

THE REPUBLIC OF RWANDA

THE STUDY  
ON  
THE RURAL WATER SUPPLY PROJECT  
IN  
THE EASTERN REGION (PHASE III)

FINAL REPORT  
VOLUME IV : DRAWINGS

JANUARY 1992

JAPAN INTERNATIONAL COOPERATION AGENCY  
(JICA)

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**THE REPUBLIC OF RWANDA**

**THE STUDY  
ON  
THE RURAL WATER SUPPLY PROJECT  
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THE EASTERN REGION (PHASE III)**

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VOLUME IV : DRAWINGS**

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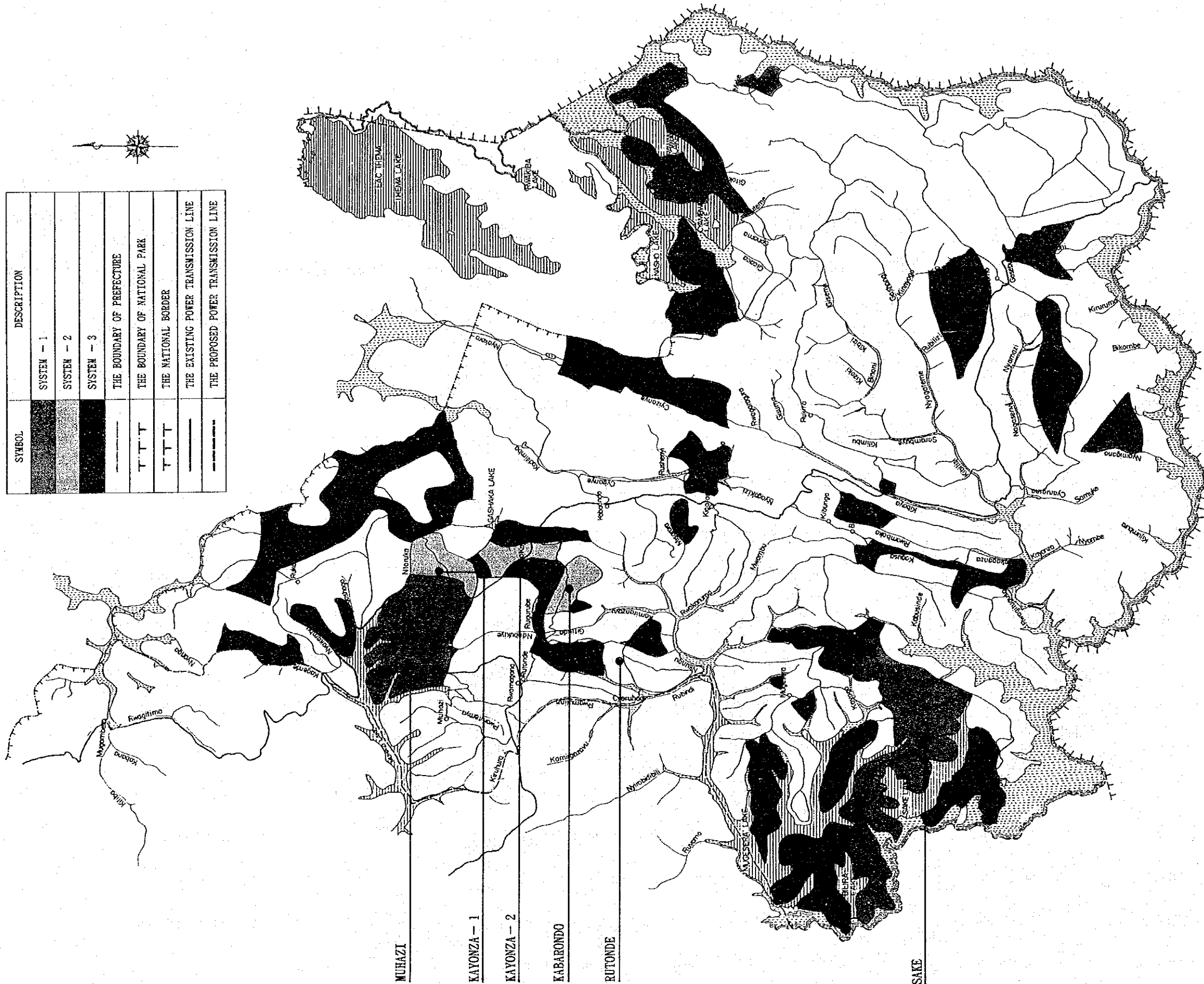




**GENERAL LAYOUT OF POSSIBLE PROJECT PLAN**

**LEGEND**

SYMBOL	DESCRIPTION
	SYSTEM - 1
	SYSTEM - 2
	SYSTEM - 3
	THE BOUNDARY OF PREFECTURE
	THE BOUNDARY OF NATIONAL PARK
	THE NATIONAL BORDER
	THE EXISTING POWER TRANSMISSION LINE
	THE PROPOSED POWER TRANSMISSION LINE



REPUBLIC OF RWANDA MINISTRY OF PUBLIC WORKS, ENERGY AND WATER			
BASIS PLAN OF RURAL WATER SUPPLY PROJECT IN THE EASTERN REGION (PHASE III)			
<b>GENERAL LAYOUT OF POSSIBLE PROJECT SCHEME</b>			
DESIGNED BY			
DATE	SCALE	DWG. NO.	1 - 2
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)			

**LIST OF WATER SUPPLY SCHEME FOR SYSTEM-1**

LIST OF WATER SUPPLY SCHEME FOR SYSTEM-1

Service Block Name	Treatment Plant		Transmission Pipe		Reservoir Tank		Distribution Facilities																	Transmission Line (m)
	Booster Pump Unit	Total Head (m)	Plant Capacity (m3)	DCIP (m)	Air Valve (mm)	Reservoir Tank (unit)		PVC Pipe (m)					Air Valve (unit)	Stand Pipe (unit)	Drain Valve (pcs)				Gate Valve (pcs)					
				mm	mm	m3	m3	mm	mm	mm	mm	Total	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Total	
	φ 150	φ 150	100	300	φ 50	φ 75	φ 100	φ 150	Total	(unit)	(unit)	φ 75	φ 100	φ 150	Total	φ 50	φ 75	φ 100	φ 150	Total				
MUHAZI	18.5kwx3	250	200x3	11,000	5		1	10,000	11,700	3,300	2,500	27,500	4	16		3	1	4	5	5	4	2	16	100
SAKE	30kwx3	300	270x3	7,000	5	1		17,200	10,300	14,000	2,000	43,500	15	26	1	2		3	12	1	5		18	3,000
	7.5kwx1	100																						
<b>TOTAL</b>	<b>7</b>		<b>1,410</b>	<b>18,000</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>27,200</b>	<b>22,000</b>	<b>17,300</b>	<b>4,500</b>	<b>71,000</b>	<b>19</b>	<b>42</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>7</b>	<b>17</b>	<b>6</b>	<b>9</b>	<b>2</b>	<b>34</b>	<b>3,100</b>

