

APPENDIX 4 : Minutes of Discussion

MINUTES OF MEETING
ON
BASIC DESIGN STUDY
ON
THE PROJECT FOR IMPROVEMENT
OF
THE SOLID WASTE MANAGEMENT SYSTEM
IN
VIENTIANE URBAN AREA
IN
LAO PEOPLE'S DEMOCRATIC REPUBLIC

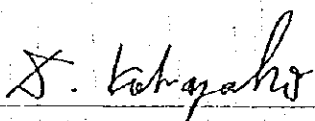
In response to a request from the Government of Lao People's Democratic Republic, the Government of Japan decided to conduct a Basic Design Study on the Project for Improvement of the Solid Waste Management System in Vientiane Urban Area (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to Lao a study team, which is headed by Mr. Shigeki KOBAYASHI, Grant Aid Division, Economic Cooperation Bureau, Ministry of Foreign Affairs, and is scheduled to stay in the country from the September 11 to October 8, 1995.

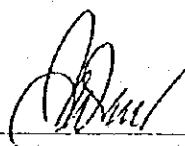
The study team held discussions with the officials concerned of the Government of Lao People's Democratic Republic and conducted a field survey at the study area.

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

September 19, 1995



Mr. Shigeki KOBAYASHI
Leader
Basic Design Study Team
JICA



Mr. Daophet BOUAPHA
Director
Department of Communication,
Transport, Post and Construction
Vientiane Municipality, LAO PDR

ATTACHMENT

1. Objective

The objective of the Project is to procure the equipment for Solid Waste Management, to construct a maintenance shop and establish a sanitary landfill, in accordance with the Short Term Improvement Plan defined in the Previous study carried out by JICA in 1992.

2. Project Site

Vientiane Municipality

3. Responsible and Executing Agency

Responsible Agency : Vientiane Municipality

Executing Agency : Cleansing Section, Department of Communication, Transport, Post and Construction.

4. Items Required by the Government of Lao's

After discussions with the Basic Design Study Team, the following items were finally requested by the Laotian side. (ANNEX-1)

However, the final components of the Project will be decided after further studies.

5. Japan's Grant Aid System

(1) The Government of Lao has understood the system of Japan's Grant Aid explained by the team, as described in Annex-II.

(2) The Government of Lao will take necessary measures, described in Annex-III for smooth implementation of the Project, on condition that the Grant Aid Assistance by the Government of Japan is extended to the Project.

6. Schedule of the Study

(1) The Consultant will proceed to further studies in Lao until October 8, 1995.

(2) Based upon the Minutes of Discussions and technical examination of the study results. JICA will prepare the Draft Basic Design in English and dispatch a mission to Lao in order to explain its contents around the end of January, 1996.

(3) In case that the contents of the Draft Basic Design are accepted in principle by the Government of Lao, JICA will complete the final report and send it to the Government of Lao by the end of March, 1996.

7. Results of Discussion

(1) Target year of the project

The Study Team proposed that target year of the short term improvement plan would be 1998 to 2000 year.

- The Laotian side agreed this proposal.
- (2) Role assignment on the construction of the maintenance shop at KM-7
- The Laotian side asked to the Study Team that the municipal land at KM-7 shown in ANNEX-IV was enough for the maintenance shop.
 - The Study Team replied that the land was enough for the maintenance shop.
 - The Study Team requested that the approach road would be widened at least 5 meter from National Route 13 to the site.
 - The Laotian side approved this request that municipality would widen the approach road.
 - The Study Team requested that the existing buildings in the site would be demolished by the commencement of the project.
 - The Laotian side agreed.
 - The Study Team indicated that the capacity of existing electricity and water supply to the site would not be enough for operation of the maintenance facilities.
 - The Laotian side replied that the Vientiane municipality would improve the capacity of electricity and water supply in order to accord the requirement.
- (3) Role assignment on the establishment of KM-18 landfill site
- The Study Team requested the Laotian side to execute the followings;
 - * construction of drain except side ditch of the access road
 - * supply of the electricity (11kv)
 - * construction of dike and dividers for the landfill after completion of the project
 - * rehabilitation of the internal road
 - * construction of gate at the western side entrance.
 - * cleansing of the waste dumped illegally
 - * establishment of law and regulations against illegal dumping
 - The Laotian side agreed to carry out the above items.
- (4) Organization to execute solid waste management
- The Study Team suggested that the organization should be strengthen to execute the municipal solid waste management.
 - The Laotian side replied that the Vientiane municipality would strengthen the organization for executing solid waste management by completion of the project.
- (5) Infectious waste and hazardous waste
- The Study Team clarified that the hazardous waste was not included in the project, and recommend that the infectious waste should be dealt under control by the Vientiane municipality. Also the Study team requested that the law and

regulation for infectious waste treatment should be established.

- The Laotian side approved.

(6) Water supply for the residents around KM-18 landfill site

- The Study Team recommended that the groundwater around the landfill site should not be used for drinking purpose because it might be polluted by the leachate.
- The Laotian side replied that the Vientiane municipality would lead the residents not to use the groundwater for drinking.

8. Technical Cooperation

- The Laotian side requested that the Japanese experts of solid waste management and operation and maintenance would be dispatched after completion of the project.
- The Study Team suggested that the Laotian side would send the request letter following the guideline of technical cooperation to the Japanese Embassy.

ANNEX-I: Facilities and Equipments requested by Lao PDR

Items	Unit	Quantity	Remarks
I. For cleansing Services			
1) Collection and Cleansing Equipment			
i. Dump Truck	Unit	14	closed type 10m ³
ii. Detachable Container Truck	Unit	3	for closed type container 5m ³
iii. Container	Unit	40	closed type 5m ³
iv. Motorcycle	Unit	18	not less than 100cc
v. Water Truck	Unit	2	not less than 6000liter
vi. Small Dump Truck	Unit	4	loading capacity ≥ 2ton
vii. Wheel Loader	Unit	1	not less than 75HP
viii. Grass Cutter	Unit	10	
ix. Pick-up	Unit	1	not less than 2000cc
2. Maintenance Shop			
1) Site Development and Buildings			
i. Foundation Work	LS	1	filling up the land
ii. Approach Road	m	90	asphalt pavement t=5cm
iii. Main Building	LS	1	
iv. Inspection Pit	LS	1	
v. Storage for Washing Equipment	LS	1	
2) Maintenance Equipment			
i. for General Maintenance and Repair	LS	1	
ii. for Tire Shop	LS	1	
iii. for Tool and Spare Parts Storage	LS	1	
iv. for Office Work	LS	1	
v. for Inspection Pit	LS	1	
vi. for Field storage	LS	1	
3. KM18 Disposal Site			
1) Site Development Works			
i. Cleansing-up Waste Disposed	m ³	70,000	
ii. Soil Excavation	m ³	77,000	
iii. Soil Cover for Landfill Area	m ³	23,300	
iv. Soil Stock	m ³	24,000	
2) Main Facilities			
a. Drainage System			
i. Leachate Drain	m	700	
ii. Retention Pond	LS	1	
iii. Cross Drain	m	16	U=300
iv. Pipe Culvert	m	40	φ 1000

Items	Unit	Quantity	Remarks
b. Access			
i. Approach Road	m	80	asphalt pavement t=5cm
3) Building and Accessories			
i. Site Office	m ²	30	
ii. Gate	LS	1	
iii. Fence	m	1,000	
iv. Truck Scale	unit	1	
v. Water Supply	LS	1	
4) Environmental Protection Facilities			
i. Gas Removal Facilities	Nos	5	
5) Landfill Equipment			
i. Bulldozer	Unit	1	not less than 165HP
ii. Hydraulic Excavator	Unit	1	not less than 80HP
iii. Dump Truck	Unit	2	loading capacity \geq 8ton
iv. Crawler Loader	Unit	1	

ANNEX-II

Japan's Grant Aid Scheme

1. Grant Aid Procedures

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 (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, 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

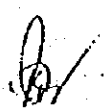
1) Contents of the Study

The aim of the Basic Design Study (hereafter referred to as "the Study"), conducted by JICA on a requested project (hereafter referred to as "the Project") is to provide a basic document necessary for the appraisal of the Project by the Japanese Government. The contents of the Study are as follows:

- a) Confirmation of the background, objectives, and benefits of the requested 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 a technical, social and economic point 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
- 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 smooth implementation of the Study, JICA uses (a) registered consultant firm(s). JICA select (a) firms(s) based on proposals submitted by interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA. The consulting firm(s) used for the Study is(are) recommended by JICA to the recipient country to also work on the Project's implementation after the Exchange of Notes, in order to maintain technical consistency and also to avoid any undue delay in implementation should the selection process be repeated.

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 Aid" means the one fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedures such as exchanging of the Notes, concluding contracts with (a) consultant firm(s) and (a) contractor(s) 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 Aid, 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 constructing 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 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 to Japanese taxpayers.

6) Undertakings required of the Government of the Recipient Country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

- (1) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.
- (2) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.
- (3) To secure buildings prior to the procurement in case the installation of the equipment.
- (4) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.
- (5) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with

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respect to the supply of the products and services under the Verified Contracts.

(6) To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(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 staff necessary for this operation and maintenance 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 should not be re-exported from the recipient country.

(9) Banking Arrangements (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 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 issued by the Government of the recipient country or its designated authority.

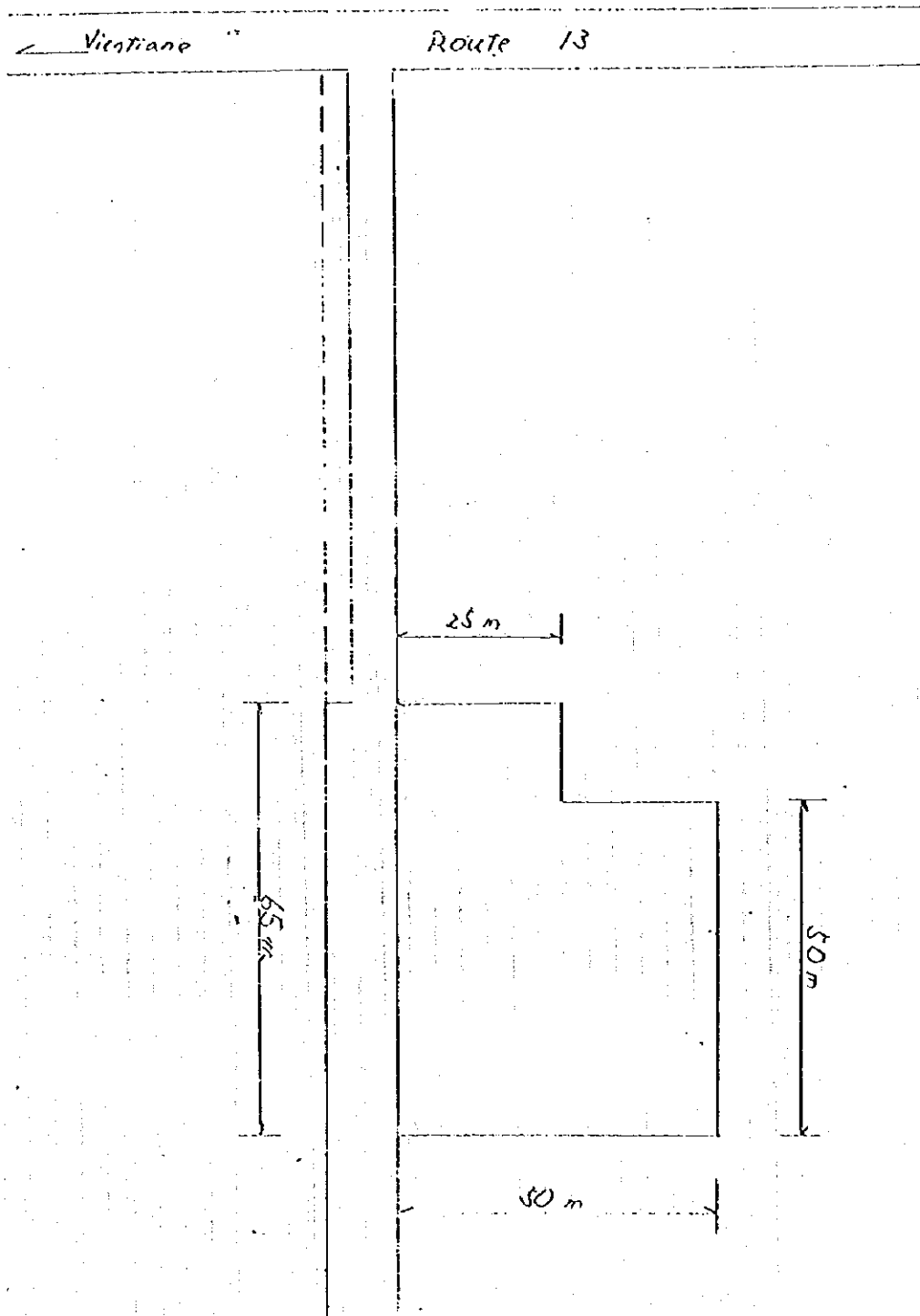
ANNEX - III Necessary measures to be taken by the Government of Lao
in case Japan's Grant Aid is executed.

1. To provide the land for a temporary site office, warehouse and stock yard during implementation of the project
2. To provide necessary facilities for the Project such as electricity and other incidental facilities.
3. To bear commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.
4. To exempt taxes and to take necessary measures for customs clearance of the materials and equipment brought for the project at the port of disembarkation.
5. To accord Japanese Nationals whose services may be required in connection with the supply of products and the services under the verified contract such facilities as may be necessary for their entry into Lao and stay therein for the performance of their work.
6. To maintain and use the facilities constructed and equipment purchased under the Grant properly and effectively.
7. To bear all expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and the installation of the equipment.

