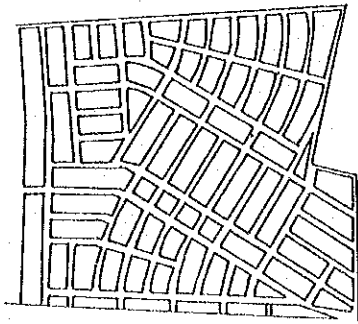
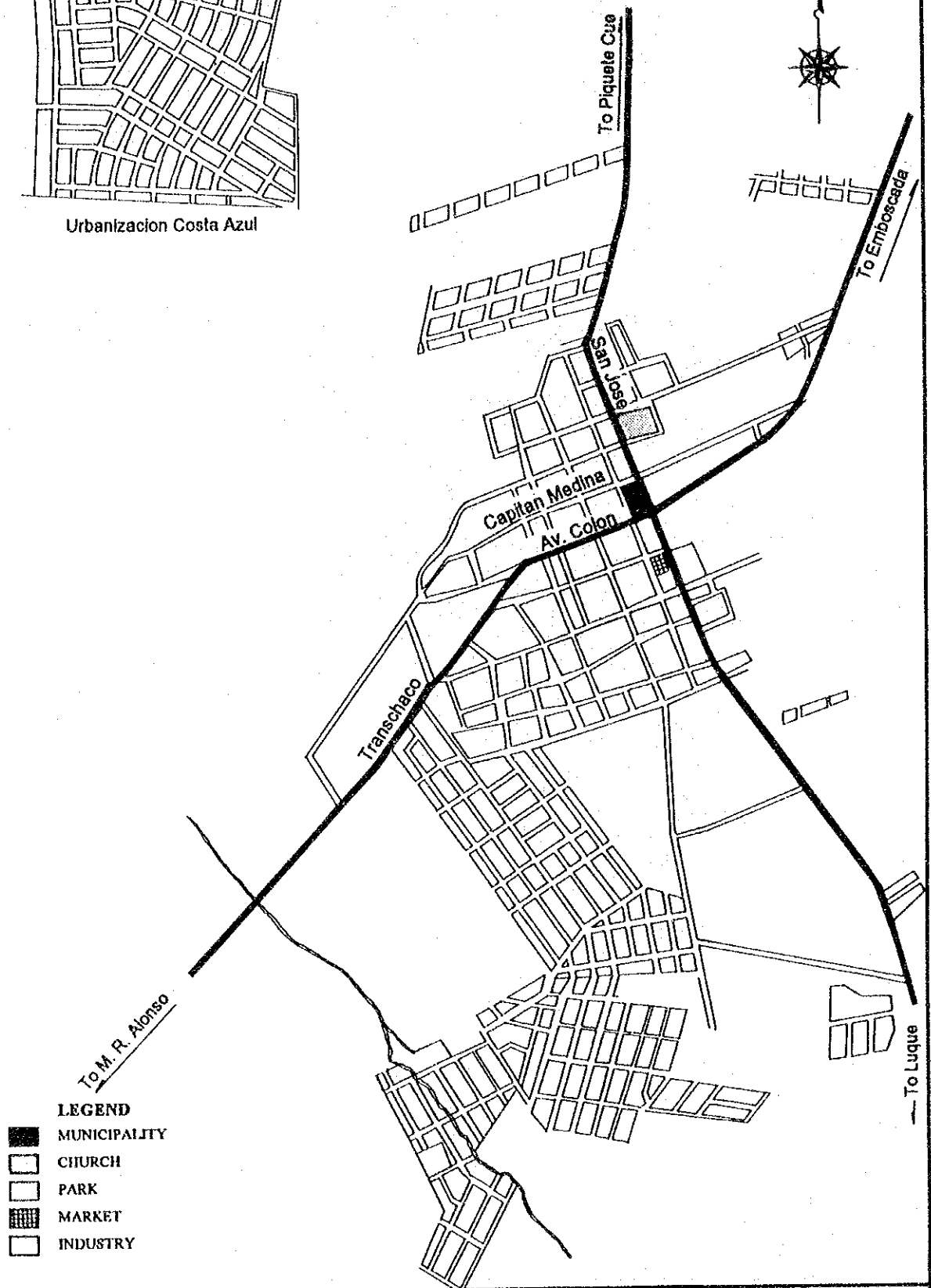







URBAN AREA OF LIMPIO



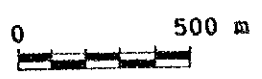
Urbanizacion Costa Azul



LEGEND

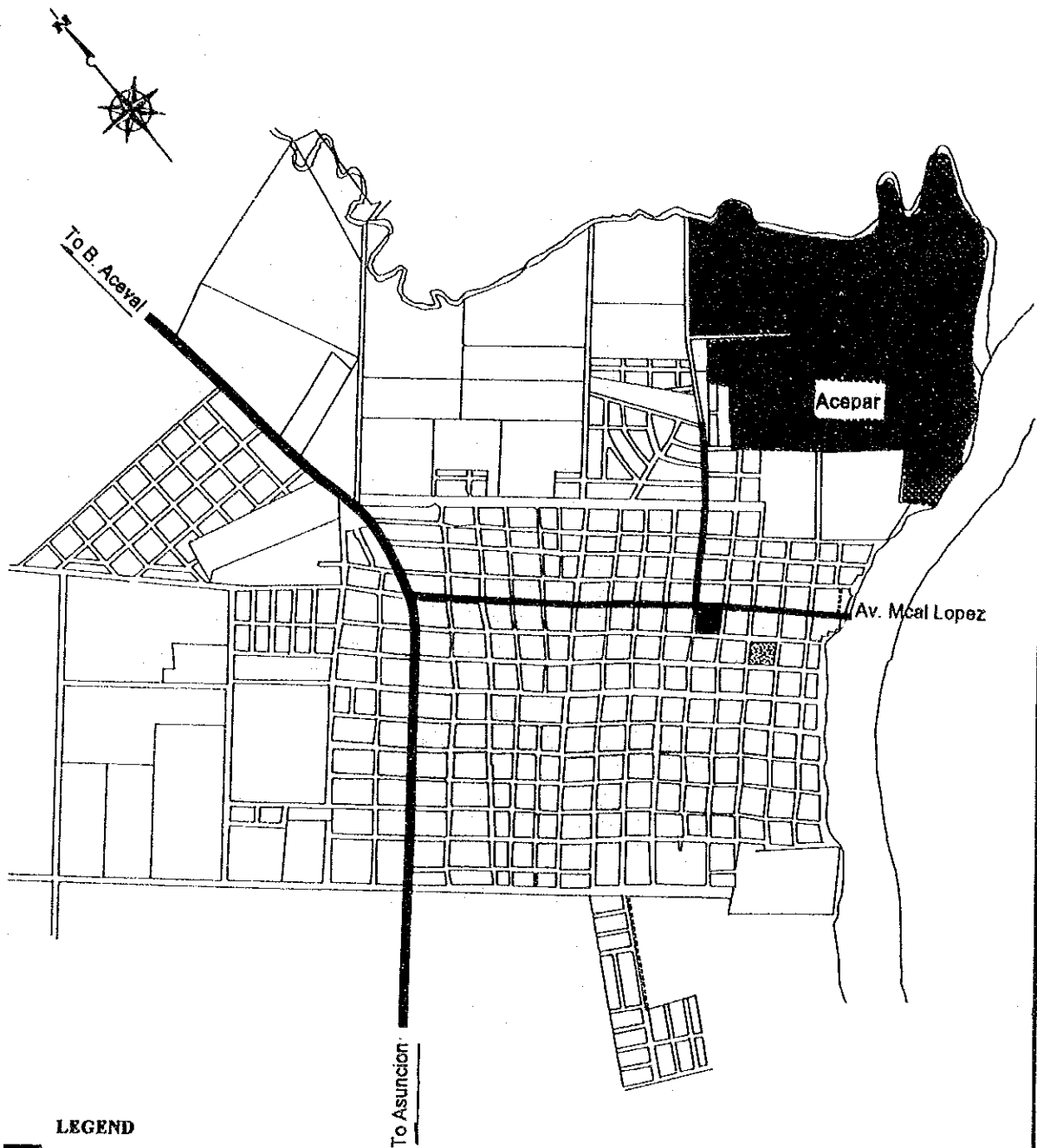
-  MUNICIPALITY
-  CHURCH
-  PARK
-  MARKET
-  INDUSTRY

SCALE








THE STUDY ON THE SOLID WASTE
 MANAGEMENT FOR METROPOLITAN AREA OF
 ASUNCION
 IN THE REPUBLIC OF PARAGUAY
 JAPAN INTERNATIONAL COOPERATION AGENCY

URBAN AREA OF VILLA HAYES



LEGEND

-  MUNICIPALITY
-  CHURCH
-  PARK
-  MARKET
-  INDUSTRY

SCALE

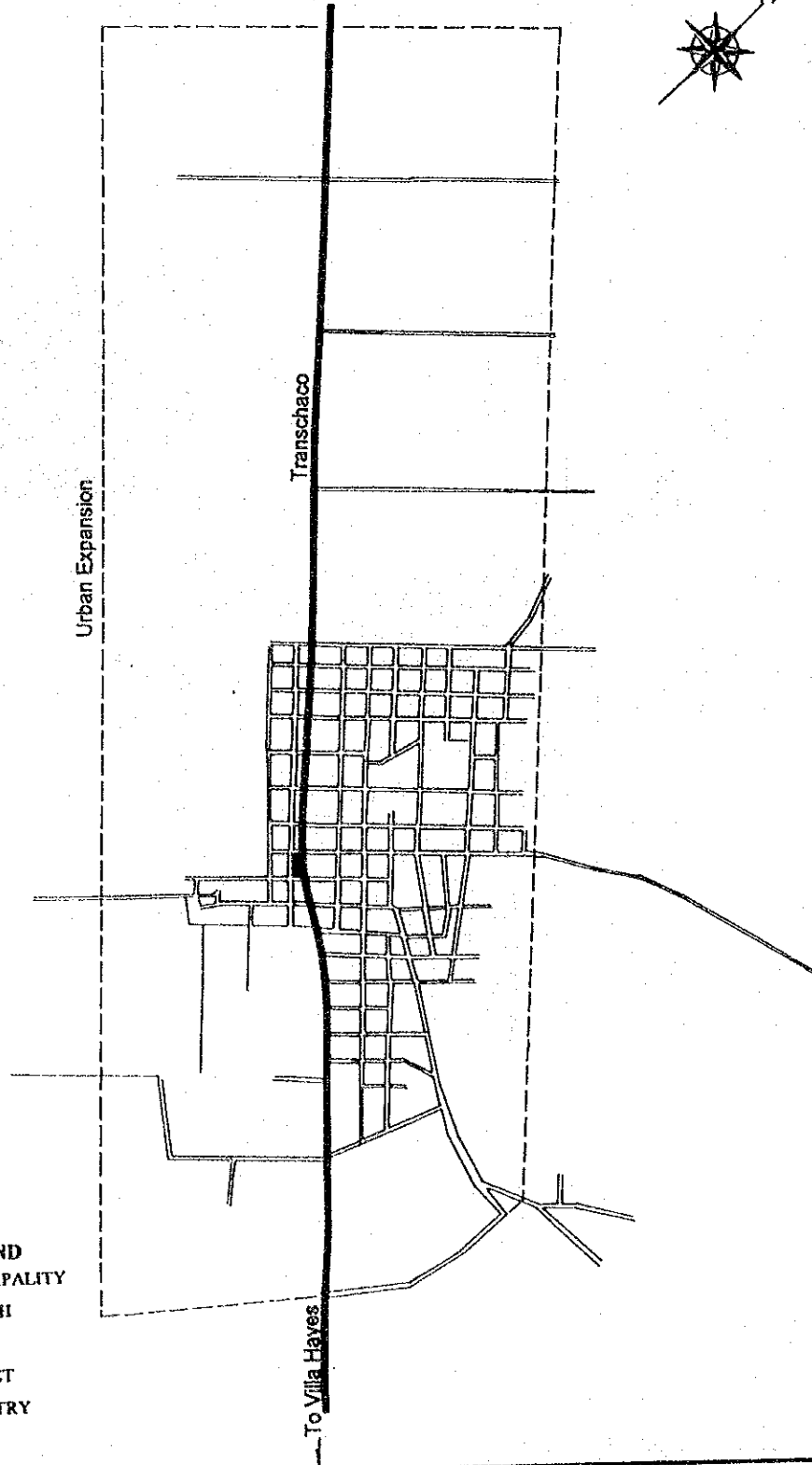
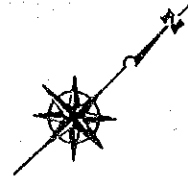
0 500 m



THE STUDY ON THE SOLID WASTE
MANAGEMENT FOR METROPOLITAN AREA OF
ASUNCION
IN THE REPUBLIC OF PARAGUAY

JAPAN INTERNATIONAL COOPERATION AGENCY

URBAN AREA OF BENJAMIN ACEVAL



SCALE

0 500 m



THE STUDY ON THE SOLID WASTE
MANAGEMENT FOR METROPOLITAN AREA OF
ASUNCION
IN THE REPUBLIC OF PARAGUAY

JAPAN INTERNATIONAL COOPERATION AGENCY

I. Drawings

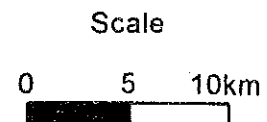
List of Drawings

Drawing No.	Title
DS001	Location Map of Chaco-i Final Disposal Site
DS002	Land Use Plan of Final Disposal Site
DS003	Master Development Layout Plan till 2006
DS004	Development Layout Plan in 1997
DS005	Leachate Collection and Gas Removal Network System
DS006	Typical Cross Section and Enclosing Structure
DS007	Drainage Facilities
DS008	Gas Removal Facilities
DS009	Leachate Collection Facilities
DS010	Leachate Circulation Facilities
DS011	Environmental Protection Facilities
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TS001	Location Map of Transfer Station
TS002	Plan of Ground Floor of Transfer Station
TS003	Plan of Transfer Platform
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EL005	Leachate Circulation Facilities
EL006	Buffer Zone of Sanitary Landfill Experiment
WB001	Location Map of Truck Scale installed in Cateura
WB002	Control House of Truck Scale installed in Cateura
WB003	Layout of Truck Scale System installed in Cateura

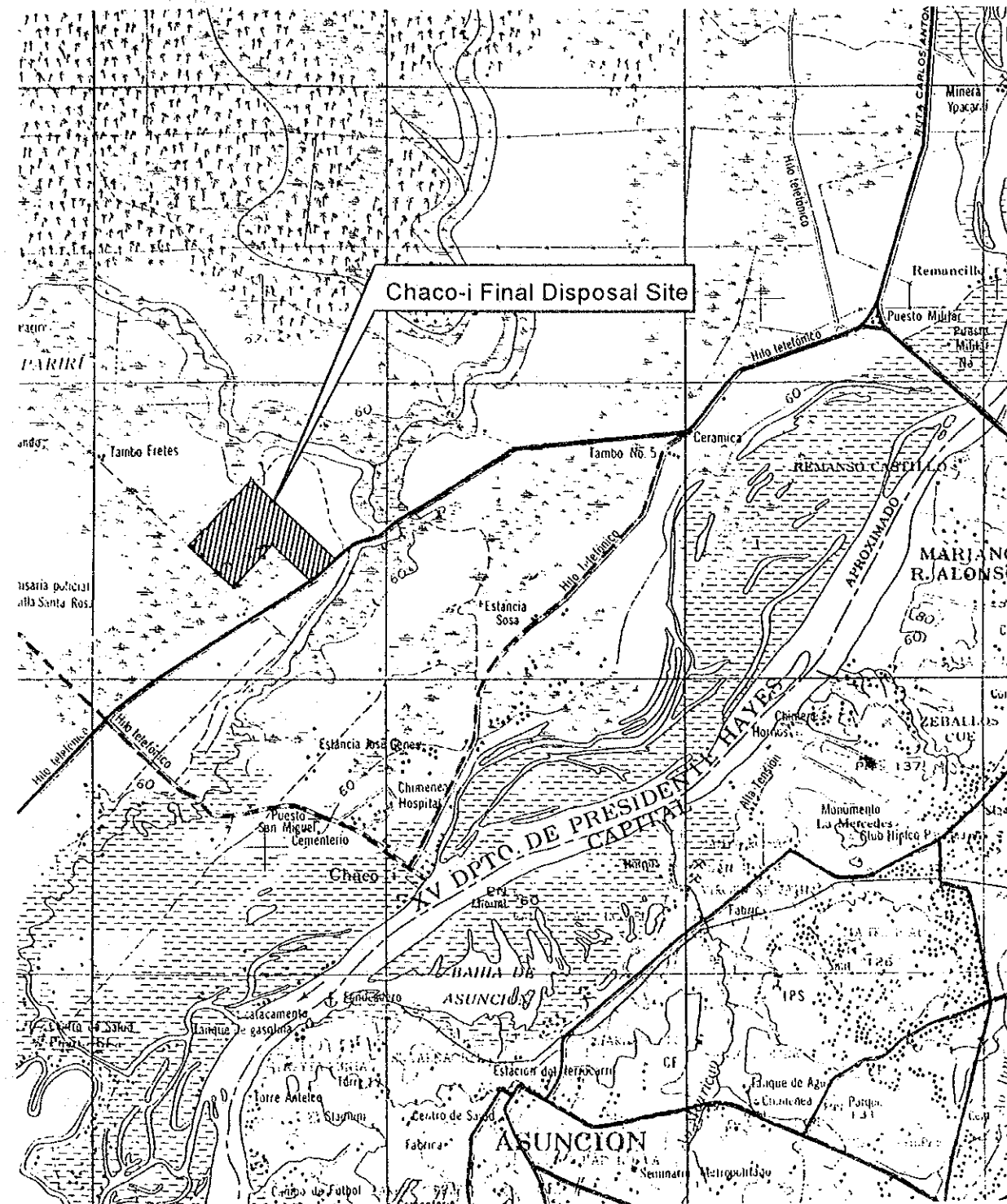
Chaco-i Final Disposal Site



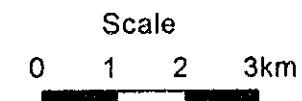
Location Map of the Chaco-i Disposal Site



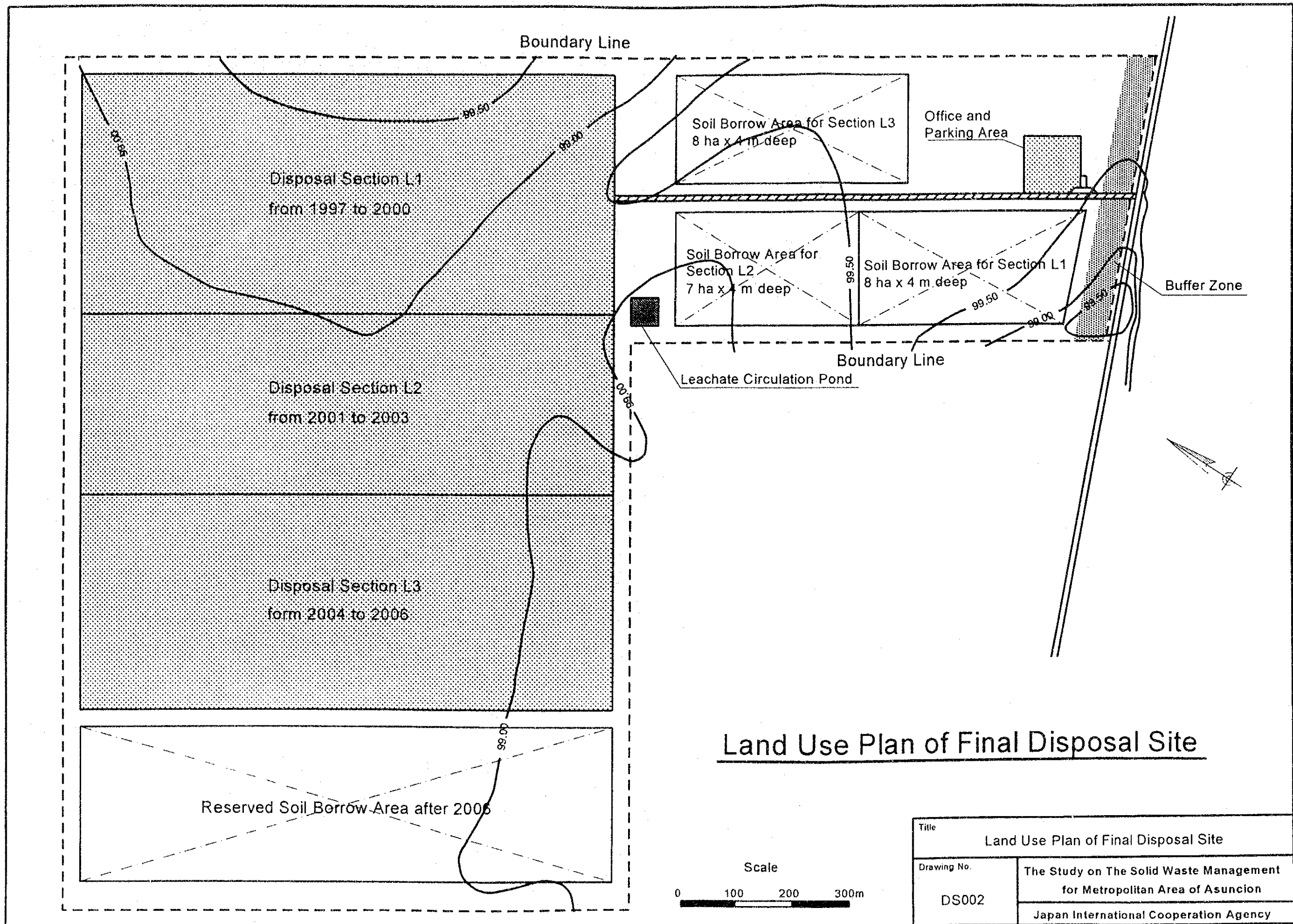
Chaco-i Final Disposal Site



Location Map

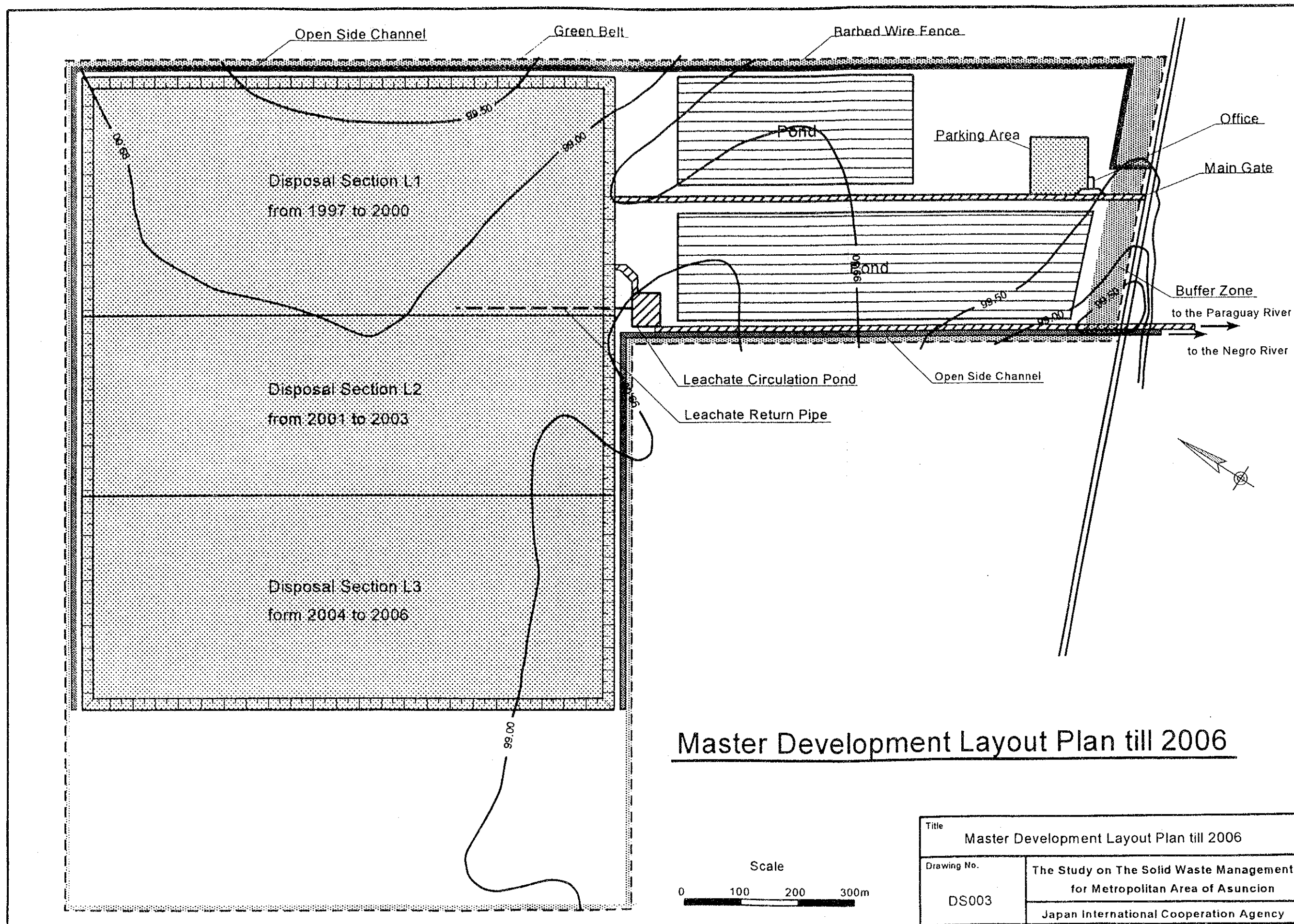


Title		Location Map of Chaco-i Final Disposal Site	
Drawing No.		The Study on The Solid Waste Management for Metropolitan Area of Asuncion	
DS001		Japan International Cooperation Agency	



