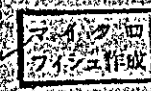


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No. 45

PRELIMINARY DESIGN OF EL CENTRO DE TRANSFORMACION PESQUERA DEL PERU

NOVEMBER 1978

JAPAN INTERNATIONAL COOPERATION AGENCY

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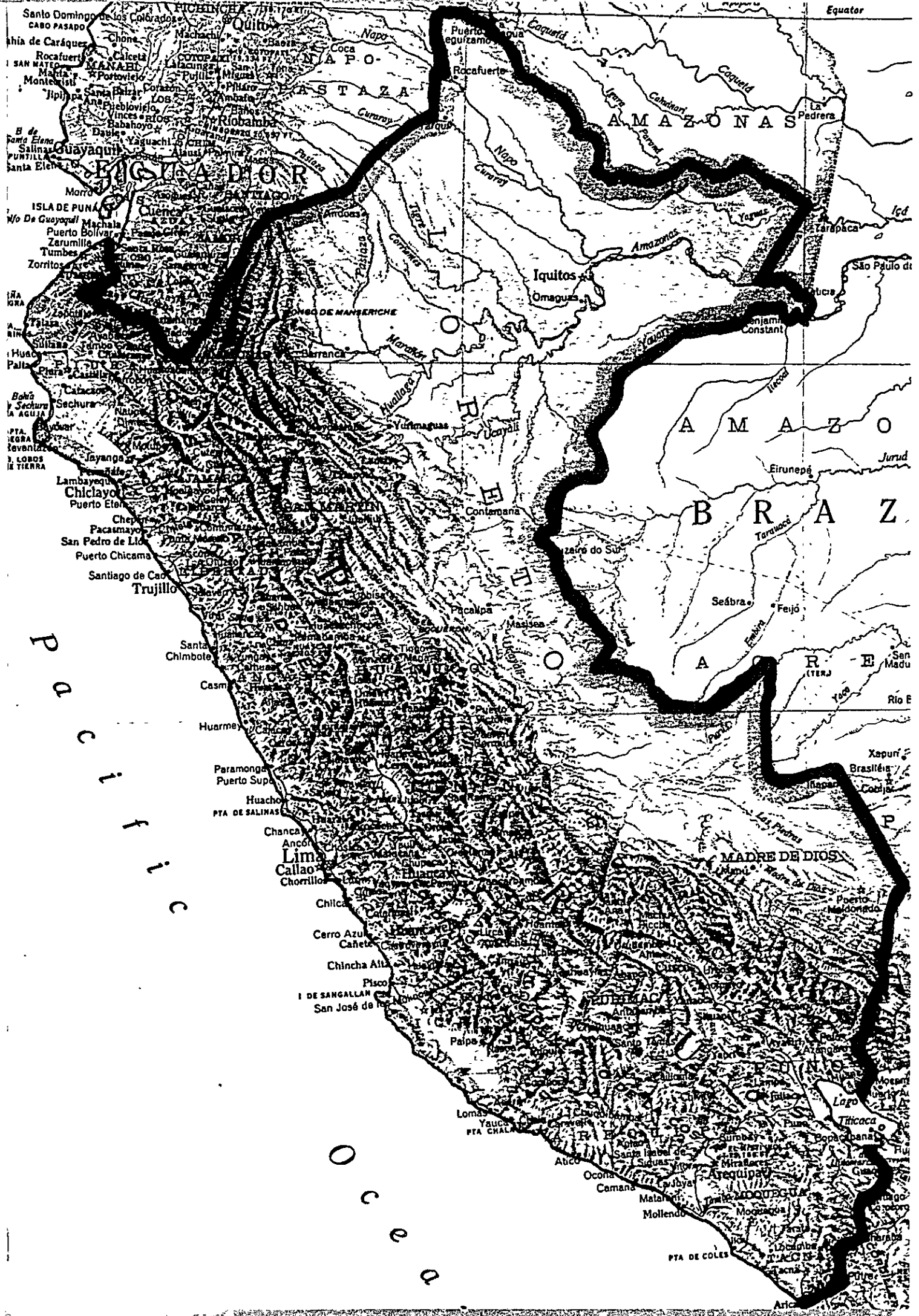
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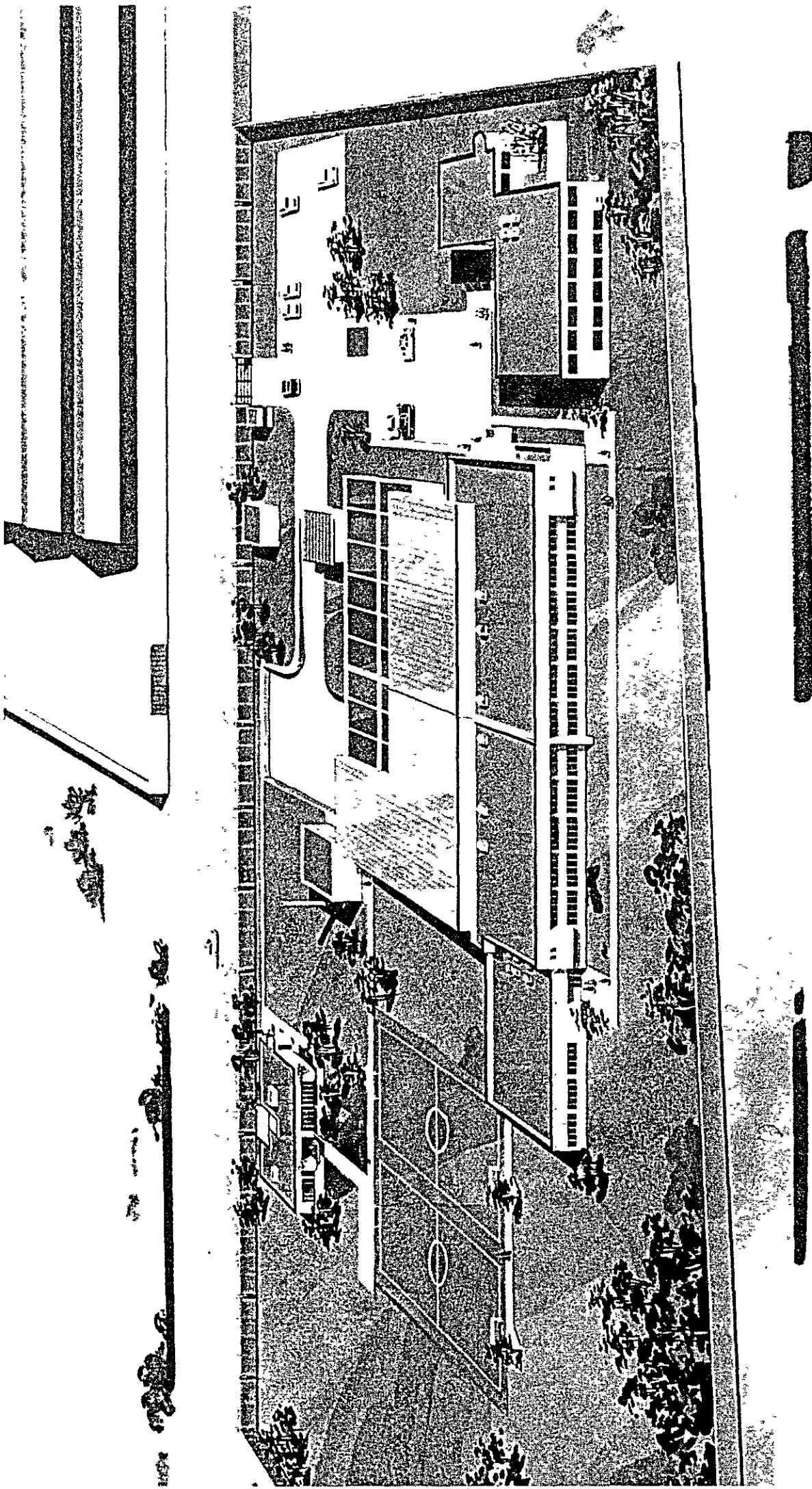
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**PRELIMINARY DESIGN
OF
EL CENTRO DE TRANSFORMACION
PESQUERA DEL PERU**

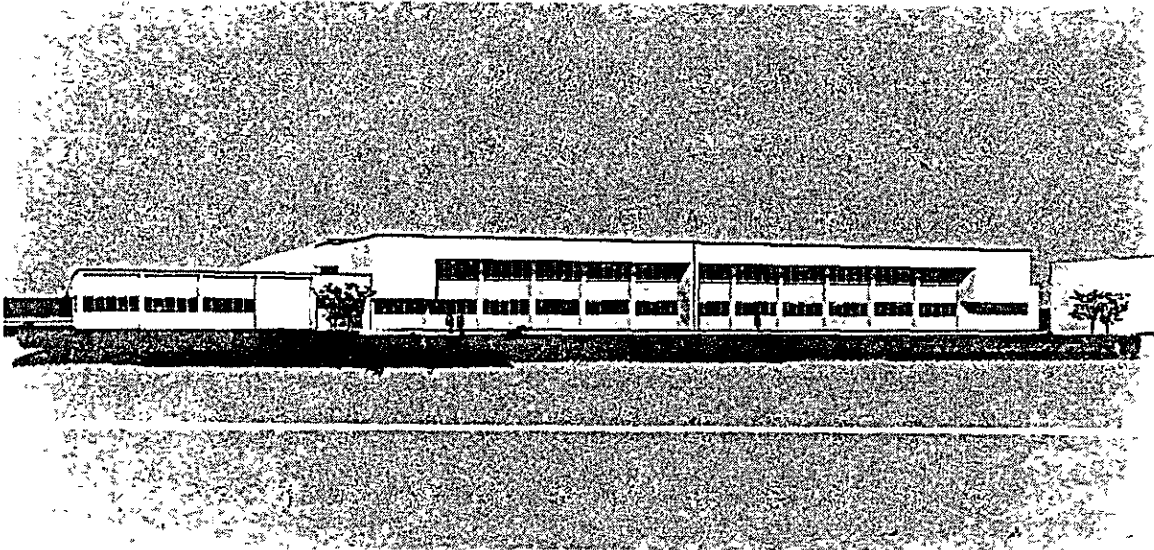
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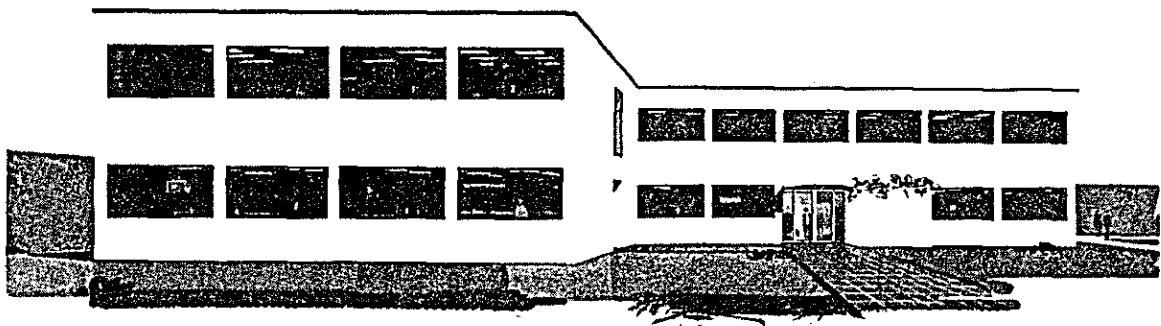




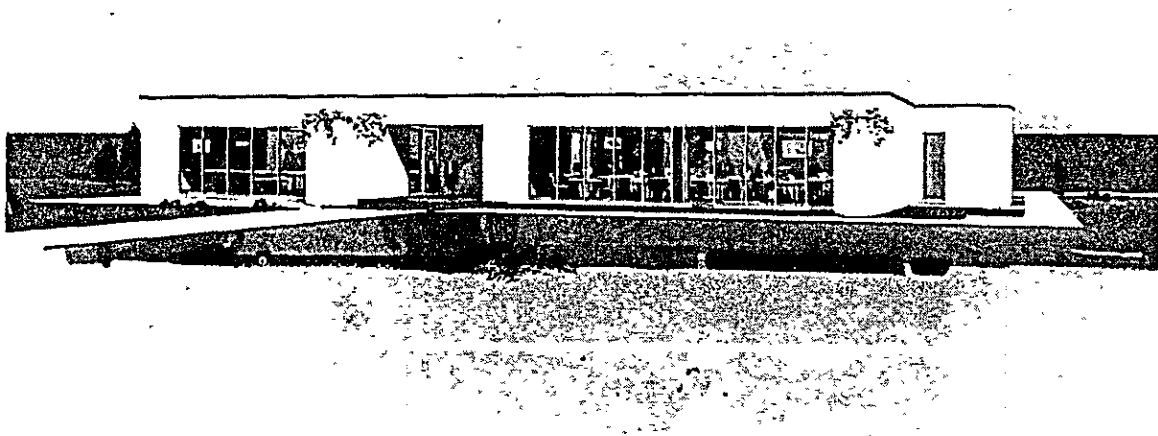
EL CENTRO DE TRANSFORMACION PESQUERA DEL PERU



PILOT PLANT AND LABORATORY



ADMINISTRATION BUILDING



CANTEEN

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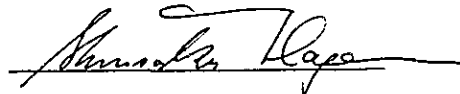
PREFACE

In compliance with the request from the government of the Republic of Peru, the government of Japan decided to undertake a survey necessary for the preliminary designing of the project for constructing the Fishery Products Processing Centre, an integral research institute designed for the study of processing technology of fishery products, training of technicians and research into marketing of the fishery products in Peru; and Japan International Cooperation Agency (JICA) has executed this survey.

JICA dispatched to Peru a survey team for this project from the 20th of July through the 9th of August 1978 which conducted on the spot survey, elaborated upon the preliminary collected necessary data and consulted with the officials concerned of the Peruvian Government. After returning to Japan further studies were made based on the survey findings and the above-mentioned consultations and the final report has been completed for submission to the Peruvian Government.

I wish to express my deep appreciation to the officials concerned of the Peruvian Government for their full cooperation extended to our survey team. I hope that the report will prove to be useful for the project and contribute to deepening the friendly relations between Peru and Japan.

November 1978



Shinsaku Hogen - President
JAPAN INTERNATIONAL COOPERATION AGENCY

CHAPTER 1 OUTLINE OF THE PROJECT

In its national development project for 1971 - 1975, the Government of the Republic of Peru set as a major objective the exploitation of edible fish and the promotion of fish eating as additions to a fishing industry that so far has been oriented primarily to anchovies. Specifically, the government has planned and established a government fishing corporation - EPSEP - as well as the buildup and expansion of fishing ports, related facilities and freezing and cold storage facilities, and the establishment of a training center for middle-level technical experts.

Despite such efforts, the government has made no significant progress in processing edible marine products or in the introduction, promotion and development of practical technologies.

With this situation as background, the Government of Japan dispatched a fact-finding team to Central and South America to offer technical cooperation in the area of product processing in 1972. As part of this move, the Government of Japan carried out preliminary surveys in Peru in January 1974 and April 1975.