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ANNEX - IV



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MINUTES OF DISCUSSIONS
ON
THE BASIC DESIGN STUDY
ON THE PROJECT FOR
IMPROVEMENT OF THE SOLID WASTE MANAGEMENT SYSTEM
IN VIENTIANE URBAN AREA
IN
THE LAO PEOPLE'S DEMOCRATIC REPUBLIC
(EXPLANATION OF THE DRAFT BASIC DESIGN)

In October 1995, the Japan international Cooperation Agency (JICA) dispatched the Basic Design Study Team on the Project for Improvement of the Solid Waste Management System in Vientiane Urban Area (hereinafter referred to as "the Study" and "the Project" respectively) to the Lao People's Democratic Republic, and through discussions, field surveys and the results of technical examinations in Japan, has prepared the Draft Basic Design of the Study.

In order to explain and to consult the Laotian side on the components of the Draft Basic Design, JICA has sent to Laos a study team (hereinafter referred to as "the Team"), which is headed by Ms. Kae YANAGISAWA, Deputy Director, Study Review and Coordination Division, Grant Aid Study and Design Department, Japan International Cooperation Agency (JICA), and is scheduled to study in the country from January 25 to February 1st, 1996.

In the course of discussions, both parties have confirmed the main items described in the attached sheets.

Vientiane, January 29th, 1996

柳 永 枝

Ms. KAE YANAGISAWA
Leader
Draft Basic Design
Explanation Team
JICA



Mr. Daophet BOUAPHA
Director
Department of Communication,
Transport, Post and Construction,
Vientiane Municipality, LAO PDR

ATTACHMENT

1. Components of Draft Basic Design

The Laotian side has agreed and accepted in principle the components of the Draft Basic Design proposed by the Team.

2. Japan's Grant Aid Program

2-1. The Government of Laos has understood the system of Japan's Grant Aid explained by the Team.(ANNEX- I)

2-2. The Government of Laos will take necessary measures described in the ANNEX- II for the smooth implementation of the Project on condition that the Grant Aid assistance by the Government of Japan is extended to the Project.

3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items, and send it to the Government of Laos by April, 1996.

4. Other issues relevant to the Project in case Japan's Grant Aid is executed

4-1. The wastes to be treated in the Project are domestic waste, commercial waste, market waste, office waste, hospital waste and road sweeping waste but industrial waste and night soil are excluded.

4-2. The Laotian side confirmed that all equipment procured and facilities constructed under the Project will be owned and controlled by Vientiane Municipality and will not be transferred to the private sector.

4-3. Vientiane Municipality will strengthen/establish an organization proposed in the Study within 1997 to execute the Project.

4-4. The Laotian side requested that job descriptions and qualifications of staff to be employed in the above-mentioned organization are included in the Study. The Team accepted the request.

4-5. The Laotian side confirmed that they will cooperate with the Japanese side in preparing video program and pamphlet for the sanitary education campaign.

4-6. The Japanese side explained that the landfill of infectious waste is planned as a temporary disposal method in the Project and recommended that the Laotian side consider incineration as a future treatment of infectious waste.

4-7. As for the Japanese expert discussed in the previous Minutes of Meetings in October 1995, the Team suggested that an official request be made during Japanese fiscal year of 1996.

ANNEX- I

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

Fourthly, the Project, once approved by the Cabinet, 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.

K. Y.

2. Basic Design Study

1) Contents of the Study

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2) Selection of Consultants

For the smooth implementation of the study, JICA uses (a) registered consultant firm(s). JICA selects (a) firms(s) based on proposals submitted by interested firms. The firm(s) selected carry (ies) out the Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the study is (are) recommended by JICA to the recipient country to also work on the project's implementation after the Exchange of Notes, in order to maintain technical consistency and also to avoid any undue delay in implementation should the selection process be repeated.

K. Y.

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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 both Governments deem it necessary, the Grant may be used for the purchase of the products or services of the 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.) K. Y.

5) Necessity of "Verification"

The Government of 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 to Japanese taxpayers.

6) Undertakings required of the Government of recipient country

In the implementation of the Grant Aid Project, the recipient country is required to undertake such necessary measures as the following:

- (1) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.
- (2) To provide facilities for the distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.
- (3) To secure buildings prior to the procurement in case the installation of the equipment.
- (4) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant.
- (5) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts.
- (6) To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

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.

K. Y.

8) "Re-export"

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

9) Banking Arrangements (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 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 issued by the Government of the recipient country or its designated authority.

K. Y.

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ANNEX- II

Necessary measures to be taken by the Government of Laos in case Japan's Grant Aid is executed

1. Role assignment of the construction of the maintenance shop at KM-7.
 - 1-1. To acquire the land for the widening of access road.
 - 1-2. To demolish the existing buildings in the site by the commencement of the construction.
 - 1-3. To improve the capacity of electricity, telephone line and water supply to the site for operation and maintenance of the facilities.

2. Role assignment on the establishment of KM-18 landfill site
 - 2-1. To demolish the houses built illegally in the site by the commencement of the construction.
 - 2-2. To improve the capacity of electricity and telephone line to the site for operation of the administration building.
 - 2-3. To rehabilitate internal road, construct western gate and drain along the Route 13 and remove the illegally dumped waste.
 - 2-4. To plant trees in the buffer zone.

3. Role assignment on infectious hospital waste
 - 3-1. To establish laws and regulations for infectious waste.
 - 3-2. To establish a system for proper storage and segregation at each hospital.

4. Others
 - 4-1. To maintain and use properly and effectively the equipment procured and facilities constructed under the Grant Aid.
 - 4-2. To bear commissions to the Japanese foreign exchange bank for the banking services based upon Banking Arrangement.
 - 4-3. To exempt taxes and to take necessary measures for customs clearance of the materials and equipment brought for the project at the port of disembarkation.
 - 4-4. To accord Japanese Nationals whose services may be required in connection with the supply of products and the services under the verified contract such facilities as may be necessary for their entry into Laos and stay therein for the performance of their work.
 - 4-5. To bear the all expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and the installation of the equipment.

K. Y.

List of Attendants

Laotian side

1. DAOPHET BOUAPHA
Director, Department of Communication,
Transport, Post and Construction (DCTPC),
Vientiane Municipality
2. OUDONE VATHANAXAY
Chief of Cabinet & Economic External
Relation, DCTPC, Vientiane Municipality
3. SOUNTHONE PHOXAY
Chief of Urban Sanitary Division
Health Department, Vientiane Municipality
4. SAYAMANG NANTHANAVONE
DCTPC, Vientiane Municipality
5. BOUNLOUANE DOUANGSYLA
Committee on Planning and Cooperation,
Vientiane Municipality
6. SOMBAT CHANTHAMATH
DCTPC, Vientiane Municipality
7. BOUNTA KHAMSITHON
Department of Asia-Pacific & Africa,
Ministry of Foreign Affairs
8. VICHITH XINDAVONG

Japanese side

1. Kae YANAGISAWA
Team Leader, JICA
2. Maki MARUYAMA
Project Coordinator, JICA
3. Junji ANAI
Chief Consultant/Operation and
Maintenance Planner,
KOKUSAI KOGYO CO., LTD
4. Nobuo MARUFUJI
Facilities Planner,
KOKUSAI KOGYO CO., LTD
5. Ikuo MORI
Equipment Planner,
KOKUSAI KOGYO CO., LTD
6. CHUNTA KORN PRECHA
Interpreter,
KOKUSAI KOGYO CO., LTD, Thai office

K. Y.

APPENDIX 5 : Cost Estimation Borne by the Laotian Side

For implementation of the Project, the followings are estimated as the expenses to be borne by Laotian side.

KM - 7 Maintenance shop

- Widening of the access road	: 5,000,000 kips
- Water supply (dia. 100 mm)	: 2,500,000 kips
- Electric supply (250 KVA)	: 15,000,000 kips
- Telephone service	: 1,000,000 kips
Sub-total	: 23,500,000 kips

KM - 18 Final disposal site

- Electric supply	: 10,000,000 kips
- Telephone service	: 1,000,000 kips
Sub-total	
- Grand total	: 34,500,000 kips

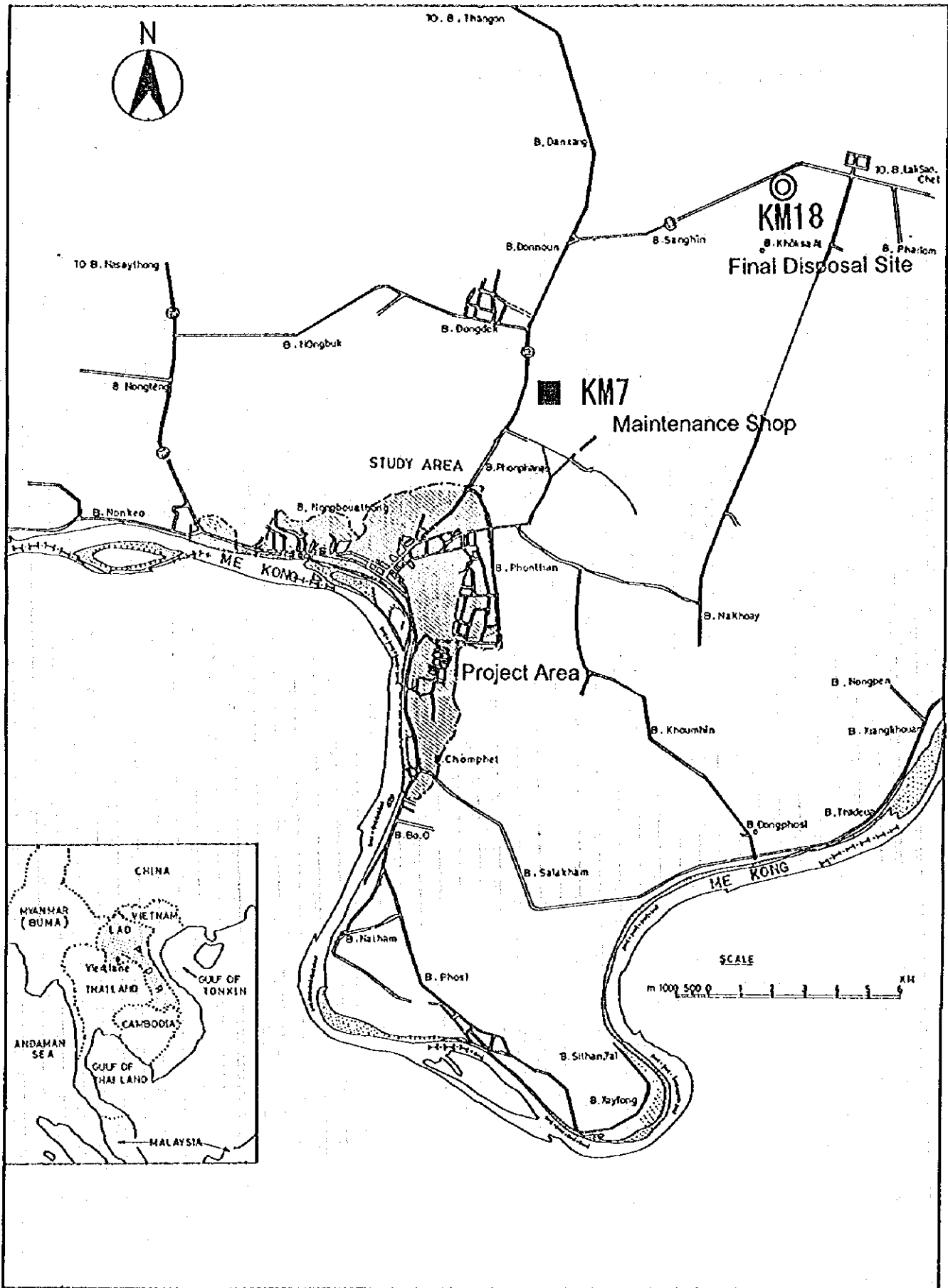
APPENDIX 6 :Drawing of the Basic Design

Location Map

- (1) Equipment Plan**
 - **General View of Vehicle**
 - **General View of Heavy Equipment**

- (2) Facilities Plan for Final Disposal Site**
 - **Temporary Landfill Plan during Construction and Disposal Plan of Present Waste Disposed**
 - **Overall Plan in KM-18**
 - **Layout Plan**
 - **Plan**
 - **Front View**
 - **Typical Cross Section**

- (3) Facilities Plan for Maintenance Shop**
 - **Overall Plan in KM-7**
 - **Layout Plan**
 - **Plan of 1st Floor**
 - **Plan of 2nd Floor**
 - **Front View**
 - **Typical Cross Section**

