isolated by a proposed JMSDF UOPH. A replacement facility with backup storage is proposed under Project F-910. A second facility, Building 149, is used for backup storage with 735 square meters of substandard space; this facility is a wood-frame building constructed 30 years ago and in poor physical condition. This building will be demolished to provide the site for construction of P-112, Navy Lodge. As an interim measure, Special Project C-28-80 will replace Building 149 with a pre-engineered building to be located adjacent to Building 34. In summary, the requirement is 1,236 square meters, there are adequate assets of 411 square meters, and the deficiency is 825 square meters.

The Aero Club Facility, a recreational flying activity, is occupied by the Atsugi Flying Club. The club operates out of the East Operations Area in Building 246, a 40-year-old hangar in very poor physical condition. Building 246 provides 1,794 square meters of inadequate space, resulting in a deficiency equal to the requirement of 465 square meters.

The Educational Services Office occupies a portion of Building 66, the NAF Admin Building. A replacement facility was proposed for inclusion in Project P-111, Family Services Center; however, P-111 was subsequently reduced in scope, deleting space for Educational Services. The deficiency of 458 square meters, equal to the requirement, remains.

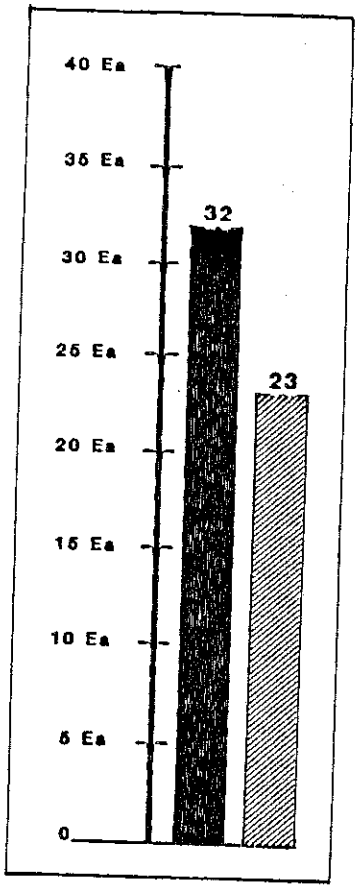
CCN 750 Series: Morale, Welfare, and Recreation Facilities - Exterior (see Figure E-15)

Due to the high cost of real estate, outdoor recreation facilities in the Japanese community are scarce and are therefore greatly appreciated. This observation is validated by the heavy utilization of on-base facilities by Japanese Nationals--employees, guests, and JSDF personnel. Because outdoor facilities are generally not available in the civilian community to U.S. personnel, demand for on-base outdoor facilities is unusually high. In fact, the 18-hole golf course is the largest money generator for the Special Services Department.

There is a requirement for 20 Playing Courts. There are now eight adequate courts of which two, Structure 606, will be demolished under Project P-109, NEX Retail Store. As a consequence, for planning purposes, the deficiency is considered to be 14.

There are three Outdoor Swimming Pools: Structures 609 and 682, the installation pools, and Structure 612, the officers' pool. There is also one wading pool, Structure 610. All pools are adequate and sufficient. However, because of the prevailing cool weather, the pools are only used during the summer months, about two to three months per year. Indoor swimming pools should therefore be considered.

Other remaining categories have no deficiencies: Playing Fields, Golf Course, Skeet Range, Golf Driving Range, and Recreation grounds.

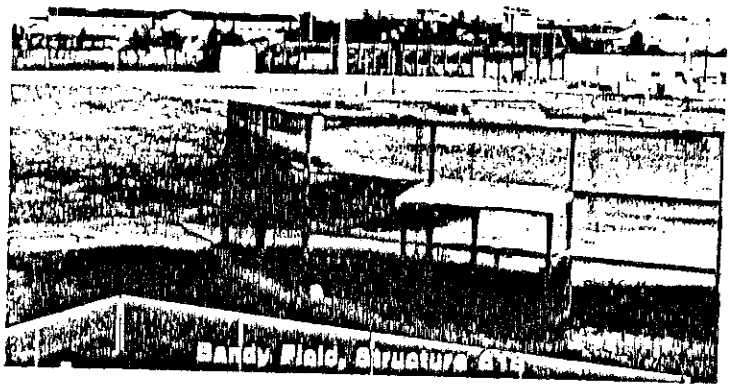


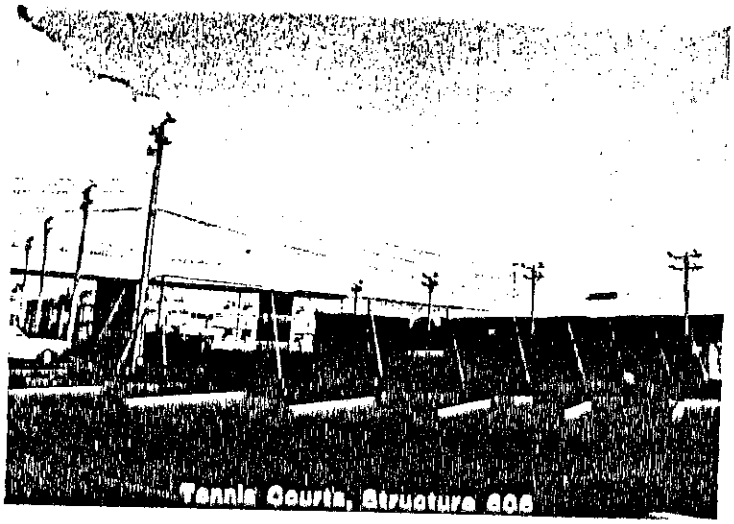
LEGEND

REQUIREMENT

ADEQUATE ASSETS

SUBSTANDARD ASSETS





FACILITY REQUIREMENTS & ASSETS

MORALE, WELFARE, & RECREATION - EXTERIOR
(CCN 750 SERIES)

Figure E-16

F. PLANNING ANALYSIS

Introduction

Land use and facility development planning at air stations is normally complicated by the need to accommodate several basically incompatible land uses; i.e., ordnance operations, aircraft operations, radio communications, and personnel support in a limited land area. Ideally, adequate separation should be maintained between these incompatible uses to minimize the adverse impacts; however, this is not always possible. The Plan will address correction of existing land use incompatibilities, particularly where specific DOD siting criteria violations are concerned. Other broad development concepts that will shape and direct the land use plan for NAF Atsugi include the following:

- Reserve adequate land around existing operational facilities to ensure that future expansion of these facilities can be accommodated.

