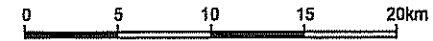
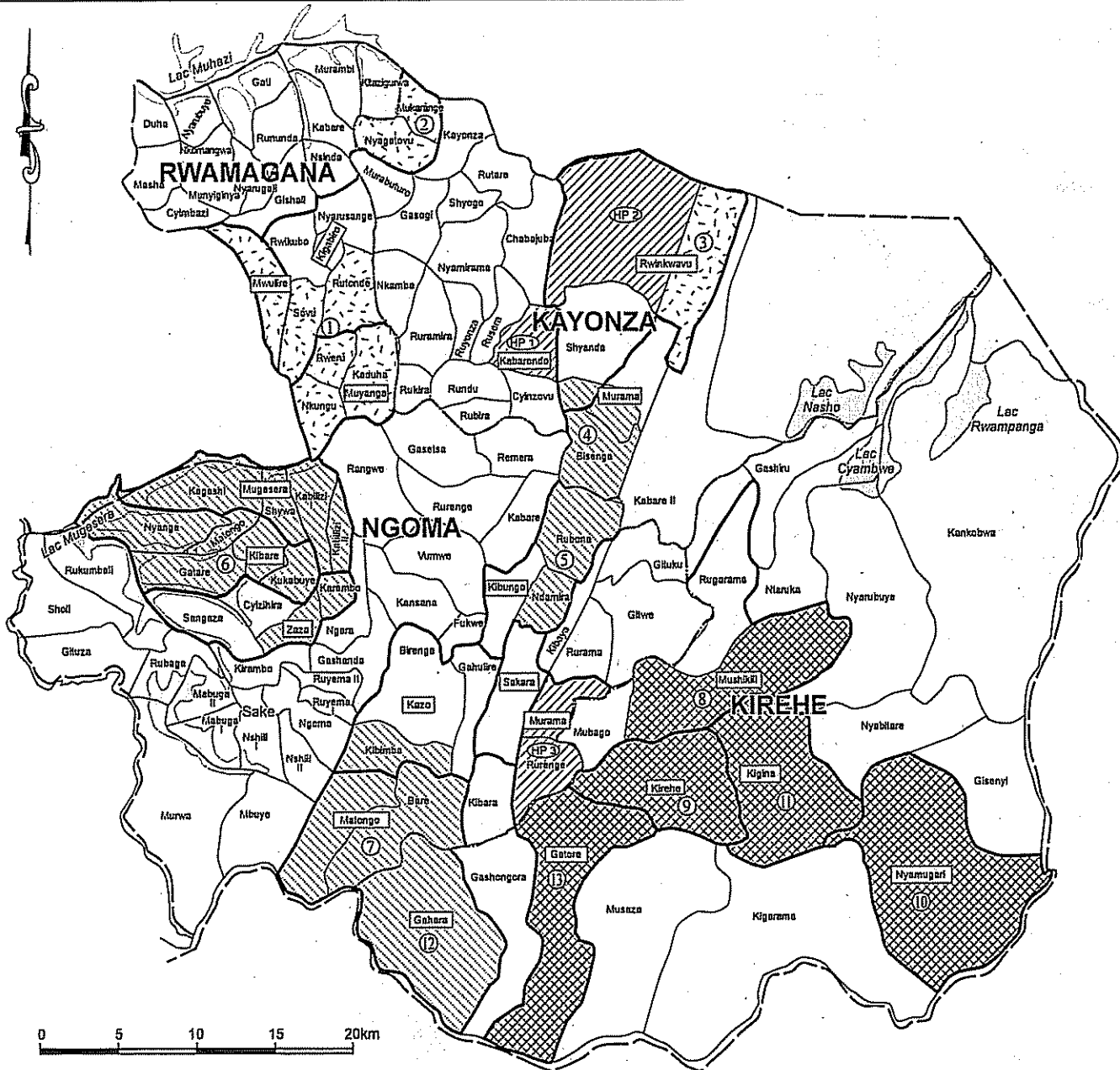


5.12
Basic Design Drawings



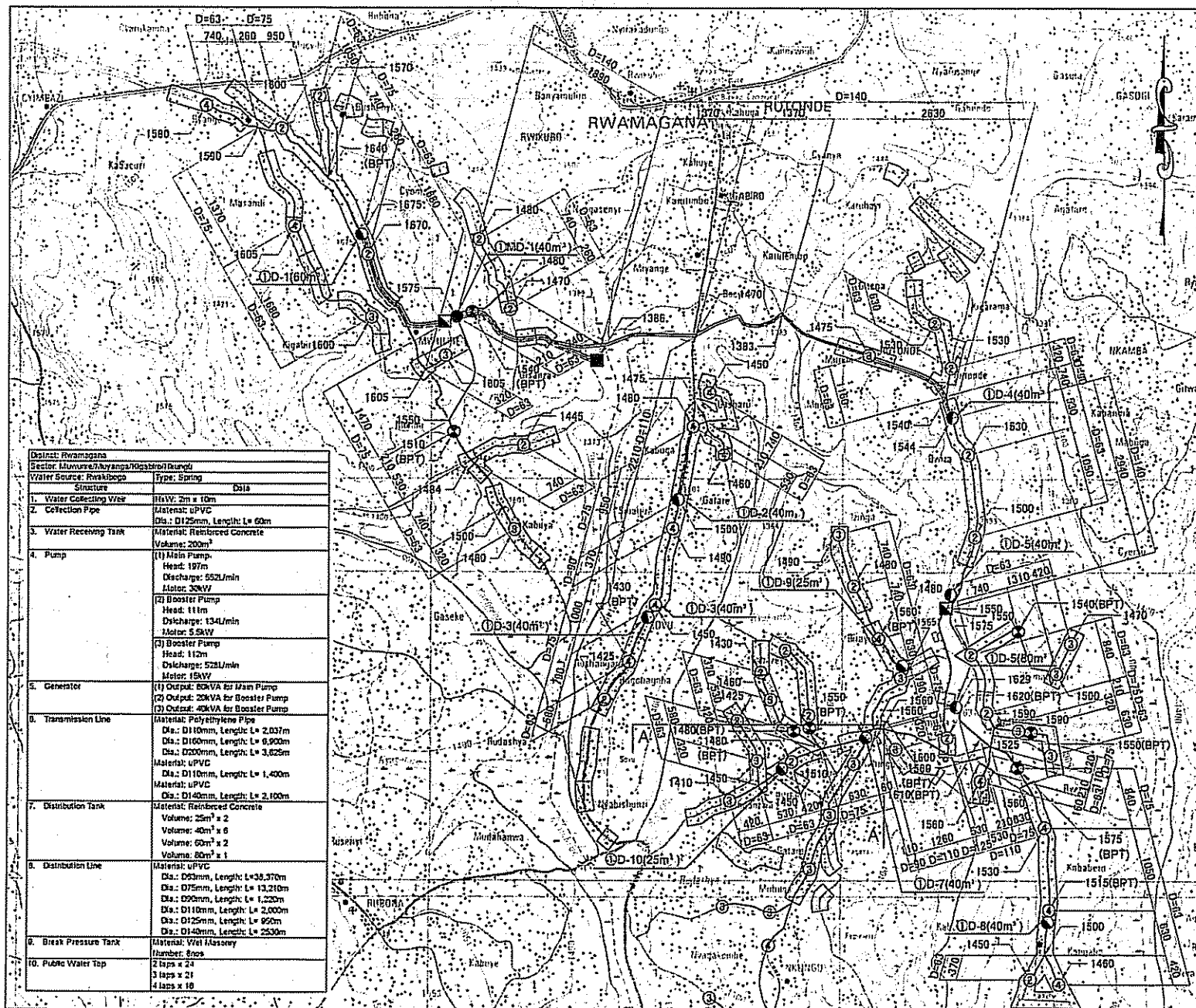
List of the Project Sites

District Name	Sector Name	Water Source Name	Water Supply System No.	Construction Stage			Former District Name	Former Sector Name
				1st	2nd	3rd		
Rwamagana	Kigabiro	Rwakiboga spring	⊙	•			Rwamagana	Sovu (partially) Ruvumba
	Mwamba							Mwamba Mwamba Mwamba
	Muyanga						Kabaroboko	Mwamba Mwamba
Kayanza	Mukaranga	Kazabana groundwater	⊙	•			Muhazi	Mwamba Kazabana
	Kabaroboko	Kabaroboko groundwater	HP10	•				Kabaroboko Kabaroboko
	Rwakiboga	Rwakiboga groundwater	⊙	•			Cyabwiro	Kabaroboko Kabaroboko
	Murama	Gicaca spring	⊙		•			Murama Mwamba
Ngoma	Kibungo	Gicaca spring	⊙		•		Kibungo	Kibungo Kibungo
	Kibungo	Mwamba spring	⊙		•			Kibungo Kibungo
	Zaza	Rwamamba spring	⊙		•			Kibungo Kibungo
	Kibara	Kibara spring	⊙		•		Mwamba	Kibungo Kibungo
	Mugesera	Ruranga-Murama groundwater	HP10	•			Rukwa	Kibungo Kibungo
Kirehe	Mushiki	Mwamba spring	⊙		•		Rukwa	Kibungo Kibungo
	Kirehe	Mwamba spring	⊙		•			Kirehe Kirehe
	Mwamba	Mwamba spring	⊙		•			Kirehe Kirehe
	Kigina	Mwamba spring	⊙		•			Kirehe Kirehe
	Gahara	Gahara spring	⊙		•			Kirehe Kirehe
	Gatara	Rugha spring	⊙		•			Kirehe Kirehe

LEGEND

- PROPOSED PIPED SUPPLY SCHEME STAGE 1
- PROPOSED PIPED SUPPLY SCHEME STAGE 2
- PROPOSED PIPED SUPPLY SCHEME STAGE 3
- PROPOSED HAND PUMP SCHEME STAGE 1

PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO.,LTD.	DRAWING TITLE LOCATION MAP OF THE PROJECT FOR RURAL WATER SUPPLY		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE NONE	DATE FEBRUARY 2006	DRAWING NO. GE-001

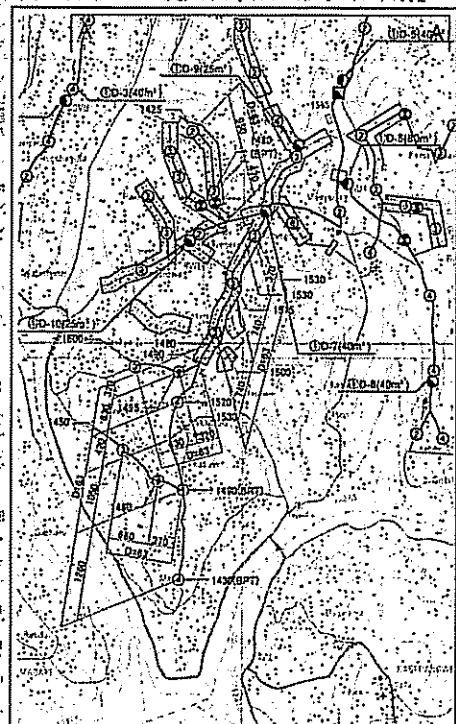


LEGEND

- WATER SOURCE
- PUMP STATION (P/S)
- BOOSTER PUMP STATION (BP/S)
- MAIN DISTRIBUTION TANK
- SUB DISTRIBUTION TANK
- ② PUBLIC TAP WITH 2 NOZZLES
- ③ PUBLIC TAP WITH 3 NOZZLES
- ④ PUBLIC TAP WITH 4 NOZZLES
- BREAK PRESSURE TANK
- RAW WATER MAIN
- TRANSMISSION LINE
- DISTRIBUTION LINE
- ▨ DENSE VILLAGE
- ▩ SPARSE VILLAGE

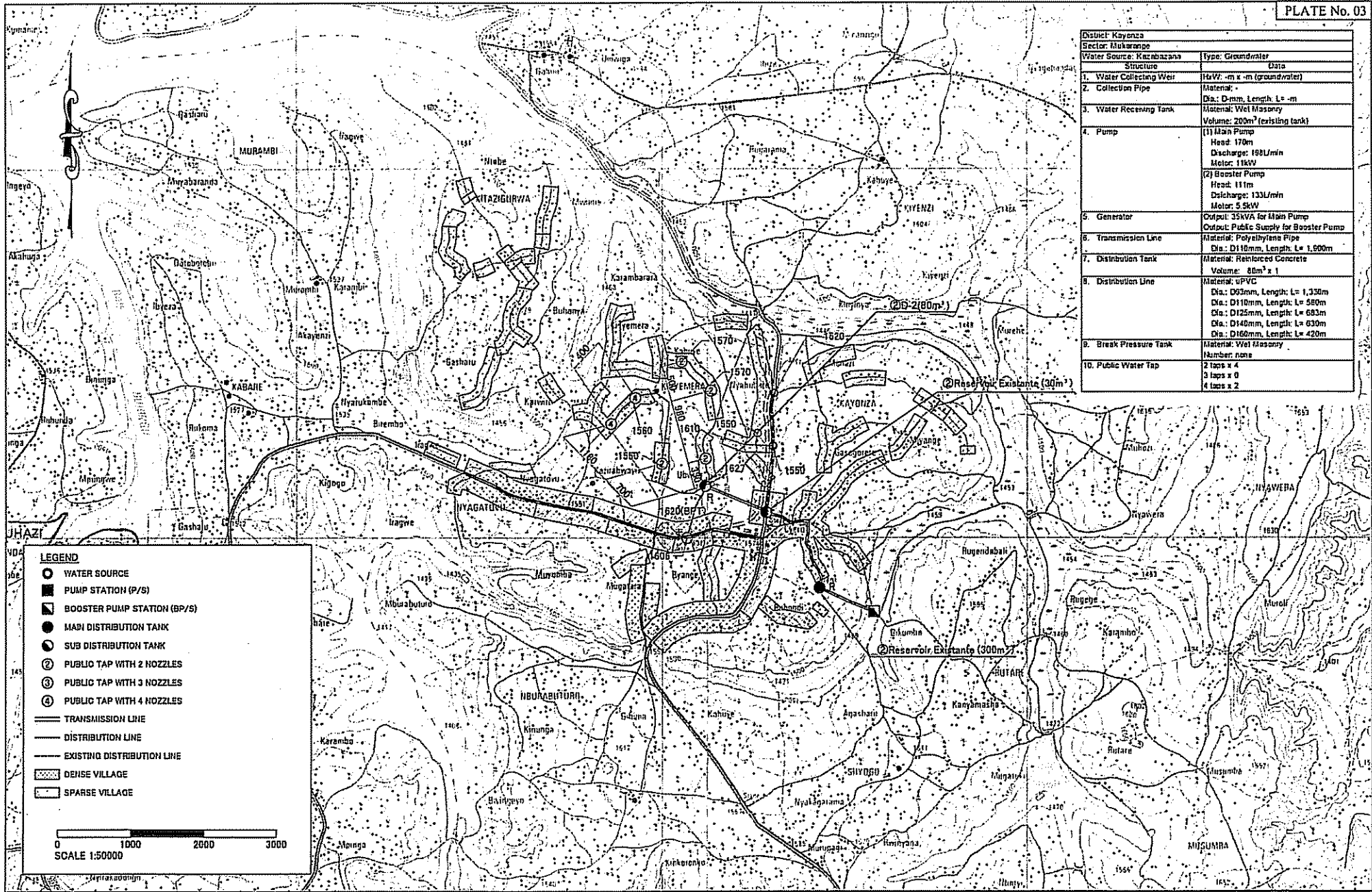
0 1000 2000 3000
SCALE 1:50000

District: Rwamagana	
Sector: Munyanga/Byamba/Gashamba/Bungu	
Water Source: Rwakiboga	
Structure	Type: Spring
1. Water Collecting Vess	
Material: uPVC	Di.: D125mm, Length: L= 60m
2. Collection Pipe	
3. Water Receiving Tank	
Material: Reinforced Concrete	Volume: 200m ³
4. Pump	
(1) Main Pump	Head: 197m Discharge: 652L/min Motor: 33kW
(2) Booster Pump	Head: 11m Discharge: 134L/min Motor: 5.5kW
(3) Booster Pump	Head: 112m Discharge: 522L/min Motor: 15kW
5. Generator	
(1) Output: 60KVA for Main Pump	(2) Output: 20KVA for Booster Pump
(3) Output: 40KVA for Booster Pump	
6. Transmission Line	
Material: Polyethylene Pipe	Di.: D110mm, Length: L= 2,037m Di.: D100mm, Length: L= 6,900m Di.: D250mm, Length: L= 3,625m
Material: uPVC	Di.: D110mm, Length: L= 1,400m
Material: uPVC	Di.: D140mm, Length: L= 2,100m
7. Distribution Tank	
Material: Reinforced Concrete	Volume: 25m ³ x 2 Volume: 40m ³ x 6 Volume: 60m ³ x 2 Volume: 80m ³ x 1
8. Distribution Line	
Material: uPVC	Di.: D50mm, Length: L= 38,370m Di.: D75mm, Length: L= 13,210m Di.: D90mm, Length: L= 1,250m Di.: D110mm, Length: L= 2,900m Di.: D125mm, Length: L= 950m Di.: D140mm, Length: L= 2530m
9. Break Pressure Tank	
Material: Wet Masonry	Number: 6nos
10. Public Water Tap	
2 taps x 24	3 taps x 21
4 taps x 18	



PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	CONSULTANT JAPAN INTERNATIONAL COOPERATION AGENCY	DRAWING TITLE WATER SUPPLY SYSTEM (1)
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA	
SCALE 1:50000	DATE FEBRUARY 2006	DRAWING NO. PW-001

District: Kayanza	
Sector: Mukarange	
Water Source: Kazibazana	Type: Groundwater
Structure	Date
1. Water Collecting Weir	HW: -m x -m (groundwater)
2. Collection Pipe	Material: -
3. Water Receiving Tank	Dia: D-mm, Length: L= -m
	Material: Wet Masonry
4. Pump	Volume: 200m ³ (existing tank)
	(1) Main Pump Head: 170m Discharge: 198L/min Motor: 11kW
5. Generator	(2) Booster Pump Head: 111m Discharge: 133L/min Motor: 5.5kW
	Output: 35KVA for Main Pump Output: Public Supply for Booster Pump
6. Transmission Line	Material: Polyethylene Pipe
7. Distribution Tank	Dia: D118mm, Length: L= 1.600m
	Material: Reinforced Concrete
8. Distribution Line	Volume: 80m ³ x 1
	Material: uPVC
9. Break Pressure Tank	Dia: D63mm, Length: L= 1,330m
	Dia: D110mm, Length: L= 580m
	Dia: D125mm, Length: L= 683m
	Dia: D140mm, Length: L= 630m
10. Public Water Tap	Dia: D160mm, Length: L= 420m
	Material: Wet Masonry
	Number: none
	2 taps x 4
	3 taps x 8
	4 taps x 2



LEGEND

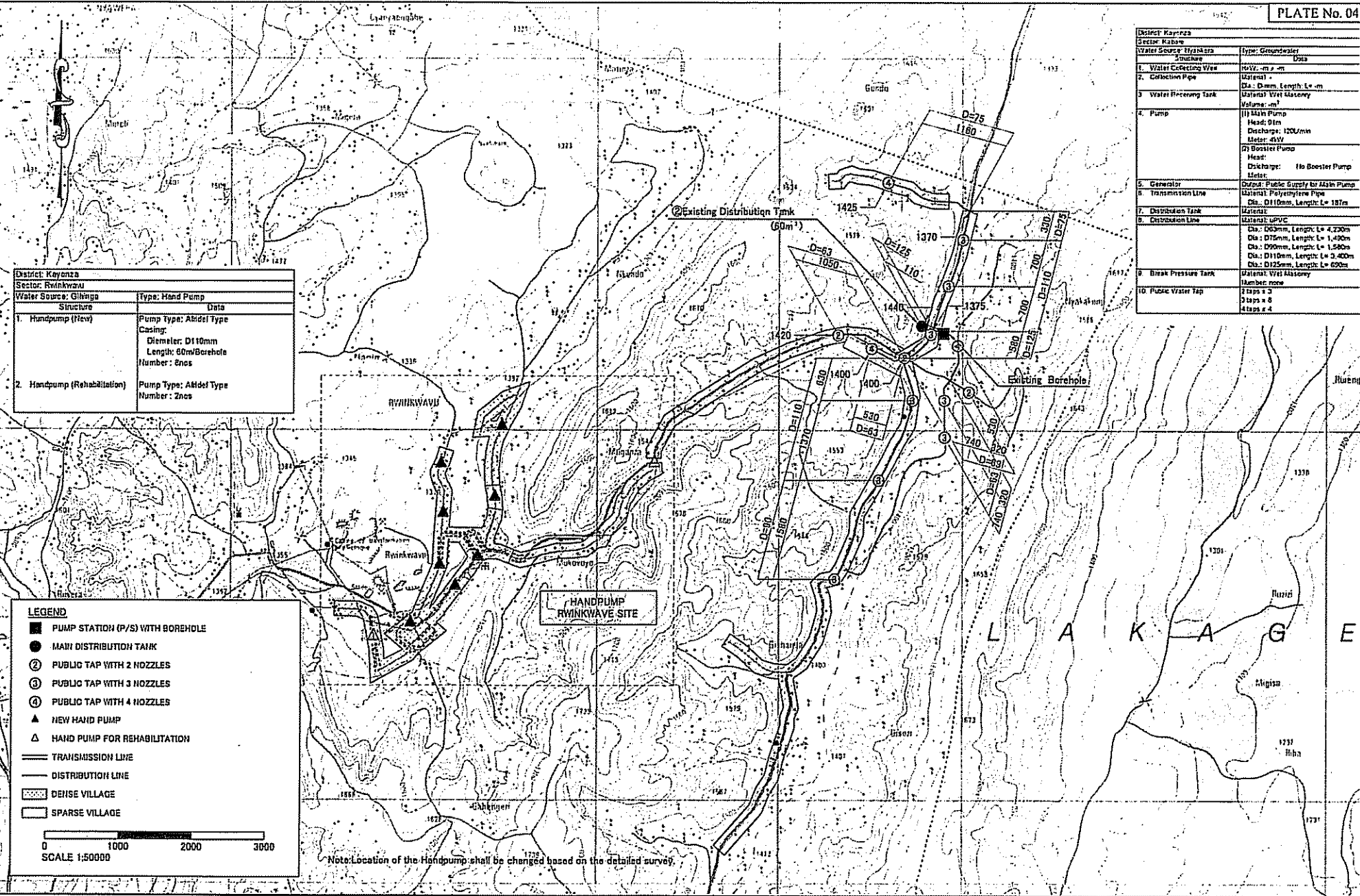
- WATER SOURCE
- PUMP STATION (P/S)
- ▲ BOOSTER PUMP STATION (BP/S)
- MAIN DISTRIBUTION TANK
- SUB DISTRIBUTION TANK
- ② PUBLIC TAP WITH 2 NOZZLES
- ③ PUBLIC TAP WITH 3 NOZZLES
- ④ PUBLIC TAP WITH 4 NOZZLES
- TRANSMISSION LINE
- DISTRIBUTION LINE
- EXISTING DISTRIBUTION LINE
- ▨ DENSE VILLAGE
- ▤ SPARSE VILLAGE