The Government of Japan and the Government of the Republic of Peru signed a agreement for technical cooperation pact in June 1976 to inaugurate EL CENTRO DE TRANSFORMACION PESQUERA DEL PERU. The agreement went into effect on October 13, 1976 and is to run for a period of four years.

Based on the Records of Discussions by the mentioned survey teams, the Government of Japan extended cooperation including specialists -dispatch and equipment- assistance shown in Table 1, to achieve the initial purpose development of new edible marine products and improvement of processing technologies relating to freezed products, fish paste products, canned goods, dried products, salt and smoked products, and other marine products.

The Government of the Republic of Peru has made efforts to fulfill its obligations according to the agreement, but the construction schedule for completion in October 1976 has been delayed on the economic condition. Although the Government of the Republic of Peru had intended for early completion by giving top priority to the present project among all those of its Ministry of Fisheries, it was forced to review the initial construction plans due largely to a cut in the governmental budget. Among the facilities shown in Figure 1, the government started construction of the following facilities which were regarded as necessary to maintain a minimum capacity in the first-stage work. As for other facilities, the government revised the construction plans so that they will be carried out in the second stage.

First Stage Construction

- 1) Preparation of construction site and construction of fence and concrete framing work of Refrigerator Building.
- 2) Work related to Pilot Plant and Laboratory, Substation, Pump House, Boiler House and Gate House.
- 3) Equipment installation associated with 1) and 2).

Although the first-stage construction has run considerably behind the initial schedule, it appears that they will be completed around October 1978. However, final earmarking of a budget for construction of the Center facilities has not been put into shape largely due to the continuing economic condition. Promotion of the project has been in a crucial phase.

Confronted with these developments, the Government of Japan was requested in January 1978 to extend grant to assist this project for the construction of these facilities from the Second-Stage on. In response to this request, the Government of Japan has agreed to take up the project as grant project fiscal 1978 following a study of the actual situation of the project and various problems. This study was based on a feasibility study by periodical inspector's team dispatched to Peru in February of 1978.

Tab. 1

EL CENTRO DE TRANSFORMACION PESQUERA DEL PERU FLOW SHEET

	1973	1974	1975	1976	1977	1978	1979
1. SURVEY TEAM	□ Preliminary Survey Team (5 members headed by Mr. Giichi Yamanaka) □ Executive Survey Team (75, 4.10 - 4.30) by Dr. Keishi Amano	□ Preliminary Survey Team (74, 1.18 - 2.7) □ Executive Survey Team (75, 4.10 - 4.30) by Dr. Keishi Amano	□ Executive Survey Team (74, 1.18 - 2.7) □ Executive Survey Team (75, 4.10 - 4.30) by Dr. Keishi Amano	□ Executive Survey Team (75, 4.10 - 4.30) by Dr. Keishi Amano	□ Preliminary Design Survey Team (78, 7.21 - 8.9) □ Preliminary Design Survey Team (78, 7.21 - 8.9)	□ Periodical Inspector's Team 4 members headed by Mr. Matsuo Nagakura	□ Periodical Inspector's Team 4 members headed by Mr. Matsuo Nagakura
2. SPECIALIST -DISPATCH			Oct. 3 members	June 5 members Dec. 1 member			
3. TRAINEE-RECEIVING			GENERAL DIRECTOR OF CTP GENERAL DIRECTOR OF OCTE CANNED FOOD FREEZED FOOD	GENERAL DIRECTOR OF CTP GENERAL DIRECTOR OF OCTE CANNED FOOD PASTE FOOD	ASSISTANT DIRECTOR OF OCTE GENERAL DIRECTOR OF TRAINING CENTER MICROBIOLOGICAL CHEMICAL ANALYSIS GENERAL PROCESSING GENERAL PROCESSING		
4. PILOT PLANT & LABORATORY CONSTRUCTION				1ST PHASE CONSTRUCTION	2ND PHASE CONSTRUCTION 3RD PHASE CONSTRUCTION		
5. EQUIPMENT ASSISTANCE				○ 1ST ASSISTANCE ¥59,850,000.- ○ 2ND ASSISTANCE ¥18,550,000.-	○ 1ST ASSISTANCE ¥59,850,000.- ○ 2ND ASSISTANCE ¥18,550,000.- ○ 3RD ASSISTANCE ¥33,422,000.- ○ 4TH ASSISTANCE ¥64,000,000.-		

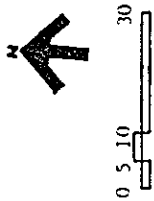
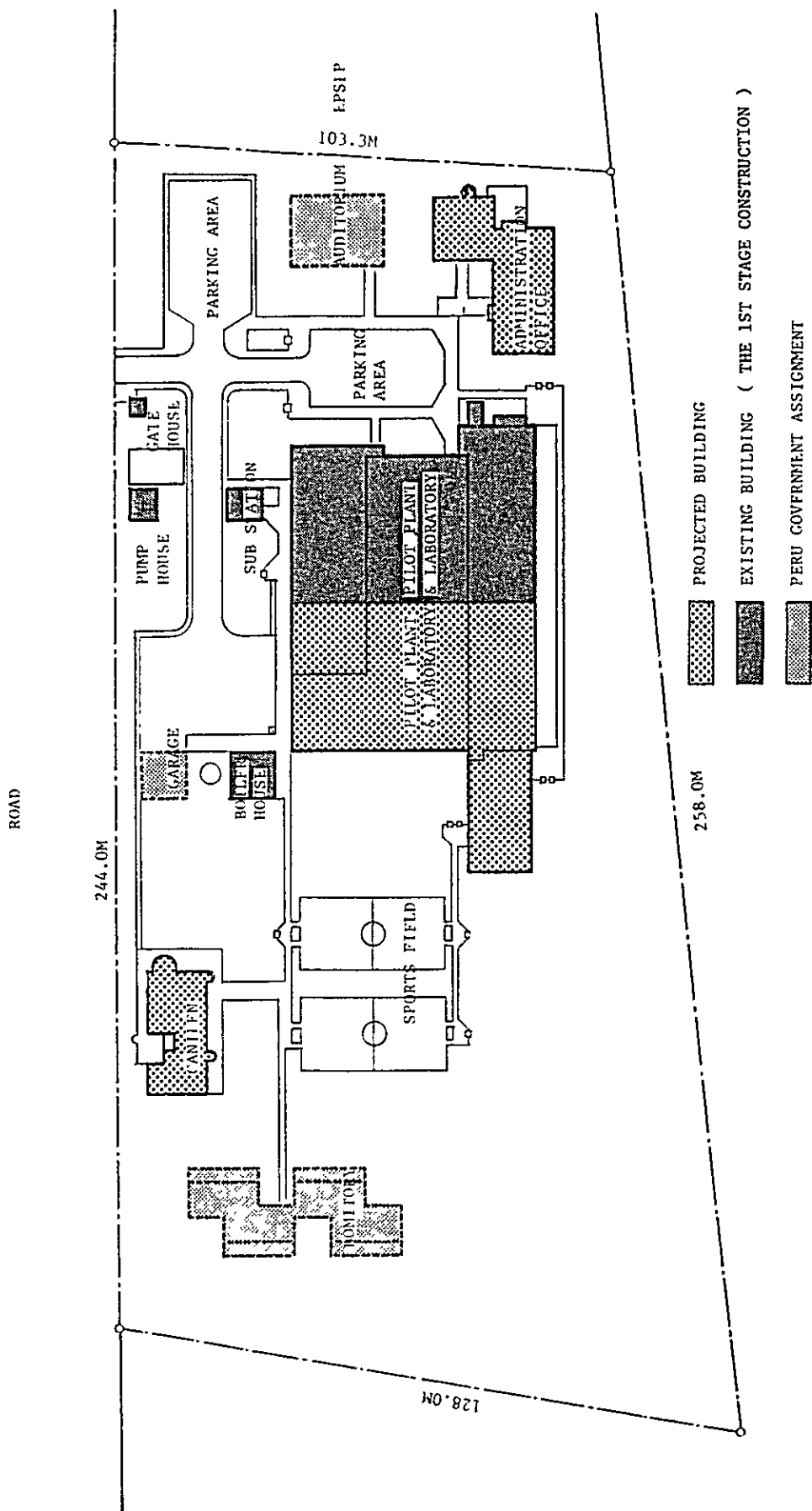


Fig. 1



PLOT PLAN

CHAPTER 2 SURVEY FOR CONSTRUCTION

2.1 PURPOSE OF SURVEY

The primary objective was to undertake surveys on the preliminary design for construction of Pilot Plant and Laboratory (western half), Administration Building, and Canteen associated with EL CENTRO DE TRANSFORMACION PESQUERA DEL PERU project being carried out in accordance with the technical cooperation agreement signed in 1976.

2.2 MEMBER OF JAPANESE PRELIMINARY DESIGN SURVEY TEAM

The team was composed of the following members headed by Mr. Satoru Koakutsu of the International Affairs Division, Oceanic Fishery Department of the Fishery Agency of the Ministry of Agriculture, Forestry and Fisheries.

Team Leader	Mr. Satoru Koakutsu Inspector International Affairs Division Oceanic Fishery Department Fishery Agency Ministry of Agriculture, Forestry and Fisheries
Mechanical Engineering	Mr. Shigeru Nakabayashi Engineer Mechanical Engineering Dept. Kume Architects-Engineers
Architectural Design	Mr. Yasuaki Kawabe Architect International Dept. Kume Architects-Engineers
Structural Engineering	Mr. Syunji Nagata Engineer International Dept. Kume Architects-Engineers
Coordination	Mr. Saburo Takagi Fisher Technical Cooperation Section Agricultural Development & Cooperation Dept. JICA

2.3 PERU AUTHORITIES CONCERNED

Ministerio de Relaciones Exteriores

Sr. Mariano Pagador
Ministro de Oficina de Cooperacion Economica y Tecnica

Instituto Nacional de Planificacion

Sr. Alejandro Hurtado
Sub-jefe del Area de Cooperacion Tecnica

Ministerio de Pesqueria

Sr. Francisco Mariategui Angulo
Ministro

Sr. Alba Bustamante C.
Director Superior

Oficina de Cooperacion Tecnica y Economica, Ministerio de Pesqueria

Sr. Alfredo Arbulu Guarderas
Director General a.i,

Sr. Leopoldo de la Jara
Director de cooperacion e Integracion

Instituto Tecnologico Pesquero

Sr. Ricardo Inouye Inouye
Jefe de Proyecto

Sr. Leonardo Gushiken
Jefe Interno Proyecto

Sr. Arturo Pazos
Programador

Sr. Oscar Li
Coordinador Proyecto

Sr. German A. Flores Navarro
Ingeniero Civil

Sr. Bendezu Jorge
Ingeniero Civil

Sr. Loo Pablo
Ingeniero Civil

Sr. Miguel Molleda
Asesor Legal

Sr. Nolte Carlos
Ingeniero Agronomo

Misión Japonesa

Mr. M. Okada
Jefe de Misión Japonesa

Mr. I. Tanaka
Asesor

Mr. T. Yamada
Asesor

Mr. Y. Yamada
Asesor

Mr. S. Tozuka
Asesor

Mr. T. Sanui
Asesor

Mr. S. Kurasawa
Asesor

Mr. S. Hirae
Asesor

Mr. S. Hikichi
Asesor

Mr. M. Kumomi
Coordinador

Officials of Japanese Government and JICA stationed in Peru

Embassy of Japan in Peru

Mr. S. Kimoto
Ambassador

Mr. T. Hatta
First Secretary

Mr. K. Uchida
Second Secretary

Japan International Cooperation Agency Lima Office

Mr. K. Iwanami
Resident Representative of the office

CHAPTER 3 OUTLINE OF SURVEY

Soon after arrival in Peru, the team explained the objectives and its policy regarding the survey to the Japanese Embassy in Peru, the Lima office of JICA and the team of experts assigned to EL CENTRO DE TRANSFORMACION PESQUERA DEL PERU and acquainted them with the situation.

The team and Director General a.i, confirmed to take charge of the minutes and the Peruvian technical experts in charge. It also explained its objectives and policy concerning the survey to and secured the understanding of Instituto Nacional de Planificación that handles technology cooperation as well as the Foreign Ministry.

The team held substantial discussions relating to the basic design with Mr. Alfredo Arbulu and Mr. Gushiken. The minutes were formulated on August 4 between Mr. Koakutsu and Mr. Arbulu. The results and process of the survey were largely divided into basic factors, factors relating to the minutes and factors concerning technical aspects. These are outlined as follows.

3.1 BASIC FACTORS

■ Minutes Signatory

The minutes were signed by Director General a.i, Mr. Arbulu on behalf of the Director General of OCTE. Before signing, the approval of the Peruvian Foreign Ministry and INP were obtained.

■ Scope of the Basic Design

In the Peruvian second-stage project, the basic design covers Pilot Plant and Laboratory (western half), Administration Building and Canteen.

■ Purpose of the Facilities

As described in the technical cooperation agreement, the objective of the facilities is set as follows:

- 1) Development of new marine products and improvement of technologies relating to freezing, cold storage, marine paste products, canned, salted and smoked products.
- 2) Training of marine product processors (to be undertaken by the Peruvian side).
- 3) Research and study of marine product marketing circulation (also to be done by the Peruvian side).

3.2 MINUTES

Initially, the survey team was scheduled to formulate the minutes in English. But the Peruvian side, upon instructions from the Foreign Ministry, insisted that all the documents requiring signatures be written in Spanish. To meet this request, both parties agreed to draw up the documents in both English and Spanish.

Also in accordance with a Peruvian proposal, the minutes were divided roughly into three clauses: a general clause, obligations of the Government of Japan and obligations of the Government of the Republic of Peru.

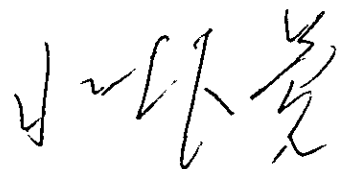
ACTA DE CONVERSACIONES
PROGRAMA DE CONSTRUCCION DEL CENTRO DE
TRANSFORMACION PESQUERA DEL PERU

En atención a la solicitud del Gobierno de la República Peruana, sobre la construcción del Centro de Transformación Pesquera del Perú (en adelante se le denominará "El Centro"), el Gobierno del Japón ha enviado , a través de la Agencia de Cooperación Internacional del Japón (en adelante se le denominará " JICA "), una Misión de Estudio encabezada por el Señor Satoru Koakutsu, Inspector de la División de Asuntos Internacionales de la Dirección de Pesquería Oceánica del Ministerio de Agricultura, Silvicultura y Pesquería, con el objeto de elaborar el diseño básico del Centro, durante 21 días a partir del 20 de Julio de 1978.

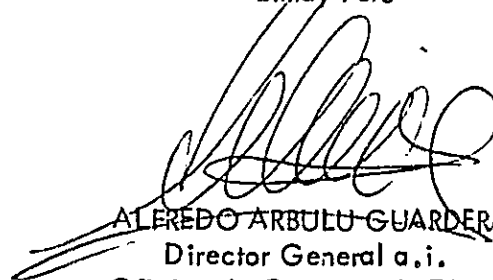
La Misión ha mantenido conversaciones e intercambiado puntos de vista , con las Autoridades Competentes Peruanas, en relación con la construcción del Centro.

Como resultado de dichas conversaciones e intercambiado puntos de vista , ambas partes han convenido en recomendar a sus respectivos Gobiernos las medidas necesarias para la construcción del Centro.

