

## **Chapter 3    Project Evaluation and Recommendations**

## CHAPTER 3. PROJECT EVALUATION AND RECOMMENDATIONS

### 3-1 Project Effect

#### (1) Expected Direct

The following direct effects are expected from the implementation of this project

- 1) The safety in the handling of high-risk pathogens will be ensured.

At present, the high-risk pathogens such as avian influenza virus are handled in the BSL-2+ laboratories with insufficient safety in NIHE. The construction of the BSL-3 laboratories will enable the experiments on and diagnoses of the pathogens under the appropriate and safe environment.

- 2) The numbers of examination items and examinations will increase.

At present, as high-risk pathogens are handled in the existing BSL-2+ laboratories, the number of specimens acceptable to NIHE is limited. The construction of the BSL-3 laboratories equipped with the necessary functions will increase the number of examination items, including the examination of high toxicity viruses, and the acceptable number of the specimens.

#### (2) Expected indirect effects

The following indirect effects are expected from the implementation of this project

- 1) It will become possible to take appropriate measures against emerging and re-emerging infectious diseases.

The construction of the BSL-3 laboratories will enable prompt assessment of the prevalence and cases of infectious diseases and such assessment will enable implementation of appropriate infectious disease control measures.

- 2) NIHE will become a model institute for the construction of epidemiologic research facilities in Viet Nam.

The first BSL-3 laboratories in Viet Nam will be constructed in this cooperation project. These laboratories will be able to act as a model for the construction of high safety laboratories in subordinate local research institutes.

- 3) The number of research papers will increase

This project is expected to lead to the increase in the number of published research papers by enabling the experiments and research on high-risk pathogens, which are to be conducted in a BSL-3 laboratory and, thus, contribute to the development of the infectious disease research in Viet Nam.

#### (3) Preparation of the indicators for the effectiveness

It is expected that the construction of the BSL-3 laboratories will enable safe examinations on and analysis of high-risk pathogens (such as avian influenza virus), improve the safety of the facilities, and increases the examination items and number of acceptable specimens.

Item	Before the implementation ( 2005 )	After the completion of facility construction
Safety concerning the handling of high-risk pathogens is guaranteed.	Safety is not guaranteed	Safety is guaranteed
The items and number of examinations on high-risk pathogens (such as avian influenza virus)	2,346 cases (Avian Influenza)	Increase in items and number

### **3-2 Recommendations**

The following improvement/preparation is recommended for safer, more appropriate, smoother, and more effective operation of the facilities constructed in this project:

- (1) The coordination between the works of the Japanese and Vietnamese sides is important to make the entire HTC building a facility compliant with the bio-safety standards.
- (2) The continuous usage of the facilities and equipments provided in this project in good conditions will have to be guaranteed by securing the budget required for their appropriate operation and maintenance/management and through the implementation of sufficient training of the maintenance/management staff.
- (3) As the BSL-3 laboratories and the facilities associated with them are to be constructed for the first time in Viet Nam in this project, the project will have to have synergic effect with the Technical Cooperation project, to be implemented in advance, in close cooperation.
- (4) Prior allocation of the appropriate amount of repair expenses for unexpected malfunctions of research equipment will enable prompt actions and trouble-free research activities. In addition, to facilitate future renewal of the equipment, the reserve fund will have to be prepared, taking the duration of usage and deterioration by usage of the major equipment into consideration.

## **Appendices**

## 1. Member List of the Survey Team

Basic Design Survey (January 11 to January 27, 2006)

No.	Name	Assignment title	Organization
1	Mr. Hideaki HARADA	Leader	Health Team, Project Management Group II, Grant Aid Management Department, Japan International Cooperation Agency
2	Mr. Kazuyoshi SUGIYAMA	Technical Adviser	Director Division of Biosafety Control and Research National Institute of Infectious Diseases
3	Mr. Kanichi KUWANA	Project Manager / Architectural Planner	Nihon Sekkei, Inc.
4	Mr. Motohiro OKADA	Facilities and Utilities Planner	Nihon Sekkei, Inc.
5	Mr. Makoto SUZUKI	Equipment Planner	Fujita Planning Co., Ltd.
6	Mr. Kazunori SHIMIZU	Construction and Cost Planner	Nihon Sekkei, Inc.
7	Mr. Masako SUGITA	Equipment Procurement /Cost Planner	Fujita Planning Co., Ltd.
8	Mr. Yoshihiro KONDO	Architectural Planner (Assistant)	Nihon Sekkei, Inc.
9	Mr. Hiroshi TAKAHASI	Structural Planner (Assistant)	Nihon Sekkei, Inc.

Explanation on Draft Report (May 10 to May 23, 2006)

No.	Name	Assignment title	Organization
1	Mr. Yasuhiro Tojo	Leader	Resident Representative of JICA Vietnam Office, Japan International Cooperation Agency
2	Mr. Kazuyoshi SUGIYAMA	Technical Adviser	Director Division of Biosafety Control and Research National Institute of Infectious Diseases
3	Ms Minako Kuramitsu	Project Coordinator	Health Team, Project Management Group II, Grant Aid Management Department, Japan International Cooperation Agency
4	Mr. Kanichi KUWANA	Project Manager / Architectural Planner	Nihon Sekkei, Inc.
5	Mr. Motohiro OKADA	Facilities and Utilities Planner	Nihon Sekkei, Inc.
6	Mr. Makoto SUZUKI	Equipment Planner	Fujita Planning Co., Ltd.
7	Mr. Yoshihiro KONDO	Architectural Planner (Assistant)	Nihon Sekkei, Inc.
8	Mr. Dai KAIYAMA	Architectural Planner (Assistant)	Nihon Sekkei, Inc.

## 2. Study Schedule

Basic Design Survey (January 11 to January 27, 2006)

	Date		Content
1	1/11	Wed.	Study Team (except Leader, Technical Advisor, Structural Planner, Construction/ Cost Planner, Equipment Procurement/Cost Planner) Narita → Hanoi
2	1/12	Thu.	Meeting with JICA Vietnam Office, Meeting with Ministry of Health
			Meeting with NIHE
			Structural Planner Narita → Hanoi
3	1/13	Fri.	Meeting with NIHE
4	1/14	Sat.	Meeting with NIHE
5	1/15	Sun.	Leader, Technical Advisor: Narita → Hanoi
			Internal Meeting, Collation of Data
			Structural Planner: Hanoi → Narita
6	1/16	Mon.	Meeting with JICA Vietnam Office, Courtesy Call to Embassy of Japan, Courtesy Call to Ministry of Planning and Investment, Meeting with Ministry of Health
			Discussions with NIHE
7	1/17	Tue.	Discussions with NIHE
8	1/18	Wed.	Discussions with NIHE
			Construction/ Cost Planner, Equipment Procurement/Cost Planner: Narita → Hanoi
9	1/19	Thu.	Discussions with NIHE (Minute of Discussion)
10	1/20	Fri.	Signing of Minutes of Discussion, Report to JICA Vietnam Office, Embassy of Japan
11	1/21	Sat.	Discussions with NIHE
			Construction/Cost Planner, Equipment Procurement/Cost Planner: Construction related investigations, Equipment Market survey
			Leader and Technical Advisor: Hanoi → Narita
12	1/22	Sun.	Internal Meeting, Collation of Data
13	1/23	Mon.	Discussions with NIHE
			Construction/Cost Planner, Equipment Procurement/Cost Planner: Survey of materials & Construction equipment, Survey of Agents
14	1/24	Thu.	Discussions with NIHE
			Construction/Cost Planner, Equipment Procurement/Cost Planner: Survey of Local Contractors, Maintenance related survey
15	1/25	Wed.	Discussions with NIHE ( Technical Memorandum )
			Construction/Cost Planner, Equipment Procurement/Cost Planner: Survey of procurement, Transportation, customs delivery
16	1/26	Thu.	Signing of Technical Memorandum, Report to JICA Vietnam Office, Embassy of Japan
17	12/27	Fri.	Hanoi → Narita

Explanation on Draft Report (May 10 to May 23, 2006)

	Date		Content
1	5/10	Wed.	Study Team (except Leader, Technical Advisor, Project Coordinator, Equipment Planner) Narita → Hanoi
2	5/11	Thu.	Meeting with JICA, Discussions with NIHE Equipment Planner: Narita → Hanoi
3	5/12	Fri.	Preliminary Discussions with NIHE on Facilities & Equipment
4	5/13	Sat.	Preliminary Discussions with NIHE on Facilities & Equipment
5	5/14	Sun.	Technical Advisor, Project Coordinator: Narita → Hanoi Internal Meeting, Collation of Data Architectural Designer (Assistant ) : Hanoi → Narita
6	5/15	Mon.	Courtesy Call on JICA, Embassy of Japan and Ministry of Health, Discussions with NIHE
7	5/16	Tue.	Discussions with NIHE
8	5/17	Wed.	Discussions with NIHE
9	5/18	Thu.	Discussions on Draft Minutes of Discussions
10	5/19	Fri.	Signing of Minutes, Technical Advisor, Project Coordinator, Equipment Planner: Hanoi → Narita
11	5/20	Sat.	Report to JICA, Embassy of Japan Discussions with NIHE
12	5/21	Sun.	Internal Meeting
13	5/22	Mon.	Signing of Technical Memorandum, Report to JICA
14	5/23	Tue.	Hanoi → Narita