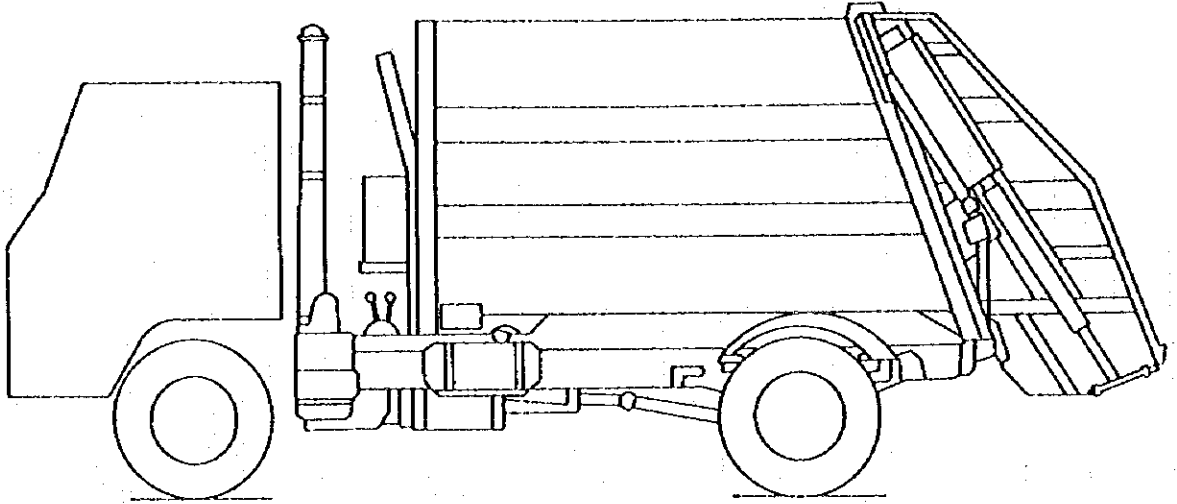


LOCATION MAP

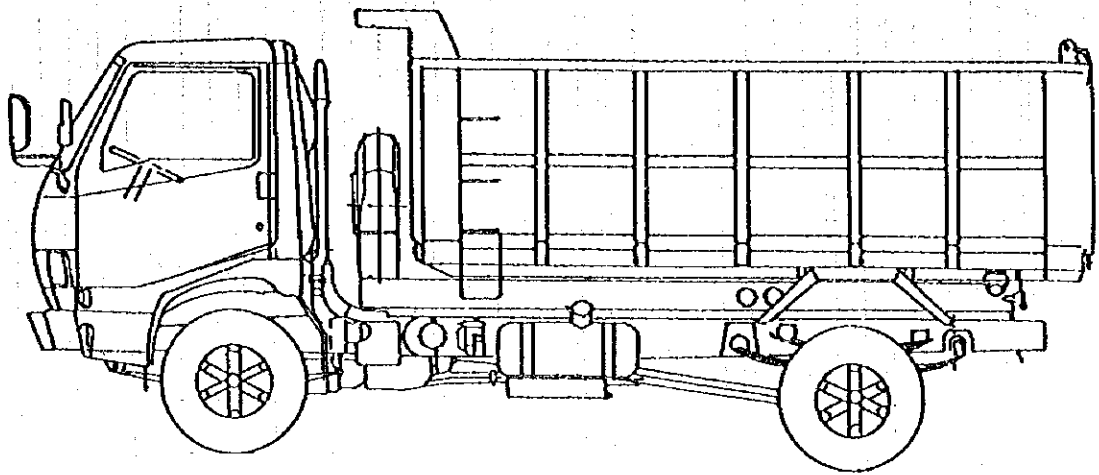
A-30

(1) Equipment Plan

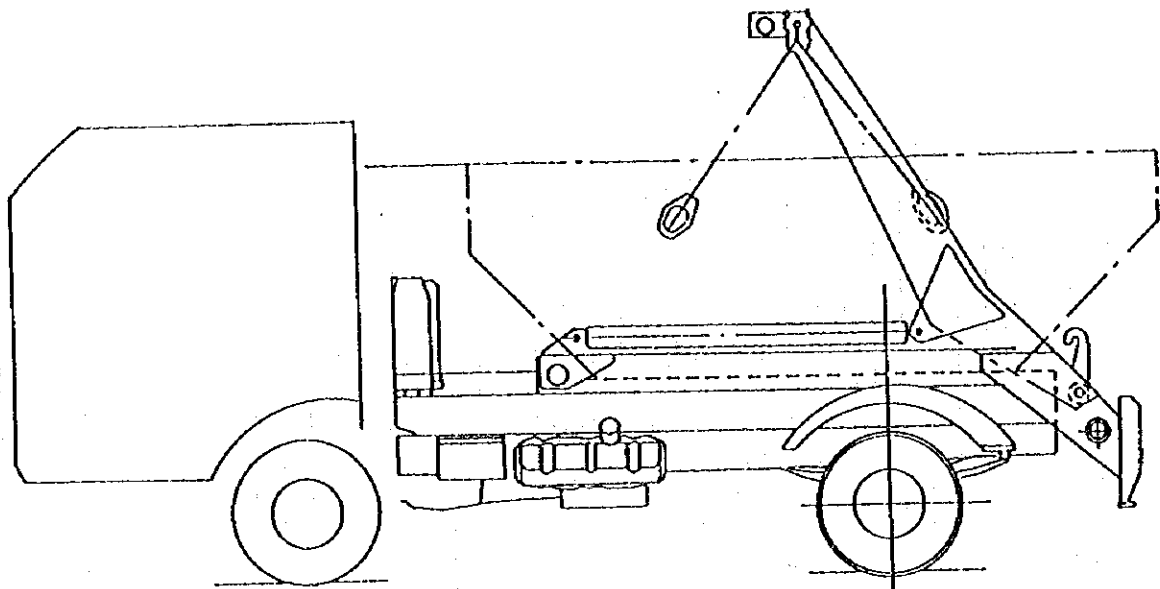
- **General View of the Vehicle**
- **General View of the Heavy Equipment**