- Consolidate facilities and operations to the maximum extent practical to promote improved circulation and avoid hodgepodge development.

- Develop facilities in accordance with sound energy conservation and environmental preservation principles.

- Collocate customer-supported recreation and morale facilities to reduce operational costs and increase patronage.

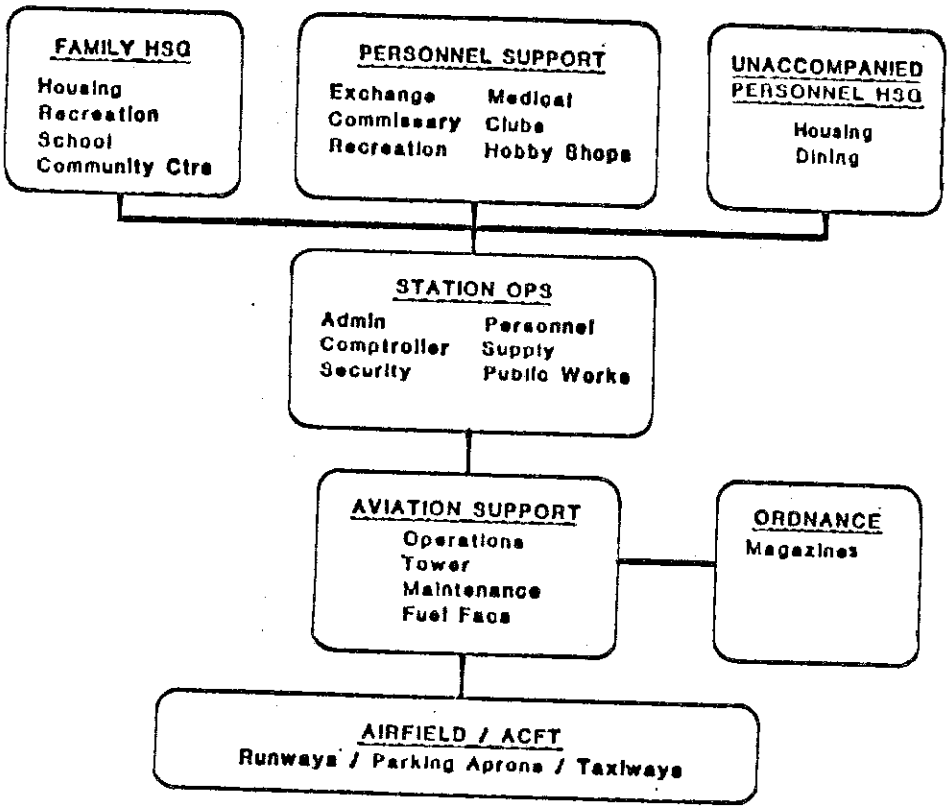
- Establish a comprehensive community support and administrative area proximate to work and living areas to foster a compact walking community.

Idealized Functional Relationships

There are three fundamental factors which form the basis of any Naval Air Station or Naval Air Facility. These factors are aircraft, personnel, and the facilities which are required to support the mission. The functional relationships among the support facilities form the basis for the development concept. Figure F-1 illustrates the major components of support and their basic functional relationships.

Figure F-1

AIR STATION/AIR FACILITY FUNCTIONAL RELATIONSHIPS



Since the major mission of a Naval Air Station or Naval Air Facility is to provide the facilities needed for aircraft operation and maintenance, the primary functional elements are the operational pavements. The orientation and the number of runways affect the relationship and siting of all other facilities with taxiways and parking aprons being an integral part of the aircraft pavement complex.

In the early years of aviation, runways and parking aprons were about the only formalized support provided for aircraft. Maintenance, fueling, airspace control, and other operational facilities were provided on a rather casual basis. Today's aircraft, with their greater sophistication, require equally sophisticated support complexes. These aircraft support complexes have a direct functional relationship to the pavement areas, with each type of support related to a specific pavement function, i.e., maintenance to aprons, fueling to arriving or departing aircraft taxiways, airspace control to runway utilization, etc.

At the opposite end of the relationship diagram are those facilities directly associated with the personnel who fly or support aircraft with the basic function being housing. There is no direct functional relationship between the housing and aircraft operations with the exception of the fact that housing should be sited within a reasonable commuting distance, while at the same time being far enough away to be unaffected by the negative aspects of aviation such as noise. All other personnel support facilities have direct relationships to either family housing or unaccompanied personnel housing with certain types being oriented toward both unaccompanied personnel and families.

Between the two functional areas of personnel and aviation support are the station support functions which are related to both. These facilities include those needed for administration, station maintenance, supply, and security of all facilities.

Figure F-2 is a diagrammatic scheme for a typical Naval Air Station or Naval Air Facility showing the functional elements discussed above in an idealized layout. Those encumbrances that form an integral part of any airfield development have been added. Their impact on the basic functions is graphically illustrated. Development at NAF Atsugi generally conforms with the idealized layout.

Figure F-3 shows a further refinement of the idealized development scheme, in the airfield area. Note that a single parking apron complex is shown. Air operations and aircraft maintenance facilities are usually located near the aircraft parking aprons so that aircraft are easily accessible to flight crews and maintenance personnel. Ideally, the aircraft parking aprons are fronted by organizational maintenance facilities (squadron hangars) and air operations buildings (passenger terminal, air operations, control tower, etc.) since these operations require direct access to aircraft. The organizational maintenance/air operations area is supported, in turn, by the intermediate maintenance operations, aviation supply, and other functions.