0 1000 2000 3000
SCALE 1:50000

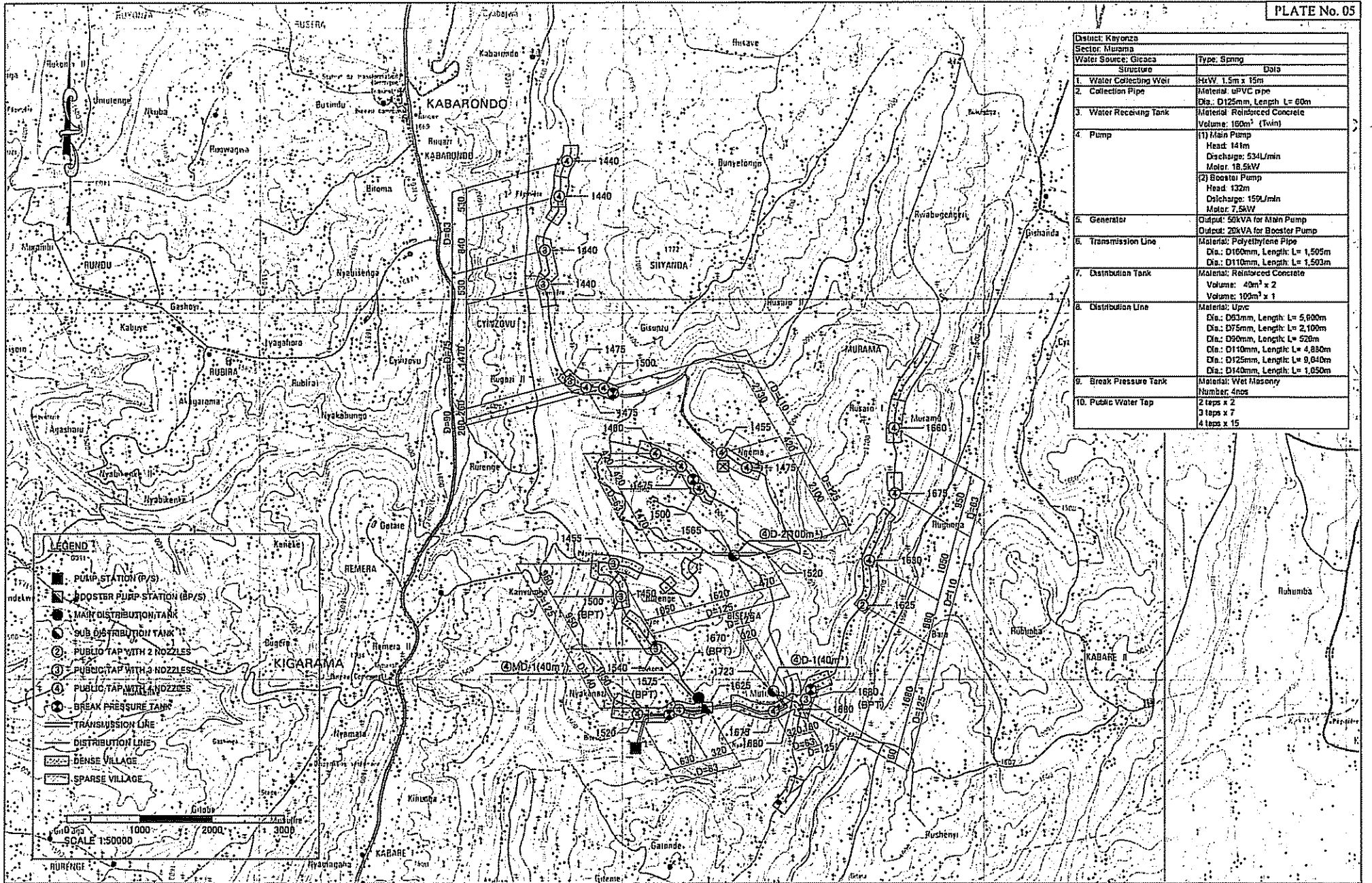
PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY		CONSULTANT		DRAWING TITLE	
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		NIPPON KOEI CO.,LTD.		SCALE 1:50000	DATE FEBRUARY 2006
					DRAWING NO. PW-002	

District: Kayanza	
Sector: Kabane	
Water Source: Urushara	Type: Groundwater
Structure	U25a
1. Viallet Collecting Well	HDV, m x m
2. Collection Pipe	Material: - Dia: 0mm, Length: L= m
3. Water Receiving Tank	Material: Vrel Masonry Volume: m ³
4. Pump	(1) Main Pump Head: 0m Discharge: 1200/m ³ Motor: 4kW (2) Booster Pump Head: Discharge: No Booster Pump Motor:
5. Generator	Output: Public Supply for Main Pump
6. Transmission Line	Material: Polyethylene Pipe Dia: D110mm, Length: L= 187m
7. Distribution Tank	Material:
8. Distribution Line	Material: UPVC Dia: D63mm, Length: L= 4,200m Dia: D75mm, Length: L= 1,400m Dia: D90mm, Length: L= 1,500m Dia: D110mm, Length: L= 3,400m Dia: D125mm, Length: L= 620m
9. Break Pressure Tank	Material: Vrel Masonry Number: none
10. Public Water Tap	3 Taps x 3 2 Taps x 6 4 Taps x 4

District: Kayanza	
Sector: Rwinkwavu	
Water Source: Gilinga	Type: Hand Pump
Structure	Data
1. Handpump (New)	Pump Type: Abidel Type Casing: Diameter: D110mm Length: 60m/Borehole Number: 8nos
2. Handpump (Rehabilitation)	Pump Type: Abidel Type Number: 2nos



THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT	DRAWING TITLE	
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA	NIPPON KOEI CO., LTD.	WATER SUPPLY SYSTEM (3)	
			SCALE	DATE
			1:50000	FEBRUARY 2006
				DRAWING NO.
				PW-003



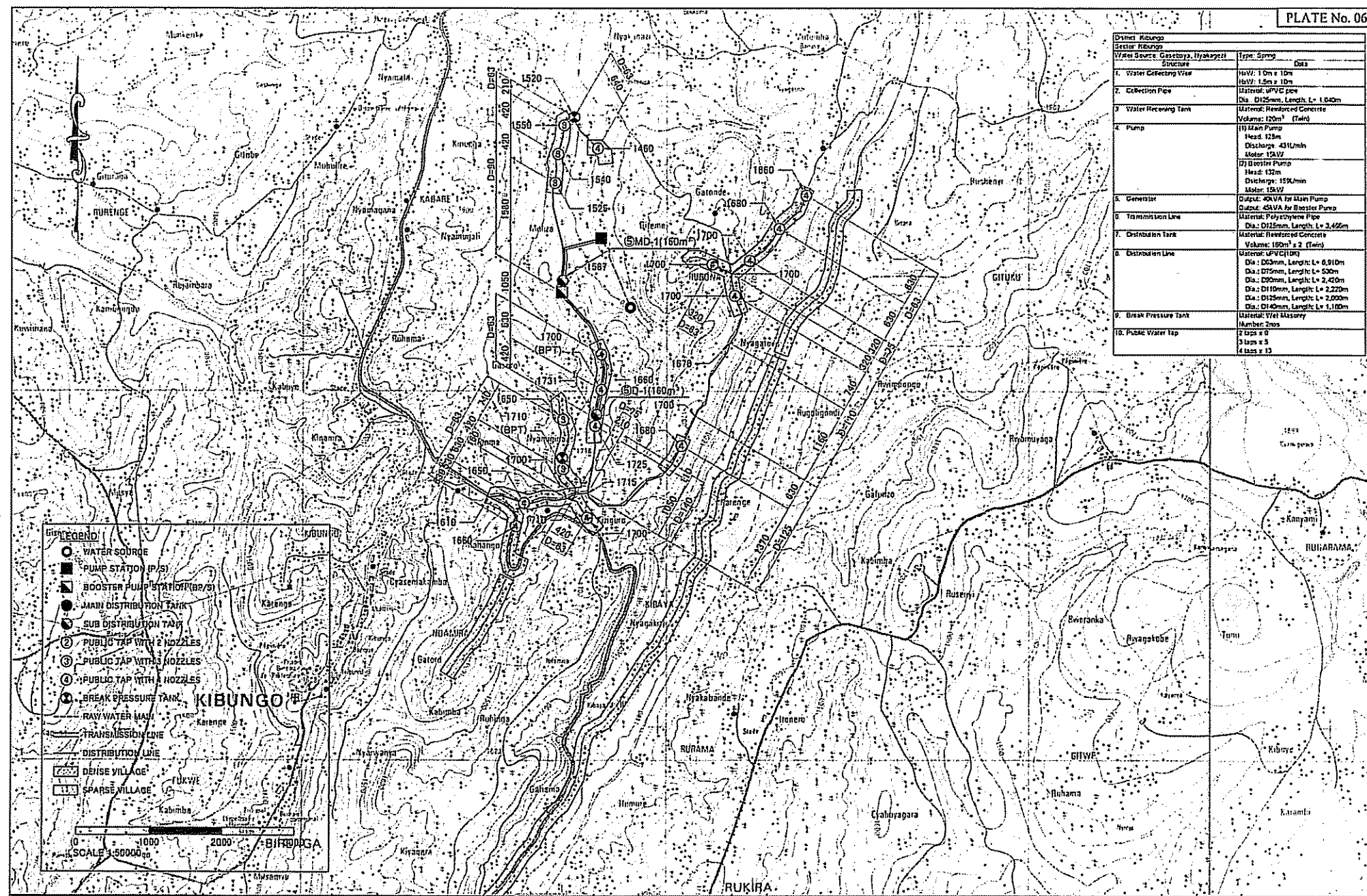
District: Kibanza		
Sector: Murama		
Water Source: Gicaca	Type: Spring	Date
1. Water Collecting Weir	MatW: 1.5m x 15m	
2. Collection Pipe	Material: uPVC pipe Dia: D125mm, Length L= 60m	
3. Water Receiving Tank	Material: Reinforced Concrete Volume: 160m ³ (Twin)	
4. Pump	1) Main Pump Head: 141m Discharge: 534l/min Motor: 18.5kW 2) Booster Pump Head: 132m Discharge: 159l/min Motor: 7.5kW	
5. Generator	Output: 50kVA for Main Pump Output: 20kVA for Booster Pump	
6. Transmission Line	Material: Polyethylene Pipe Dia: D160mm, Length L= 1,505m Dia: D110mm, Length L= 1,503m	
7. Distribution Tank	Material: Reinforced Concrete Volume: 40m ³ x 2 Volume: 100m ³ x 1	
8. Distribution Line	Material: Upvc Dia: D63mm, Length L= 5,600m Dia: D75mm, Length L= 2,100m Dia: D90mm, Length L= 520m Dia: D110mm, Length L= 4,880m Dia: D125mm, Length L= 9,040m Dia: D140mm, Length L= 1,050m	
9. Break Pressure Tank	Material: Wet Masonry Number: 4nos	
10. Public Water Tap	2 taps x 2 3 taps x 7 4 taps x 15	

LEGEND

- PUMP STATION (P/S)
- BOOSTER PUMP STATION (BP/S)
- MAIN DISTRIBUTION TANK
- SUB DISTRIBUTION TANK
- ② PUBLIC TAP WITH 2 NOZZLES
- ③ PUBLIC TAP WITH 3 NOZZLES
- ④ PUBLIC TAP WITH 4 NOZZLES
- BREAK PRESSURE TANK
- TRANSMISSION LINE
- DISTRIBUTION LINE
- ▨ DENSE VILLAGE
- ▨ SPARSE VILLAGE

SCALE 1:50000

PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY		CONSULTANT		DRAWING TITLE	
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		NIPPON KOEI CO.,LTD.		SCALE	DATE
				1:50000	FEBRUARY 2006	DRAWING NO. PW-004



Detail Kibungo	
Sector Kibungo	
Water Source	Structure
1. Water Collecting Vase	Type: Spring Dia: 1.5m x 1.0m
2. Collection Pipe	Material: UPVC pipe Dia: Ø125mm, Length: L= 1.60m
3. Water Retaining Tank	Material: Reinforced Concrete Volume: 120m ³ (Field)
4. Pump	(I) Main Pump Head: 123m Discharge: 43 l/min Motor: 15kW (II) Booster Pump Head: 132m Discharge: 155 l/min Motor: 15kW
5. Generator	Output: 40kVA for Main Pump Output: 45kVA for Booster Pump
6. Transmission Line	Material: Polyethylene Pipe Dia: Ø125mm, Length: L= 3,466m
7. Distribution Tank	Material: Reinforced Concrete Volume: 160m ³ x 2 (Twin)
8. Distribution Line	Material: UPVC (IDP) Dia: Ø200mm, Length: L= 6,910m Dia: Ø175mm, Length: L= 530m Dia: Ø200mm, Length: L= 2,420m Dia: Ø110mm, Length: L= 2,220m Dia: Ø125mm, Length: L= 2,000m Dia: Ø140mm, Length: L= 1,100m
9. Break Pressure Tank	Material: Brick Masonry Number: 2nos
10. Public Water Tap	2 taps x Ø 3 taps x 5 4 taps x 13

LEGEND

- WATER SOURCE
- PUMP STATION (P/S)
- BOOSTER PUMP STATION (BP/S)
- MAIN DISTRIBUTION TANK
- SUB DISTRIBUTION TANK
- ② PUBLIC TAP WITH 2 NOZZLES
- ③ PUBLIC TAP WITH 3 NOZZLES
- ④ PUBLIC TAP WITH 4 NOZZLES
- ⊙ BREAK PRESSURE TANK
- RAW WATER MAIN
- TRANSMISSION LINE
- DISTRIBUTION LINE
- ▭ DENSE VILLAGE
- ▭ SPARSE VILLAGE

SCALE 1:50000

PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE WATER SUPPLY SYSTEM (5)		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:50000	DATE FEBRUARY 2006	DRAWING NO. PW-005

Sl. No.	Structure	Specs	Remarks
1	Water Collecting Well	Depth: 20m x 10m Diameter: 1.5m x 2.0m	
2	Collection Pipe	Material: UPVC pipe Dia: Ø125mm, Length: 1.10m	
3	Water Raising Tank	Material: Reinforced Concrete Volume: 100m ³ x 2nos, 100m ³ (1 nos) Volume: 100m ³ x 2nos, 200m ³ (1 nos)	
4	Pump	(1) Main Pump in Pharoane Head: 22m Discharge: 250L/min Motor: 18 kW (2) Water Pump in Kababwero Head: 10m Discharge: 570L/min Motor: 30kW	
5	Generator	Output: 18 kW Output: 220V for Electric Pump	
6	Transmission Line	Material: Polyethylene Pipe Dia: Ø120mm, Length: 1 x 2,350m Dia: Ø120mm, Length: 1 x 1,925m	
7	Distribution Line	Material: Reinforced Concrete Volume: 100m ³ Volume: 200m ³ (1 nos)	
8	Distribution Line	Material: UPVC Dia: Ø125mm, Length: 1 x 2,500m Dia: Ø125mm, Length: 1 x 1,700m Dia: Ø125mm, Length: 1 x 1,210m	
9	Break Pressure Tank	Material: Reinforced Concrete Capacity: 2nos x 2 2 nos x 0 1 nos x 0	
10	Public Water Tap	2 nos x 2 3 nos x 0 1 nos x 0	

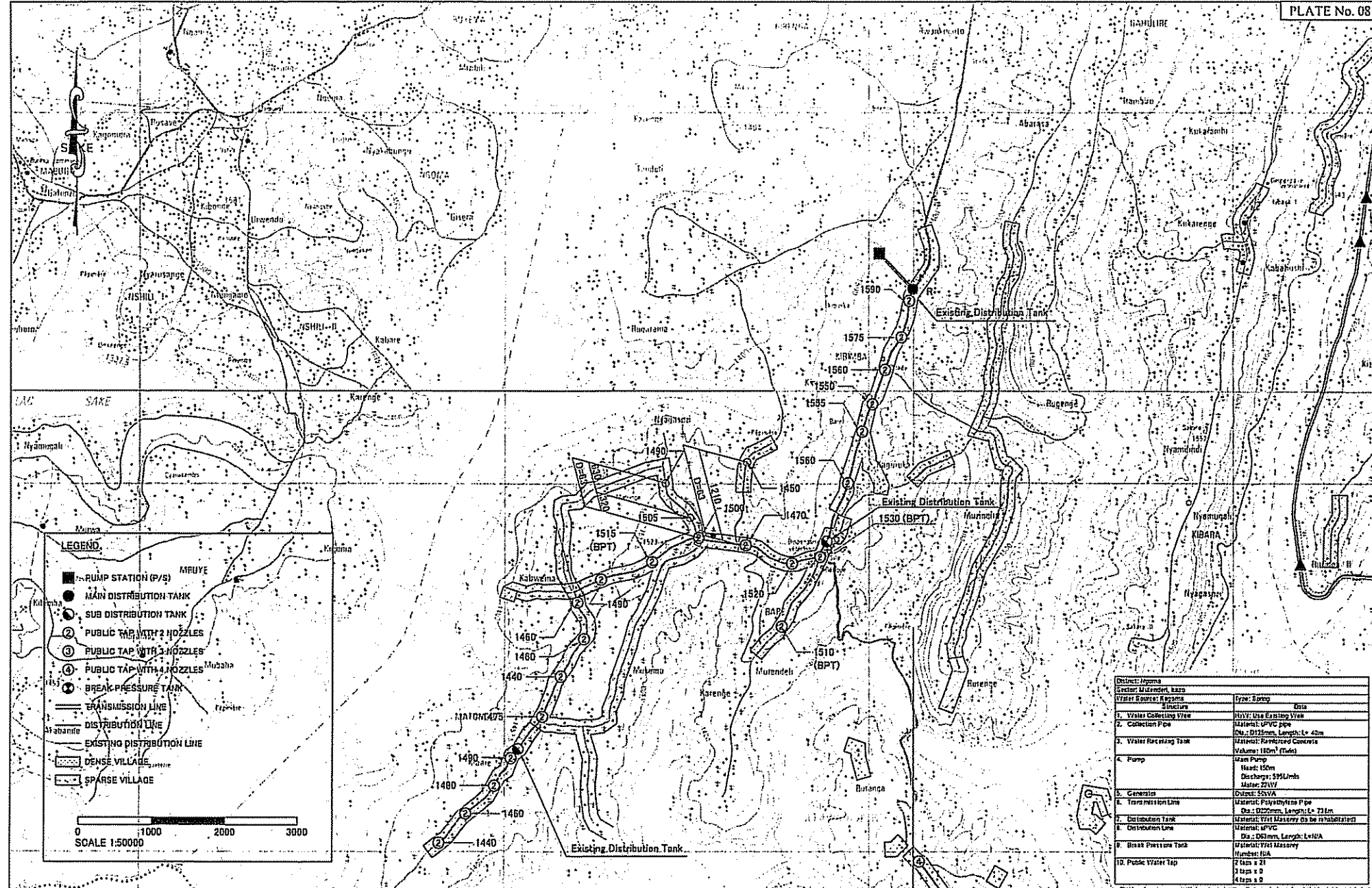


LEGEND

- PUMP STATION (P/S)
- MAIN DISTRIBUTION TANK
- SUB DISTRIBUTION TANK
- ② PUBLIC TAP WITH 2 NOZZLES
- ③ PUBLIC TAP WITH 3 NOZZLES
- ④ PUBLIC TAP WITH 4 NOZZLES
- ⊙ BREAK PRESSURE TANK
- TRANSMISSION LINE
- DISTRIBUTION LINE
- EXISTING DISTRIBUTION LINE
- ▨ DENSE VILLAGE
- ▩ SPARSE VILLAGE

Scale: 1:50,000
0 1000 2000 3000

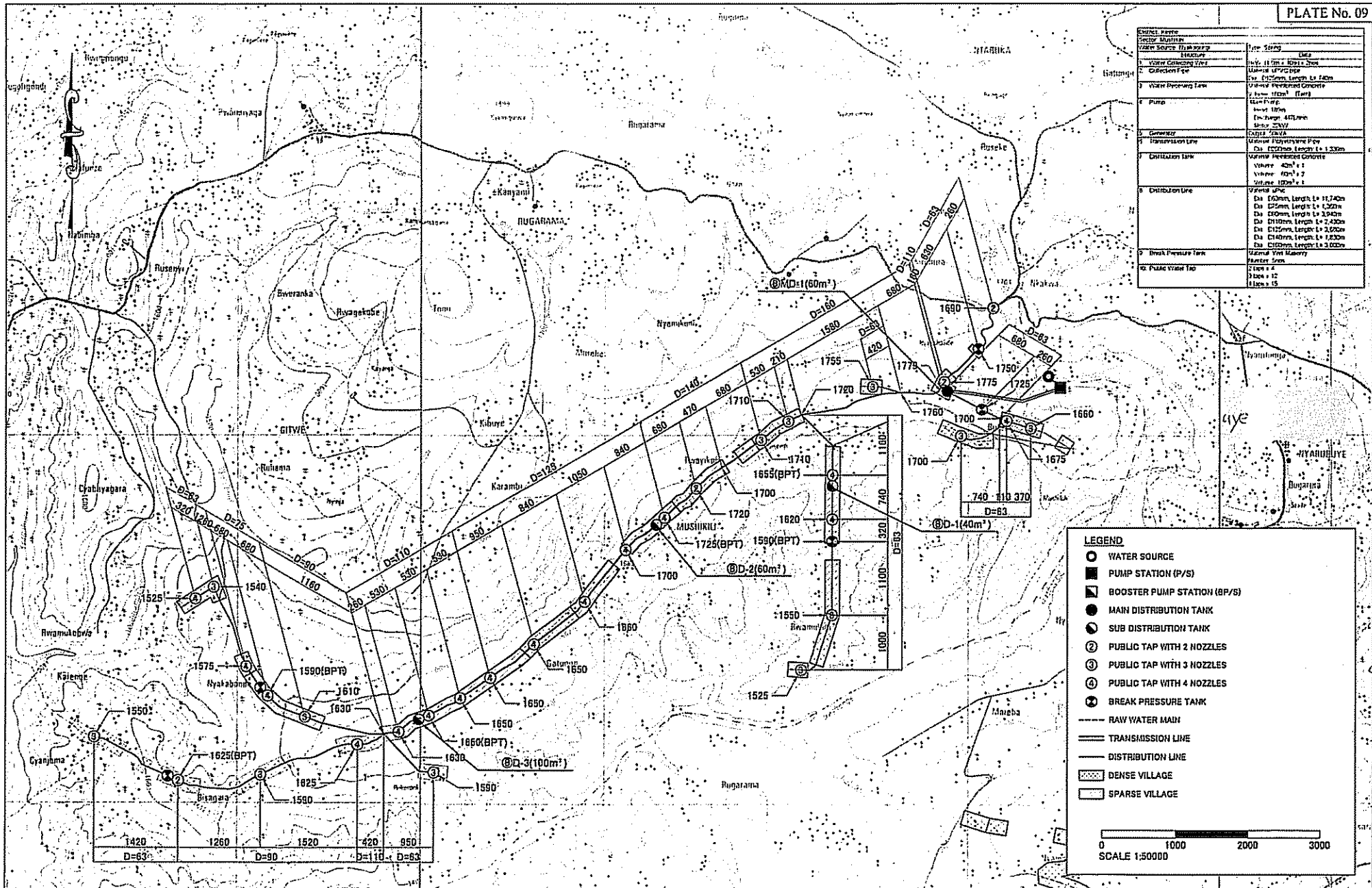
THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT	DRAWING TITLE		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA	NIPPON KOEI CO., LTD.	WATER SUPPLY SYSTEM (6)		
			SCALE	DATE	DRAWING NO.
			1:50000	FEBRUARY 2006	PW-006



Item No.	Description	Material	Quantity	Unit
1.	Water Collecting Vessel	Poly: Use Existing Vessel		
2.	Collection Pipe	Material: UPVC pipe	Di: 112.5mm, Length: L= 42m	
3.	Water Raising Tank	Material: Reinforced Concrete	Volume: 180m ³ (Twp)	
4.	Pump	Man Pump	Head: 100m	
		Discharge: 595L/min		
		Motor: 22KW		
5.	Generator	Output: 50kVA		
6.	Transmission Line	Material: Polyethylene Pipe	Di: 100mm, Length: L= 720m	
7.	Distribution Tank	Material: Brick Masonry to be rehabilitated		
8.	Distribution Line	Material: UPVC	Di: 110mm, Length: L= 1.6km	
9.	Break Pressure Tank	Material: Brick Masonry	Head: 20m	
10.	Public Water Tap		2 taps x 2l 3 taps x 0 4 taps x 0	

