

# **ANALYTICAL / ENVIRONMENTAL ASSESSMENT REPORT**

**MASTER PLAN  
FUTURE DEVELOPMENT PLAN**

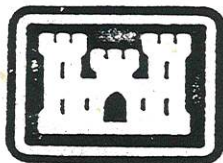
## **SAGAMI GENERAL DEPOT**

**KANAGAWA PREFECTURE, JAPAN**

**FINAL SUBMITTAL** FEB. 18, 1988

**FEBRUARY 1988**

Prepared for:



**US Army Corps  
of Engineers  
Japan Engineer District**

**100%**

Prepared by,

**ONUMA AND ONUMA ASSOCIATES, INC.**

ARCHITECTS ENGINEERS PLANNERS 4-32-4 NISHI-SHINJUKU SHINJUKU-KU TOKYO, JAPAN



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## SECTION 1

### INTRODUCTION

#### 1.1 PURPOSE OF THIS REPORT

This Analytical/Environmental Assessment Report is one of several documents that together constitute the updated Master Plan for Sagami General Depot, a U.S. Army installation located in Sagami City, Kanagawa Prefecture, Honshu, Japan.

The companion planning documents are:

- A report entitled "Analysis of Existing Facilities, Master Plan Basic Information Maps, Sagami General Depot and Dependent Housing Area, Japan," dated January 1984;
- Basic Information Maps, dated January 1984;
- Tabulation of Existing and Required Facilities (dated with this report);
- Future Development Plans (dated with this report).

The Analytical/Environmental Assessment Report focuses on proposed facilities and future land uses. The report presents basic information on proposed upgrading projects and new facilities, and analyzes the probable impact of these facilities on key environmental elements, land uses and utilities.

## 1.2 ORGANIZATION OF THE REPORT

The Analytical/Environmental Assessment Report follows the format set forth in Army Regulation No. 210-20, "Master Planning for Army Installations," effective March 15, 1976. The report has four major sections:

- a. Introduction
- b. Environmental Setting
- c. Land use Relationships
- d. Utilities Systems

In Sections 2 through 4, the focus is on changes and impacts that will be associated with the implementation of proposed upgrading projects and new facilities. Thus, the report does not repeat data and discussions already covered in the "Analysis of Existing Facilities" report. This latter report has separate chapters devoted to existing environmental conditions, land use relationships and utilities systems. The information contained in these chapters provides the basic background data for the environmental impact discussions presented in this report.

## 1.3 LOCATION AND GENERAL DESCRIPTION

Sagami General Depot is a U.S. Army installation of approximately 530 acres of mostly level land. This installation is located in Sagami-hara City, an urbanized area of some 500,000 people, about 20 miles southwest of Tokyo City. (See following Location Map.)

Sagami General Depot was established in 1949 on the grounds of a former Japanese military installation; it served a key function during the Korean War and Vietnam War.



#### 1.4 MISSION

Sagami General Depot's primary mission is to provide maintenance and supply support to the U.S. Army, Japan and to maintain OPLAN project stocks.

Sagami General Depot provides the following services and facilities:

- Storage and maintenance of theater of war reserves and OPLAN project stocks.
- Logistic services in the fields of supply, maintenance and repairs for U.S. Army, Japan.
- DLA property disposal services for U.S. Forces in the WESTPAC area.
- Industrial operations and calibration support.
- Headquarters IX Corps organizational equipment.
- Headquarters for Environmental Health Engineering Agency, Pacific.
- Planned site for area maintenance and supply facility in support of U.S. Army Information Systems Command - Japan
- Family housing and bachelor quarters for officer and enlisted personnel.

Future utilization of the Sagami General Depot is dependent upon contingency plans addressing possible alternatives to the present functions. The depot has 9,946,629 square feet of open storage and over 1,500,000 square feet of covered storage. Its work force, based on U.S. Army staffing reports as of March 31, 1987, consists of 93 U.S. military personnel, 48 U.S. civilians, and 555 Japanese nationals, for a total of 696. (See population chart in Section 2.3.2)

### 1.5 INTER-RELATIONSHIPS WITH ADJOINING ARMY FACILITIES

In developing the future development documents for Sagami General Depot, it is necessary to consider the two adjoining Army facilities of Sagamihara Family Housing Area and Camp Zama since the three installations are closely inter-related in terms of housing and community facilities requirements. In particular, the installation strengths of the three facilities will be considered in determining the requirements for DA Form 2369-2-R (Tabulation of Existing and Required Facilities - Facilities Requirements) for housing and community facilities. Certain criteria may be deviated in order to satisfy the unique inter-relationships between the three installations, however, any deviations will be indicated in the tabulations.



## SECTION 2

### PROPOSED PROJECTS, ENVIRONMENTAL ELEMENTS AND EXPECTED IMPACTS

The Phase I planning report for Sagami General Depot, "Analysis of Existing Facilities," includes a comprehensive description of existing environmental conditions at this installation. Section 2 of this report will therefore provide: (1) a description of proposed projects, and (2) a basic analysis of the probable impacts, both beneficial and adverse, of these projects on the environment.

#### 2.1 PROPOSED MAJOR PROJECTS

There are various projects planned for Sagami General Depot for the planning period Fiscal Year 1987 through 1994 and long range. These projects are briefly described below, in approximate order of probable implementation. For each project, information is provided relative to purpose, size and proposed location.

##### 2.1.1 Upgrade Utility System

This project includes extensive upgrading of electrical, water, heating/ domestic hot water, storm drainage and communication systems throughout Sagami General Depot.

##### a. Electrical

New electrical works will consist of construction of new main substations and replacement of power distribution wiring throughout the installation with a looping system. (See Section 4.5 for further details.)

b. Water

New water works will include development or reconstruction of the two existing water wells to meet the proposed demands of future projects -- family housing in particular. ( See Sections 2.3.3.b and 4.1 for further details.)