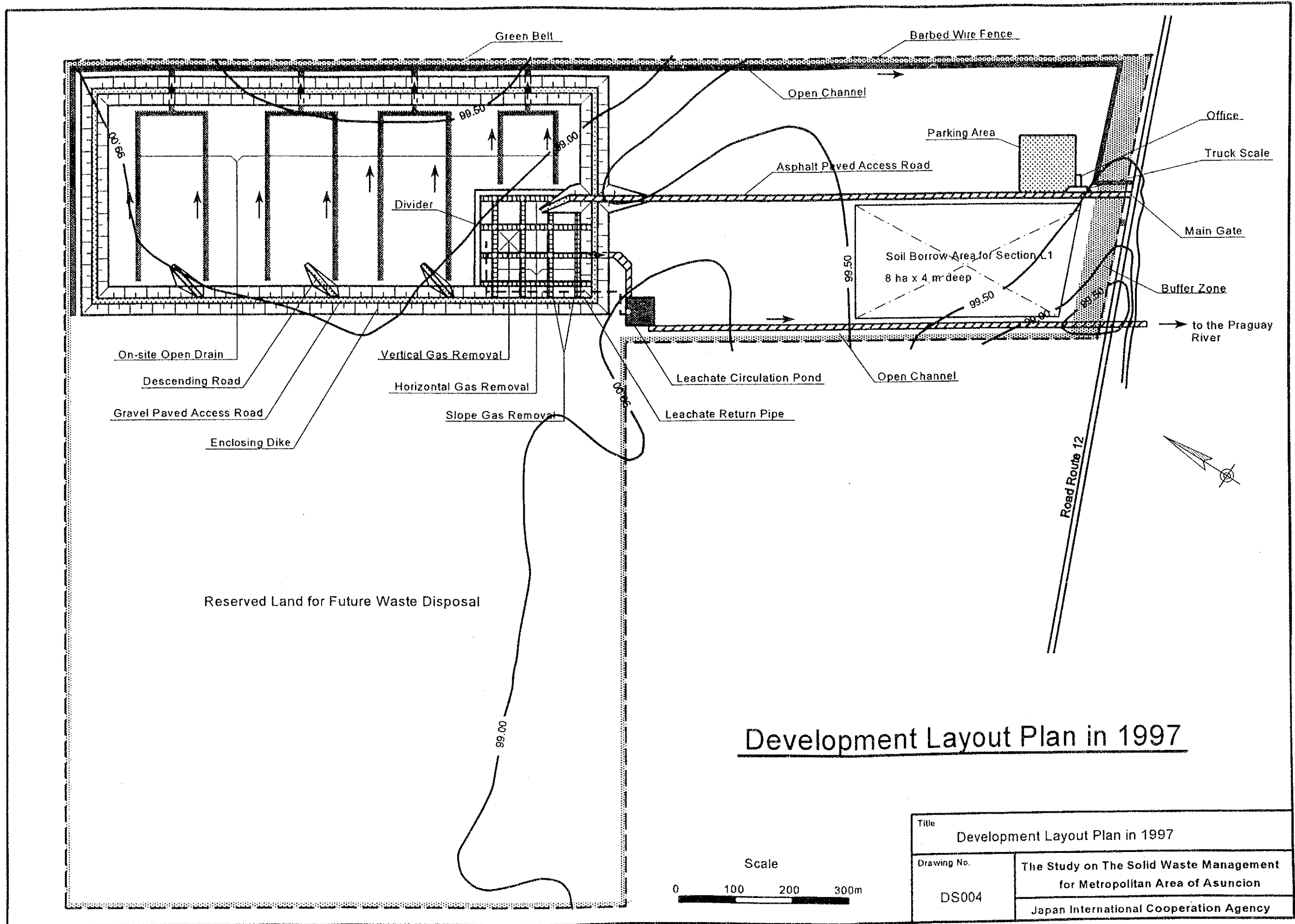
Land Use Plan of Final Disposal Site

Title Land Use Plan of Final Disposal Site	
Drawing No.	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
DS002	Japan International Cooperation Agency

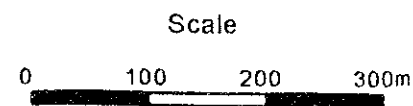


Master Development Layout Plan till 2006

Title		Master Development Layout Plan till 2006
Drawing No.	The Study on The Solid Waste Management for Metropolitan Area of Asuncion	Japan International Cooperation Agency
DS003		

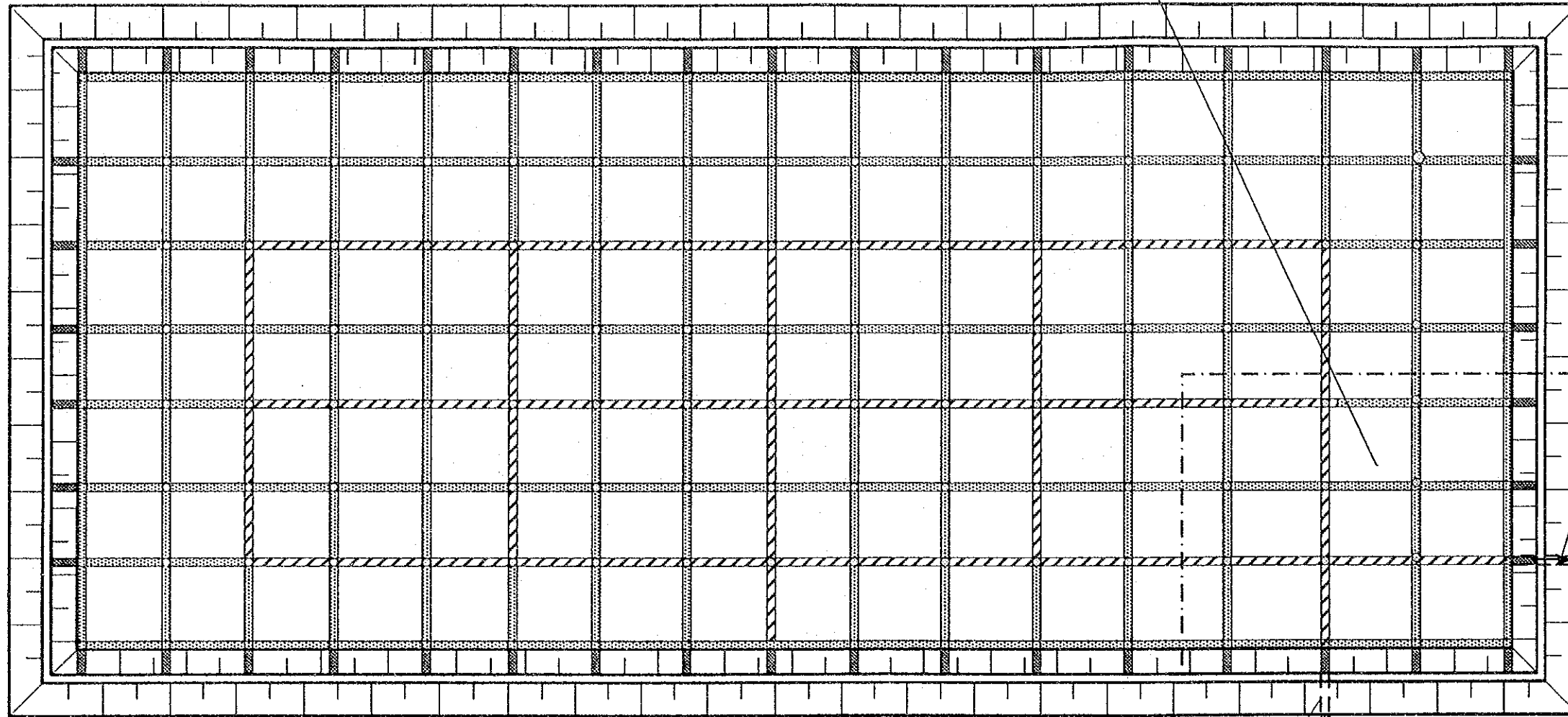
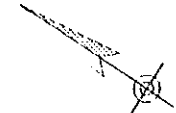


Development Layout Plan in 1997



Title Development Layout Plan in 1997	
Drawing No. DS004	The Study on The Solid Waste Management for Metropolitan Area of Asuncion Japan International Cooperation Agency

Section to be completed before operation







R.C. Pipe Culvert

to Leachate Regulation Pond

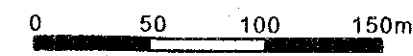
R.C. Pipe Culvert (Block End)
for Section L2 and L3

Legend

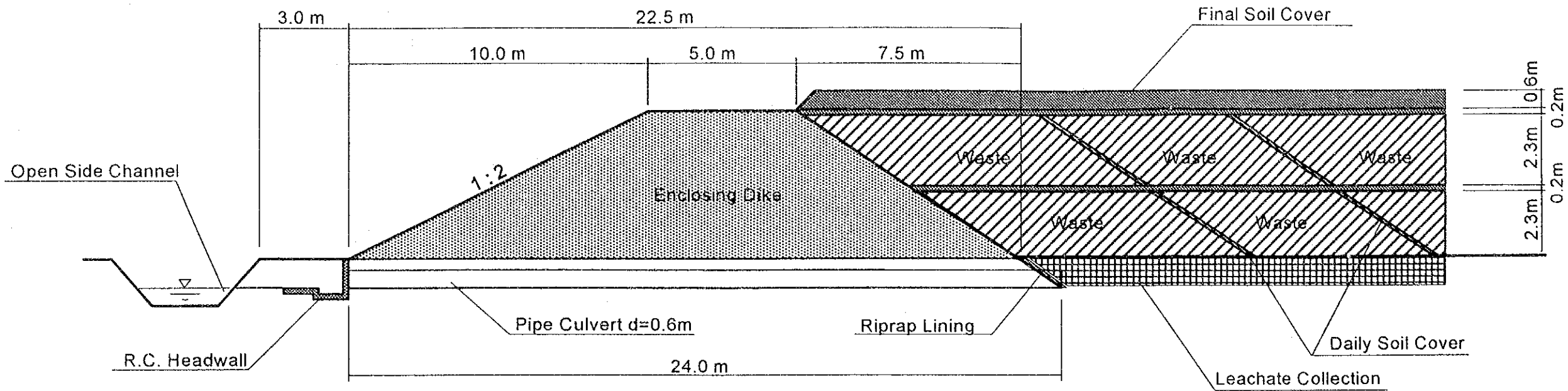
-  Horizontal Leachate Collection (Main)
-  Horizontal Leachate Collection (Branch)
-  Slope Gas Removal
-  Vertical Gas Removal

Leachate Collection and Gas Removal Network System

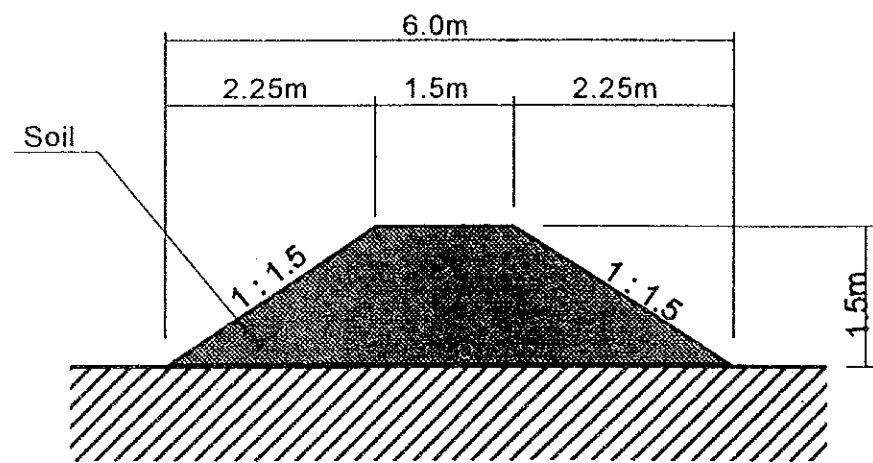
Scale



Title Leachate Collection and Gas Removal Network System	
Drawing No. DS005	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
Japan International Cooperation Agency	



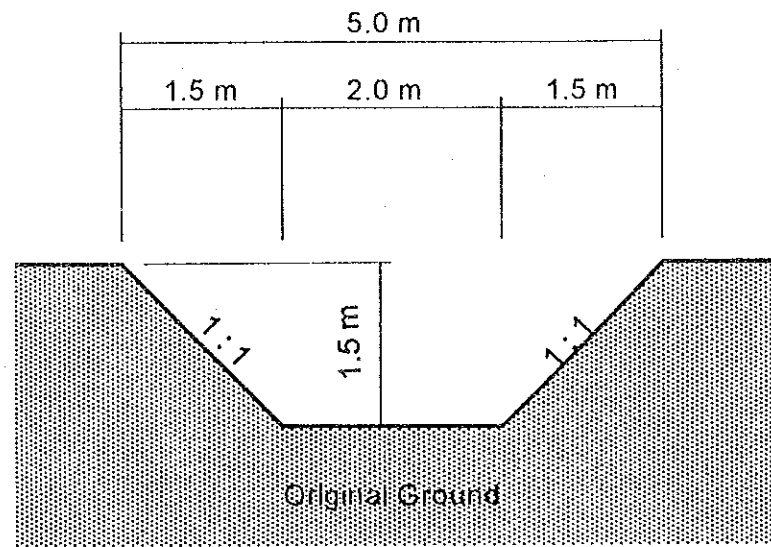
Enclosing Dike and Filling Waste



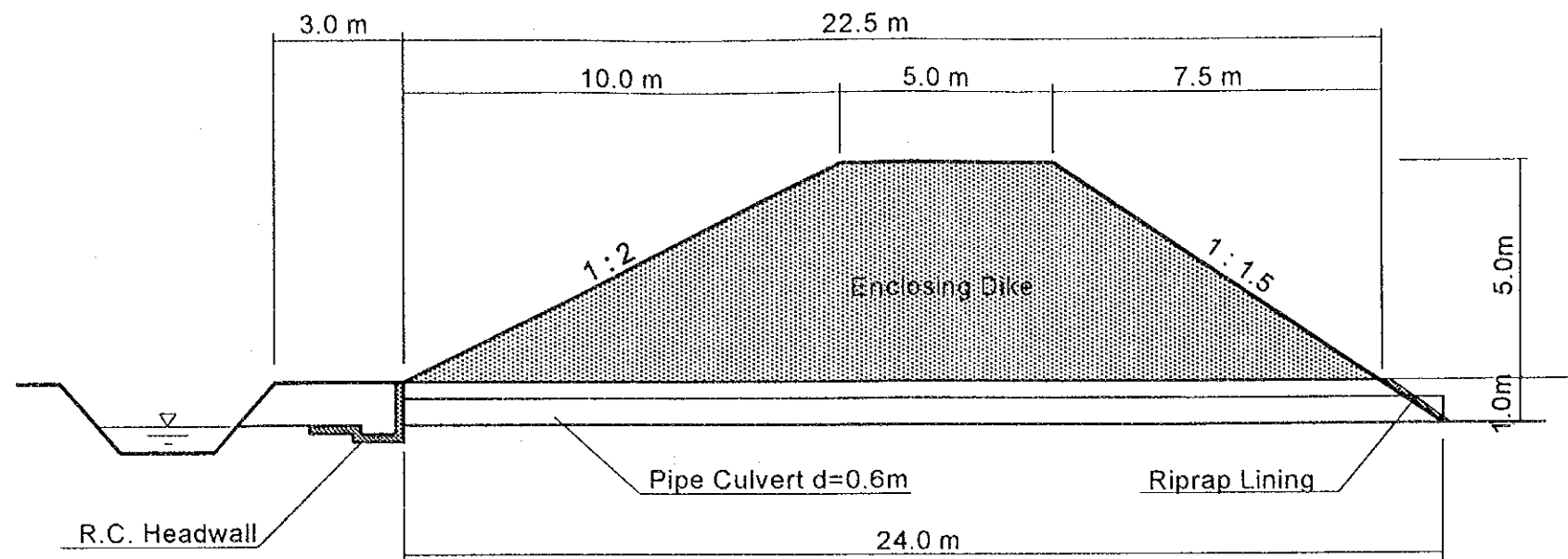
Original Ground

Divider

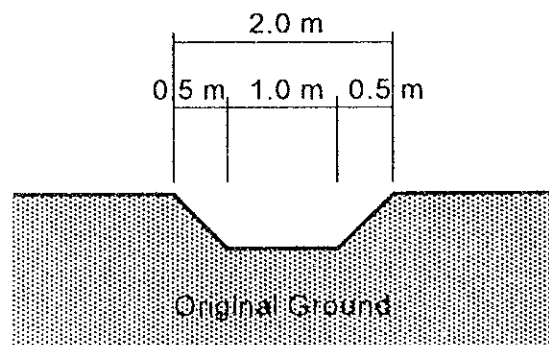
Title		Typical Cross Section and Enclosing Structure
Drawing No.	DS006	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
		Japan International Cooperation Agency



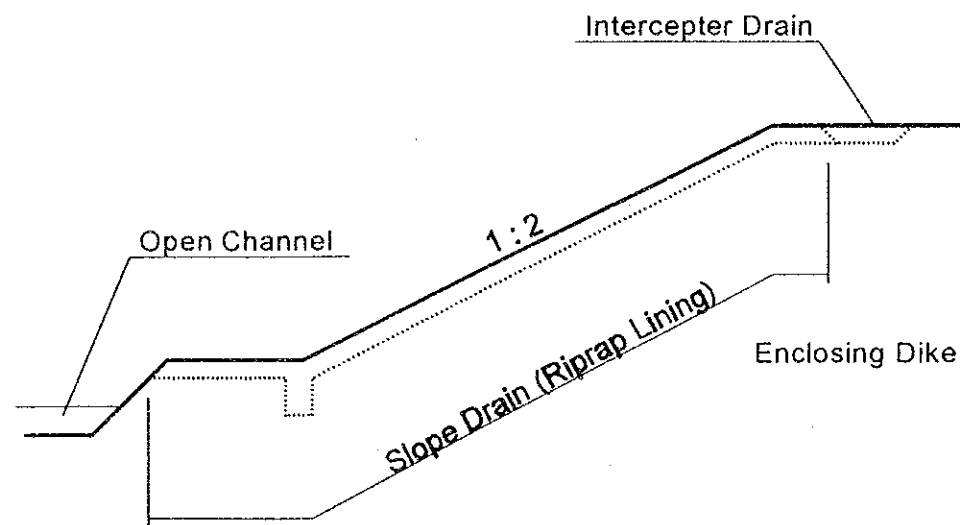
Open Side Channel



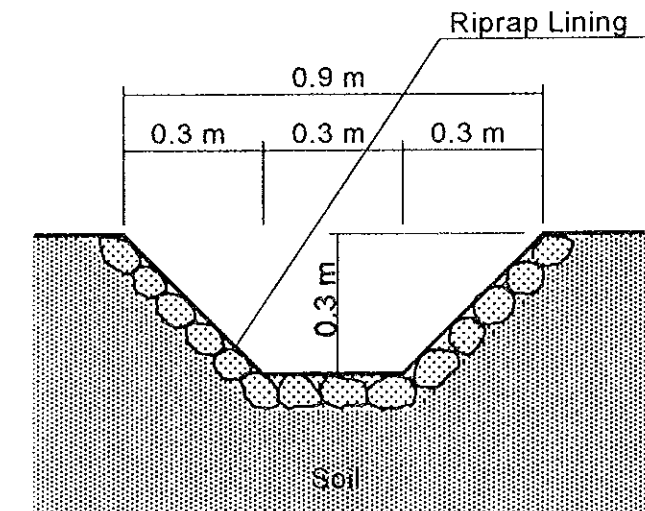
Culvert Drain



On-site Open Drain

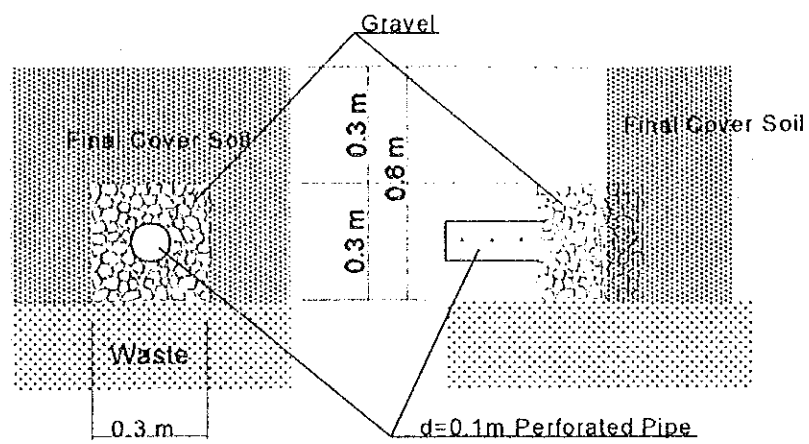


Elevation of Slope Drain

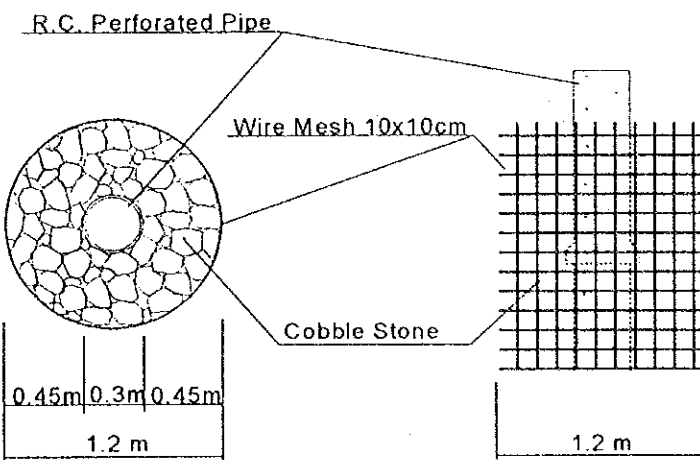
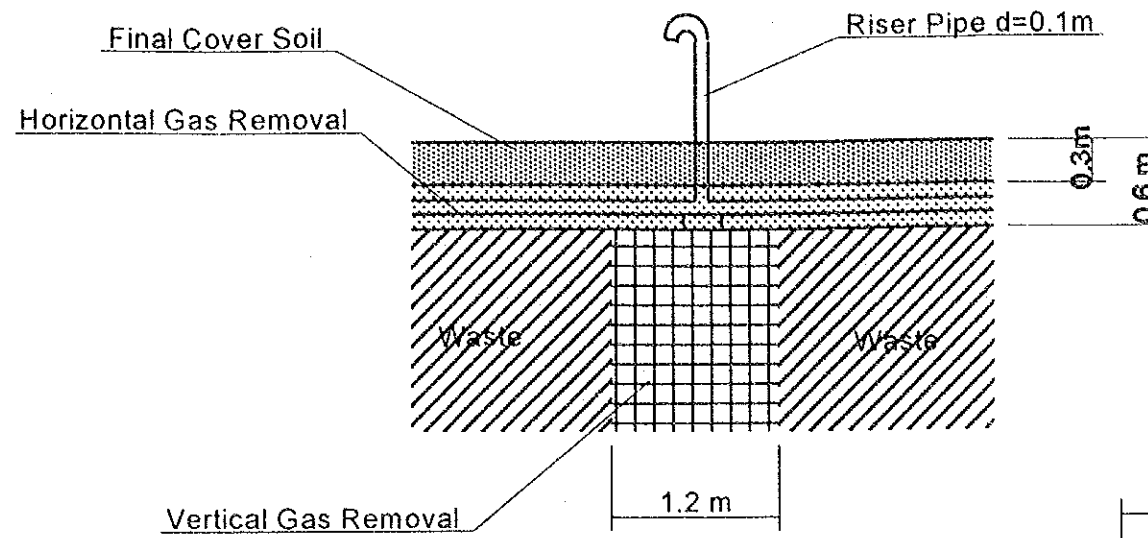


Cross Section of Slope Drain

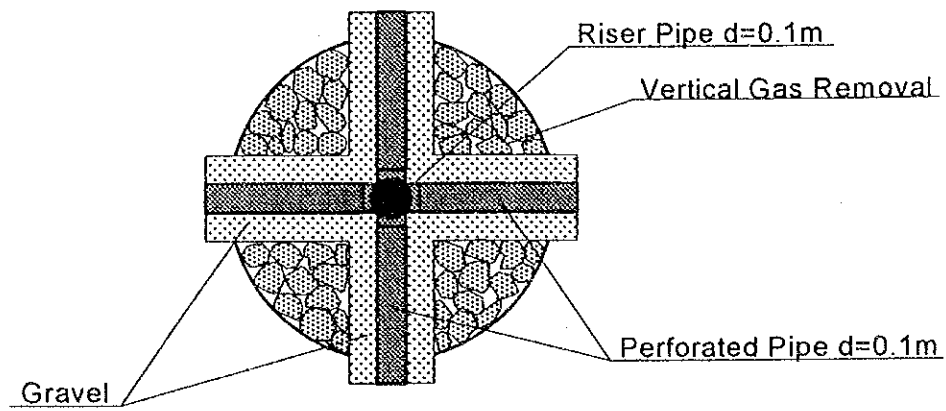
Title		Drainage Facilities
Drawing No.		The Study on The Solid Waste Management for Metropolitan Area of Asuncion
DS007		Japan International Cooperation Agency