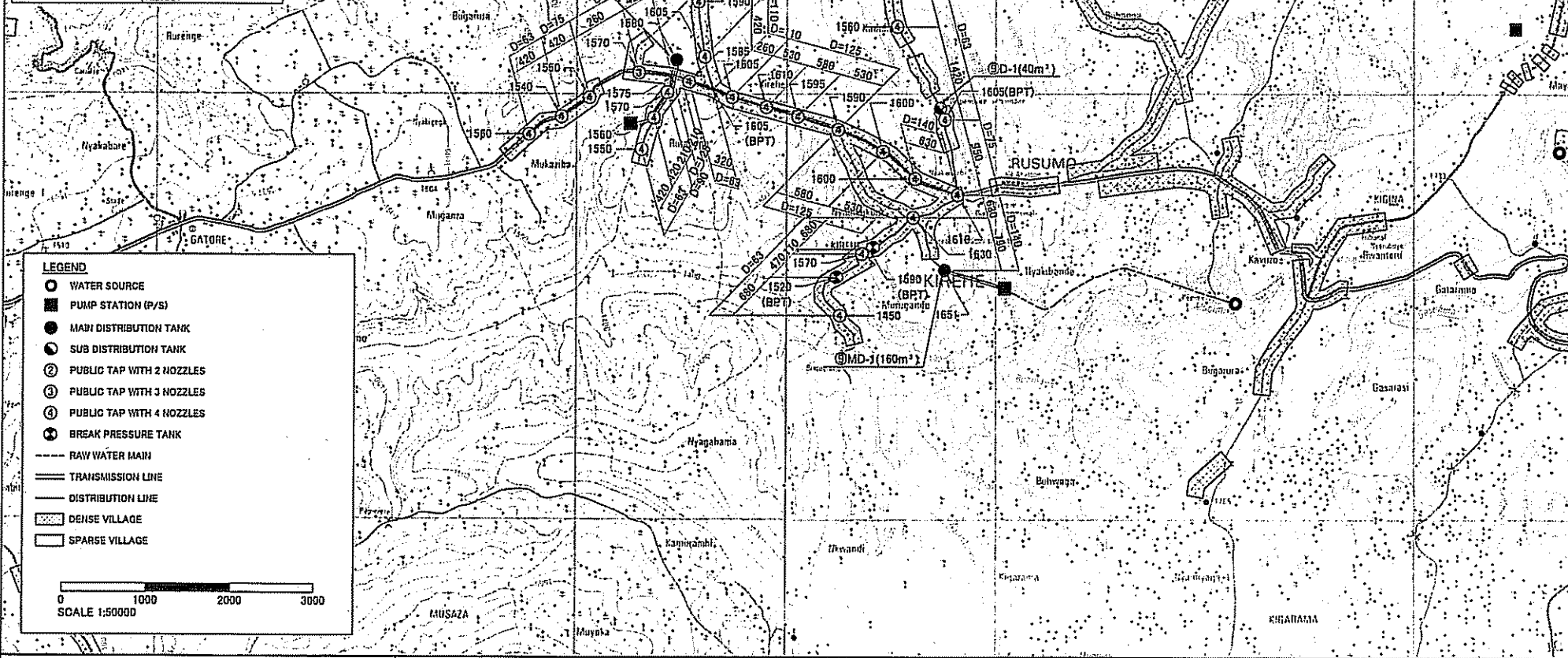
PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	CONSULTANT JAPAN INTERNATIONAL COOPERATION AGENCY		DRAWING TITLE WATER SUPPLY SYSTEM (7)	
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:50000	
	NIPPON KOEI CO., LTD.		DATE FEBRUARY 2006	DRAWING NO. PW-007

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
1	Water Source	Structure	1
2	Water Collecting Tank	Capacity 40m ³ Tank	1
3	Water Processing Tank	Capacity 40m ³ Tank	1
4	Pump	Capacity 40m ³ /hr	1
5	Transmission Line	Capacity 1000m ³ /hr	1.2km
6	Distribution Line	Capacity 100m ³ /hr	1.2km
7	Break Pressure Tank	Capacity 100m ³ Tank	1
8	Public Water Tap	Capacity 100m ³ /hr	15



PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE WATER SUPPLY SYSTEM (8)		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:50000	DATE FEBRUARY 2006	DRAWING NO. PW-008

Code	Detail	Unit	Quantity
1	Water Treatment Plant	1	1
2	Collection Pipe	m	1000
3	Water Mains	m	2000
4	Pump	1	1
5	Overhead Tank	1	1
6	Transmission Line	m	1000
7	Distribution Line	m	2000
8	Break Pressure Tank	1	1
9	Public Water Tap	1	100



LEGEND

- WATER SOURCE
- PUMP STATION (P/S)
- MAIN DISTRIBUTION TANK
- SUB DISTRIBUTION TANK
- ② PUBLIC TAP WITH 2 NOZZLES
- ③ PUBLIC TAP WITH 3 NOZZLES
- ④ PUBLIC TAP WITH 4 NOZZLES
- ⊕ BREAK PRESSURE TANK
- RAW WATER MAIN
- TRANSMISSION LINE
- - - DISTRIBUTION LINE
- ▨ DENSE VILLAGE
- ▩ SPARSE VILLAGE

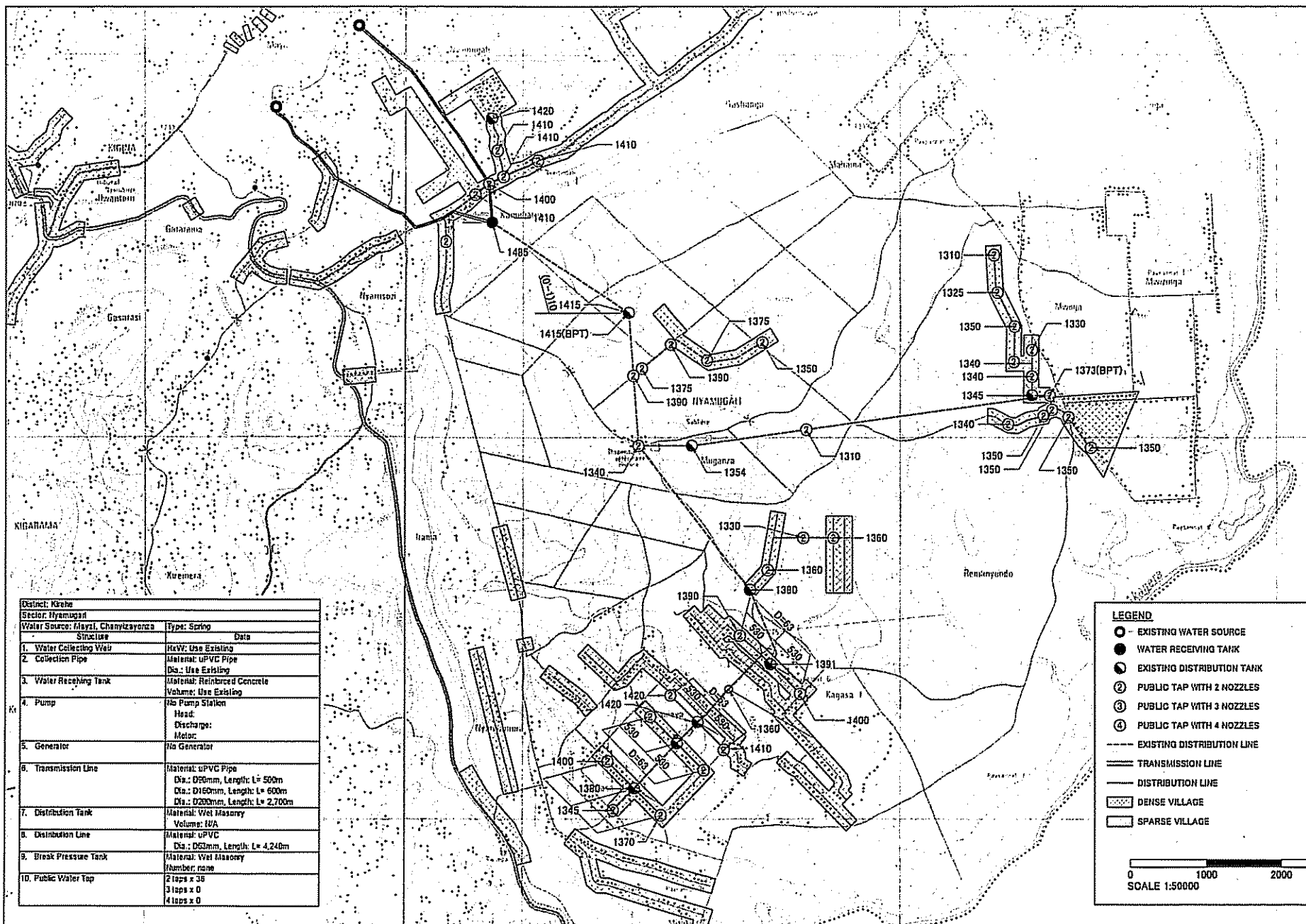
0 1000 2000 3000
SCALE 1:50000

THE PROJECT FOR RURAL WATER SUPPLY

JAPAN INTERNATIONAL COOPERATION AGENCY
MINISTRY OF LAND, ENVIRONMENT, FORESTRY,
WATER AND MINES
THE REPUBLIC OF RWANDA

CONSULTANT
NIPPON KOEI CO., LTD.

DRAWING TITLE		
WATER SUPPLY SYSTEM (9)		
SCALE	DATE	DRAWING NO.
1:50000	FEBRUARY 2006	PW-009



District: Kibye	
Sector: Nyamugali	
Water Source: Muzi, Chamuzavonza	
Type: Spring	
Sinuasiue	
Date	
1. Water Collecting Well	RevV: Use Existing
2. Collection Pipe	Material: uPVC Pipe Dia.: Use Existing
3. Water Receiving Tank	Material: Reinforced Concrete Volume: Use Existing
4. Pump	No Pump Station Head: Discharge: Motor:
5. Generator	No Generator
6. Transmission Line	Material: uPVC Pipe Dia.: D200mm, Length: L= 500m Dia.: D150mm, Length: L= 600m Dia.: D200mm, Length: L= 2,700m
7. Distribution Tank	Material: Wet Masonry Volume: 10A
8. Distribution Line	Material: uPVC Dia.: D50mm, Length: L= 4,240m
9. Break Pressure Tank	Material: Wet Masonry Number: none
10. Public Water Tap	2 taps x 3B 3 taps x 0 4 taps x 0

LEGEND

- EXISTING WATER SOURCE
- WATER RECEIVING TANK
- EXISTING DISTRIBUTION TANK
- ② PUBLIC TAP WITH 2 NOZZLES
- ③ PUBLIC TAP WITH 3 NOZZLES
- ④ PUBLIC TAP WITH 4 NOZZLES
- EXISTING DISTRIBUTION LINE
- TRANSMISSION LINE
- DISTRIBUTION LINE
- ▨ DENSE VILLAGE
- ▭ SPARSE VILLAGE

0 1000 2000 3000
SCALE 1:50000

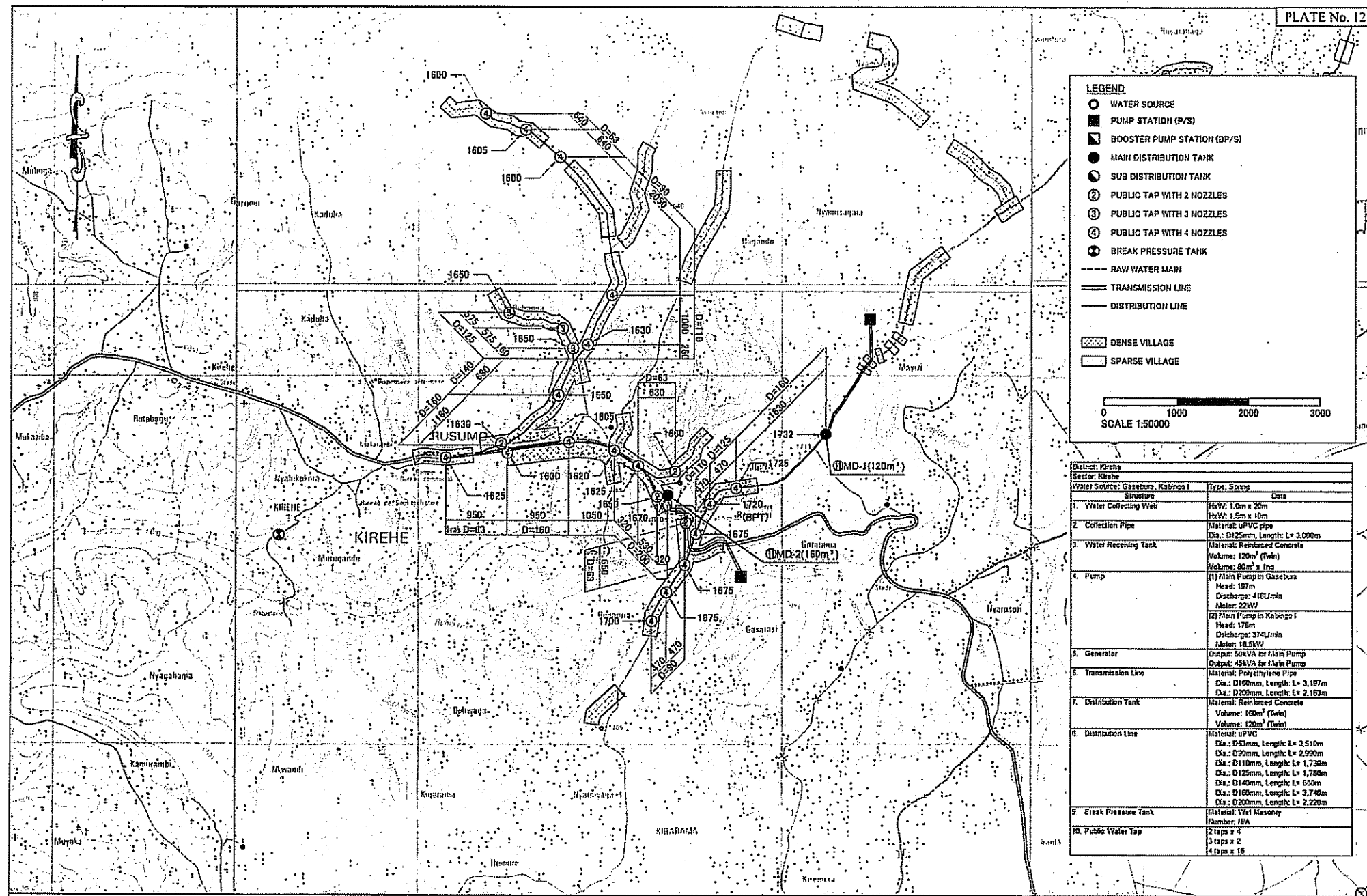
PROJECT NAME
THE PROJECT FOR RURAL WATER SUPPLY

JAPAN INTERNATIONAL COOPERATION AGENCY
MINISTRY OF LAND, ENVIRONMENT, FORESTRY,
WATER AND MINES
THE REPUBLIC OF RWANDA

CONSULTANT
NIPPON KOEI CO.,LTD.

DRAWING TITLE
WATER SUPPLY SYSTEM (10)

SCALE 1:50000	DATE FEBRUARY 2006	DRAWING NO. PW-010
------------------	-----------------------	-----------------------



LEGEND

- WATER SOURCE
- PUMP STATION (P/S)
- ▣ BOOSTER PUMP STATION (BP/S)
- MAIN DISTRIBUTION TANK
- ⊙ SUB DISTRIBUTION TANK
- ② PUBLIC TAP WITH 2 NOZZLES
- ③ PUBLIC TAP WITH 3 NOZZLES
- ④ PUBLIC TAP WITH 4 NOZZLES
- ⊕ BREAK PRESSURE TANK
- RAW WATER MAIN
- ==== TRANSMISSION LINE
- DISTRIBUTION LINE
- ▨ DENSE VILLAGE
- ▩ SPARSE VILLAGE

0 1000 2000 3000
SCALE 1:50000

District: Kirehe	
Sector: Kirehe	
Water Source: Gaseburu, Kabingo I	Type: Spring
Structure	Data
1. Water Collecting Well	HxW: 1.0m x 20m HxW: 1.5m x 10m
2. Collection Pipe	Material: uPVC pipe Dia.: Ø125mm, Length: L= 3.000m
3. Water Receiving Tank	Material: Reinforced Concrete Volume: 120m ³ (twin) Volume: 80m ³ (twin)
4. Pump	(1) Main Pump in Gaseburu Head: 197m Discharge: 416L/min Motor: 22kW (2) Main Pump in Kabingo I Head: 175m Discharge: 374L/min Motor: 18.5kW
5. Generator	Output: 50KVA for Main Pump Output: 45KVA for Main Pump
6. Transmission Line	Material: Polyethylene Pipe Dia.: Ø160mm, Length: L= 3.197m Dia.: Ø200mm, Length: L= 2.163m
7. Distribution Tank	Material: Reinforced Concrete Volume: 160m ³ (twin) Volume: 120m ³ (twin)
8. Distribution Line	Material: uPVC Dia.: Ø51mm, Length: L= 3.510m Dia.: Ø90mm, Length: L= 2.920m Dia.: Ø110mm, Length: L= 1.730m Dia.: Ø125mm, Length: L= 1.760m Dia.: Ø140mm, Length: L= 6.90m Dia.: Ø160mm, Length: L= 3.740m Dia.: Ø200mm, Length: L= 2.220m
9. Break Pressure Tank	Material: Wet Masonry Number: N/A
10. Public Water Tap	2 taps x 4 3 taps x 2 4 taps x 16

PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE WATER SUPPLY SYSTEM (11)	
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:50000	DATE FEBRUARY 2006

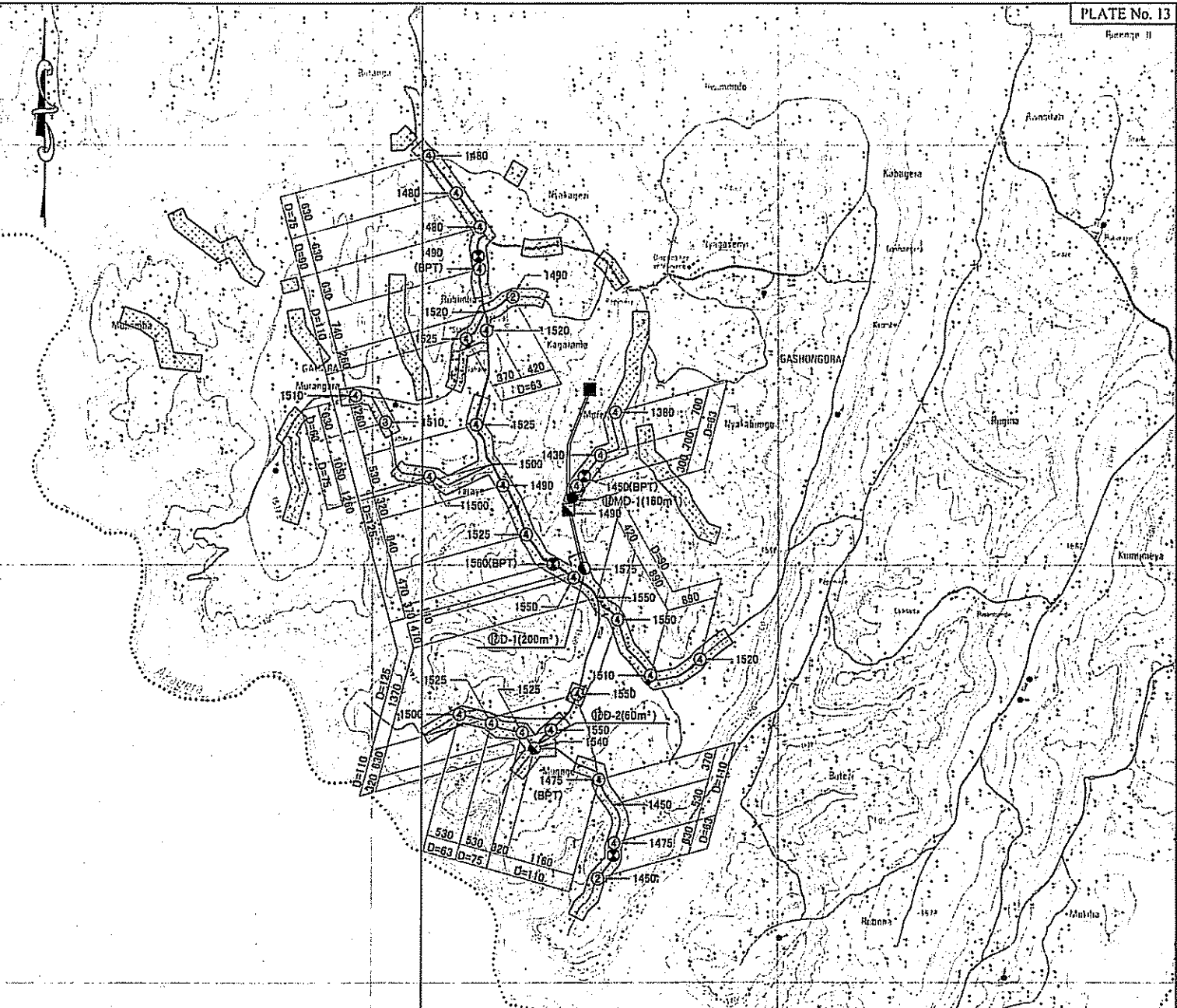
LEGEND

- WATER SOURCE
- PUMP STATION (P/S)
- ▣ BOOSTER PUMP STATION (BP/S)
- MAIN DISTRIBUTION TANK
- SUB DISTRIBUTION TANK
- ② PUBLIC TAP WITH 2 NOZZLES
- ③ PUBLIC TAP WITH 3 NOZZLES
- ④ PUBLIC TAP WITH 4 NOZZLES
- ⊗ BREAK PRESSURE TANK