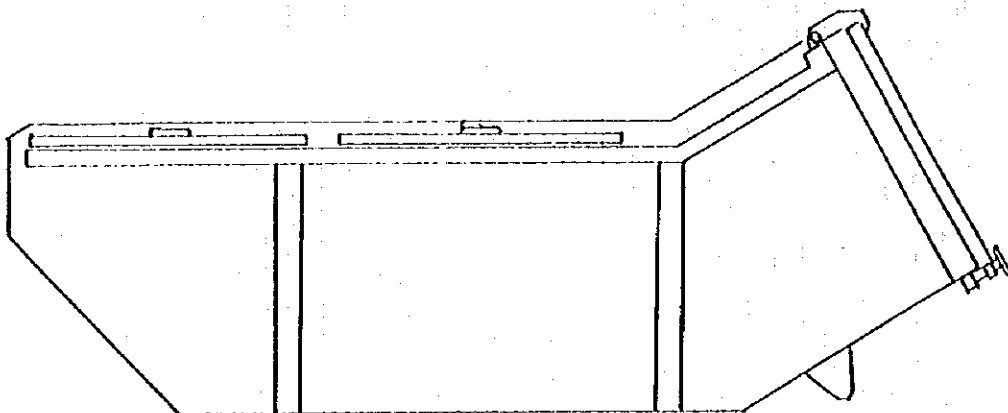
Compactor Truck



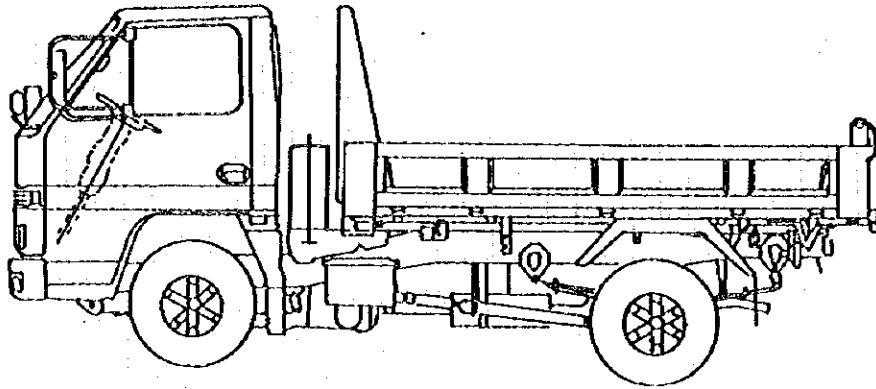
Dump Truck



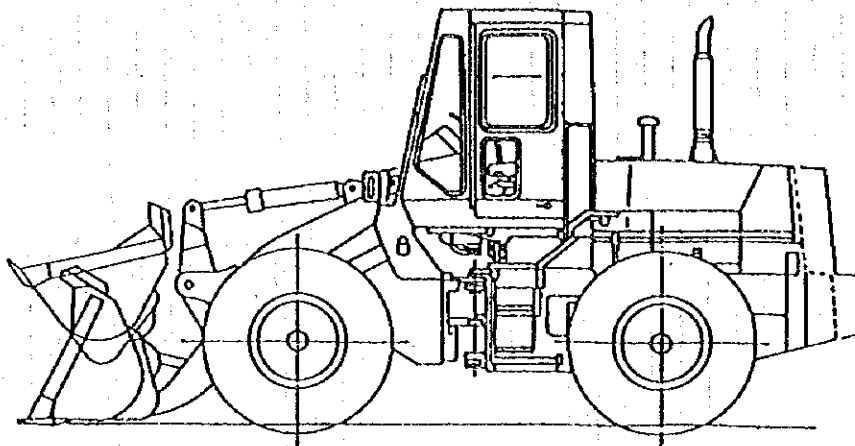
Detachable Container Truck



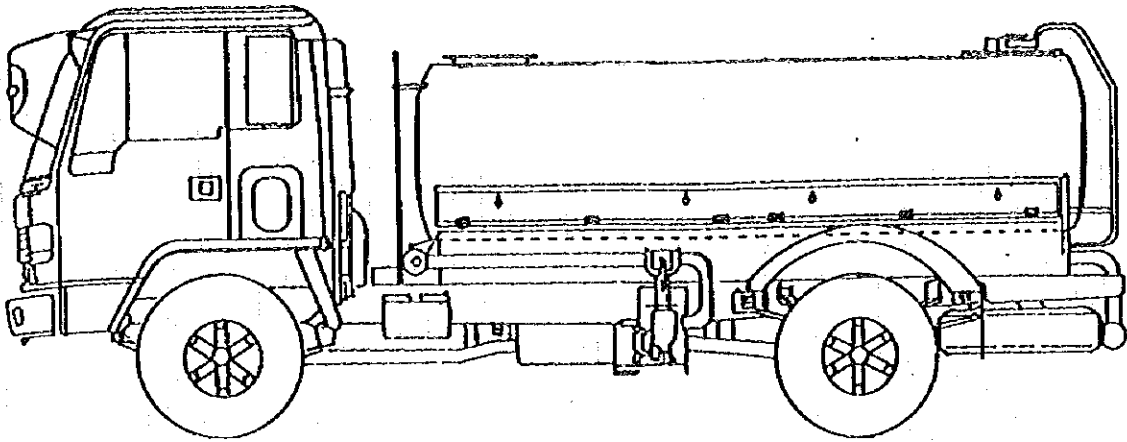
Closed Type Container



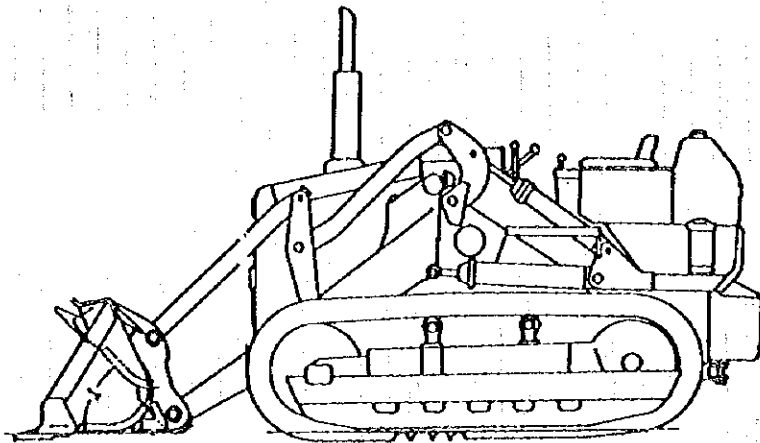
Small Dump Truck



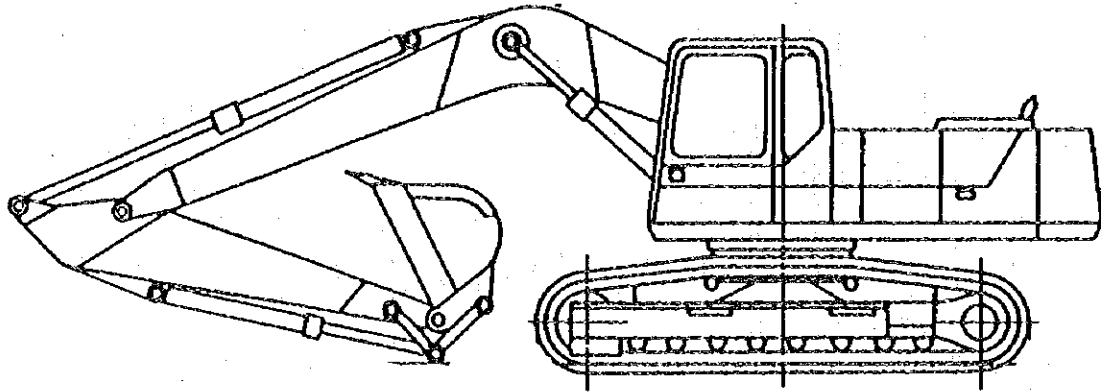
Wheel Loader



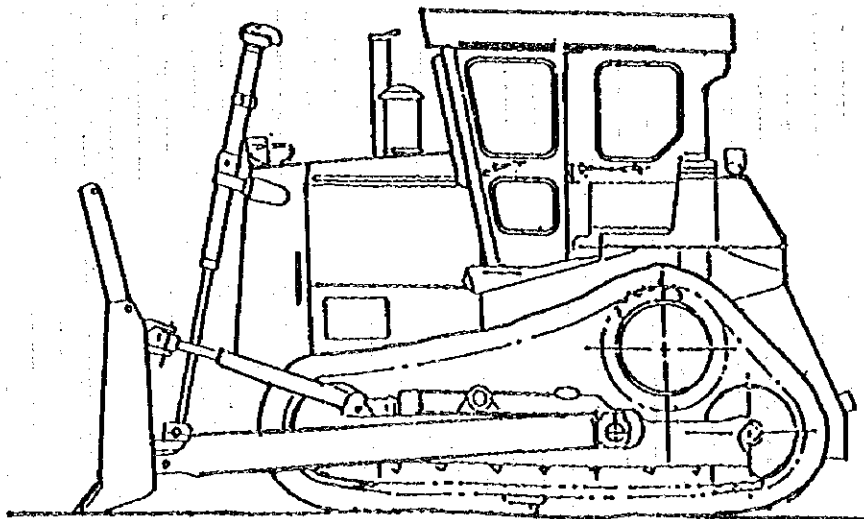
Water Tank Truck



Crawler Type Loader



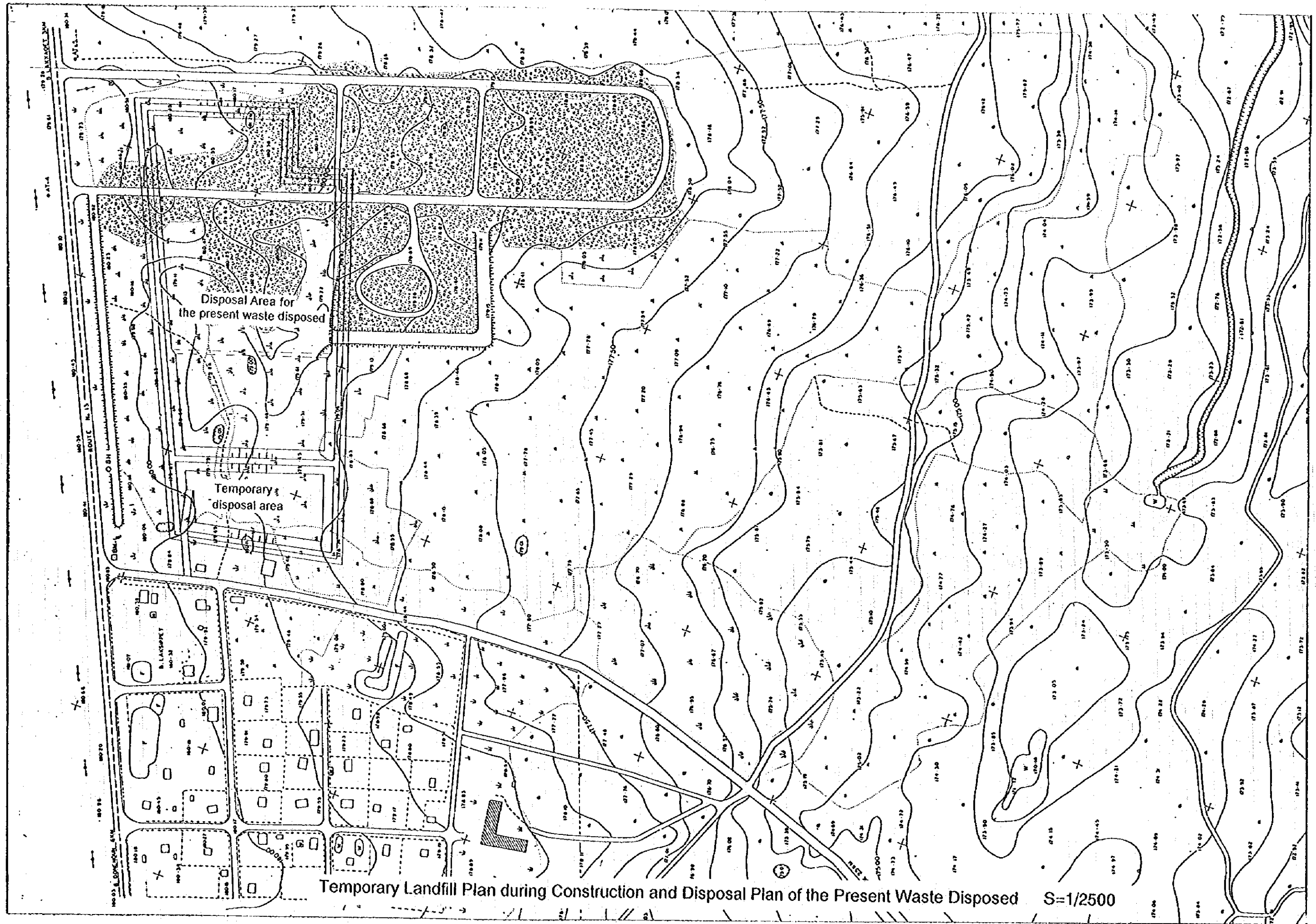
Crawler Type Excavator

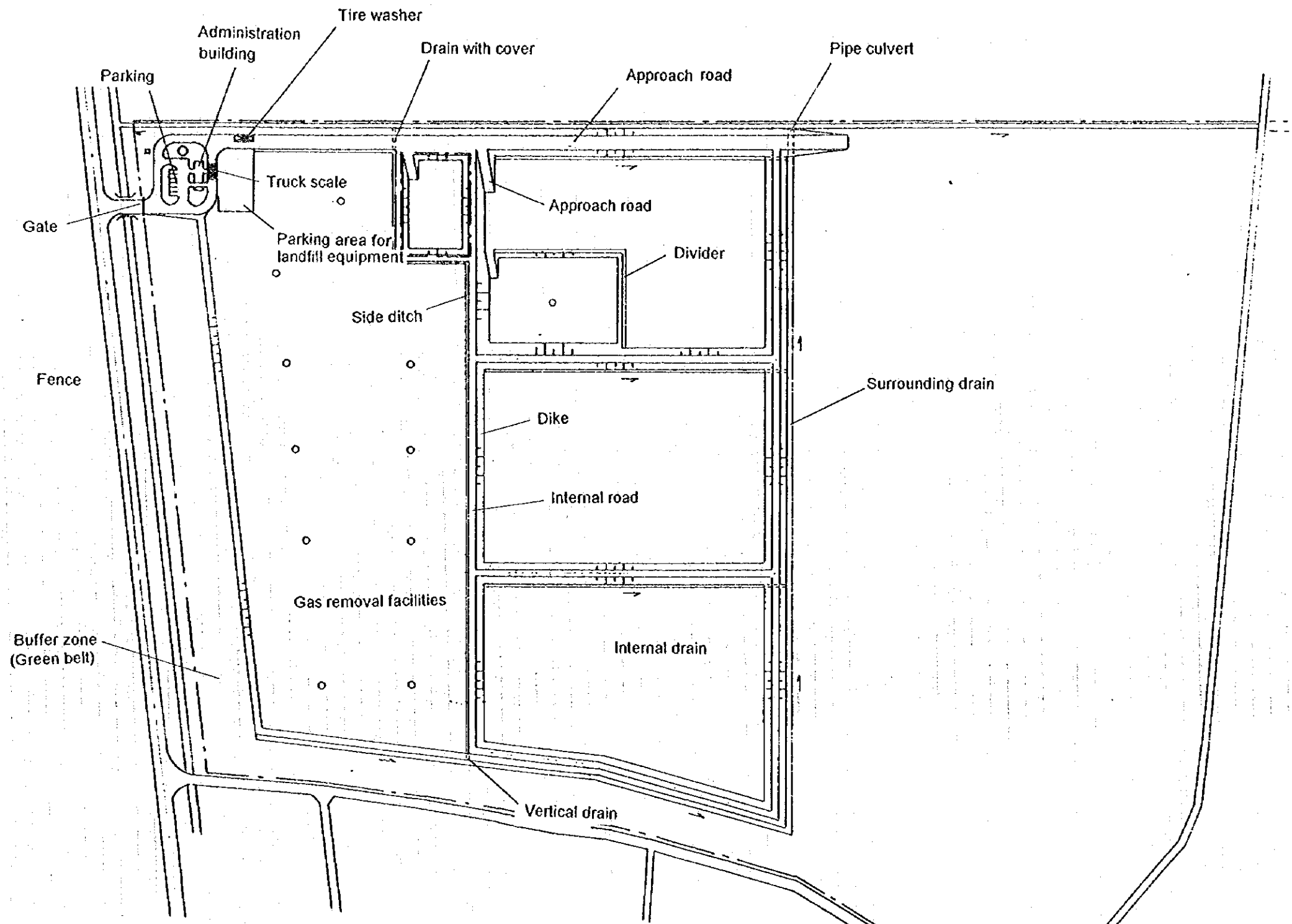


Bulldozer

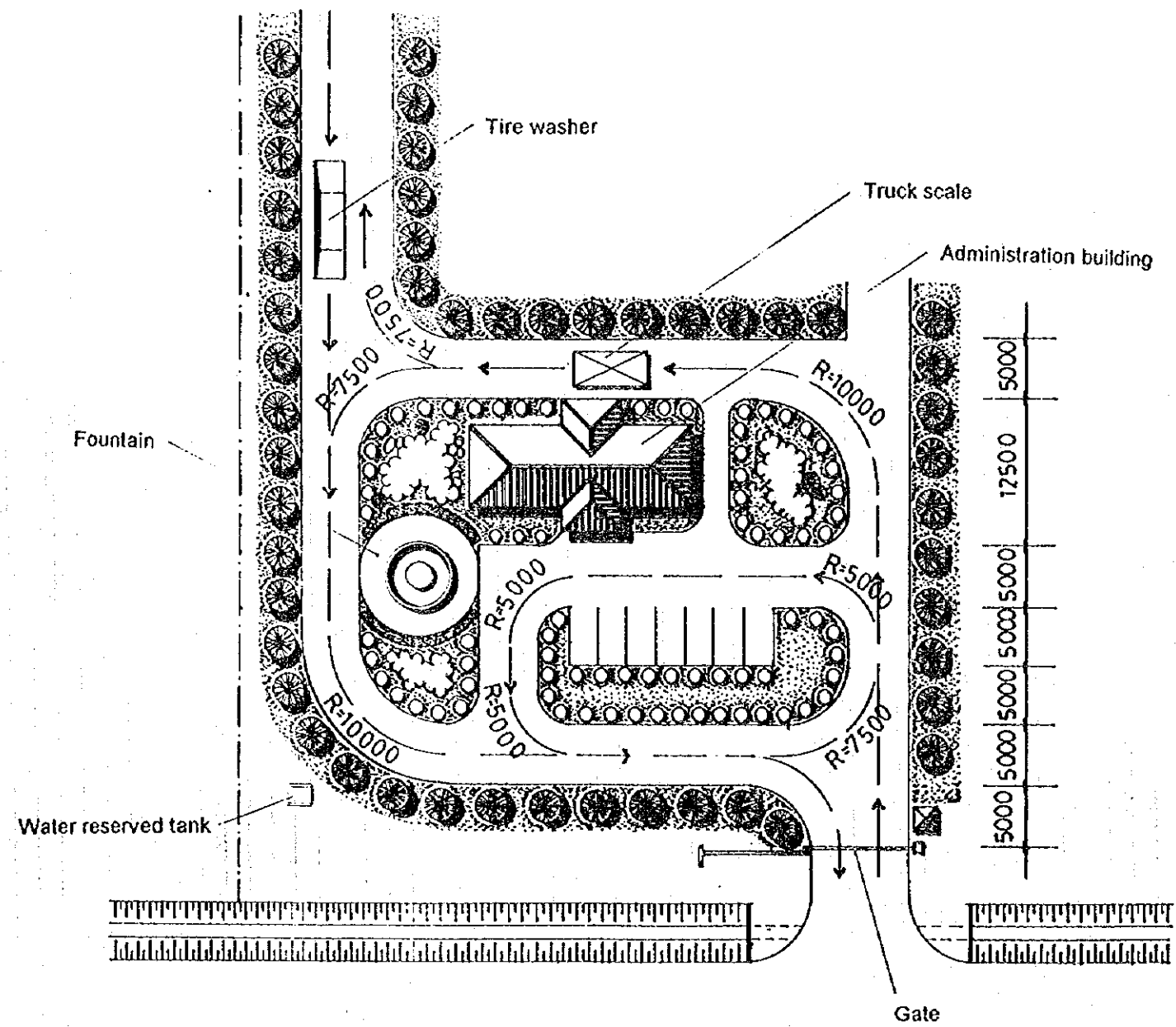
(2) Facilities Plan for Final Disposal Site

- **Temporary Landfill Plan during Construction and Disposal Plan of Present Waste Disposed**
- **Overall Plan in KM-18**
- **Layout Plan**
- **Plan**
- **Front View**
- **Typical Cross Section**