REPUBLIC OF RWANDA  
 MINISTRY OF PUBLIC WORKS, ENERGY AND WATER

BASIC PLAN OF RURAL WATER SUPPLY PROJECT  
 IN THE EASTERN REGION (PHASE III)

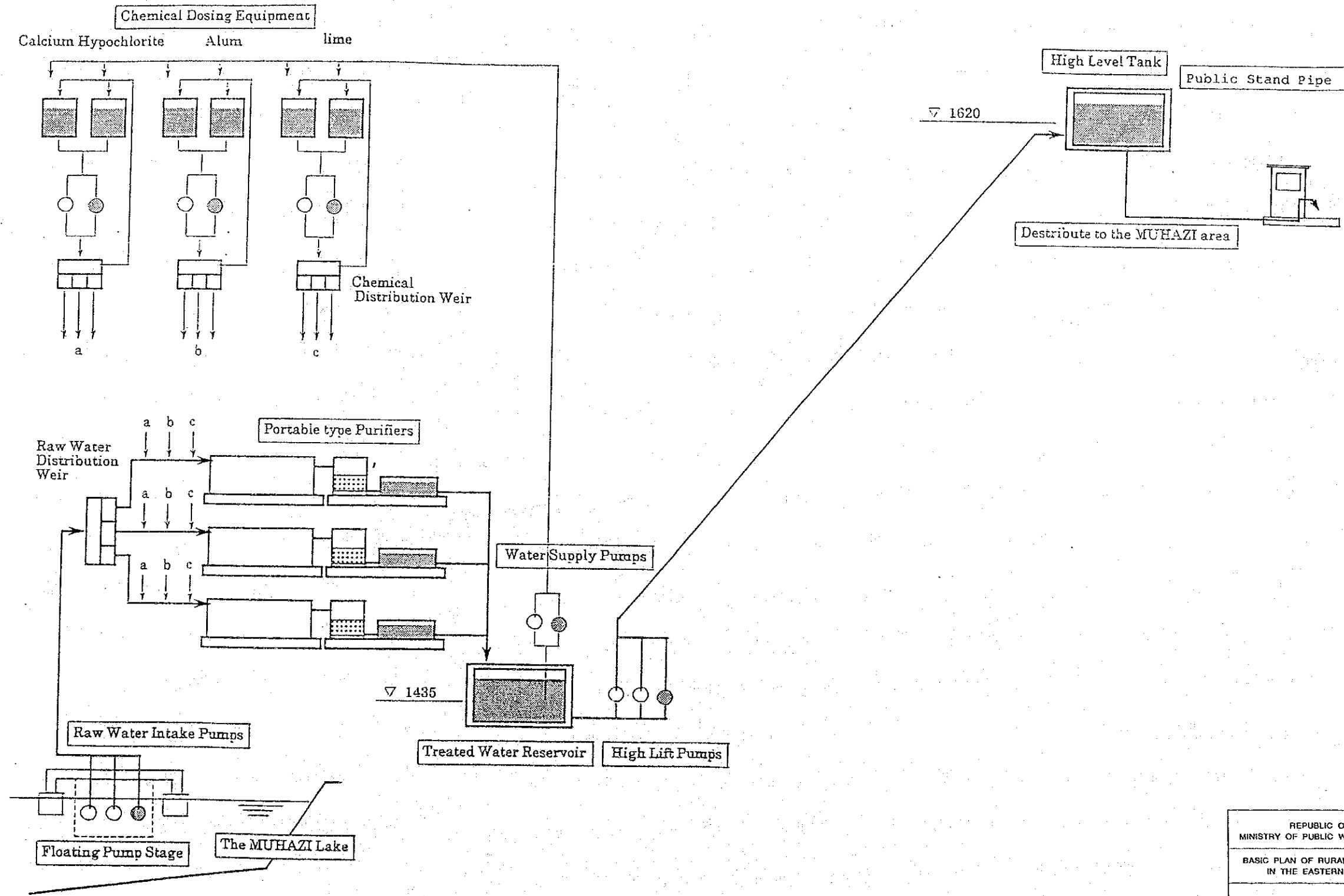
**LIST OF WATER SUPPLY SCHEME  
 FOR SYSTEM-1**

DESIGNED BY

DATE SCALE DWG. NO. 2

JAPAN INTERNATIONAL COOPERATION AGENCY  
 (JICA)