04 de Agosto de 1978
Lima, Perú



SATORU KOAKUTSU
Jefe de la Misión
Japonesa



ALFREDO ARBULO GUARDERAS
Director General a.i.
Oficina de Cooperación Técnica
y Económica
Ministerio de Pesquería

I.- GENERALIDADES

- 1.- El Centro será construido en Oquendo, Provincia Constitucional del Callao, Lima
- 2.- Los objetivos del Centro son :
 - (a) Investigar y desarrollar nuevos productos pesqueros comestibles y mejorar las técnicas de congelación, almacenamiento a bajas temperaturas, pastas, enlatado, salado, etc. de los mismos.
 - (b) Entrenar a Ingenieros y Técnicos en procesamiento de productos pesqueros.
 - (c) Efectuar Investigaciones sobre la comercialización de productos pesqueros.
- 3.- Se intercambiaron entre la Misión y las Autoridades Peruanas, puntos de vista referentes al plan operativo del Centro, así como a las relaciones del Centro con la Cooperación Técnica de JICA. Así mismo los edificios que se construyan y los equipos que se adquieran mediante donaciones deberán ser mantenidos y utilizados en forma adecuada y efectiva para las operaciones del Centro.

II.- APOORTE DEL GOBIERNO JAPONES

El Gobierno del Japón tomará las medidas necesarias para proveer al Centro de la infraestructura listada en el Anexo I.

Un plano del Centro se muestra en el Anexo II.

III.- APOORTE DEL GOBIERNO PERUANO

El Gobierno Peruano a través de la Oficina de Cooperación Técnica y Económica del Ministerio de Pesquería, tomará las medidas necesarias para :

- (a) Proveer de datos e informaciones para la construcción del Centro, incluso los relativos a reconocimientos topográficos, pruebas de suelo y otros tipos de reconocimiento geológicos.
- (b) Proveer el área de terreno necesario para la edificación.
- (c) Limpiar y nivelar el terreno antes de iniciarse la edificación.
- (d) Construir y pavimentar la vía de acceso al lugar antes de iniciarse la edificación.
- (e) Proveer de los ítems listados en el Anexo III.

A handwritten signature in black ink, consisting of a stylized 'F' followed by a large loop and a long horizontal stroke.

ANEXO II

Construcciones y equipos para el Centro, que serán provistos por el Gobierno del Japón

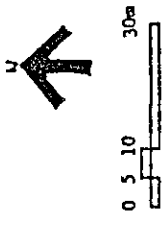
1) Construcciones

- (a) Plantas pilotos y laboratorios
- (b) Pabellón administrativo
- (c) Comedor

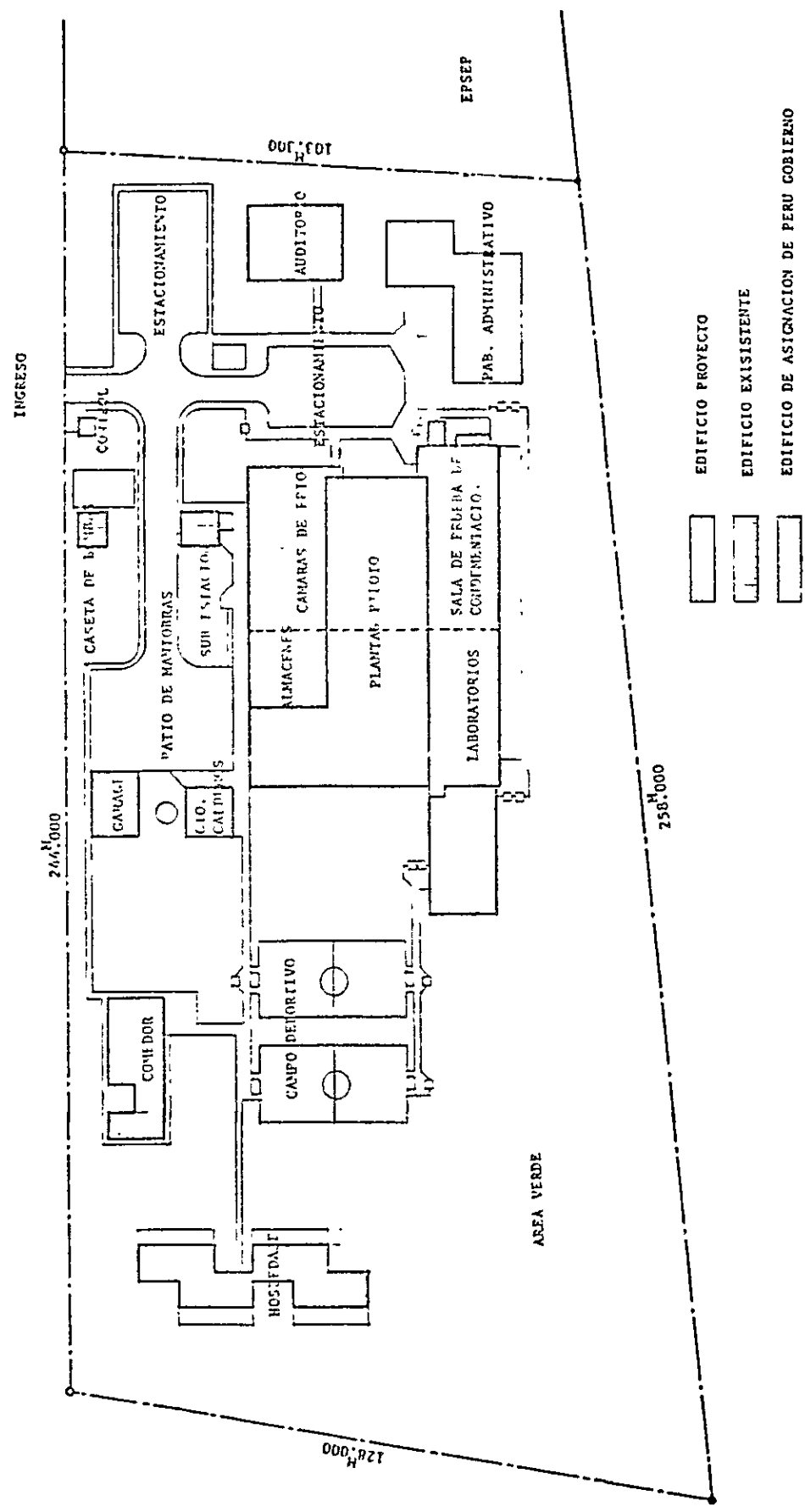
2) Equipos que serán usados en el Centro




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ANEXO II



ANEXO III

Items cuyos costos deberán ser solventados por la parte Peruana

1) Infraestructura y otros

- (a) Tubería principal de abastecimiento de agua, al punto A especificado en el Anexo IV.
- (b) Drenajes externos, línea de desagüe al punto B especificado en el Anexo IV.
- (c) Abastecimiento de gas LPG
- (d) Línea principal de fluido eléctrico al lugar del proyecto y la instalación del transformador.
- (e) Línea telefónica principal e instalación del M.D.F. (Main Distribution Frame = Bastidor principal de distribución) en el punto C, especificado en el anexo IV.
- (f) Pavimentación de las vías en el lugar del Proyecto.
- (g) Cerco
- (h) Alumbrado exterior
- (i) Césped y plantas
- (j) Incinerador
- (k) Muebles, alfombras y cortinas

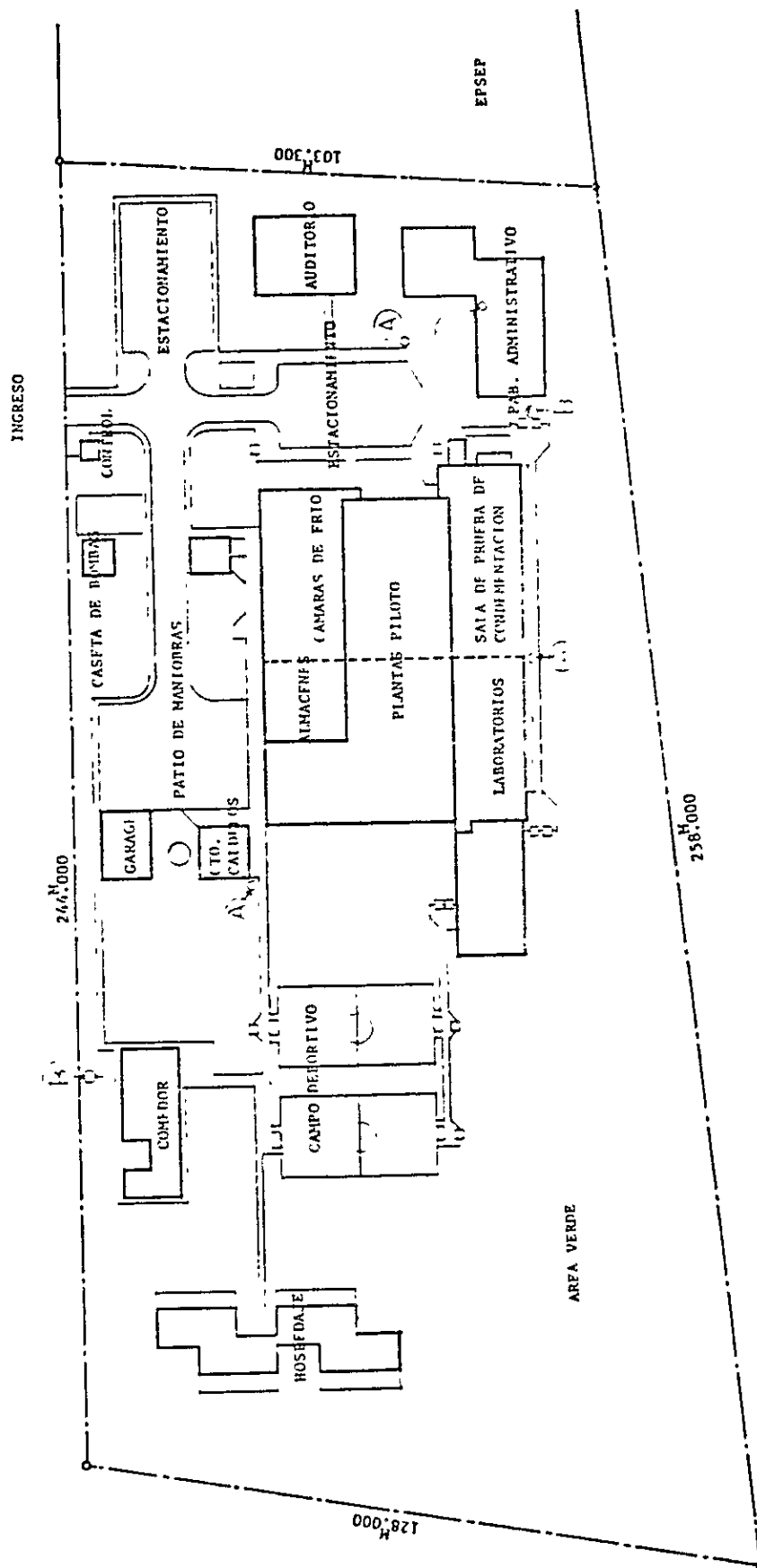
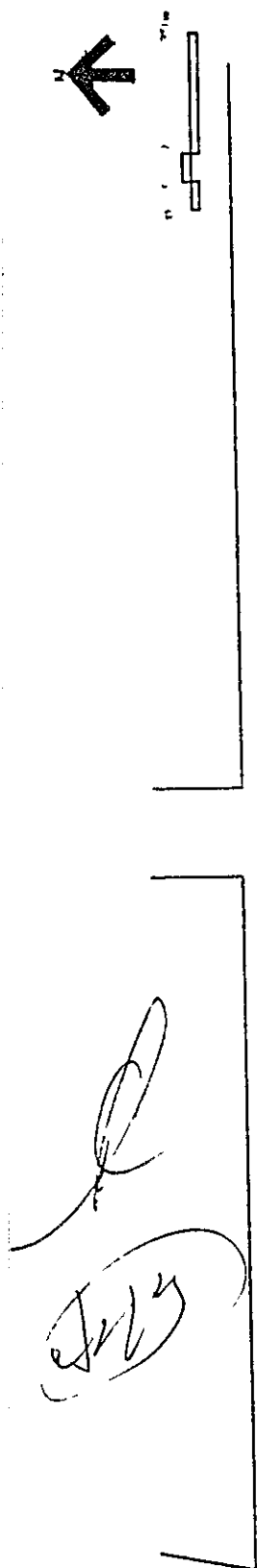
2) Otras Obligaciones

- (a) Suministro temporal de fluido eléctrico y agua en el lugar del proyecto , durante el período de construcción (El fluido eléctrico y el agua, sin embargo correrán a cuenta del constructor).

- (b) Proveer los espacios necesarios para construcciones tales como oficina temporal, área de trabajo, área de almacenamiento, etc.
- (c) Gastos por derechos aduaneros de los materiales de construcción, equipos, vehículos, máquinas de construcción que serán usados para la construcción del Centro y que se desembarque en los puertos de la República Peruana.
- (d) Cumplir los procedimientos necesarios para la obtención de permisos, liberación de derechos e impuestos de las autoridades competentes del Gobierno de la República Peruana para :
 - . Personal Japonés asignado al Proyecto
 - . Materiales de construcción, equipos, vehículos, máquinas de construcción, etc.
- (e) Sufragar el gasto que demande la provisión de los servicios de las contrapartes peruanas y personal necesario para la operación del Centro.
- (f) Sufragar el gasto que demande la operación del Centro.

A handwritten signature consisting of a large, stylized loop, followed by the initials 'JL' in a cursive script.

ANEXO IV



PLANO GENERAL

MINUTES OF THE CONSTRUCTION PROGRAM
OF EL CENTRO DE TRANSFORMACION PESQUERA DEL
PERU

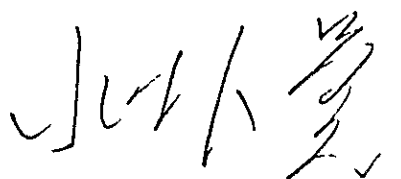
At the request of the Government of the Republic of Perú for assistance in constructing el Centro de Transformación Pesquera del Perú (hereinafter referred to as "the Centre "), the Government of Japan has sent through the Japan International Cooperation Agency (hereinafter referred to as " JICA ") a survey team headed by Mr. Satoru Koakutsu, Inspector, International Affairs Division, Oceanic Fishery Department, Fishery Agency, Ministry of Agriculture, Forestry and Fisheries, to conduct a basic design on the program for 21 days from July 20, 1978.

The team had a series of discussions and exchanged views with the Peruvian Authorities concerned on the construction of the Centre.

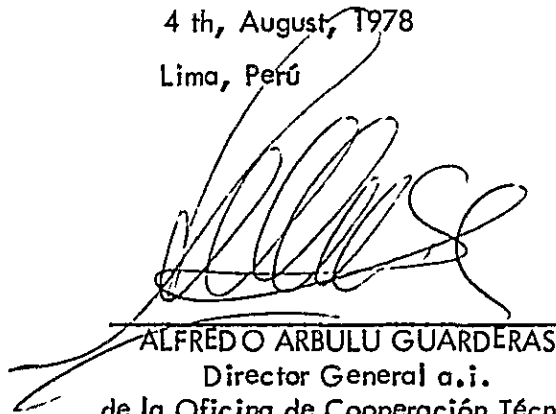
As a result of the exchange of views and discussions, both parties have agreed to recommend to their respective Governments to take necessary measures toward constructing the Centre.