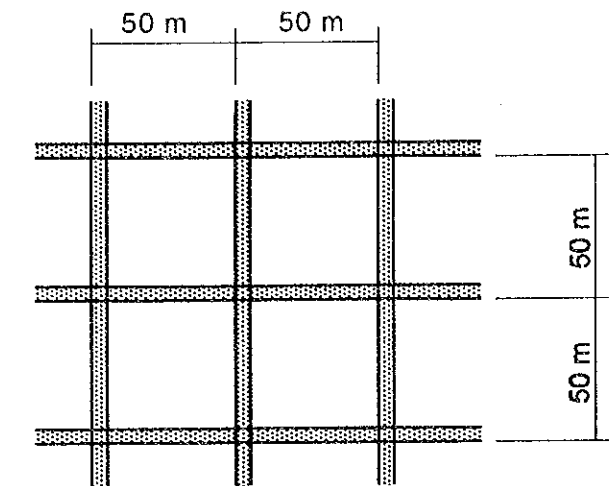
Horizontal Gas Removal



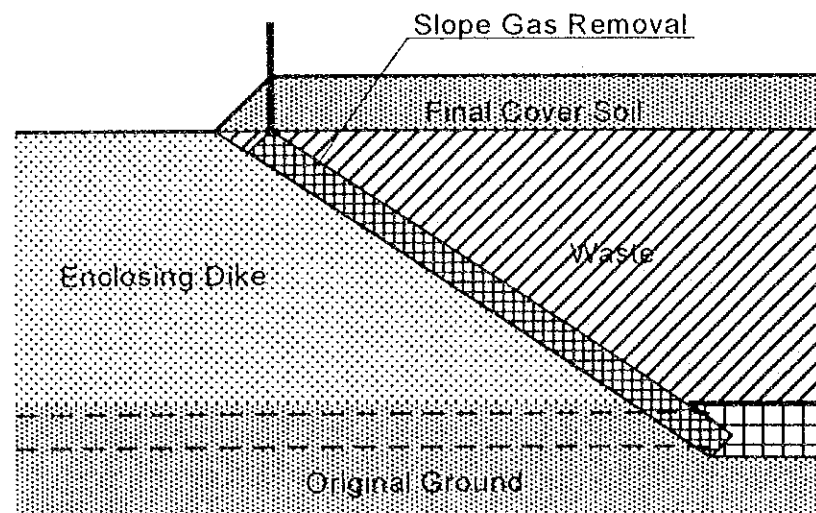
Vertical Gas Removal



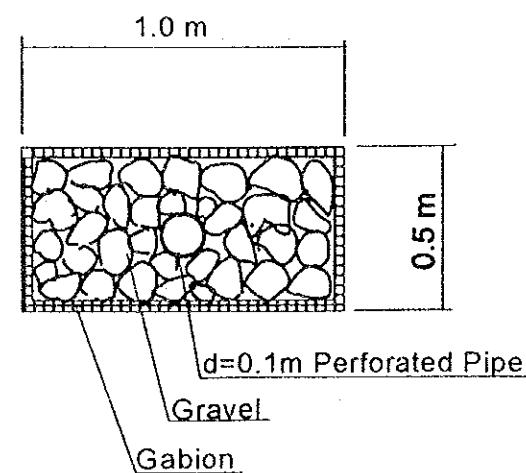
Junction of Gas Removal Facilities



Plan of Gas Removal Network

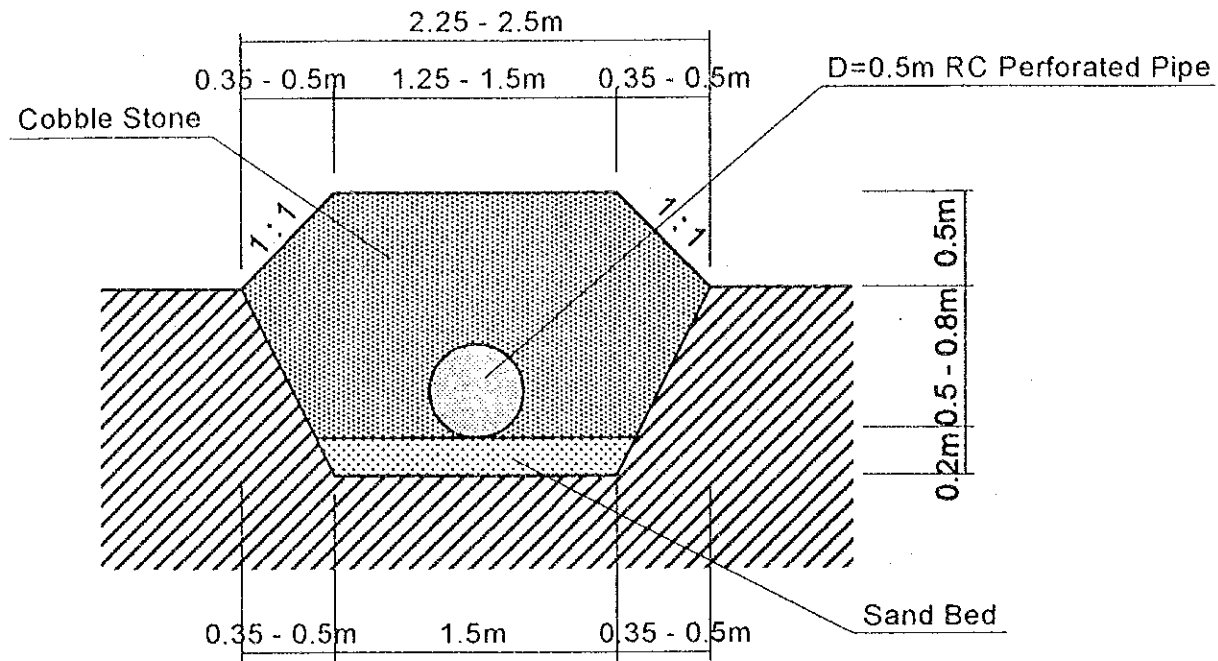


Slope Gas Removal

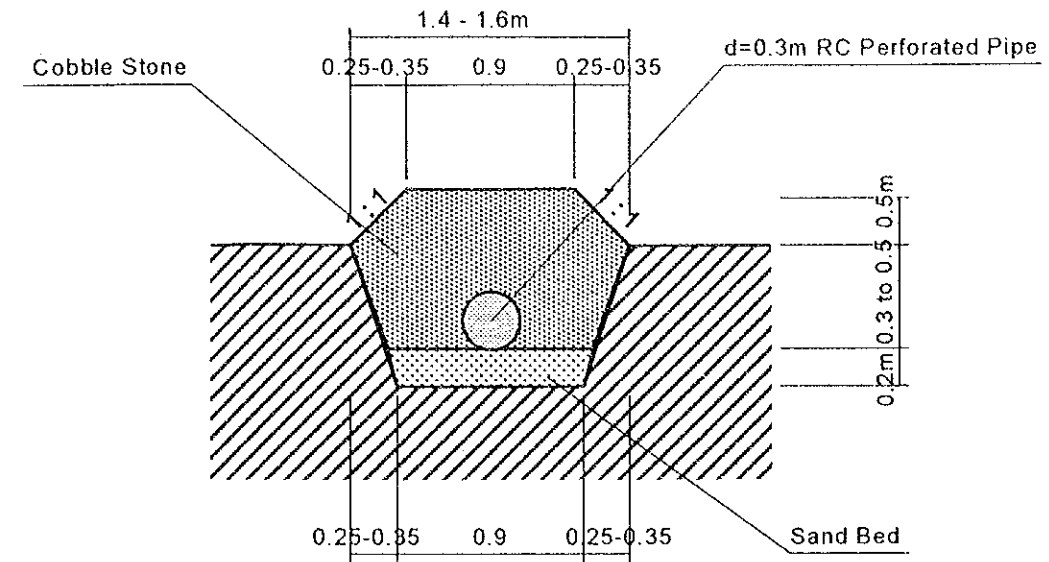


Section of Slope Gas Removal

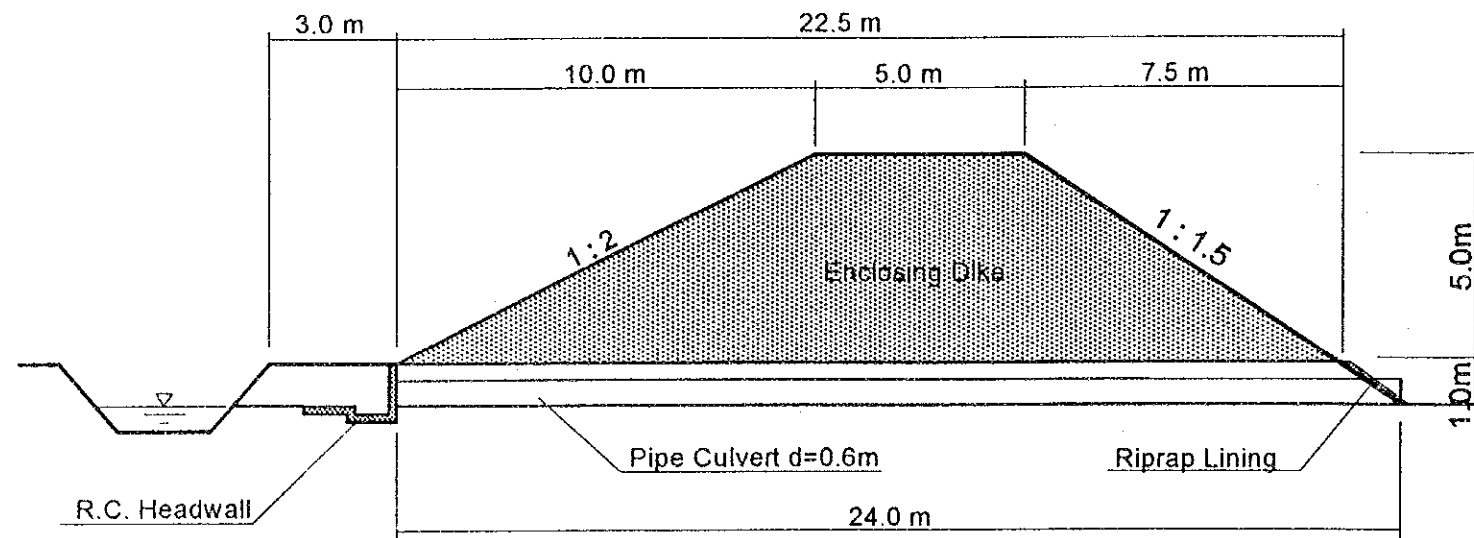
Title	Gas Removal Facilities	
Drawing No.	DS008	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
		Japan International Cooperation Agency



Main Horizontal Leachate Collection

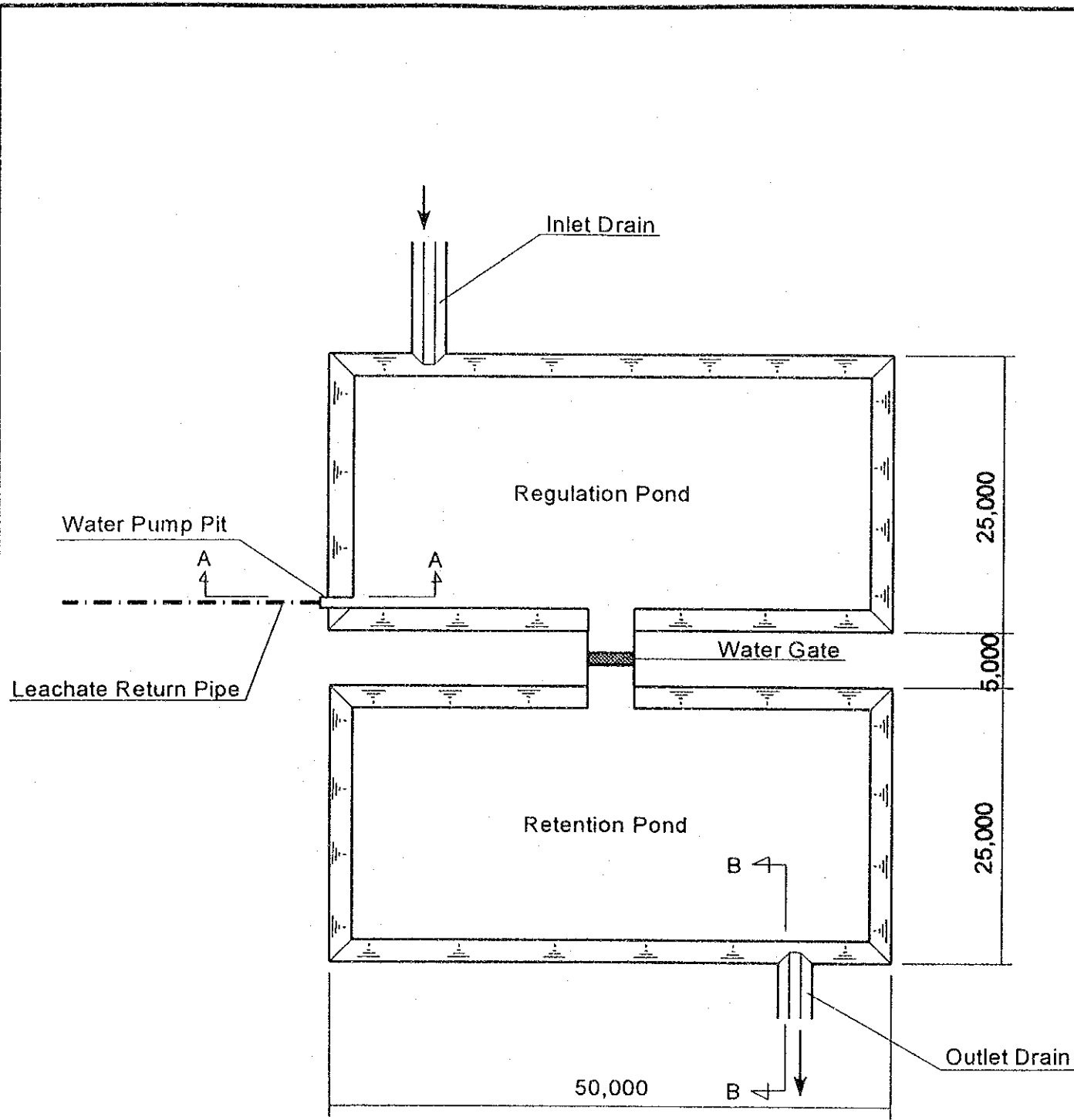


Branch of Horizontal Leachate Collection

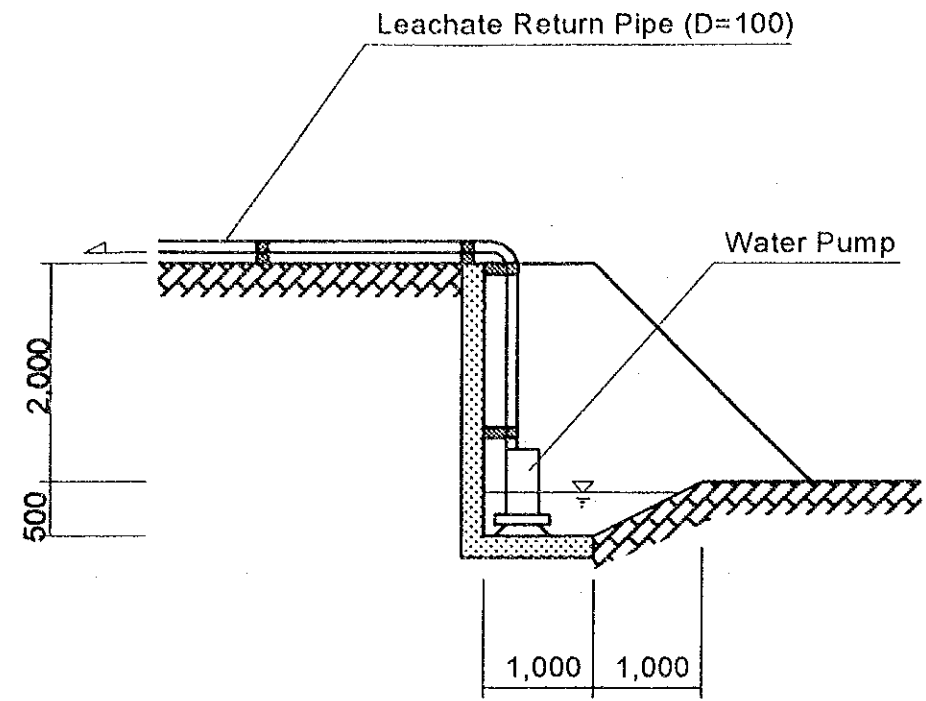
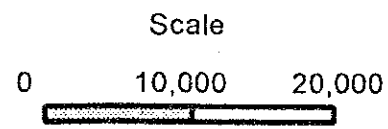


Leachate Drain Pipe

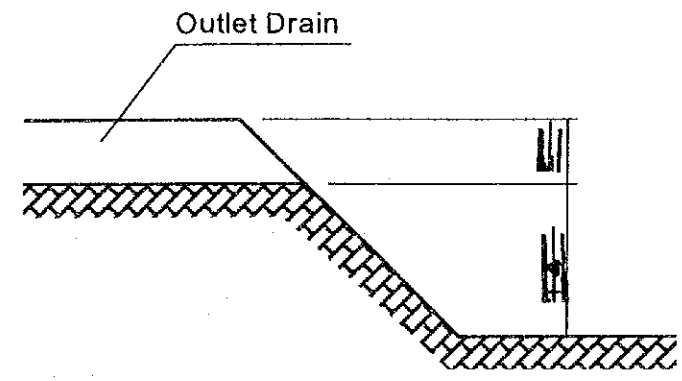
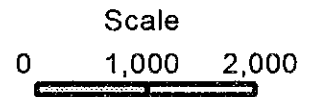
Title		Leachate Collection Facilities	
Drawing No.		The Study on The Solid Waste Management for Metropolitan Area of Asuncion	
DS009		Japan International Cooperation Agency	



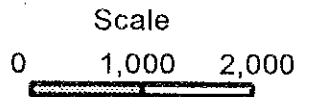
Plan



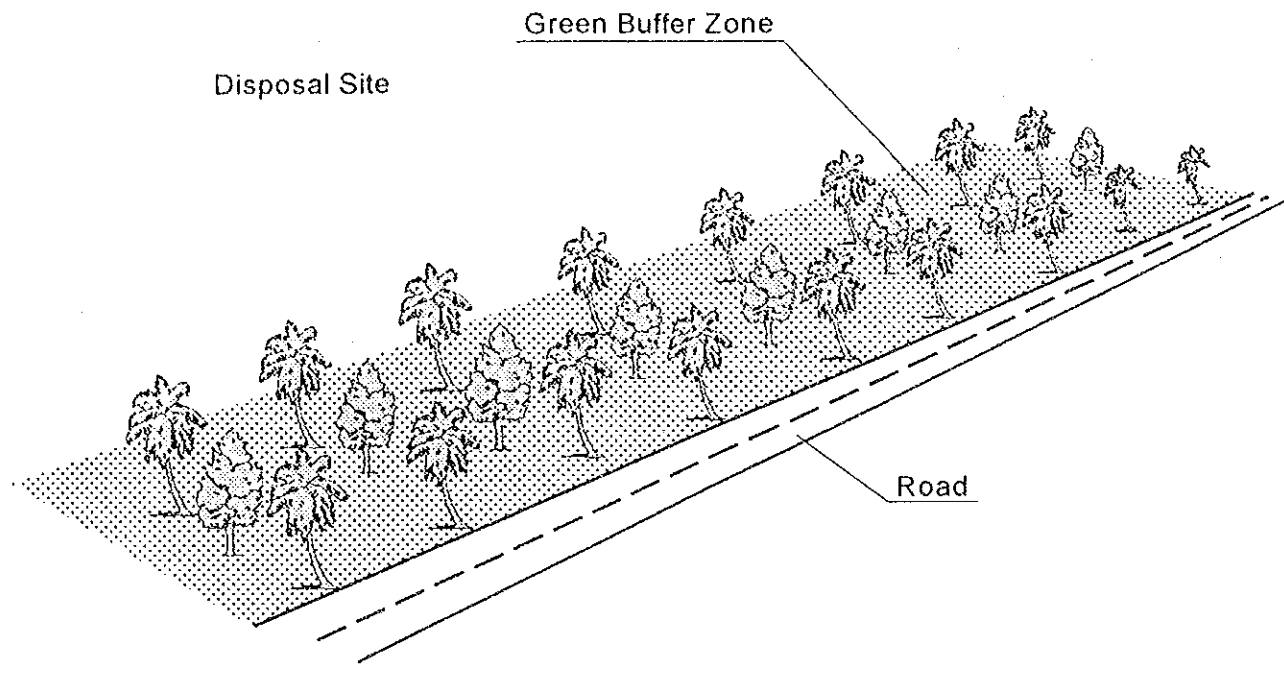
Section A - A



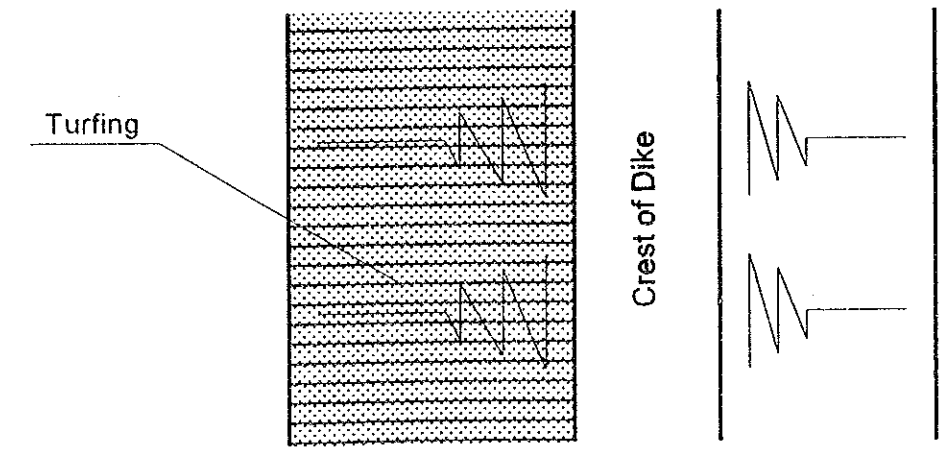
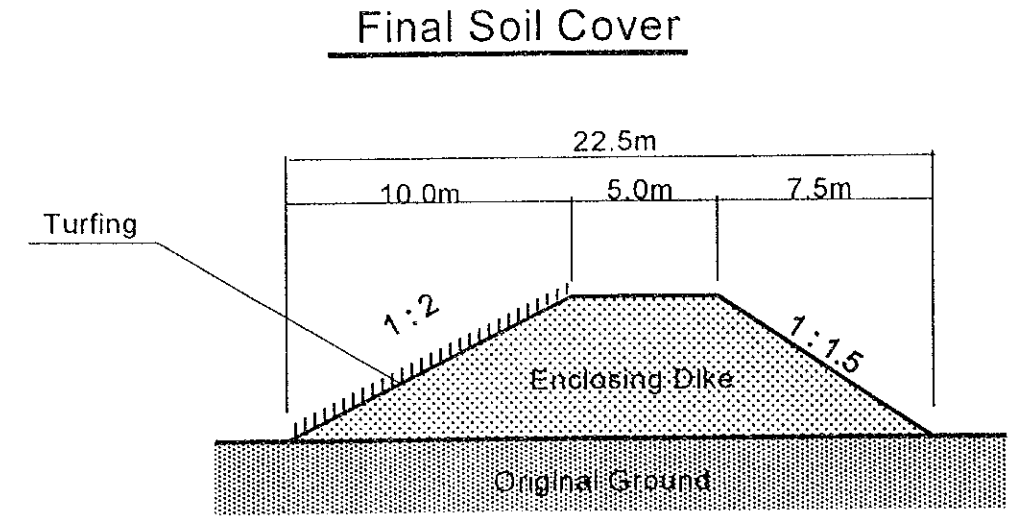
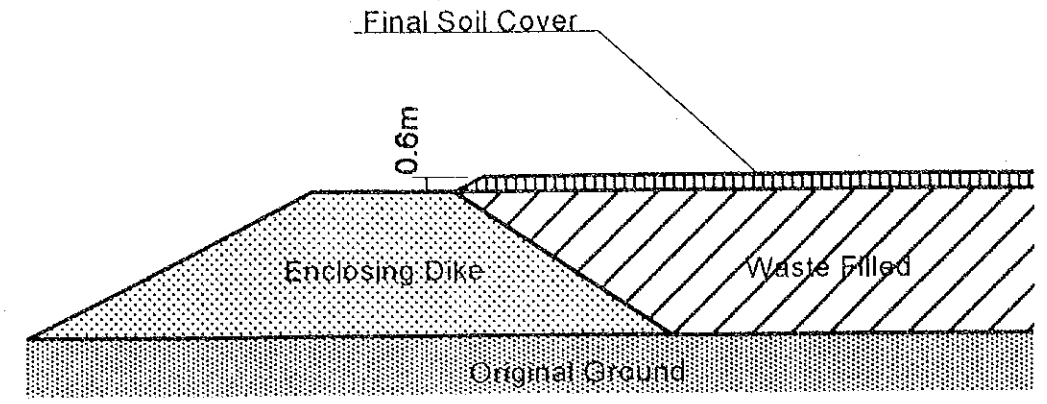
Section B - B