--- RAW WATER MAIN
 — TRANSMISSION LINE
 — DISTRIBUTION LINE

▨ DENSE VILLAGE
 ▩ SPARSE VILLAGE

0 1000 2000 3000
 SCALE 1:50000



THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE WATER SUPPLY SYSTEM (12)		
				SCALE 1:50000	DATE FEBRUARY 2006

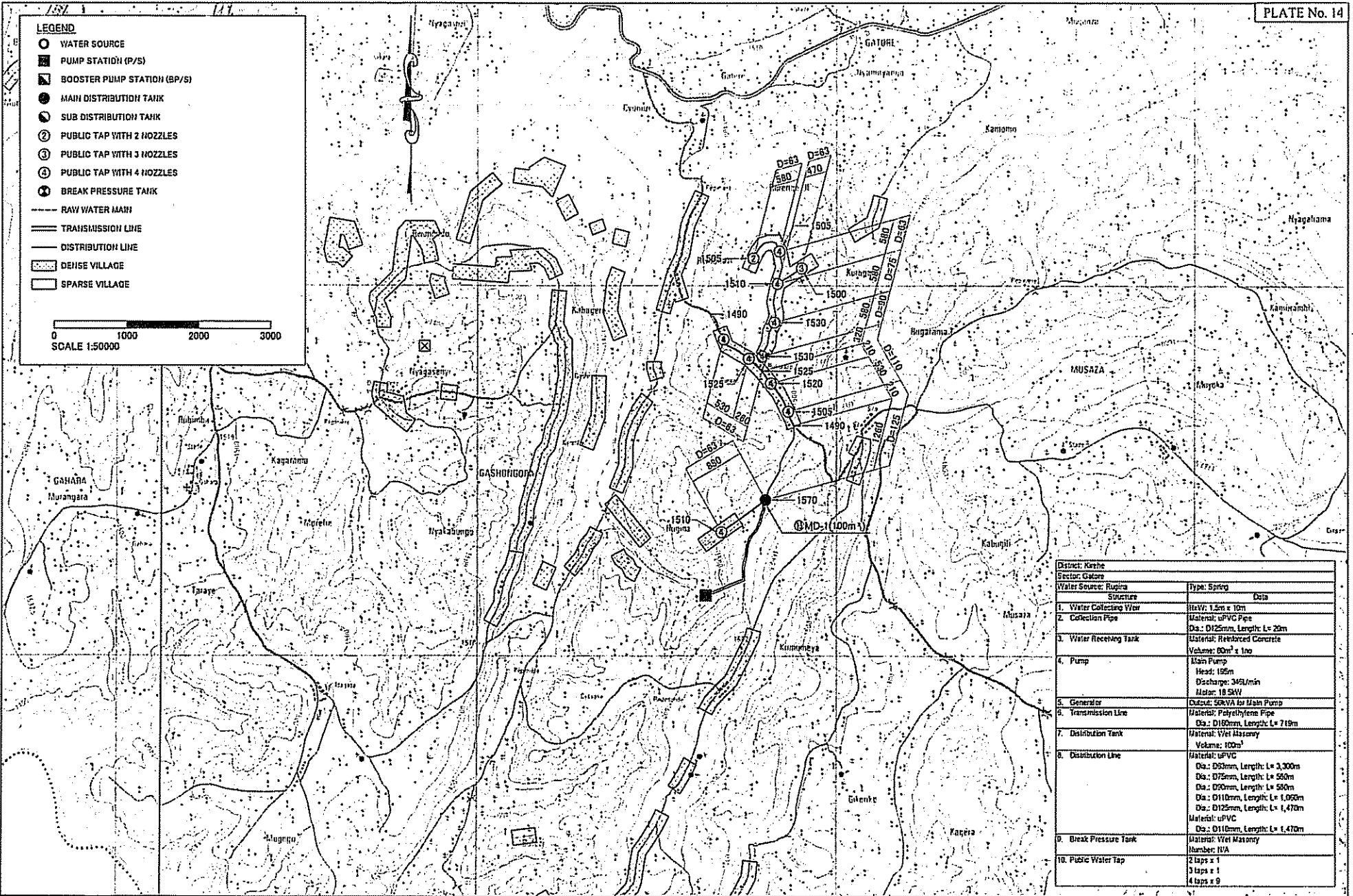
LEGEND

- WATER SOURCE
- ⊠ PUMP STATION (P/S)
- ⊠ BOOSTER PUMP STATION (BP/S)
- MAIN DISTRIBUTION TANK
- SUB DISTRIBUTION TANK
- ② PUBLIC TAP WITH 2 NOZZLES
- ③ PUBLIC TAP WITH 3 NOZZLES
- ④ PUBLIC TAP WITH 4 NOZZLES
- ⊙ BREAK PRESSURE TANK

--- RAW WATER MAIN
 === TRANSMISSION LINE
 --- DISTRIBUTION LINE

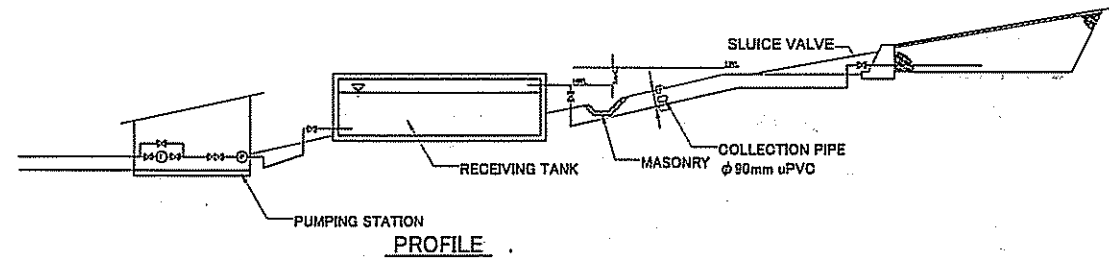
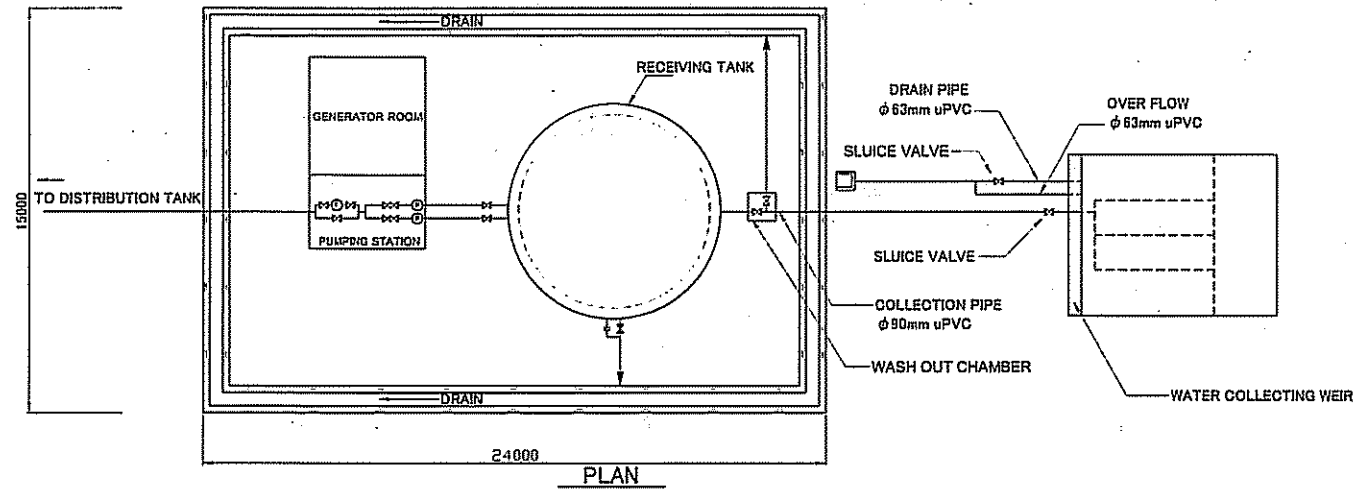
▨ DENSE VILLAGE
 □ SPARSE VILLAGE

0 1000 2000 3000
 SCALE 1:50000

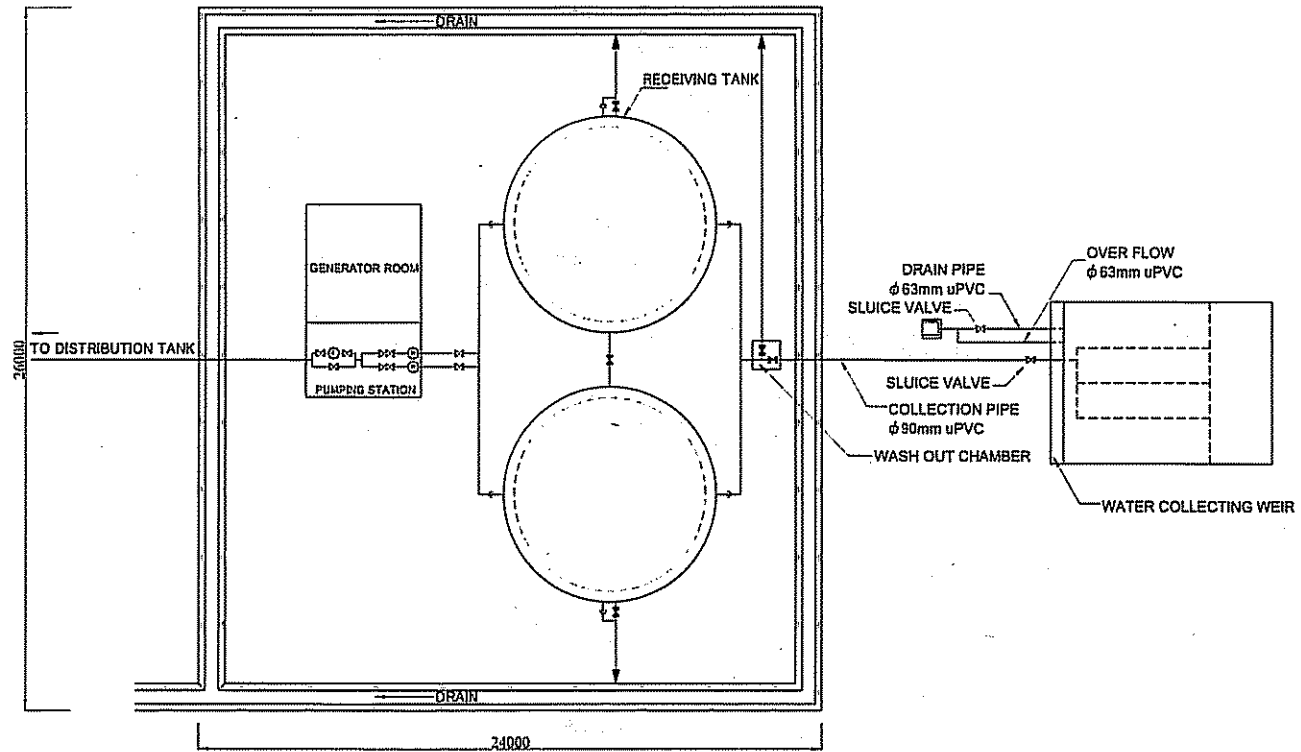


District: Kabhe	
Sector: Gatore	
Water Source: Ruzira	Type: Spring
Structure	
1. Water Collecting Vitr	Size: 1.5m x 10m
2. Collection Pipe	Material: uPVC Pipe Dia.: D125mm, Length: L= 25m
3. Water Rectifying Tank	Material: Reinforced Concrete Volume: 60m ³ x 1no
4. Pump	Main Pump Head: 15m Discharge: 345L/min Motor: 18 KW
5. Generator	Output: 50kVA for Main Pump
6. Transmission Line	Material: Polyethylene Pipe Dia.: D150mm, Length: L= 719m
7. Distribution Tank	Material: Wet Masonry Volume: 100m ³
8. Distribution Line	Material: uPVC Dia.: D52mm, Length: L= 3,300m Dia.: D75mm, Length: L= 500m Dia.: D90mm, Length: L= 500m Dia.: D110mm, Length: L= 1,090m Dia.: D125mm, Length: L= 1,470m Material: uPVC Dia.: D110mm, Length: L= 1,470m
9. Break Pressure Tank	Material: Wet Masonry Number: 1/A
10. Public Water Tap	2 taps x 1 3 taps x 1 4 taps x 9

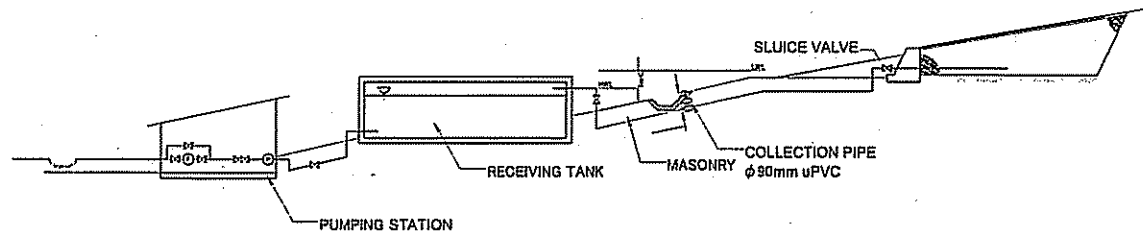
THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE WATER SUPPLY SYSTEM (13)	
			SCALE 1:50000	DATE FEBRUARY 2006



PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO.,LTD.	DRAWING TITLE COLLECTING WEIR AND CONNECTING PIPE(1)		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE NONE	DATE FEBRUARY 2006	DRAWING NO. PW-014



PLAN



PROFILE

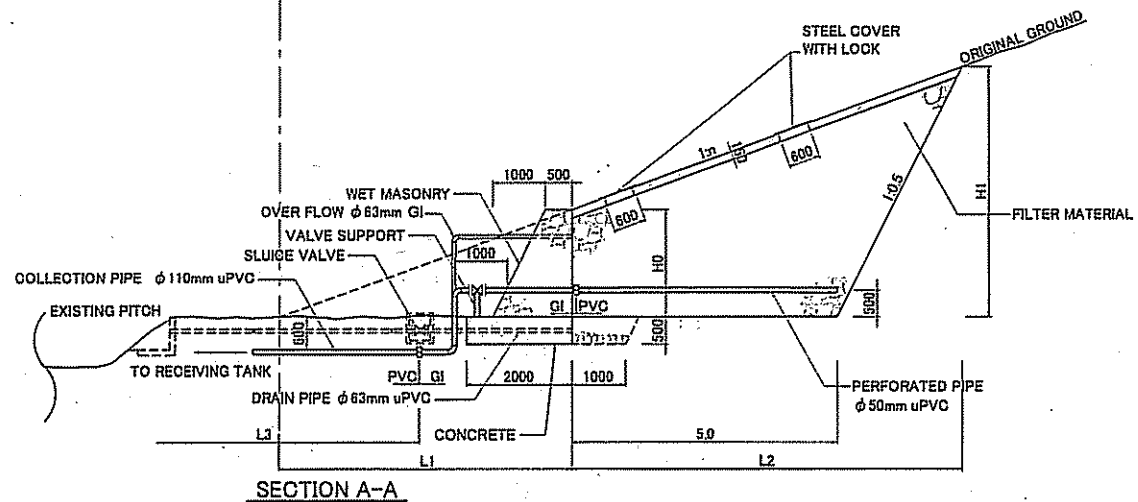
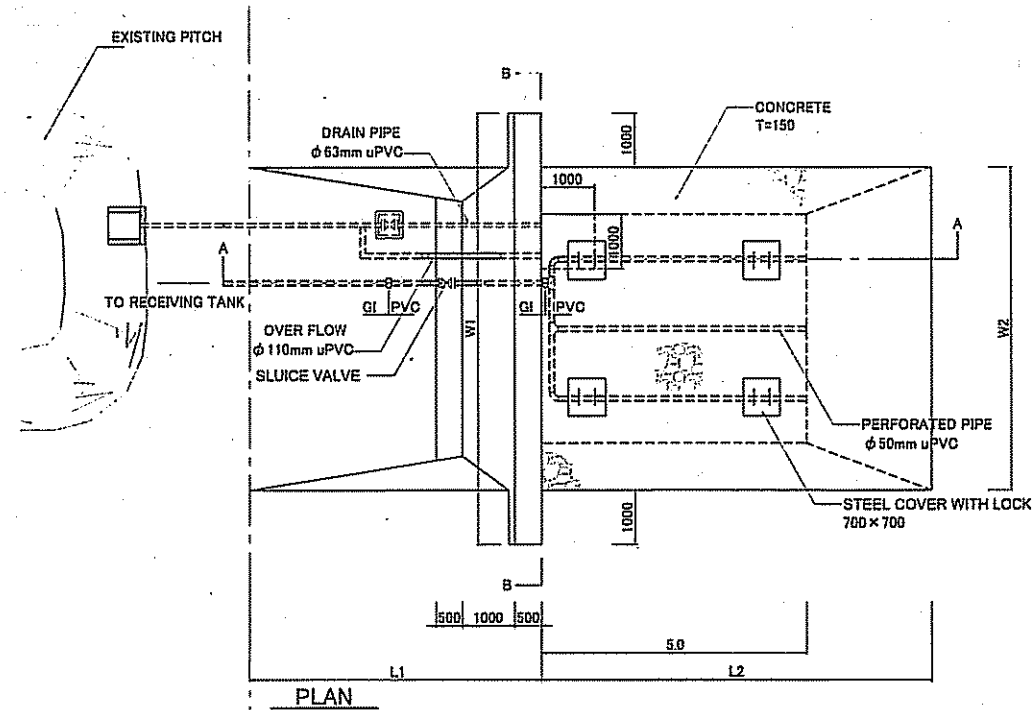
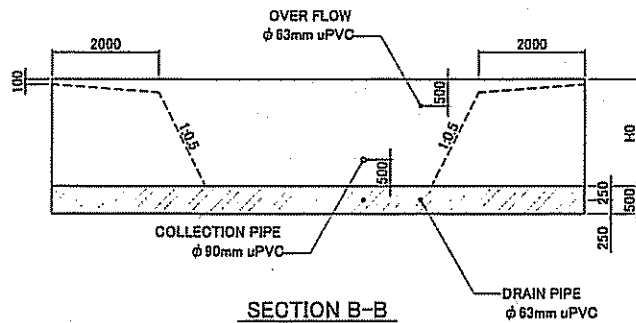
PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO.,LTD.	DRAWING TITLE COLLECTING WEIR AND CONNECTING PIPE(2)		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE NONE	DATE FEBRUARY 2006	DRAWING NO. PW-015

TABLE OF DIMENSION

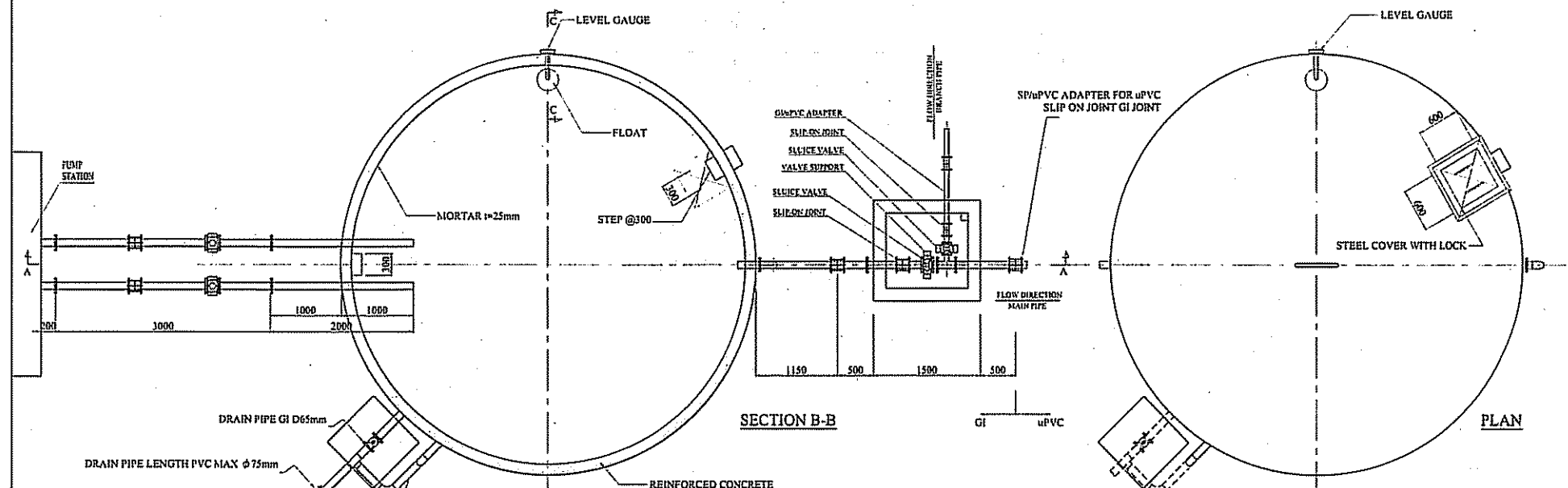
Site	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Mark	Rwakibogo	Gicaca	Gasebaya	Iyakageza	Rwanuzene	Kabadeza	Kagoma	Flyakagongi-I
n	10.0	15.0	20.0	10.0	5.0	10.0	10.0	11.0
W1	20.0	15.0	10.0	10.0	10.0	20.0	20.0	10.0
W2	18.0	13.0	8.0	8.0	8.0	18.0	18.0	8.0
H0	2.0	1.5	1.0	1.5	2.0	1.5	2.0	1.0
H1	2.6	1.9	1.2	2.1	3.3	1.9	2.0	1.5
L1	25.0	27.5	35.0	20.0	15.0	29.0	25.0	16.0
L2	0.3	5.9	5.8	8.1	6.7	5.9	6.3	5.8
L3	60.0	60.0	100.0	40.0	100.0	70.0	40.0	50.0
R/C	HDS	-	-	-	-	-	-	-

Site	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Mark	Flyakagongi-2	Gahama	Mugunika	Kabingo	Gasebura	Gaharado	Rugwa	-
n	18.0	10.0	5.0	4.0	4.0	28.0	5.0	-
W1	10.0	20.0	10.0	10.0	10.0	10.0	10.0	-
W2	8.0	18.0	8.0	8.0	8.0	8.0	8.0	-
H0	1.0	1.0	1.5	1.5	1.5	1.0	1.5	-
H1	1.3	1.0	2.9	3.1	3.1	1.2	2.8	-
L1	23.0	15.0	12.5	11.0	11.0	33.0	12.5	-
L2	5.7	5.8	6.4	6.8	6.8	5.6	6.4	-
L3	89.0	40.0	28.0	30.0	39.0	120.0	20.0	-
R/C	HDS	2	-	-	-	-	-	-
A/V/C	HDS	2	-	-	-	-	-	-
B/O/C	HDS	2	-	-	-	-	-	-

Note: R/C RIVER CROSSING
A/V/C AIR VALVE CHAMBER
B/O/C BLOW OFF CHAMBER

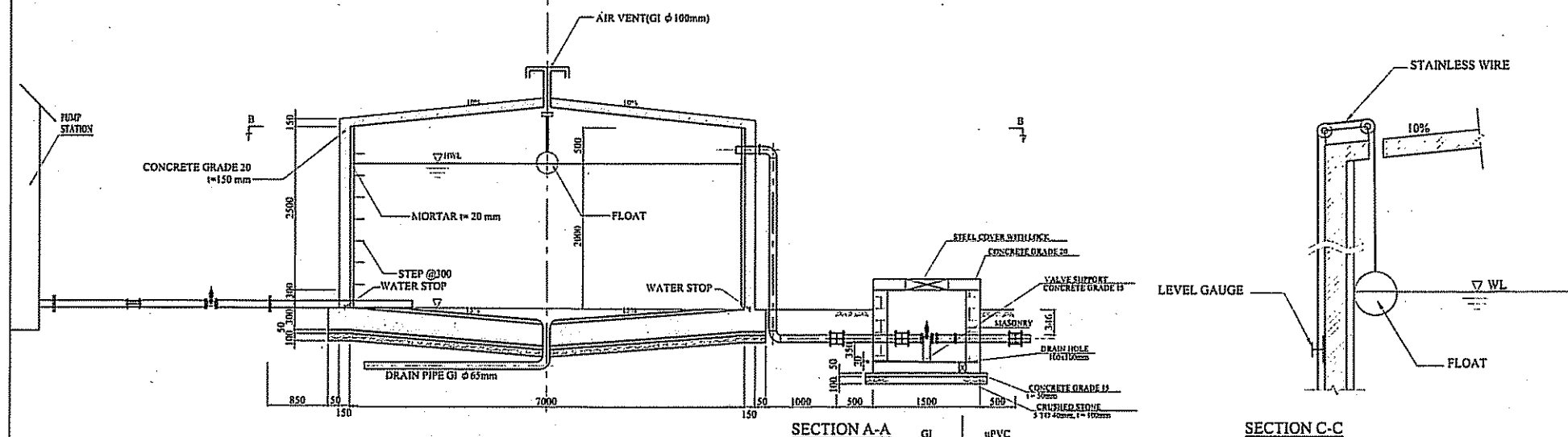


PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO.,LTD.	DRAWING TITLE COLLECTING WEIR AND CONNECTING PIPE(3)		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:100	DATE FEBRUARY 2006	DRAWING NO. PW-016