4 th, August, 1978

Lima, Perú



SATORU KOAKUTSU
Team Leader
The Japanese Survey Team

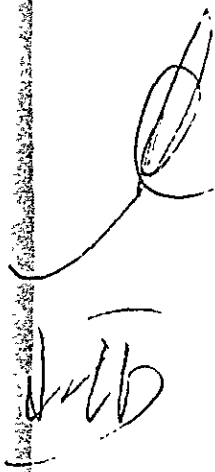


ALFREDO ARBULU GUARDERAS
Director General a.i.
de la Oficina de Cooperación Técnica
y Económica
Ministerio de Pesquería

I.- GENERAL

- 1.- The Centre will be constructed at Oquendo, Provincia Constitucional del Callao, Lima.
- 2.- The objectives of the Centre are:
 - (a) to investigate and develop new fishery products and to improve technique in freezing, cold storage, pasting, tinning, salting, etc. of fishery products.
 - (b) to train fishery products processing engineers and technicians and
 - (c) to make research and investigation on marketing of fishery products.
- 3.- The survey team exchanged views with the Peruvian Authorities concerned on the operation plan of the Centre and the relation between the Centre and technical cooperation of JICA.

The buildings constructed and equipment purchased under the Grant will be maintained and used properly and effectively for the operation of the Centre.



II.- MEASURES TO BE TAKEN BY THE GOVERNMENT OF JAPAN

The Government of Japan will take necessary measures to provide such buildings of the Centre as listed in Annex I.

The layout plan of the Centre is shown in Annex II .

III.- MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE REPUBLIC OF PERU

The Government of the Republic of Perú will take necessary measures through la Oficina de Cooperación Técnica y Económica del Ministerio de Pesquería;

- (a) to provide data and information necessary for the construction including topographic survey, soil test and other geological survey reports,
- (b) to secure a lot of land necessary for the construction,
- (c) to clear, activate and level the site before the start of the construction,
- (d) to construct and pave access road to the site before the start of the construction and
- (e) to provide other items listed in Annex III.

A handwritten signature in black ink, consisting of a large, stylized capital 'A' with a horizontal line extending to the left, and the letters 'H' and 'B' written below it.

ANNEX I

Buildings and equipment for the Centre to be provided by the Government of Japan.

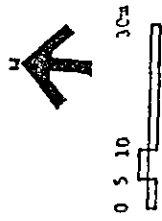
1) Buildings

- a) Pilot Plant and Laboratory
- b) Administration Office
- c) Canteen

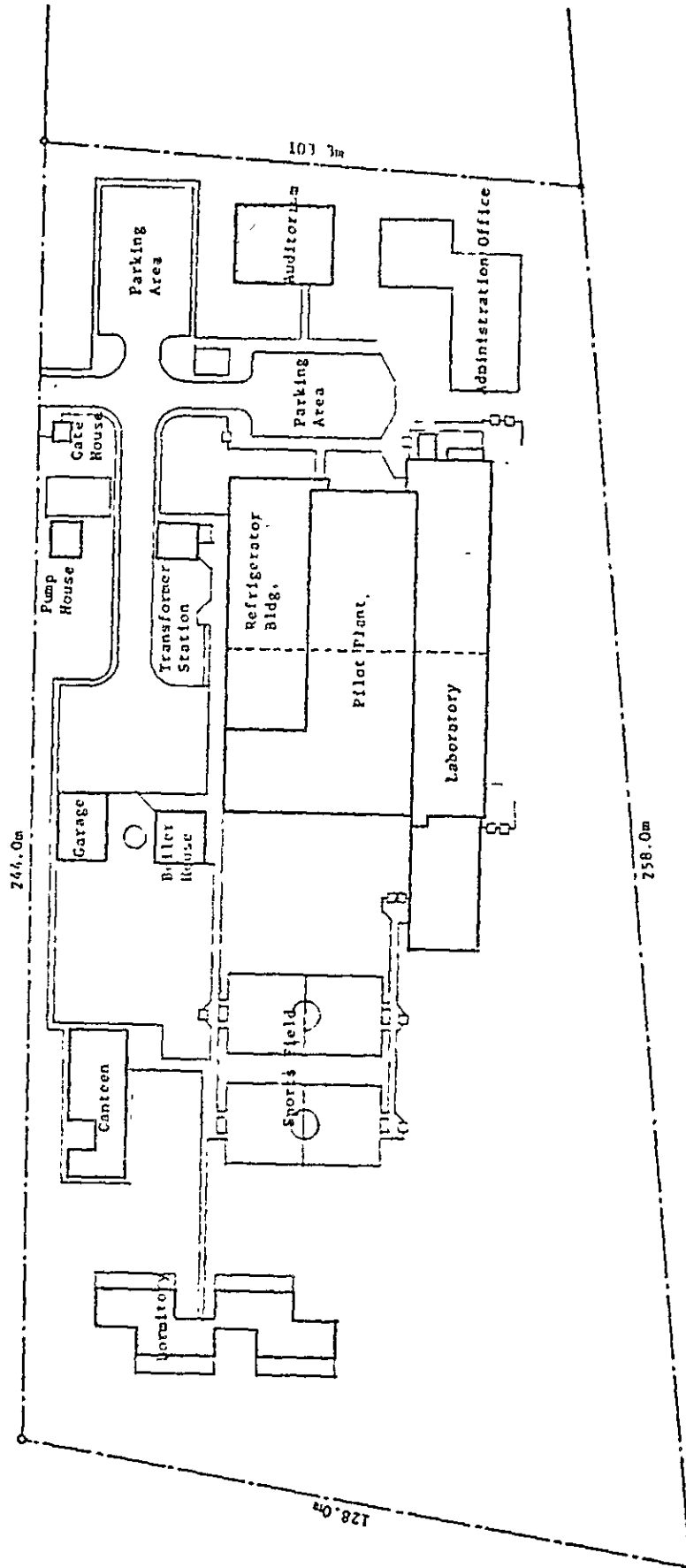
2) Equipment to be used at the Centre

A handwritten signature and initials are present on the left side of the page. The signature is a large, stylized loop, and the initials below it appear to be 'J. H. S.'.

ANNEX II



Handwritten signature/initials



- Projected Building
- Existing Building
- Petu Government Assignment

ANNEX III

Items whose cost should be born by the Peruvian side.

1) Infra-structure and others

- a) Water supply main pipe to the point A specified in Annex IV.
- b) External drainage and sewage line from the point B specified in Annex IV.
- c) LPG gas supply .
- d) Electrical power main line to the project site and installation of transformer.
- e) Telephone main line to the project site and installation of M.D.F.(Main Distribution Frame) at the point C specified in Annex IV.
- f) Road paving at the project site .
- g) Fence .
- h) Outdoor lighting.
- i) Lawn and planting.
- j) Incinerator .
- k) Furnitures, rugs and drapes.

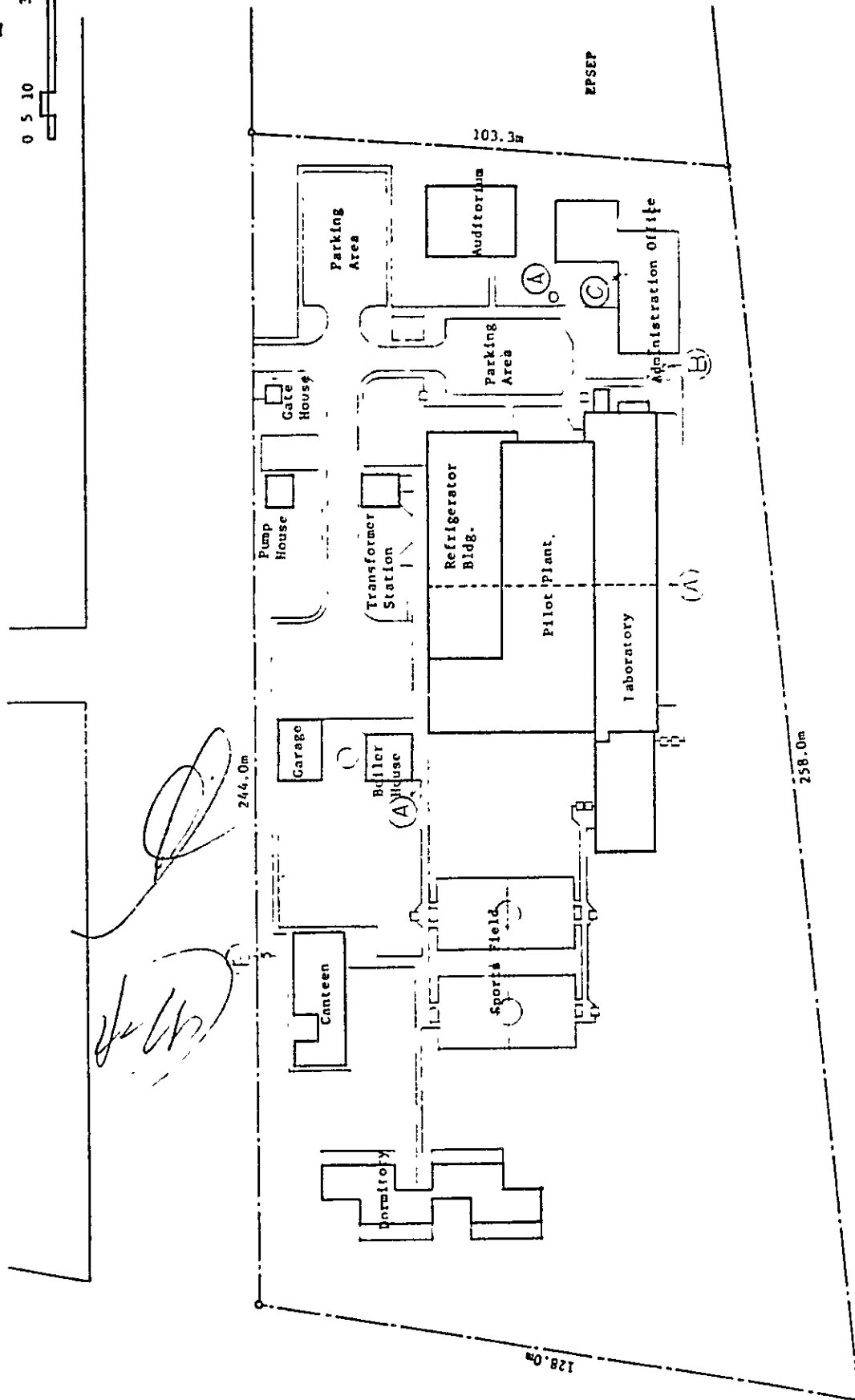
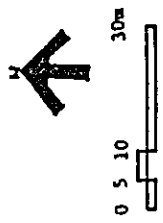
2) Other works

- a) Temporary electric power supply and water supply to the project site for construction period. (Power charges and water charges will, however , be born by the contractor.)
- b) Providing space necessary for the construction such as temporary office working area, stocking yards, etc.
- c) Expenses for customs clearance of construction materials, equipment, vehicles, construction machines to be used for the construction at ports of disembarkation in the Republic of Perú.



- (d) Taking various necessary procedures in obtaining the permissions and exemptions of customs duties and taxes from the competent authorities of the Government of the Republic of Perú for;
- Japanese nationals concerned for this project.
 - Construction materials, equipment, vehicles, construction machines, etc.
- (e) Securing expenses for providing services of the Peruvian Counterpart personnel necessary for the operation of the Centre.
- (f) Providing all running expenses necessary for the operation of the Centre.

ANNEX IV



PLOT PLAN

3.3 TECHNICAL FACTORS

■ Scale of Administration Building

Among the proposals offered by the Government of the Republic of Peru to the Periodical Inspector's team in February 1978, was an alteration regarding the scale of Administration Building. The government requested that the area be reduced and the initial three-story type be changed to a two-story. The survey team studied the offer and accepted it.

■ Construction Methods

Based on the survey report by the Periodical Inspectors team, the preliminary survey team offered that Pilot Plant and Laboratory will be constructed with use of local construction methods but Administration Building and Canteen were to be built through a prefab method. Considering for protection from sea wind because of the project site being near to Pacific Ocean, and for reasonable construction cost without use of anticorrosive metallic material as exterior wall, the survey team studied that Administration Building and Canteen were also to be constructed with use of local material partially.

The Peruvian side insisted on harmonizing external facade with existing buildings. However, it is better to be scheduled that principal construction material is imported from Japan for the sure execution of the construction.

■ Scope of Work and Work Demarcation

The scope of work and measures of the Peruvian side is stated in the minutes together with annex IV in order to clarify the work to be done by both governments.

CHAPTER 4 BASIC PLANNING FOR CONSTRUCTION

4.1 OUTLINE OF THE PLANNING

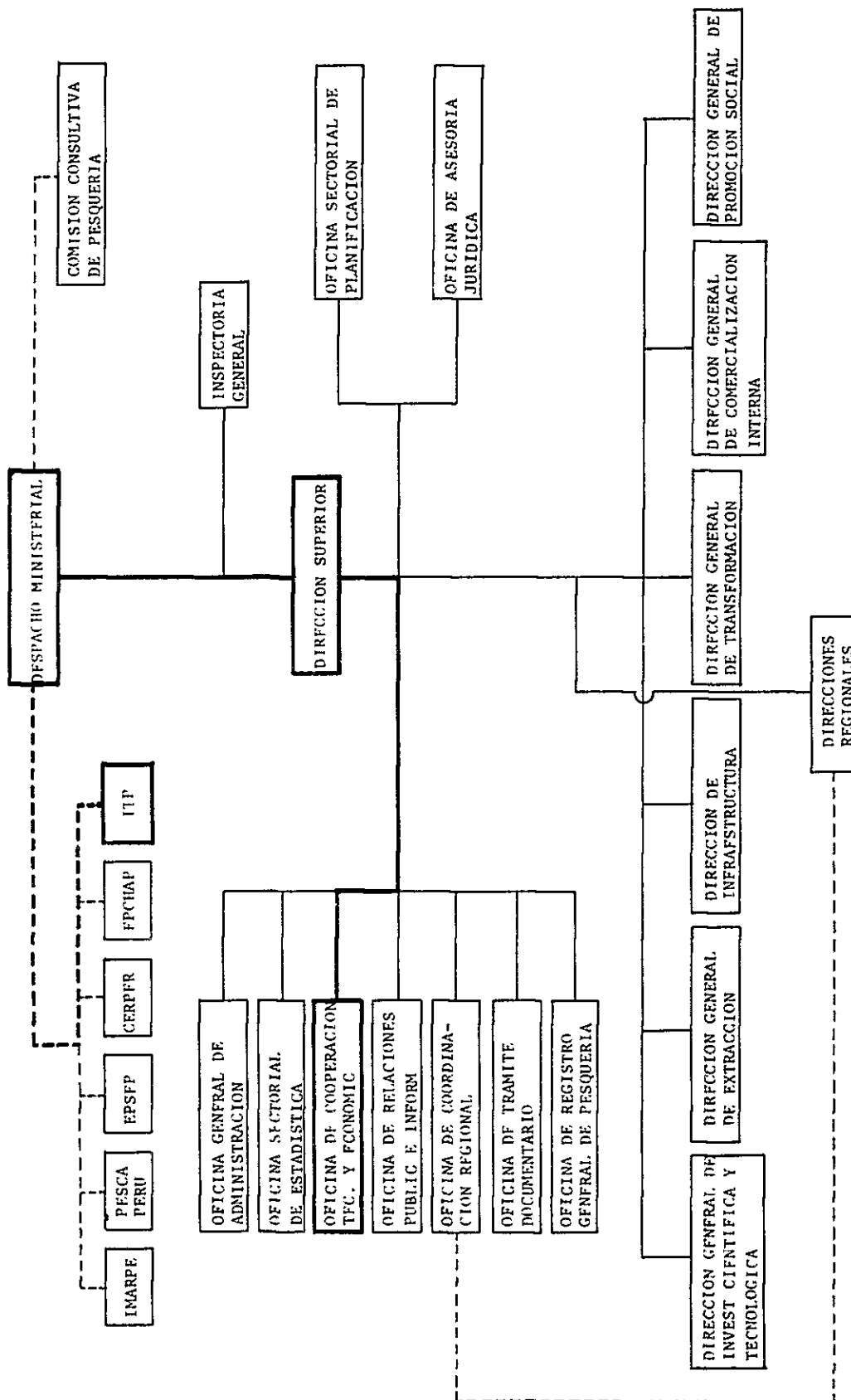
EL CENTRO DE TRANSFORMACION PESQUERA DEL PERU will be composed of ten buildings consisting of Pilot Plant and Laboratory, Administration Building, Canteen, Auditorium, Dormitory, Gate House, Substation, Boiler House, Pump House and Garage. Of these, Pilot Plant and Laboratory including two pilot plants, Gate House, Substation, Boiler House and Pump House are already under construction and scheduled for completion in October 1978.