### 3. List of Parties Concerned in the Recipient Countries

#### Viet Nam Side

##### Ministry of Planning and Investment ( MPI )

Mr. HO MINH CHIEN	DIRECTOR GENERAL OF LABOUR CULTURE & SOCIAL AFFAIRS DEPARTMENT
Ms. NGUYEN TRAN KIM	SENIOR EXPERT OF LABOUR CULTURE & SOCIAL AFFAIRS DEPARTMENT
Mr. NGUYEN XUAN TIEN	HEAD OF NORTHEAST & JAPAN DIVISION ,FOREIGN ECONOMIC RELATIONS DEPARTMENT
Mr. NGUYEN TUONG SON	SENIOR OFFICIAL LABOUR CULTURE & SOCIAL AFFAIRS DEPARTMENT
Mr. PHAM THU HIEN	OFFICIAL FOREIGN ECONOMIC RELATIONS DEPARTMENT
Mr. PHAM THI HA	OFFICIAL LABOUR CULTURE & SOCIAL AFFAIRS DEPARTMENT

##### Ministry of Health ( MOH )

Prof-Dr. TRIUH QUAN HUAN	VICE MINISTER
Mr. NGUYEN QUANG AN	DEPUTY DIRECTOR GENERAL PLANNING & FINANCE DEPARTMENT
Mr. NGUYEN CHIEN THANG	DEPUTY DIRECTOR GENERAL MEDICAL EQUIPMENT & CONSTRUCTION DEPARTMENT
Mr. NGUYEN MINH TUAN	DEPUTY DIRECTOR GENERAL MEDICAL EQUIPMENT & CONSTRUCTION DEPARTMENT
Mrs. TRAN THI GIANG HUONG	DEPUTY DIRECTOR GENERAL INTERNATIONAL COOPERATION DEPARTMENT
Mr. NGUYEN DAC PHU	DEPUTY DIRECTOR GENERAL VIETNAM ADMINISTRATION FOR PREVENTIVE MEDICINE
Mr. NGUYEN VAN BINH	DEPUTY DIRECTOR GENERAL VIETNAM ADMINISTRATION FOR PREVENTIVE MEDICINE
Mr. PHAUN HONG SON	STAFF MEDICAL EQUIPMENT & CONSTRUCTION DEPARTMENT
Mr. NGO MANH HUNG	DESK OFFICER INTERNATIONAL COOPERATION DEPARTMENT
Mr. DOAN HAI VAN	SENIOR OFFICER MEDICAL EQUIPMENT & CONSTRUCTION DEPARTMENT
Mr. NGUYEN VAN QUANG	OFFICER PLANNINGS & FINANCE DEPARTMENT
Mr. THAUH DUONG	CHIEF INJECTIONS DISEASES DIVISION VIETNAM ADMINISTRATION FOR PREVENTIVE MEDICINE

##### National Institute of Hygiene and Epidemiology ( NIHE )

Dr. NGUYEN TRAN HIEN	DIRECTOR
Dr. NGUYEN HONG HANH	VICE-DIRECTOR
Dr. DANG DUC ANH	VICE-DIRECTOR
Prof. HOANG THUY LONG	EX-DIRECTOR
Mr. NGUYEN MANH CUONG	CHIEF OF GENERAL AFFAIRS DIVISION
Mr. NGUYEN TRONG PHU	HEAD OF SUPPLY & EQUIPMENT DEPARTMENT
Mr. NGUYEN QUANG	CHIEF OF PLANNING DIVISION
Ms. HO MINH LY	CHIEF OF TRAINING & SCIENCE RESEARCH DEPARTMENT
Dr. LE QUYNH MAI	HEAD OF VIROLOGY DEPARTMENT
Dr. VU TAN TRAO	HEAD OF IMMUNOLOGY & MOLECULAR DEPARTMENT
Dr. NGUYEN BINH MINH	HEAD OF BACTERIOLOGY DEPARTMENT



Mr. PHAM QUANG THAI	RESEARCHER OF EPIDEMIOLOGY
Mr. VUONGTUAN ANH	RESEARCHER OF BACTERIOLOGY
Ms. TRAN MAI HUNG	SECRETARY TO DIRECTOR
Ms. TRAN THU MINH	STAFF OF PLANNING DIVISION
Mr. LE THANH NAM	ARCHITECT THE FOURTH DESIGN OFFICE, VIETNAM CONSTRUCTION COMPANY
Mr. NGO QUANG SINH	ENGINEER THE FOURTH DESIGN OFFICE, VIETNAM CONSTRUCTION COMPANY
Mr. NGUYEN VAN HIEN	ENGINEER 665 CONSTRUCTION COMPANY
Mr. TRAN NGEC THANH	ENGINEER THE FOURTH DESIGN OFFICE, VIETNAM CONSTRUCTION COMPANY
US Embassy	
Dr. MARIE HARING SWEENEY	SENIOR EPIDEMIOLOGIST, DEPARTMENT OF HEALTH & HUMAN SERVICES
Mr. PHUNG THI THANH VAN	PROGRAM ASSISTANT, DEPARTMENT OF HEALTH & HUMAN SERVICES
Asian Development Bank	
Ms. LISA J. STUDDERT	HEAD, HEALTH UNIT
Japanese Side	
Embassy of Japan	
Mr. Takuya Takigawa	Second Secretary
Mr. Toshiyasu Shimizu	Counsellor and Medical Attaché
JICA Vietnam Office	
Mr. Fumio Kikuchi	Resident Representative
Ms Junko Sato	Senior Project Formulation Advisor
Nagasaki University	
Mr. Tetsu Yamashiro	Professor, Institute of Tropical Medicine, Center of International Collaborative Research, Nagasaki University
Mr. Koichi Morita	Professor, Institute of Tropical Medicine, Center of International Collaborative Research, Nagasaki University

#### 4. MINUTES OF DISCUSSION (Basic Design Survey)

別添

**MINUTES OF DISCUSSIONS  
ON THE BASIC DESIGN STUDY  
ON THE PROJECT FOR BUILDING A BIO-SAFETY LEVEL 3 LABORATORY FOR  
NATIONAL INSTITUTE OF HYGIENE AND EPIDEMIOLOGY  
IN THE SOCIALIST REPUBLIC OF VIET NAM**

In response to a request from the Government of the Socialist Republic of Viet Nam (hereinafter referred to as "Viet Nam"), the Government of Japan decided to conduct a Basic Design Study on the Project for Building a Bio-safety Level 3 Laboratory ( hereinafter referred to as "the Project") for National Institute of Hygiene and Epidemiology (hereinafter referred to as NIHE ) and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Viet Nam the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Hideaki Harada, Group Director, Project Management Group II, Grant Aid Management Department, JICA, and is scheduled to stay in the country from 11<sup>th</sup> January to 27<sup>th</sup> January.

The Team held discussions with the officials concerned of the Government of Viet Nam and conducted a field survey at the study area.

In the course of discussions and field survey, both parties confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Hanoi, 20<sup>th</sup> January 2006



Mr. Hideaki Harada  
Leader  
Basic Design Study Team  
Japan International Cooperation Agency  
Japan



Dr. Nguyen Tran Hien  
Director  
National Institute of Hygiene and Epidemiology  
Ministry of Health  
Socialist Republic of Viet Nam



Mr. Ho Minh Chien  
Director General  
Labor, Culture and Social Affairs Department  
Ministry of Planning and Investment  
Socialist Republic of Viet Nam

Dr. Tran Trong Hai, PhD  
Director General  
International Cooperation Department  
Ministry of Health  
Socialist Republic of Viet Nam

## ATTACHMENT

### 1. Objective of the Project

The objective of the Project is to install and equip Bio-Safety Level 3(BSL-3) laboratories and related equipment so that the National Institute of Hygiene and Epidemiology (NIHE) will be capable of testing and conducting research on dangerous pathogens such as Avian Influenza virus. The installation of BSL-3 laboratories will enable NIHE to appropriately protect working staff as well as the environment from biohazards.

### 2. Project site

The site of the Project is in the Hi-tech building of NIHE in Hanoi. (Annex-1)

### 3. Responsible and Implementing Agency

3-1. The Responsible Agency is the Ministry of Health.

3-2. The Implementing Agency is NIHE.

(The Organization chart is attached as Annex-2)

### 4. Items requested by the Government of Viet Nam

After discussions with the Team, the following components were finally requested by the Vietnamese side. JICA will assess the appropriateness of the request and will recommend to the Government of Japan.

(1) BSL-3 laboratories and related facilities (Annex-3)

(2) Equipment for the BSL-3 laboratories and related facilities (Annex-4)

### 5. Japan's Grant Aid Scheme

5-1. The Vietnamese side understands the Japan's Grant Aid Scheme explained by the Team, as described in Annex-5.

5-2. The Vietnamese side will take the necessary measures, as described in Annex-6, for smooth implementation of the Project, as a condition for the Japanese Grant Aid to be implemented,

### 6. Schedule of the Study

6-1. The consultants of the Team will proceed to further studies in Viet Nam until January 27<sup>th</sup>.

6-2. JICA will prepare the draft report of the Study in English and dispatch the mission in order to explain its contents around May 2006.

6-3. Based on the Minutes of Discussions and technical examination of the study results, JICA will complete the final report of the Basic Design Study and send it to the Government of Viet Nam by the end of July 2006.

### 7. Other relevant issues

7-1. Both sides understand that BSL-3 laboratories and related facilities including necessary equipment located mainly on the 3<sup>rd</sup> and the 4<sup>th</sup> floors of the Hi-tech building in NIHE will be installed under the Japan's Grant Aid. The alteration of the 3<sup>rd</sup>, the 4<sup>th</sup> floors and the roof will be done by the Vietnamese side. The facilities for the 1<sup>st</sup> and the 2<sup>nd</sup> floors of the Hi-tech building will be constructed and equipped by Vietnamese side. And the both sides confirmed that close coordination should be taken for the smooth implementation of the Project. For this purpose, the Vietnamese side requested the Japanese side to provide necessary information and technical advice for the works in the Hi-tech building done by Vietnamese side to secure the systematical and harmonized functioning of the Hi-tech building.