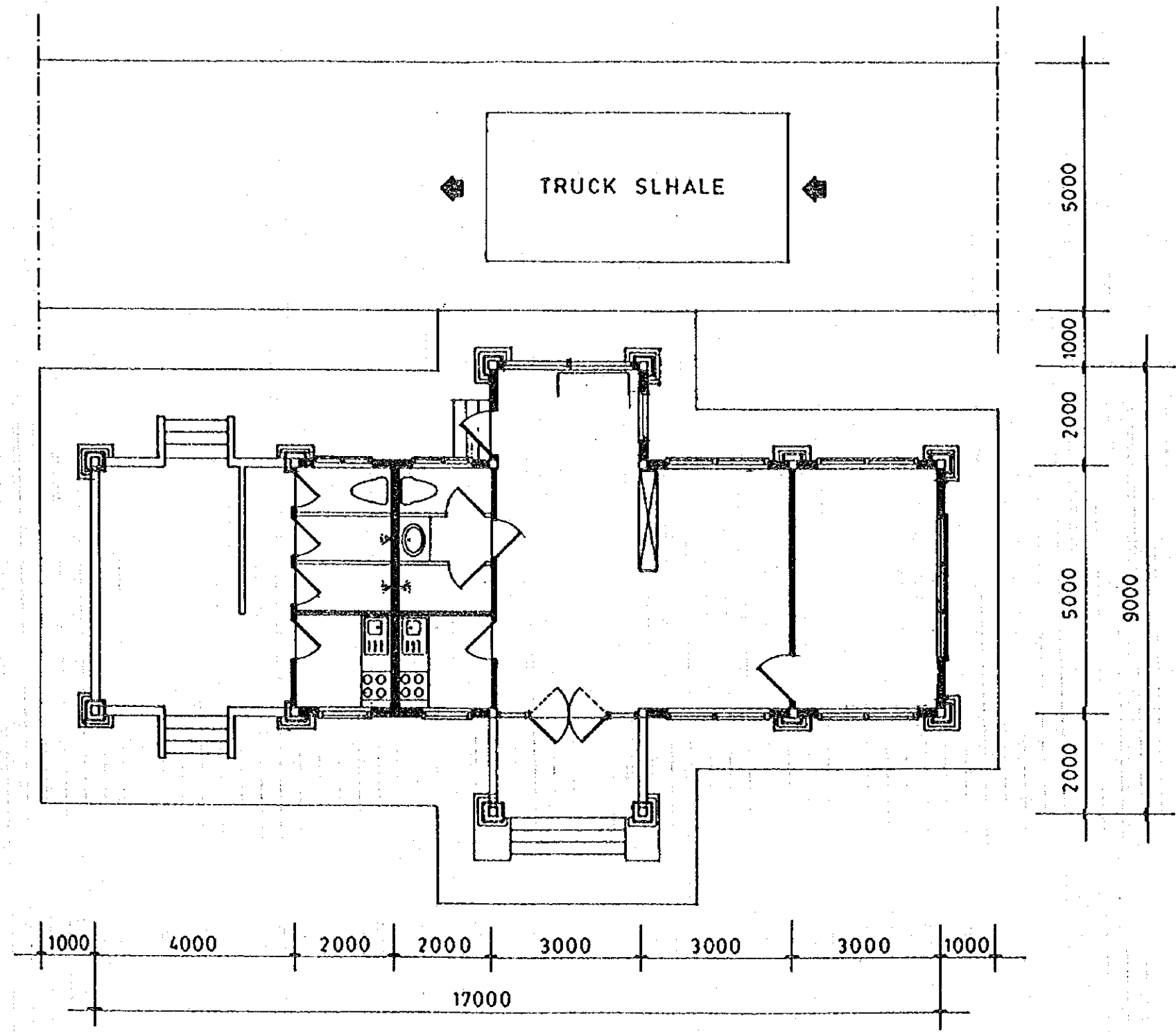


Overall Plan in KM-18 S = 1/2500

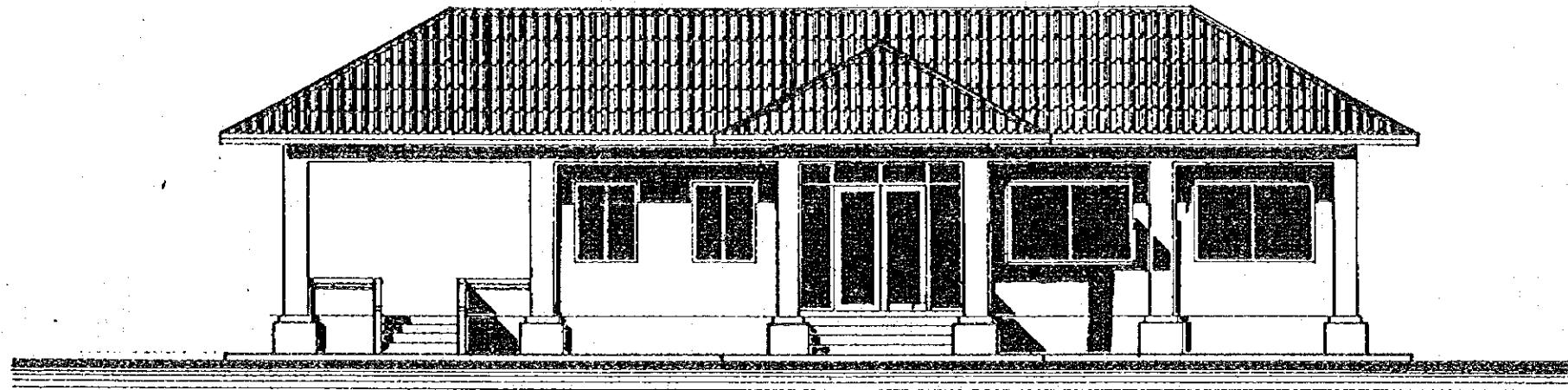


Layout Plan

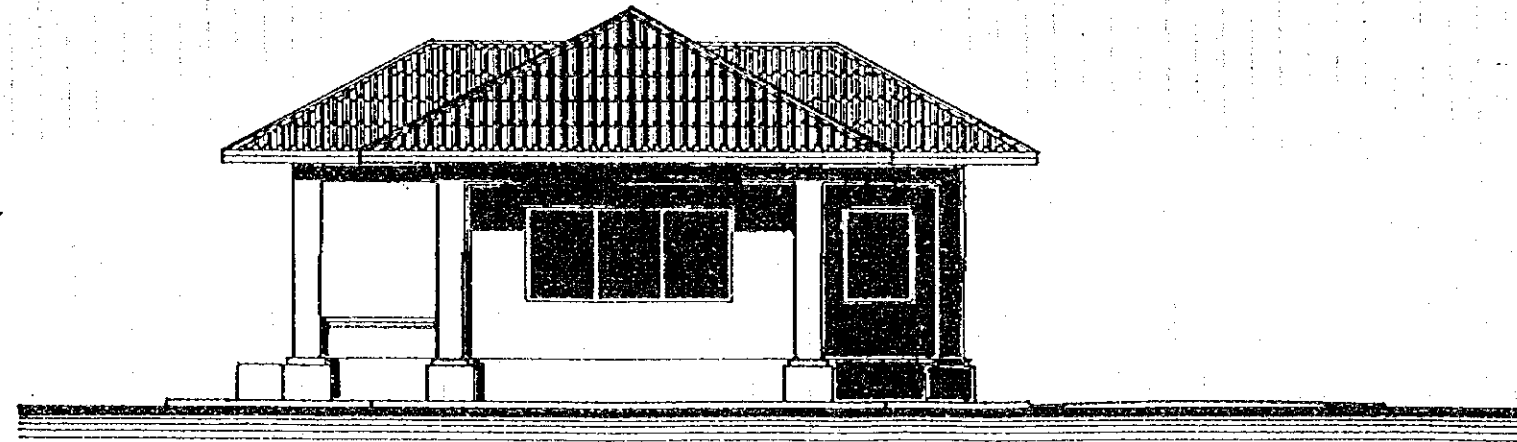
scale 1/500



Plan scale 1/100



FRONT scale 1/100

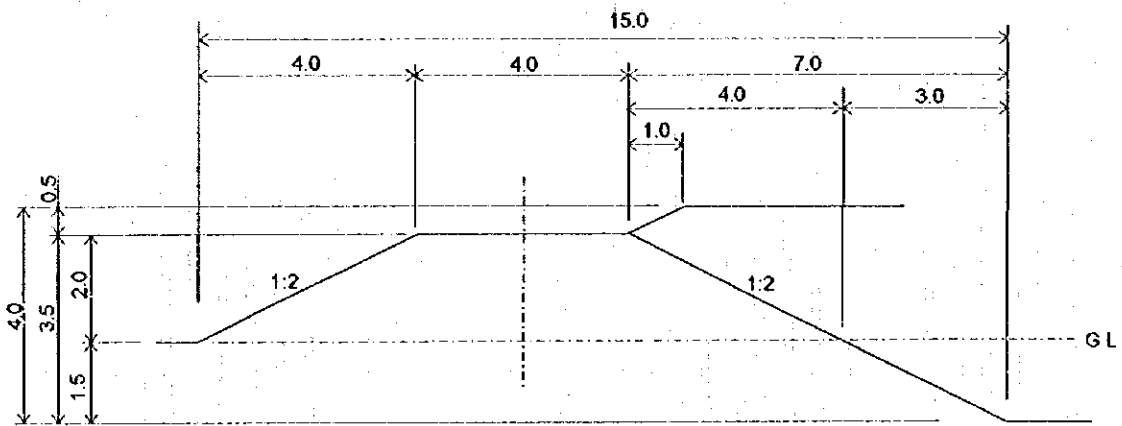


RIGHT SIDE scale 1/100

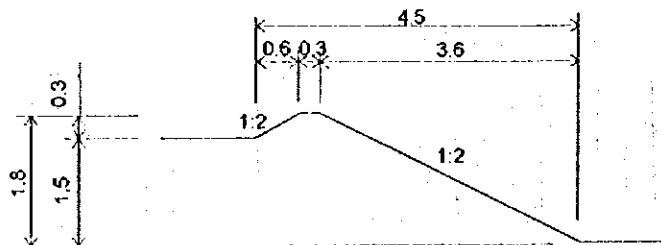
Front View

a. Dike Construction

i. Typical Cross Section of Dike



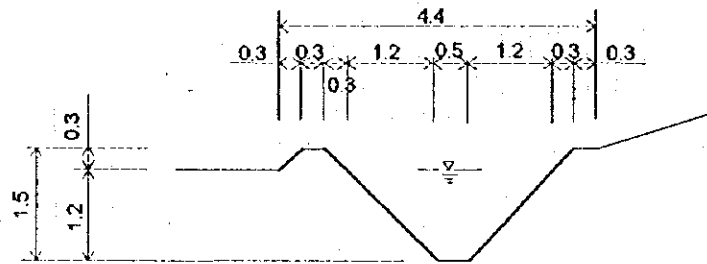
ii. Typical Cross Section of Divider



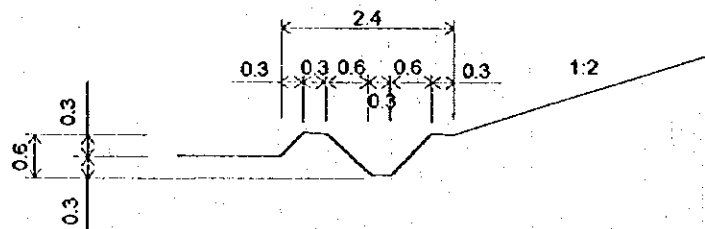
Final Disposal Site
Typical Cross Section (1)

b. Drainage Work

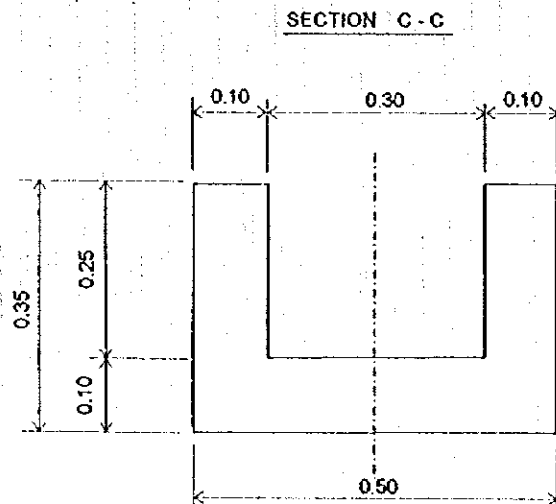
i. Surrounding Drain



ii. Internal Drain



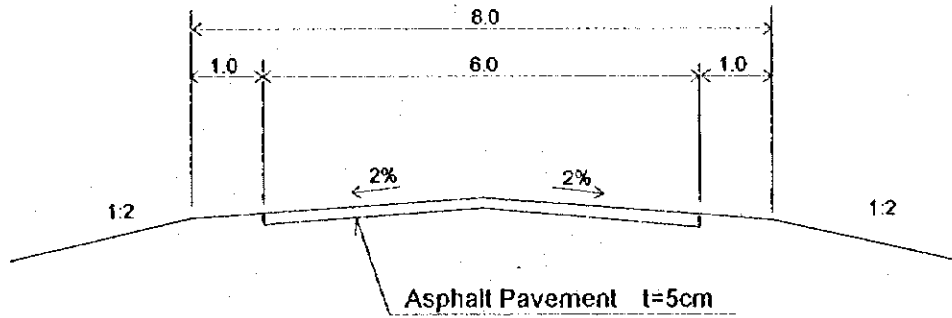
iii. Vertical Drain



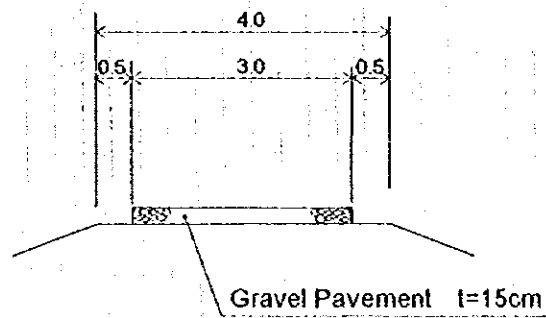
Final Disposal Site
Typical Cross Section (2)