The buildings for which is requested to extend assistance to Japan are Pilot Plant and Laboratory including two pilot plants, Administration Building and Canteen. Auditorium, Dormitory and Garage will be constructed by the Government of the Republic of Peru in the future.

4.2 PLANNING BASES

The planning of these facilities was carried out on the following bases:

- 1) The functions of the facilities for which the request for assistance was made by ITP will be clarified, and in accordance with the importance of the individual buildings of the Center, building plans, structural plans and service facilities plans will be prepared.
- 2) Of the building materials available in Peru, those that ensure quality and ready availability will be selected. The plans will be established on the premise that materials other than those to be procured in Peru will be imported from Japan.
- 3) From the layout planning to the selection of necessary materials, the planning will be carried out using the construction techniques and materials that are most compatible with the locality. The natural conditions and Peruvian lifestyles will be taken into account along with the climate, natural features of the locality as well as the construction industry in Peru.



ORGANIGRAMA ESTRUCTURAL DEL MINISTERIO DE PESQUERIA

Aug. 1978

4.3 CONTENTS OF FACILITIES

The makeup and importance of the ITP within the Ministry of Fishery are indicated below:

The required rooms for the buildings are as follows:

Pilot Plant and Laboratory

- Salt and smoked food plant
- Tasting room for salt and smoked food
- Office for salt and smoked food
- Canned food plant
- Tasting room for canned food
- Office for canned food
- Additive material and package storage
- Products stock room
- Garbage strage
- Recieving office
- Chemical laboratory
- Laboratory of analysis for instrument
- Multi-use room

Administration Building

- Executive Director's room
- Conference room
- Secretary room
- Waiting room
- Reception room
- Security and Maintenance room
- Public relation room
- Class room
- General storage
- Publication room
- Grafic design room
- Project room
- External counselor room
- Legal counselor room
- Programing room
- Qualification room
- Administration assistant room
- International technical cooperation room
- Personnel evaluation and control room
- Administration chief room
- Budget and accounting room
- Welfare and social assistant room
- Library

Canteen

Dinning room
Kitchen and wash dishing
Food strage
Employee's room
Amusement room
Laundry
Drying place

4.4 FACILITIES LAYOUT

The overall plan for this project has been prepared by Ministerio de Pesqueria and part of the construction program is already under way. Service facility for outdoor lighting, the waste water main piping, etc. will be provided in conformity with the overall plan. The buildings will, therefore, be arranged in accordance with the predetermined requirements.

■ Pilot Plant and Laboratory

This will be built adjacent to the existing Pilot Plant and Laboratory, and will be used for the principal functions of EL CENTRO DE TRANSFORMACION PESQUERA DEL PERU.

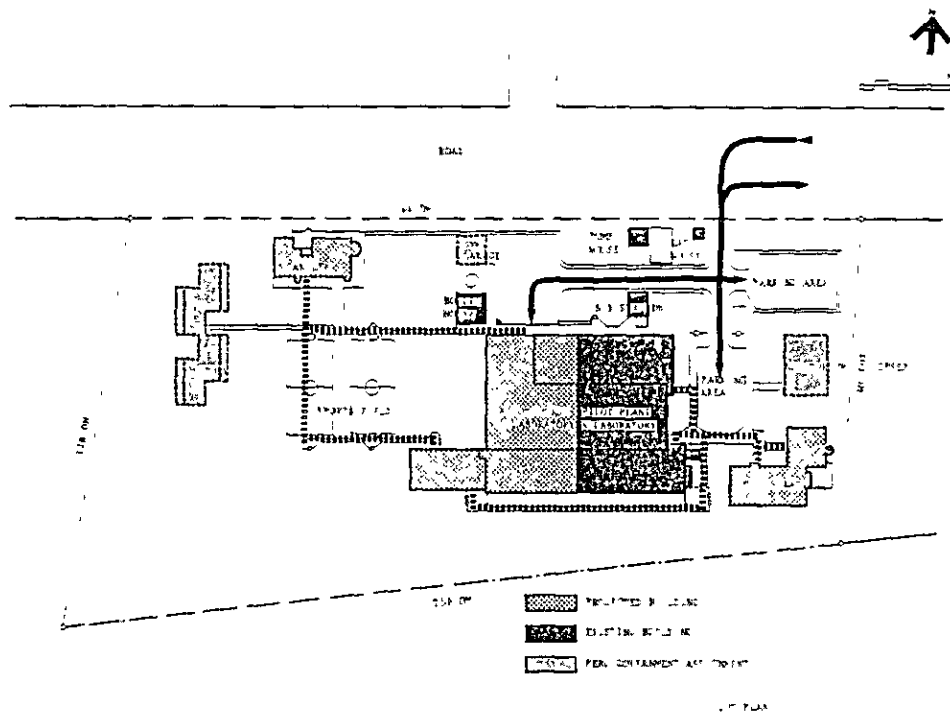
■ Administration Building

This will be located directly the main gate, and near Pilot Plant and Laboratory to ensute easy access between the two buildings. Adequate space for parking will be provided in front of the building, so that visitors will be properly accomodated. An auditorium, to be constructed in the future, will be located north of Administrative Building to obtain an organic linkage between the two.

■ Canteen

This building, which is to serve the Center personnel, will together with the dormitory which is to be constructed in the future be located on the west side of the Center. The layout

of the building has been so planned as to provide adequate services for the personnel of both Pilot Plant and Laboratory and the dormitory. Further, as it is located near the sports field (football ground), the building may also be used as a resting place for the players.



4.5 BUILDING PLAN

■ Pilot Plant and Laboratory

A new salt and smoked food plant and a canned food plant will be constructed adjacent to the frozen food plant and paste food plant that are located in existing Pilot Plant and Laboratory. The pilot plants will be equipped with a steel-frame roof to provide a large open space for accommodating possible future changes in the arrangement of equipment. Office space and tasting rooms will be located south of the respective plants. To the north of the building will be located service facilities including storage spaces of various types, and further openings for incoming and outgoing goods will be provided to make up the major flow path for the pilot plants. The second floor of the Laboratory is reserved for research and development purposes, so the chemical laboratory and laboratory of analysis for instrument will be located.

■ Administration Office

Situated east of Pilot Plant and Laboratory, this building will be for the administrative activities of the Center. For harmony with the other facilities of the Center, this building has been planned as a two-story reinforced concrete structure. In addition to the offices, this building will house a library, class rooms etc. The library will be located on the second floor where a quiet atmosphere can be expected; class room, which is expected to receive large numbers of visitors, will be situated on the first floor. This class room will be provided with its own entrance and exit so as not to disturb personnel working in the offices.

■ Canteen

This building will include facilities for serving the personnel of the Center: this means a dining room, amusement room and laundry. The dining room where meals will be served on a self-

service basis, will accommodate 40 seats. The kitchen will be equipped to provide meals for 120 persons. There will be sufficient space in the amusement room for playing table tennis, chess, etc. and newspapers and magazines will be kept there for Center personnel. The laundry will be used to wash the white overalls worn by personnel and as well as all lines used at the dormitory. The clothes drying area will be surrounded by fences in order to maintain the neat appearance of the Center. These three facilities with their independent functions will be housed in the one-story building and the possibility of congestion due to people's flow line has been eliminated.

4.6 BUILDING ELEMENTS PLANNING

In planning building elements, local climatic conditions and requirement of indoor environment are the great factors. For this area, where rainfall is little, a material selection needs to be worked out on a different basis from that required in creating a building plan in Japan.

■ Roof

In Peru, where coastal rainfall amounts to no more than 5 to 6 mm one time, roof protection of houses from rainwater is of minimum importance. In the case of reinforced concrete buildings in general, clay is placed over the roof slab and then roof clay tiles are placed thereon. Considerations for drainage slope or rainwater drainage are almost not required. Rainwater absorbed by the clay and roof clay tile is left to simply evaporate into the atmosphere.

■ Exterior Walls

In the suburbs of Lima, where the climate is quite mild, the demands on the exterior walls to obtain and preserve proper indoor environment are not many. However, in view of the fact that the site is surrounded by desert with much dust and that

the site is located near the airport with a great deal of noise, certain measures will become necessary. For reinforced concrete buildings in Peru, bricks are used to erect walls in general; for the interior finish, mortar and then paint are applied in most cases.

■ Floor

Rainfall being almost nil in coastal Peru, the level of the floor often coincides with the ground. Over the concrete floor in most cases, polished terrazzo, precast terrazzo or PVC tile is used as the floor covering material.

4.7 STRUCTURAL PLANNING

■ Basic Policy

In Peru, which is situated within the so-called pan-Pacific seismic zone, in the 30-year period from 1945 through 1974 earthquakes registering a magnitude of 7.0 or higher on the Richter scale have occurred 26 times.

As regards the force of winds, on the other hand, there are no typhoons such as those seen in Japan, and in the Lima district, the maximum wind velocity registered during the past 9 years was no more than 25 knots or 12.86 m per second.

In the structural plan for this project, it will therefore be necessary to provide an earthquake-proof construction. Structural bricks will be placed in a frame consisting of pillars and beams to make up anti-seismic walls.

According to the survey the ground of the construction site is composed of surface soil and layers underneath consisting of either cobbles with good particle size distribution, or a mixture of cobbles and sand; its load bearing force is expected to be 20t/m^2 2.0 m below ground level.

■ Design Policy

The regulations regarding structural design are included in the Construction Almanac compiled by the Construction Society. Detailed descriptions of load bearing also appear in this Almanac. This Almanac further describes resistance to seismic action from the standpoint of disaster prevention. The calculations of necessary resistance to seismic action were made using the data contained in the Almanac.

In addition, for calculations for the structural design, the ACI Building Code, UBC, AIJ Standard, etc. will be referred to. In addition, the following requirements will be taken into consideration.

The magnitude of external force and hypothetical loads to which the buildings may be exposed will be determined by taking into account such factors as the local climatic conditions, geological and ground conditions and intended uses of the buildings. Permissible stress of structural materials will be set at proper levels considering various elements including the grade and possible fluctuations of the local workmanship. Expansion of the buildings will be carried out by following the specifications adopted in the initial construction.

■ Structural Materials and Their Employment

Selection of structural materials will be decided on the basis of such factors as the scale and intended uses of the buildings, availability of the materials in Peru, quality of materials of Peruvian origin, methods of construction, situation regarding the transport of materials from Japan and the relevant standards established for the materials. With the exception of the pilot plants, which are to be constructed using steel frames, the buildings will be of reinforced concrete construction. The materials listed below are considered to be appropriate:

Concrete

Cements, fine aggregate, coarse aggregate, etc. are all available locally. A concrete batching plant will be provided at the

construction site for performing weighing and mixing. Compressive strength of concrete in 4 weeks will be 210 kg/cm^2 , to prevent cracking of the concrete owing to drying and hardening, concrete of a stiff consistency will be employed.

Reinforcing Bars

Reinforcing bars meeting ASTM grade 60 are locally available. They correspond to the Japanese standard of SD40 but all of them are supplied in inch sizes.

Structural Steels

Structural steels of Japanese make that are mostly SS41 will be employed. Whenever possible, they will be shop-fabricated in Japan, so that they may be erected with ease at the construction site.

4.8 PLUMBING SYSTEM PLANNING

■ Water Supply System Plan

Piping for water supply will branch off and extend from a designated point on the existing water supply piping to supply water to various points in Pilot Plant and Laboratory, Administration Building and Canteen.

■ Waste Water Drainage System Plan

Waste water originating from inside the buildings will be collected into the main pipe to be connected to the existing designated waste water reservoir and discharged into the sea.

■ Fire Hydrant System Plan

Indoor hydrants will be provided, four in Pilot Plant and Laboratory, one for each floor of Administration Building and one for Canteen. The piping to such hydrants will be connected directly to the water supply piping.

■ Gas Supply System Plan

LPG gas cylinders will be provided and installed for Pilot Plant and Laboratory and Canteen. Gas for kitchen use and experimental benches will be distributed by laying gas piping and providing gas cocks.

■ Sanitary Fixture Plan

Sanitary fixture will be installed, in conformity with the building plans; at the designated positions in each building.

■ Kitchen Equipment

In the kitchen of Canteen, kitchen equipment with a capacity adequate for serving 40 persons in three shifts will be provided.

■ Laundry Equipment

In the laundry area in Canteen laundry equipment will be installed for cleaning sheets, pillow cases, work clothes, table cloths, towels, etc. This equipment will include washing machines, drying machines, irons, ironing table, and sinks.

■ Steam piping

Piping will branch and extend from the existing steam piping to supply steam for fish processing. It will run from Pilot Plant and Laboratory as far as the specified points for the respective equipment.

■ Ventilation System Plan

Forced ventilation will be provided to discharge smoke, fumes and odors from the kitchen of Canteen, lavatories in Administration Building, etc.

4.9 ELECTRICAL SYSTEM PLANNING

■ Main Power Line Plan

Power supplies to the buildings will be made via underground conduits. The laying of buried piping will be performed by the Government of the Republic of Peru, whereas the cable laying work will be included in the scope of the present work. Electric power 3 ϕ 4W 220V 60Hz will be supplied to the buildings by way of separate independent cables from the standby circuit connected to the distribution panel in the existing substation.

■ Lighting Circuit System Plan

Wiring leading from the secondary side of the distribution panel to outlets and switches for lighting and receptacles will be laid in PVC pipes. The on/off switches will be provided for individual rooms by routing the wiring in such a way that on/off control of lighting lamps may be performed for limited areas separately. Ceiling fans will be provided for the amusement room and dining room in Canteen, the multi-use room in Pilot Plant and Laboratory and the classrooms in Administration Building.