P. Z. A.

Handwritten signature

- 7-2. The Vietnamese side promised to make necessary arrangements for modification and additional construction works in advance to enable smooth installation of BSL-3 laboratories and related facilities on the 3<sup>rd</sup> and the 4<sup>th</sup> floors of the Hi-tech building in NIHE. The Vietnamese side also promised to secure necessary budget for its alteration works.
- 7-3. The Vietnamese side promised to assign sufficient manpower and secure necessary budget for maximum use and proper maintenance of the facilities and equipment to be installed by the Project.
- 7-4. Both sides confirmed that the Project should have the maximum synergy with the activity of Japanese Technical Cooperation Project for capacity development for NIHE to control emerging and re-emerging infectious diseases in Viet Nam.
- 7-5. The Vietnamese side requested technical assistance under the Japan's Grant Aid for facility maintenance such as mechanical and electrical system. The Team would convey the request to the Government of Japan.
- 7-6. Both sides confirmed that the detailed specifications of the design, equipment and other technical information shall not be released before the tender to be held in the implementation stage of the Project.

#### List of Annex

- |         |  |
|---------|--|
| Annex-1 | Project Site Plan                                      |
| Annex-2 | Organization chart                                     |
| Annex-3 | Floor Plan (BSL-3 laboratories and related facilities) |
| Annex-4 | List of Requested Equipment                            |
| Annex-5 | Japan's Grant Aid Scheme                               |
| Annex-6 | Major Undertakings to be taken by Each Government      |

*Handwritten signature*

*Handwritten signature*

PROJECT SITE

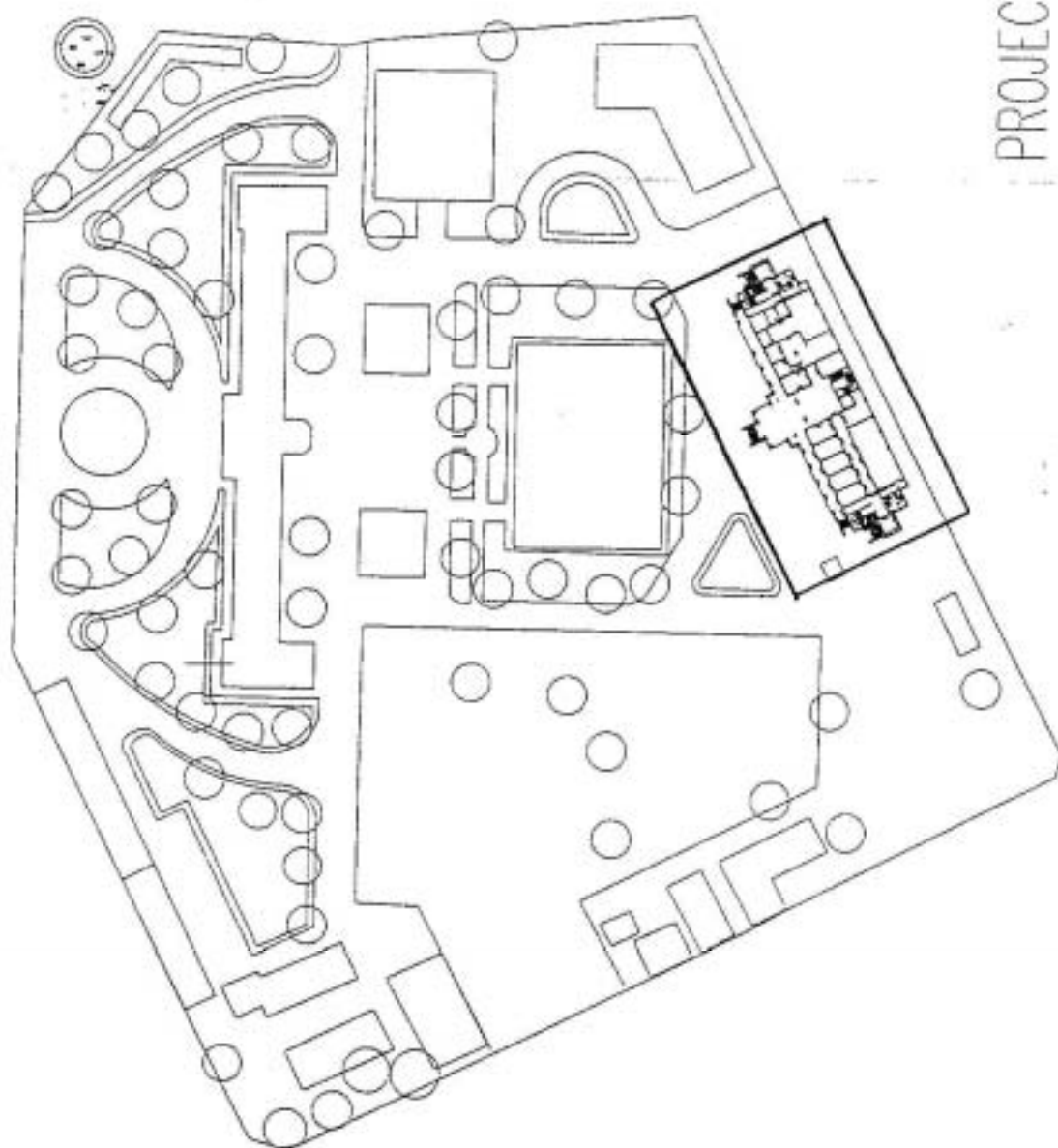
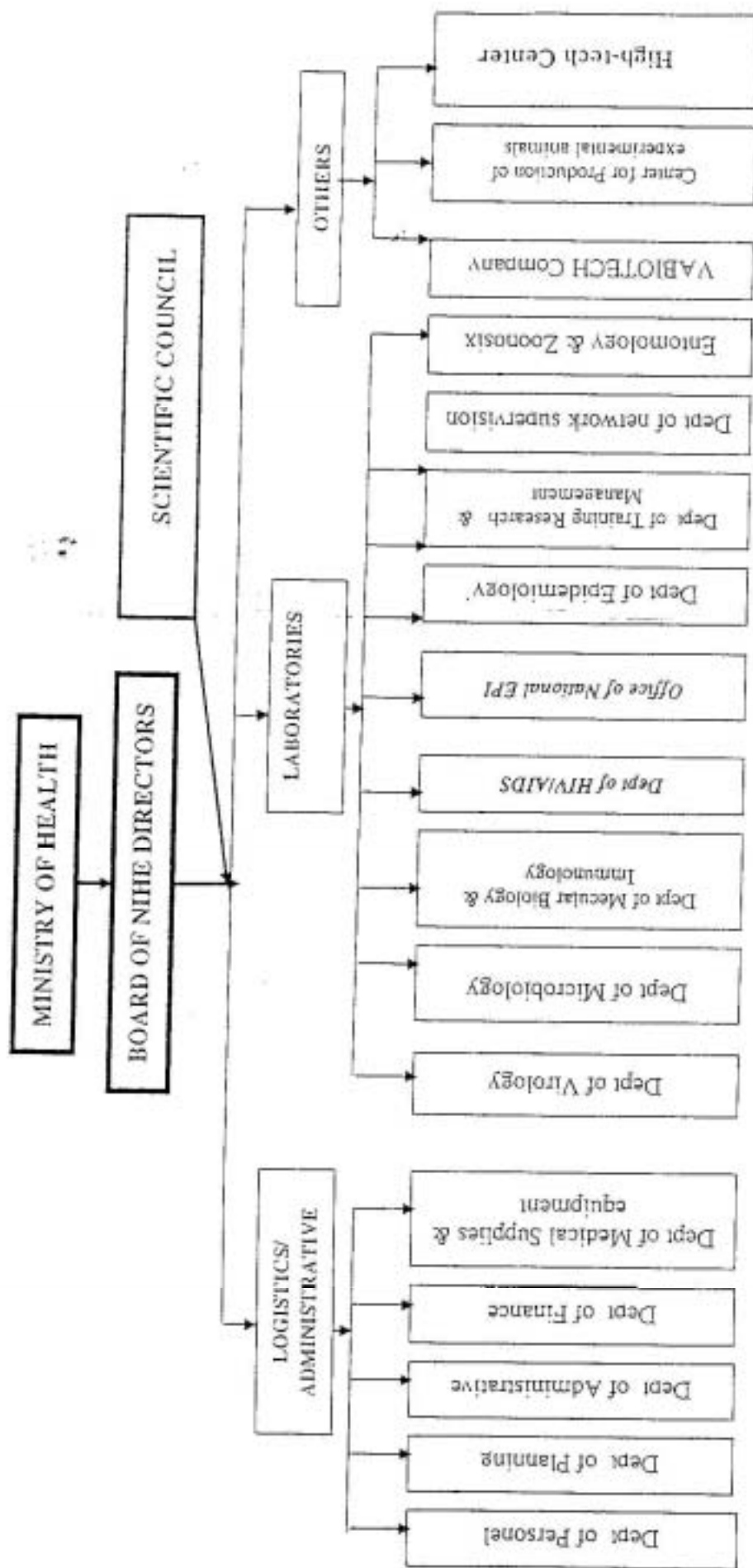


Fig. 21.