A new pump station is also to be constructed and water lines at various locations are scheduled for replacement. Swimming pool supporting facilities are also to be replaced including pumps, treatment system and piping.

c. Heating/Domestic Hot Water

Steam distribution piping is scheduled for replacement throughout the Depot in four phases of operation. Upgrading of boiler plants will also be implemented consisting of replacing an oil storage tank at Plant No. 5 and replacing four boilers at Plant No. 4. (See Section 4.6 for further details.)

d. Storm Drainage System

Improvement of the Depot's storm drainage system will be performed in two phases of work. The project is to include installation of new drainage lines and catch basins in the family housing area and other drainage line installations and ditch improvements at various locations throughout the Depot. (See Section 4.3 for related details.)

e. Communication

New work on communication systems will consist of upgrading the base portion of the NTT tie cables and the CCTV cable system.

$$1 \text{ SF} = 0.093 \text{ 平方英尺} - \text{H}$$

### 2.1.2 Fire Station

The existing wood frame fire station has reached the end of its useful life. A new fire station, approximately 3,800 SF in size, will be constructed at a central location. The proposed site for the new permanent structure is the northern corner of the intersection of 4th Street and F Avenue.

### 2.1.3 Dehumidified Secured Warehouse

A new warehouse with special security and air quality controls is needed for the storage of weapons. This new facility will be about 20,000 SF in size. The site for this warehouse will be in the southeastern part of the base in an undeveloped area. It is to adjoin the proposed Refrigerated Warehouse (following). New access roads will be required for this project.

### 2.1.4 Refrigerated Warehouse

A new refrigerated warehouse is needed for the storage of medical supplies. This new facility will be 40,000 SF in size. Site location for this project will be in an undeveloped area in the southeastern part of the base. This new facility is to adjoin the proposed Dehumidified Secured Warehouse (See Section 2.1.3).

### 2.1.5 Warehouses (General)

Many of the existing warehouses at Sagami General Depot are obsolete and dilapidated and should be replaced incrementally. Current plans call for the construction of four new warehouses at 80,000 SF (FIP), 77,000 SF (FIP/MCA), 77,000 SF (FIP/MCA), and 100,000 SF (FIP/MCA) to be located in the north-central and southeastern parts of the Depot.

Additionally, 47,500 SF of existing warehouse is scheduled for alteration in the northeastern part of the base.

#### 2.1.6 Waste Storage Facility

A waste storage facility is needed for the Depot. To meet this requirement, a 21,000 SF permanent structure is planned for construction near the northeast end of a A Avenue in an otherwise unused area by the tank testing facility.

#### 2.1.7 Firing Range

A new rifle range is needed for training of U.S. Army personnel. The MCA proposed facility is a concrete, soundproof building of 5,330 SF to be located on the east side of 5th street near C Avenue, an area that is otherwise zoned for storage facilities. To support the range, the building will include a classroom, latrine, storage room and office.

There is no Army facility currently available, indoors or outdoors, to conduct small arms qualification testing in Japan for soldiers who must requalify each year. Annual weapons qualification requirements can only be met through transporting personnel 27 miles to the Yokota Air Base indoor range. This USAF-operated range can be used by Army personnel only on a "when available" basis.

#### 2.1.8 Laundry/Dry Cleaning Plant

This is a major new facility that will consist of an approximately 23,000 SF concrete building that will replace the obsolete laundry/drycleaning plant at Camp Zama. The plant will provide laundry/dry cleaning services to U.S. Forces of Camp Zama, Sagami-hara Family Housing Area, Sagami General Depot, Yokota AFB and U.S. Navy personnel in downtown Tokyo. The new facility will provide considerable savings in operations and maintenance cost. The proposed site is the northwest side of G Avenue between 5th and 6th Streets.

The plant will include marking and receiving, dry cleaning, washing, flat work, tumbler, press and assembly areas, rug cleaning and drying areas, storage, offices, lunch room, vending area and kitchen, locker rooms and latrines, maintenance shop, mechanical room, and loading dock. Support facilities include expansion of an existing boiler plant, a new wastewater treatment plant, electrical distribution, paved parking, roadways, sidewalks, curbs and gutters, drainage, security lighting, fencing, and landscaping.

#### 2.1.9 Youth Center

A small facility is needed for a youth program to serve dependent children living at the Depot. A 3,250 SF building will be constructed to replace the existing substandard facility at a site that is convenient for family housing. The current proposed location is between existing and future housing in the northwest corner of the Depot. New access roads will be required for this project and housing projects in the same area.

#### 2.1.10 Administration Building

Construction of a 59,150 SF reinforced concrete structure for a consolidated administration facility is planned for Sagami General Depot. The work includes fire protection, communications, utility services and site preparation. The proposed location for this building is near the Main Gate on the southeast side of E Avenue. The surrounding area by the Main Gate is also planned for development into administration facilities in the future.

Existing administration facilities are presently scattered about the Depot in old, deteriorated warehouses. A new consolidated facility is required for more efficient operation.

#### 2.1.11 Kennel

A new Kennel is required at the Depot to replace the undersized, inefficient facility currently in use. A proposed kennel to meet this requirement is planned to be sited near the existing facility in a secluded eastern part of the base. The project scope is 5,737 SF. *3/10/64*

#### 2.1.12 Consolidated Club

A new Consolidated Club is needed to provide adequate on-post dining facilities for families living at Sagami General Depot. The proposed permanent facility is to be 9,450 SF in size and it will be located on the southwest side of 3rd street near C Avenue approximately a quarter mile from the family housing area. The site is also convenient for other areas throughout the base and, being near the Main Gate, is accessible to visitors.

Fire protection, TV outlets, climate control and all utility services are required as well as landscaping and parking.