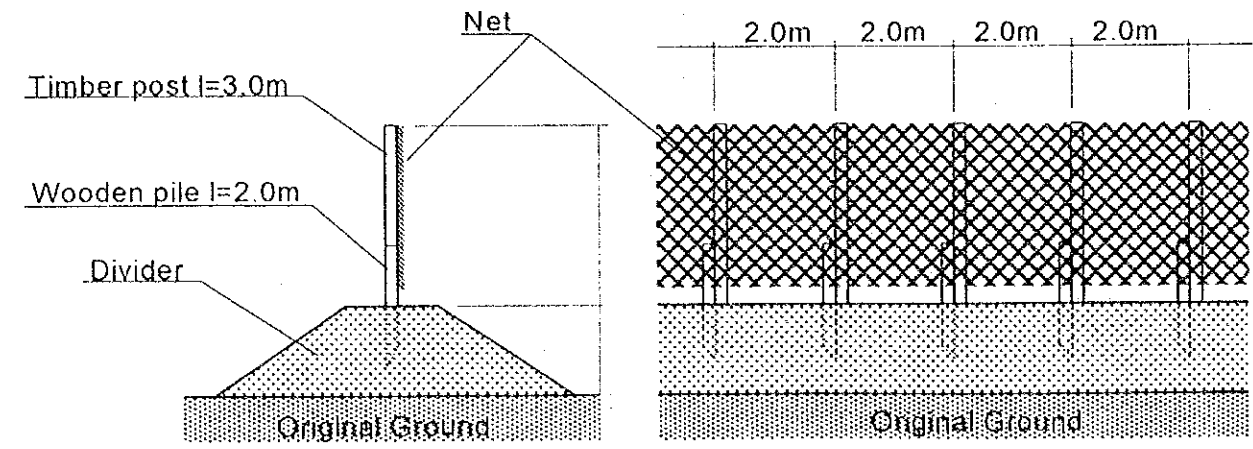
Title		Leachate Circulation System
Drawing No.	The Study on The Solid Waste Management for Metropolitan Area of Asuncion	
DS010	Japan International Cooperation Agency	



Buffer Zone

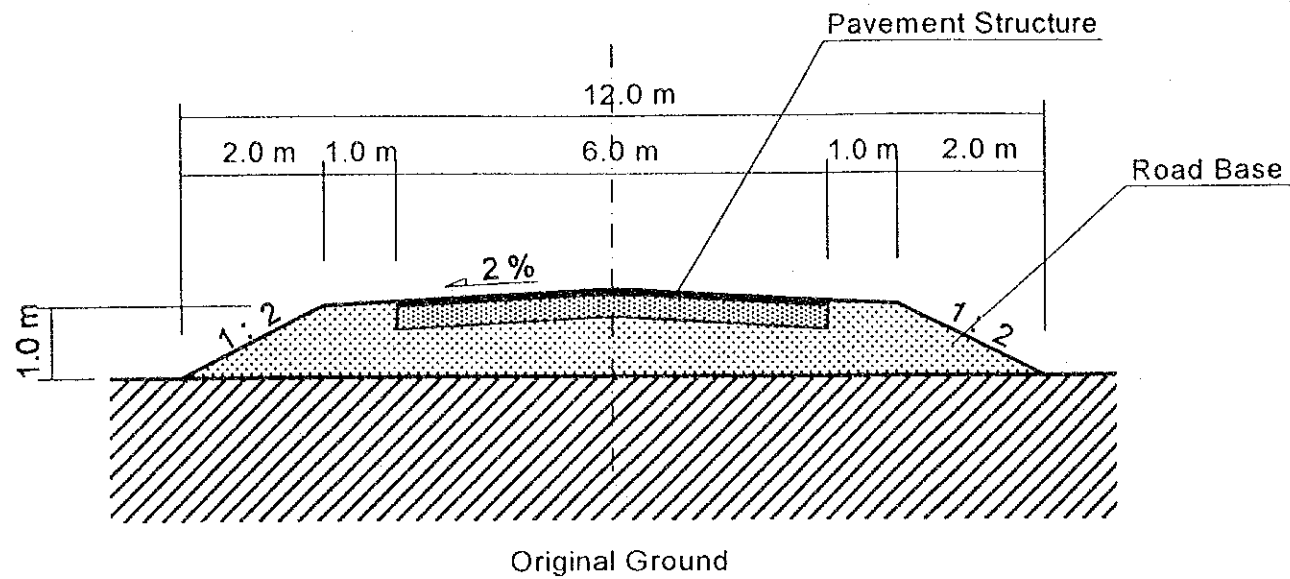


Slope Turfing

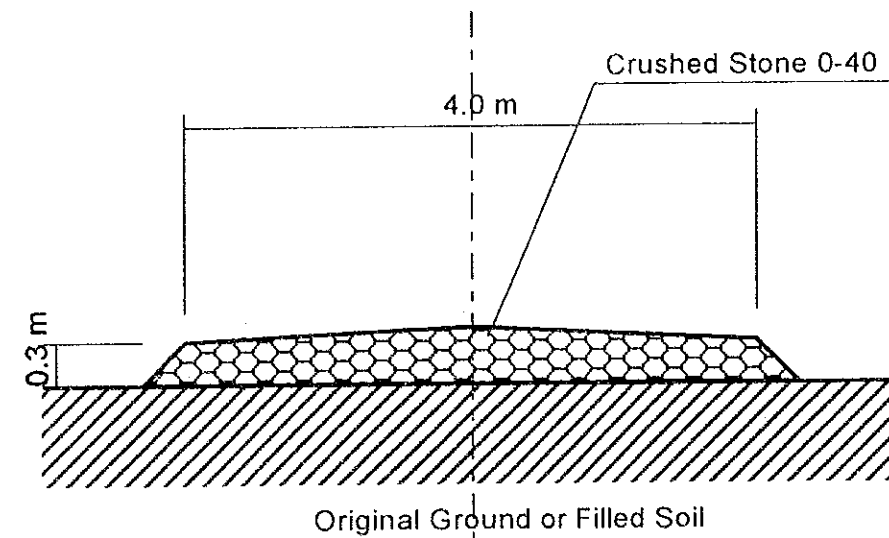


Litter Scattering Prevention Facility

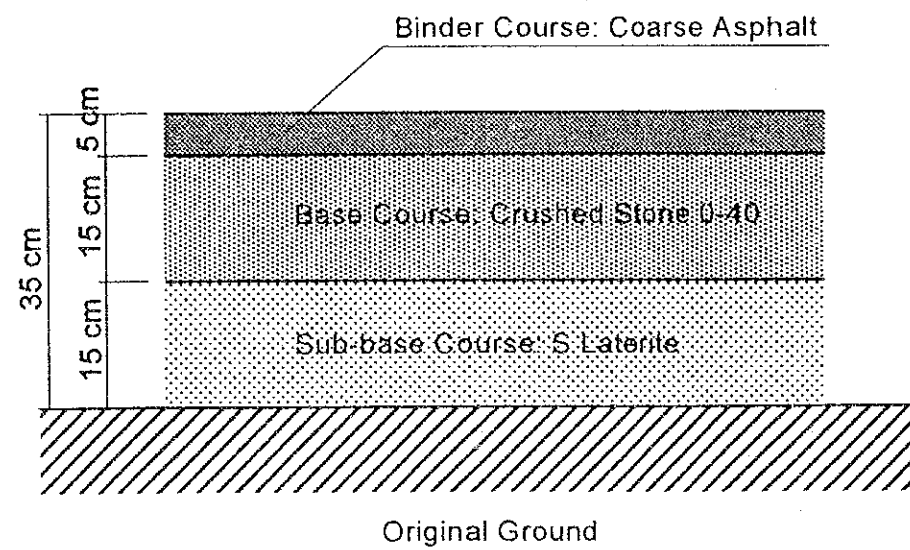
Title		Environmental Protection Facilities	
Drawing No.		The Study on The Solid Waste Management for Metropolitan Area of Asuncion	
DS011		Japan International Cooperation Agency	



Typical Cross Section of Asphalt Paved Access Road

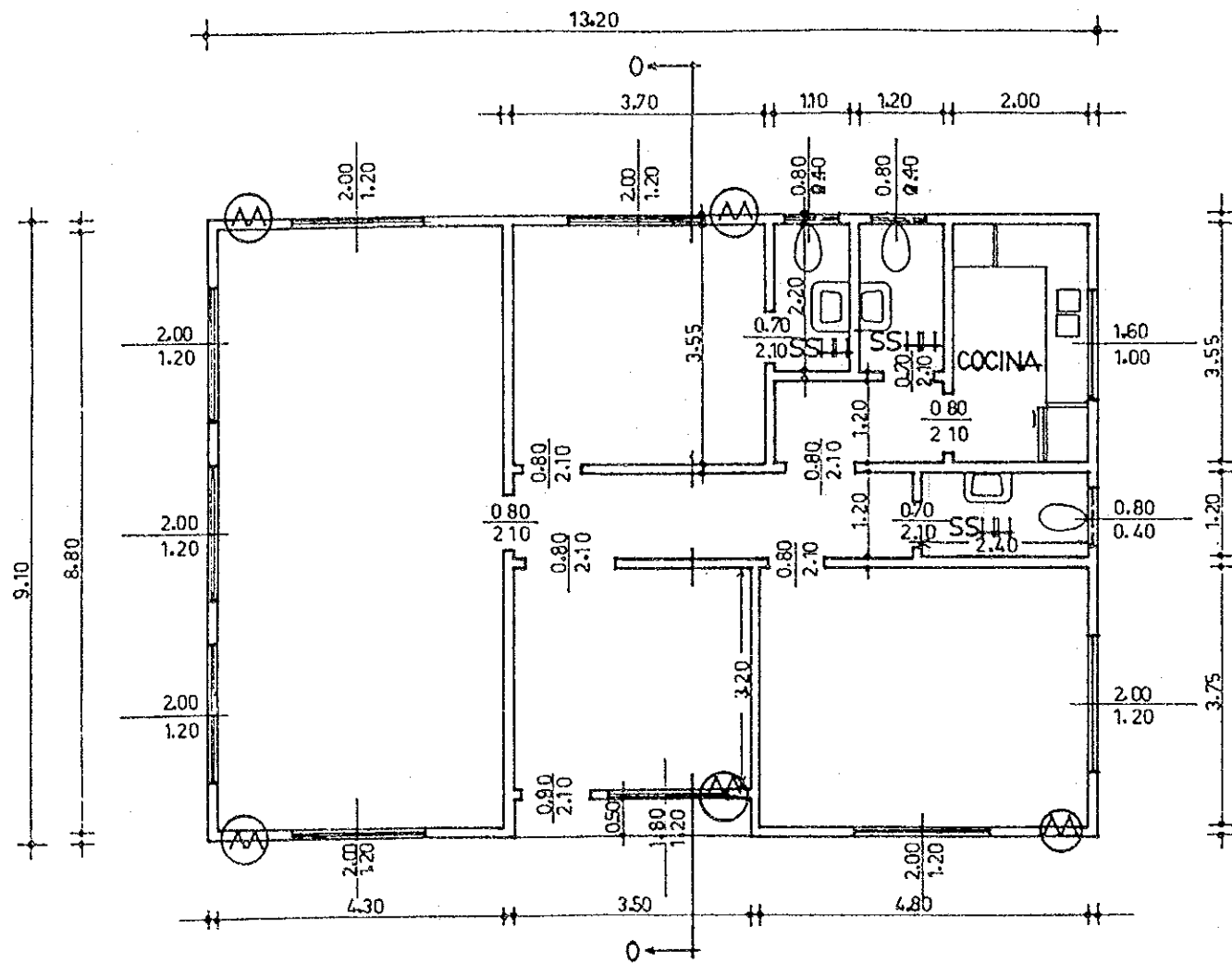


Typical Cross Section of Gravel Paved Road



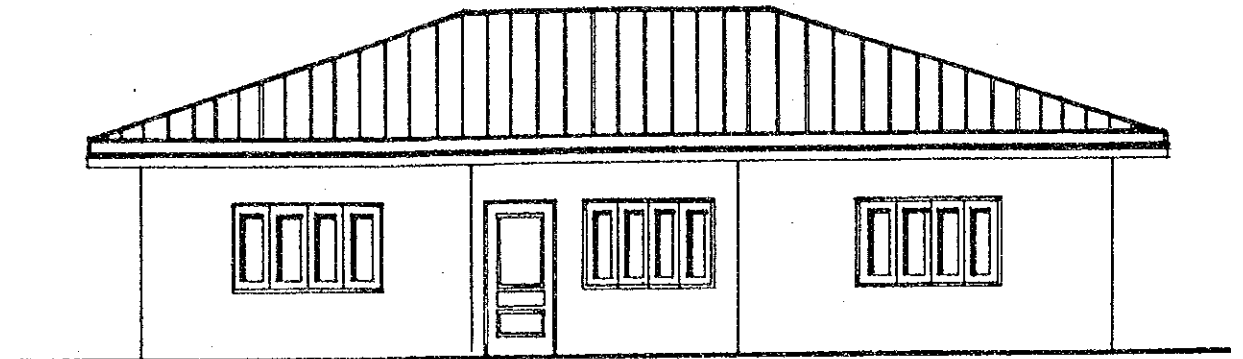
Cross Section of Asphalt Pavement Structure

Title		Structure of Access Roads
Drawing No.		The Study on The Solid Waste Management for Metropolitan Area of Asuncion
DS012		Japan International Cooperation Agency



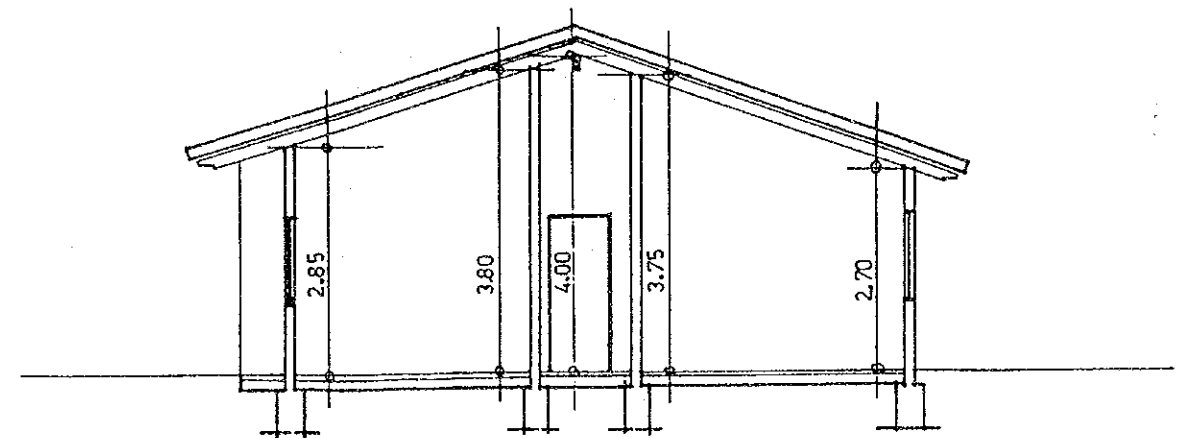
Plan

Scale = 1 : 100



Front View

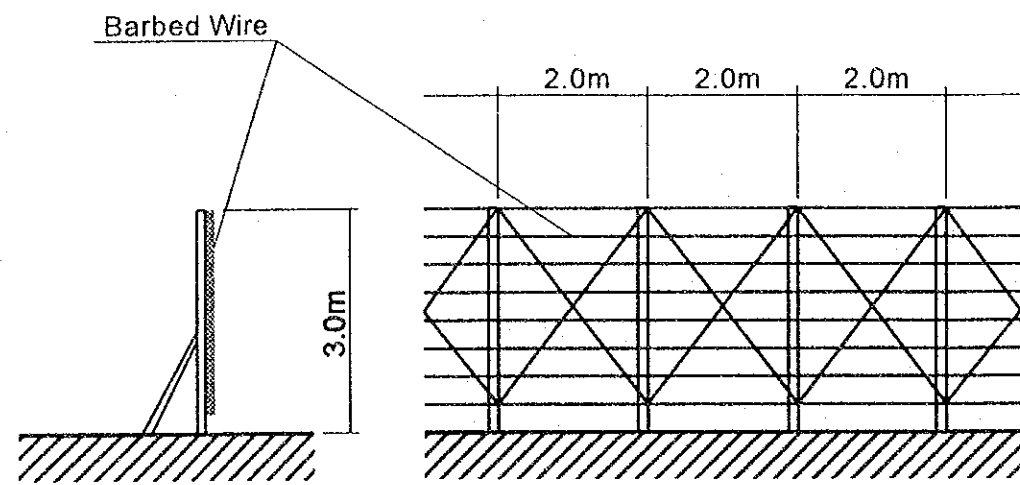
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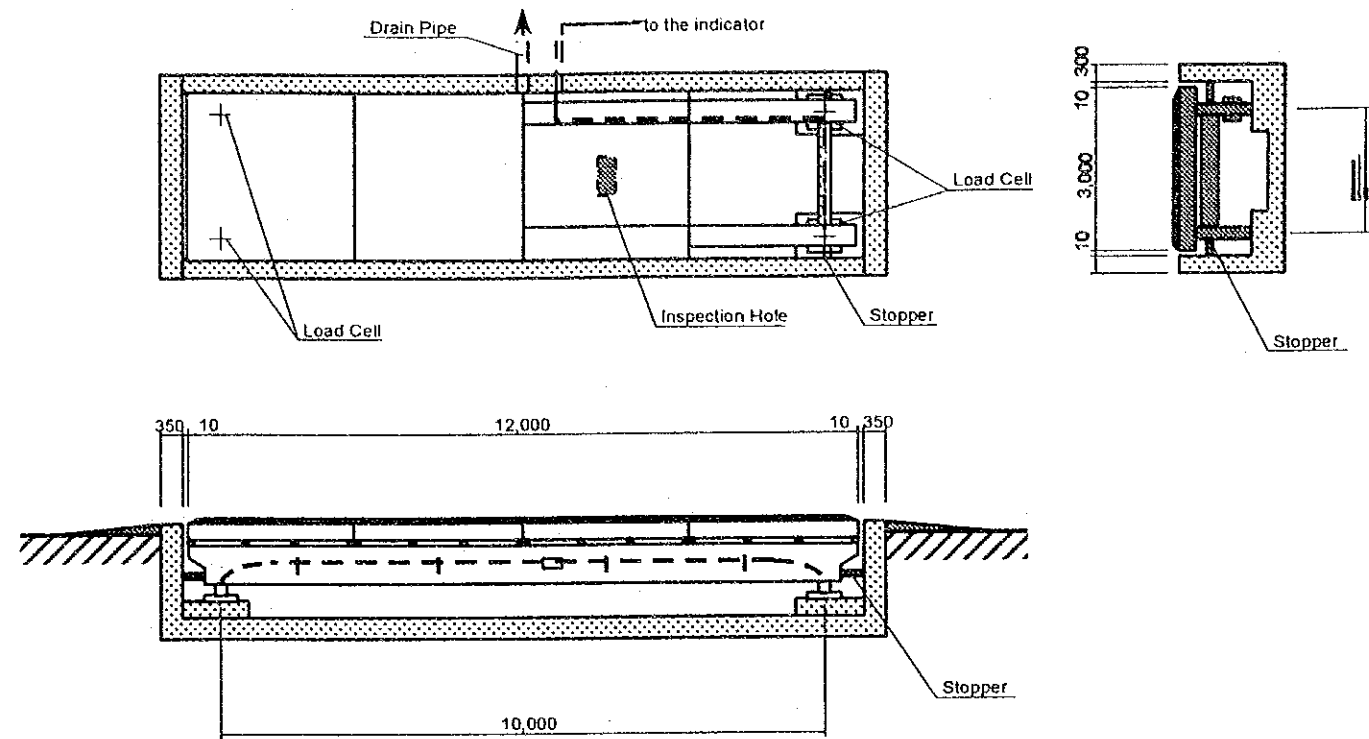
Section O - O

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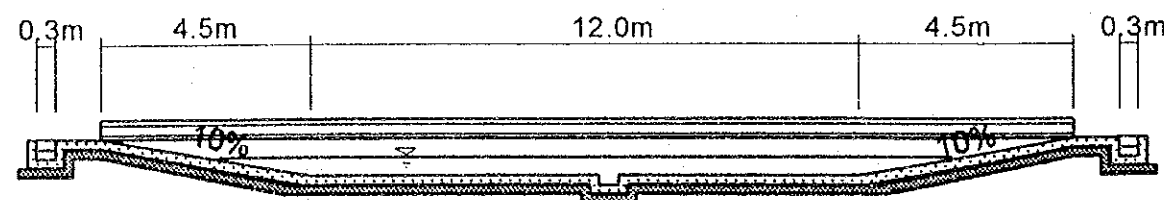
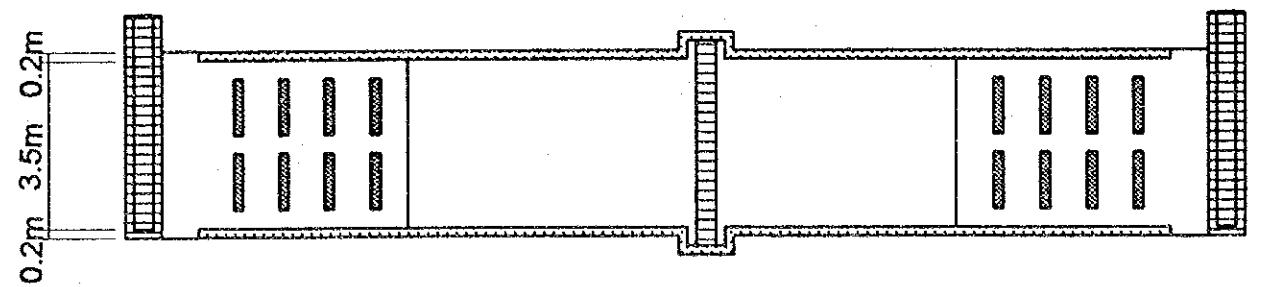
Title		Site Office
Drawing No.	The Study on The Solid Waste Management for Metropolitan Area of Asuncion	
	Japan International Cooperation Agency	
DS013		



Fence

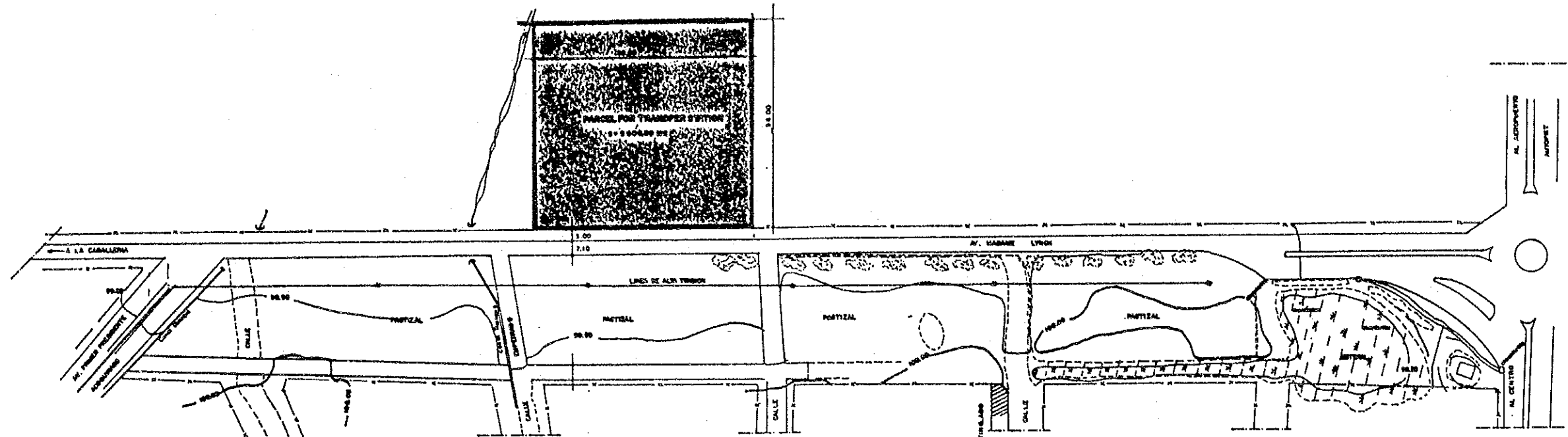


Truck Scale

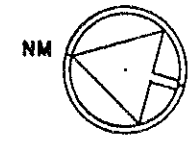
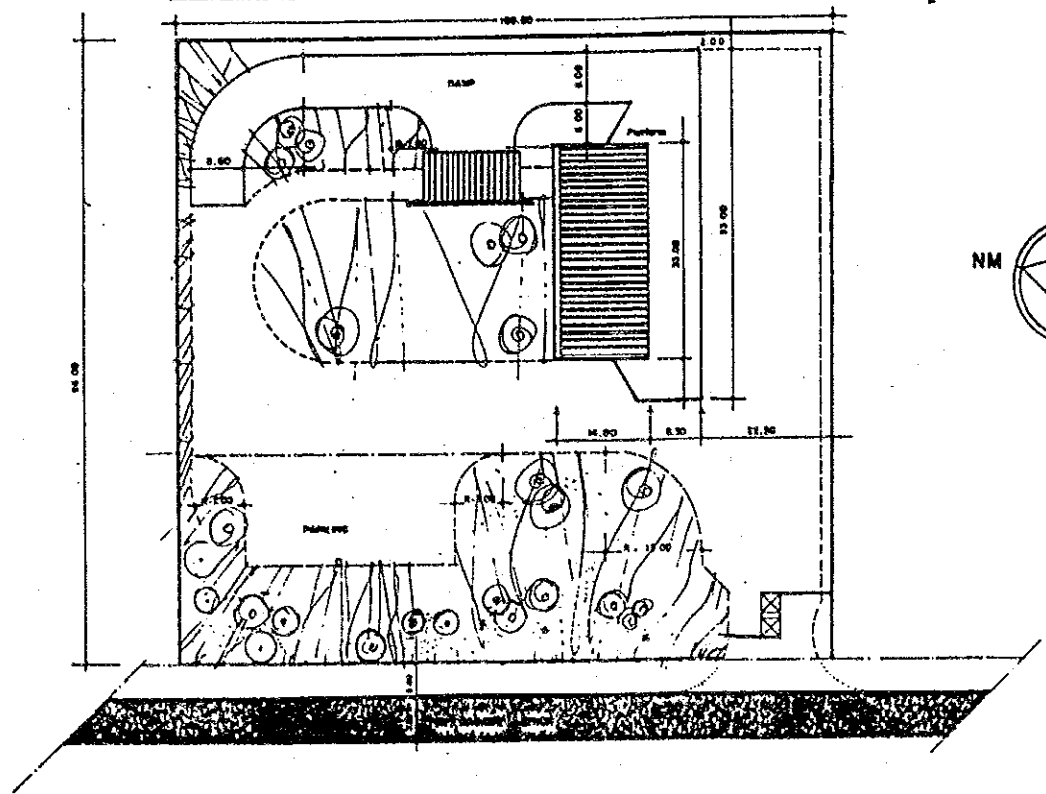