■ Lighting Fixtures Plan

Fluorescent lamps will be employed as the main sources of light, and where necessary, incandescent lamps will also be installed. The standard intensity of light to be provided for the principal rooms and spaces will be as follows:

Offices, library and class rooms	500 luxes
Dining room, kitchen and pilot plants	300 luxes
Entrance hall	200 luxes
Storages	150 luxes
Corridors and lavatories	100 luxes

■ Telephone Circuit System Plan

A leading terminal board will be provided in the reception room on the first floor of Administration, and wiring will be laid using PVC pipes as far as the positions where the telephones are installed in the offices, etc. Relay terminal boards will be provided where necessary.

■ Telephone Equipment Installation Plan

Three telephone lines will be connected by the Government of the Republic of Peru to the leading terminal board in the reception room on the first floor of Administration Building. A push-button switchboard for 40 extension lines will be installed in the reception room with the necessary wiring leading to 21 telephone sets in Administration Building, 2 sets in Canteen, one set in Gate House, and 16 sets in Pilot Plant and Laboratory.

■ Electric Clocks

A quartz type one-line wall type master clock will be installed in the reception room on the first floor Administrative Building, with wall type sub-clocks provided in the following locations: 6 units in corridors and waiting room of Administration Building, 2 units in Canteen, 1 unit in Gate House and 6 units in Pilot Plant and Laboratory (including two two-faced suspension type clocks). The necessary wiring with protective tubes will also be provided.

■ TV Antenna System

A TV antenna will be put up on Canteen, and TV outlet terminals will be installed in the dining room and the amusement room. Wiring/piping work necessary therefor will also be provided.

■ Automatic Fire Alarm System

A 25-line wall type alarm reception panel will be installed in the control room on the first floor of Pilot Plant and Laboratory and a sub alarm reception panel will be provided in the

reception room on the first floor of Administration Building. A comprehensive panel incorporating push buttons, bell and pilot lamps will be installed by the entrance of each building as well as near each stairway. Automatic sensors will be provided in areas where personnel are not normally present for detection of possible fires.

PRELIMINARY DESIGN DRAWINGS

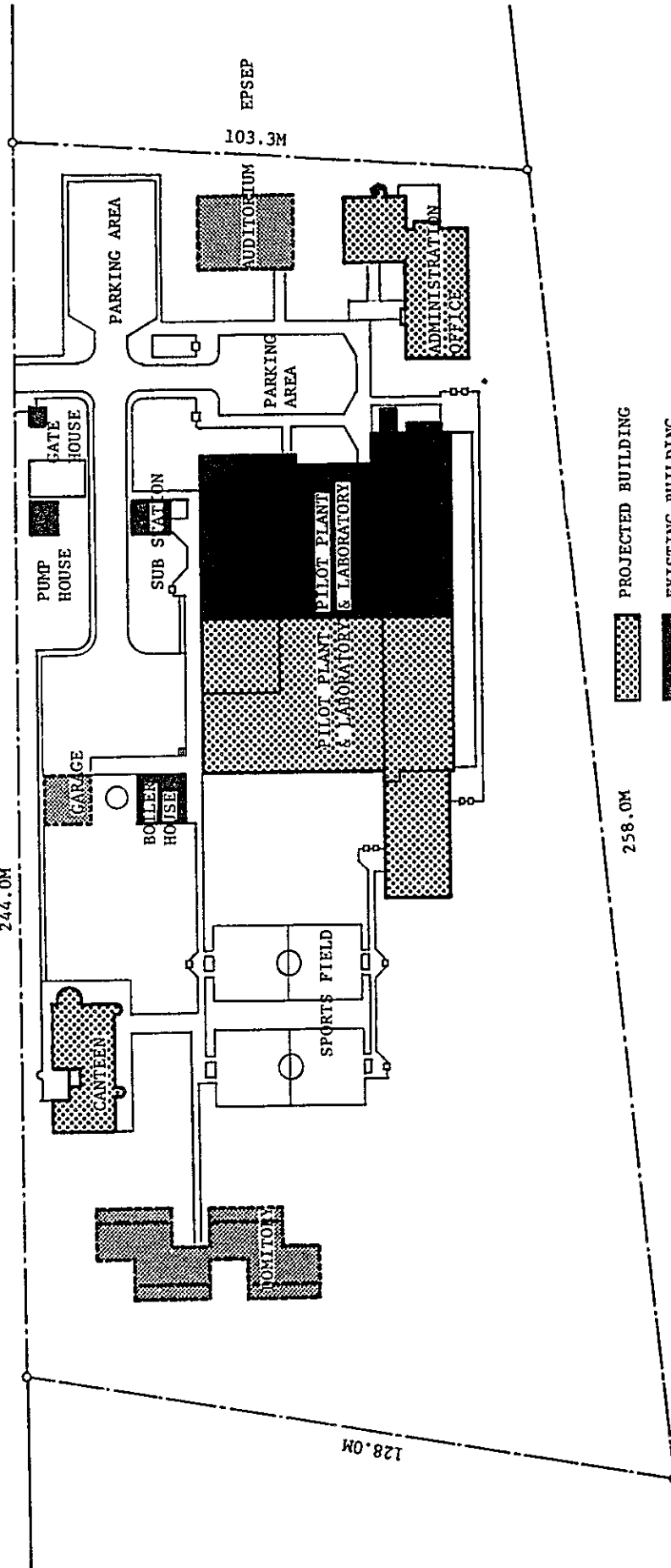
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PILOT PLANT AND LABORATORY	1ST FLOOR PLAN	02
	2ND FLOOR PLAN	03
	ELEVATION	04
	ELEVATION	05
ADMINISTRATION BUILDING	1ST FLOOR PLAN	06
	2ND FLOOR PLAN	07
	ELEVATION	08
	ELEVATION	09
	SECTION	10
CANTEEN	PLAN	11
	ELEVATION	12
	SECTION	13



0 5 10 30

ROAD

244.0M



PROJECTED BUILDING



258.0M

EXISTING BUILDING

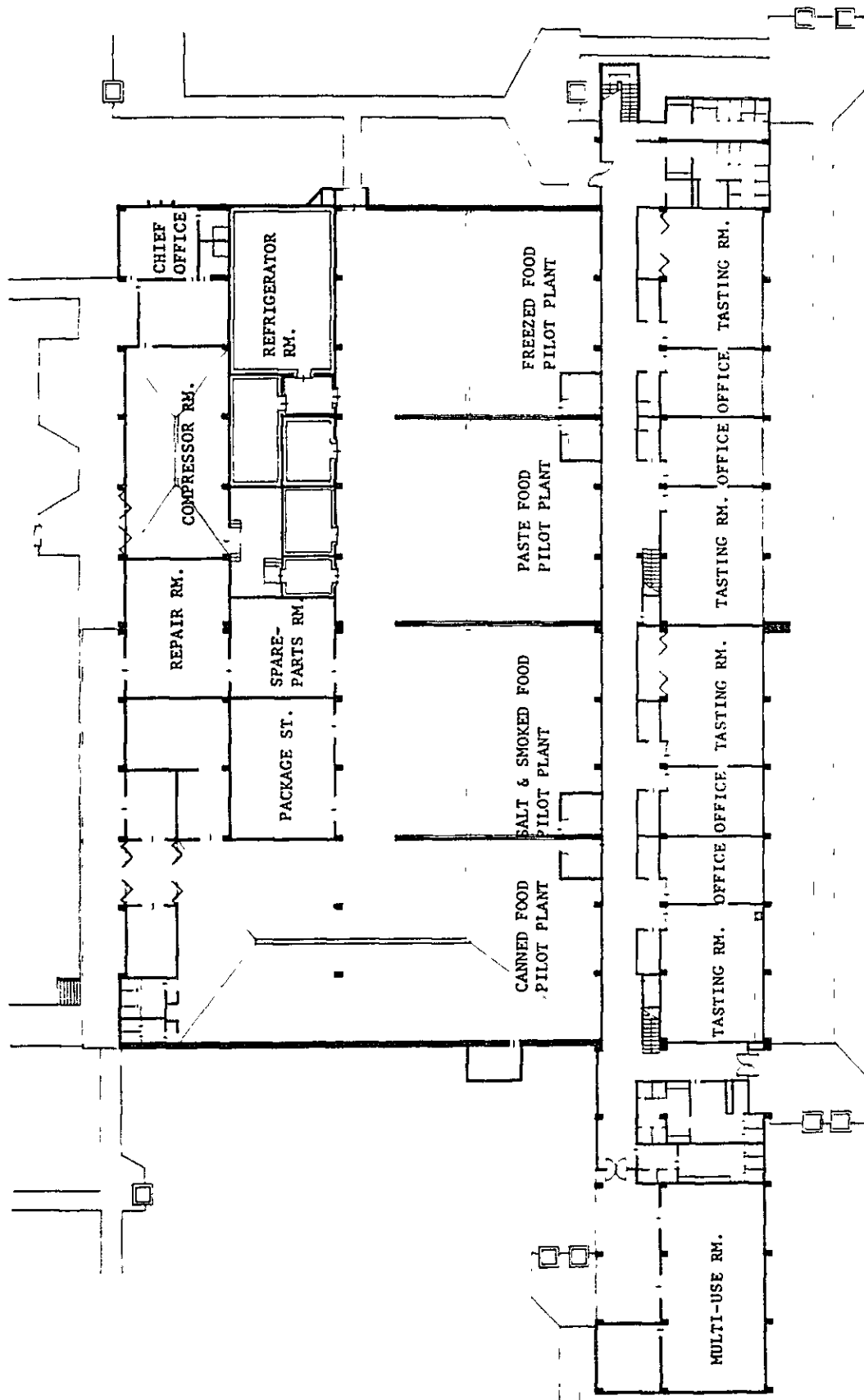


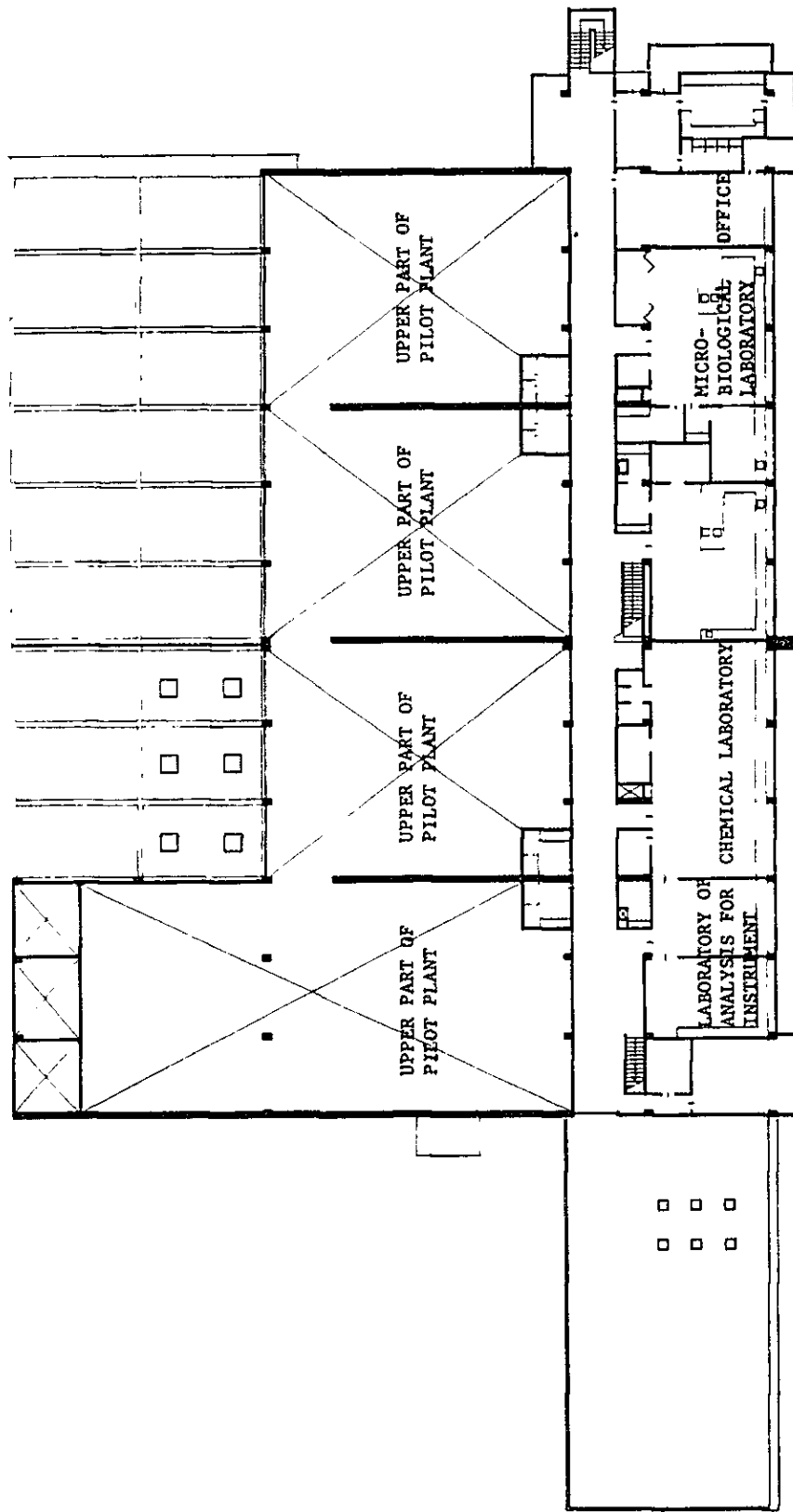
PERU GOVERNMENT ASSIGNMENT



PLOT PLAN

01

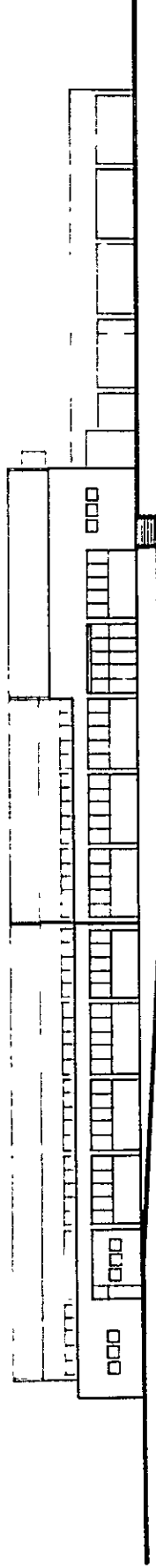




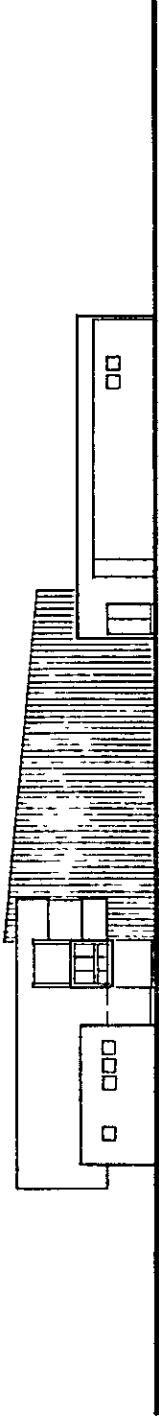
PILOT PLANT AND LABORATORY 2ND FLOOR PLAN