#### 2.1.13 Equipment Storage/Maintenance Facility

A new project is planned at the depot for storage and maintenance of parachutes. The 35,000 SF structure is proposed for construction in the eastern corner of the base on the northeast side of 7th street between G and H Avenues. The surrounding area is designated for maintenance, operations and storage.

#### 2.1.14 Medical Mobilization Complex

A large area of approximately 1,100,000 SF is to be set aside for a proposed mobil medical facility. The proposed location is a large unassigned area in the northern part of the base on the northeast side of 4th Street. The site is near both Gates No. 4 and 5.

#### 2.1.15 Unaccompanied Officers Personnel Housing(UOPH)

A new barracks is needed at the Depot for unaccompanied officer housing to replace the old, inadequate existing structures located at three different locations about the base. The proposed location is on the southwest side of 4th Street near B Avenue.

The area is currently used for storage; however, all the buildings in the block are either scheduled for demolition or reportedly in poor condition (Ref, Field Investigation Report, April 1987). The area is therefore suited for future rezoning and further barracks construction. The area directly to the southwest is planned for community facilities development. Recreation facilities are in close proximity.

#### 2.1.16 Facility Engineer Shops

A new facility engineering complex is proposed for construction to include engineering shops, heavy equipment shop, storehouse, lunch room and an administration building. The permanent structures are planned for construction between 2nd and 3rd Streets near the main gate to the southeast of F Avenue.

The project is required to replace the existing old, inadequate shops scattered about the Depot at more than ten different locations. The existing facilities are old wooden structures that have a high annual maintenance and repair cost.

#### 2.1.17 Medical Clinic

A medical clinic without beds is planned for construction to serve Japanese National master labor contract personnel. The proposed location is near Gate No. 5 on the southeast side of A Avenue.

#### 2.1.18 Latrine

As an Operation and Maintenance Army (OMA) project, a small (650 square feet) latrine is planned for construction in the central part of the Depot on the south corner of 7 th Street and D Avenue.



## 2.2 TENTATIVE PROJECTS

There are various requirements for Sagami General Depot not officially sanctioned as proposed projects that merit consideration in this long range planning effort. These requirements are, for the most part, as determined by the Tabulation of Existing and Required Facilities.

### 2.2.1 Roads

A few of the proposed projects will require relocation of existing roads or construction of new ones. In particular, as shown on the Future Development plans, in the northwest corner of the Depot in the new family housing and medical complex areas the road system will require alteration to suit the new facilities. Also, the unused railroad yard in the northeastern part of the Depot as well as nearby open areas will need a new road system to facilitate future projects. In addition, further study must be given to determining the need for upgrading existing old, often undersized roads throughout the base.

### 2.2.2 Outdoor Sports

According to the Tabulation of Existing and Required Facilities, various outdoor sporting facilities have area allocations that may be considered for future development. Included therein are multiple use courts and softball and football/soccer fields. For this purpose, the Reservation Plan allocates recreational areas near the center of the base.

### 2.2.3 Miscellaneous

According to the Tabulations, a few other categories are lacking square footage such as helicopter airfields, MARS Station, general purpose storage sheds and bath house (for swimming pool). The actual future needs for these facilities, however will have to be determined by on going evaluation; accordingly, the Future Development Plans do not yet show proposed locations.

## 2.3 ENVIRONMENTAL ELEMENTS AND EXPECTED IMPACTS

This part of Section 2 of the Analytical/Environmental Assessment Report provides a basic analysis of the expected environmental impacts of proposed projects. It should be noted that many of the proposed projects involve renovating or replacing inadequate facilities, and that construction activities will occur, by and large, on already "disturbed" sites. Generally, then, it can be expected that there will be relatively few adverse impacts in the areas of concern.

### 2.3.1 Historical Elements

None of the proposed projects -- whether upgrading, new construction or demolition -- will have an adverse effect on historical structures or sites. The only historically significant property within the installation's boundaries is the "Sagami Shrine" and park located northwest of the main heliport.

### 2.3.2 Cultural Elements

#### a. Population Density and Trends

There are no plans to increase or decrease the authorized personnel strength of Sagami General Depot. Plans for 54 new family housing units, though, will result in a significant increase in the number of military personnel and their dependents living here. Considering 4 people per family housing unit, the 54 new units will provide housing for approximately 216 people. This new population, combined with the people occupying the existing 92 family housing units, will result in a need for some additional community facilities.

As previously mentioned in Section 1.5, installation strength for Sagami General Depot will take into consideration strengths at the two adjoining Army facilities at Sagamihara Family Housing Area and Camp Zama since the three installations are closely inter-related in terms of shared housing and community facilities requirements.

Assigned and attached Army populations at the three installations as of 31 March 1987 are attached herewith as reference. Changes in installation strengths at any of the three installations would depend to a great extent on changes in assigned mission, functions, workload, utilization of resources, or operational methods.

The current population reflects the realignment of the organization and functions of HQ USARJ/IX Corps on 1 November 1985 to implement the HQDA manpower survey of HQ USARJ/IX Corps. Therefore, presently, there is no significant planned increase or decrease in the authorized strengths at the three installations. However, for the purposes of this Master Plan, it is anticipated that a five to ten per cent increase in installation strengths can be assumed during the 20-year period through the year 2006. This assumption is based on a peace-time situation and does not take into account war-time contingency situations that may arise.