# FLOW DIAGRAM OF MUHAZI AREA

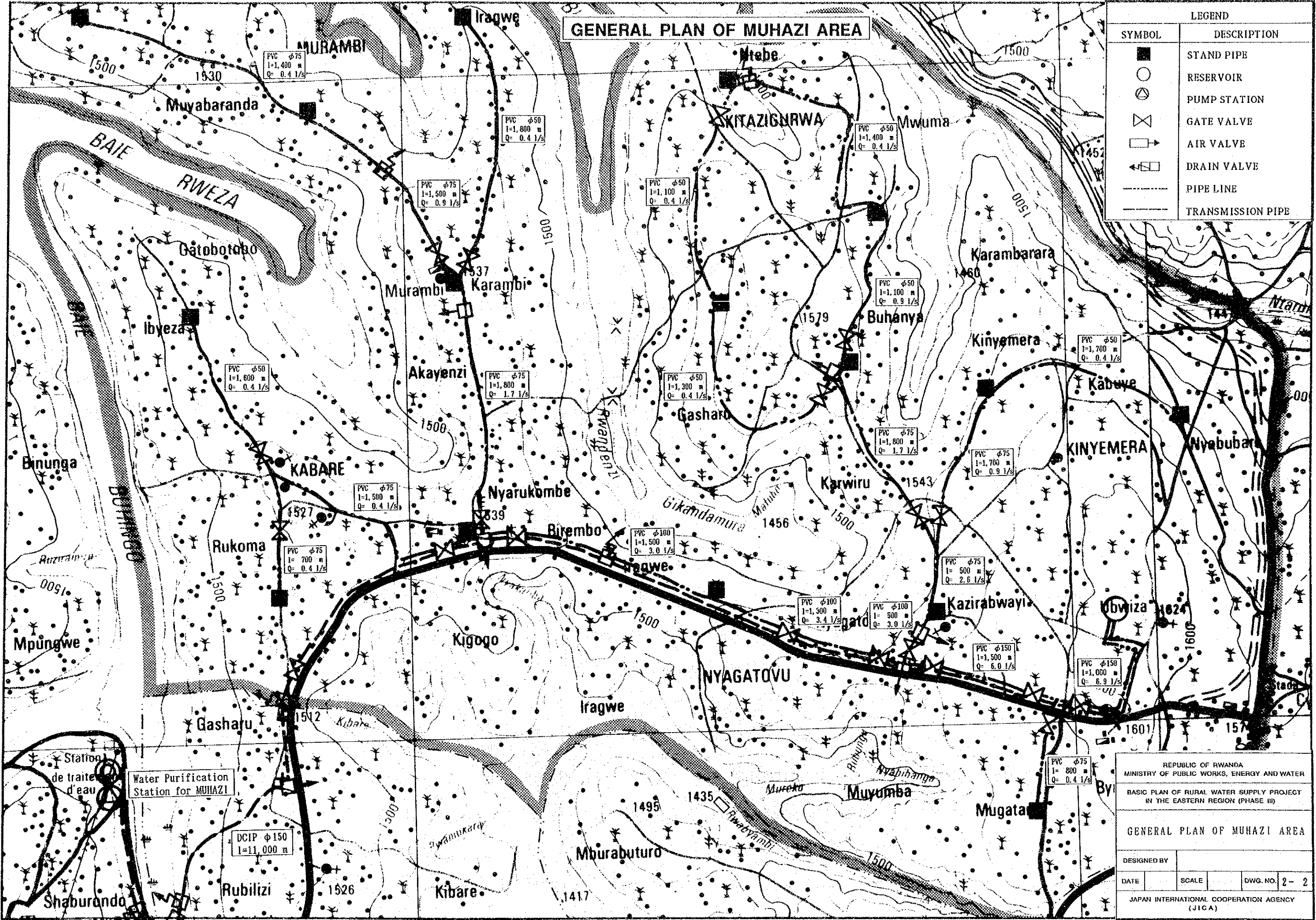


REPUBLIC OF RWANDA			
MINISTRY OF PUBLIC WORKS, ENERGY AND WATER			
BASIC PLAN OF RURAL WATER SUPPLY PROJECT IN THE EASTERN REGION (PHASE III)			
FLOW DIAGRAM OF MUHAZI AREA			
DESIGNED BY			
DATE	SCALE	DWG. NO.	2- 1
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)			



# GENERAL PLAN OF MUHAZI AREA

LEGEND	
SYMBOL	DESCRIPTION
■	STAND PIPE
○	RESERVOIR
⊗	PUMP STATION
⊗	GATE VALVE
□→	AIR VALVE
←□	DRAIN VALVE
---	PIPE LINE
---	TRANSMISSION PIPE



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BASIC PLAN OF RURAL WATER SUPPLY PROJECT  
 IN THE EASTERN REGION (PHASE III)

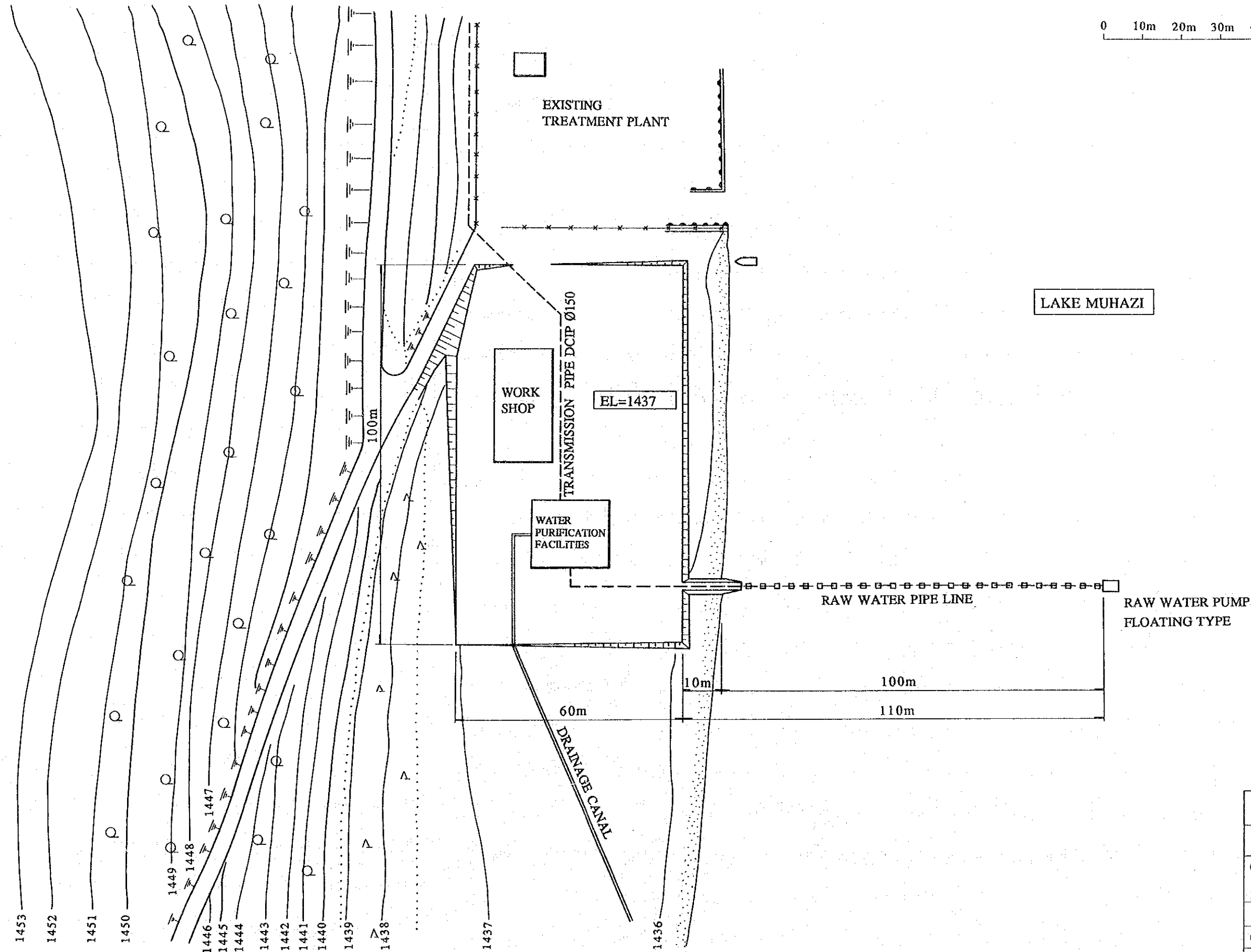
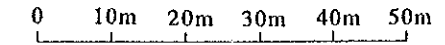
GENERAL PLAN OF MUHAZI AREA