Figure F-2

DIAGRAMMATIC FUNCTIONAL RELATIONSHIPS

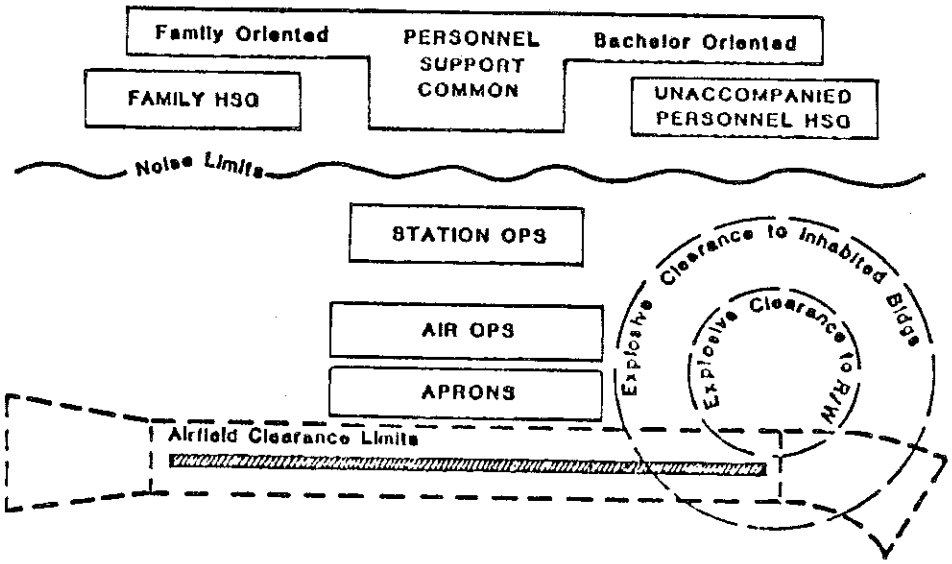
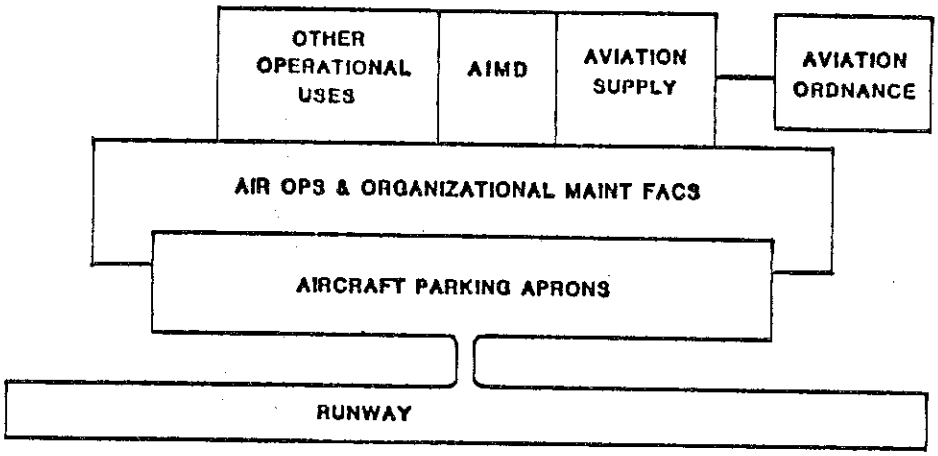


Figure F-3

IDEAL FUNCTIONAL LAYOUT-AVIATION FACS



Personnel Support Area. The Personnel Support Area will be the most intensely developed area, accommodating the following functions: unaccompanied personnel housing, medical, administration, community support, and public works maintenance. The major features recommended by this master plan for this area are:

- Preserve Existing Open Areas. Open areas are important resources worth preserving. The characteristically crowded development in Japan can create unnecessary stress in the U.S. personnel who are accustomed to seeing more open spaces; the open areas on-base can therefore provide some relief. In addition, the open areas provide opportunities for active and passive recreational activities. Finally, they are important organizing elements in facility development. In particular, the parade ground/ballfield is the central feature of the Personnel Support Area, giving identity and orientation to surrounding development.

- Develop a Community Commercial Center. This plan proposes a central commercial area organized around the NEX Store and the Commissary Store, the two largest commercial activities on-base. The area of development, just west of Ranger Street, is well situated--along the major traffic corridor from the main gate, within convenient walking distance of the unaccompanied personnel housing, and convenient to the housing area. The conceptual plan shown in Figure F-8 shows a suggested layout that permits an on-site parking arrangement that allows for ample entrance and exit as well as for minimum customer walking distances between the parked car and the store building; it also shows a facility grouping that provides for merchandising interplay among the stores. The special services complex is included in the development since it does contain commercial-type activities.

In addition to the site layout, this plan recommends that the commercial center facilities have a common building composition tying them together as an architectural unit, that they have service areas outside of the customer circulation, and that they have agreeable landscaping.

- Develop a Community Services Area. This area will be organized around the chapel and will include facilities such as: the religious education, the educational instruction center, and a community recreation center. This area is characterized by facilities geared toward satisfying the emotional, spiritual, and educational needs of the community.

- Redevelop the Public Works Area. The existing public works facilities require replacement. This plan recommends that the facilities be consolidated and relocated further to the east, to permit expansion of the personnel support area. Where possible, the replacement buildings should be two stories high, with administrative functions on the top floor and shop spaces below.

Figure F-8 shows a proposed layout for Public Works facilities. This scheme permits phased redevelopment as well as functional separation (auto maintenance, facility maintenance, storage, etc.). However, if funding becomes available, it may be advantageous to build a single consolidated facility in the open area east of Midway Street. A single multi-purpose building would be land-efficient. However, a study should be conducted to evaluate its feasibility as well as to determine the most efficient floor layout.

- Improve Recreational Facilities. As noted in the Program Analysis section, there is a large deficiency in playing courts. These and other shortfalls are sited in Figure F-8. A large outdoor recreation complex is shown between Midway Street and Yorktown Street. It is the result of a near-term requirement to site a replacement for the tennis courts, Structure 606, that will be demolished under Project P-109. At the same time, the complex will serve as a buffer between the CPO facilities and the public works compound.

- Develop Unaccompanied Personnel Housing (UPH) in Existing Billeting Areas. The existing land use patterns, infrastructure, and available support facilities strongly support continued utilization of the existing UPH billeting areas. The Senior Officer's Quarters (SOQ) Area is reserved for officer billeting or similar, compatible functions.

- Document Proposed JMSDF Construction Projects. Known JMSDF projects conform with the Station's land use plan and do not conflict with this plan's proposals.