SECTION B-B

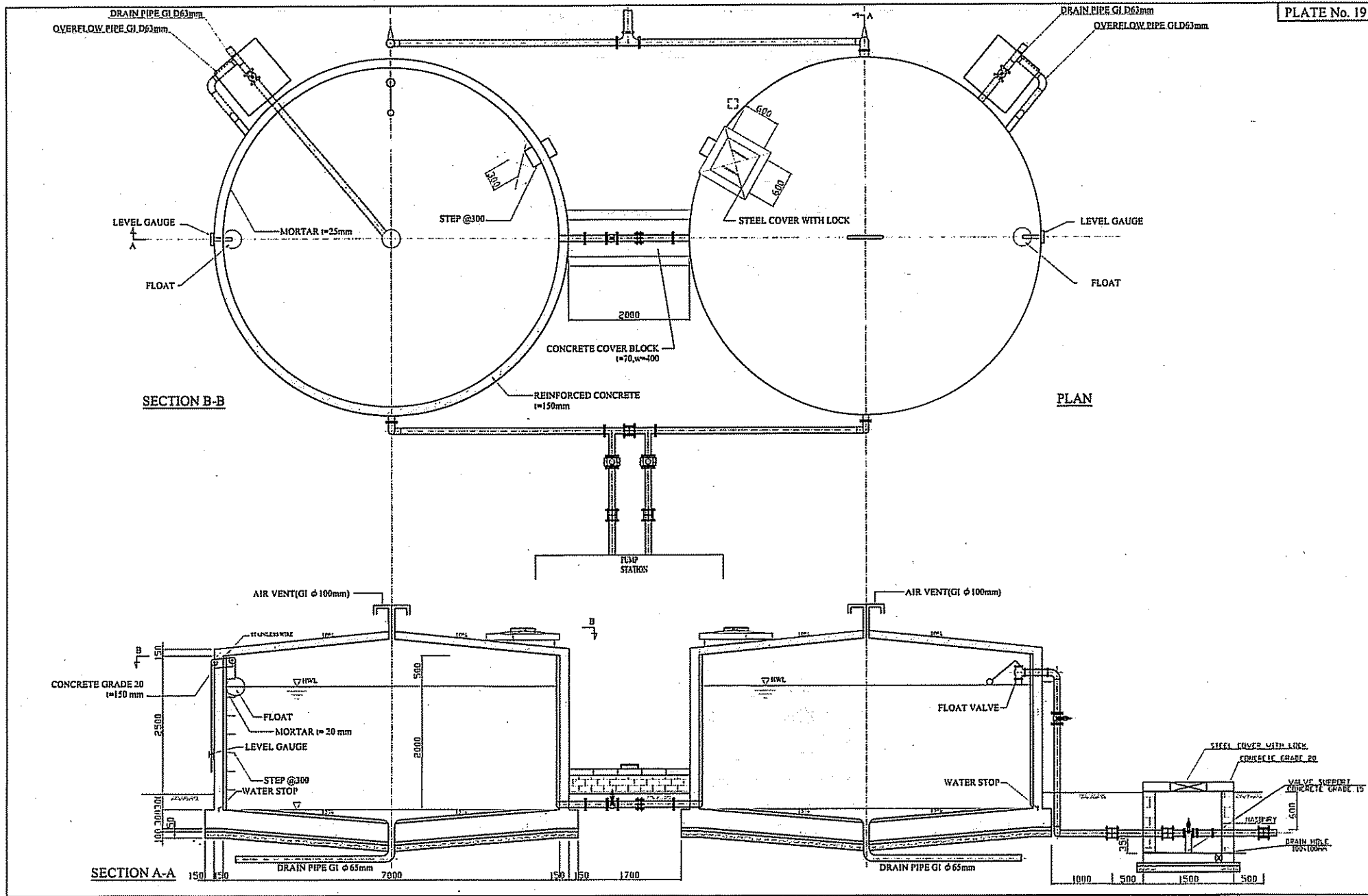
PLAN



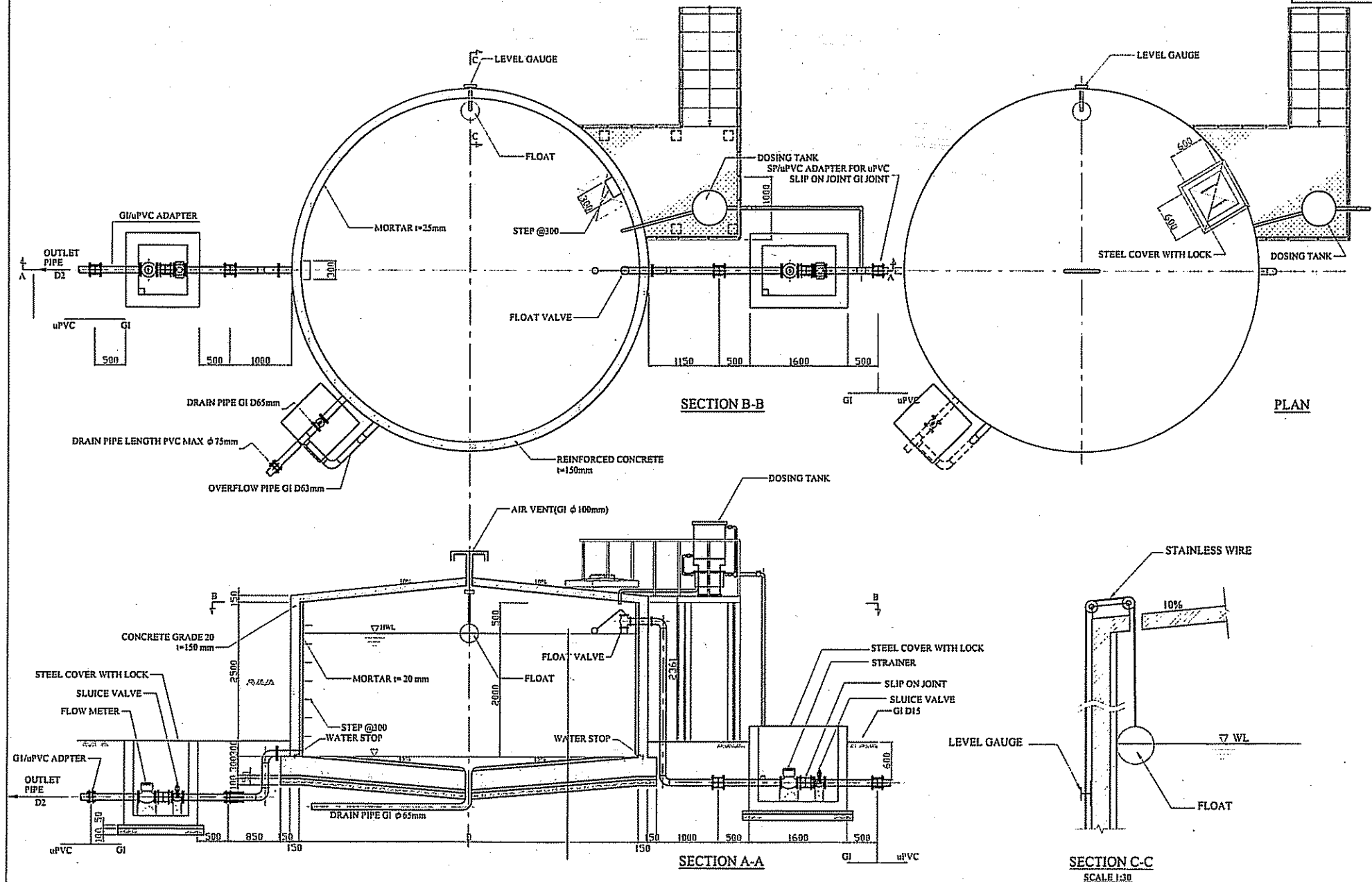
SECTION A-A

SECTION C-C
SCALE 1:30

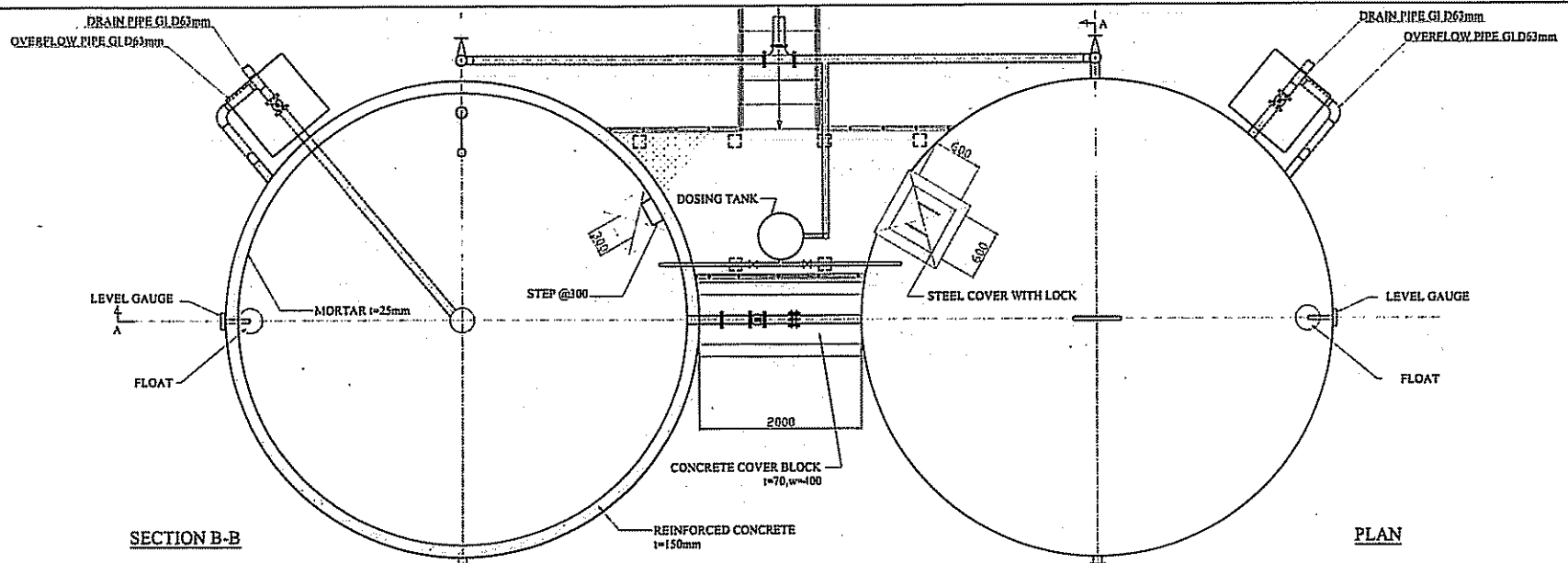
PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE RECEIVING TANK (SINGLE)	
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:30 1:60	DATE FEBRUARY 2006



PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY		DRAWING TITLE RECEIVING TANK (TWIN)	
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		CONSULTANT NIPPON KOEI CO., LTD.	SCALE 1:60
			DATE FEBRUARY 2006	DRAWING NO. PW-018

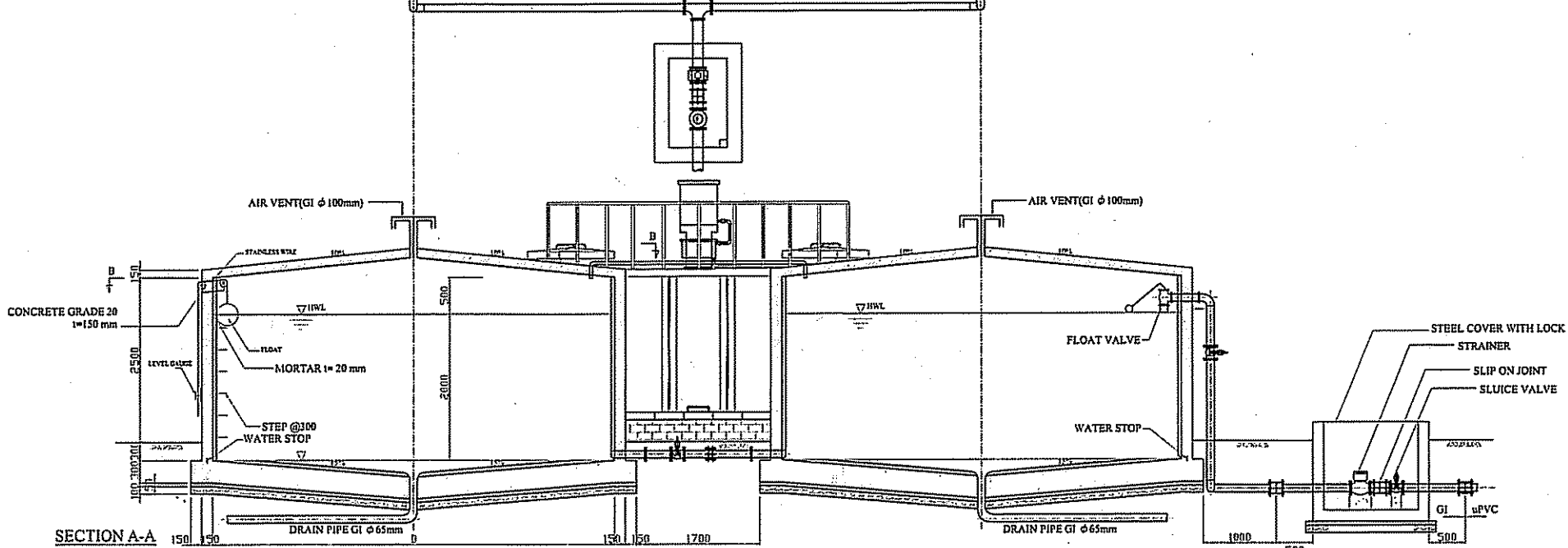


PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE MAIN DISTRIBUTION TANK (SINGLE)	
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:30 1:60	DATE FEBRUARY 2006



SECTION B-B

PLAN



SECTION A-A

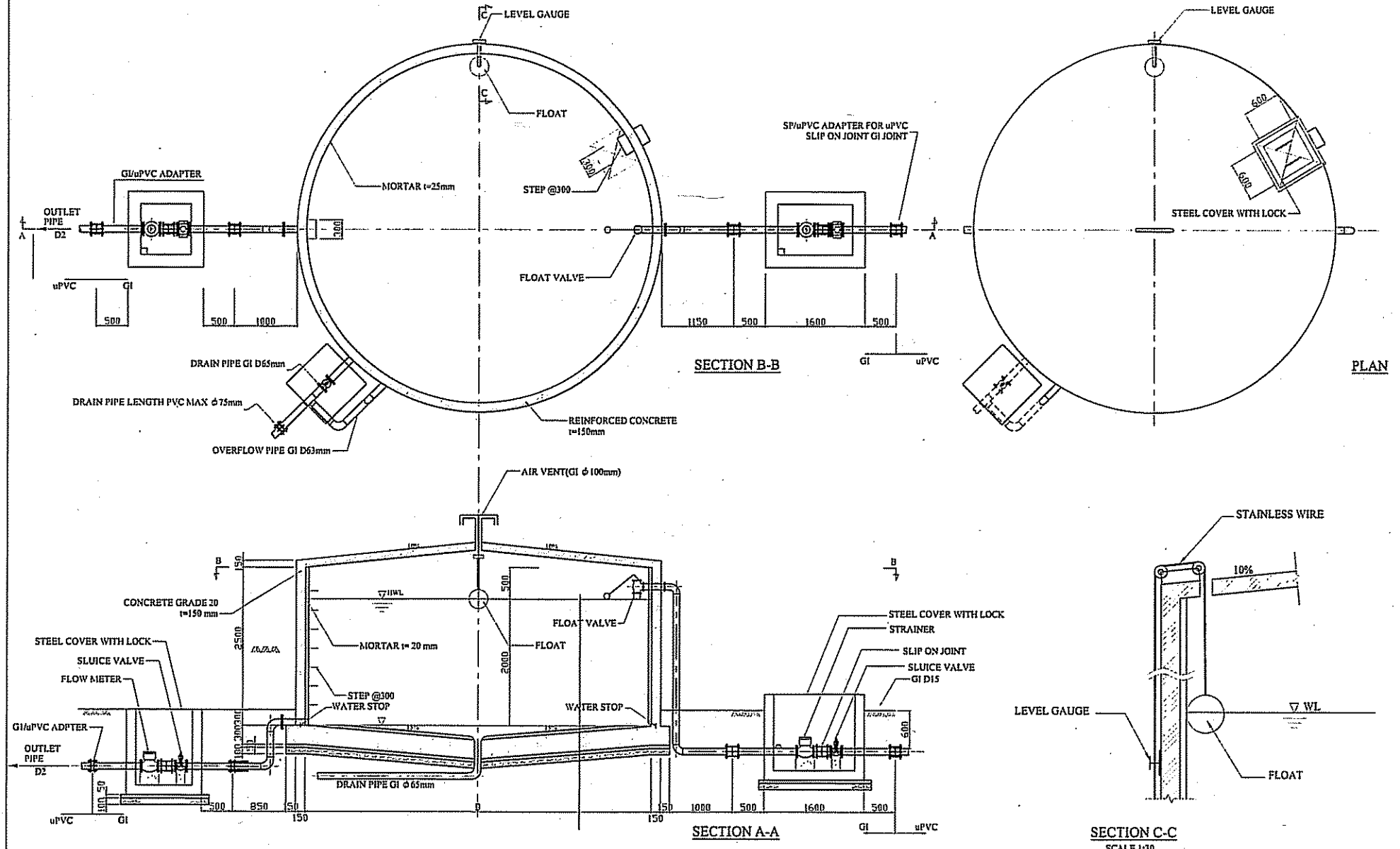
PROJECT NAME
 THE PROJECT FOR RURAL WATER SUPPLY

JAPAN INTERNATIONAL COOPERATION AGENCY
 MINISTRY OF LAND, ENVIRONMENT, FORESTRY,
 WATER AND MINES
 THE REPUBLIC OF RWANDA

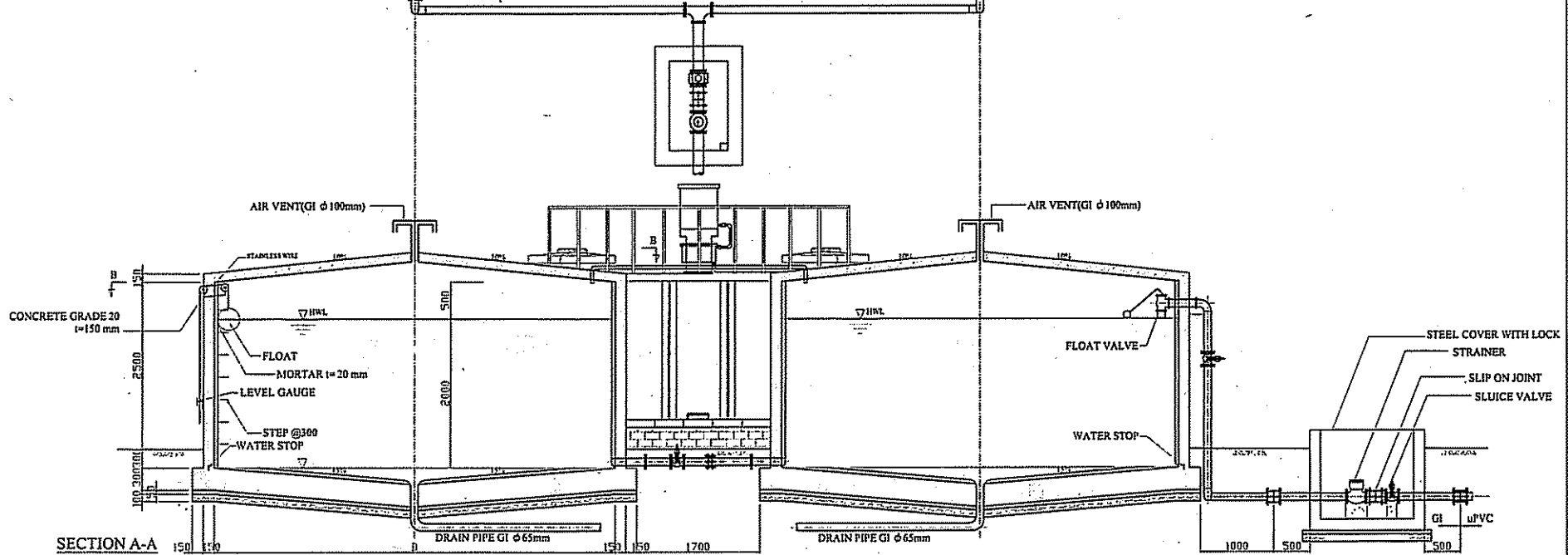
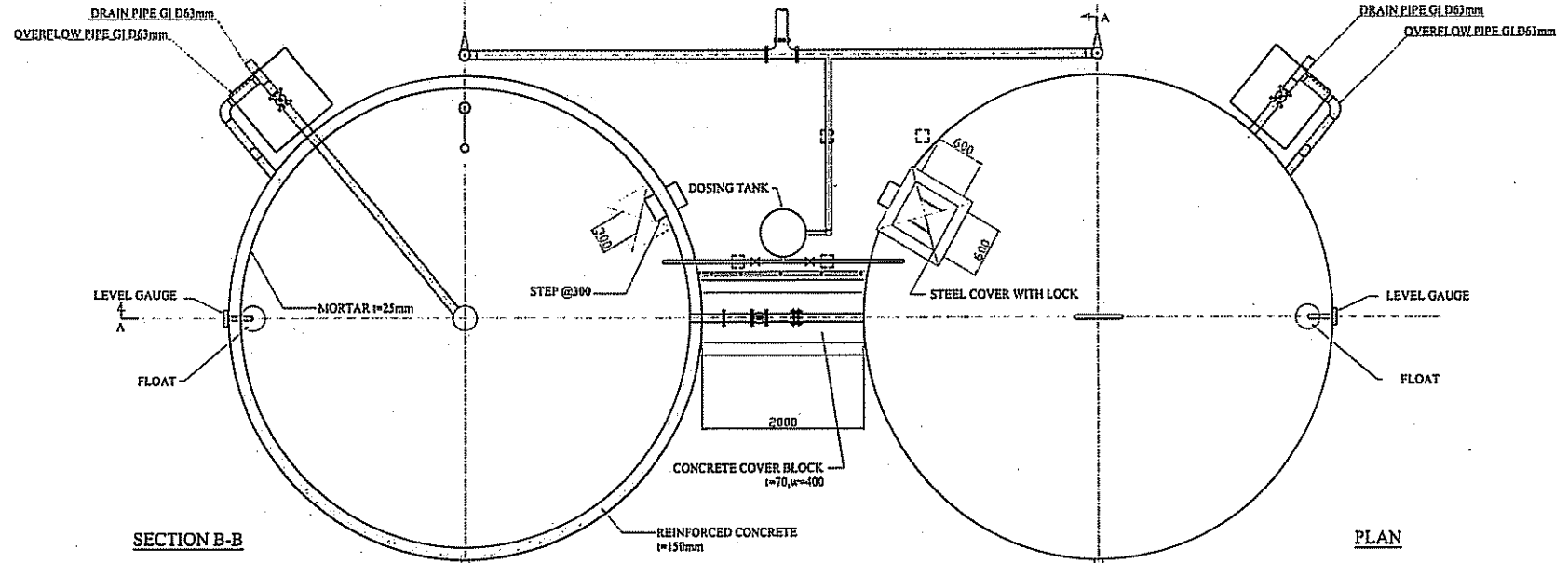
CONSULTANT
 NIPPON KOEI CO., LTD.