DESIGNED BY \_\_\_\_\_

DATE	SCALE	DWG. NO.	2-2
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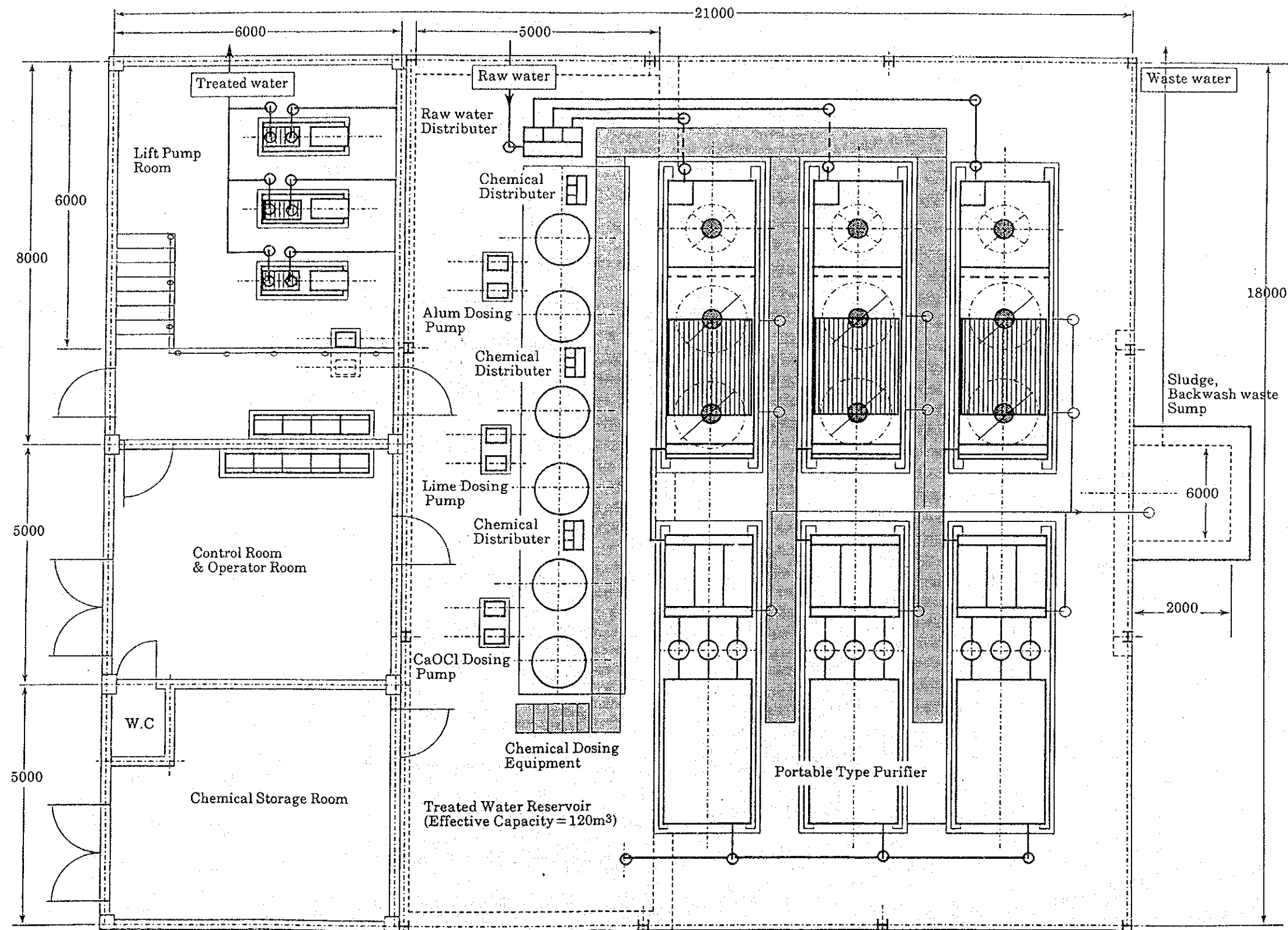
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**GENERAL PLAN OF WATER PURIFICATION STATION FOR MUHAZI AREA**



REPUBLIC OF RWANDA MINISTRY OF PUBLIC WORKS, ENERGY AND WATER			
BASIC PLAN OF RURAL WATER SUPPLY PROJECT IN THE EASTERN REGION (PHASE III)			
GENERAL PLAN OF WATER PURIFICATION STATION FOR MUHAZI AREA			
DESIGNED BY			
DATE	SCALE	DWG. NO.	2-3
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)			