CONCEPTUAL DEVELOPMENT PLAN

(PERSONNEL SUPPORT & HOUSING AREAS)

PLANNED PROJECT LISTING

ITEM	PROJ. NO.	DESCRIPTION
1	RC-2	GATE FACILITY
2	P-121	DISPENSARY
3	F-901	UPGRADE FIRE STATION
4	P-113	RPL PERSONNEL SUPPORT FAC
5	P-126	TRANSIENT UOPH
6	F-926	HOT BATH
7	F-923	SENIOR OFFICERS QUARTERS
8	F-902	INSTALLATION RESTAURANT/ICE CREAM PARLOR
9	F-903	BARBER/BEAUTY SHOPS
10	F-904	LAUNDRY/DRY CLEAN OUTLET
11	F-905	FURNITURE MART
12	P-089	SPECIAL SERVICES
13	P-109	NEX RETAIL STORE
14	F-906	CREDIT UNION AND BANK
15	F-907	NEX SNACK STAND (BAKERY OR OTHER)
16	F-908	NIPPON NOVELTIES
17	F-909	NEX OFFICES AND RETAIL OUTLETS
18	P-127	COMMISSARY STORE
19	F-910	CONSOLIDATED PACKAGE STORE
20	F-911	POST OFFICE
21	P-089	UEPH
22	C-28-80	CONSOLIDATED PKG STORE WHSE (INTERIM)
23	P-107	ENLISTED DINING FACILITY ADDITION
24	P-104	UEPH
25	P-110	UEPH
26	P-097	ENLISTED MEN'S CLUB
27	P-123	BOWLING ALLEY ADDITION
28	F-913	CHAPEL/RELIGIOUS EDUCATION ADDITION
29	P-111	FAMILY SERVICES CENTER
30	F-915	TOT LOT PLAY AREA
31	P-114	UEPH (E7-E9)
32	P-122	EDUCATION CENTER
33	F-914	COMMUNITY REC CENTER/THRIFT SHOP
34	P-112	NAVY LODGE
35	P-115	PUBLIC WORKS SHOPS
36	F-920	PUBLIC WORKS ADMIN
37	F-916	LAUNDRY/DRY CLEANING PLANT
38	F-917	SEABEE SHOPS/PUBLIC WORKS STORAGE
39	F-918	MINI-GOLF/SKATE CENTER
40	F-919	PLAYING COURTS
41	F-921	PUBLIC WORKS TRANSPORTATION COMPOUND
42	F-922	CONVERT TO PUBLIC WORKS STORAGE
43	P-094	UOPH
44	P-084	ELEMENTARY SCHOOL ADDITION
45	F-925	CONVERT TO COMMUNITY STORAGE
46	P-133	INDOOR SWIMMING POOL
47	F-928	REFUELING VEHICLE SHOP
48		
49		
50		
*51	JMSDF	HOSPITAL ADDITION
*52	JMSDF	WELFARE CENTER
*53	JMSDF	DINING FACILITY
*54	JMSDF	UOPH
*55	JMSDF	UEPH
*56	JMSDF	REPLACE PW SHOPS
*57	JMSDF	UEPH
*58	JMSDF	4TH AIR WING HEADQUARTERS
*59	JMSDF	FLEET AIR FORCE ADMINISTRATIONS JP-8