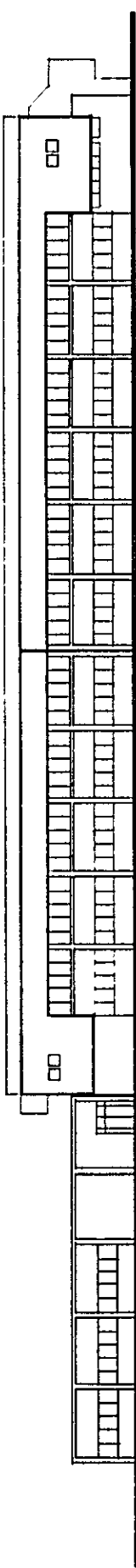
WEST ELEVATION



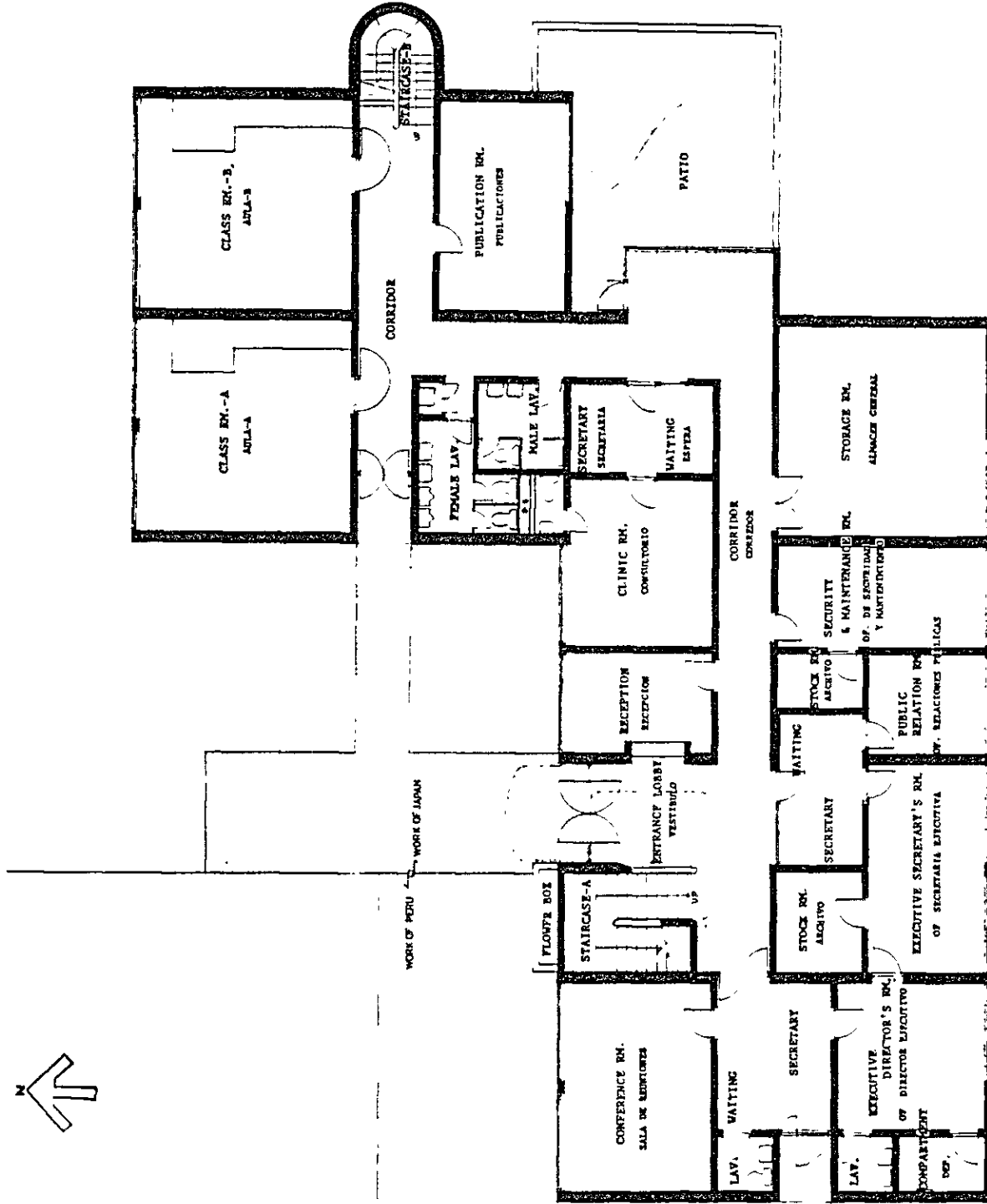
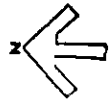
SOUTH ELEVATION

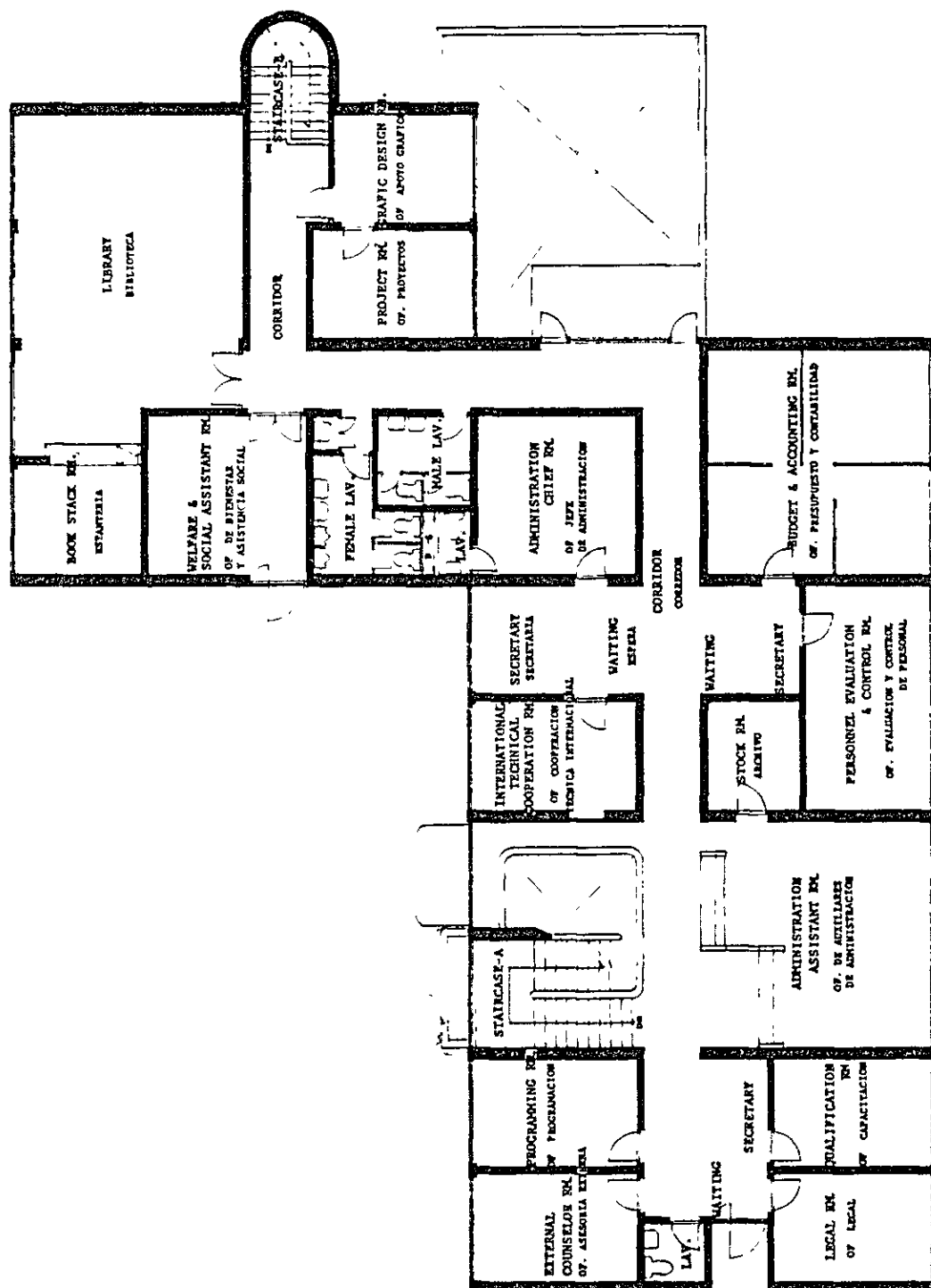


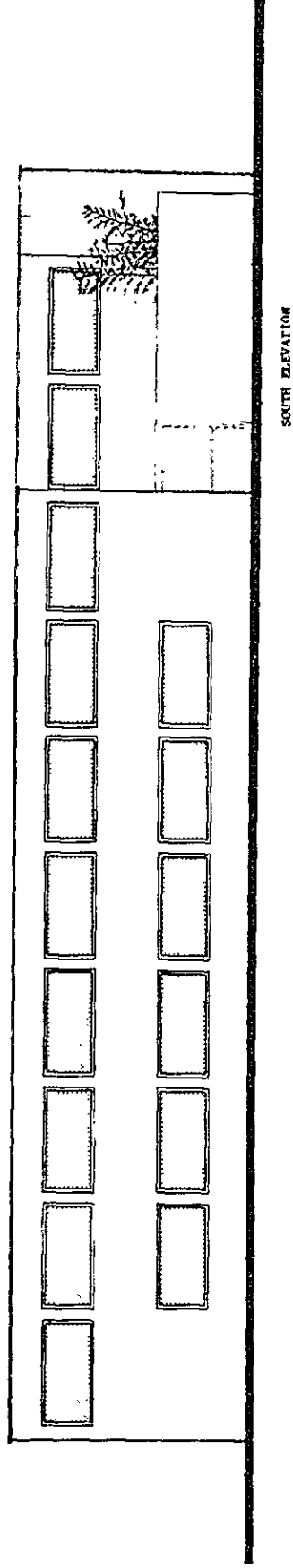
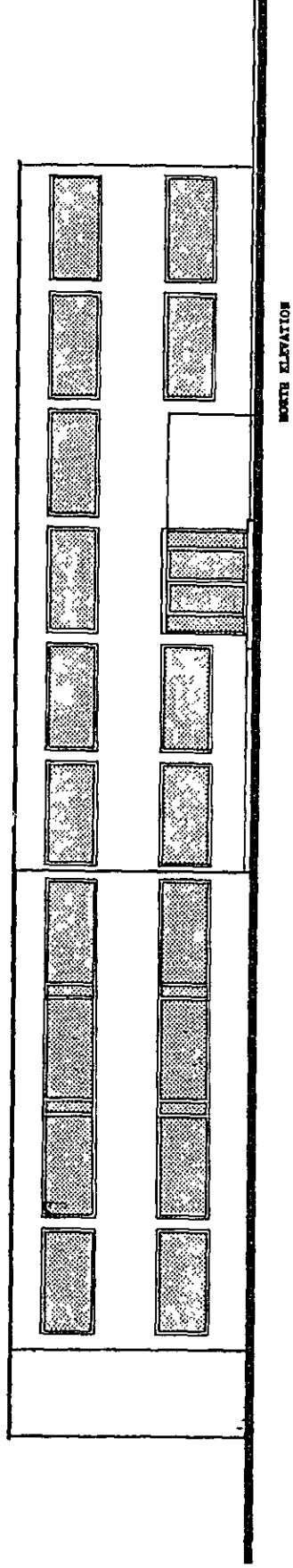
EAST ELEVATION