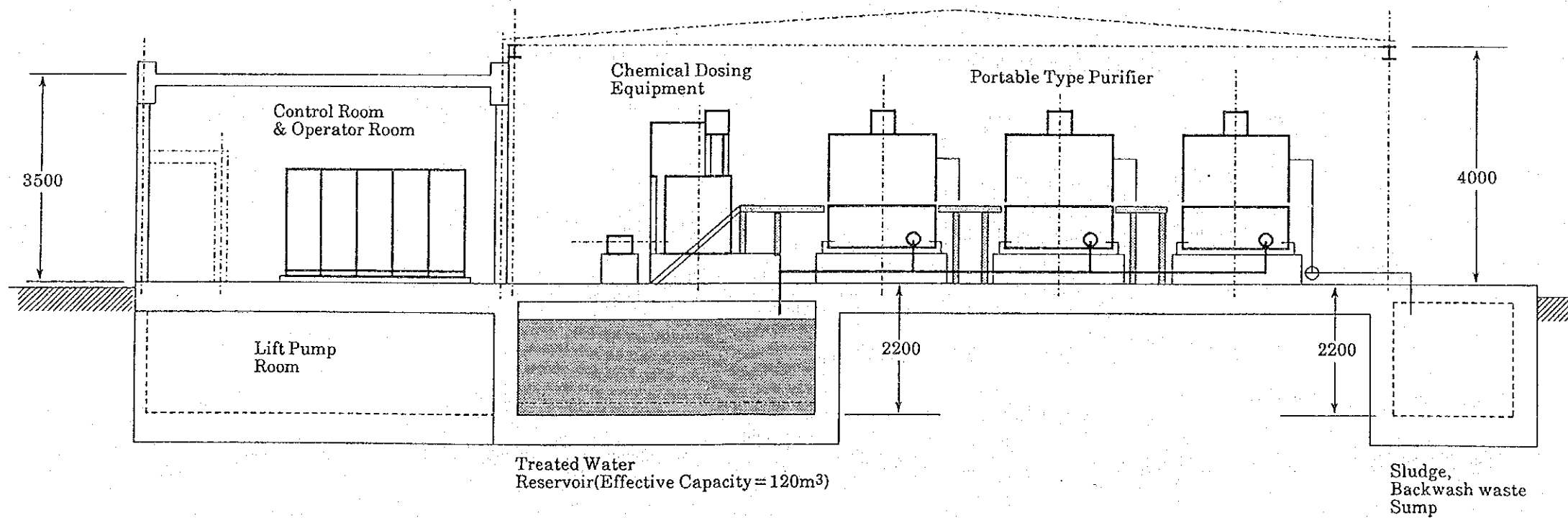
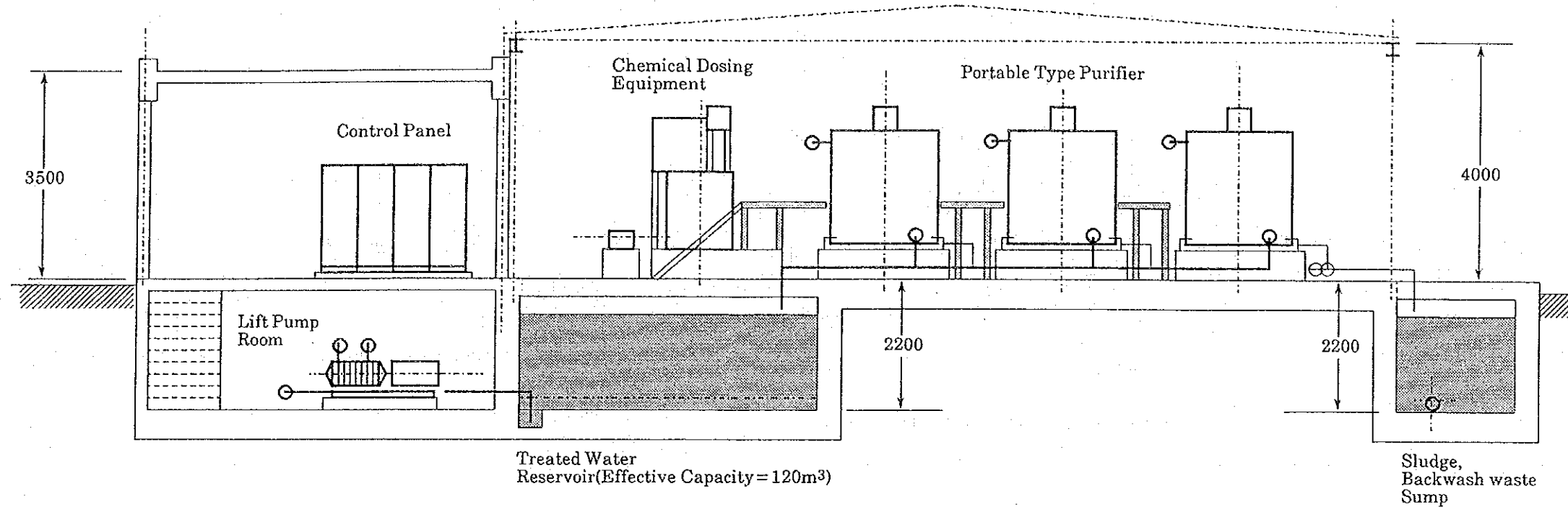
# PLAN OF WATER PURIFICATION FACILITIES FOR MUHAZI AREA



**Plan**

REPUBLIC OF RWANDA MINISTRY OF PUBLIC WORKS, ENERGY AND WATER			
BASIC PLAN OF RURAL WATER SUPPLY PROJECT IN THE EASTERN REGION (PHASE III)			
TREATMENT PLANT OF SAKE AREA			
DESIGNED BY			
DATE	SCALE	DWG. NO.	2-4
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)			