Car Wash

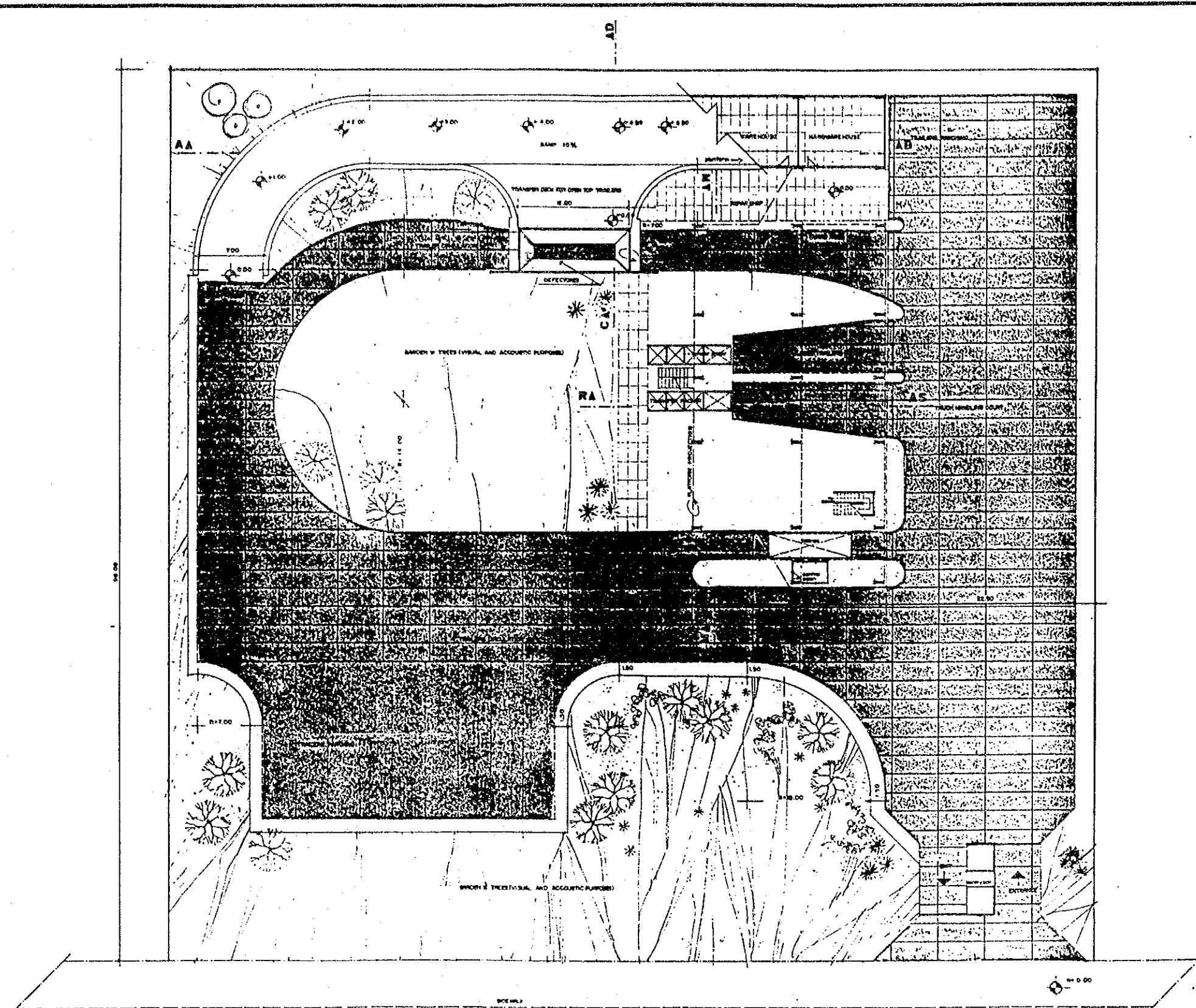
Title		Miscellaneous
Drawing No.		The Study on The Solid Waste Management for Metropolitan Area of Asuncion
DS014		Japan International Cooperation Agency



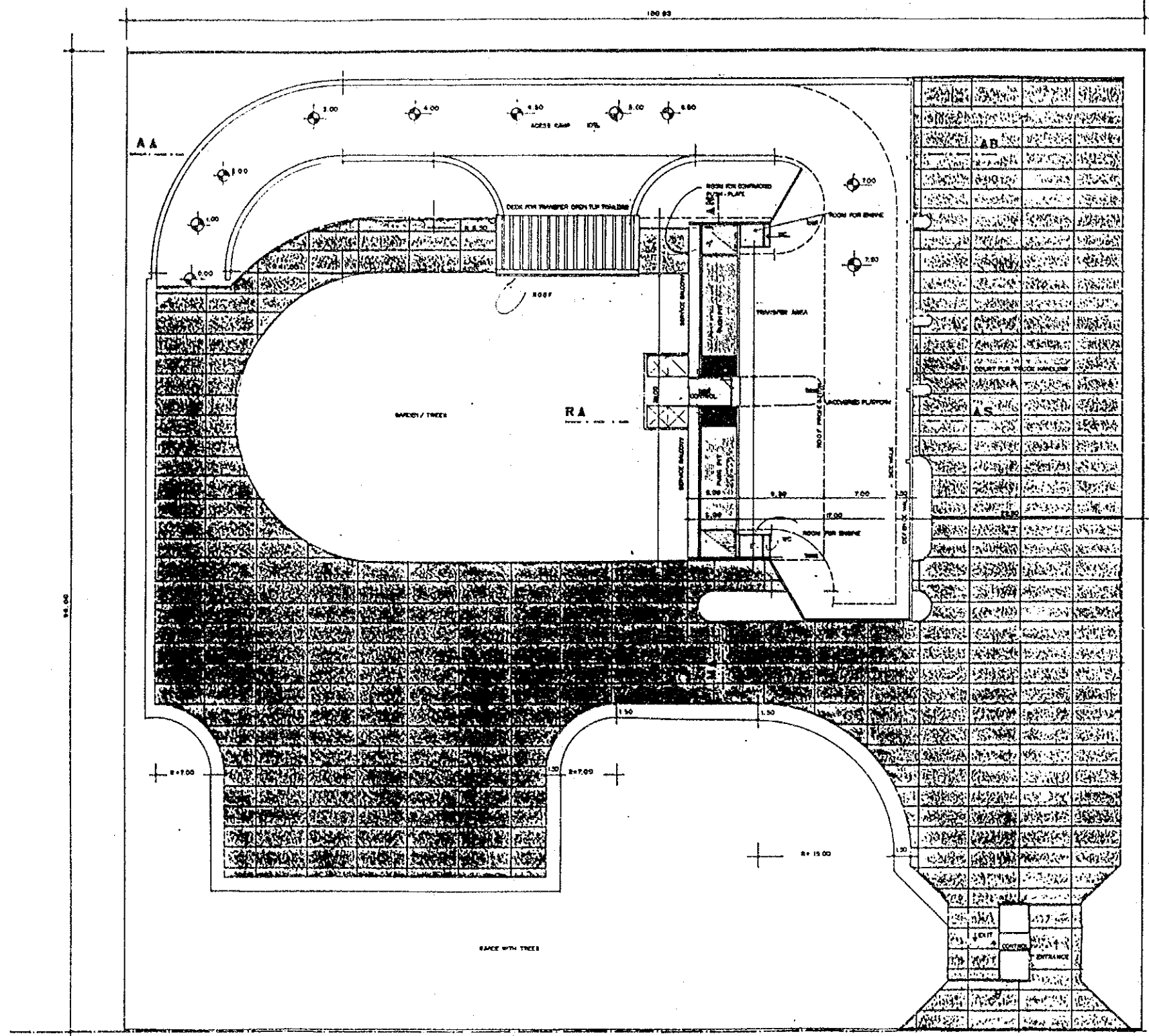
LOCALIZATION PLANT



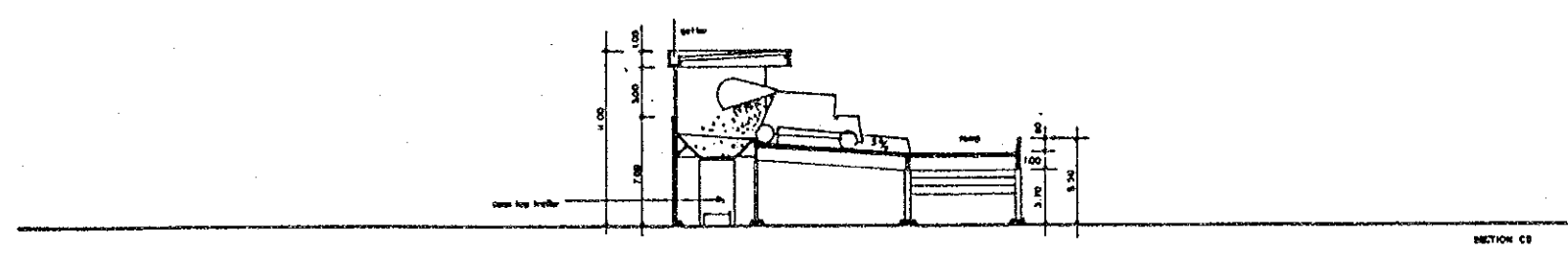
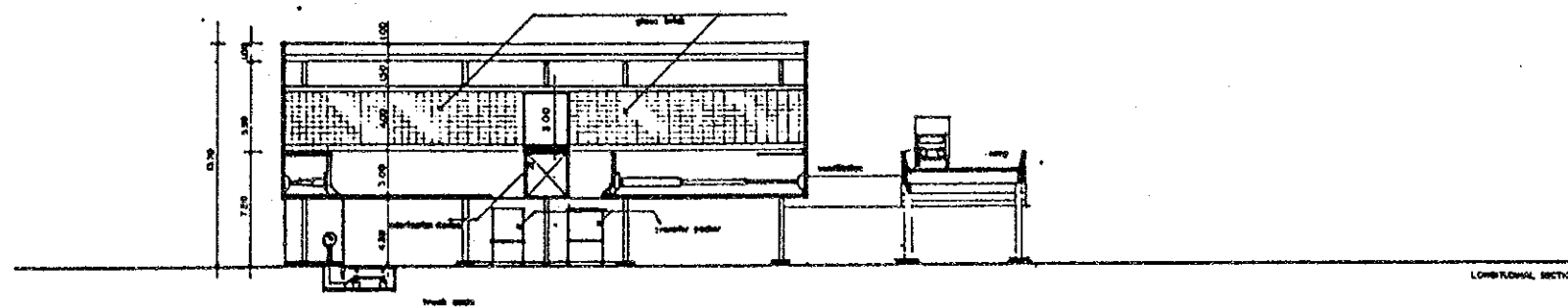
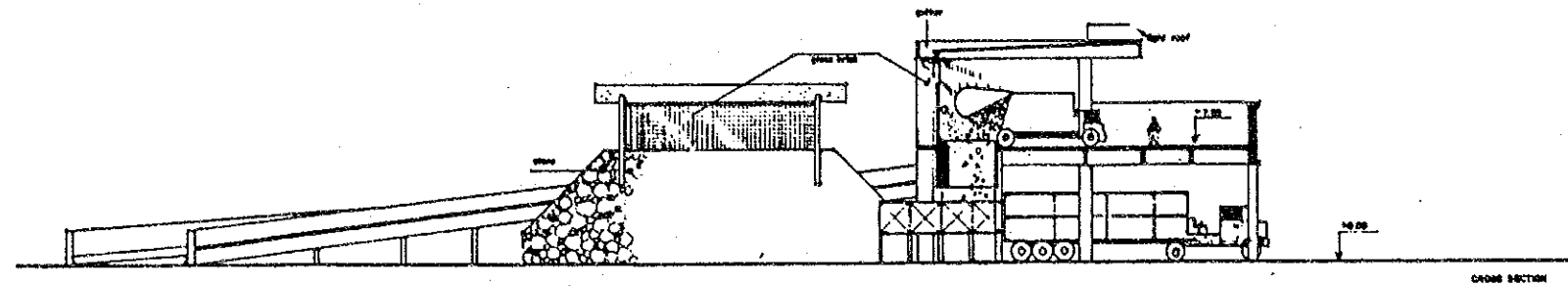
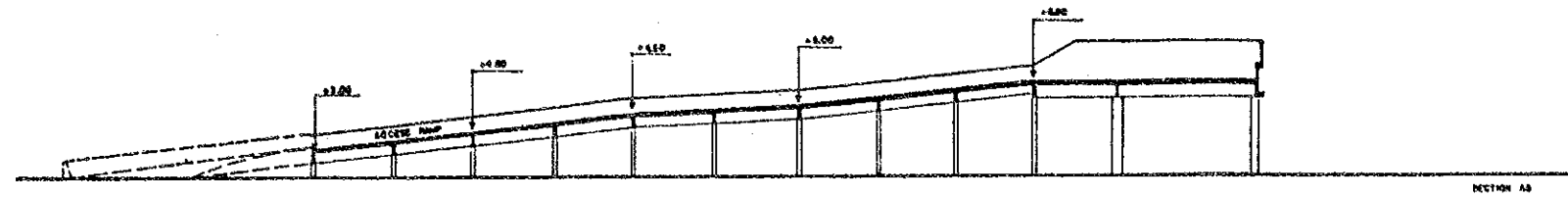
Title		Location Map of Transfer Station
Drawing No.	TS001	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
		Japan International Cooperation Agency



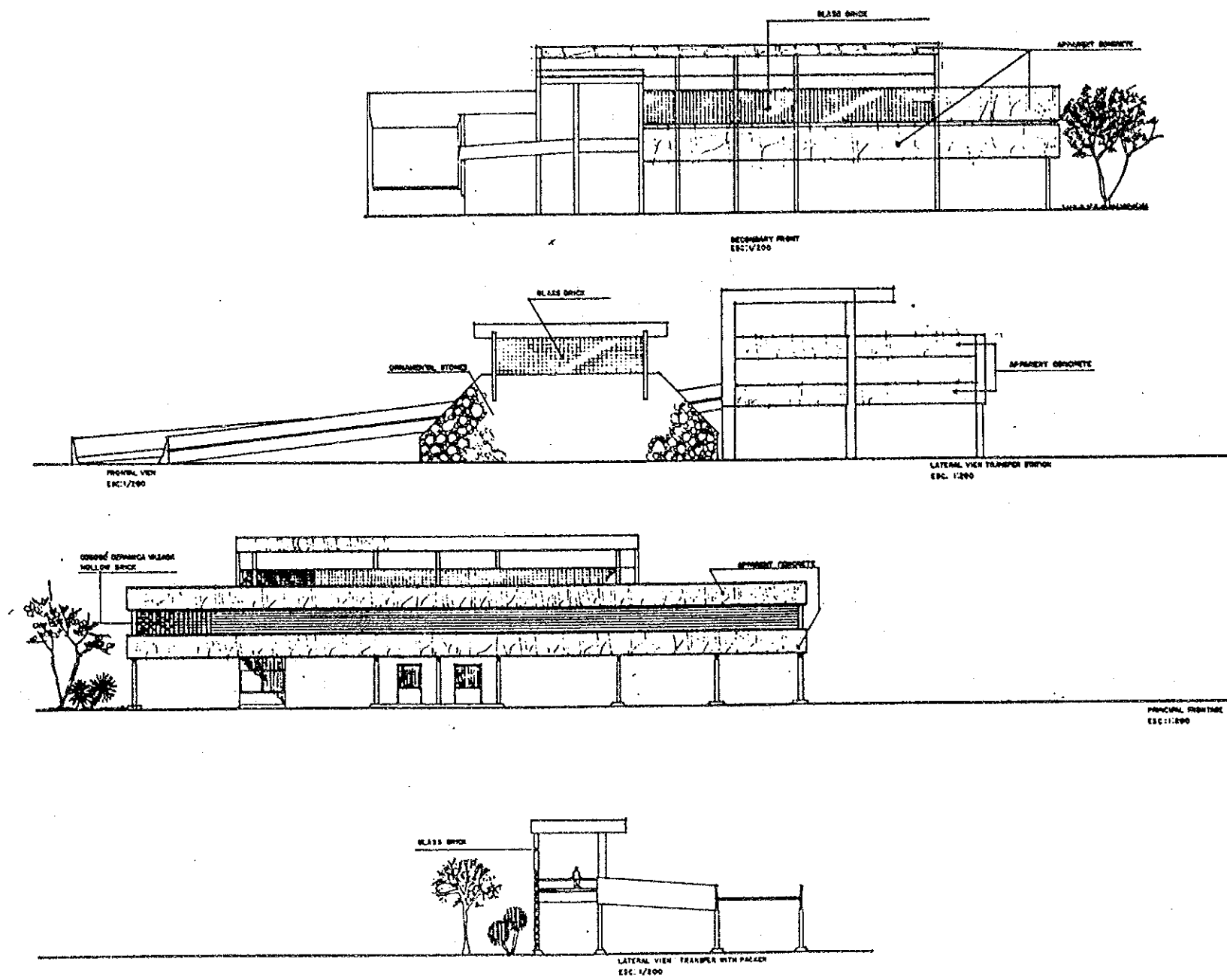
Title		Plan of Ground Floor of Transfer Station
Drawing No.	The Study on The Solid Waste Management for Metropolitan Area of Asuncion	Japan International Cooperation Agency
TS002		



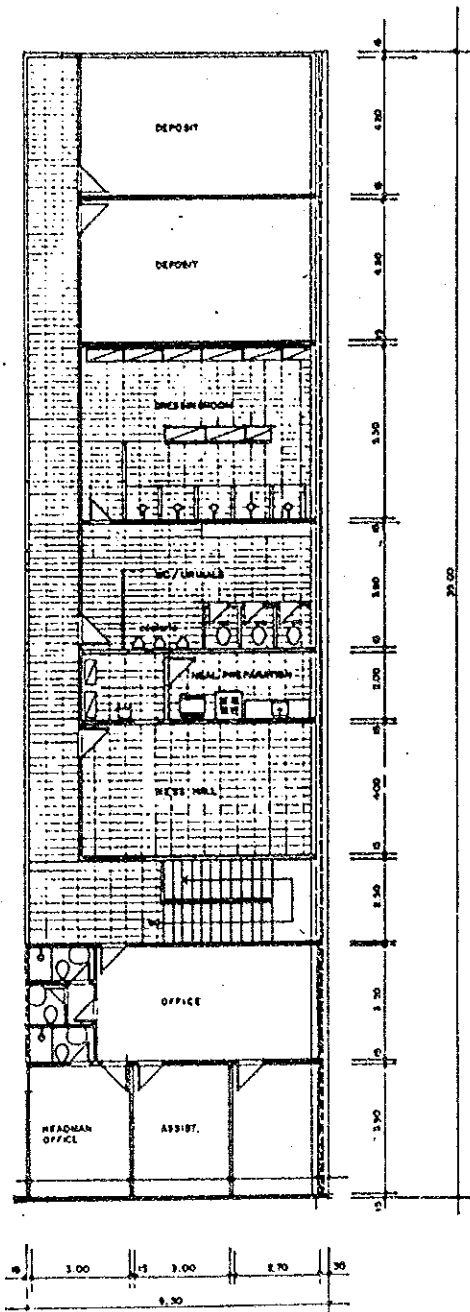
Title		Plan of Transfer Platform
Drawing No.	TS003	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
		Japan International Cooperation Agency



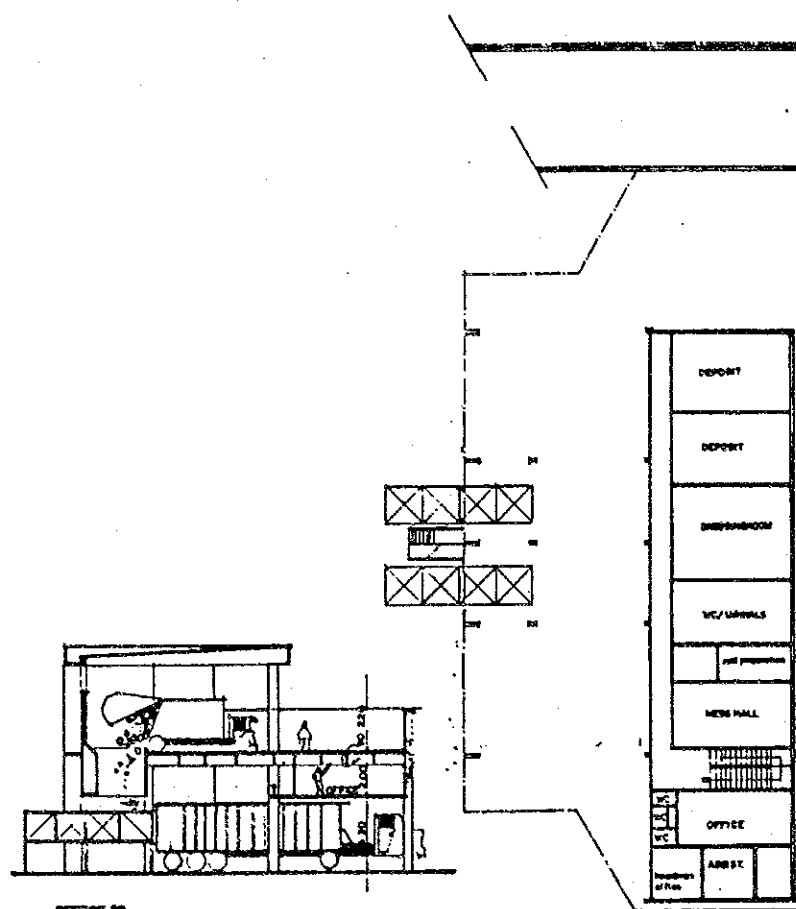
Title		Sections of Transfer Station
Drawing No.	The Study on The Solid Waste Management for Metropolitan Area of Asuncion	
	TS004	Japan International Cooperation Agency



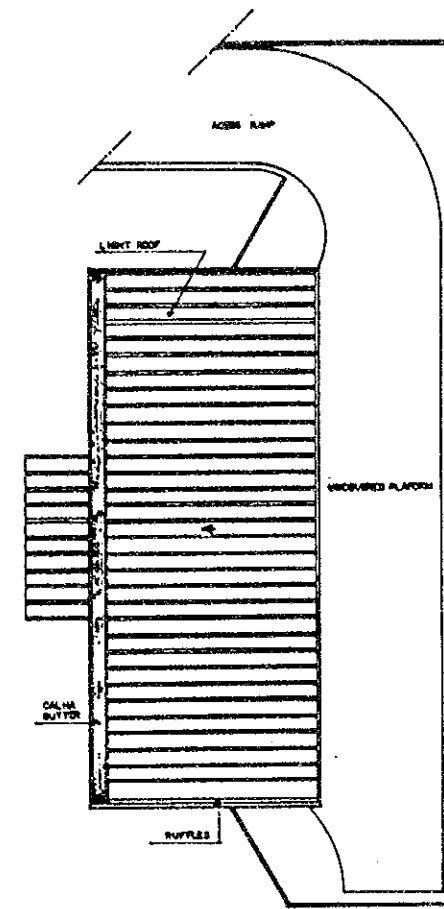
Title	
Sections (2) of Transfer Station	
Drawing No.	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
TS005	Japan International Cooperation Agency