27/11/20

# System of Organization



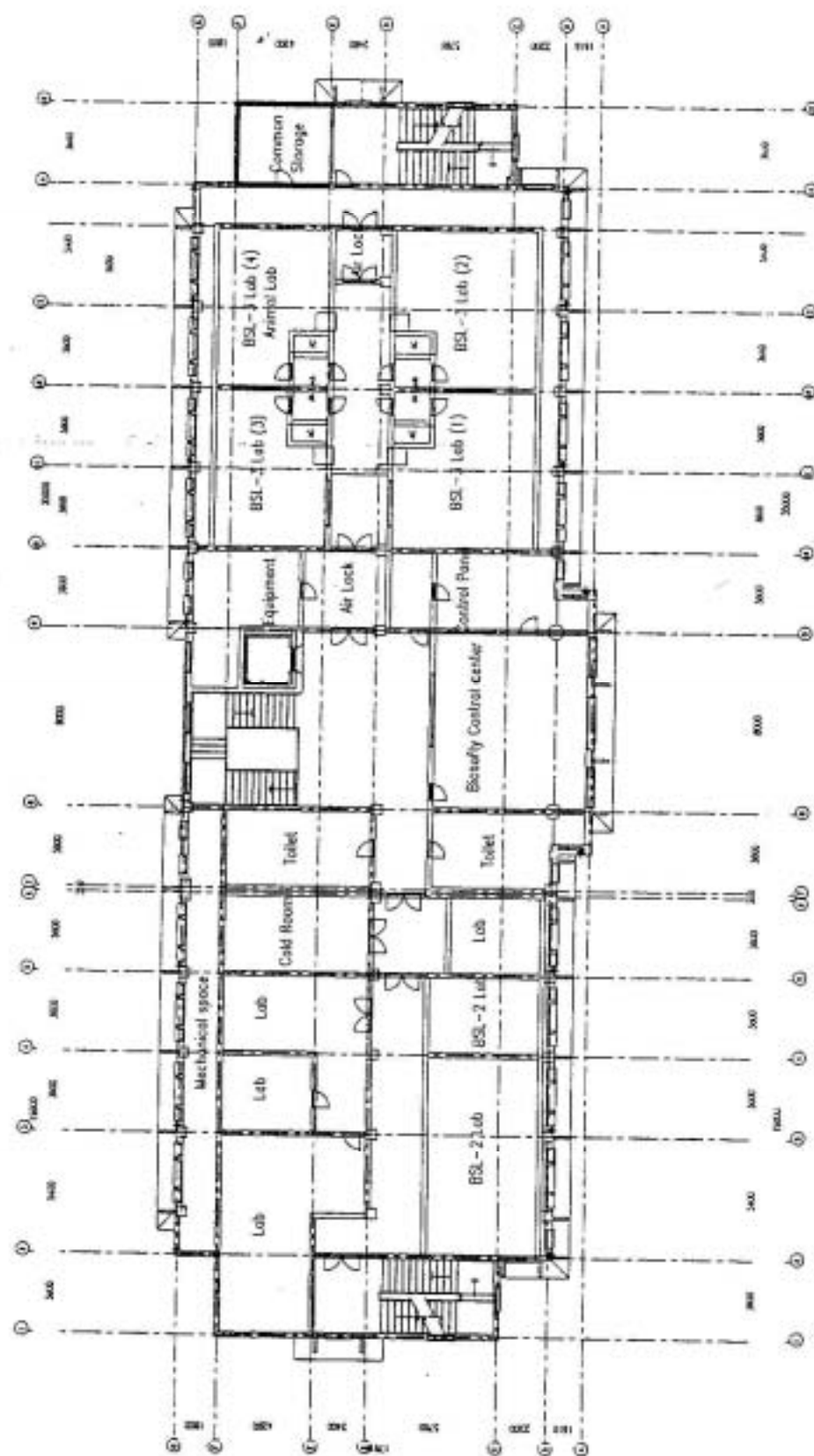
ANNEX - 2

2.1

mtc

SUPPORT LABS WING

BSL-3 LABS WING



3F Plan  
1/200

12.2

12.2

No.	Description	Priority	Tentative Allocation
<b>I. Equipment for BSL-3 Laboratory</b>			
I-1	Autoclave, Pass Through Type	A	BSL-3 Laboratory
I-2-1	Safety Cabinet A	A	BSL-3 Laboratory
I-2-2	Safety Cabinet B	A	BSL-3 Laboratory
I-3	P3 Pass Box	A	BSL-3 Laboratory
I-4	Sink with Drain Decontamination Tank	A	BSL-3 Laboratory
I-5	Formaldehyde Decontamination and Neutralization Unit	A	BSL-3 Laboratory
I-6	Animal Cage Unit (Autoclaveable)	C	
I-7	Animal Cage with Safety Cabinet Unit	A	BSL-3 Laboratory
I-8	UV Locker	C	
I-9	Safety Cabinet for Centrifuge	C	

<b>II. Laboratory Equipment</b>			
II-1	Laser Scanning Microscope and Specimen Preparation System	C	
II-2	Spectrofluorometer	B	Laboratory
II-3	FTIR Spectrophotometer	A	Laboratory
II-4	Spectrophotometer	A	Laboratory
II-5	High Performancer Liquid Chromatograph (HPLC)	C	
II-6	Electrophoresis with Supply Unit	A	Laboratory
II-7	Real Time PCR	A	Laboratory
II-8	PCR Machine-Thermal Cycler	A	Laboratory
II-9	DNA Sequencer	A	Laboratory
II-10	ELISA System	A	Laboratory
II-11	Biological Microscope	C	
II-12	Fluorescence Microscope	A	Laboratory
II-13	Inverted Microscope	A	BSL-3 Laboratory, Laboratory
II-14	Ultracentrifuge, Floor Type	A	Laboratory
II-15	Ultracentrifuge, Bench-top Type	C	
II-16	Centrifuge	A	BSL-3 Laboratory, Laboratory
II-17	Microcentrifuge, Non Refrigerated Type	C	Laboratory
II-18	Microcentrifuge, Refrigerated Type	A	BSL-3 Laboratory, Laboratory
II-19	Deep Freezer, -80°C	A	BSL-3 Laboratory, Laboratory

R. H.

J. H.



Requested Equipment List

II-20	Deep Freezer, -150°C	C	-
II-21	Ultra Pure Water System	C	-
II-22	PCR Station	A	Laboratory
II-23	CO <sub>2</sub> Incubator	A	BSL-3 Laboratory, Laboratory
II-24	Incubator, 37°C	A	BSL-3 Laboratory, Laboratory
II-25	Vertical Autoclave	A	BSL-3 Laboratory, Laboratory
II-26	Dry Sterilizing Oven	A	Laboratory
II-27	Ultrasonicator	A	BSL-3 Laboratory, Laboratory
II-28	Electronic Balance	A	Laboratory
II-29	pH Meter	A	Laboratory
II-30	Shaking Water Bath	B	Laboratory
II-31	Dry Block Bath	A	Laboratory
II-32	UV Transilluminator	A	Laboratory
II-33	Ice Maker	A	Laboratory
II-34	Lyophilizer, Bench-top Type	A	Laboratory
II-35	Automatic RNA Extraction	A	Laboratory
II-36	Image Acquisition Workstation for Electrophoresis Application	A	Laboratory
II-37	Concentrator DNA, DNA quantitative machine	C	-
II-38	Personal Computer	A	Biosecurity Center
II-39	Scanner	C	-
II-40	Laser Printer	A	Biosecurity Center
II-41	Rotary Incubator	C	-
II-42	Vortex Mixer	C	-
II-43	Laboratory Table	A	BSL-3 Laboratory, Laboratory
II-44	Microwave	C	-
II-45	Biosafety Cabinet C	A	Laboratory
II-46	Deep Freezer, -20°C	A	Laboratory
II-47	Medical Refrigerator	A	BSL-3 Laboratory, Laboratory
II-48	Spin Down	C	-
II-49	Multipurpose Cytometry	A	Laboratory

Priority A: It is necessary

Priority B: It is necessary but further study is required

Priority C: Low priority

*BA*

*2/16*

## JAPAN'S GRANT AID SCHEME

## 1. Grant Aid Procedure

## 1) Japan's Grant Aid Program is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request. If necessary, JICA send a Preliminary Study Team to the recipient country to confirm the contents of the request.

Secondly, JICA conducts the study (Basic Design Study), using Japanese consulting firms.

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Programme, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.

## 2. Basic Design Study

## 1) Contents of the Study

The aim of the Basic Design Study (hereinafter referred to as "the Study"), conducted by JICA on a requested project (hereinafter referred to as "the Project"), is to provide a basic document necessary for the appraisal of the Project by the Government of Japan. The

contents of the Study are as follows:

- a) confirmation of the background, objectives and benefits of the Project and also institutional capacity of agencies concerned of the recipient country necessary for the Project's implementation;
- b) evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from the technical, social and economic points of view;
- c) confirmation of items agreed on by both parties concerning the basic concept of the Project;
- d) preparation of a basic design of the Project; and
- e) estimation of costs of the Project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the Project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

The Government of Japan requests the Government of the recipient country to take whatever measures are necessary to ensure its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization in the recipient country actually implementing the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country through the Minutes of Discussions.

## 2) Selection of Consultants

For the smooth implementation of the Study, JICA uses a consulting firm selected through its own procedure (competitive proposal). The selected firm participates the Study and prepares a report based upon the terms of reference set by JICA.

At the beginning of implementation after the Exchange of Notes, for the services of the Detailed Design and Construction Supervision of the Project, JICA recommends the same consulting firm which participated in the Study to the recipient country, in order to maintain the technical consistency between the Basic Design and Detailed Design as well as to avoid any undue delay caused by the selection of a new consulting firm.

*Handwritten signatures and initials at the bottom of the page.*

3. Japan's Grant Aid Scheme

1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with the relevant laws and regulations of Japan. Grant Aid is not supplied through the donation of materials as such.

2) Exchange of Notes (E/N)

Japan's Grant Aid is extended in accordance with the Notes exchanged by the two Governments concerned, in which the objectives of the project, period of execution, conditions and amount of the Grant Aid, etc., are confirmed.