**ONUMA AND ONUMA ASSOCIATES, INC.**

ARCHITECTS ENGINEERS PLANNERS

4-32-4 NISHI-SHINJUKU, SHINJUKU-KU. TOKYO

JOB NO

SHEET NO

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DATE

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DATE

**ASSIGNED & ATTACHED ARMY POPULATIONS - SAGAMI DEPOT**

Based on AJ Form 2289, 31 March 1987

**SAGAMI DEPOT**

<u>Category</u>	<u>Assigned Auth. (Actual)</u>	<u>Attached Auth. (Actual)</u>	<u>Total Auth. (Actual)</u>
Officers	12 ( 11)	0 ( 0)	12 ( 11)
Warrant Off.	0 ( 0)	0 ( 0)	0 ( 0)
Enlisted	54 ( 70)	12 ( 12)	66 ( 82)
U.S. Civilian	44 ( 42)	6 ( 6)	50 ( 48)
MLC* - Japanese	493 ( 513)	45 ( 42)	538 ( 555)
Military F.M.**	- ( 105)	- ( 23)	- ( 128)
Civ. F.M.	- ( 41)	- ( 7)	- ( 48)
Totals	603 ( 782 )	63 ( 90)	666 ( 872)
Japanese	493 ( 513)	45 ( 42)	538 ( 555)
U.S.	110 ( 269)	18 ( 48)	128 ( 317)

\* MLC - Master Labor Contract

\*\*F.M. - Family Member

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**ASSIGNED & ATTACHED ARMY POPULATIONS - CAMP ZAMA**

Based on AJ Form 2289, 31 March 1987

**CAMP ZAMA**

<u>Category</u>	<u>Assigned Auth. (Actual)</u>	<u>Attached Auth. (Actual)</u>	<u>Total Auth. (Actual)</u>
Officers	110 ( 103)	15 ( 15)	125 ( 118)
Warrant Off.	18 ( 23)	12 ( 11)	30 ( 34)
Enlisted	424 ( 457)	86 ( 94)	510 ( 551)
U.S. Civilian	354 ( 347)	231 ( 271)	585 ( 618)
MLC* - Japanese	992 ( 927)	287 ( 304)	1,279 (1,231)
Military F.M.**	- ( 948)	- ( 387)	- (1,335)
Civ. F.M.	- ( 304)	- ( 257)	- ( 561)
Totals	1,898 (3,109)	631 (1,339)	2,529 (4,448)
Japanese	992 ( 927)	287 ( 304)	1,279 (1,231)
U.S.	906 (2,182)	344 (1,035)	1,250 (3,217)

\* MLC - Master Labor Contract

\*\*F.M. - Family Member

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**ASSIGNED & ATTACHED ARMY POPULATIONS - SAGAMIHARA**

Based on AJ Form 2289, 31 March 1987

**SAGAMIHARA**

<u>Category</u>	<u>Assigned Auth. (Actual)</u>	<u>Attached Auth. (Actual)</u>	<u>Total Auth. (Actual)</u>
Officers	0 ( 0)	0 ( 0)	0 ( 0)
Warrant Off.	0 ( 0)	0 ( 0)	0 ( 0)
Enlisted	4 ( 3)	1 ( 1)	5 ( 4)
U.S. Civilian	4 ( 15)	11 ( 12)	15 ( 27)
MLC* - Japanese	28 ( 28)	50 ( 45)	78 ( 73)
Military F.M.**	- ( 10)	- ( 3)	- ( 11)
Civ. F.M.	- ( 2)	- ( 9)	- ( 16)
Totals	36 ( 58)	62 ( 70)	98 ( 128)
Japanese	28 ( 28)	50 ( 45)	78 ( 73)
U.S.	8 ( 30)	12 ( 25)	20 ( 55)

\* MLC - Master Labor Contract

\*\*F.M. - Family Member

b. Regional Development

The proposed projects, while of importance to the efficient functioning and quality of life at Sagami General Depot, are not expected to have a significant impact, either positive or negative, on regional development plans of Sagami-hara City since the installation and the proposed facilities are not used by the local community.

The local city government has developed its own comprehensive future master plan exclusive of all land areas currently leased by the U.S. Government. According to projections, the population of Sagami-hara city will reach in the excess of 600,000 in the 21st century. On the basis of this projection, a comprehensive regional city master plan is being developed for the coming years 1986 - 2001. In this plan, entitled "Plans for Sagami-hara Towards the 21st Century", the city is envisioned to become a "high technology city" with a high concentration of advanced technology industries in the fields of electronics, mechatronics, aviation, and aerospace. Agricultural land will be preserved and considered as a "Green Space" in harmony with the city functions and contributing to the development of the local society.

Also in the plan, former sites of military facilities returned to the local jurisdiction will be slowly transformed into centers of education, culture, and health. One of the centers recently completed is the Institute of Space and Astronautical Science of the Ministry of Education. A baseball stadium, National Museum of Modern Arts, and Film Center will be constructed soon at Fuchinobe Park. At the former site of the U.S. Army hospital at Sagami Ono, a cultural complex with a public library will be constructed. In addition, there is the "Sagami River Project" to preserve nature and protect the environment.

Although the future Sagamihara Master Plan is not foreseen to have any direct or significant impact on the future development of the Camp Zama complex, any new developments by the Government of Japan Facilities Improvement Program (FIP) will be of concern to local governments.

The existing land at Sagami General Depot is zoned as a "First Class Residential Only Area" on the regional development map of the City government. This indicates that Sagamihara City will provide close scrutiny of the future development plans of the Area especially with regard to keeping it as a strictly residential zone with maximum open space and limited buildable area. Any significant increase in housing units impacting on density will be of concern to the regional development of Sagamihara City.

c. Transportation Systems

None of the proposed projects relate directly to off-base transportation systems. Several projects, though, especially the laundry/drycleaning plant and the new family housing units, will generate more on-base vehicular traffic. The installation's road system is adequate to accommodate this increased traffic load. Other projects will have some impacts on transportation systems, though none adversely. (See Sections 2.1.3, 2.1.4, 2.1.5, 2.2.1 and 3.2.3 for further details.)

The existing railroad tracks at the Depot (approximately 44,300 linear feet) are not used and will be removed as they interfere with future projects. There are no plans for redeveloping them.



d. Cultural Patterns

The surrounding off-post communities have stable cultural patterns. The proposed on-post projects are not of a scope or scale that would affect cultural patterns in the surrounding, off-post community.