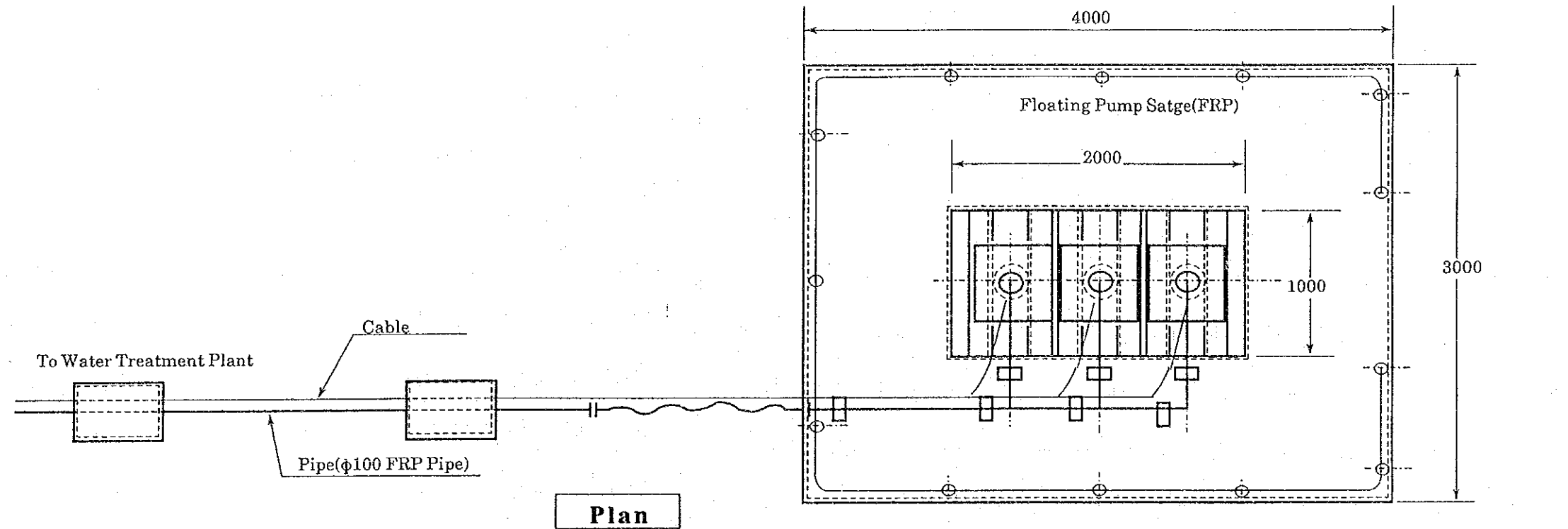
**SECTION OF WATER PURIFICATION FACILITIES FOR MUHAZI AREA**



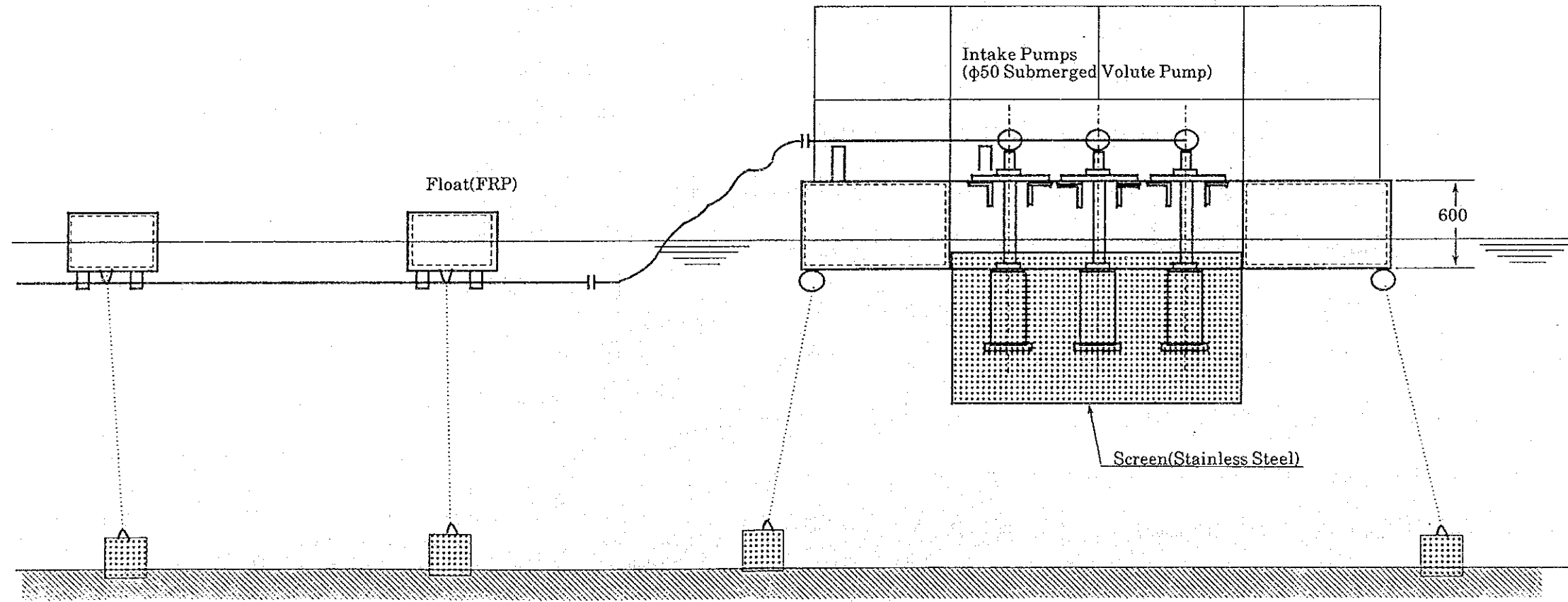
**Section**

REPUBLIC OF RWANDA			
MINISTRY OF PUBLIC WORKS, ENERGY AND WATER			
BASIC PLAN OF RURAL WATER SUPPLY PROJECT			
IN THE EASTERN REGION (PHASE III)			
SECTION OF WATER PURIFICATION			
FACILITY PLANT OF MUHAZI AREA			
DESIGNED BY			
DATE	SCALE	DWG. NO.	2 - 5
JAPAN INTERNATIONAL COOPERATION AGENCY			
(JICA)			