3) "The period of the Grant" means the one fiscal year which the Cabinet approves the project for. Within the fiscal year, all procedure such as exchanging of the Notes, concluding contracts with consulting firms and contractors and final payment to them must be completed.

However, in case of delays in delivery, installation or construction due to unforeseen factors such as weather, the period of the Grant Aid can be further extended for a maximum of one fiscal year at most by mutual agreement between the two Governments.

4) Under the Grant, in principle, Japanese products and services including transport or those of the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country.

However, the prime contractors, namely consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

5) Necessity of "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability

TZ H.

stus

of Japanese taxpayers.

- 6) Undertakings required to the Government of the recipient country
  - a) to secure a lot of land necessary for the construction of the Project and to clear the site;
  - b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities outside the site;
  - c) to ensure prompt unloading and customs clearance at ports of disembarkation in the recipient country and internal transportation therein of the products purchased under the Grant Aid;
  - d) to exempt Japanese nationals from customs duties, internal taxes and fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts;
  - e) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the verified contracts such as facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work;
  - f) to ensure that the facilities constructed and products purchased under the Grant Aid be maintained and used properly and effectively for the Project; and
  - g) to bear all the expenses, other than those covered by the Grant Aid, necessary for the Project.
- 7) "Proper Use"

The recipient country is required to maintain and use the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign the necessary staff for operation and maintenance of them as well as to bear all the expenses other than those covered by the Grant Aid.
- 8) "Re-export"

The products purchased under the Grant Aid shall not be re-exported from the recipient country.
- 9) Banking Arrangement (B/A)
  - a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in an authorized foreign exchange bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations

B. J.

2/11/50

incurred by the Government of the recipient country or its designated authority under the verified contracts.

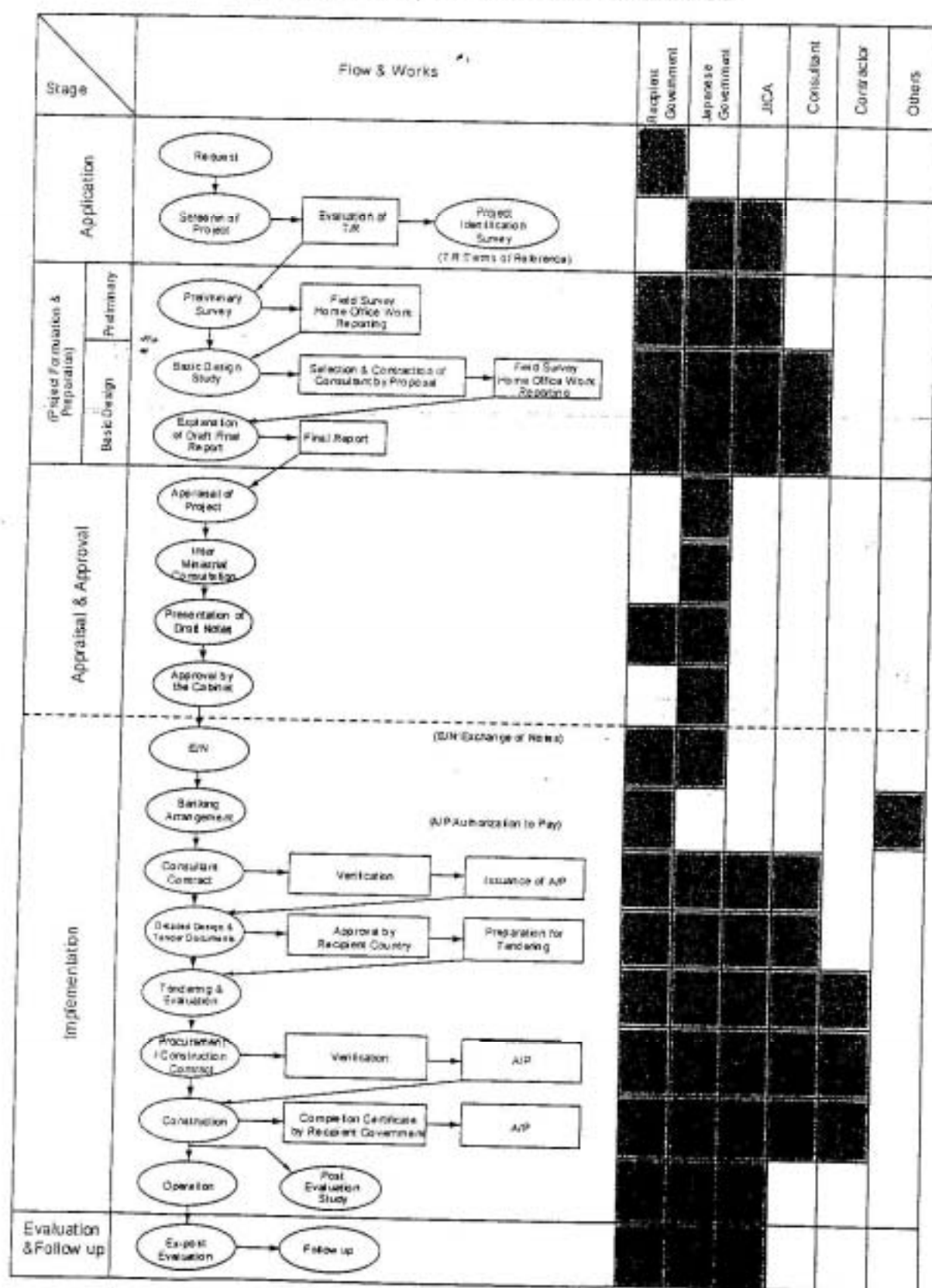
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an Authorization to Pay (A/P) issued by the Government of recipient country or its designated authority.

D.R. J.

stuh

## Grant Aid Procedures

Flow Chart of Japan's Grant Aid Procedures





## Major Undertakings to be taken by Each Government

No.	Items	To be Covered by Grant Aid	To be Covered by Recipient's Side
1	To secure land		●
2	To clear, level and reclaim the site when needed		●
3	To construct gates and fences in and around the site		●
4	To construct the parking lot	●	
5	To construct roads		
	1) Within the site	●	
	2) Outside the site		●
6	To construct the building	●	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1) Electricity		
	a. The distributing line to the site		●
	b. The drop wiring and internal wiring within the site	●	
	c. The main circuit breaker and transformer	●	
	2) Water Supply		
	a. The city water distribution main to the site		●
	b. The supply system within the site (receiving and elevated tanks)	●	
	3) Drainage		
	a. The city drainage main (for storm, sewer and others to the site)		●
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	4) Gas Supply		
	a. The city gas main to the site		●
	b. The gas supply system within the site	●	
	5) Telephone System		
	a. The telephone trunk line to the main distribution frame/panel (MDF) of the building		●
	b. The MDF and the extension after the frame/panel	●	
	6) Furniture and Equipment		
	a. General furniture		●
	b. Project equipment	●	
8	To bear the following commissions to the Japanese bank for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
9	To ensure unloading and customs clearance at port of disembarkation in recipient country		
	1) Marine (Air) transportation of the products from Japan to the recipient	●	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	(●)	(●)
10	To accord Japanese nationals, whose services may be required in connection with the supply of the products and the services under the verified contract, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
11	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contracts		●
12	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant		●
13	To bear all the expenses, other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●

(B/A: Banking Arrangement, A/P: Authorization to pay)

R X

Hm



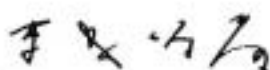
**MINUTES OF DISCUSSIONS  
ON THE BASIC DESIGN STUDY ON  
THE PROJECT FOR BUILDING A BIO-SAFETY LEVEL 3 LABORATORY FOR  
NATIONAL INSTITUTE OF HYGIENE AND EPIDEMIOLOGY  
IN THE SOCIALIST REPUBLIC OF VIET NAM  
(DRAFT REPORT EXPLANATION)**

In January 2006, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the Project for Building a Bio-Safety Level 3 Laboratory for National Institute of Hygiene and Epidemiology (NIHE) (hereinafter referred to as "the Project") to the Socialist Republic of Viet Nam (hereinafter referred to as "Viet Nam"), and through discussion, field survey, and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult the Vietnamese side on the components of the draft report, JICA sent to Viet Nam the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. Yasuhiro Tojo, Senior Deputy Resident Representative, JICA Viet Nam Office, from May 10<sup>th</sup> to May 23<sup>rd</sup>, 2006.

As a result of discussions, both parties confirmed the main items described on the attached sheets.

Hanoi, May 19<sup>th</sup>, 2006



**Mr. Yasuhiro Tojo**

Leader  
Draft Report Explanation Team  
Japan International Cooperation Agency  
Japan



**Dr. Nguyen Tran Hien**

Director  
National Institute of Hygiene and Epidemiology  
Ministry of Health  
Socialist Republic of Viet Nam



**Mr. Ho Minh Chien**

Director General  
Labor, Culture and Social Affairs Department  
Ministry of Planning and Investment  
Socialist Republic of Viet Nam



**Dr. Tran Trong Hai, PhD**

Director General  
International Cooperation Department  
Ministry of Health  
Socialist Republic of Viet Nam

## ATTACHMENT

### 1. Components of the Draft Report

The Vietnamese side agreed and accepted in principle the components of the draft report explained by the Team.

### 2. Japan's Grant Aid Scheme

The Vietnamese side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Viet Nam as explained by the Team and described in Annex-5 and Annex-6 of the Minutes of Discussions signed by both parties on January 20<sup>th</sup>, 2006.

### 3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Government of Viet Nam by the end of July 2006.

### 4. Other relevant issues

4-1. The Vietnamese side finally requested the facility described in Annex-1 and the equipments described in Annex-2. The Vietnamese side explained that the energy plant block will be located at the site described in Annex-3.