C. Approach Road

i. Approach Road

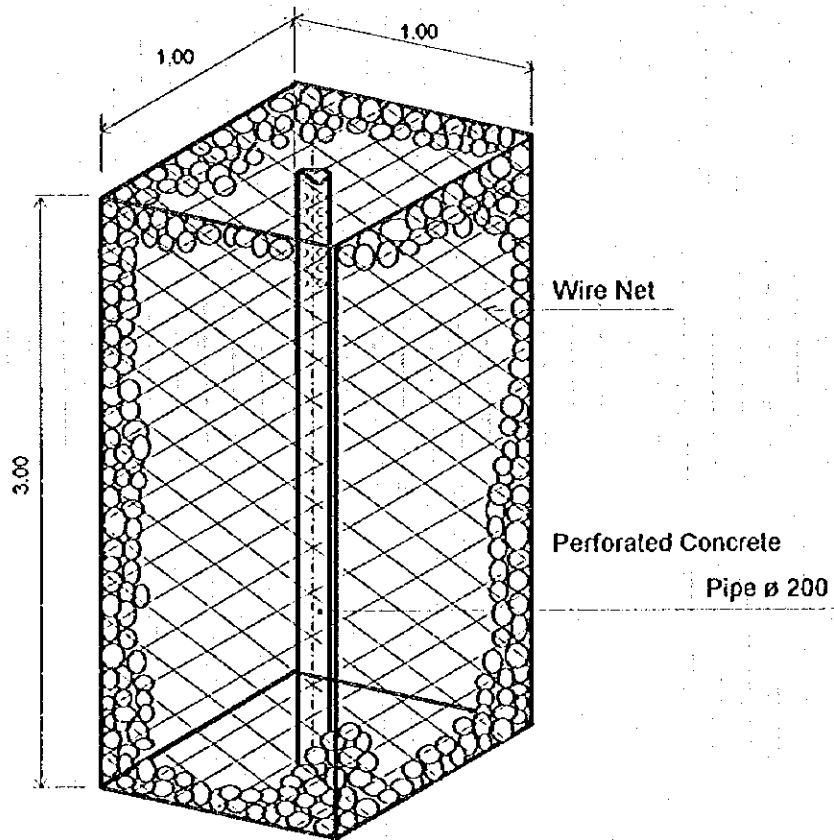
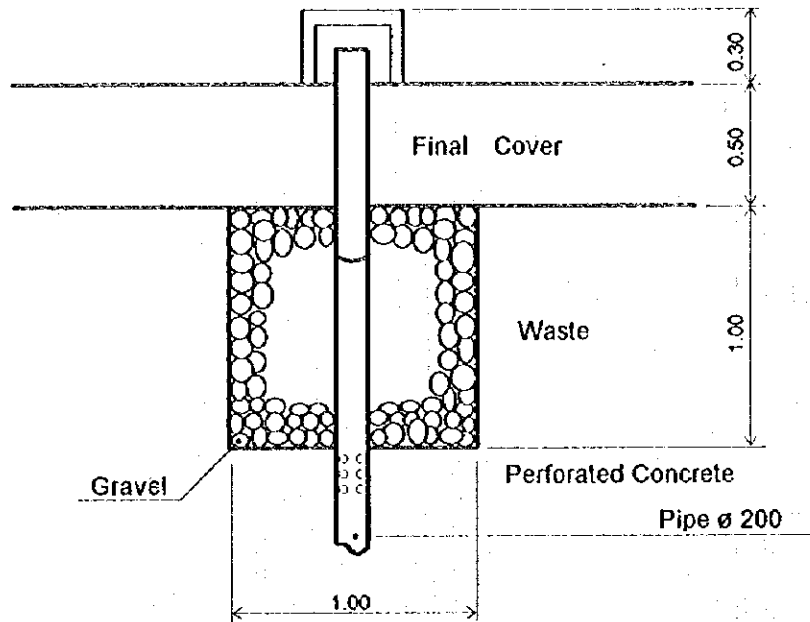


ii. Internal Road



Final Disposal Site
Typical Cross Section (4)

d. Gas Removal Facilities

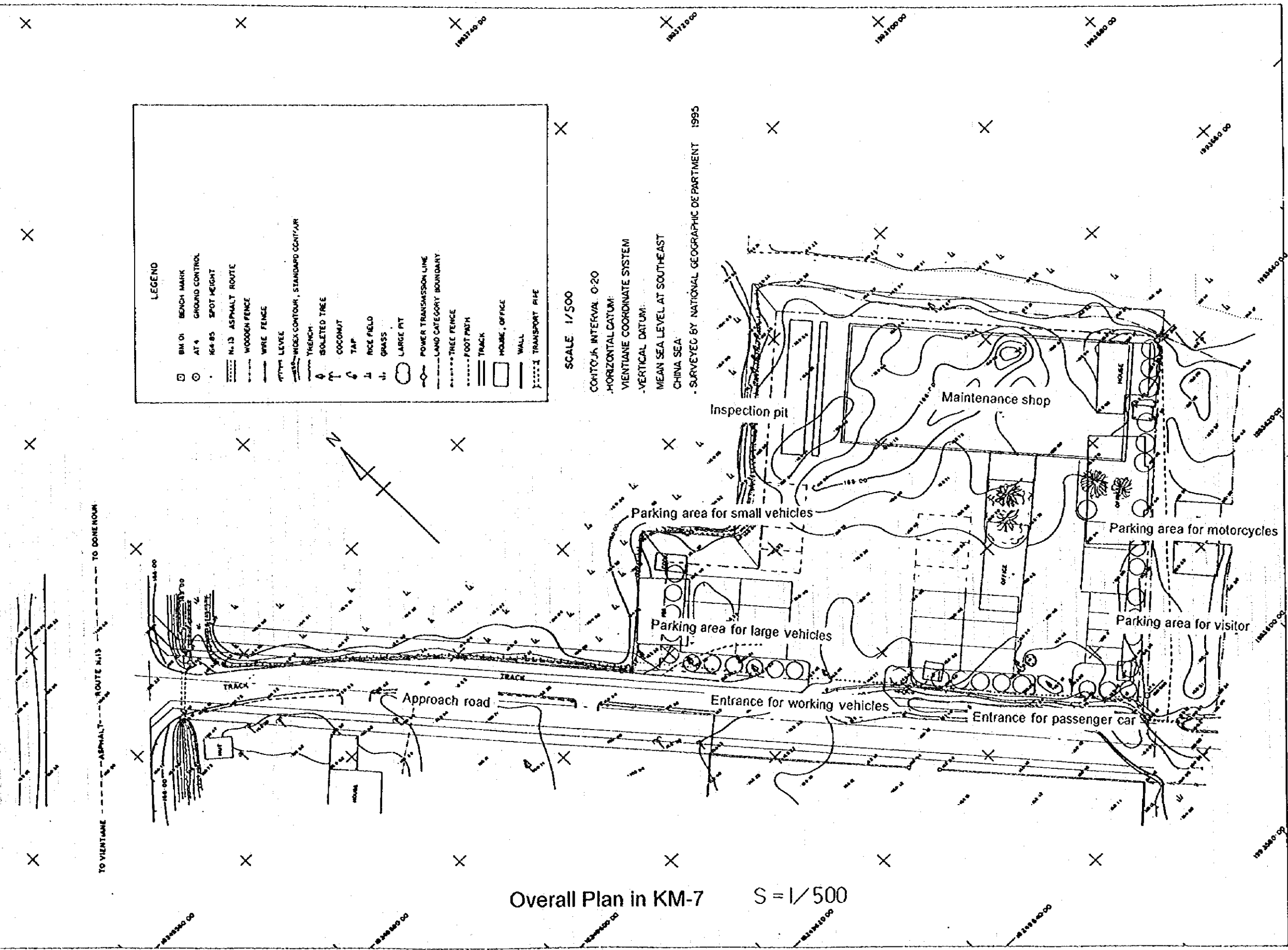


Final Disposal Site
Typical Cross Section (5)

(3) Facilities Plan for Maintenance Shop

- Overall Plan in KM-7
- Layout Plan
- Plan of 1st Floor
- Plan of 2nd Floor
- Front View
- Typical Cross Section