INTERMEDIATE FLOOR PLAN
 EC: 1/100

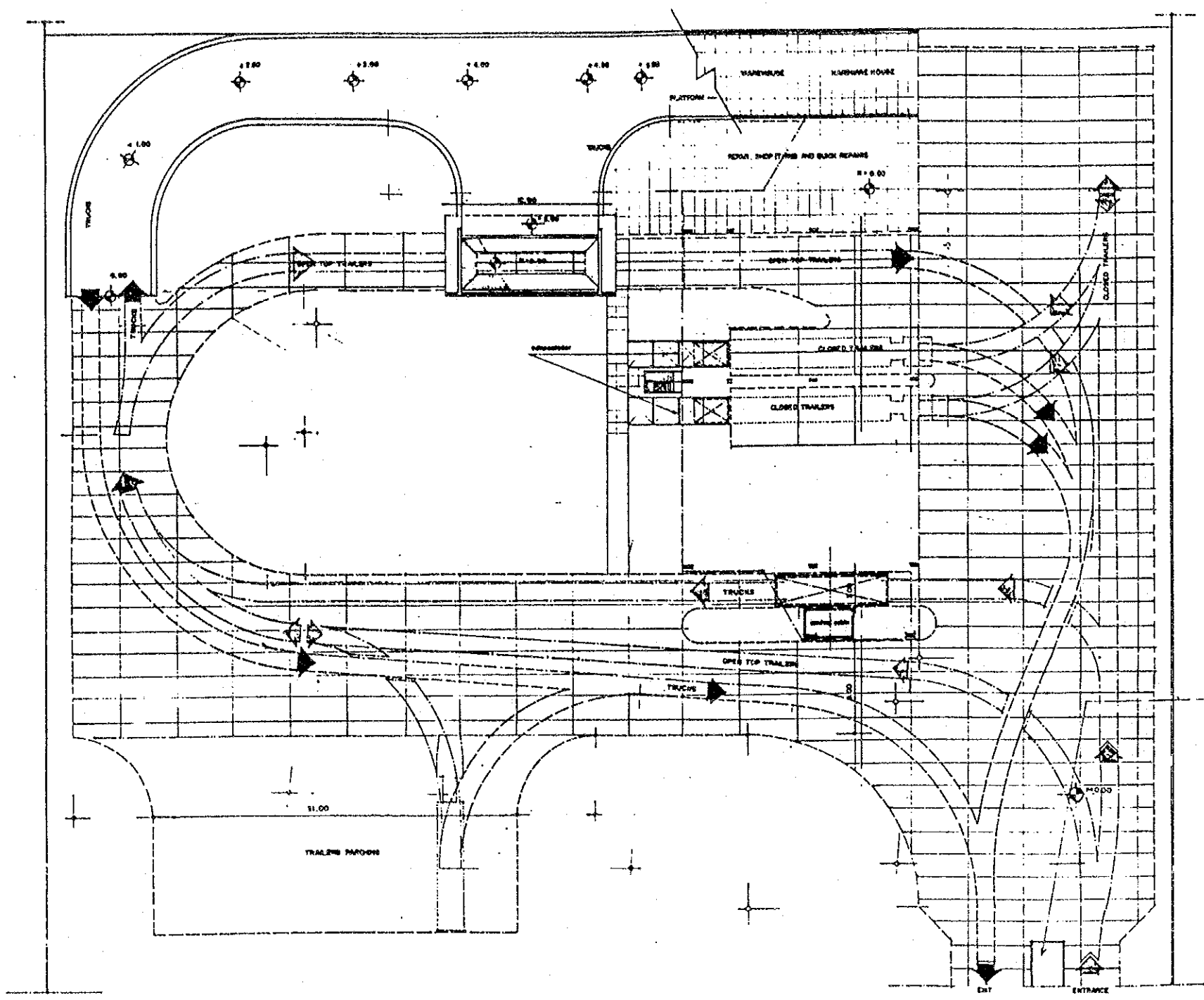


INTERMEDIATE FLOOR PLAN
 EC: 1/100



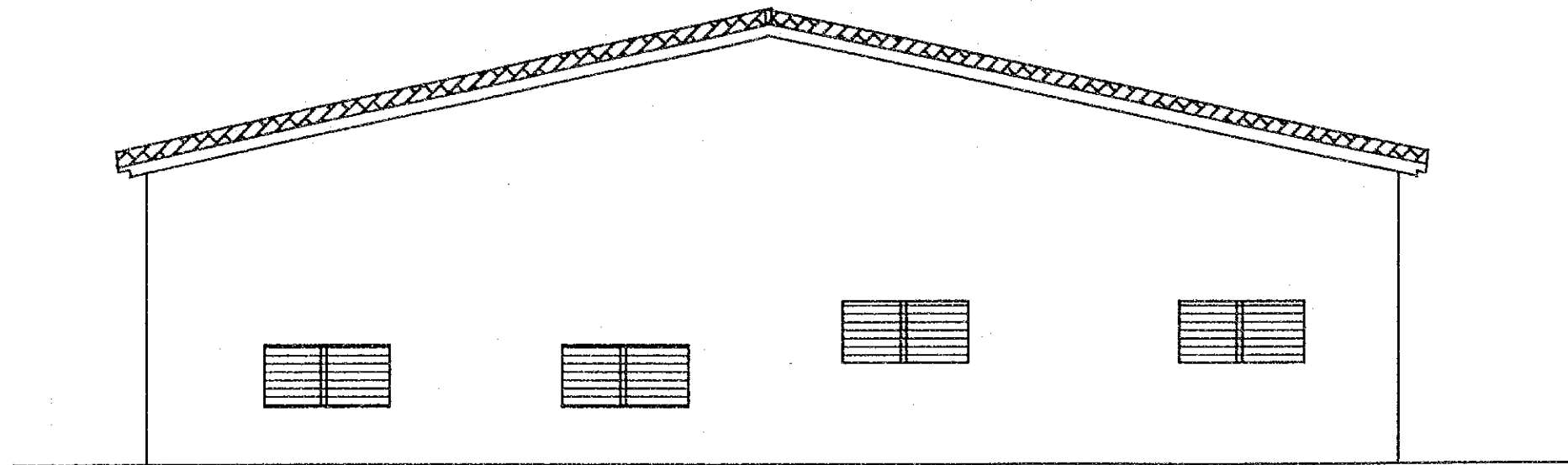
UPPER PLAN
 EC: 1/200

Title	
Detailed Plan of Transfer Platform	
Drawing No.	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
TS006	Japan International Cooperation Agency

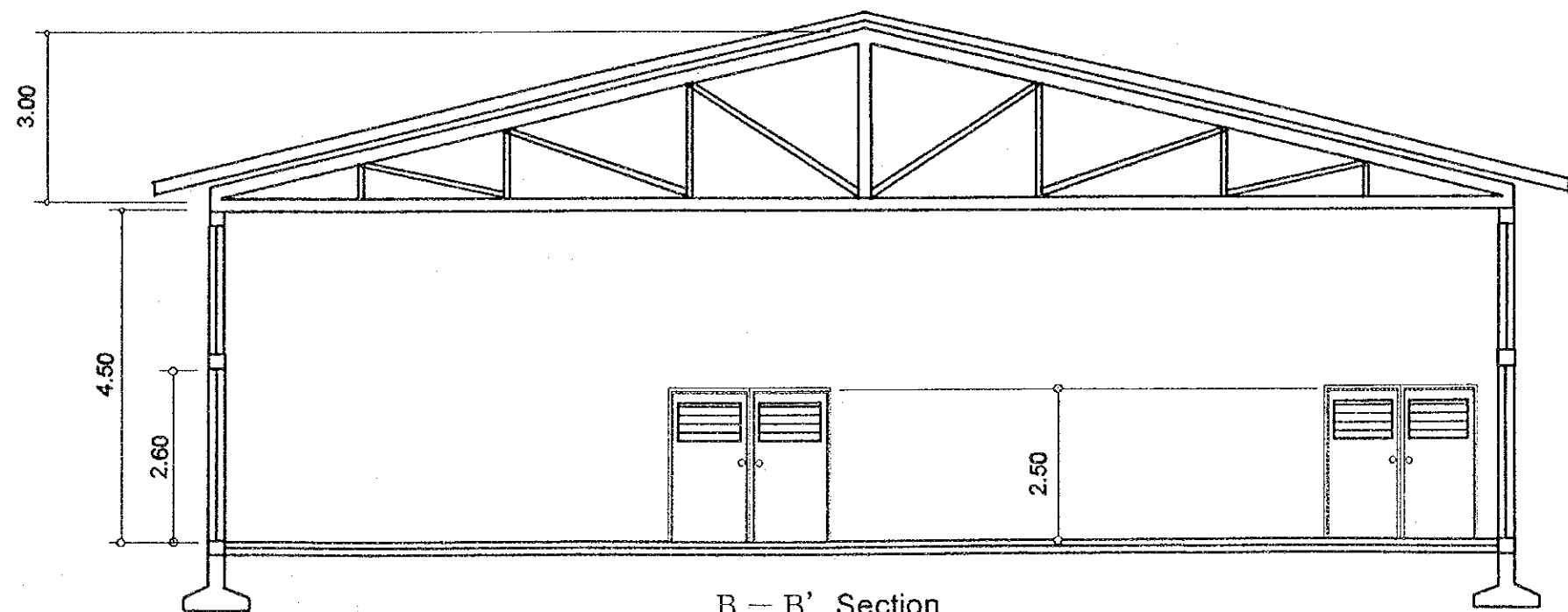


NOTE
 LOW FREQUENCY OF CROSSING VEHICLES MEANS NO RISK OF ACCIDENTS
 TRUCKS: MINIMUM RADIUS 8.00M
 TRAILERS: MINIMUM RADIUS 9.00M
 TRACK MUST TILT AT LEAST 0% WHEN TRANSFERRING REFUSE

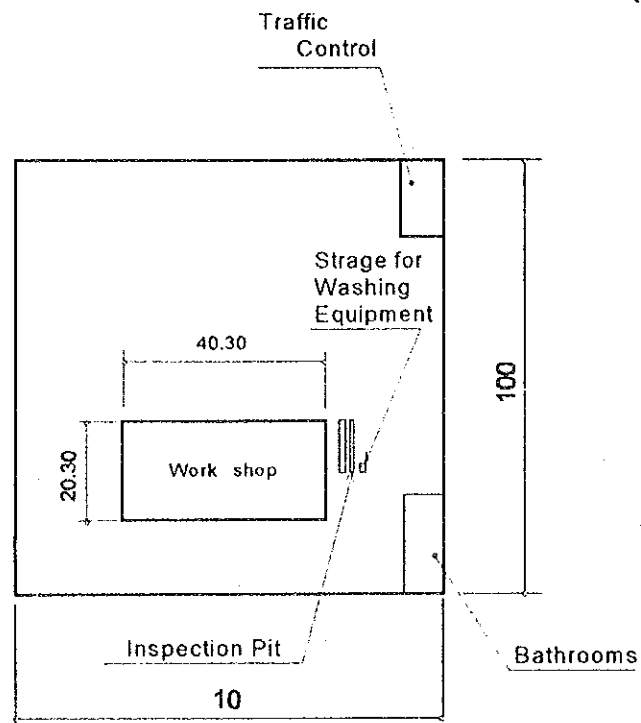
Title		Vehicle Flow Diagram of Transfer Station	
Drawing No.		The Study on The Solid Waste Management for Metropolitan Area of Asuncion	
TS007		Japan International Cooperation Agency	



A - A' Section

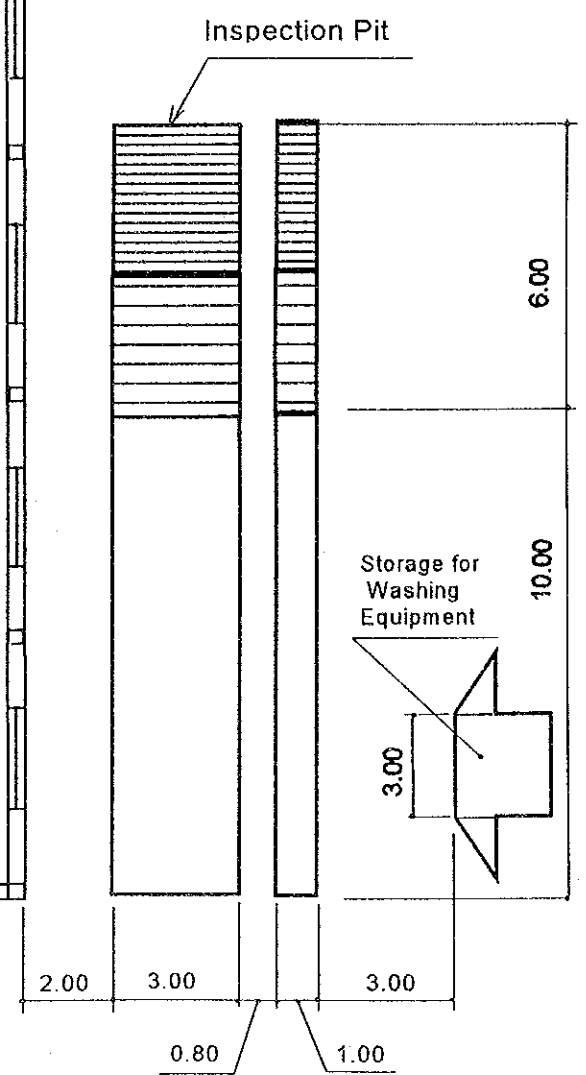
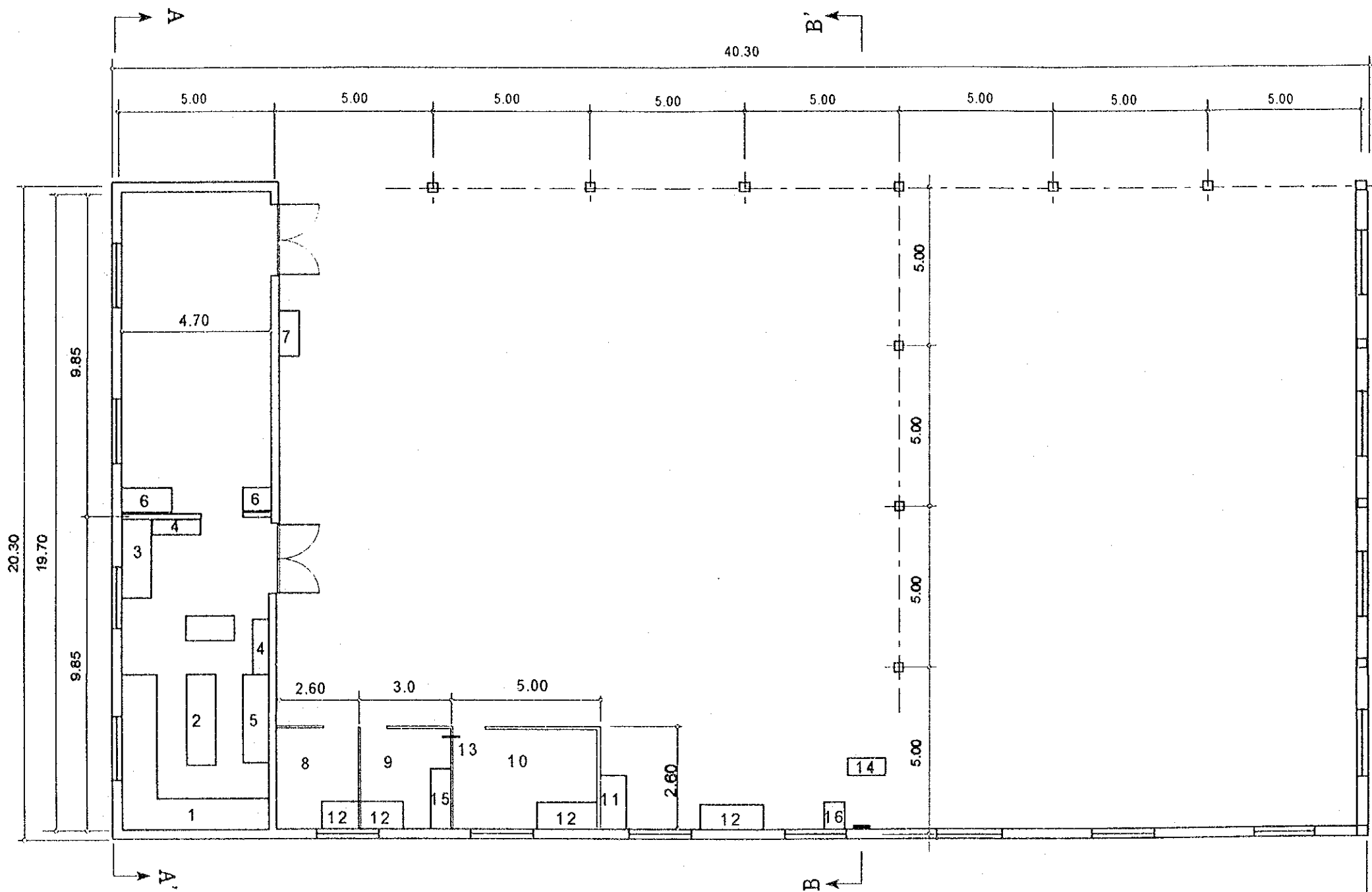


B - B' Section



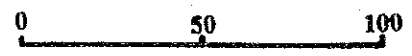
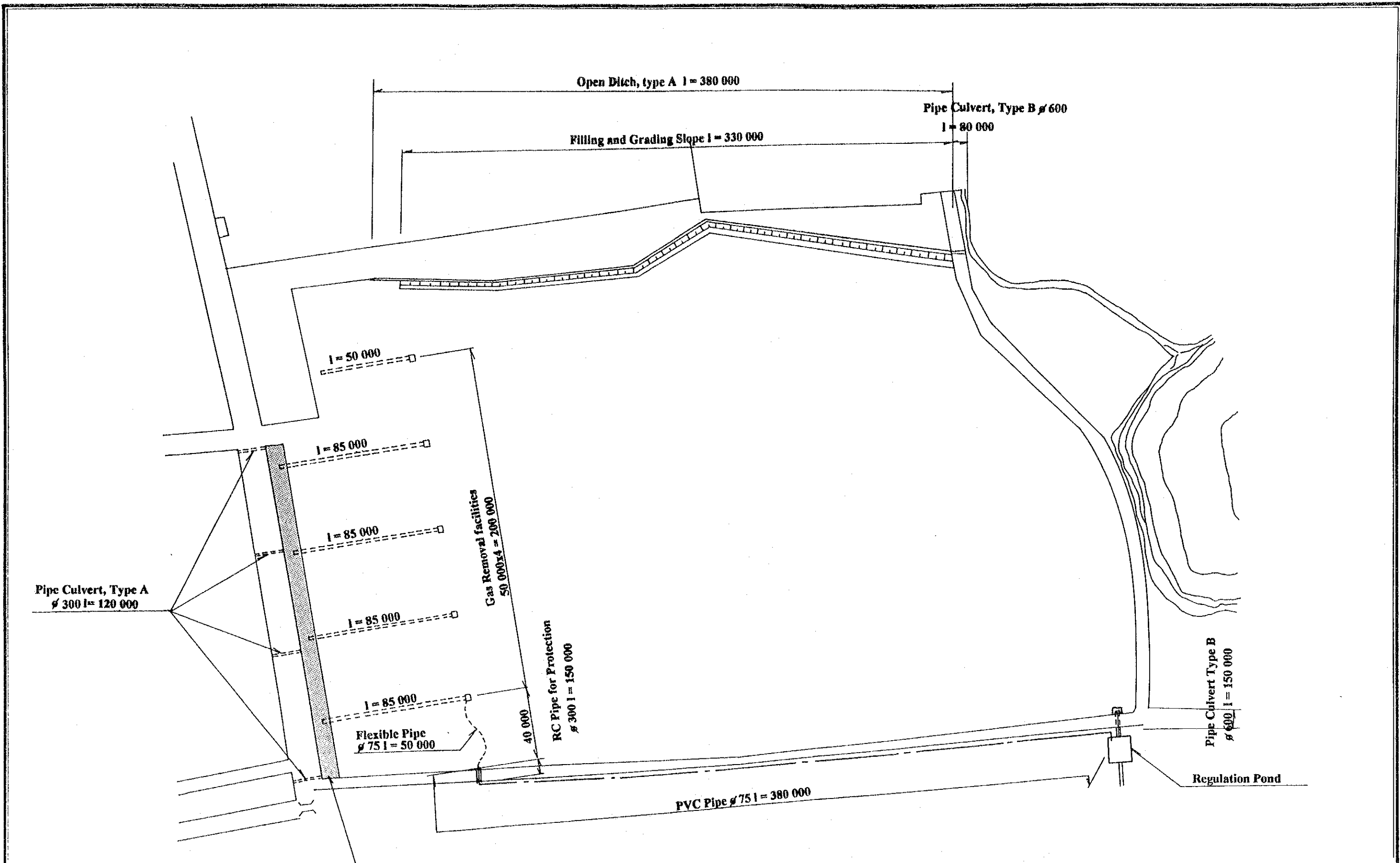
Layout Plan

Title		Layout and Elevation of AMUAM Workshop	
Drawing No.		The Study on The Solid Waste Management for Metropolitan Area of Asuncion	
WS001		Japan International Cooperation Agency	

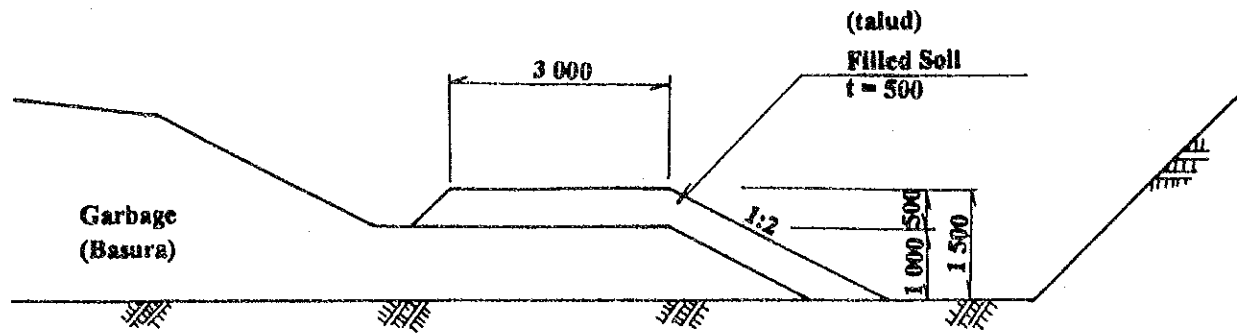


- | | |
|------------------------|------------------------------------|
| 1 Heavy Duty Shelf | 10 Welding and Body Repairing shop |
| 2 Parts Shelf | 11 Air Compressor |
| 3 Oil Stand | 12 Bench for Dismount Parts |
| 4 Tool Board | 13 Compressor Air Outlet |
| 5 Tool Shelf | 14 Hydraulic Press for 150(ton) |
| 6 Cabinet for Document | 15 Water Tank |
| 7 Time Recorder | 16 Universal Drilling Machine |
| 8 Electricity Shop | |
| 9 Tyre Shop | |

Title Plan of AMUAM Workshop Building	
Drawing No. WS002	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
Japan International Cooperation Agency	

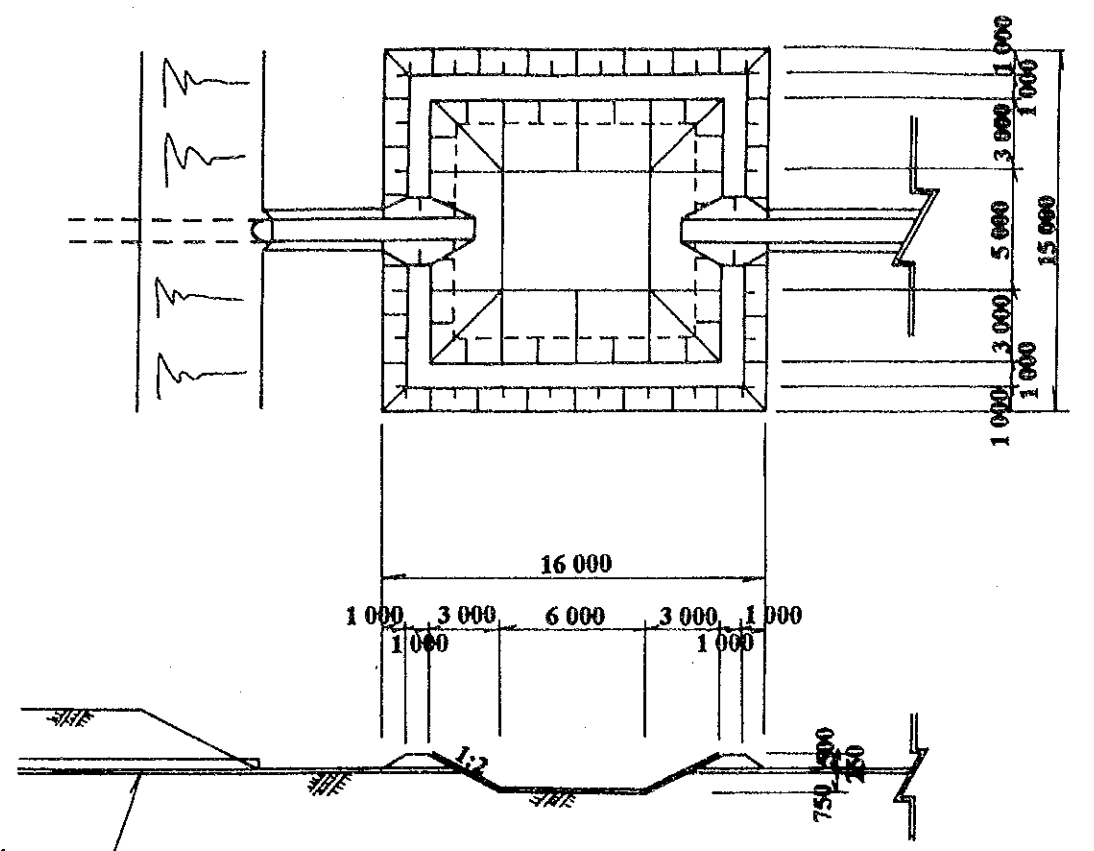


Title	
Layout of Sanitary Landfill Experiment	
Drawing No.	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
EL001	Japan International Cooperation Agency