**INTAKE FACILITIES OF MUHAZI AREA**



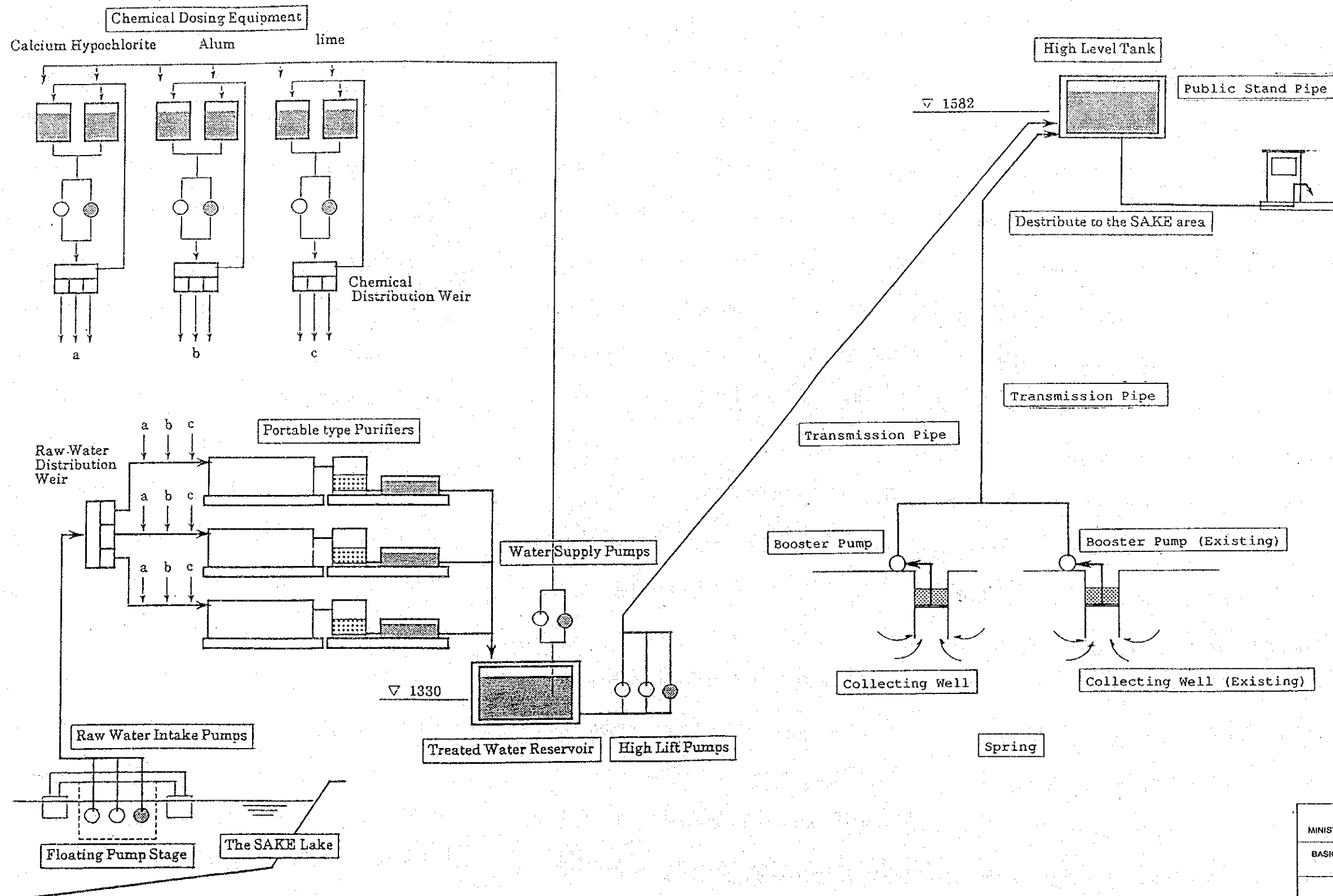
**Plan**



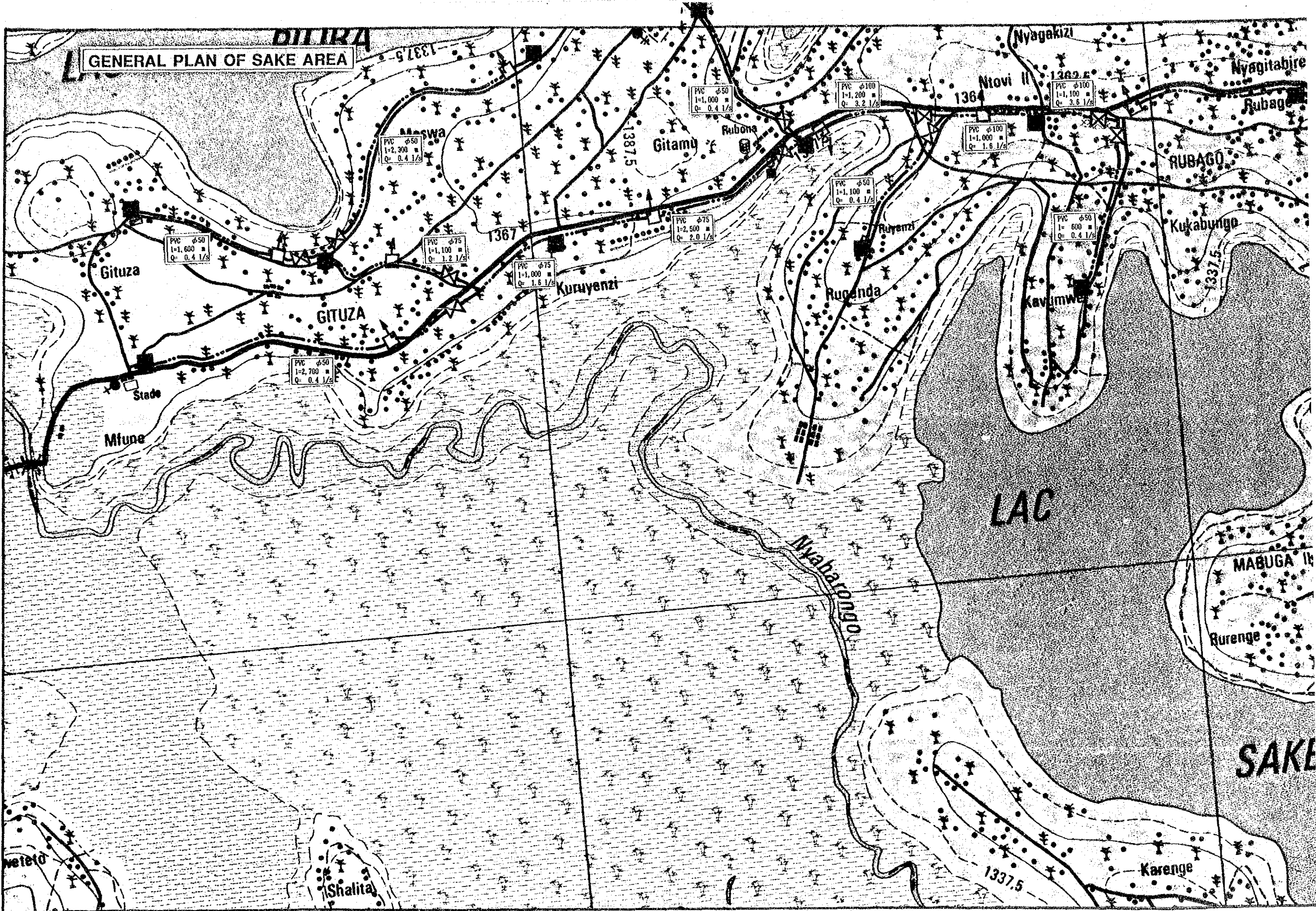
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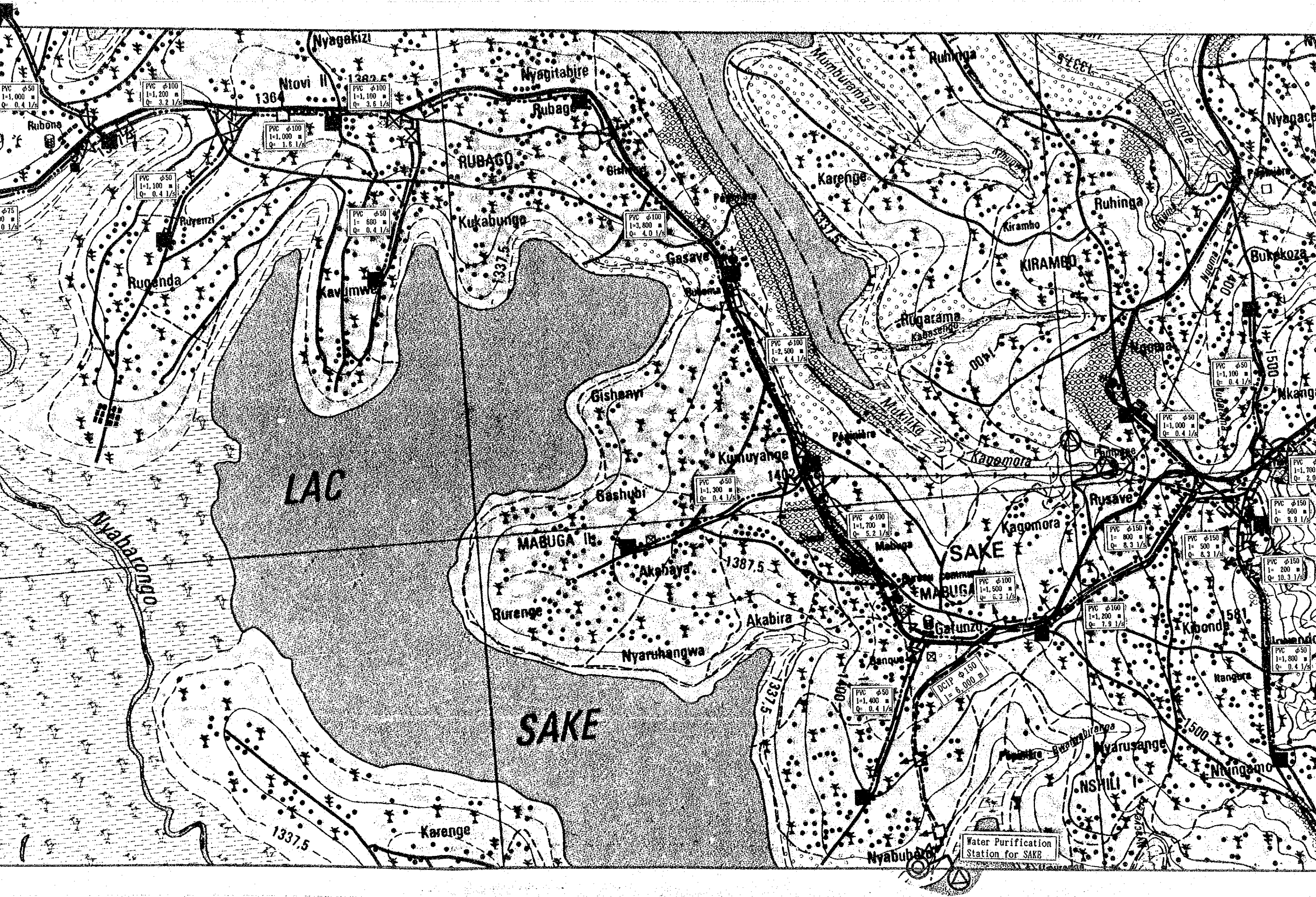
REPUBLIC OF RWANDA			
MINISTRY OF PUBLIC WORKS, ENERGY AND WATER			
BASIC PLAN OF RURAL WATER SUPPLY PROJECT IN THE EASTERN REGION (PHASE III)			
<b>INTAKE FACILITIES OF MUHAZI AREA</b>			
DESIGNED BY			
DATE	SCALE	DWG. NO. 2-6	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)			

# FLOW DIAGRAM OF SAKE AREA



REPUBLIC OF RWANDA MINISTRY OF PUBLIC WORKS, ENERGY AND WATER			
BASIC PLAN OF RURAL WATER SUPPLY PROJECT IN THE EASTERN REGION (PHASE III)			
FLOW DIAGRAM OF SAKE AREA			
DESIGNED BY			