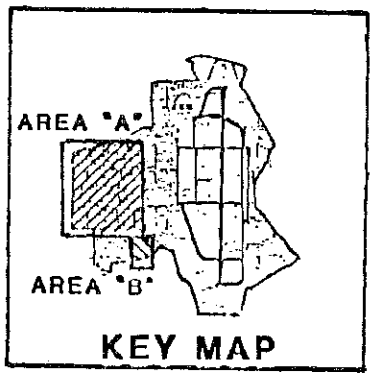
*JMSDF PROJECT

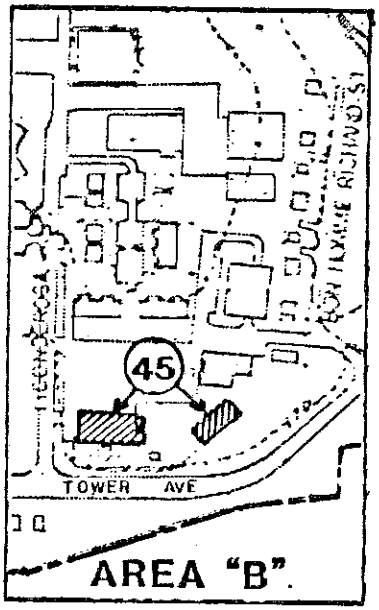
N

GRAPHIC SCALE

0 400 Ft

0 100 Meter





LEGEND

- EXISTING CONSTRUCTION
- NEW CONSTRUCTION
- JMSDF PROJECTS

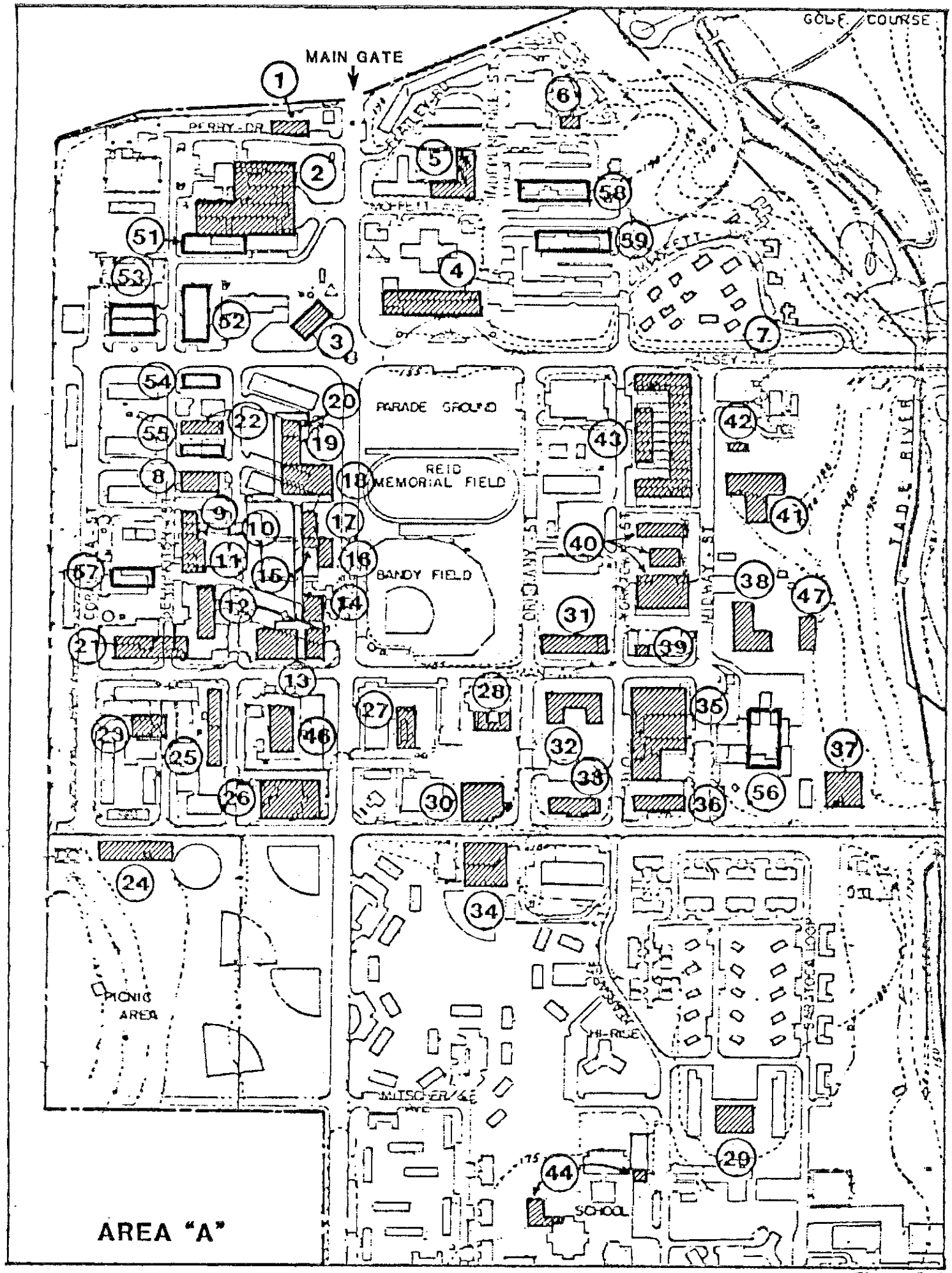

GOLF COURSE
MAIN GATE
PERRY DR
MOFFETT AVE
PARADE GROUND
REID MEMORIAL FIELD
BANDY FIELD
ORDWAY ST
HIGHWAY ST
HALSEY AVE
JADE RIVER
PICNIC AREA
HI-RISE
SCHOOL
AREA "A"

Figure F-8

Housing Area. The master plan proposals are intended to enhance the residential character of the housing area by removing nonconforming land uses and isolating the area from unnecessary through-traffic. For these reasons, the plan recommends the relocation of the communication facilities and the Commissary Store when these facilities warrant replacement or when the housing area requires room to expand. In the near term, Building 149 will be demolished to provide a site for the Navy lodge facility, a family housing support facility. The Package Store Warehouse, now occupying Building 149, will be relocated into an interim replacement facility to be constructed under Special Project C28-80.

This plan recommends the preservation of the remaining undeveloped open spaces and endorses the Station's tree preservation and planting program in the housing area. The housing area currently enjoys a comfortable density of about 18 units/hectare (7 units/acre). The picnic area to the east of Bldg. 291 and the open area south of Bldgs. 3042 and 3043 are potential sites for future family housing.

Golf Course Area. The golf course is a major land user and deserves special mention. Its current use will be preserved since it is located in an area unsuitable for more intensive development - it is prone to flooding and exposed to airfield noise. In addition, it has proved invaluable as a recreational facility and as a community relations tool. In fact, the golf course is so well utilized that it provides two-thirds of the Special Services Department's gross revenues.

There is, however, one long-range proposal for this area that is provided here for record purposes. The Tade River south of King Avenue should be channelized to permit ongoing earth fill operations to continue and to reduce flooding in the pistol range area. Ultimately, the river should be enclosed in a box culvert to allow complete cover. The materials entering the fill site must, however, be controlled to prevent contamination of the nearby water well.

PRELIMINARY ENVIRONMENTAL ASSESSMENT (PEA)

MASTER PLAN

U. S. NAVAL AIR FACILITY

ATSUGI, JAPAN

Prepared by
PACIFIC DIVISION
Naval Facilities Engineering Command

in accordance with OPNAVINST 6240.3E (Series)
in compliance with the
National Environmental Policy Act of 1969

Contact:
CDR T. E. Gunn, CEC, USN
Head, Facilities Planning Department
Phone: (808) 471-3088

H. PRELIMINARY ENVIRONMENTAL ASSESSMENT (PEA)

1. PEA Summary

a. Description of Action. The project is an update of the master plan for NAF Atsugi. It is a document which provides guidelines for future land use at NAF Atsugi for the mid-range period (three to eight years). The primary mission of the facility is to provide material and services to support a transient carrier aircraft wing (i.e., repair, supply, utilities, and many community and recreational facilities); there is also a mission to provide dependent housing and services for dependents of fleet and shore-based personnel.

b. Summary of Impacts

(1) Adverse Environmental Impacts. Land clearing, earthworks, and the installation of paved surfaces will temporarily increase air, water, and noise pollution near construction sites. The construction of new facilities addressed by the plan will increase utilities consumption. Utilities systems at NAF Atsugi will require expansion or extension to accommodate the planned development.

(2) Beneficial Environmental Impacts. Implementation of the plan will increase energy efficiency, maintain airfield safety requirements, improve operational efficiency, and enhance the Station's amenities.

c. Alternatives Considered

(1) Recommended Action. Adoption and implementation of the updated master plan will reduce incompatible land uses, reduce maintenance requirements, and promote environmental safeguards.

(2) No Action. Continued development of NAF Atsugi in accordance with the existing approved master plan will tie facility development to outdated requirements and policies.

(3) No Further Construction. A moratorium on all new construction will adversely impact the Station's mission capability.

2. PEA

a. Introduction

(1) Plan Description. The project is a major update of the existing approved master plan for NAF Atsugi, Japan. The planning area encompasses 246 of the 505 hectares of land within the boundary of Atsugi Air Base. JMSDF areas on the facility that occupy the remaining 259 hectares are not included in the plan. No planning proposals are included for Tomioka storage or ALF Kisarazu.

The plan provides guidelines on land use and facilities development for the mid-range time frame. Its purpose is to promote orderly development of facilities based on military requirements, current planning criteria, and environmental concerns.

(2) Major Planning Proposals Contained in the Plan

- Reserve adequate land around existing operational facilities to ensure that future expansion of these facilities can be accommodated.

- Consolidate facilities and operations to the maximum extent practical to promote improved circulation and orderly development.

- Develop facilities in accordance with sound energy conservation and environmental preservation principles.

- Collocate customer-supported recreation and morale facilities to reduce operational costs and increase patronage.

- Establish a comprehensive community support and administrative area proximate to work and living areas to foster a compact walking community.

b. Existing Environment of Site. NAF Atsugi is located on Honshu, the largest of the four main islands of Japan. These islands, which are of volcanic origin, are extremely mountainous with very few level areas. The largest of those areas is the Kanto Plain which contains Tokyo and Yokohama, two of the largest cities in Japan. NAF Atsugi is located near the southern limits of the plain, approximately 25 km southwest of Yokohama.