Filling and Grading Slope Work

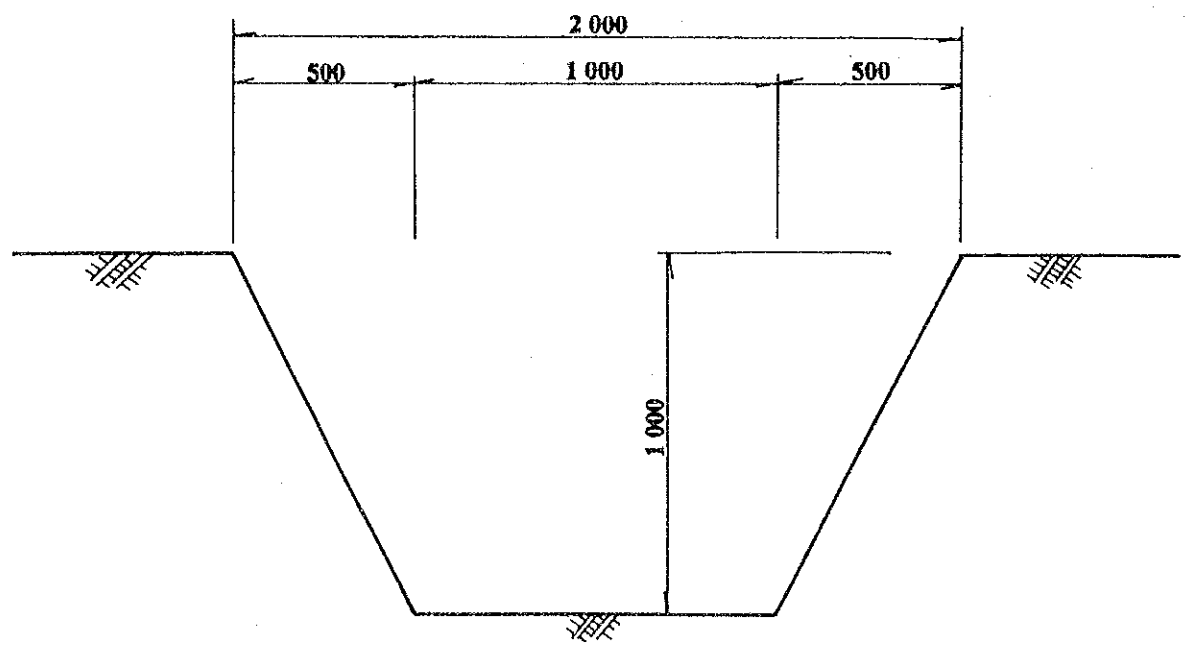
S = 1/100



Regulation Pond

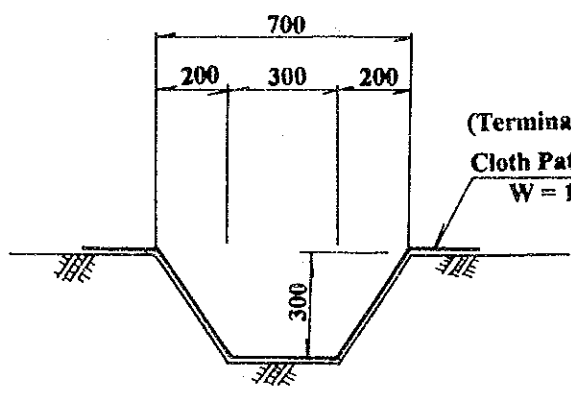
S = 1/300

Note: The surface of regulation pond is covered with cloth which is patted tar.
(Superficie de la pileta con recubrimiento Bituminoso)



Open Ditch, Type A

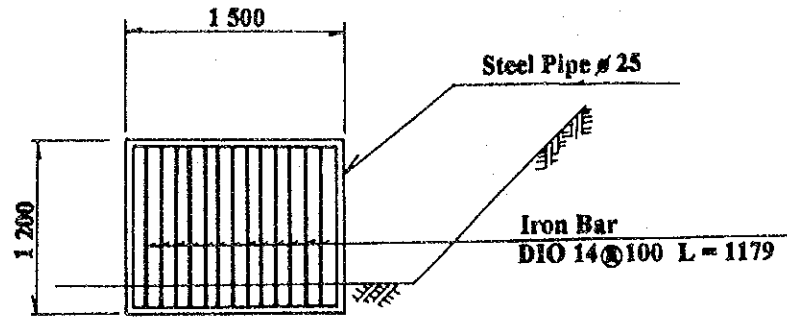
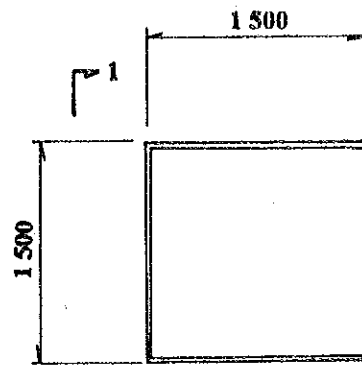
S = 1/200



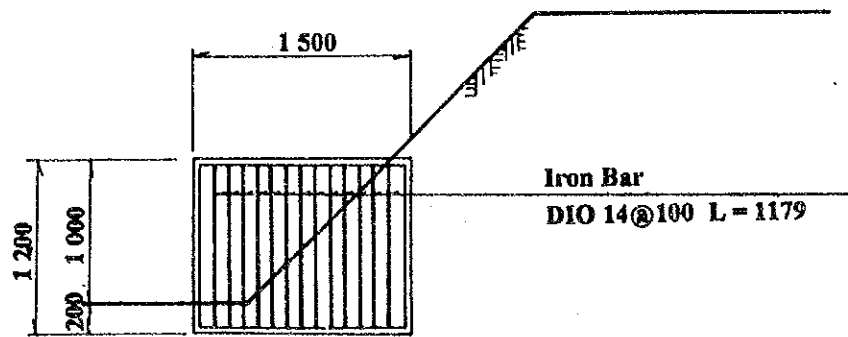
Open Ditch, Type B

S = 1/200

Title		Drainage (1) of Sanitary Landfill Experiment	
Drawing No.		The Study on The Solid Waste Management for Metropolitan Area of Asuncion	
EL002		Japan International Cooperation Agency	



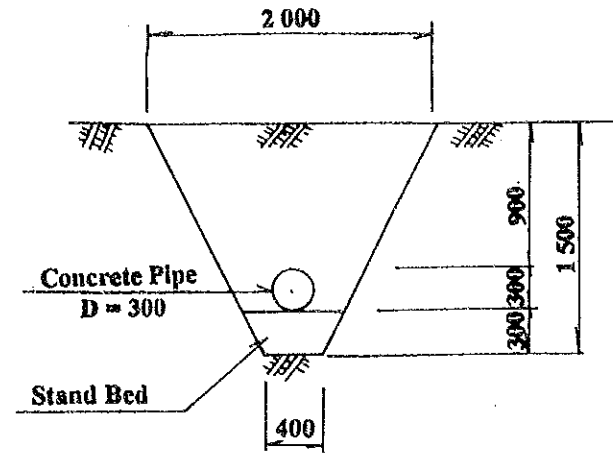
Section 1-1



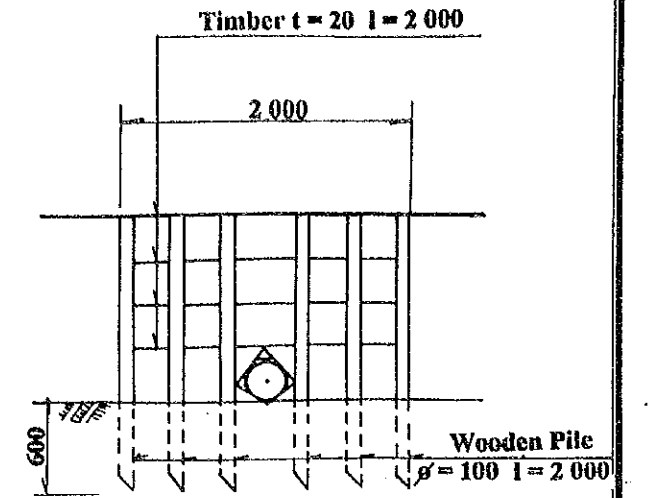
Section 2-2

Screen

S = 1/50



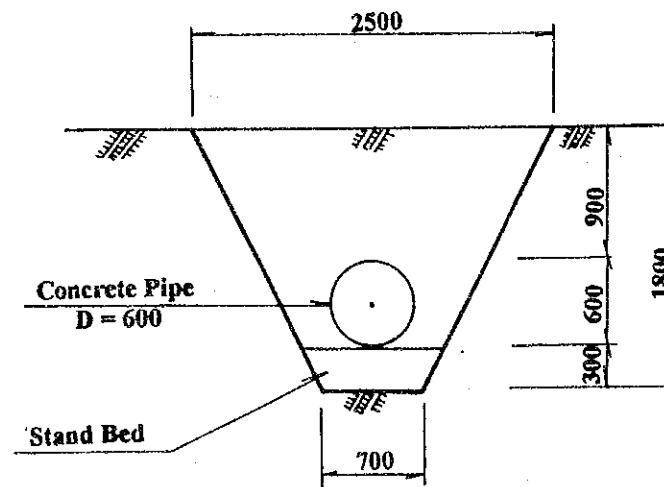
Intermediate Section



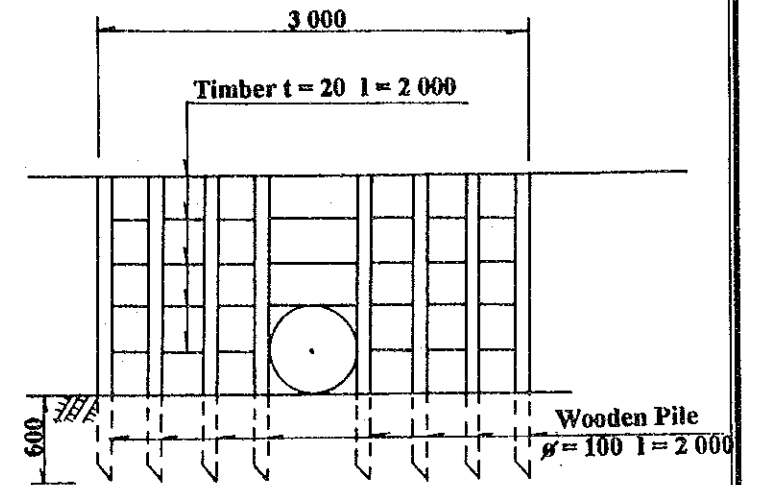
Inlet and Outlet

Culvert Pipe type A D = 300

S = 1/50



Intermediate Section

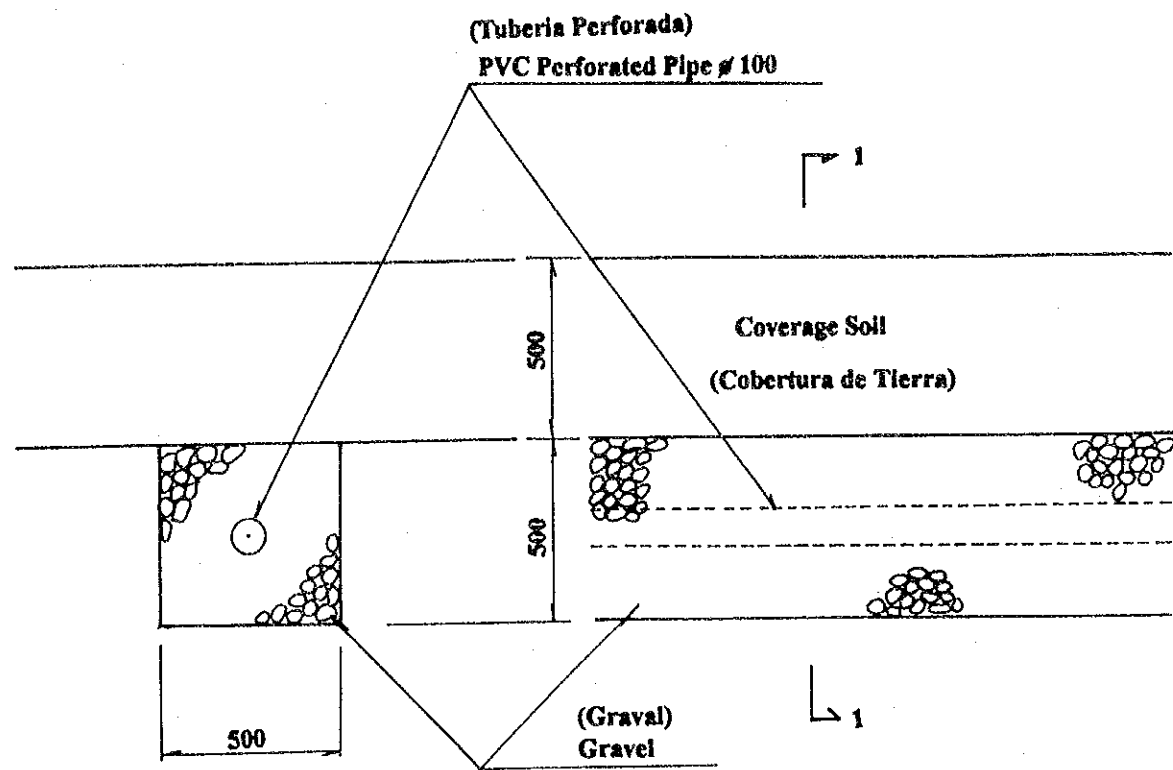


Inlet and Outlet

Culvert Pipe type B D = 600

S = 1/50

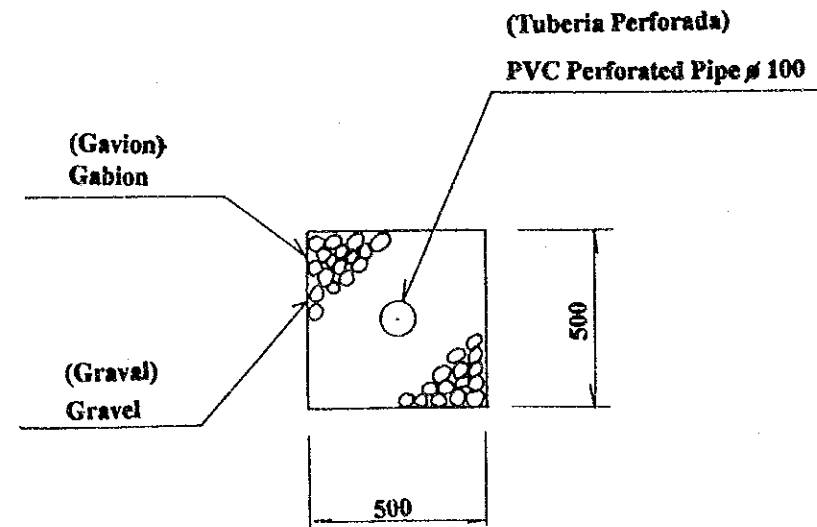
Title Drainage (2) of Sanitary Landfill Experiment	
Drawing No. EL003	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
Japan International Cooperation Agency	



Section 1-1

Horizontal Gas Removal Facilities

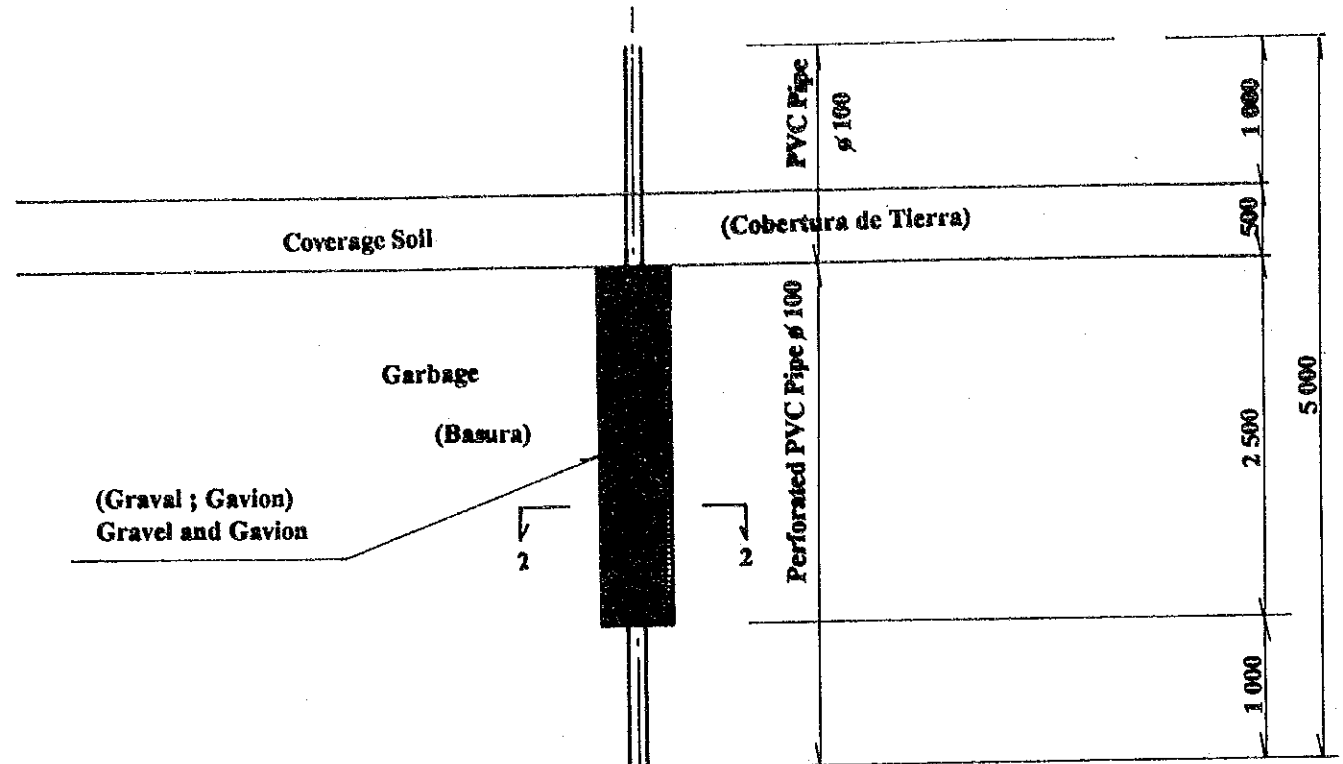
S = 1/20



Section 2 - 2

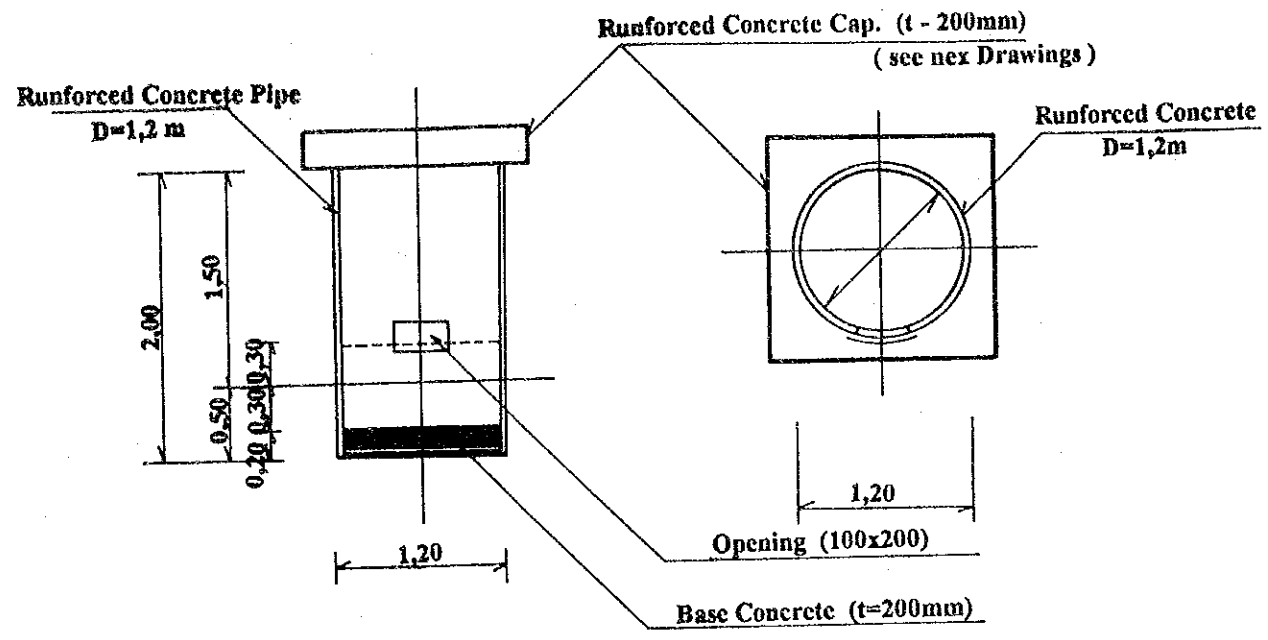
S = 1/20

Vertical Gas Removal Facilities

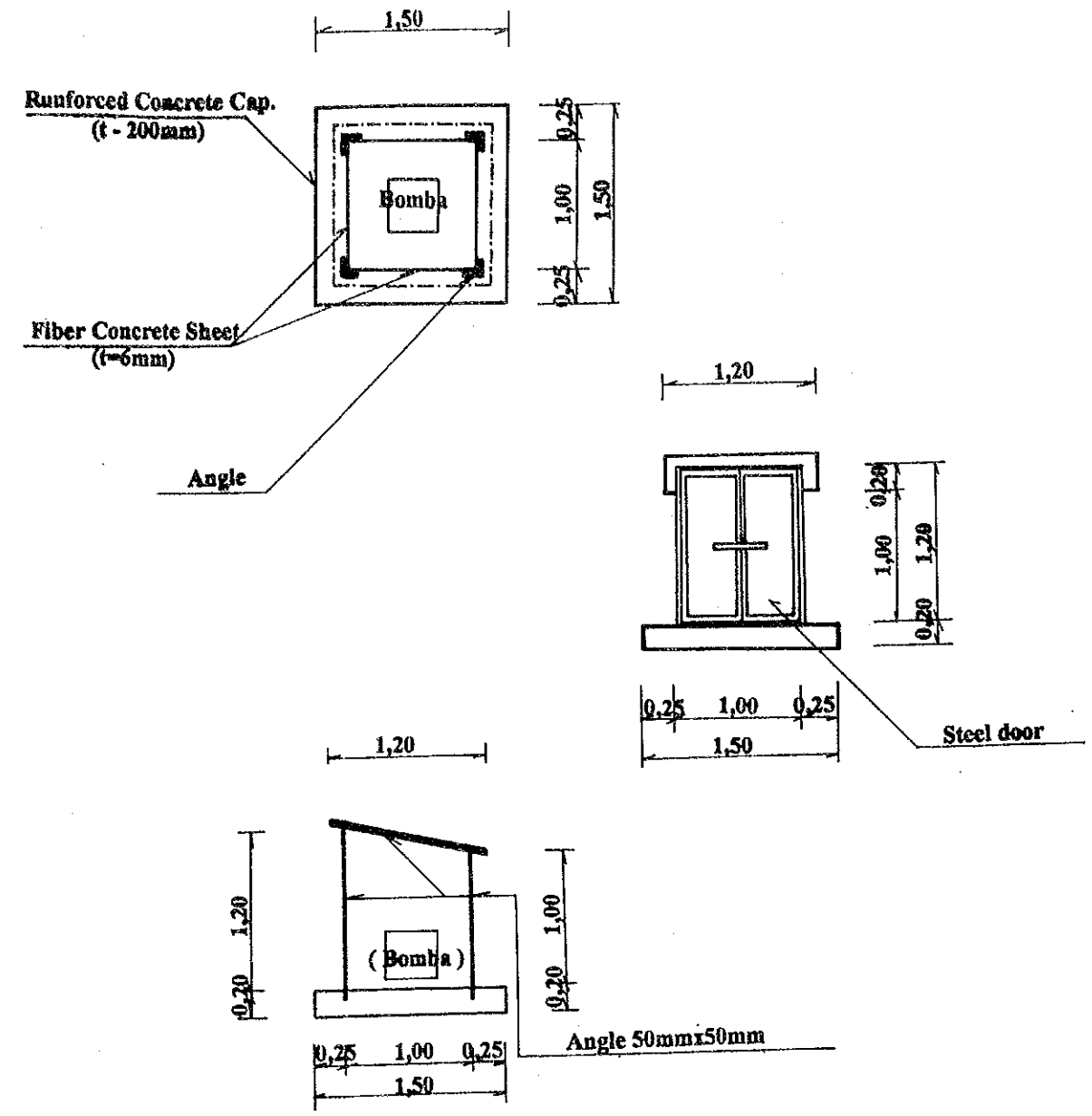


S = 1/50

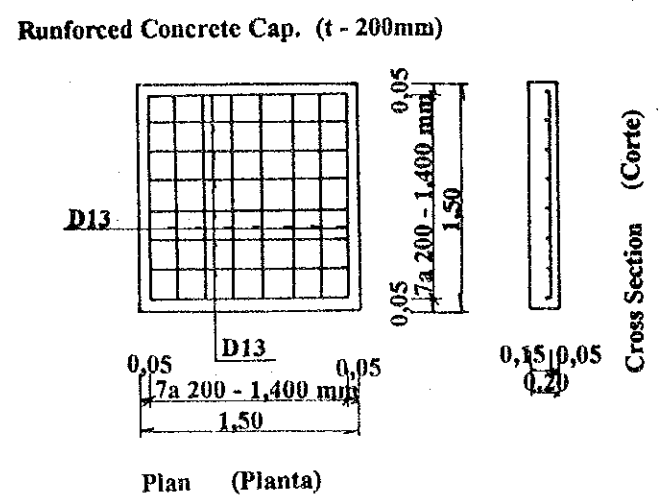
Title Gas Removal Facilities for Sanitary Landfill Experiment	
Drawing No. EL004	The Study on The Solid Waste Management for Metropolitan Area of Asuncion Japan International Cooperation Agency