Residents of Sagami General Depot are expected to continue to use cultural facilities located at nearby Camp Zama in the future.

e. Socio-Economic Conditions

The proposed projects are not expected to have a significant effect on social or economic conditions. Several of the new facilities, the laundry/drycleaning plant in particular, will have a beneficial economic effect in terms of providing some full-time jobs for Japanese civilians.

f. Existing Community Area Facilities

The proposed new family housing units, once completed, will have a minor negative impact on individuals and companies that currently derive income from renting off-post housing to U.S. military personnel and their dependents. However, given the relatively small size of the Depot's off-post housing demand, approximately 200 units in a city that has in the range of 15,000 to 20,000 housing units, this negative effect will not be significant.

### 2.3.3 Health

#### a. Air Quality

The proposed new facilities will not measurably increase the installation's impact on ambient air quality. The new boiler plant for the laundry/dry cleaning plant and emissions from the boiler plant serving the new houses will add to the Depot's total emissions. Overall, however, Sagami General Depot has a negligible impact on air quality in Sagami-hara City. The main sources of emissions in the area are off-post industrial facilities and automobile exhausts.

#### b. Water Purity and Adequacy

There will be no significant new adverse impacts on the quality of area groundwater or surface waters. The eventual construction of 54 family housing units will result in an increase in domestic water demand of approximately 32,000 gallons per day. Existing sources may not be adequate to supply this increased demand.

The laundry/dry cleaning plant will require approximately 150,000 gallons per day of potable water. A new well will have to be developed as part of this project. The one active existing well (0.3 mgd capacity) does not have sufficient yield to supply this facility. Studies for a new well site have begun, but details on location, yield and impact on existing groundwater resources have not yet been developed.

c. Wastewater Treatment and Disposal

The new wastewater treatment plant came on line in April 1985. This facility has a design capacity of 105,000 gallons per day. The new plant does have adequate capacity to accommodate the additional wastewater that will eventually be generated by the new family housing units. However, in the future, the wastewater treatment plant will have to be upgraded to handle wastewater flows from other areas in the Depot that have not yet been tied into the new facility. The future capacity will be in the range of 170,000 gpd.

The laundry/drycleaning plant project will include the installation of a small wastewater treatment facility sized to treat at least 150,000 gpd. (See Section 4.2 for related information.)

d. Solid Wastes

Most of the conventional solid wastes generated by operations at Sagami General Depot are now transported to Camp Zama and processed at the new incinerator that came on line in April 1985. Proposed new facilities are not expected to result in a significant increase in the volume of solid wastes produced at this installation. Debris resulting from the demolition of obsolete facilities will be hauled to an approved off-base disposal site.

e. Insecticides and Herbicides

There will be no significant increase in the use of insecticides and herbicides at Sagami General Depot.

#### 2.3.4 Safety

##### a. Aircraft Operations

No new aircraft-related facilities are planned and one of the two existing helipads will be eliminated in the future plan; see Section 3.2.3 for details.

##### b. Explosives

None of the proposed facilities are for the storage or testing of explosive substances. The proposed secured dehumidified warehouse will be used for the storage of weapons, but no ammunition will be stored there.

##### c. Hazards

There are no industrial, nuclear or biological hazards associated with the proposed projects. The new rifle range will be designed to ensure complete containment of fired rounds. Security hardware and security personnel will also be provided to ensure that unauthorized personnel cannot enter or use the facility.

#### 2.3.5 Sight

##### a. Topography

The topography of Sagami General Depot is relatively level; topographic conditions are thus not a significant constraint for the siting and development of new facilities. None of the planned projects are expected to have an adverse effect on topographic conditions, and no significant erosion problems are expected.

b. Tree and Vegetative Cover

Some of the areas within Sagami General Depot are well landscaped with large deciduous and coniferous trees, shrubs and lawns. There are no natural woodlands at this installation. The planned projects will not cause any significant negative changes or impacts to existing planted areas. In general, some beneficial impacts can be expected, especially in terms of new plantings and landscaping that are likely to be associated with new family housing units and community facilities.

c. Streams, Lakes and Mountains

Streams, lakes and mountains are not present at Sagami General Depot. Thus, there will be no adverse impact on resources of this kind.

2.3.6 Noise

a. Aircraft Operations

The planned facilities are not related to aircraft operations and are not expected to result in any increased heliport activity at the installation. Thus, no increase in aircraft-related noise is expected.

b. Firing Operations

There are presently no open area rifle ranges or artillery ranges at Sagami General Depot, and no such open area ranges are planned for the future. The proposed indoor rifle range will be designed in accordance with U.S. Army noise control standards. This facility is therefore not expected to have an adverse impact in terms of noise.

c. Other Operations

None of the planned new facilities are significant noise generators.

2.3.7 Smell

None of the planned facilities are significant generators of offensive fumes or odors. The proposed laundry/dry cleaning plant will have its own small wastewater treatment facility, a small package plant that will be designed, installed and operated in accordance with U.S. Army regulations. This wastewater treatment facility is not expected to create any significant odor problems. In any case, the family housing area at Sagami General Depot is over 1/2 mile from the site of the proposed treatment facility.

2.3.8 Other Life Forms

No significant changes are expected in the flora and fauna of Sagami General Depot and environs.

## SECTION 3

### LAND USE RELATIONSHIPS

This section of the Analytical/Environmental Assessment Report focuses on land use relationships in terms of:

- Criteria for proposed siting of new facilities.
- Significant changes in land use and land use relationships that are expected to result from the implementation of planned projects.
- Significant adverse impacts that may result from these changes.