KM 7 VEHICLE MAINTENANCE SHOP AND VEHICLE DEPOT

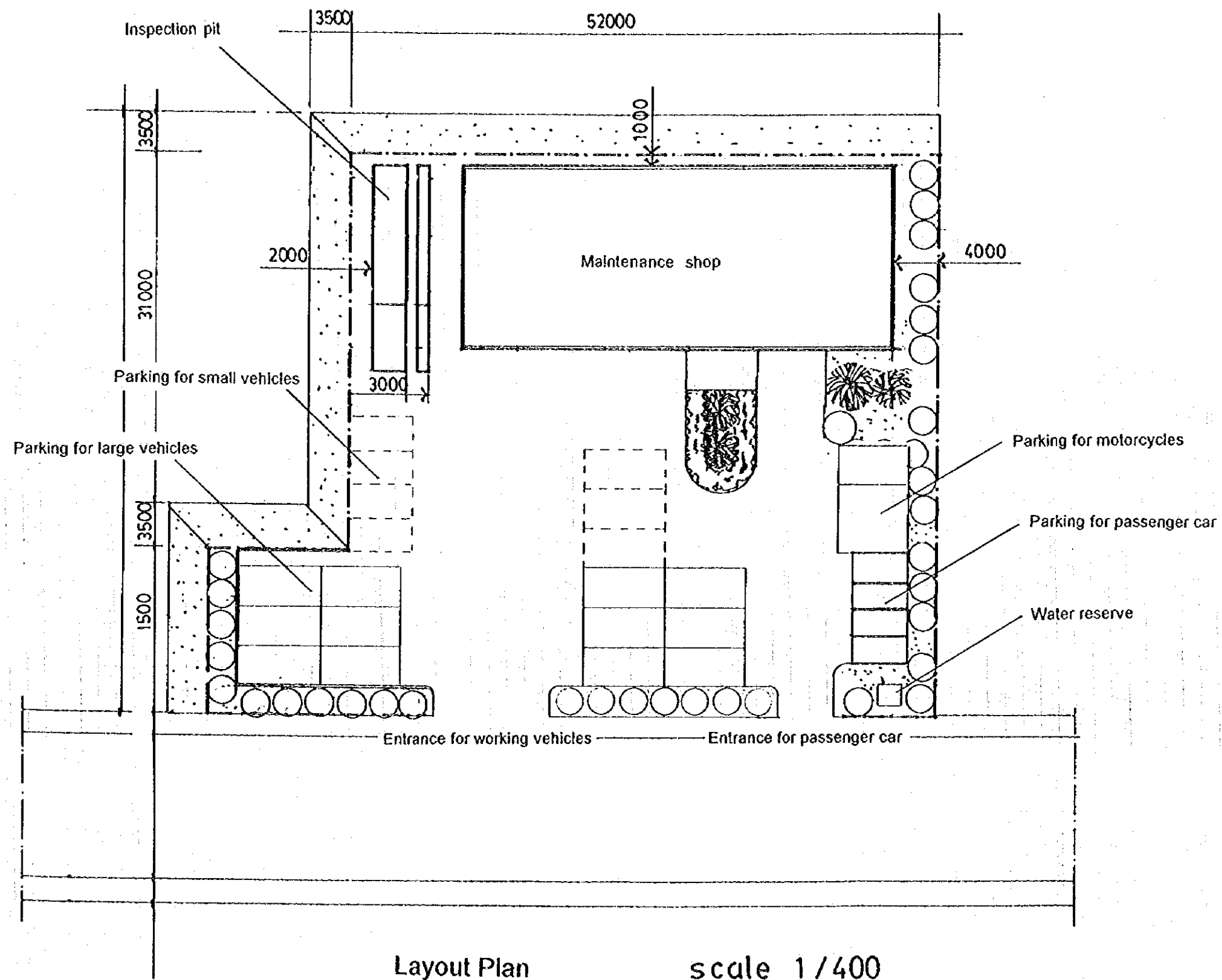


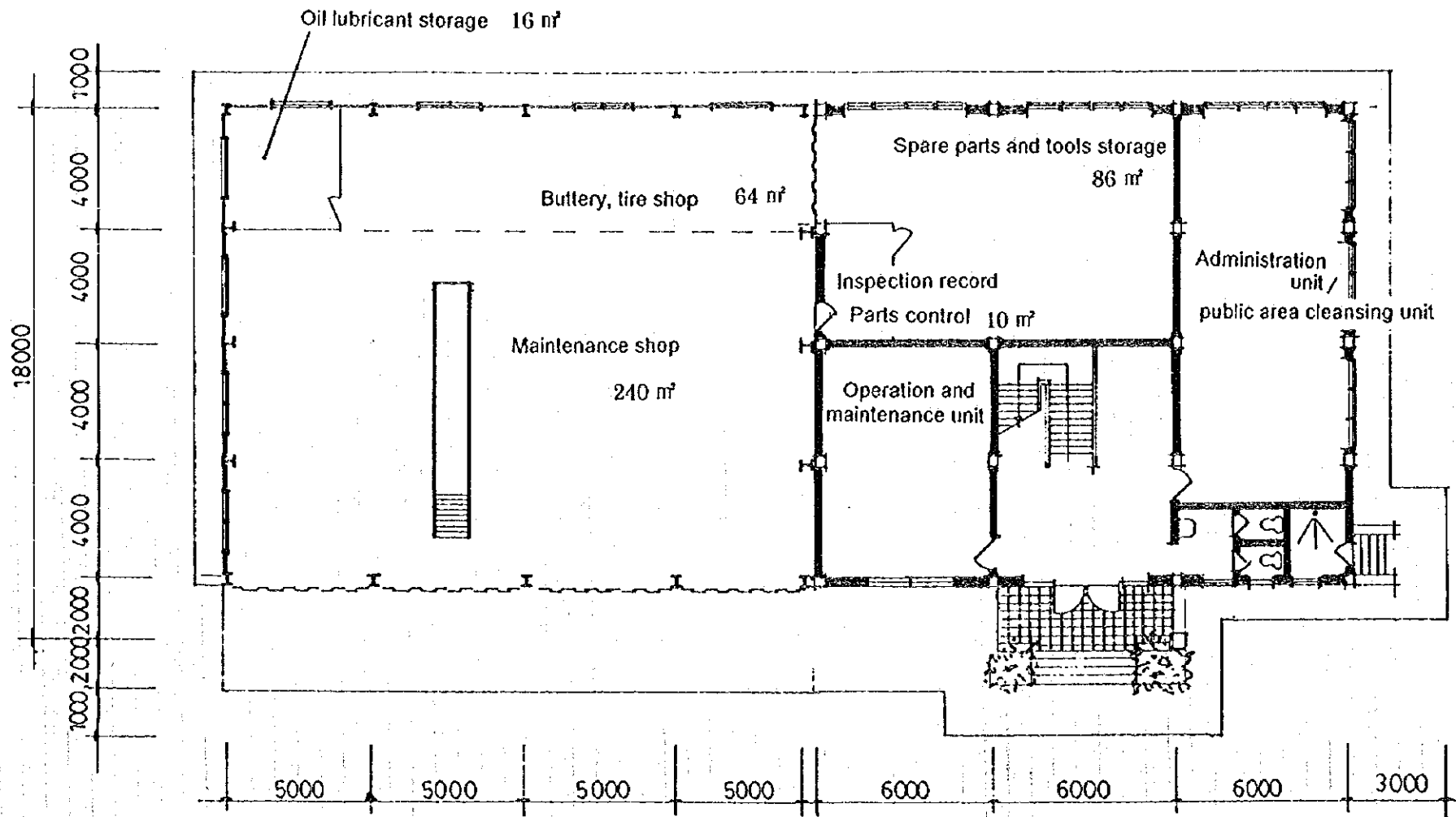
LEGEND

□	BM 01	BENCH MARK
○	AT 4	GROUND CONTROL
•	164.85	SPOT HEIGHT
—	N. 13	ASPHALT ROUTE
—		WOODEN FENCE
—		WIRE FENCE
—		LEVEL
—		WIDEX CONTOUR, STANDARD CONTOUR
—		TRENCH
○		ISOLATED TREE
○		COCONUT
○		TAP
○		RICE FIELD
○		GRASS
○		LARGE PLY
—		POWER TRANSMISSION LINE
—		LAND CATEGORY BOUNDARY
—		TREE FENCE
—		FOOT PATH
—		TRACK
□		HOUSE, OFFICE
—		WALL
—		TRANSPORT PIPE

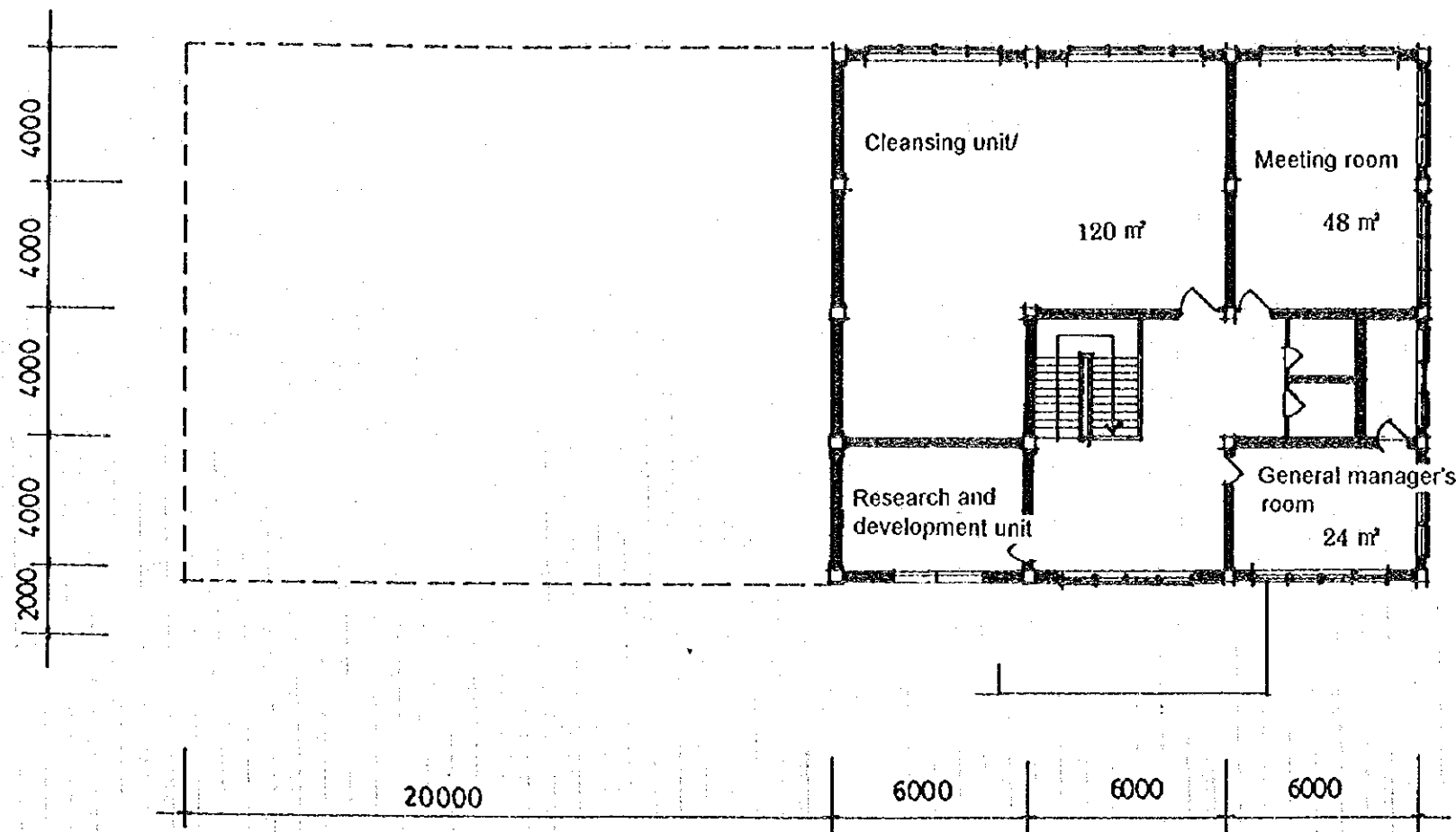
SCALE 1/500
 CONTOUR INTERVAL 0.20
 HORIZONTAL DATUM: VIENTIANE COORDINATE SYSTEM
 VERTICAL DATUM: MEAN SEA LEVEL AT SOUTHEAST CHINA SEA
 SURVEYED BY NATIONAL GEOGRAPHIC DEPARTMENT 1995