DRAWING TITLE
 MAIN DISTRIBUTION TANK (TWIN)

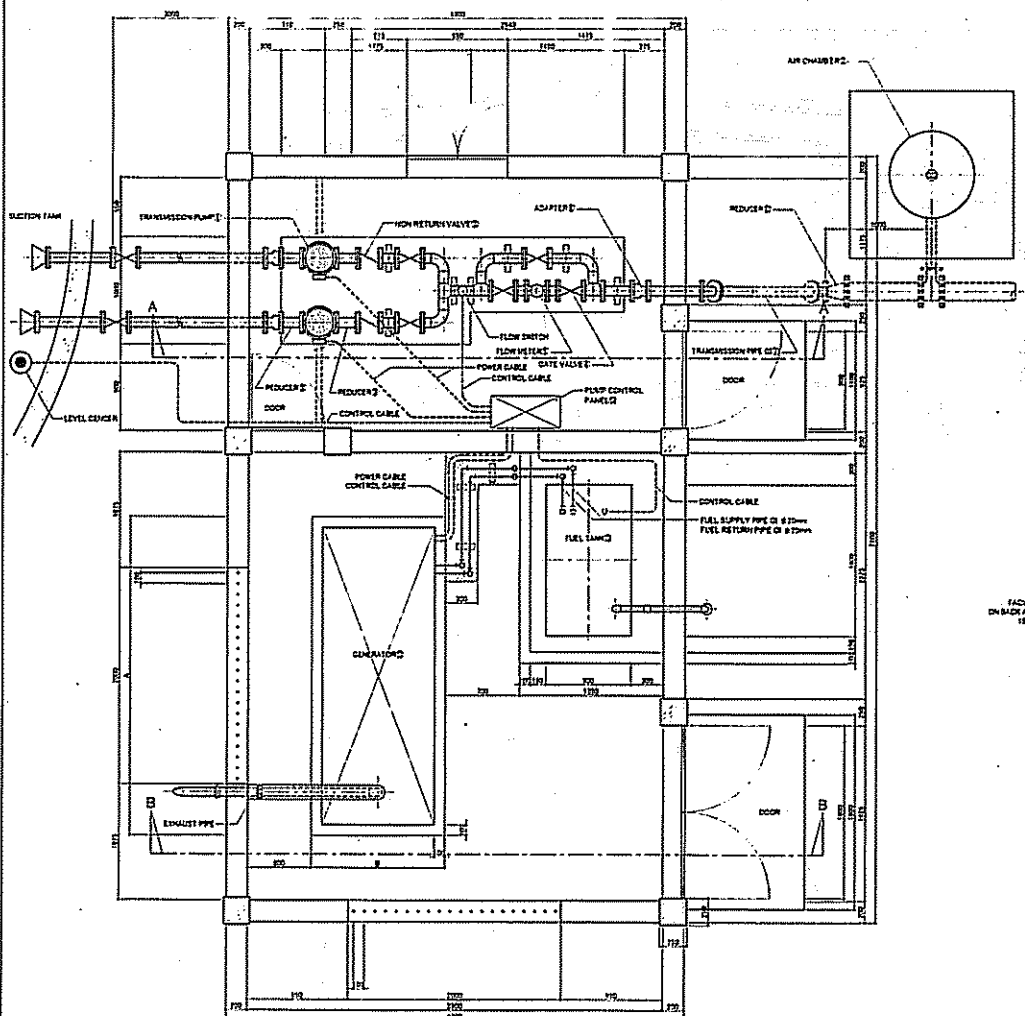
SCALE 1:60	DATE FEBRUARY 2006	DRAWING NO. PW-020
---------------	-----------------------	-----------------------



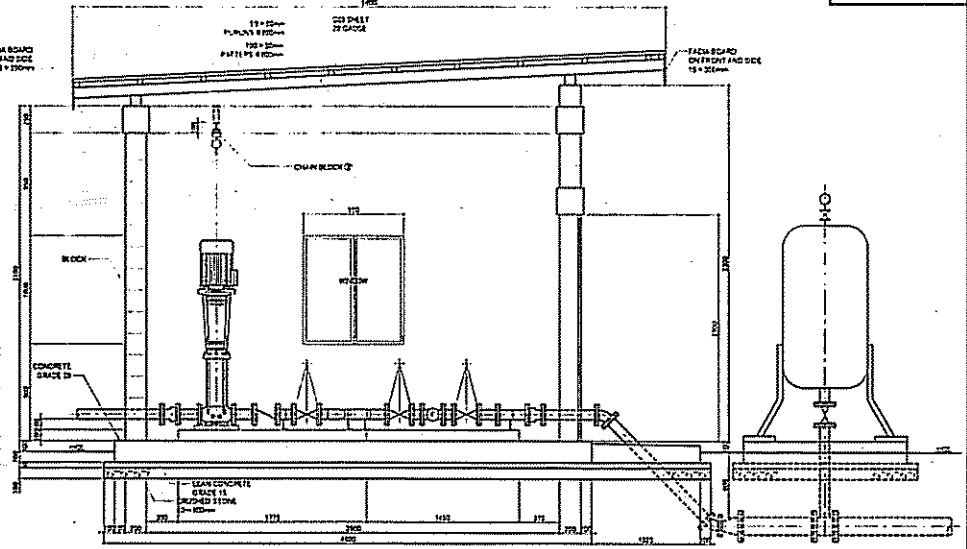
PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE DISTRIBUTION TANK (SINGLE)		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:30 1:60	DATE FEBRUARY 2006	DRAWING NO. PW-021



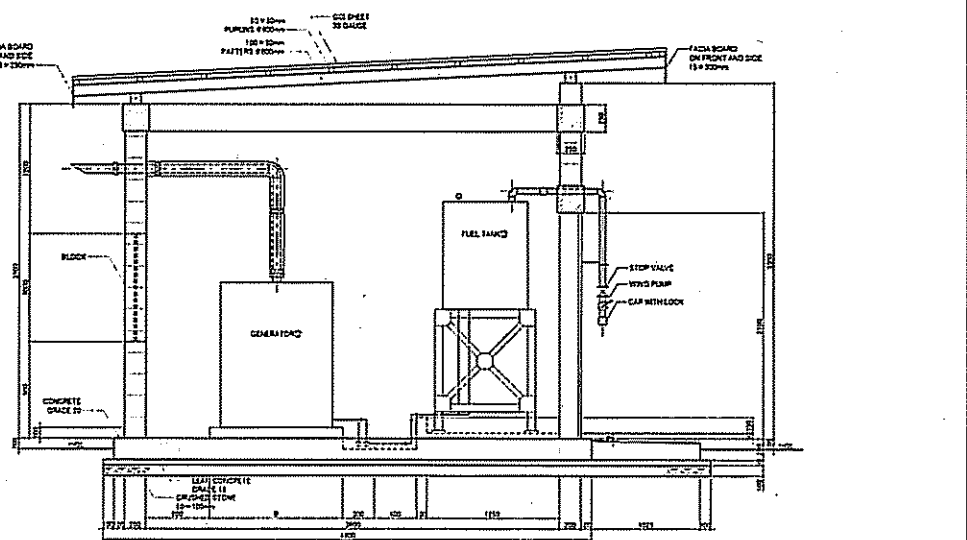
PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	CONSULTANT NIPPON KOEI CO., LTD.		DRAWING TITLE DISTRIBUTION TANK (TWIN)		
	JAPAN INTERNATIONAL COOPERATION AGENCY MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:60	DATE FEBRUARY 2006	DRAWING NO. PW-022



PLAN



SECTION A-A



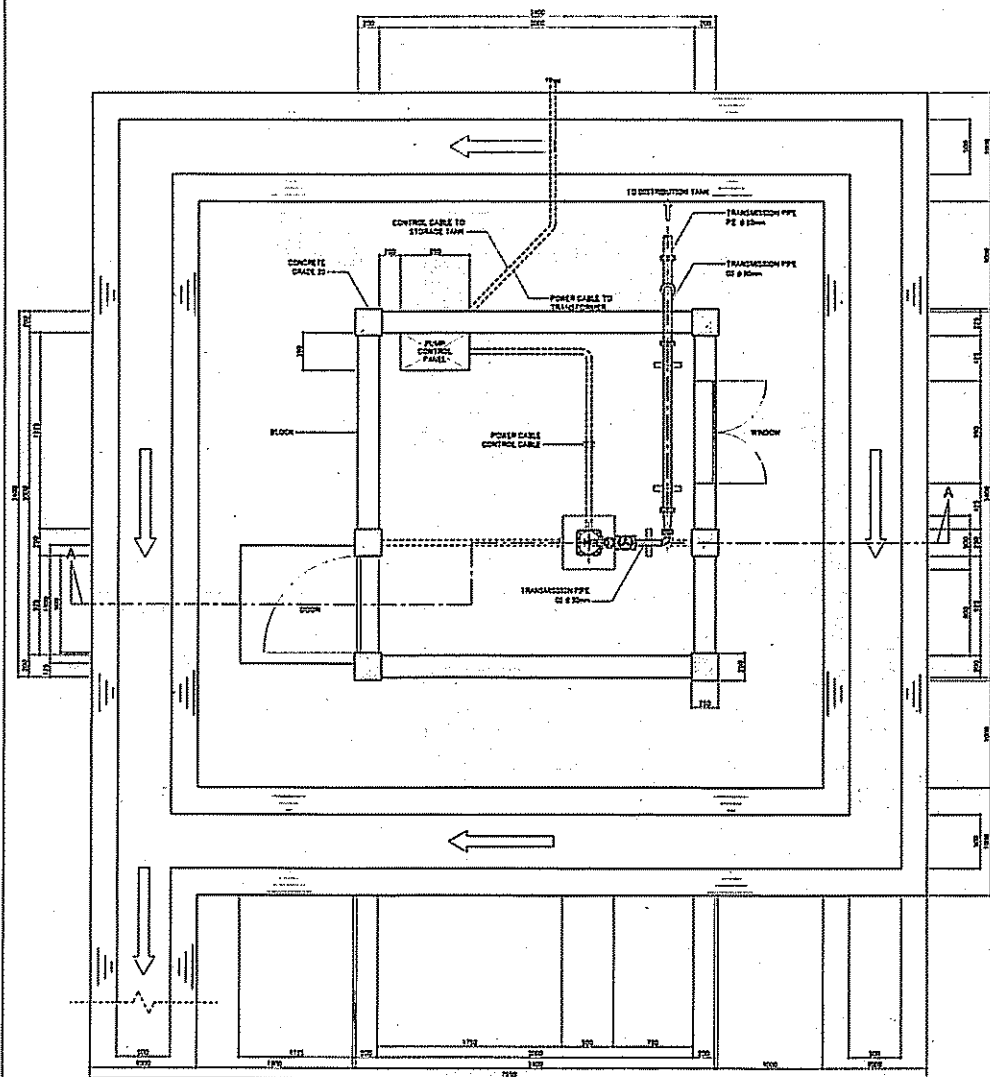
SECTION B-B

PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE PUMPING STATION DETAIL(1)		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:50	DATE FEBRUARY 2006	DRAWING NO. PW-023

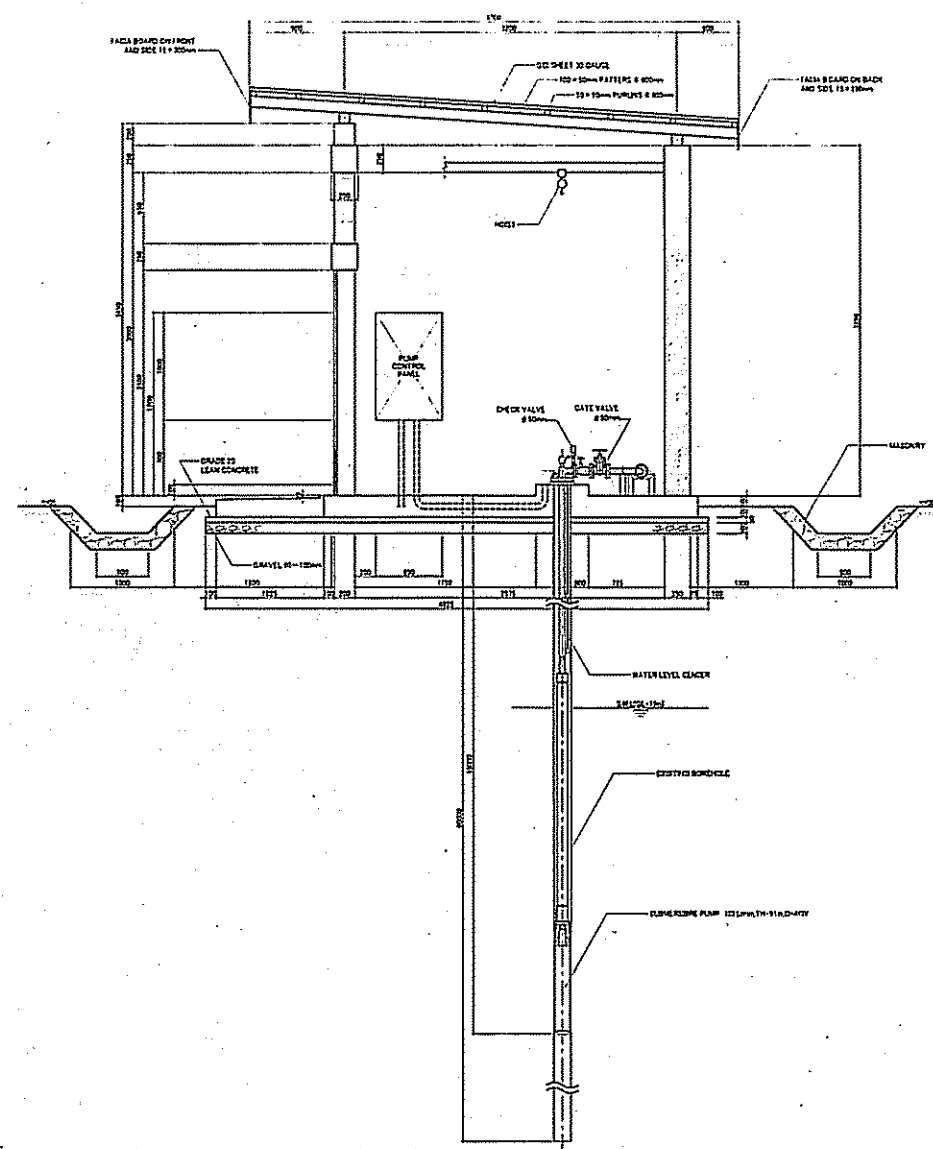
No.	Facility	Rwakibogo-Main			Rwakibogo-Booster			Kaduha-Booster			Gicaca-Main			Gicaca-Booster			Gasobaya-Main			Gasobaya-Booster			Krzabazana-Booster			Rwanfene								
		Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q						
①	Transmission Pump	552L/minx197 mx30kW	assy	2	134L/minx111 mx5.5kW	assy	2	528L/minx112 mx15kW	assy	2	534L/minx141 mx18.5W	assy	2	159L/minx132 mx7.5W	assy	2	431L/minx128 mx15kW	assy	2	159L/minx132 mx15kW	assy	2	133L/minx111 mx5.5kW	assy	2	288L/minx221 mx18.5kW	assy	2						
②	Air Chamber	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1			
③	Non Return Valve	D80	nos	2	D85	nos	2	D80	nos	2	D80	nos	2	D85	nos	2	D80	nos	2	D85	nos	2	D85	nos	2	D85	nos	2	D85	nos	2			
④-1	Gate Valve	D80	nos	8	D80	nos	2	D80	nos	8	D80	nos	8	D85	nos	6	D80	nos	8	D85	nos	6	D85	nos	6	D85	nos	6	D85	nos	6			
④-2	Gate Valve				D65	nos	6				D80	nos	2				D80	nos	2				D80	nos	2				D80	nos	2			
⑤	Flow Meter	D80	nos	1	D65	nos	1	D80	nos	1	D80	nos	1	D65	nos	1	D80	nos	1	D65	nos	1	D65	nos	1	D65	nos	1	D65	nos	1			
⑥-1	Adaptor	D80	nos	3	D80	nos	2	D80	nos	3	D80	nos	3	D65	nos	1	D80	nos	3	D65	nos	1	D65	nos	1	D65	nos	3	D65	nos	1			
⑥-2	Adaptor				D65	nos	1				D80	nos	2				D80	nos	2				D80	nos	2				D80	nos	2			
⑦-1	Transmission Pipe GI	D80	m	11.8	D65	m	4.6	D80	m	11.8	D80	m	11.8	D65	m	4.6	D80	m	11.8	D65	m	4.6	D65	m	4.6	D65	m	12	D65	m	5			
⑦-2	Transmission Pipe GI	D150	m	0.7	D80	m	7.1	D150	m	0.7	D125	m	0.7	D80	m	7.1	D125	m	0.7	D80	m	7.1							D80	m	6.4			
⑦-3	Transmission Pipe GI																													D125	m	0.7		
⑧	Reducer				40x55	nos	2				40x55	nos	2				50x55	nos	2				80x55	nos	2				80x55	nos	2			
⑨	Reducer				80x40	nos	2				80x40	nos	2				80x50	nos	2				80x50	nos	2				80x50	nos	2			
⑩	Chain Block	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1			
⑪	Reducer	80x150	nos	1	65x80	nos	1	80x150	nos	1	80x125	nos	1	65x80	nos	1	80x125	nos	1	65x125	nos	1						85x125	nos	1		85x125	nos	1
⑫	Generator	80kVA	assy	1	20kVA	assy	1	40kVA	assy	1	50kVA	assy	1	20kVA	assy	1	40kVA	assy	1	45kVA	assy	1												
⑬	Fuel Tank	1000 L	assy	1	300 L	assy	1	500 L	assy	1	750 L	assy	1	300 L	assy	1	750 L	assy	1	750 L	assy	1												
⑭	Pump Control Panel	30 kw	assy	1	5.5 kw	assy	1	11.5 kw	assy	1	18.5 kw	assy	1	17.5 kw	assy	1	15 kw	assy	1	15 kw	assy	1	15.5 kw	assy	1	18.5 kw	assy	1	18.5 kw	assy	1	18.5 kw	assy	1
⑮	Power Cable	6.0mm2-4C	m	5.8	1.5mm2-4C	m	5.8	4.0mm2-4C	m	5.8	4.0mm2-4C	m	5.8	1.5mm2-4C	m	5.8	2.5mm2-4C	m	5.8	2.5mm2-4C	m	5.8	1.5mm2-4C	m	5.8	1.5mm2-4C	m	8.4	6.0mm2-4C	m	4.1	6.0mm2-4C	m	4.1
⑯	Control Cable	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	10	2.5mm2-4C	m	10.3	2.5mm2-4C	m	10.3

No.	Facility	Kabadako			Nyakagongi			Gahama			Muguruka			Kabingo			Gasobura			Gaharado-Main			Gaharado-Booster			Rugina								
		Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q	Specification	Unit	Q			
①	Transmission Pump	576L/minx190 mx30kW	assy	2	447L/minx189 mx22kW	assy	2	192L/minx120 mx7.5kW	assy	2	352L/minx209 mx30kW	assy	2	374L/minx176 mx18.5kW	assy	2	410L/minx197 mx22kW	assy	2	455L/minx157 mx18.5kW	assy	2	395L/minx94 mx11kW	assy	2	346L/minx195 mx18.5kW	assy	2	346L/minx195 mx18.5kW	assy	2			
②	Air Chamber	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1	300 L	assy	1
③	Non Return Valve	D80	nos	2	D85	nos	2	D80	nos	2	D85	nos	2	D80	nos	2	D80	nos	2	D80	nos	2	D80	nos	2	D80	nos	2	D85	nos	2	D85	nos	2
④-1	Gate Valve	D80	nos	8	D80	nos	8	D85	nos	6	D85	nos	6	D80	nos	6	D80	nos	8	D80	nos	8	D80	nos	8	D80	nos	8	D85	nos	8	D85	nos	8
④-2	Gate Valve							D80	nos	2				D80	nos	2																D80	nos	2
⑤	Flow Meter	D80	nos	1	D80	nos	1	D65	nos	1	D65	nos	1	D80	nos	1	D80	nos	1	D80	nos	1	D80	nos	1	D80	nos	1	D80	nos	1	D65	nos	1
⑥-1	Adaptor	D80	nos	3	D80	nos	3	D65	nos	1	D65	nos	1	D80	nos	3	D80	nos	3	D80	nos	3	D80	nos	3	D80	nos	3	D65	nos	3	D65	nos	1
⑥-2	Adaptor							D80	nos	2				D80	nos	2															D80	nos	2	
⑦-1	Transmission Pipe GI	D80	m	11.8	D80	m	11.8	D65	m	4.6	D65	m	5	D80	m	11.8	D80	m	11.8	D80	m	11.8	D80	m	11.8	D80	m	11.8	D80	m	11.8	D65	m	5
⑦-2	Transmission Pipe GI	D150	m	0.7	D150	m	0.7	D80	m	7.1	D80	m	6.4	D125	m	0.7	D150	m	0.7	D150	m	0.7	D150	m	0.7	D125	m	0.7	D125	m	0.7	D80	m	6.4
⑦-3	Transmission Pipe GI												D125	m	0.7																D125	m	0.7	
⑧	Reducer							40x55	nos	2	80x55	nos	2																	80x55	nos	2		
⑨	Reducer							80x40	nos	2																								
⑩	Chain Block	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1	0.5L, 2.5m	nos	1
⑪	Reducer	80x150	nos	1	80x150	nos	1	65x80	nos	1	65x125	nos	1	80x125	nos	1	80x150	nos	1	80x150	nos	1	80x125	nos	1	80x125	nos	1	80x125	nos	1	85x125	nos	1
⑫	Generator	70kVA	assy	1	50kVA	assy	1	20kVA	assy	1	70kVA	assy	1	45kVA	assy	1	50kVA	assy	1	50kVA	assy	1	30kVA	assy	1	50kVA	assy	1	50kVA	assy	1	50kVA	assy	1
⑬	Fuel Tank	1000 L	assy	1	1000 L	assy	1	300 L	assy	1	1000 L	assy	1	750 L	assy	1	1000 L	assy	1	1000 L	assy	1	750 L	assy	1	750 L	assy	1	750 L	assy	1	750 L	assy	1
⑭	Pump Control Panel	30 kw	assy	1	22 kw	assy	1	17.5 kw	assy	1	30 kw	assy	1	18.5 kw	assy	1	30 kw	assy	1	18.5 kw	assy	1	11 kw	assy	1	18.5 kw	assy	1	18.5 kw	assy	1	18.5 kw	assy	1
⑮	Power Cable	6.0mm2-4C	m	5.8	4.0mm2-4C	m	5.8	1.5mm2-4C	m	5.8	4.0mm2-4C	m	5.8	4.0mm2-4C	m	5.8	4.0mm2-4C	m	5.8	4.0mm2-4C	m	5.8	4.0mm2-4C	m	5.8	4.0mm2-4C	m	5.8	2.5mm2-4C	m	5.8	4.0mm2-4C	m	5.8
⑯	Control Cable	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6	2.5mm2-4C	m	15.6

PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE PUMPING STATION DETAIL (2)	
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE NONE	DATE FEBRUARY 2006