#### 3.1 PROPOSED LAND AREA ALLOCATIONS

The Reservation Plan is one of the companion documents to this report. This plan illustrates proposed future land uses by general areas and zones. The major areas of Sagami General Depot shown on the Reservation Plan and their approximate, respective existing acreages, are as follows:

TABLE 3-1

FUTURE LAND USE AREAS

<u>Land Use</u>	<u>Acreage</u>
Administration	21.6
Community Facilities	35.4
Commercial Service	4.2
Family Housing	36.8
Medical/Dental	28.0
Maintenance	39.6
Operations	35.1
Recreation	43.2
Supply/Storage	215.0
Troop Housing	4.0
Training	8.1
Utilities	5.6
Unassigned	44.9
Major Roads	8.3
TOTAL AREA:	<u>529.8</u> ACRES

Generally, the proposed siting of future facilities has not been constrained by special circumstances relating to climate, topography, retention of historic places, or other important environmental factors. Sagami General Depot is not a densely developed installation, and there is ample undeveloped acreage for the siting of new facilities.



### 3.2 LAND USE IMPACTS

Planned projects for Sagami General Depot are based on the continued use of this installation for providing maintenance and supply support to the U.S. Army Japan and to receiving, storing and maintaining theater war reserves and OPLAN project stocks. A related use is the continued and expanded use of Sagami General Depot for family housing units. This installation is the only U.S. Army installation in the region that has significant vacant or under-utilized land that can be developed for family housing.

In accordance with the instructions of AR210-20, the discussion of land use relationships in this section is organized in three subsections:

- Open Operational Areas
- Built-Up Cantonment Area
- Transportation Facilities

#### 3.2.1 Open Operational Areas

There are several large open operational areas at Sagami General Depot, as follows:

- An area of approximately 100 acres in the northwest part of the installation bounded by the northeastern property line, A Avenue, the family housing area and the northern property line. General use: open storage, landfill and tank testing area with some covered storage.

- An area of approximately 100 acres in the northeast sector of the installation, bounded by the eastern property line, the southeastern property line, 8th Street and a short section of the northeastern property line. General use: railyard and open storage area with some covered storage.

Both of these areas will be affected by future plans as shown on the Reservation Plan. The first of these areas, mentioned above, will be influenced by expansion of the family housing area in the west and the addition of a waste storage facility to the east. Also, near the center of the area a large area will be allocated for a mobile medical complex. Overall, though, the area will remain largely unaltered.

Currently, the open area in the vicinity of the existing family housing units is not being used as an open storage area. The proposed residential use of this area will therefore not create any land use conflicts. However, new housing units should be sited and screened to minimize any future conflicts -- traffic, visual, safety, etc. -- that might occur if this area is to be again used as a storage area some time in the future.

The second area will be altered in the southeast by proposed warehouses, maintenance facilities and a kennel. The large, open central part of this area, though, will remain unchanged.

### 3.2.2 Built-Up Cantonment Areas

Approximately sixty percent of Sagami General Depot's land area is occupied by built-up cantonment areas -- i.e., housing areas, administration facilities, community facilities, storage and warehouse areas, etc.

Generally, the proposed new land uses and new facilities have been planned to fit into these existing built-up areas with a minimum of disruption.

Thus:

- The planned family housing units will be sited in the vicinity of the existing housing units.
- The new warehouses will be sited near or adjacent to existing warehouses, and will therefore not create conflicts of use and scale with other kinds of facilities.

There are three rather special facilities that are planned for the built-up cantonment area of Sagami General Depot: the fire station, the rifle range, and the laundry/drycleaning plant. The proposed siting of each of these facilities was developed with the following land use requirements and criteria in mind:

#### a. Fire Station

This facility should be sited in a central location that will allow for quick response time to the majority of the installation's buildings. At the same time, and to the extent possible, the fire station should not be located adjacent to residential areas or important administration buildings, since fire sirens would have an adverse impact on these land uses.

The proposed site, at 4th Street and F Avenue, fulfills these criteria quite well. This site is close to being in the geographic center of the built-up area. At the same time, it is nearly 1/2 mile distant from the family housing area, and is about 1/3 mile distant from the main administration building on 7th Street. (See Section 2.1.2 for further details).

b. Firing Range

Proper design and construction of this facility will preclude any significant noise or safety problems. Nevertheless, it seems prudent to site the rifle range in an area where there is relatively little pedestrian and vehicular traffic and reasonably distant from residential areas

The proposed site, on 5th Street near C Avenue, generally meets these criteria. The site is surrounded by warehouses. It is about 1/3 mile walking distance from the entrance to the family housing area. (See Section 2.1.7 for further details.)

c. Laundry/Drycleaning Plant

This fairly large-scale facility (23,000 SF) should be located in an area where other large-scale warehouses and/or industrial buildings predominate.

There are a number of such vacant sites within the built-up cantonment area. The proposed site, on G Avenue between 5th and 6th Streets, has been chosen because it is in the industrial area of the Depot and is large enough to accommodate this facility. (See Section 2.1.8 for further details.)

### 3.2.3 Transportation Facilities and Traffic Control Roads

A few of the proposed major projects will require new access roads; namely, Dehumidified Secured Warehouse, Refrigerated Warehouse and a General Warehouse (See Sections 2.1.3, 2.1.4 and 2.1.5, respectively). In general, other projects may also require new roads and long range plans should include improvements to many of the existing roads (See Section 2.2.1)

One of the two existing helipads -- near the Main Gate -- will be discontinued and the area rezoned for administration facilities. The existing site is in a built up area close to an off-base business district and as such is not suited for aircraft operations. The other helipad, in the east-central part of the Depot, will be continued. This site is better suited for helicopter operations being near a park and storage areas. Aircraft support facilities near the Main Gate will be discontinued and probably will not be relocated unless helicopter operations are increased in the future.

The existing railroad tracks at the Depot (approximately 44,300 linear feet) are not used and will be removed as they interfere with future projects. There are no plans for redeveloping them.

## SECTION 4

### UTILITIES SYSTEMS

#### 4.1 WATER SUPPLY SYSTEM

Generally, facilities planned for implementation at Sagami General Depot will not have a negative impact on the existing water supply system, and increases in water demand will be relatively insignificant except in the case of the laundry/dry cleaning plant and the new family housing units.