4-2. As a condition for this project to be implemented, the Japanese side explained that construction/alteration works on the High Tech Center Building as well as additional construction works mentioned in Annex-4 must be completed by the Vietnamese side by February 2007 at the latest. The Vietnamese side promised to allocate necessary budget mentioned in Annex-5 from the budget for the fiscal year 2006 and 2007 to implement the works mentioned in Annex-4 and to complete the works according to the schedule mentioned in Annex-6.

4-3. The Vietnamese side promised to finish construction works of the 1<sup>st</sup> and 2<sup>nd</sup> floor of the High Tech Center Building by December 2006. The Vietnamese side explained that they will allocate budget for its works and will start operation of the 1<sup>st</sup> and 2<sup>nd</sup> floor of the High Tech Center by January 2007. The current zoning concept of the Vietnamese side for the 1<sup>st</sup> and 2<sup>nd</sup> floor of the High Tech Center is as mentioned in Annex-7.

4-4. The Vietnamese side mentioned their intention to design the BSL-2 laboratories on the 1<sup>st</sup> and 2<sup>nd</sup> floor of the High Tech Center Building to meet generally required bio-safety standards and to achieve well balanced laboratory environment as a whole High Tech Center Building. To realize such objectives, the Vietnamese side explained that the following points will be considered for the design of the 1<sup>st</sup> and 2<sup>nd</sup> floor of the High Tech Center Building;

- 1) Within the 1<sup>st</sup> and 2<sup>nd</sup> floor of the High Tech Center Building, in principle, laboratory areas should be separated from office areas.
- 2) Mechanical ventilation systems will be installed to respective laboratory rooms.

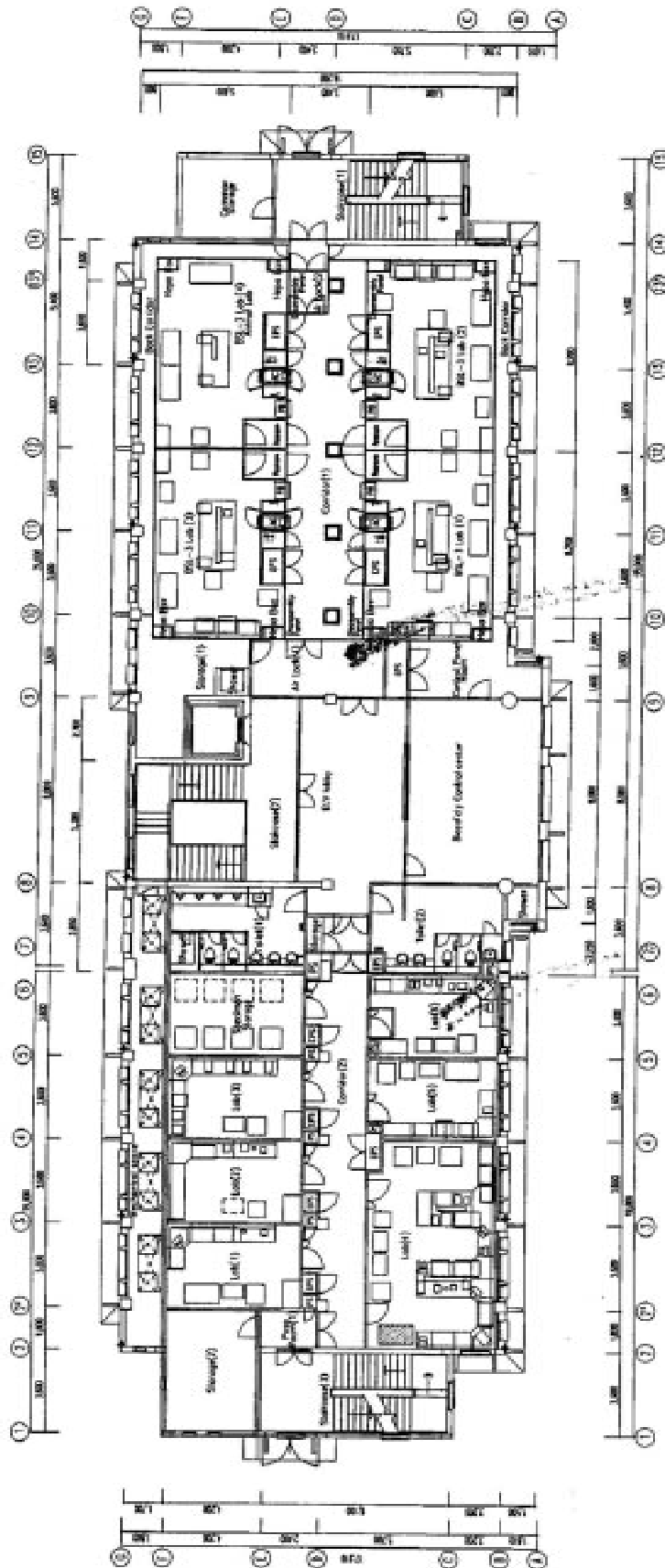
4-5. For the proper and sustainable maintenance of the facilities and equipment to be installed by the project, the Vietnamese side promised to allocate necessary budget for the pilot running as mentioned in Annex-8 and for the yearly routine maintenance and operation as mentioned in



Annex-9. Also, the Vietnamese side promised to allocate necessary staffs as mentioned in Annex-10. NIHE explained that NIHE will additionally hire 1 mechanical engineer, 1 electrical engineer, and 1 equipment engineer in 2007. Upon necessity, NIHE will hire 2 more equipment engineers/technicians in the future.

4-6. Both sides confirmed that the contents of the draft final report must be kept confidential until the time of tender.

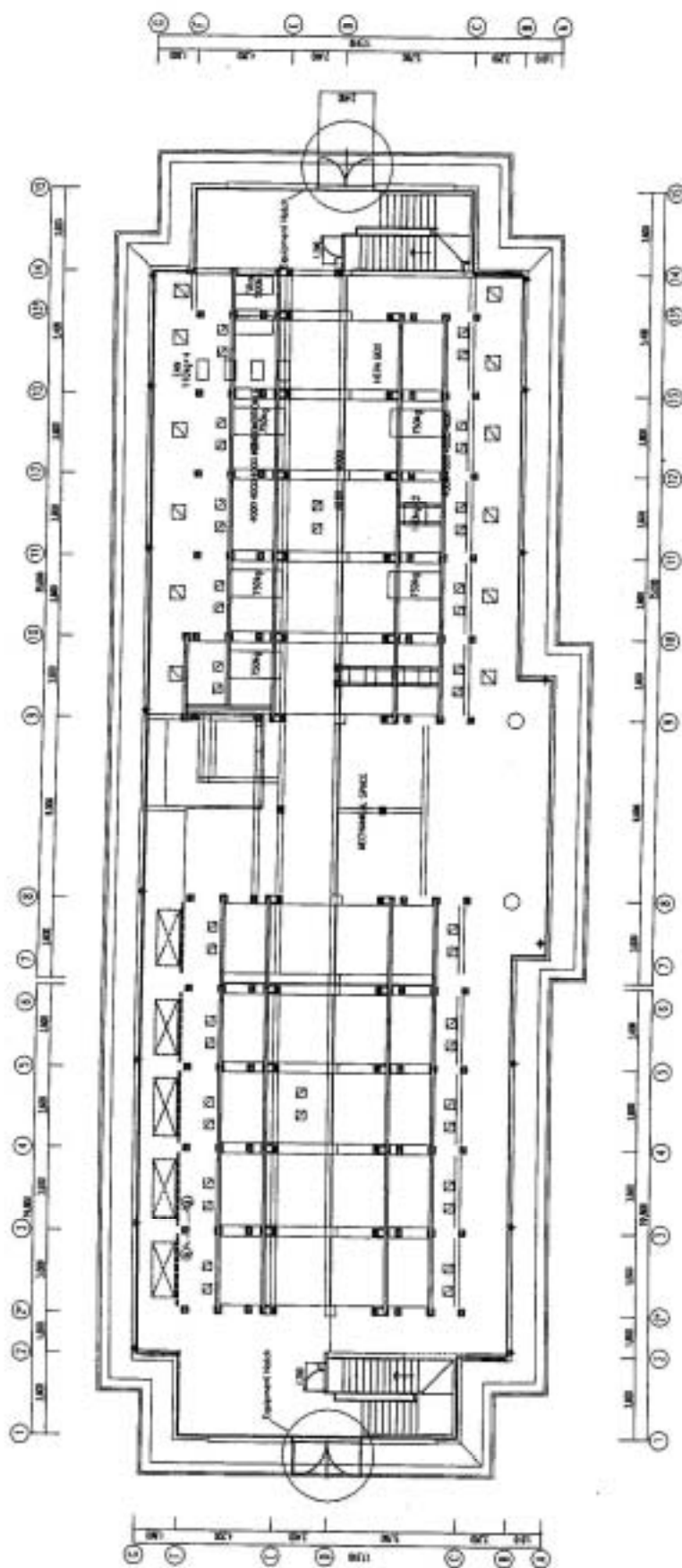
A handwritten signature in black ink, located in the bottom right corner of the page. The signature is stylized and appears to be a combination of letters and a flourish.



ft.