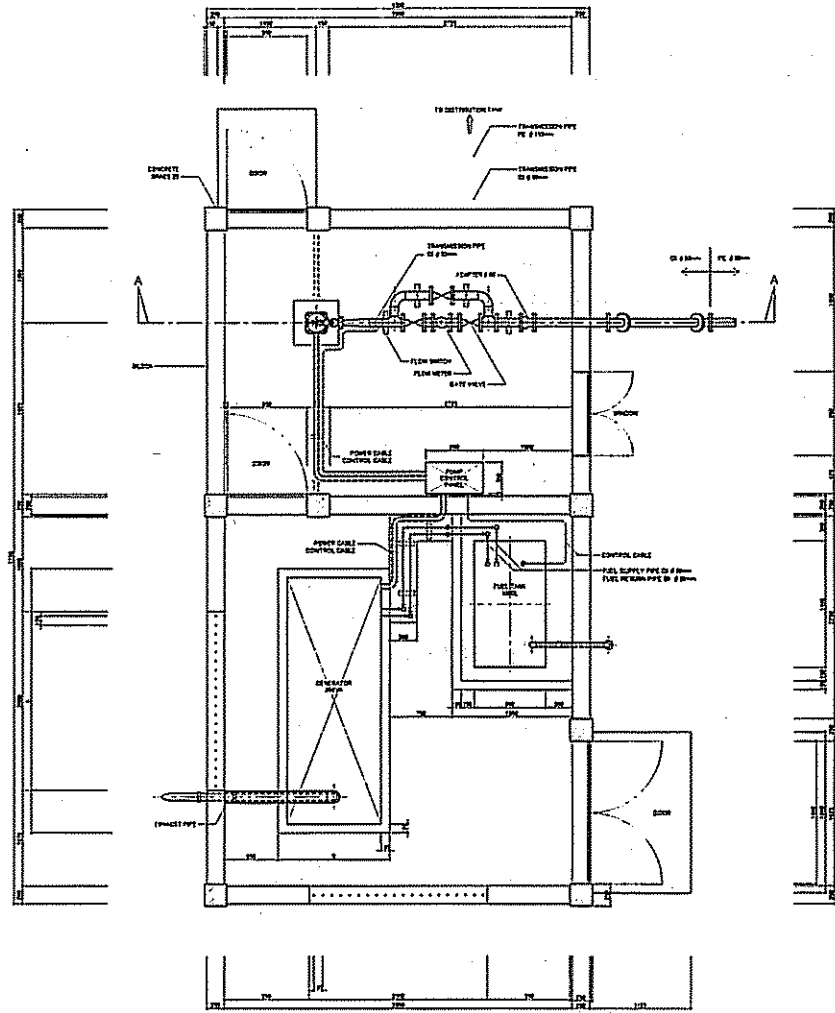


PLAN

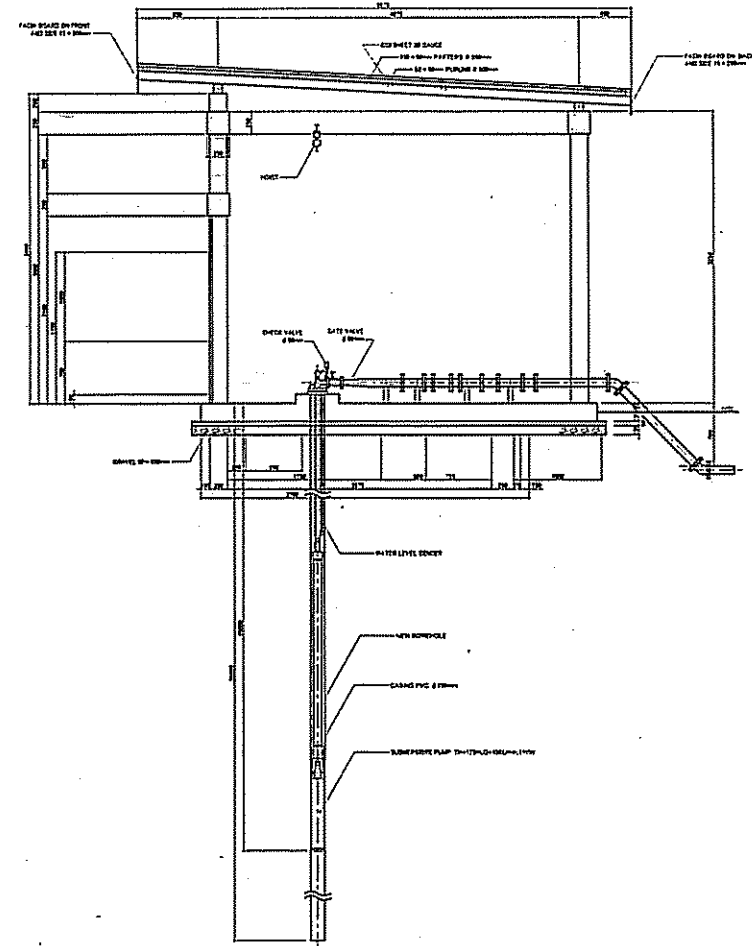


SECTION A-A

PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	CONSULTANT Ⓜ NIPPON KOEI CO., LTD.		DRAWING TITLE PUMPING STATION DETAIL FOR NYANKORA SITE	
	JAPAN INTERNATIONAL COOPERATION AGENCY MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:50	DATE FEBRUARY 2006

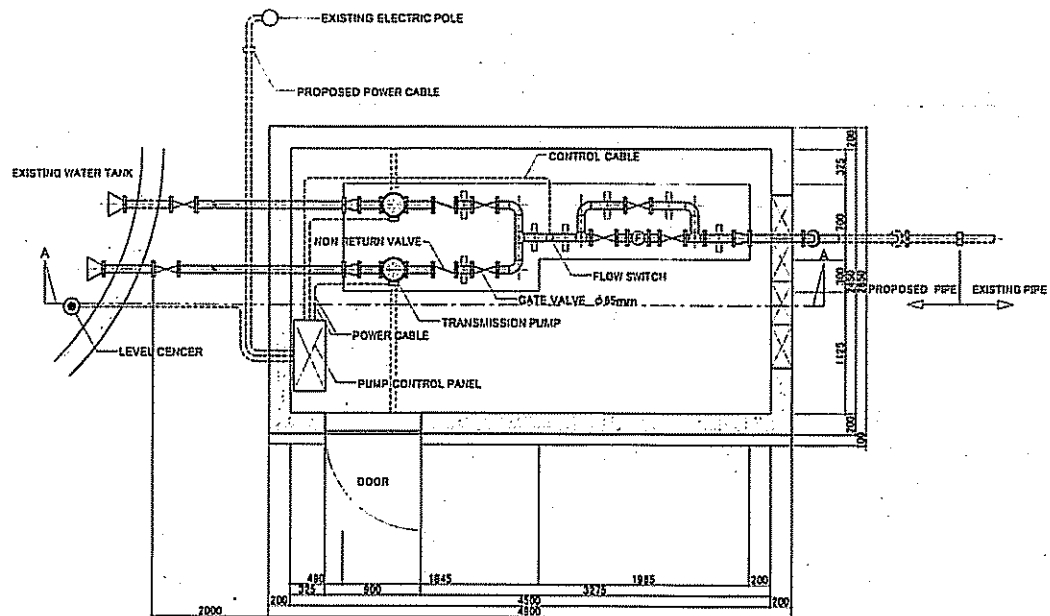


PLAN



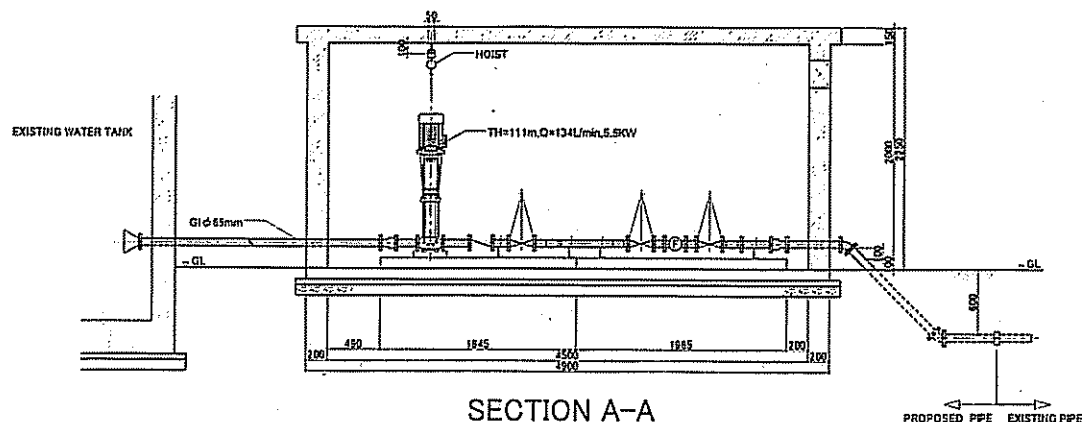
SECTION A-A

PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE PUMPING STATION DETAIL FOR KAZABAZANA SITE(1)		
			SCALE 1:60	DATE FEBRUARY 2006	DRAWING NO. PW-026

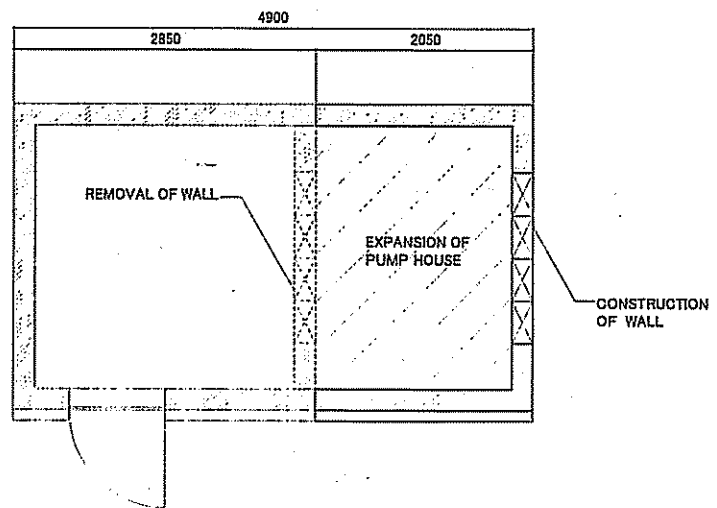


PLAN

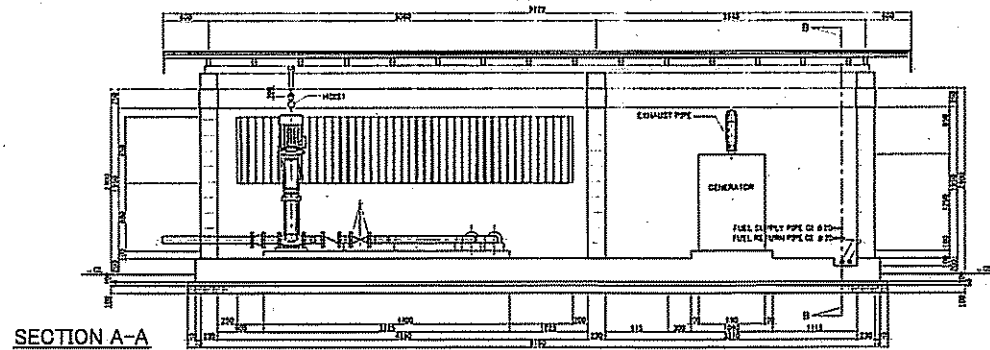
NOTE : EXISTING WALL SHALL BE PLASTERED WITH 10mm THICKNESS



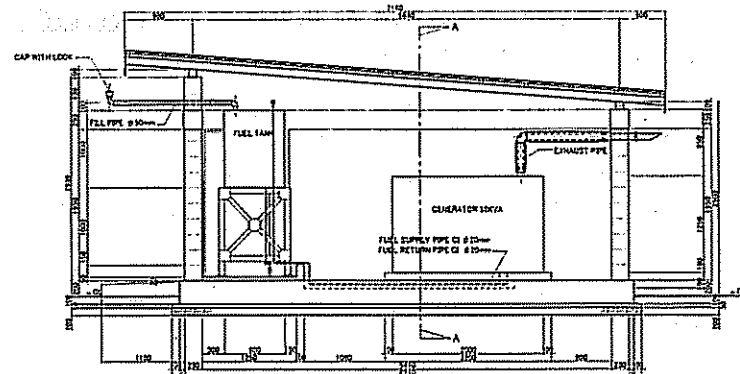
SECTION A-A



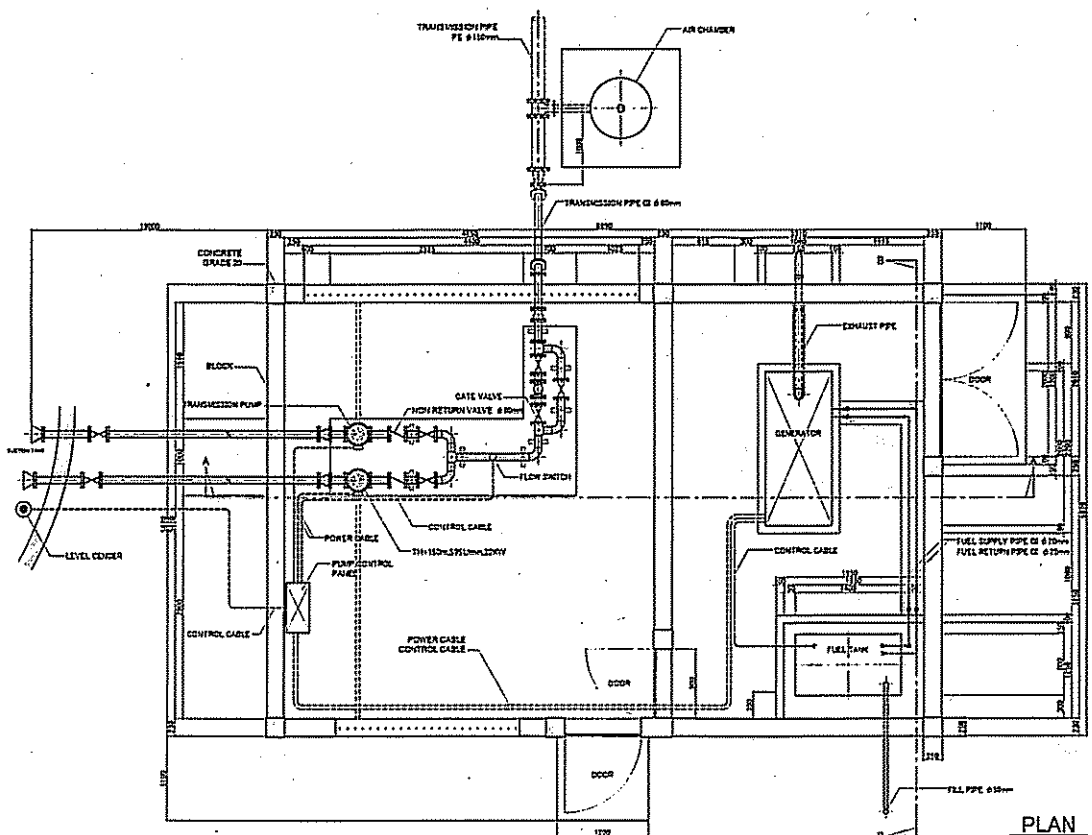
PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE PUMPING STATION FOR KAZABAZANA SITE(2)		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:50	DATE FEBRUARY 2006	DRAWING NO. PW-027



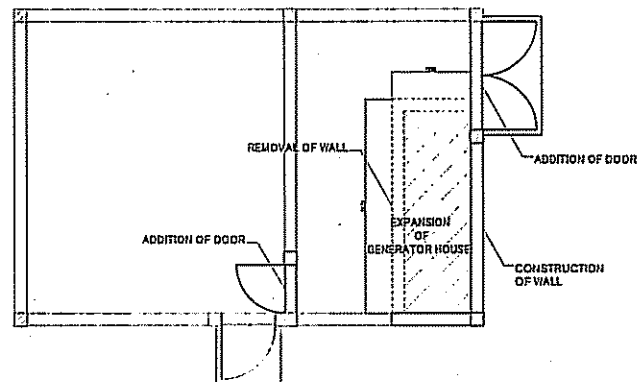
SECTION A-A



SECTION B-B




PLAN

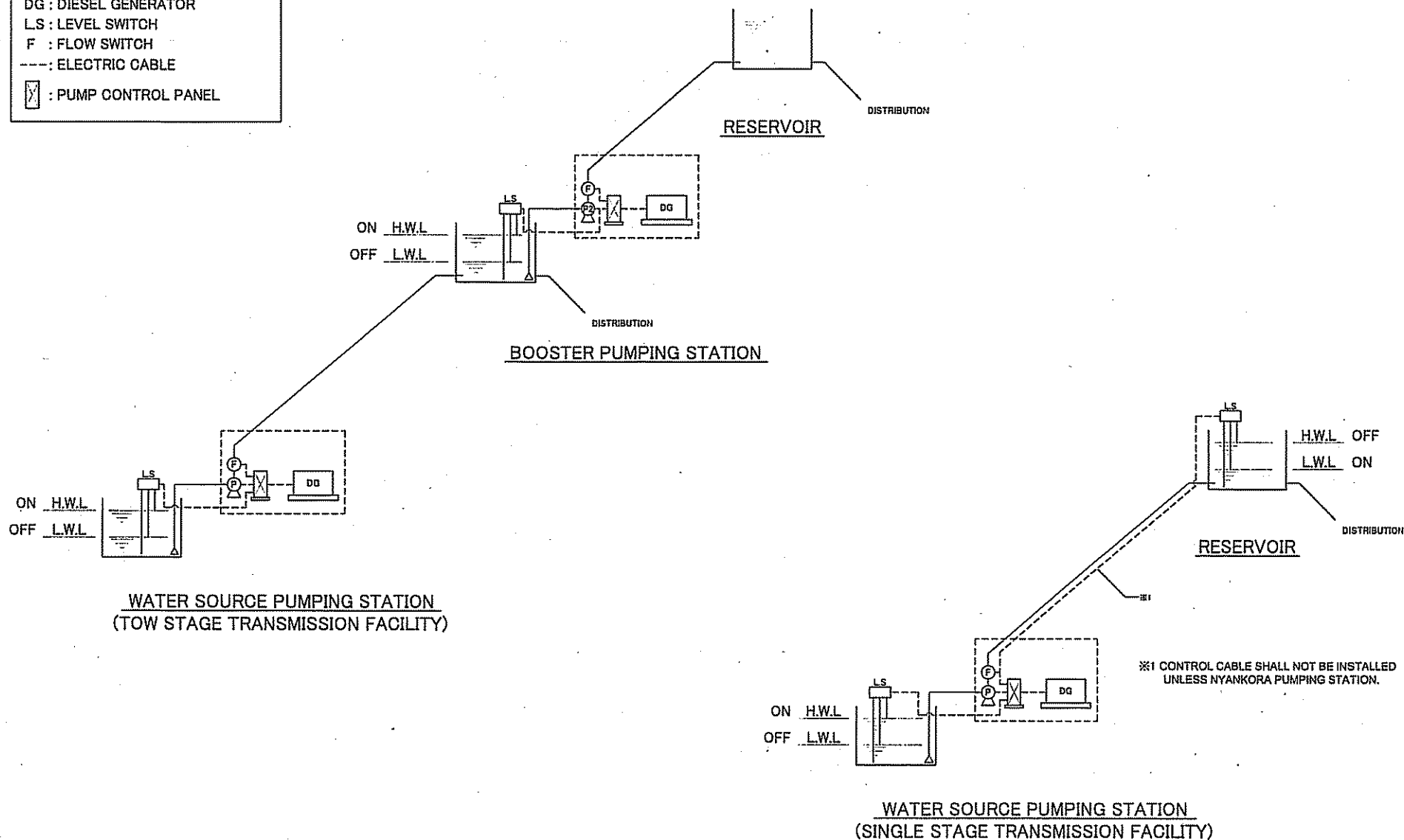



NOTE : EXISTING WALL SHALL BE PLASTERED WITH 10cm THICKNESS

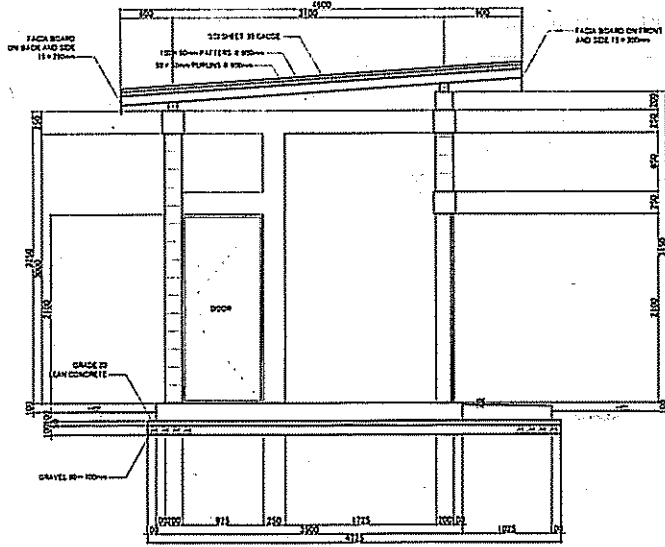
PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO.,LTD.	DRAWING TITLE PUMPING STATION DETAIL FOR KAGOMA SITE		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:70	DATE FEBRUARY 2006	DRAWING NO. PW-028

LEGEND

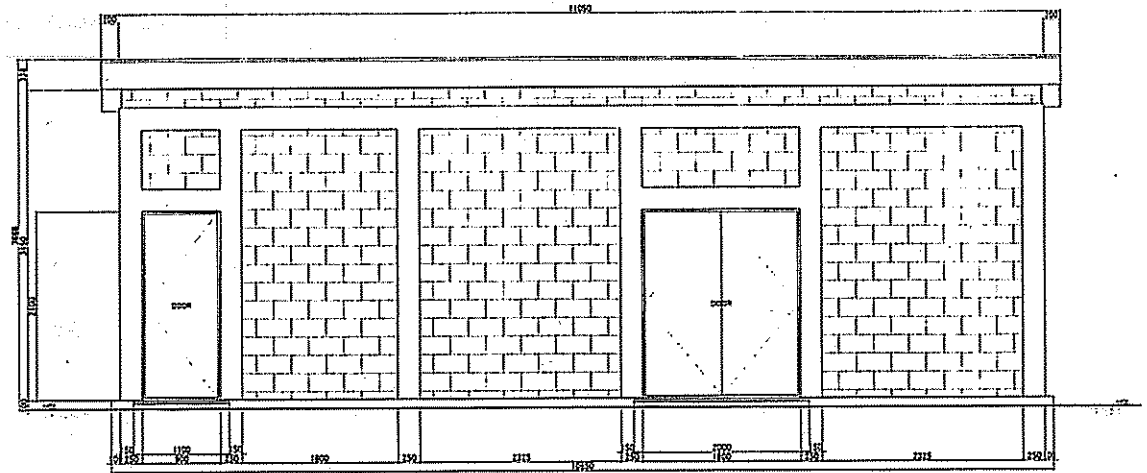
- DG : DIESEL GENERATOR
- LS : LEVEL SWITCH
- F : FLOW SWITCH
- : ELECTRIC CABLE
-  : PUMP CONTROL PANEL



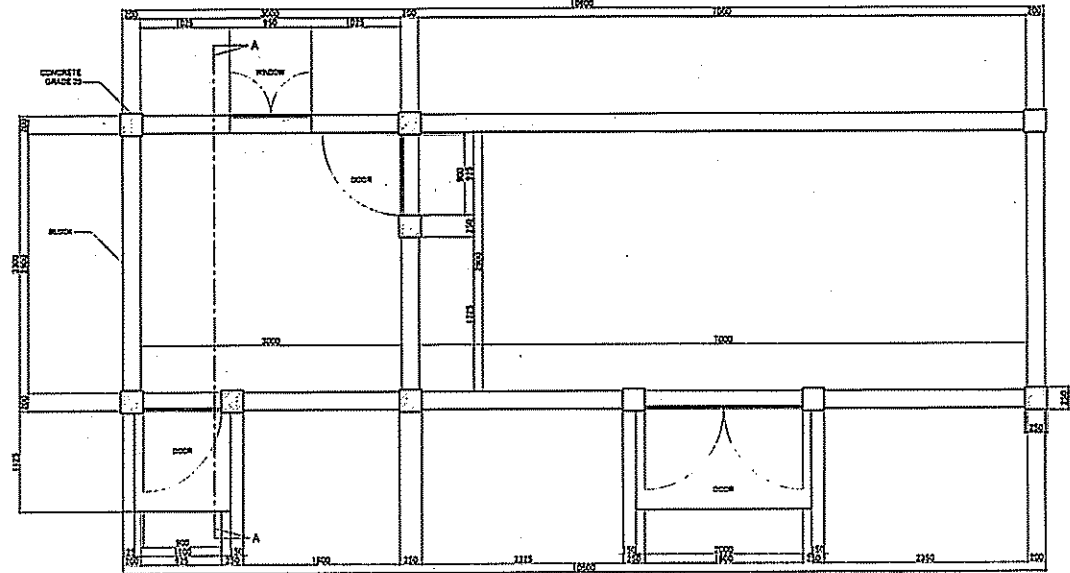
PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT  NIPPON KOEI CO.,LTD.	DRAWING TITLE CONTROL DIAGRAM OF PUMPING WORKS		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE NONE	DATE FEBRUARY 2006	DRAWING NO. PW-029