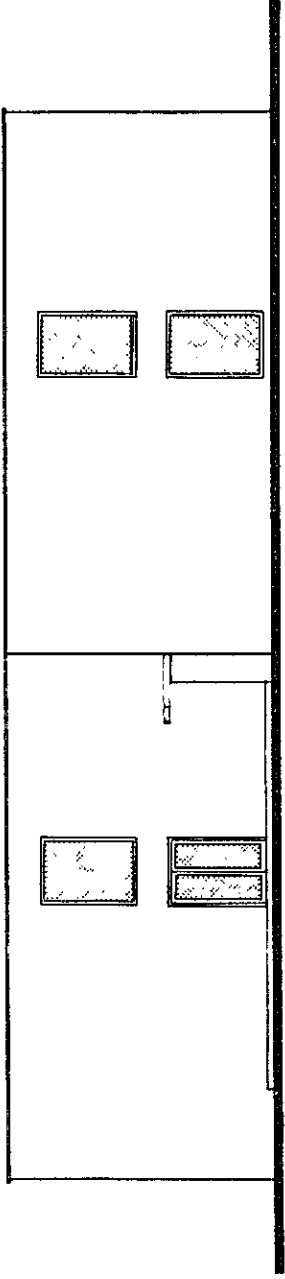


NORTH ELEVATION

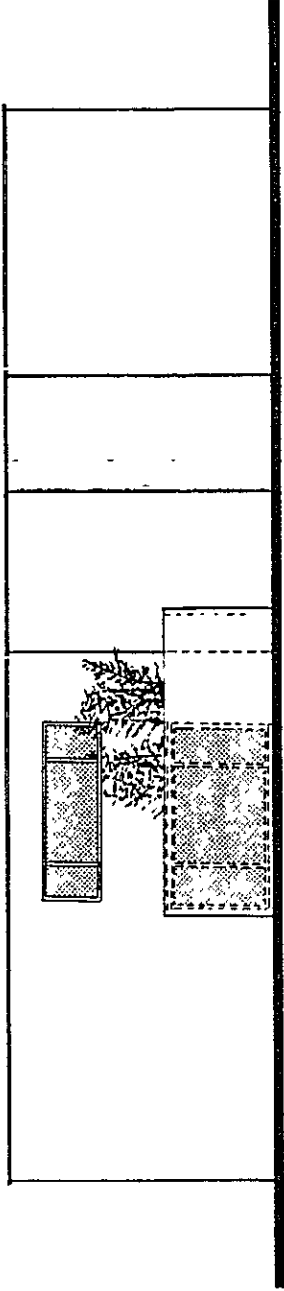




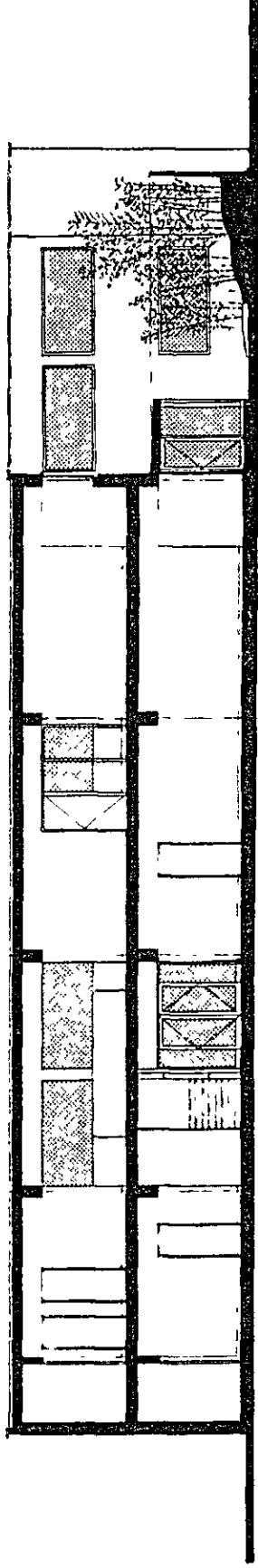




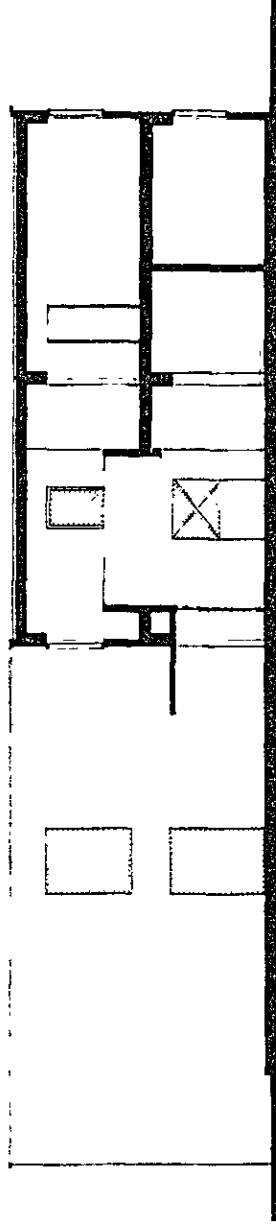
WEST ELEVATION



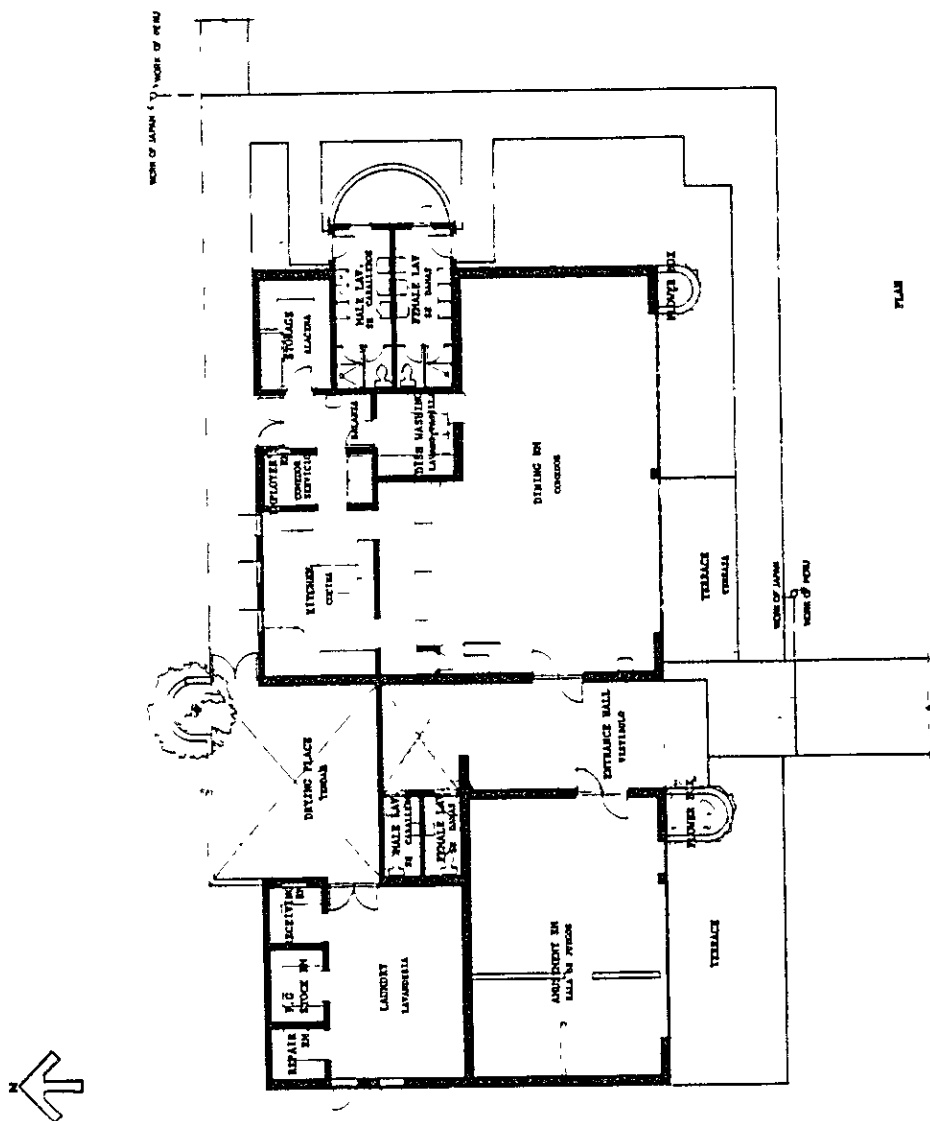
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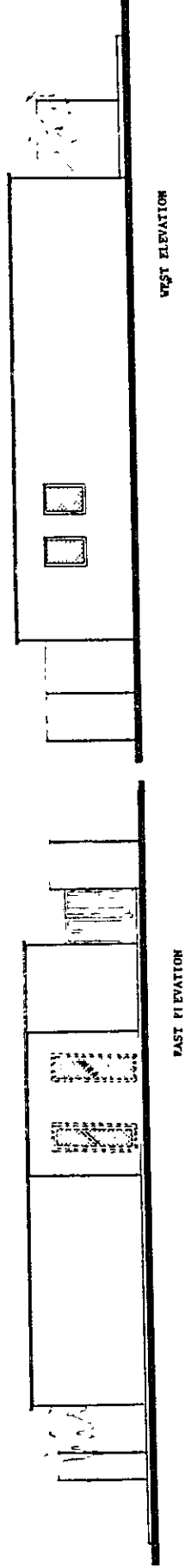
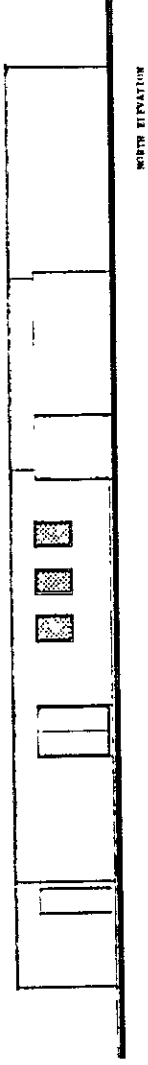
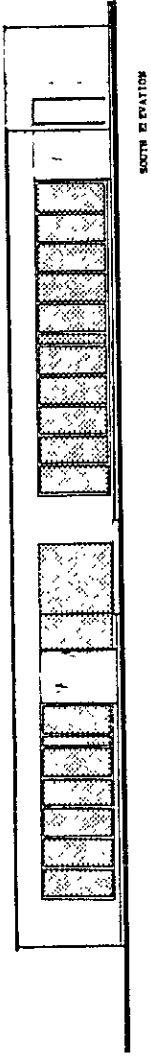


SECTION



SECTION





EAST ELEVATION



SECTION

SECTION



SECTION

FLOOR AREA TABULATION (M²)

	<u>1ST FLOOR</u>	<u>2ND FLOOR</u>	<u>TOTAL</u>
PILOT PLANT AND LABORATORY	1,830.489	423.140	2,253.629
ADMINISTRATION BUILDING	484.100	473.785	957.885
CANTEEN	293.397	-	293.397
		GRANT TOTAL	3,504.911

CHAPTER 5 SCOPE OF WORK AND CONSTRUCTION SCHEDULE

The Preliminary Design Survey Team, during stay in Peru, held meetings with members of Instituto Tecnológico Pesquero entrusted by Oficina de Cooperación Técnica y Económica, Ministerio de Pesquería to discuss in detail scope of the construction work and measures as to how Peruvian and Japanese side share the work and measures.

5.1 SCOPE OF CONSTRUCTION WORK AND THE MARGINAL POINTS

The action items requested by the Government of the Republic of Peru and scope of the work were covered previously in the meeting minutes. The following items are the summarization to clarify the scope of the work demarcation.

■ Main Work

Site Preparation

(Peruvian Side) Clear, activate and level of the construction site before the start of the construction.

Water Supply

(Peruvian Side) Install main pipeline to the point A shown in Annex IV of Minutes.

(Japanese Side) Install branch pipeline from the above mentioned point.

Drainage

(Peruvian Side) Install main pipeline from the point B shown in Annex IV of Minutes and discharge drainage.

(Japanese Side) Lay piping and connect to the above mentioned pipe line.

Gas

(Peruvian Side) Install gas cylinders.

(Japanese Side) Install gas pipeline from the gas cylinders.

Electricity

(Peruvian Side) Provide Electrical power main line to the project site and installation of transformer.

(Japanese Side) Carry out laying of lines from the above transformer.

Telephone

(Peruvian Side) Install main distribution frame (MDF) at the point C shown in Annex IV of Minutes and connect three telephone lines.

(Japanese Side) Provide 40 extension from MDF and install telephone exchanger.

■ Buildings

(Japanese Side) Construct Pilot Plant and Laboratory, Administration Building and Canteen.

(Peruvian Side) All construction other than the above mentioned three buildings to be built by Japanese side.

■ Exterior Work

Access Road and Porch

(Peruvian Side) Construct the paved road in the site.

(Japanese Side) Construct the porches in front of the Entrance halls of the three buildings to be built by Japanese side.

Planting

(Peruvian Side) Carry out work of planting of grass and other vegetation.

Others

(Peruvian Side) Install or construct the outdoor lighting, incinerator and fence.

■ Equipment, Furnitures and Fixtures

(Japanese Side) Provide with equipment, furnitures and fixtures within the aids budget can afford for this project.

■ Material Transportation

(Japanese Side) Marine and inland transportation of materials imported to Peru from Japan.

(Peruvian Side) Assistance and cooperation in dealing with the Government of the Republic of Peru for procedures, permits, tax exemption and custom clearance on import materials and equipments.

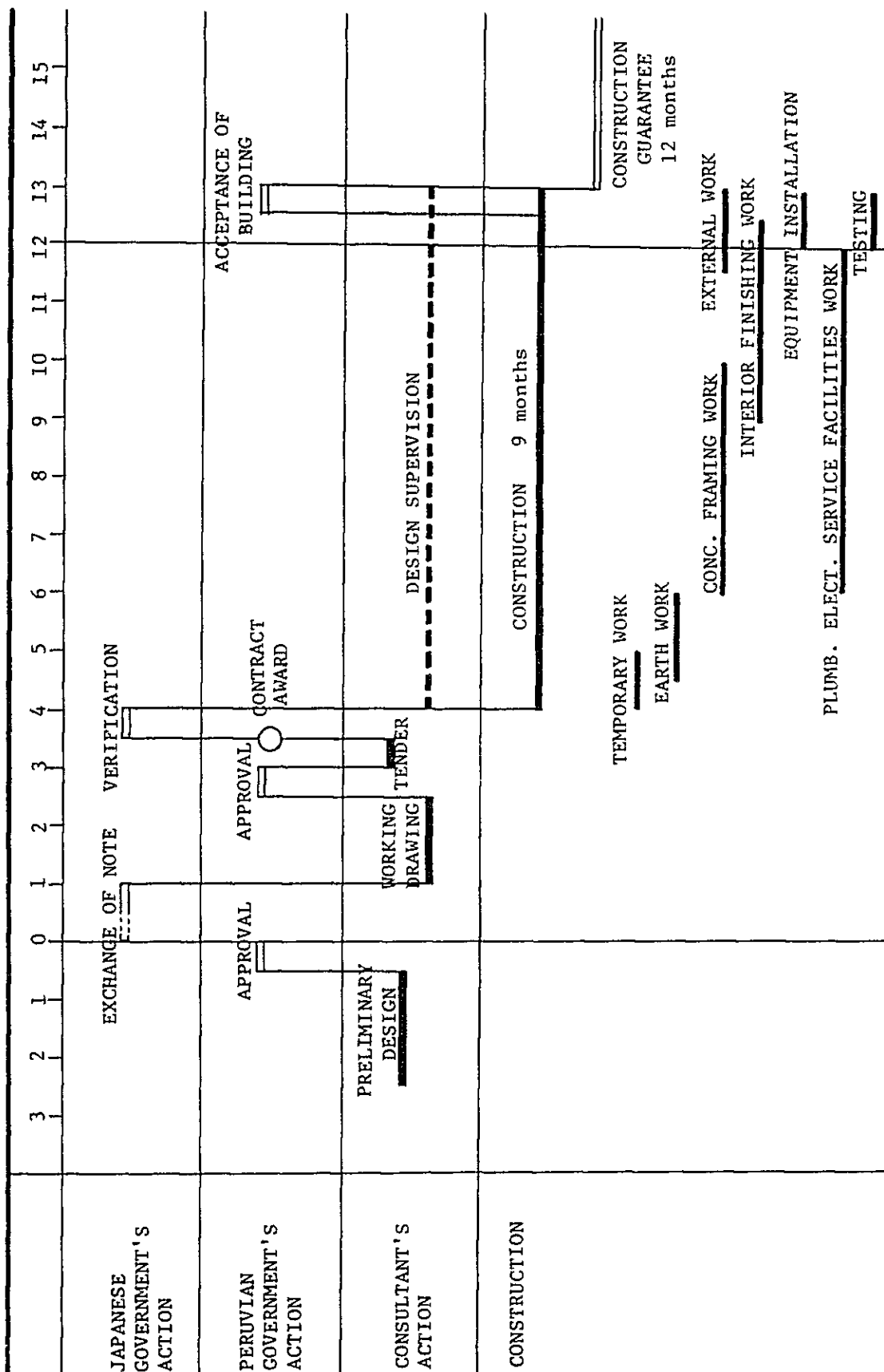
■ Others

(Peruvian Side) Items shown in Annex III 2) of Minutes.

5.2 CONSTRUCTION SCHEDULE

The implementation designing will commence following Exchange of Notes executed between the Government of Japan and the Government of the Republic of Peru under the grant-aid in this construction project. All design drawings and specifications for the construction and the documents required for bidding on the work contract will be prepared during the implementation designing. The bidding shall be made with tenderers assembled upon an approval given by the client on the implementation design drawing and documents submitted for review. The work under this project will be commenced after the contract agreement concluded between the Government of the Republic of Peru and the tenderer awarded the contract, upon the verification by the Government of Japan. Judging from the scale, structure and contents of the equipment planned for the facilities, it is estimated to take a period of 9 months required for the construction work. The construction guaranty period will be one year following completion of the building and its delivery to the owner. Reference is made to the following page for the construction schedule.

TENTATIVE CONSTRUCTION SCHEDULE



5.3 ASSUMPTION ON THE ESTIMATION OF THE COST FOR CONSTRUCTION

The following assumptions were set for determination of the estimated construction cost.

■ Construction Material

In general, the materials produced in Peru and Japan shall be used. The cost of the materials to be imported from Japan include packing cost, marine freight, insurance premium and inland transportation. Import duties to be levied on these materials are not included.

■ Contractor's Taxes, Duties, Due, etc.

It is assumed that any contractor who may be engaged solely in the construction of this project are exempted from all taxes, duties, due, etc. which may otherwise be imposed on the contractor.

JICA