*[Handwritten signature]*

4F Plan



*Handwritten signatures and initials.*

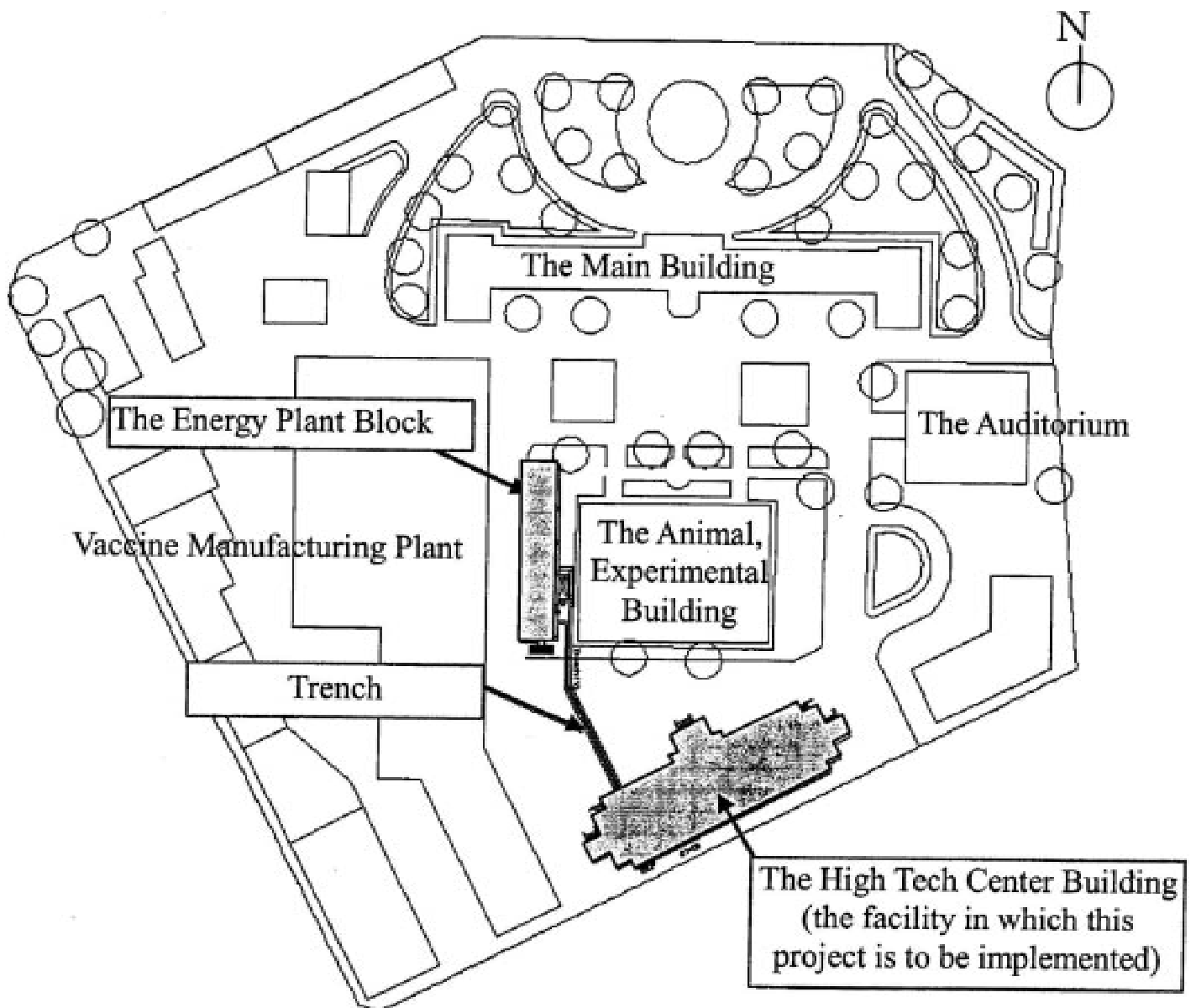
**Facility Components Finally Requested by the Government of Viet Nam**

Building/floor		Components	
HTC Building	3rd floor	BSL-3 laboratories	4 BSL-3 Laboratory Rooms (Diagnosis Laboratory, Research Laboratory, Back-up Laboratory, Animal Laboratory), Storages, Corridors
		BSL-2 laboratories and associated facilities	2 BSL-2 Laboratory Rooms (Multipurpose Diagnosis/Research Room, Tissue Culture Preparation Room)  4 Chemical Laboratory Rooms (3 PCR Rooms (RNA Extraction Room, Reagent Preparation Room, DNA Amplification Room), Electrophoresis Room)  Specimen Storage, Storage, Corridors, Bathrooms, Elevator Hall
		Control rooms	Bio-safety Control Center and Control Panel Room
	4th floor	Mechanical / Electrical equipments for BSL-3 laboratories and associated facilities	
	Basement	Sterilization tank unit	
Energy Plant Block and Trench		Boilers and chillers with connecting pipes and wirings (The Vietnamese side will be responsible for installation of the generator. Construction of the building to install boilers and chillers and installation of the trench are to be done by the Vietnamese side.)	

Y7.

No	Name of Equipment	Allocation												Total
		BSL-3 Diagnosis	BSL-3 Research	BSL-3 Back Up	BSL-3 Animal	BSL-3 Common Use	BSL-2 Multipurpose	BSL-2 Tissue Prepar.	PCR RNA Extract.	PCR Reagent Prepar.	PCR DNA Amplif.	Electrophoresis	Specimen Storage	
1	Autoclave, Pass Through Type	1	1	1	1									4
2	Biosafety Cabinet, A	2	2	2										6
3	Biosafety Cabinet, B				1									1
4	Biosafety Cabinet, C						1	1	1					3
5	Animal Cage System with Biosafety Cabinet				1									1
6	Pass Box	1	1	1	1									4
7	Sink with Decontamination Tank	1	1	1	1									4
8	Laboratory Table (Sets)	1	1	1	1		1	1	1	1	1	1		10
9	Formaldehyde Decontamination Unit, A					1								1
10	Formaldehyde Decontamination Unit, B					1								1
11	Spectrofluorometer						1							1
12	FTIR Spectrophotometer						1							1
13	Spectrophotometer						1							1
14	Electrophoresis Apparatus, A											1		1
15	Electrophoresis Apparatus, B											1		1
16	Electrophoresis Apparatus, C											1		1
17	Real Time PCR										1			1
18	PCR Machine						1				2			3
19	DNA Sequencer						1							1
20	ELISA System						1							1
21	Fluorescence Microscope						1							1
22	Inverted Microscope	1	1	1				1						4
23	Ultracentrifuge, Floor Type						1							1
24	Centrifuge, Non-Refrigerated						1	1						2
25	Centrifuge, Refrigerated	1	1	1										3
26	Refrigerated Microcentrifuge	1	1	1					1	1				5
27	Deep Freezer -80°C, A	1	1	1										3
28	Deep Freezer -80°C, B												4	4
29	Freezer -20°C						1	1	1		1			4
30	Medical Refrigerator	1	1	1			2	1	1		1	1		9
31	PCR Workstation									1				1
32	CO2 Incubator, A	1	1	1										3
33	CO2 Incubator, B						1	1						2
34	Incubator	1	1	1			1	1						5
35	Vertical Autoclave	1	1	1	1		1			1		1		7
36	Dry Sterilizing Oven						1							1
37	Ultrasonicator		1				1							2
38	Electronic Balance						1					1		2
39	pH Meter						1							1
40	Shaking Water Bath	1	1	1			1	1						5
41	Dry Block Bath						1			1				2
42	UV Transilluminator											1		1
43	Ice Maker Machine											1		1
44	Lyophilizer						1							1
45	Automatic RNA Extraction System								1					1
46	Image Acquisition Workstation for Electrophoresis Application											1		1
47	Multipurpose Flow Cytometry						1							1

77.





### Scope of Works of the Vietnamese side

In order to implement the Project by the Japanese Grant Aid, the Vietnamese side is required to implement the following scope of works.

#### **Works related to the 3<sup>rd</sup> and 4<sup>th</sup> floor of the High Tech Center Building (hereinafter referred to as "target facility") and the Energy Plant Block**

1. Designing of the works mentioned in 3.
2. Obtainment of necessary construction permissions and other relevant permissions/approvals.
3. Construction works
  - 1) Architectural Works
    - a) Alterations of the roof, demolition of its existing supporting structures, and its reconstruction
    - b) Making holes and openings to the 4<sup>th</sup> floor slabs and its related reinforcement
    - c) Construction of the Energy Plant Block building, including relocation of existing trees and landscaping
    - d) Construction of the Trench, including refurbishing pavement of roads
  - 2) Electrical System Works
    - a) Low tension power supply up to distribution board in the target facility and Energy Plant Block
    - b) Installation of emergency generator for the target facility and Energy Plant Block
    - c) Required extensions from HTC electrical systems to the connecting points of the target facility, including lighting & outlets, lightning arrestors & grounding, telephone, automatic fire alarm, generator circuit
  - 3) Mechanical System Works
    - a) Required extensions from HTC mechanical systems to the connecting points of the target facility, including water supply, drainage, and fire fighting facilities
    - b) City water connection up to the valves in target facility and Energy Plant Block
    - c) Vertical drainage from target facility and Energy Plant Block
    - d) Drainage connection after sterilization tank
  - 4) Miscellaneous
    - a) Installation of blinds and curtains
    - b) General furniture