Overall Plan in KM-7 S=1/500



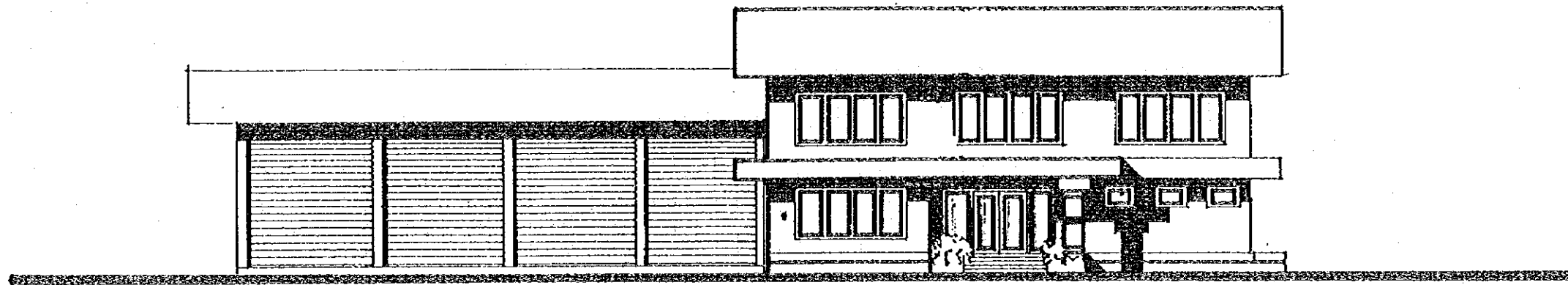


Plan of 1st Floor scale 1/200

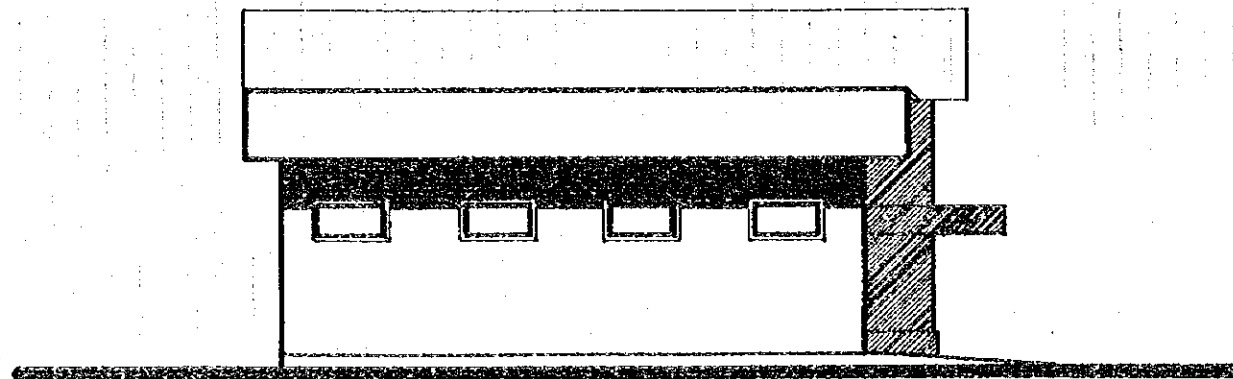


Plan of 2nd Floor

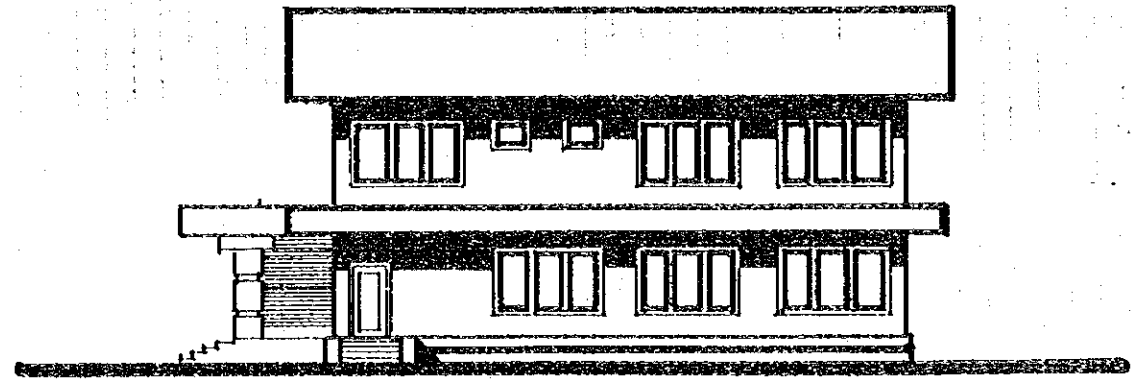
scale 1/200



FRONT



LEFT SIDE

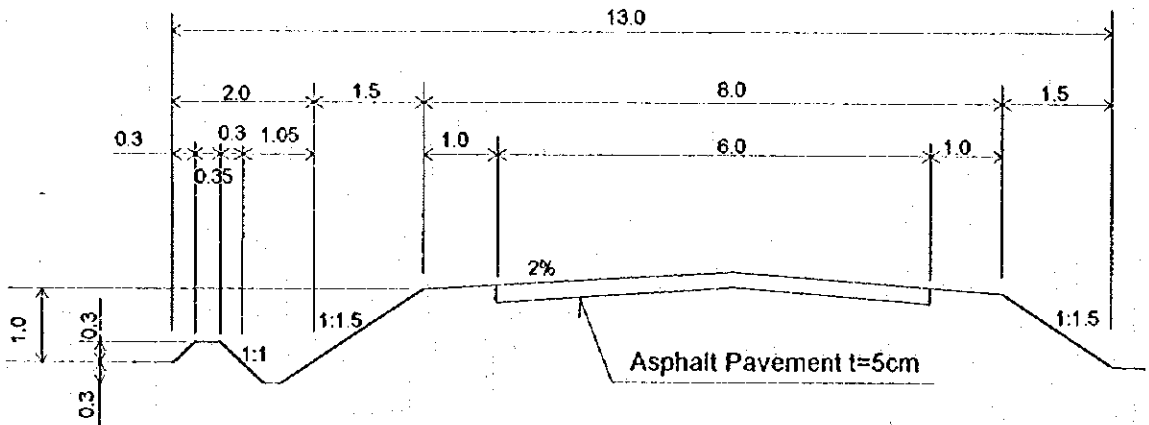


RIGHT SIDE

Front View

scale 1/200

KM7 Typical Cross Section of Access Road



Typical Cross Section of Access Road for Maintenance Shop

KM7 VEHICLE MAINTENANCE SHOP AND VEHICLE DEPOT

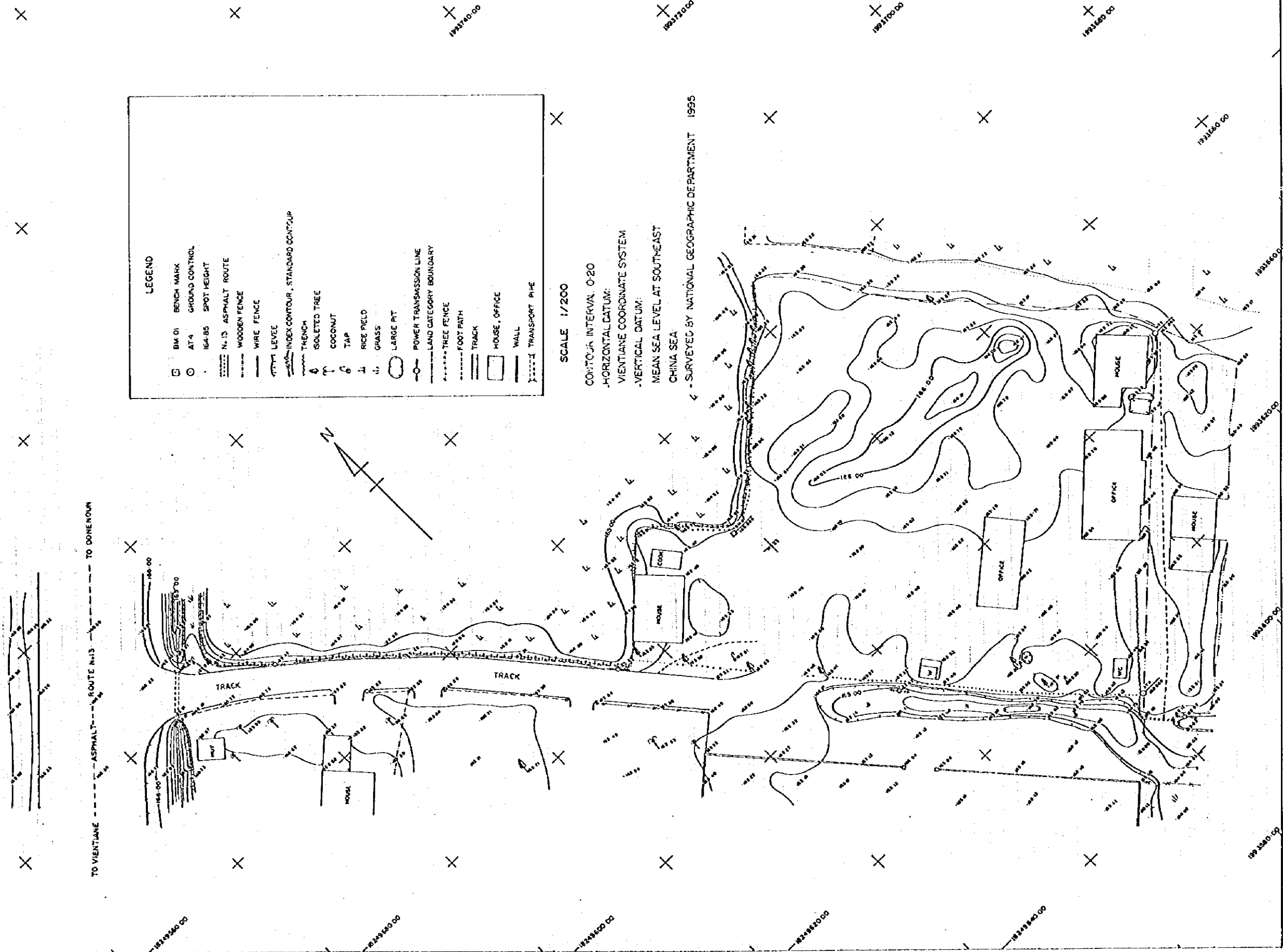
TO VIENTIANE --- ASPHALT --- ROUTE No.13 --- TO DONENOUN

LEGEND

- BIM 01 BENCH MARK
- AT 4 GROUND CONTROL
- 164-85 SPOT HEIGHT
- No. 13 ASPHALT ROUTE
- WOODEN FENCE
- WIRE FENCE
- LEVEE
- INDEX CONTOUR, STANDARD CONTOUR
- TRENCH
- ISOLATED TREE
- COCONUT
- TAP
- RICE FIELD
- GRASS
- LARGE PT
- POWER TRANSMISSION LINE
- LAND CATEGORY BOUNDARY
- TREE FENCE
- FOOT PATH
- TRACK
- HOUSE, OFFICE
- WALL
- TRANSPORT PIPE

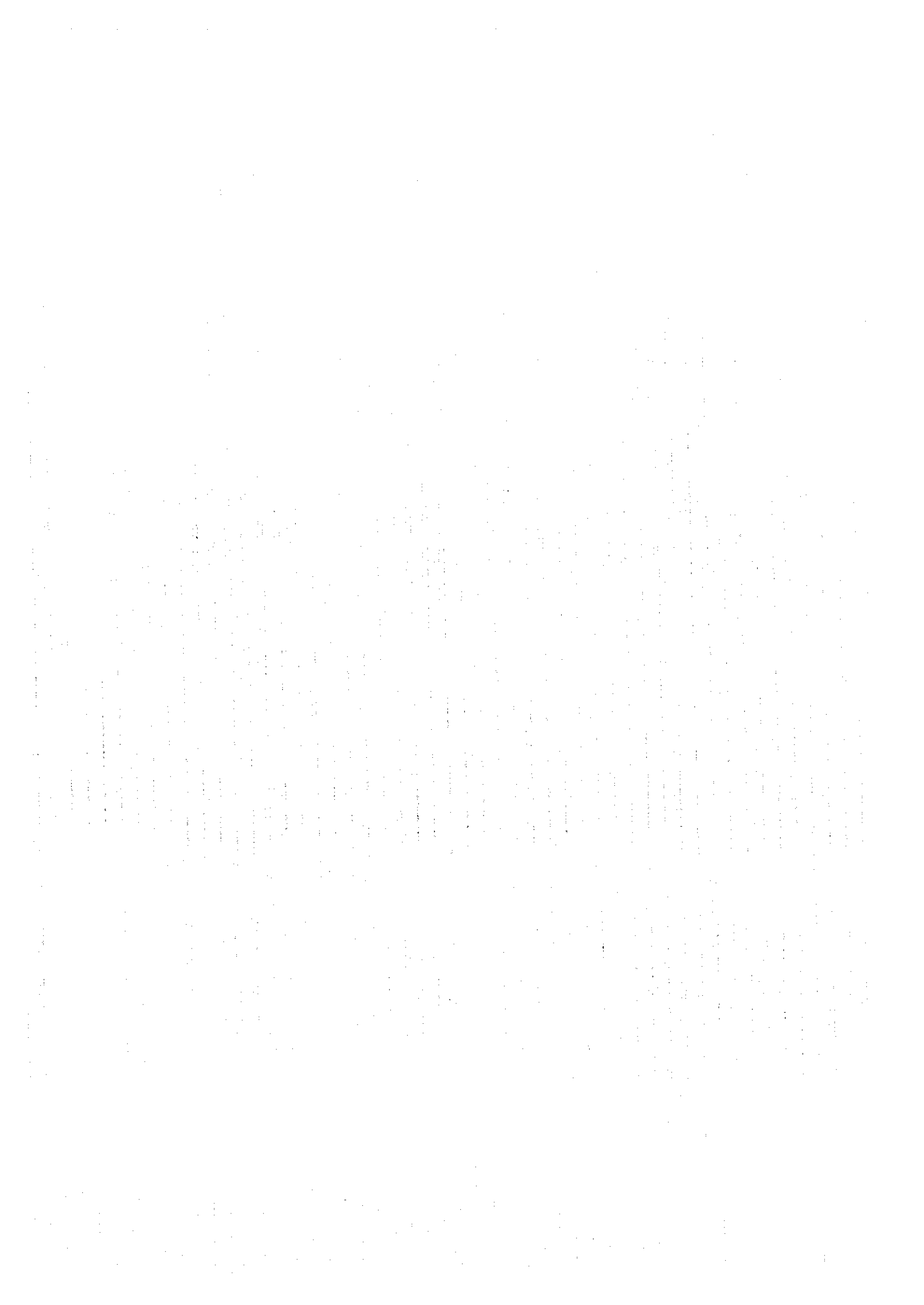
SCALE 1/200

CONTOUR INTERVAL: 0.20
 HORIZONTAL DATUM:
 VIENTIANE COORDINATE SYSTEM
 VERTICAL DATUM:
 MEAN SEA LEVEL AT SOUTHEAST
 CHINA SEA
 SURVEYED BY NATIONAL GEOGRAPHIC DEPARTMENT 1995

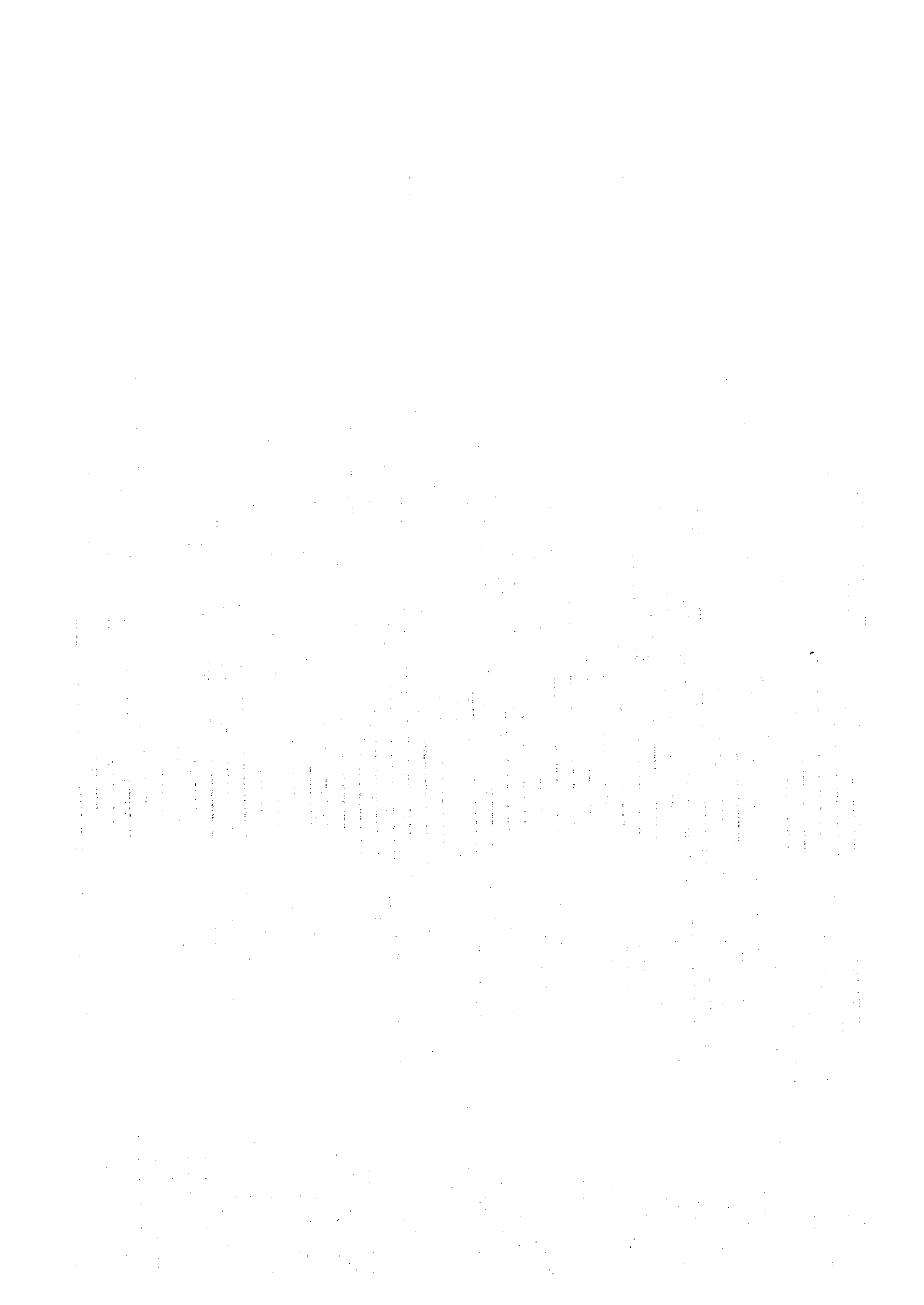


APPENDIX 7 : Job Description for the Staff of Cleansing Section

- | | | |
|--|------------|--|
| Director | 1 person | • in charge of SWM of Vientiane Municipality |
| Deputy Director | 1 person | • assist to Director
• in charge of sanitary environment |
| 1. Research & Development | | |
| - Manager | 1 person | • in charge of planning of MSWM
- Collection & haulage planning
- Disposal planning
- Financial planning |
| - Technician | 1 person | • Supervision, analysis of the data of waste generation, collection amount and disposal amount. |
| 2. Administration | | |
| - Manager | 1 person | • in charge of personnel affairs, accounting |
| - Sub Manager | 1 person | • assist to the Manager |
| - Clerk | 6 persons | • accounting, general administration |
| - Fee Collector | 20 persons | • collection contract, Fee collection |
| 3. Cleansing Services Section I (collection) | | |
| - Manager | 1 person | • in charge of the collection and haulage |
| - Engineer | 1 person | • in charge of the technical matters for collection and haulage
- arrangement of the collection route
- allocation of the containers |
| - Supervisor | 3 persons | • -supervision of collection and haulage in the site
- Supervision of the daily collection and haulage works |
| - Driver | 16 person | • operation of the collection vehicles |
| - Worker | 40 人 | • collection and loading the waste to collection vehicles |
| 4. Cleansing Services Section II (Road sweeping etc.) | | |
| - Manager | 1 person | • in charge of the cleansing of the public area and road sweeping |
| - Supervisor | 2 persons | • in charge of the cleansing work of the public area and road sweeping |
| - Mechanic | 1 person | • operation of wheel loader to collect the illegal dumped waste |







JICA