The airfield was originally developed by the Japanese prior to World War II in an area of pine forests and farms. This rural setting has been replaced by modern factories, commercial buildings, and residential developments that now surround the installation.

Two physical features, a ravine and a golf course, divide the installation into east and west areas. Housing, community support, public works maintenance, and administrative facilities are on the west, while aviation maintenance, warehousing, POL, and aircraft operating facilities (including the runway and taxiways) lie to the east of the ravine. There are many open areas on the installation.

Outdoor recreation, picnic sites, and pine forests abound in the community support areas. Building sites, particularly in the area east of the runway, may be found within aviation maintenance areas. The installation is generally flat, except for the steep forested slopes of the ravine, and can be developed for additional facilities.

Japan is located in the temperate zone and has a climate similar to coastal North Carolina. Winters are generally mild with snowfall seldom occurring. Summers are very warm and humid. Rains during the June to July rainy season are prolonged and heavy. Typhoons occasionally occur in the late summer or early fall.

c. Project Descriptions and Potential Environmental Consequences. All projects listed in the CIP have been evaluated for potential environmental consequences (see Table H-1). These projects are generally benign, providing mostly positive effects. Potential environmental consequences for these projects as well as for long-range proposals not in the CIP are discussed below.

(1) Air Quality. Construction projects require clearing of land, accomplishment of some earthwork, and installation of paved areas. It is anticipated that air and water quality will be temporarily degraded by fugitive dust and by increased runoff, sedimentation, and turbidity in areas near construction sites. Suitable dust and erosion control measures will be employed.

(2) Earth Resources. Due to the lack of off-station spoils areas, the Station as well as authorized off-station users dispose of excavated materials and construction spoils along the Tade River valley slopes.

(4) Ground Water. Although increased land use intensity resulting from implementation of the master plan will increase runoff, adequate vacant land remains to provide retention areas to maximize infiltration and evaporation, thereby greatly reducing runoff to receiving bodies of water. Sediments and nutrients in this residual runoff can be greatly reduced by allowing vegetation in intervening vacant land to trap sediments and absorb nutrients. Planned development will, therefore, have a minimal impact on water quality in the area.

(5) Historic Resources. There are no historic or archaeological sites at the facility which will be adversely affected by the proposed development.

(6) Occupational Safety and Health. During construction, workers will be exposed to fuels and fumes from construction equipment. An increase in noise and dust due to construction activities is anticipated.

On the other hand, there are a number of permanent benefits to be derived from this plan's implementation. These benefits are:

- A reduction in exposure to noise due to the construction of P-101, Aircraft Acoustical Enclosure, and the relocation of training functions out of the air operations area.

- Elimination of personnel exposure to errant projectiles from the pistol range through the provison of protective canopies and baffles. A project has not yet been submitted.

- Improved fire safety as a result of water system improvements, fire sprinkler systems installations, and new permanent construction using non-combustible materials.

- Improved floor layouts, lighting, and ventilation for safer shop operations through the replacement of public works and aircraft maintenance facilities.

(7) Socioeconomic. Social impacts of the plan are largely confined to military personnel on-base. The development plan supports recreational and other community support facilities that will improve living conditions for base

personnel. Construction projects addressed in the Plan will increase GOJ expenditures in the Kanagawa Prefecture. These projects will, however, be phased over a short period of time due to the unique circumstances encountered in Japan. The economic impact of the construction program on the local community will be slight.

This plan endorses a proposal from Yamato City to relocate the East Gate. The relocation will improve access to the Station and reroute traffic away from a school and a residential area.

(8) Surface Water. Surface runoff will increase as large areas are paved. Therefore, Projects P-095 and P-108 have the potential for increasing surface runoff. However, significant effects are not anticipated.

d. Possible Conflict Between the Plan Recommendations and the Objectives of the GOJ Plans, Policies, and Controls

(1) Land Use Plans. The existing approved master plan for Naval facilities at NAF Atsugi is the Federal land use plan for the area. This project will improve the plan by incorporating updated information and facility requirements that have been validated since the current master plan was prepared in 1977. This project will also delete proposals that are no longer valid due to changed circumstances.

The GOJ promulgated a National Urban Planning Law in 1968 and the local municipalities have adopted land use plans which are shown previously in this plan. The land use on NAF Atsugi is generally in harmony with land uses in civilian areas. However, there are areas of civilian development that are incompatible with airfield operations, particularly development in the runway approach zones. This plan documents these problems as well as the current GOJ program to alleviate conflicts. This plan does not propose any changes to land use that will further aggravate existing problems.

(2) Environmental Laws and Policies. Navy activities located on foreign soil are required to comply with applicable environmental pollution control standards in effect and enforced pursuant to the national pollution control laws of the host country unless otherwise provided in the SOFA.

Specifically, the Navy's responsibility extends only to upgrade facilities provided by the U.S. and operated by the Navy, where such upgrading is necessary to meet environmental pollution standards of general applicability in the host country or jurisdictions concerned. Similarly, new facilities for Navy use shall be designed to meet environmental pollution standards of general applicability in the host country. As provided for in the SOFAs, this is applicable to pollution control standards in effect and enforced pursuant to the national pollution controls of the GOJ. It does not mean pollution control standards enacted or adopted by local governments (prefecture and city) which are not implementations of national pollution control laws of the host country. For facilities provided by the host country for Navy use, all necessary corrections to meet environmental standards are the responsibility of the host country. Since most of the projects cited in the CIP will be provided by the GOJ, it is assumed that there will be no conflict between this Plan and the GOJ environmental standards. In any case, each proposed project minimally receives the benefit of a PEA to determine the potential impact on the environment in accordance with OPNAVINST 6240.3E.

In addition, to assist the USN in meeting their responsibility to protect the environment and personnel health, PACNAVFACENGCOM has conducted an Environmental Engineering Survey at NAF Atsugi. The survey report, dated October 1982, states the following survey objectives:

- To ensure that facilities and operations are environmentally acceptable.
- To identify sources of pollution originating from Navy activities.
- To help NAF Atsugi initiate corrective actions, including the development of appropriate corrective projects.
- To identify possible future environmental pollution problem areas.

e. Means to Mitigate Adverse Environmental Effects. The adoption and implementation of the updated master plan will result in operational economics, conservation of resources, preservation of the environment, and enhancement of amenities. These benefits more than offset the minor adverse environmental impacts generated by the plan. An environmental statement for the master plan is not required.

f. Reference. See Appendix A.