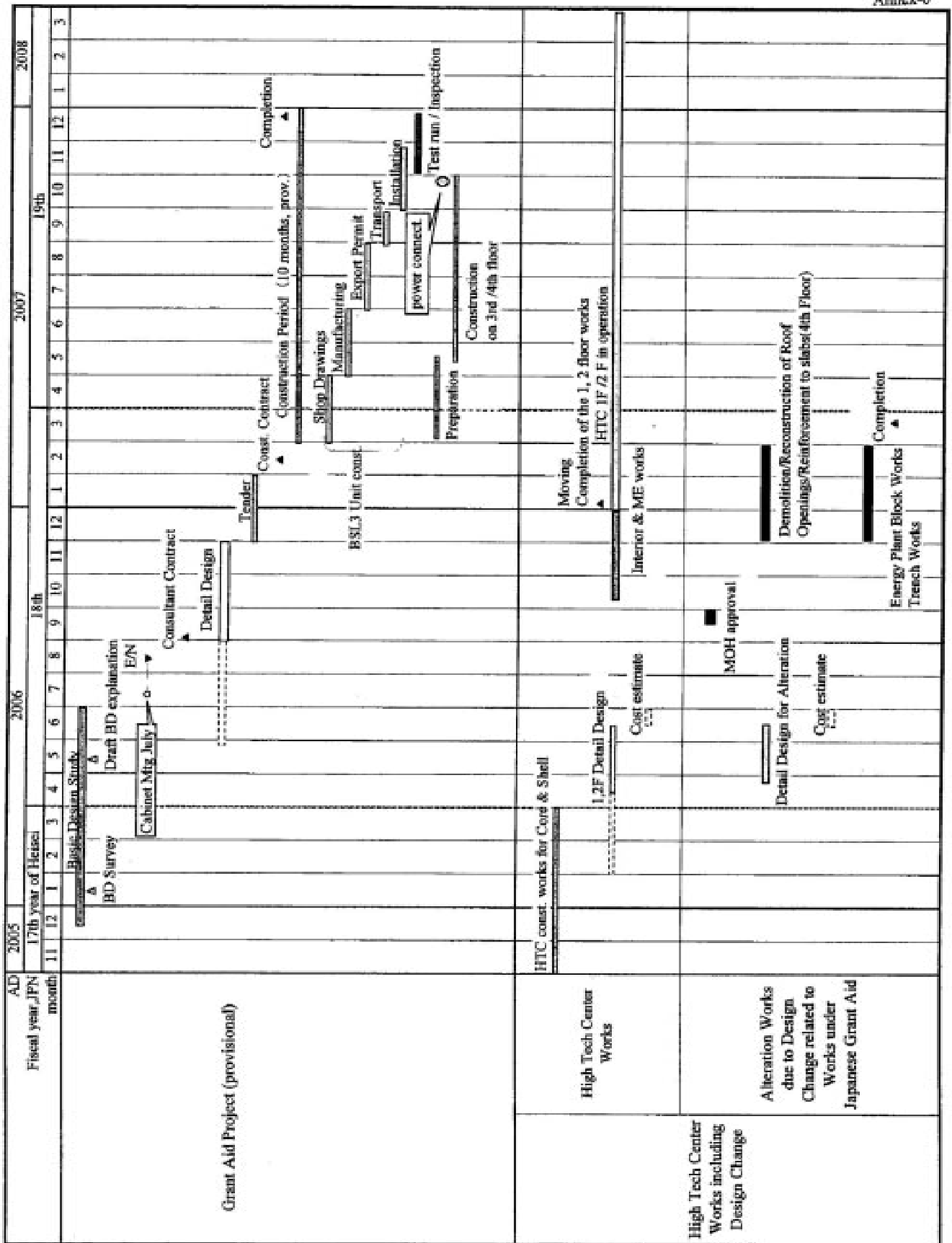
The Vietnamese side is responsible for constructing the High Tech Center Building itself and to complete the 1<sup>st</sup> and 2<sup>nd</sup> floors of the High Tech Center Building.

371

Budget to be allocated by the Vietnamese side for the works related to the 3<sup>rd</sup> and 4<sup>th</sup> floor of the High Tech Center Building and the Energy Plant Block

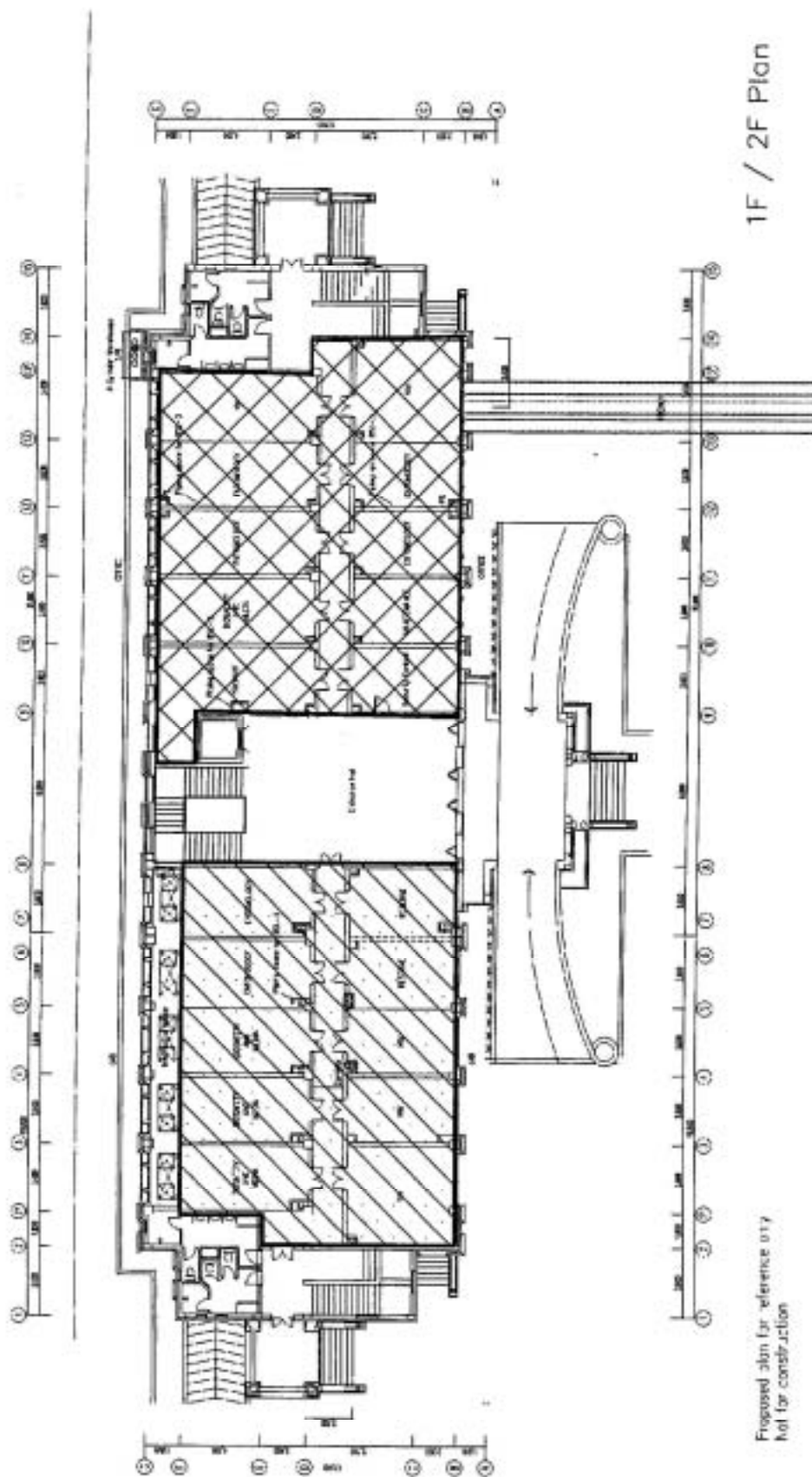
Item	Estimated budget	
	VND	USD
Design and supervsion	200,000,000	12,500
Construction	4,462,000,000	278,875
Contingency (10%)	464,000,000	29,000
<b>TOTAL</b>	<b>5,126,000,000</b>	<b>320,375</b>

## Implementation Schedule



# OFFICE ZONE

# LAB ZONE



Proposed plan for reference only  
Not for construction

1F / 2F Plan

Estimated Pilot Running Cost for the Facilities and Equipments to be Provided under the Japanese Grant Aid (for duration of 3 months after handover of the facilities and equipments from the Japanese side)

No.	Item	Estimated budget	
		VND	USD
1	Electricity	176,500,000	11,031
2	Communication	4,000,000	250
3	Water	1,750,000	109
4	CO <sub>2</sub> Gas	1,250,000	78
5	Diesel oil	168,750,000	10,547
6	Consumables and Reagents	1,166,076,500	72,880
7	Contingency (10%)	160,000,000	10,000
<b>TOTAL</b>		<b>1,678,326,500</b>	<b>104,895</b>

27.

**Estimated Yearly Maintenance and Operation Cost for the Facilities and Equipments to be Provided under the Japanese Grant Aid**

No.	Item	Estimated budget	
		VND	USD
1	Electricity	706,000,000	44,125
2	Communication	16,000,000	1,000
3	Water	7,000,000	438
4	CO <sub>2</sub> Gas	5,000,000	313
5	Diesel oil	675,000,000	42,188
6	<i>HEPA filters</i>	178,000,000	11,125
7	Building maintenace cost	80,000,000	5,000
8	Consumables and Reagents	4,664,306,000	291,519
9	Spare parts	61,111,000	3,819
10	Mainatenance contract cost	124,000,000	7,750
11	Contingency (10%)	640,000,000	40,000
<b>TOTAL</b>		<b>7,156,417,000</b>	<b>447,276</b>

27.

*[Handwritten signature]*

**Personnel Allocation Plan for the High Tech Center Building (at the time of completion of the High Tech Center works)**

	Admi. & Secutiry office	Bio-safety	Maintenance		Laboratories				Nagasaki University	Total
			Facilities	Equipmen t	Virology	Microbiolog y	Molecular Biology/ Immunolog y	HIV/AIDS		
Full time	2	6	2	3 *	6	6	4	6	6	41
Contract/Part time	2	2			2	2	2	2	2	14
Total	4	8	2	3	8	8	6	8	8	55

\* 2 more will be hired in the future upon necessity

88.

*[Handwritten signature]*