The proposed laundry/dry cleaning plant will require approximately 150,000 gallons of potable water per day. The existing well at the Depot, with a sustainable yield of approximately 180,000 gallons per day (300 gallons per minute for 10 hours), is adequate for current needs and moderate future increases in water demand. However, the existing wells cannot accommodate the water demand of this major new facility. Thus, a water well will have to be developed or reconstructed in conjunction with this project.

The new family housing units will require approximately an additional 32,000 gpd of potable water, and will thus also require the development of a water well.

Many of the Depot's water distribution mains and branch lines are old and deteriorated and are scheduled to be replaced. The replacement work is to include installation of new valves and fire hydrants.

#### 4.2 SANITARY SEWER SYSTEM

Sagami General Depot is adequately served with approximately 5 miles of sanitary sewer lines. The new wastewater treatment plant, which came on line in March 1985, has a design capacity of 105,000 gallons per day. This new facility is an advanced activated sludge treatment system with sludge burning capability which has adequate capacity for existing and most new facilities including the new family housing units. However, the treatment plant will be expanded in the future to accommodate increases in wastewater flows from new areas that will be tied into the collection system. The future capacity will be approximately 170,000 gpd.

The laundry/dry cleaning plant will have its own on-site package wastewater treatment plant. The plant will be of a design appropriate for the wastewater that this new facility will generate.

An industrial wastewater treatment plant was recently constructed in the southeastern part of the Depot which is designed to treat the highly alkaline wastewater from steam cleaning facilities and a vehicle renovation plant in the area.

#### 4.3 STORM DRAINAGE SYSTEM

Sagami General Depot has approximately 20 miles of underground storm drain lines of various sizes. None of the proposed facilities are expected to result in significant increases in storm water runoff, or otherwise adversely affect the existing storm drainage system.

The existing collection system, however, has proven to be inadequate. During storms, excess drainage often enters into warehouses due to improperly located catch basins and undersized subsurface lines, etc. An indepth study is needed to evaluate the full extent of the system's inadequacies and determine appropriate corrective measures.

As a two phase project, some storm drainage improvements are already scheduled for implementation. The new work is to include installation of new storm drainage lines and catch basins and improvements to oepn ditches at various locations throughout the Depot.

#### 4.4 SOLID WASTE DISPOSAL

Generally, the planned facilities will not result in a significant increase in the volume of solid waste generated by the various uses and users of Sagami General Depot.

The exception will be the planned 54 new family housing units. Once fully occupied, these new units will house 216 people. Assuming the typical volume of solid waste generated at 5 pounds per person per day, these new residents will generate about 1,000 pounds of solid waste per day, or about 180 tons of solid waste per year.

The new solid waste incinerator at Camp Zama can easily handle this increased volume.



#### 4.5 ELECTRICAL SYSTEM

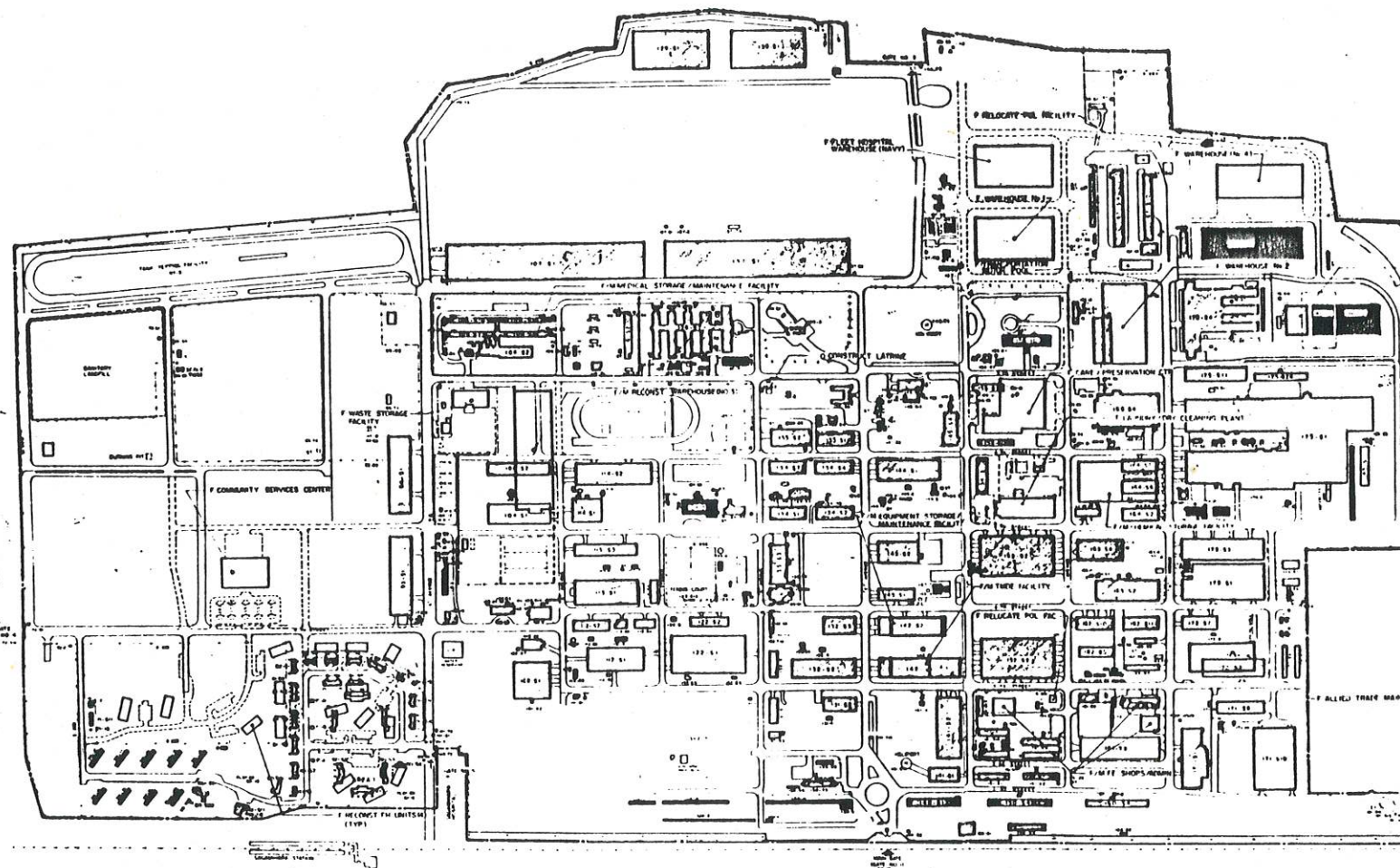
Electric power is supplied to Sagami General Depot by the Tokyo Power Company. The current contracted demand is for a maximum of 800 KW for commercial use and 700 KW for industrial use. Approximately one-half of both the commercial and industrial maximum demands are for air-conditioning power requirements. Additional requirements that future projects will impose upon the system can be met by increasing the contracted demands purchased from the Tokyo Power Company.