I. ENERGY CONSERVATION PLAN (ECP)

1. Objective

The purpose of the ECP is to evaluate the areas where energy conservation techniques can be most effectively applied to review energy conservation related proposals contained in the master plan.

2. Overview

Since the oil embargo of 1973, there has been growing awareness of our dependence on foreign oil and petroleum in general in all sectors of the society. The current energy problems for the world's industrialized nations are basically due to the dwindling world oil producers. Some experts estimate 2017 as the year the world's supply of petroleum will run out if the usage rate is not reduced.

The nation's dependence on petroleum fuels is expected into the foreseeable future. Conservation and storage measures will help extend the exhaustion date, but alternative energy sources, including the increased use of nuclear and hydropower for electricity production; further development and use of geothermal, solar, wind, and ocean resources; and production of synthetic fuels from such sources as oil shale, coal, tar sands, and biomass, must be developed. With the exception of conservation, the others are long-term solutions to the energy shortage problem. Conservation is the least costly and the fastest way to reduce our dependence on foreign oil.

With the projected depletion of the world's petroleum supply, the cost of petroleum-derived energy has risen sharply. Although the Department of Navy has reduced its energy usage in FY 1980 by about 10 percent from FY 1975, the cost has increased from 2 percent in FY 1973 to 7.5 percent in FY 1980. This increasing percentage of the budget for energy obviously results in a decrease of funds necessary for other essential operations and personnel services.

Executive Order 12003 of 20 July 1977 established energy conservation goals to be achieved by the end of FY 1985 as compared to FY 1975 for the Federal establishment. These goals, promulgated by OPNAV Instruction 4100.5A, include the following:

Reduction of energy consumption in existing buildings by 20 percent per sq. foot.

Reduction of energy requirement in new buildings (those for which design specifications were completed after 9 November 1978) by 45 percent per sq. foot.

Reduction of 15 percent in fuel used by ground vehicles. Other directives which provide additional regulations and guidelines for the conservation of energy to meet and exceed the established goals are as follows:

SECNAV message 271944Z July 1979, ALNAV 006/79, directed that all Department of Navy buildings, with exceptions such as hospitals, family housing, and computer centers, would be heated no higher than 65°F, cooled no lower than 78°F, and water used for personal hygiene and general cleaning would be heated no higher than 105°F.

The National Energy Conservation Policy Act of 1979 directed that all Federal buildings be evaluated to determine their suitability for energy conservation retrofits and that all economically feasible retrofits be completed by 1990.

Additional energy conservation goals established by Defense Energy Program Policy Memorandum No. 80-6 of 3 June 1980 include the following:

Achieving an overall reduction in energy usage per sq. foot of like use from the 1975 baseline of 25 percent by FY 1990, 30 percent by FY 1995, and 35 percent by FY 2000.

Achieving a reduction in the use of natural petroleum fuels from the FY 1975 baseline levels of 35 percent by FY 1990, 40 percent by FY 1995, and 45 percent by FY 2000.

Obtaining a percentage of total installation energy from coal (solid coal, coal liquids, or coal gas), municipal solid wastes, refuse-derived fuel, and wood equal to 15 percent by FY 1990, 20 percent by FY 1995, and 35 percent by FY 2000.

Providing a percentage of total installation energy from renewable energy sources (geothermal, hydropower, solar, and biomass) equal to 5 percent by FY 1990, 10 percent by FY 1995, and 20 percent by FY 2000.

Increase the use of electric and hybrid powered administrative vehicles.

Exceed the statutory mileage standards in fleet average fuel economy for administrative vehicles by 5 miles per gallon by FY 2000.

Ensure that the procurement and acquisition of administrative vehicles meet or exceed the statutory average fuel economy standard for the appropriate model year.

Reduce total fuel consumption in administrative vehicles 20 percent below FY 1975 consumption levels by FY 1990 and maintain this percentage through FY 2000.

The Navy, in response to the need for energy conservation, has developed the following initiatives to reduce energy consumption:

Energy Conservation Investment Program within the MCON Program to accomplish energy-saving projects.

Energy Engineering Program, funded with operation and maintenance resources, to survey Navy facilities and develop advanced technology, energy conserving, capital investment projects.

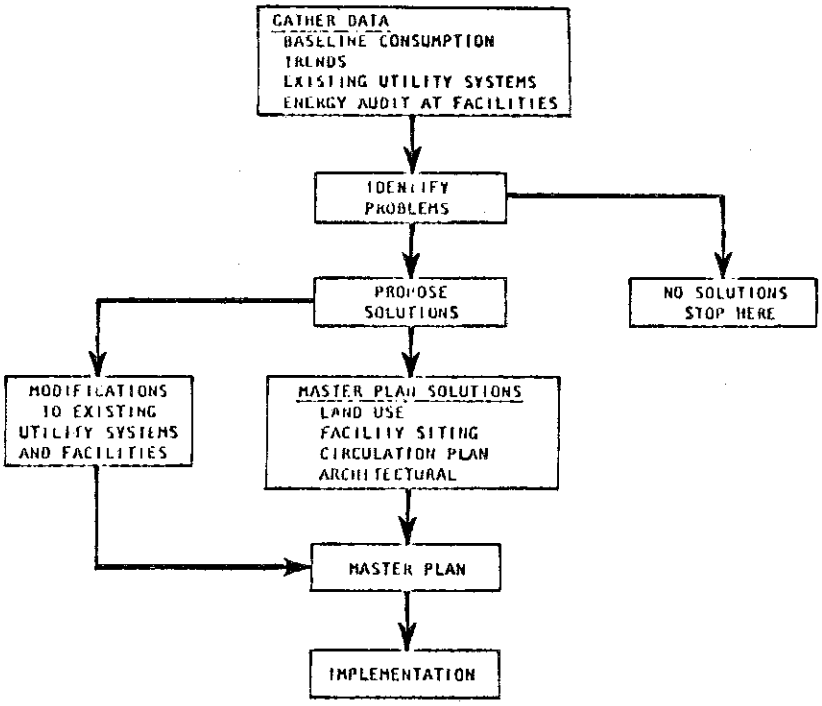
Energy Technology Applications Program, also funded by operation and maintenance resources, to accomplish high energy and cost savings projects which fall below the ECIP funding threshold of $100,000.

Methodology

Energy conservation is one of the objectives of the master plan and as such is an integral part of master planning methodology. Specific energy-related steps in the master planning process are identified in the ECP methodology flow chart (see Figure I-1).