Installation Pump With hut (1) S=1/50

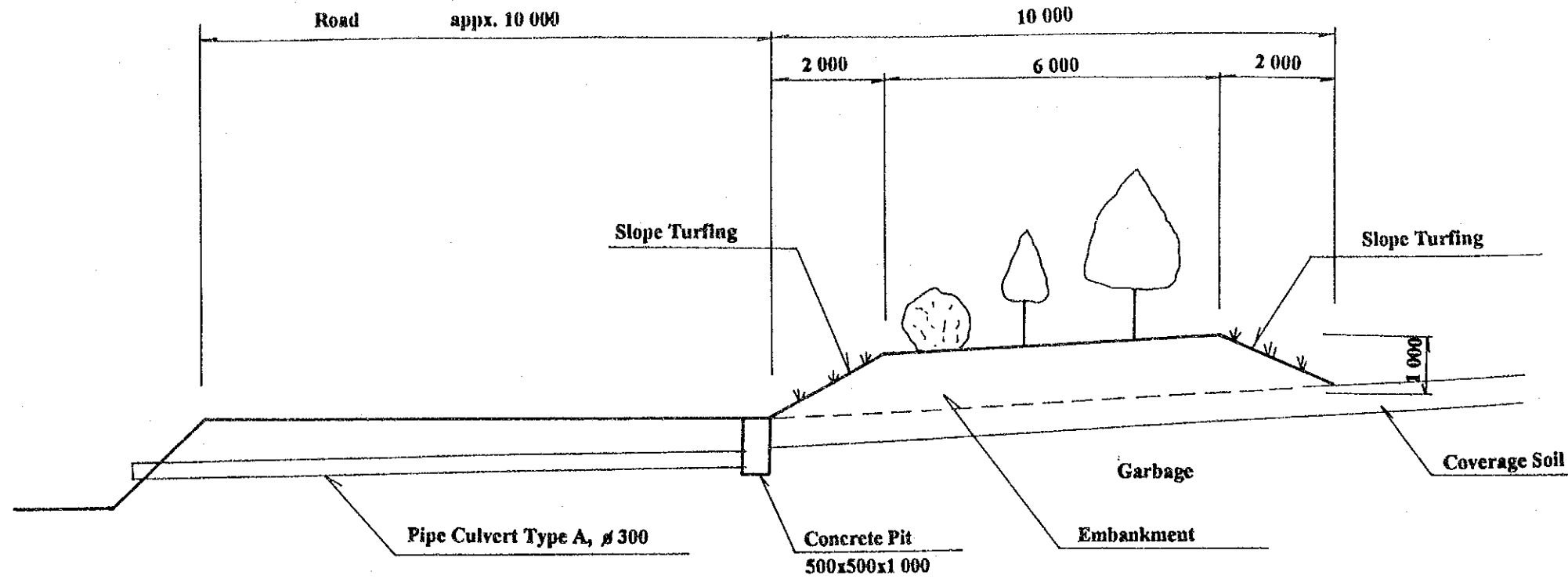


Installation Pump With hut (2) S = 1/50

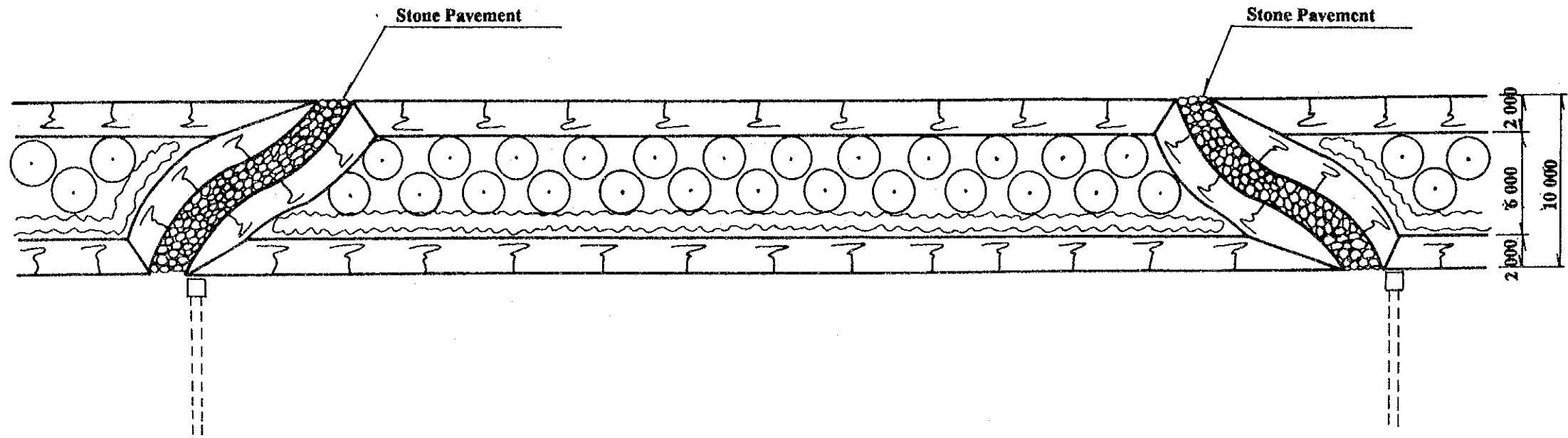


Installation Pump With hut (3) S = 1/50

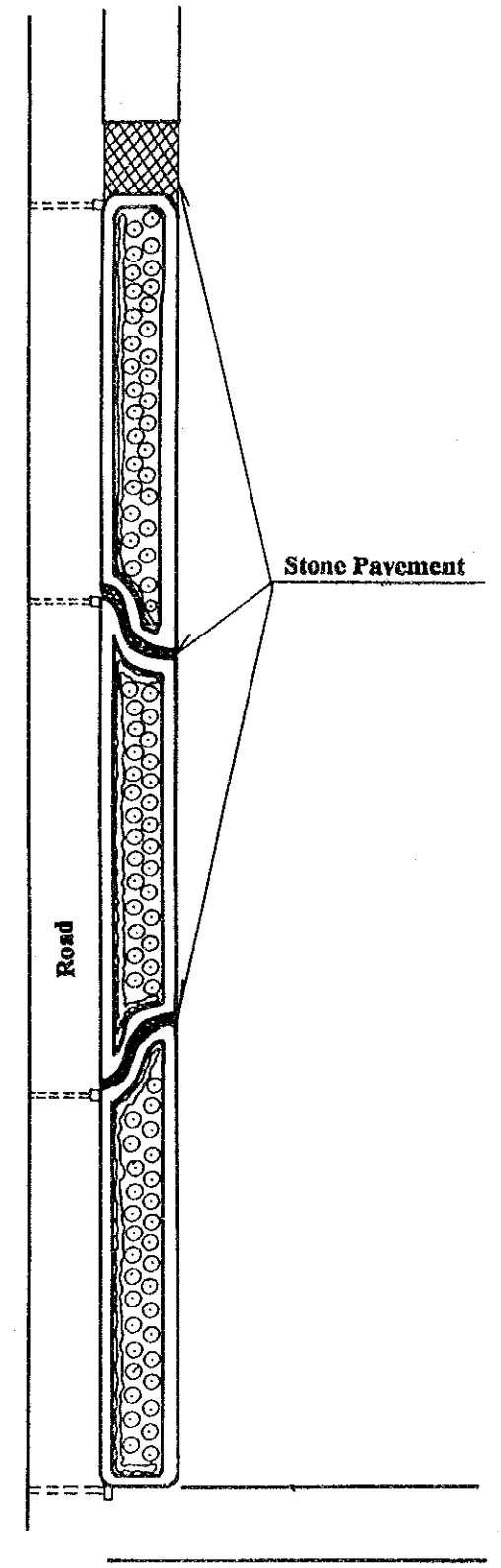
Title Leachate Circulation Facilities	
Drawing No. EL005	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
Japan International Cooperation Agency	



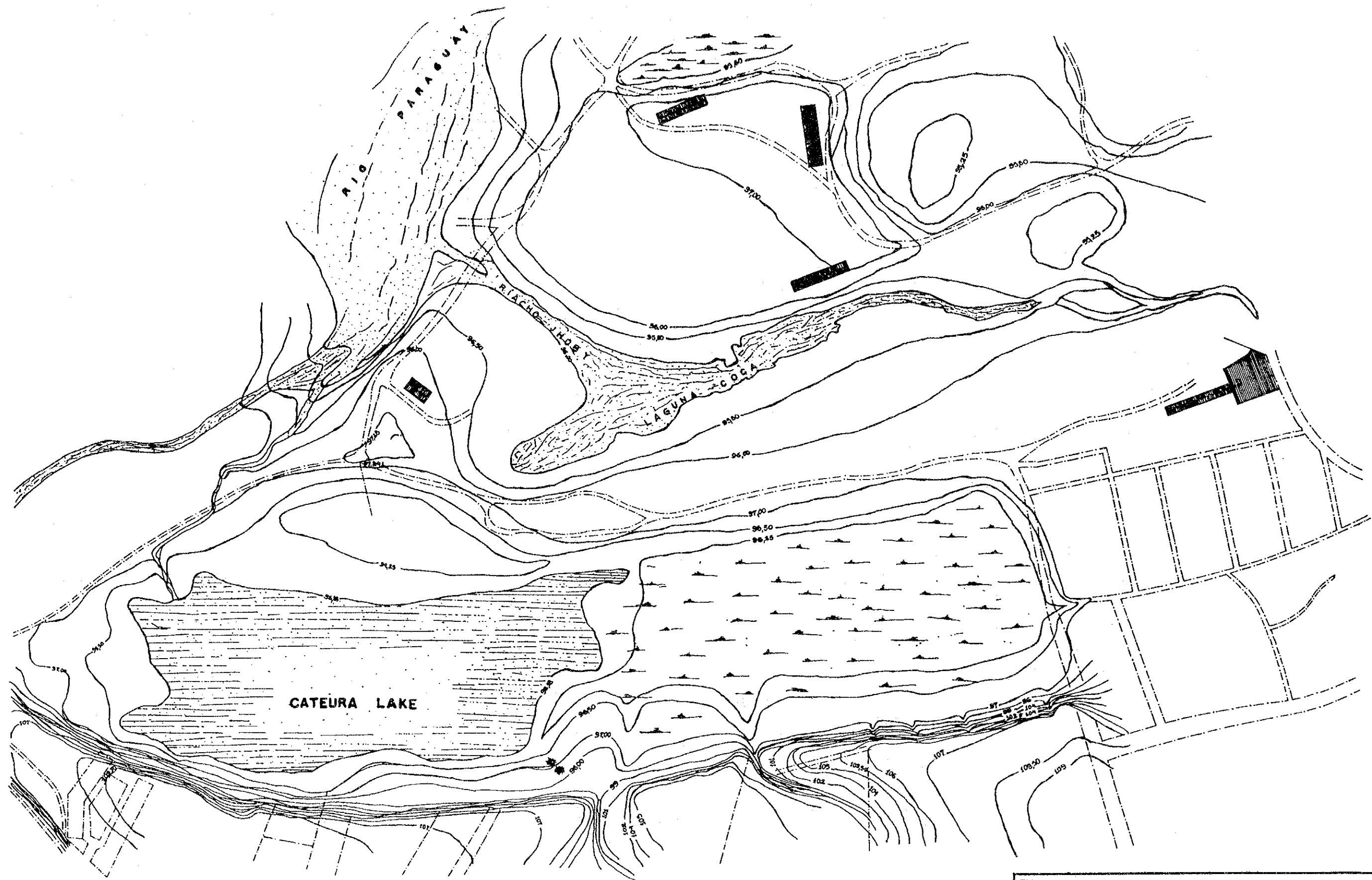
S = 1/100



S=1/300

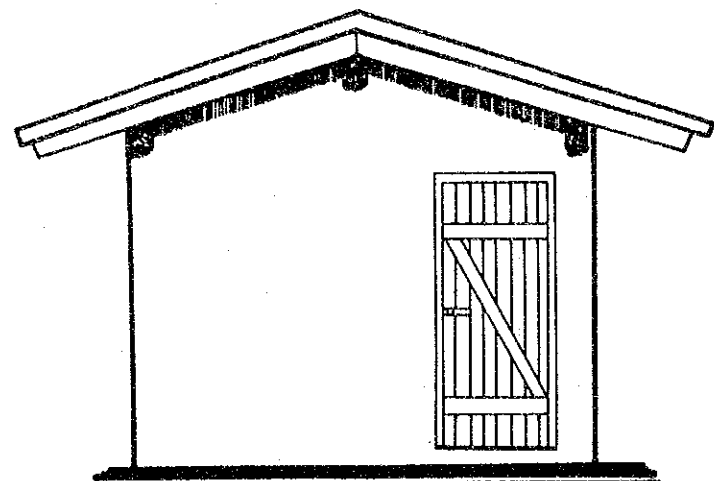


Title		Buffer Zone of Sanitary Landfill Experiment
Drawing No.	EL006	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
		Japan International Cooperation Agency

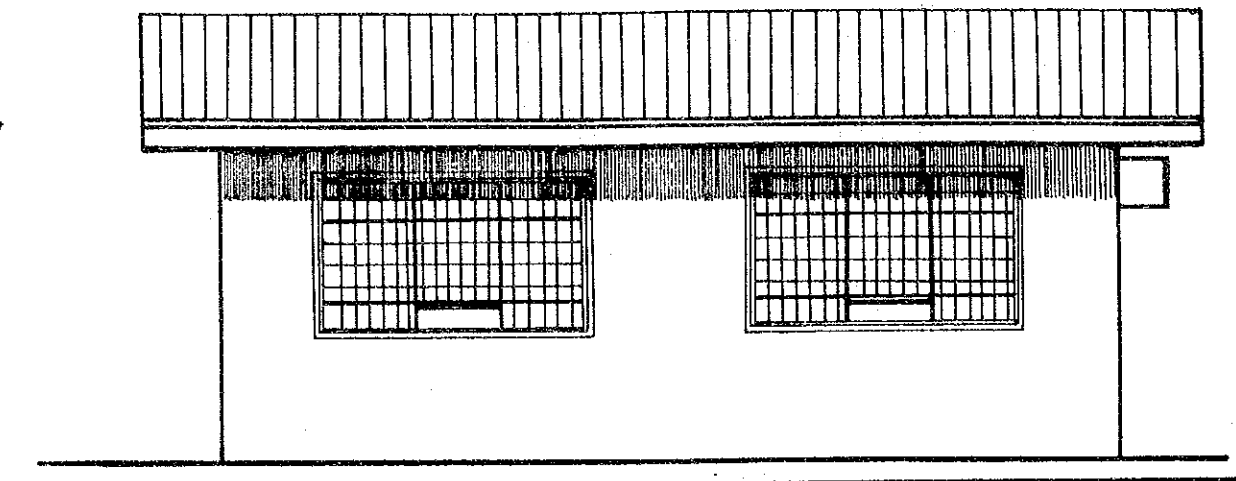


Escala
 0 100 m

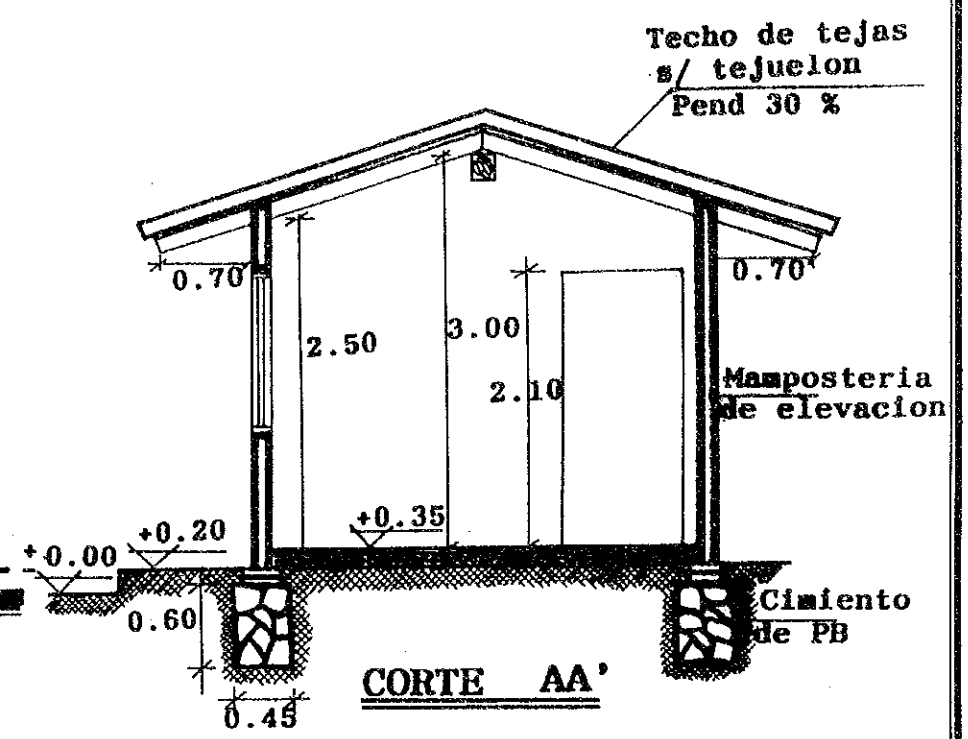
Title Location Map of Truck Scale installed in Cateura	
Drawing No. WB001	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
Japan International Cooperation Agency	



FACHADA LATERAL

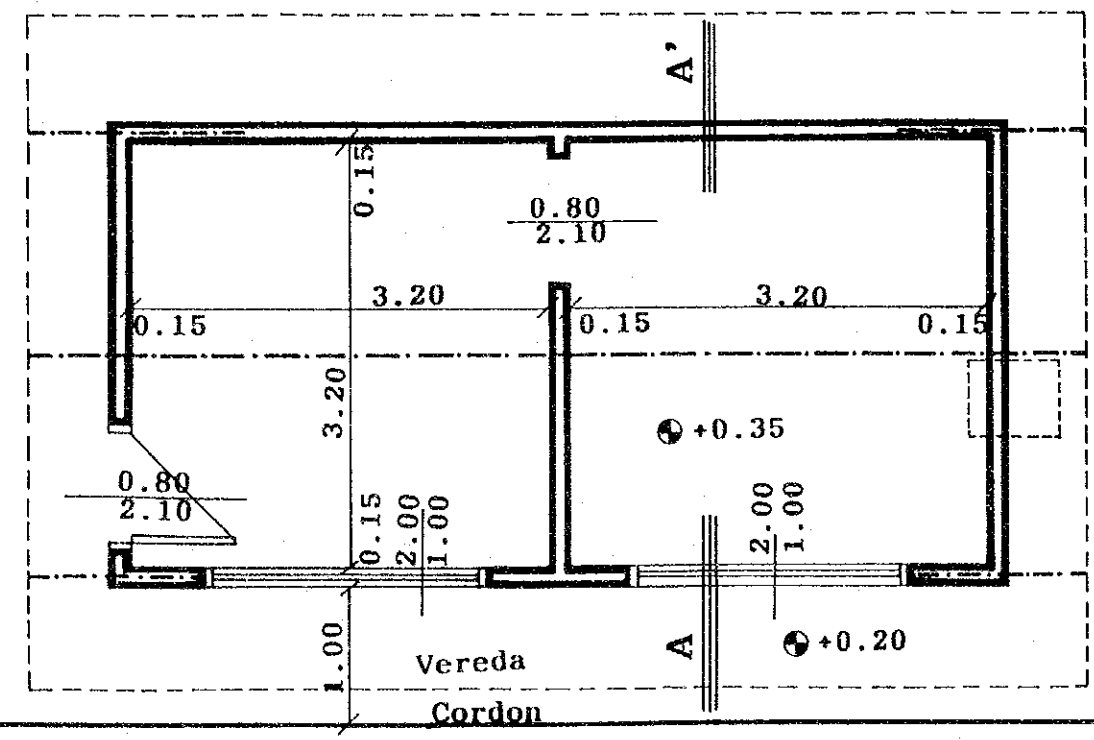
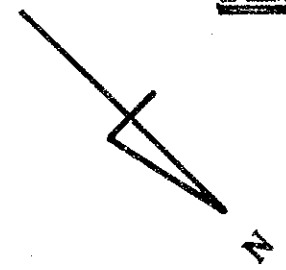


FACHADA FRONTAL



CORTE AA'

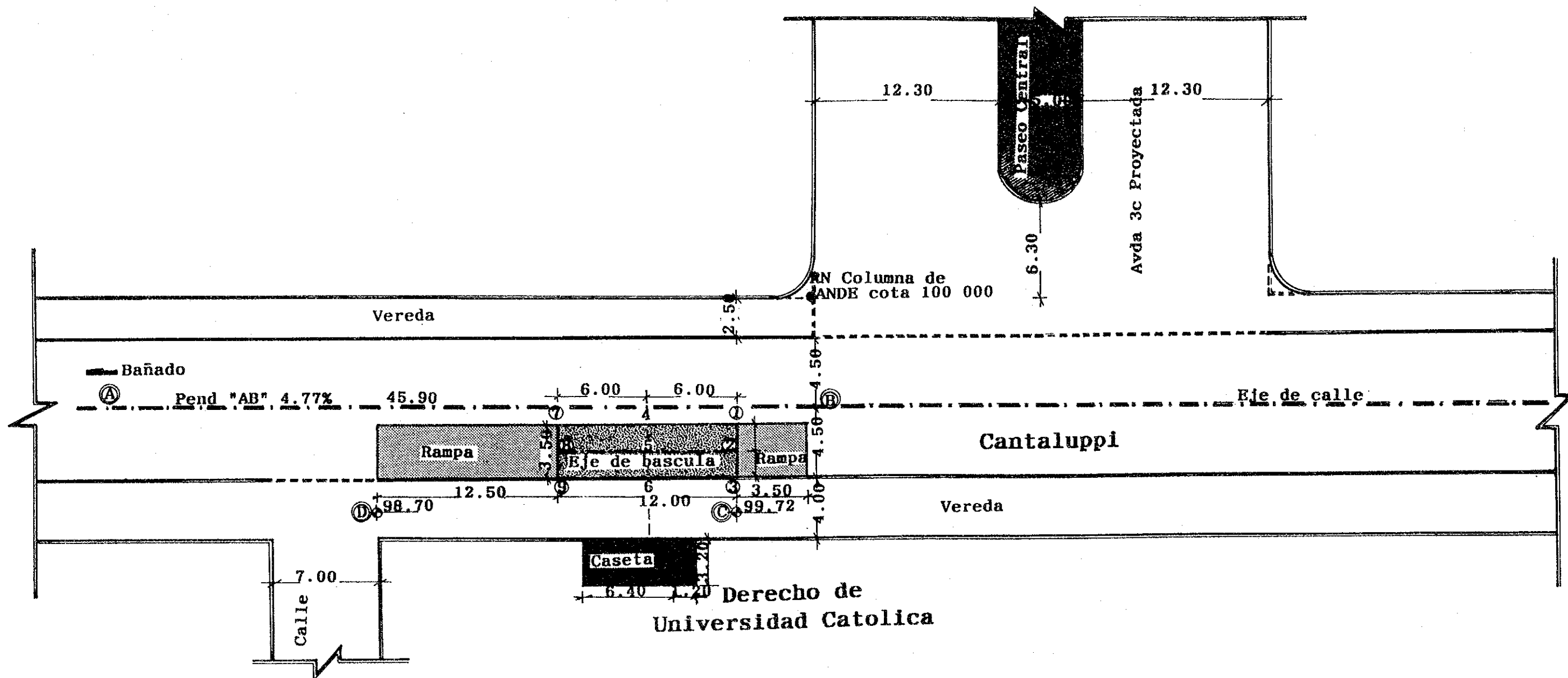
PLANTA



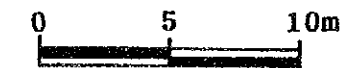
Escala



Title		Control House of Truck Scale installed in Cateura
Drawing No.	WB002	The Study on The Solid Waste Management for Metropolitan Area of Asuncion
		Japan International Cooperation Agency



Escala



Title		Layout of Truck Scale System installed in Cateura	
Drawing No.		WB003	
		The Study on The Solid Waste Management for Metropolitan Area of Asuncion	
		Japan International Cooperation Agency	

JICA