DATE	SCALE	DWG. NO.	2-7
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)			





PVC  $\phi$ 50  
l=1,000 m  
Q= 0.4 l/s

PVC  $\phi$ 100  
l=1,200 m  
Q= 3.2 l/s

PVC  $\phi$ 50  
l=1,100 m  
Q= 0.4 l/s

PVC  $\phi$ 100  
l=1,100 m  
Q= 3.6 l/s

PVC  $\phi$ 50  
l= 600 m  
Q= 0.4 l/s

PVC  $\phi$ 100  
l=3,600 m  
Q= 4.0 l/s

PVC  $\phi$ 100  
l=2,500 m  
Q= 4.4 l/s

PVC  $\phi$ 50  
l=1,300 m  
Q= 0.4 l/s

PVC  $\phi$ 100  
l=1,700 m  
Q= 5.2 l/s

PVC  $\phi$ 150  
l= 800 m  
Q= 8.3 l/s

PVC  $\phi$ 150  
l= 500 m  
Q= 8.3 l/s

PVC  $\phi$ 50  
l=1,000 m  
Q= 0.4 l/s

PVC  $\phi$ 150  
l= 500 m  
Q= 9.9 l/s

PVC  $\phi$ 150  
l= 200 m  
Q= 10.3 l/s

PVC  $\phi$ 50  
l=1,800 m  
Q= 0.4 l/s

Water Purification  
Station for SAKB