Figure I-1

ECP METHODOLOGY FLOW CHART



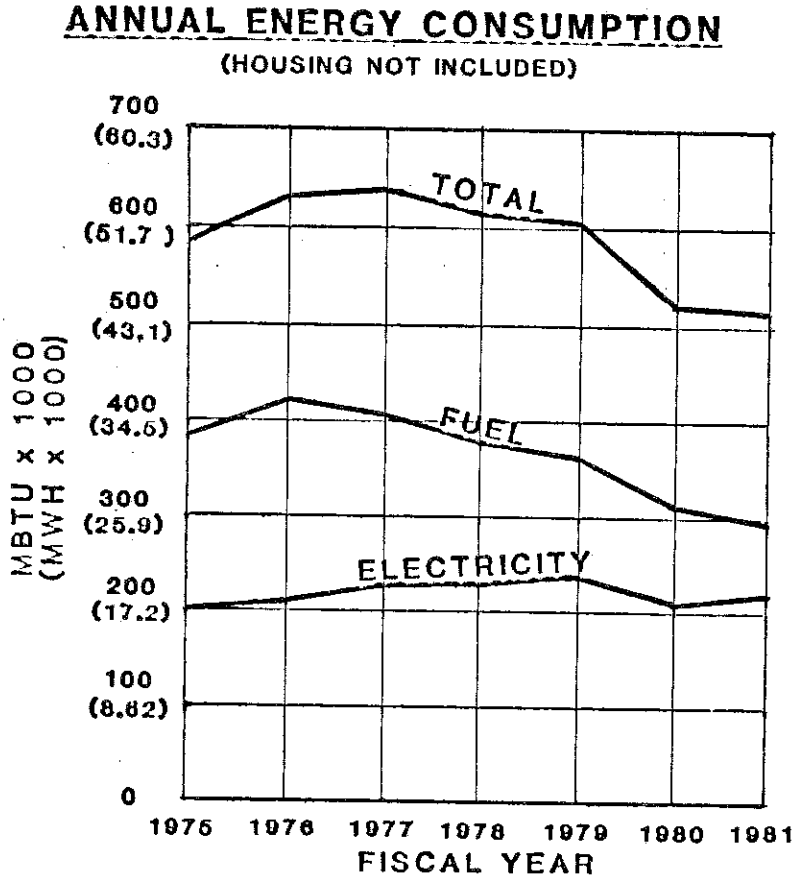
The Plan

Current Status. NAF Atsugi's mission is to maintain and operate facilities and to provide services and material to support operations of Navy aviation activities and units of Navy operating forces and any other activities and units designated by CNO. In order to carry out this mission, NAF Atsugi supports about 300 buildings with an aggregate floor area of 202,000 ca (including JMSDF facilities). The 490 family housing units contribute another 67,000 ca.

Since 1975, the amount of non-housing building floor area has increased by 20 percent. In spite of this growth, NAF Atsugi has succeeded in reducing its gross energy consumption by 12 percent as shown in Figure I-2. Consequently, the Station's energy consumption per unit of floor area has decreased by 26 percent by the end of FY81--well ahead of the goal of 12 percent.

In family housing, there were no significant gains in floor area from FY 1975 to FY 1981; however, at the beginning of FY 1982, the floor area nearly doubled with the

Figure I-2



addition of 200 new family housing units. The long-term effects of the new housing have not yet been identified but the energy conservation program has succeeded in reducing the housing energy consumption by 13 percent at the end of FY 1981.

Most of the Station's energy consumption reduction has been achieved in the area of space and water heating while the use of electricity has generally held steady, albeit with a slight growth. Reductions have been achieved through facility improvements and an aggressive conservation program. Facility improvements contributing most to the reduction have been in the form of boiler plant and steam line improvements. Moreover, buildings with energy conserving features such as central air conditioning and heating and better insulation properties have been recently constructed; more are on the way.

Current Energy Conservation Program. Presently, potential energy conservation projects have been or are being developed. Drafts of projects were recently developed by a Utilities Improvement Survey Team and are summarized below:

- P-083 (ECIP), Steam and Condensate System, will replace steam supply and condensate return mains and branch lines in the Main Operations Area. This project will save approximately 47,000 MBTU per year, resulting in a simple payback period of 3.1 years. This project is in the FY83 program.

- P-117 (ECIP), Boiler Plant Modifications, will improve the efficiency of Boiler Plant No. 4 in Bldg. 167 and Boiler Plant No. 6/6A in Bldg. 46 by installing new equipment. This project will save approximately 68,000 MBTU per year, resulting in a simple payback period of 1.3 years.

- P-118 (ECIP), Steam and Condensate Systems, will improve the steam distribution system in the Personnel Support Area by replacing or repairing leaking and uninsulated piping and expansion joints, relocating piping to reduce pipe lengths, and providing condensate return units. This project will save approximately 53,000 MBTU per year, resulting in a simple payback period of 3.2 years.

- P-129 (ECIP), Boiler Plant Modifications, will replace Boiler Plant No. 7 in Bldg. 235 with four local heating boilers. This project will save approximately 11,000 MBTU per year, resulting in a simple payback period of 4.6 years.

- HC-4-82 (ECIP), Water Heater Replacement (Family Housing), will replace existing electric and steam water heaters with heat pumps, permitting portions of the steam distribution lines to be secured in the summer. This project will save approximately 28,000 MBTU per year, resulting in a simple payback period of 2.8 years.

- HC-1-82, Install Hot Water Distribution System (Family Housing), will construct a central hot water distribution piping system to provide space heating for six housing units. This project will save approximately 11 MBTU per year.

- R4-82, Replace Steam and Condensate Return Lines, will replace the existing steam lines serving Bldg. 139, the Commissary Store, and Bldg. 146, the Calibration Lab. This project will save approximately 2,300 MBTU per year.

- HR-3-82, Replace Exterior Steam and Condensate Return Lines (Senior Officers Quarters (SOQ)), will replace underground steam and condensate return lines serving the SOQ housing units. This project will save approximately 741 MBTU per year.

Land Use Planning and Facility Development. Although all land use planning, facility siting, and infrastructure development recommendations contained in the plan have underlying long-range energy conservation benefits, construction projects required to implement the plan may adversely affect energy conservation in the near-term.

Master plan recommendations that have particularly attractive long-range energy conservation impacts include:

Facility construction proposed by the plan will replace old, inefficient structures with energy-efficient buildings.

Facility consolidations proposed by the plan will enable larger, more energy-efficient utilities to be incorporated in the construction. The consolidations will also reduce vehicle circulation requirements.