As a two phase project, power distribution lines throughout the Depot are scheduled for replacement with a looping system. Also, an existing sub-station is to be replaced.

#### 4.6 HEATING SYSTEM

Two of the boiler plants at Sagami General Depot are scheduled for upgrading. Boiler plant No. 4 will have four boilers replaced (two at 500 HP and two at 250 HP capacities) and plant No. 5 will have an oil storage tank replacement.

The Depot's steam distribution and return system is old and deteriorated. Replacement of these lines is scheduled as a four phase project.



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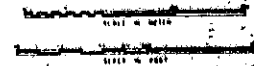
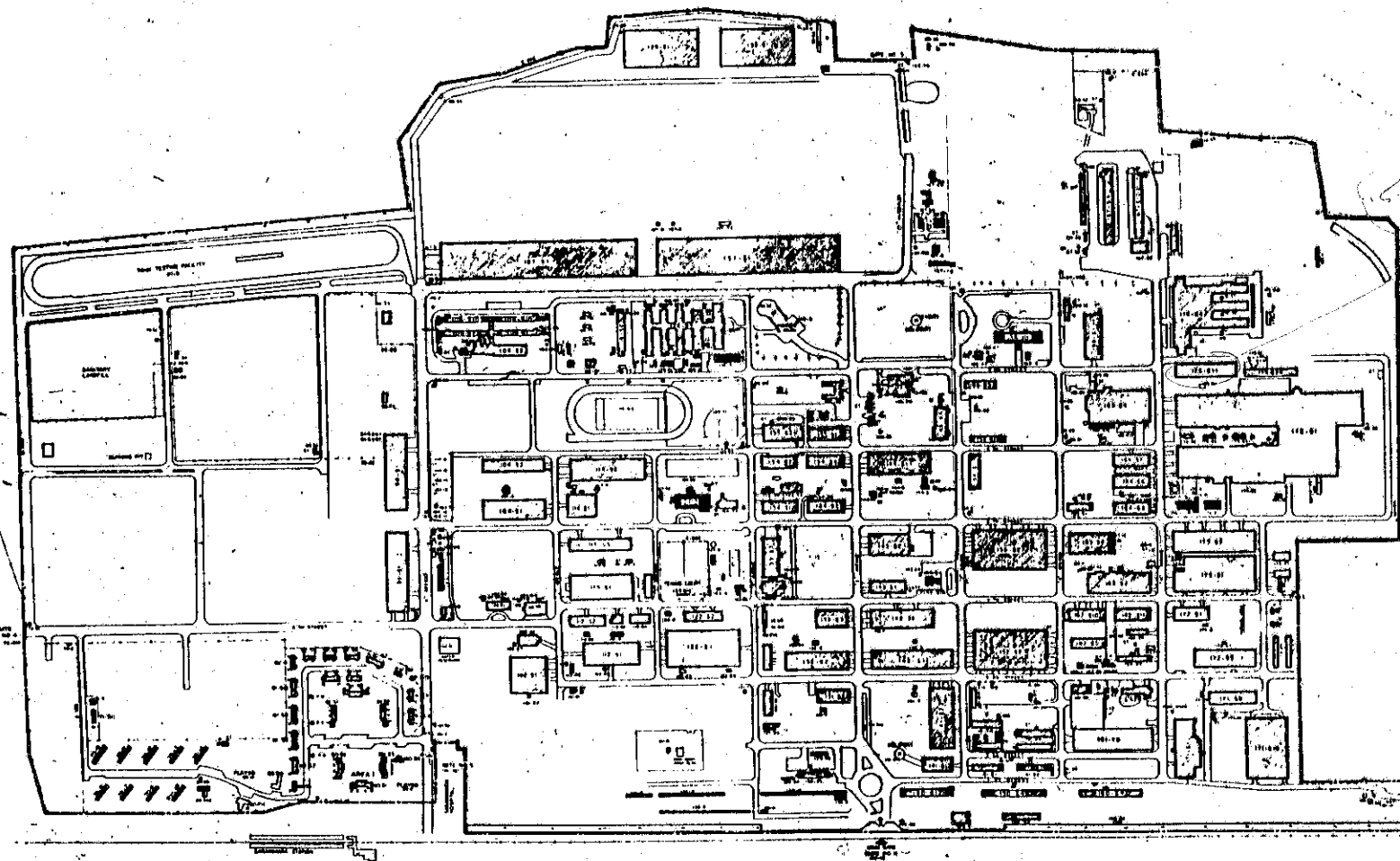
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FOR SITE SURVEYOR USE ONLY  
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