SECTION A-A

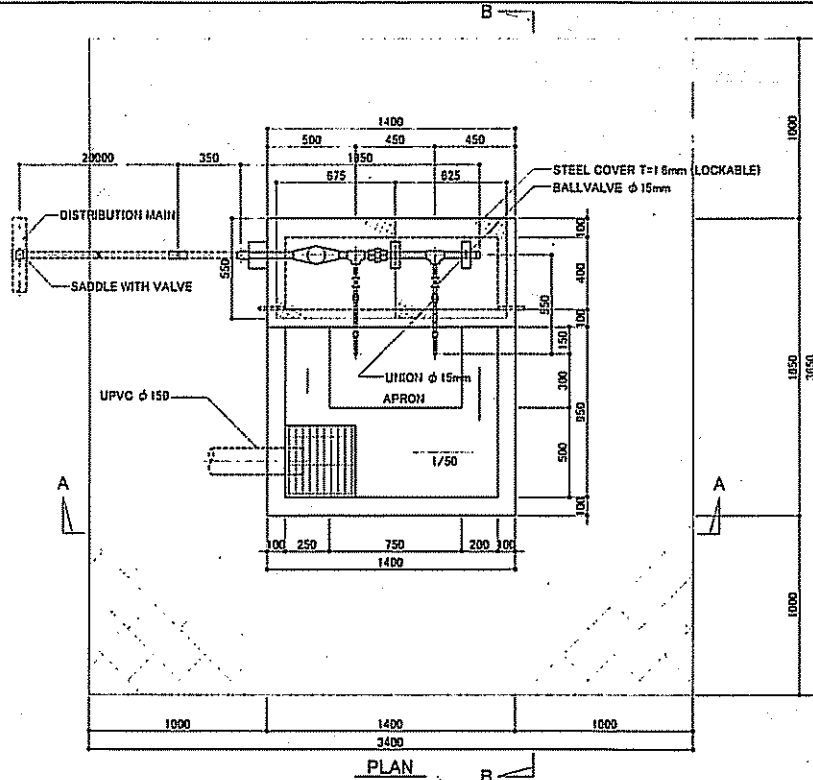


FRONT ELEVATION



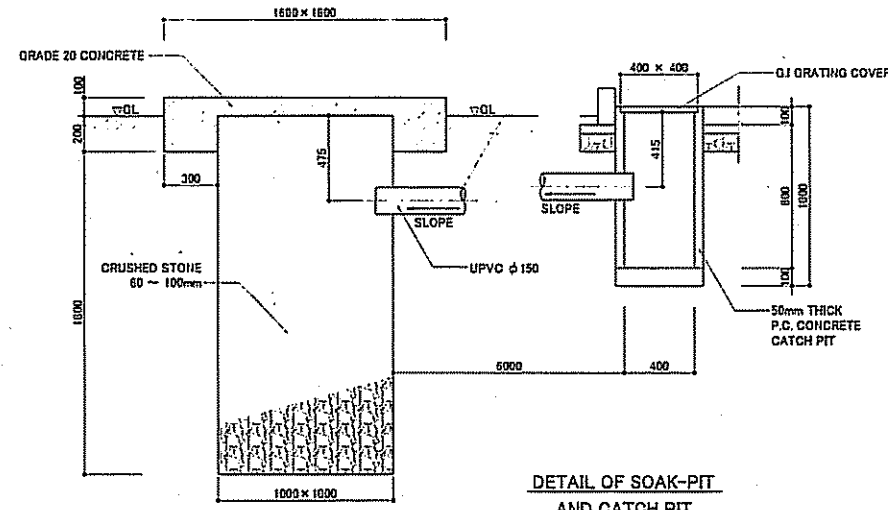
PLAN

PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA	CONSULTANT  NIPPON KOEI CO.,LTD.	DRAWING TITLE MAINTENANCE OFFICE		
			SCALE 1:60	DATE FEBRUARY 2006	DRAWING NO. TD-001

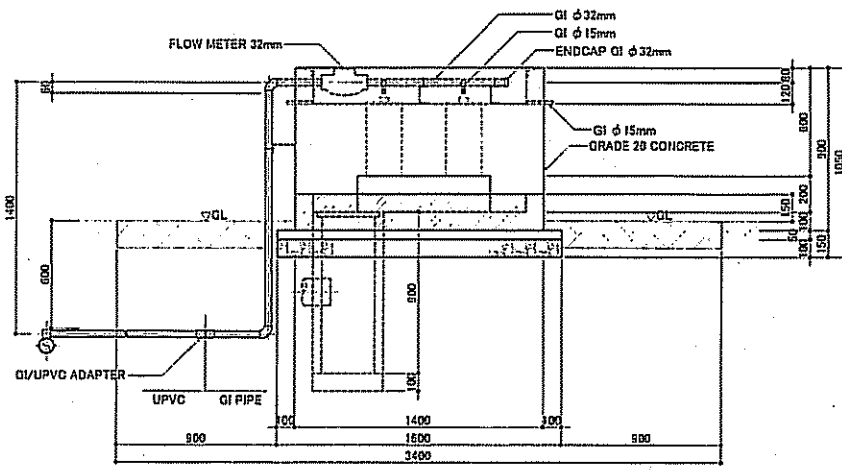


PLAN

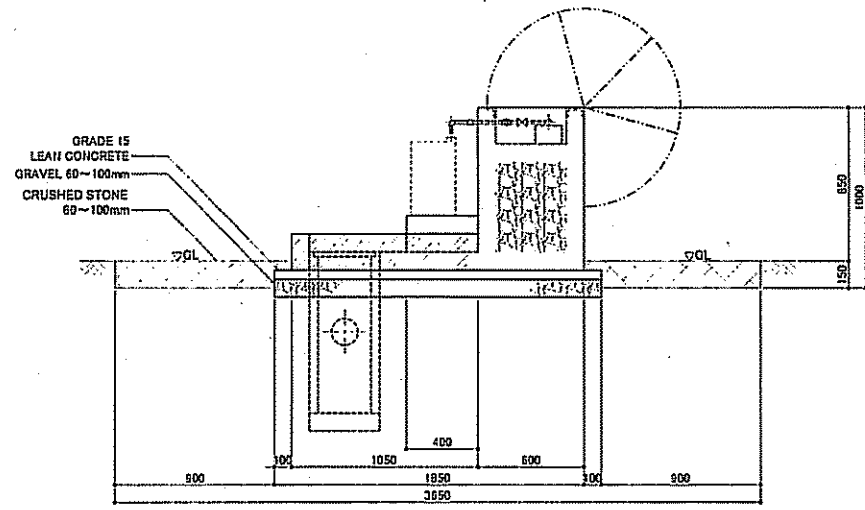
Note : Rubber hose with length is 30 cm shall be provided for each tap.



DETAIL OF SOAK-PIT AND CATCH PIT



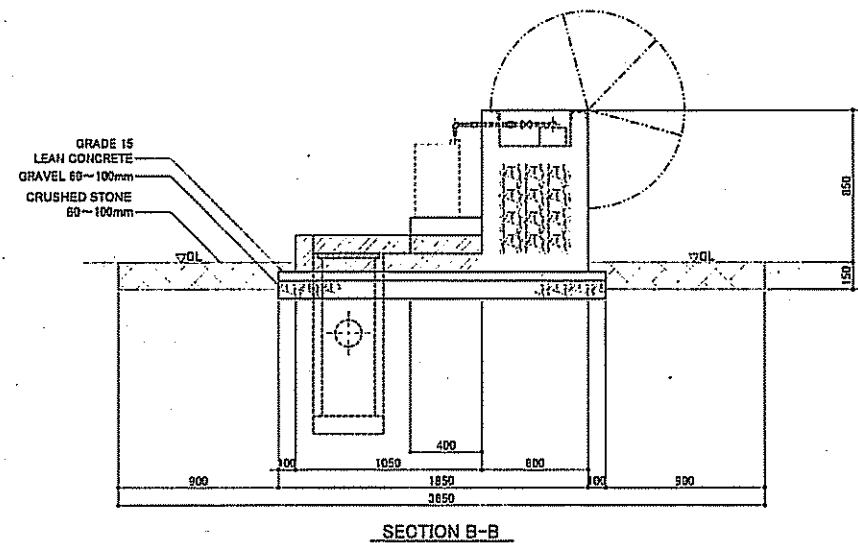
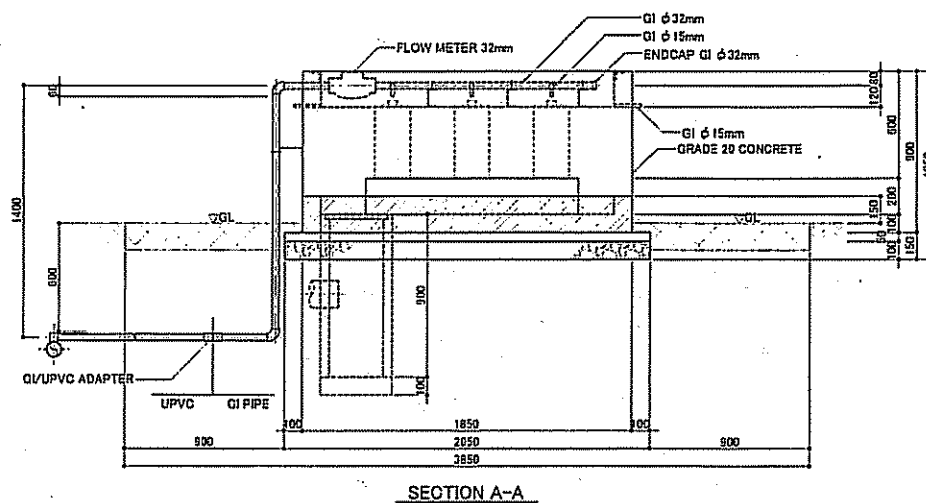
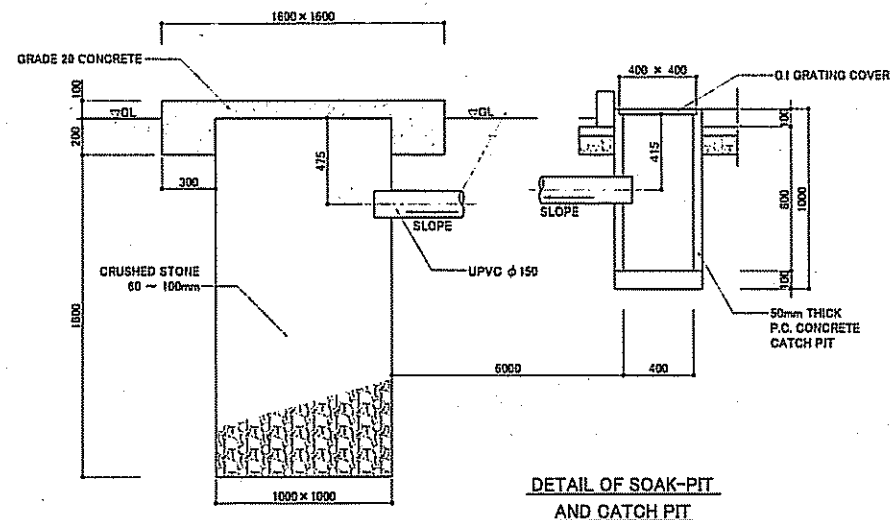
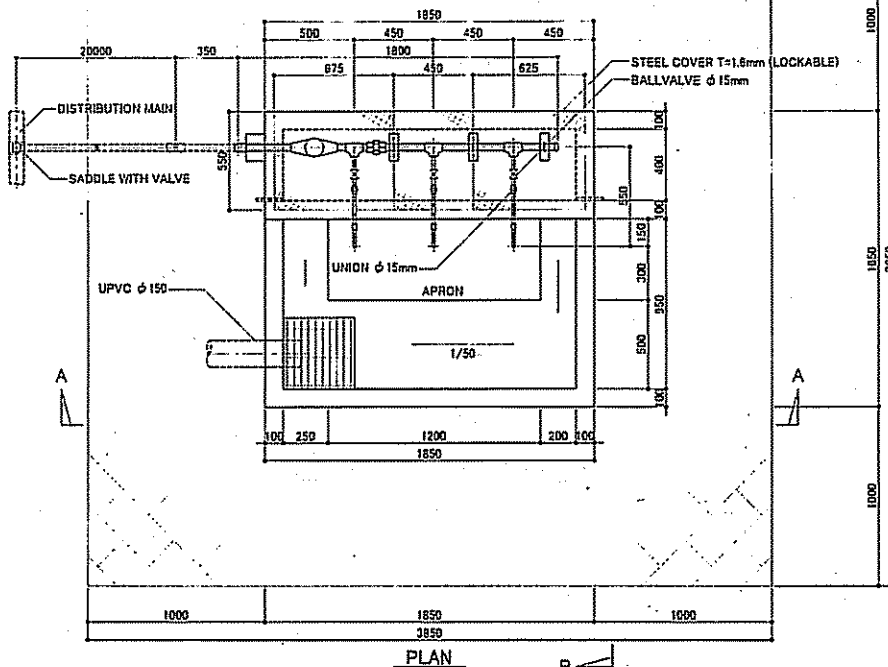
SECTION A-A



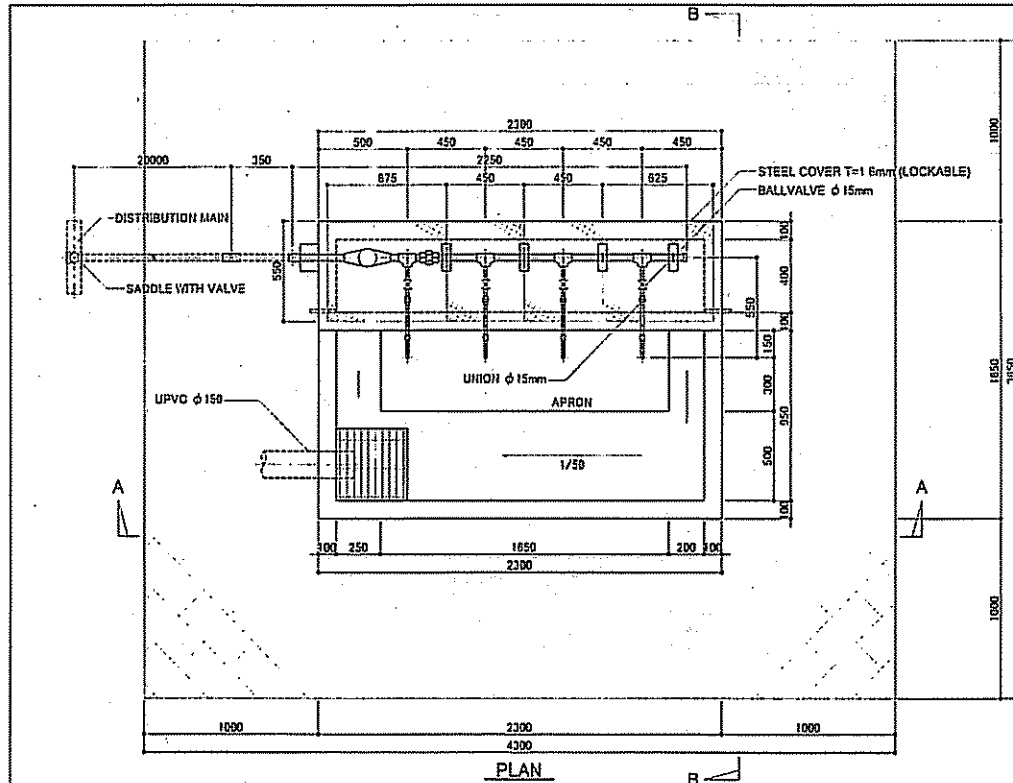
SECTION B-B

PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE PUBLIC STAND FOR TWO TAPS		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:30	DATE FEBRUARY 2006	DRAWING NO. TD-002

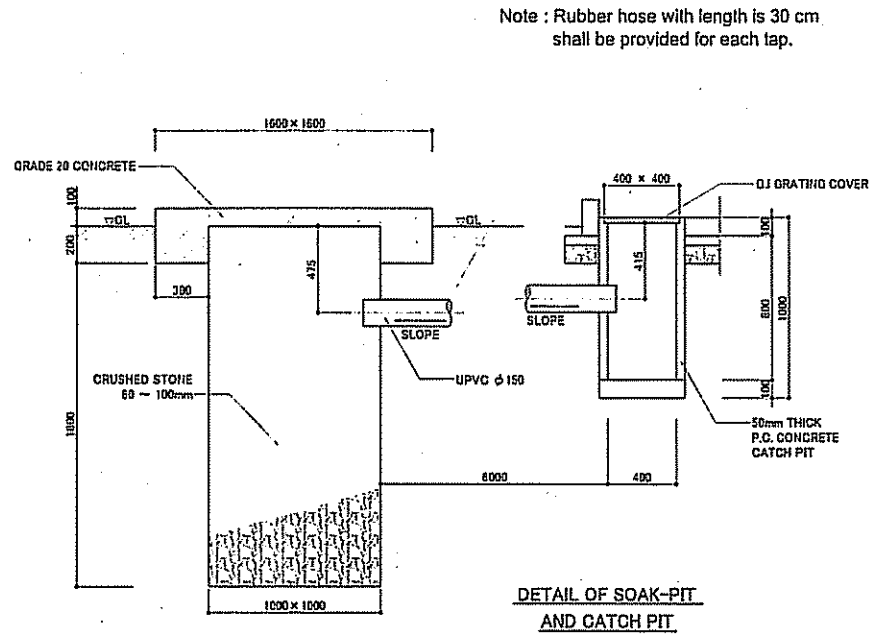
Note : Rubber hose with length is 30 cm shall be provided for each tap.



PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA	CONSULTANT NIPPON KOEI CO.,LTD.	DRAWING TITLE PUBLIC STAND FOR THREE TAPS		
			SCALE 1:30	DATE FEBRUARY 2006	DRAWING NO. TD-003

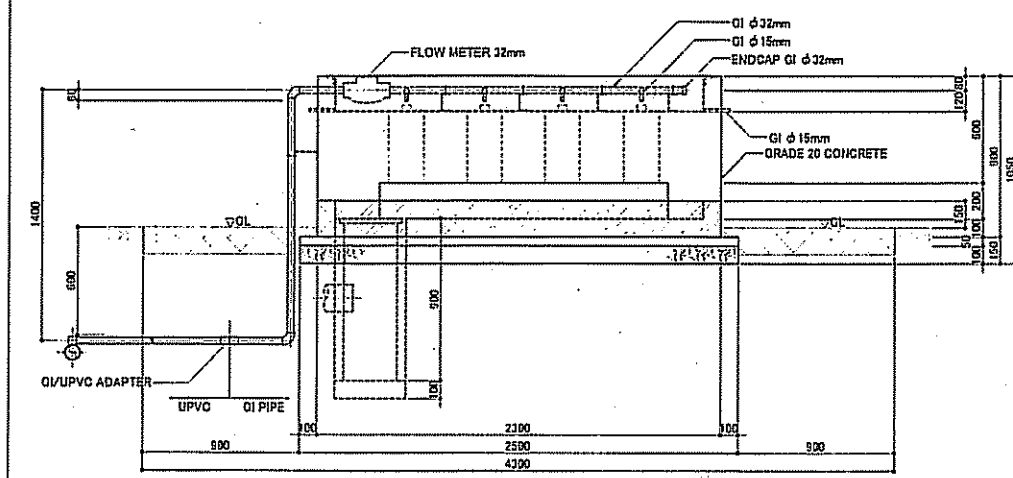


PLAN

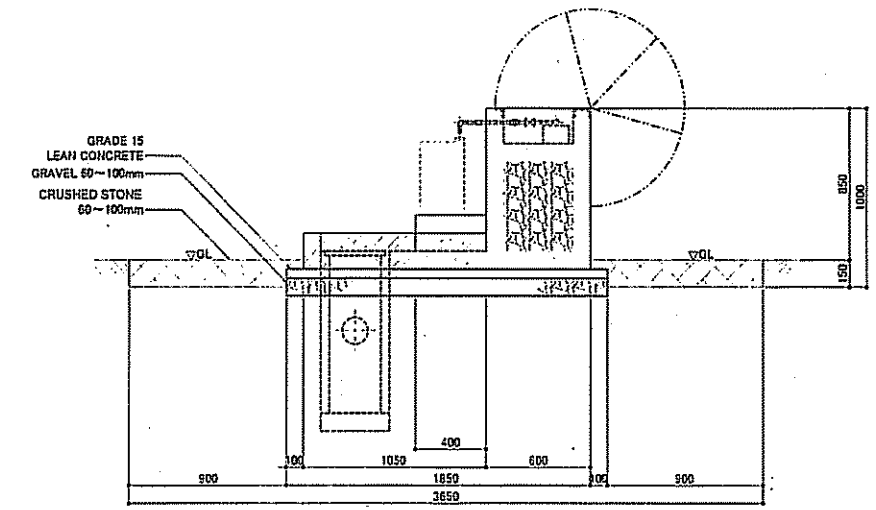


Note : Rubber hose with length is 30 cm shall be provided for each tap.

DETAIL OF SOAK-PIT AND CATCH PIT

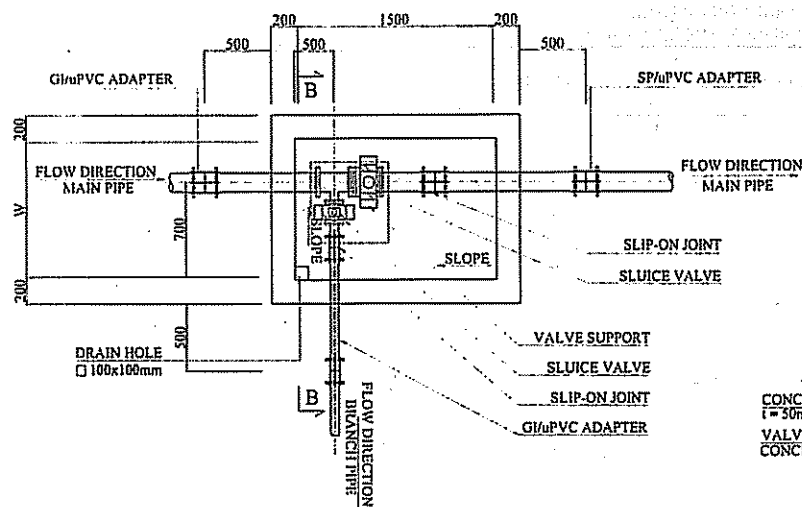


SECTION A-A

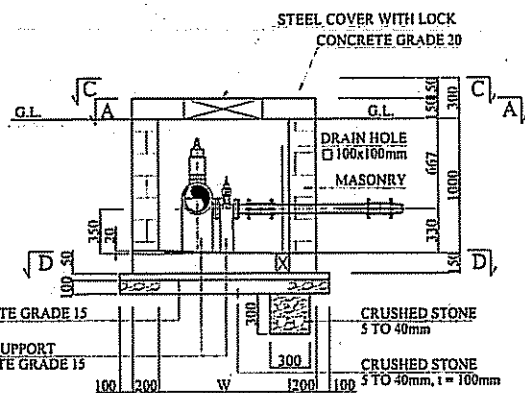


SECTION B-B

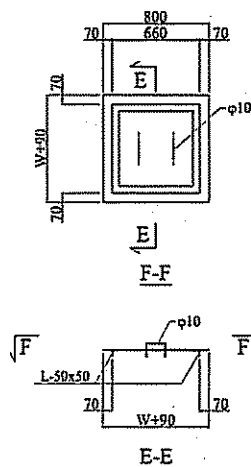
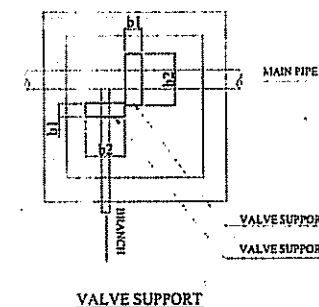
PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	CONSULTANT NIPPON KOEI CO., LTD.		DRAWING TITLE PUBLIC STAND FOR FOUR TAPS	
	JAPAN INTERNATIONAL COOPERATION AGENCY MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:30	DATE FEBRUARY 2006
			DRAWING NO. TD-004	



SECTION A-A



SECTION B-B

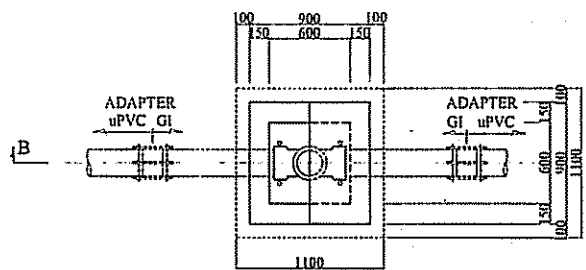


STEEL COVER WITH LOCK

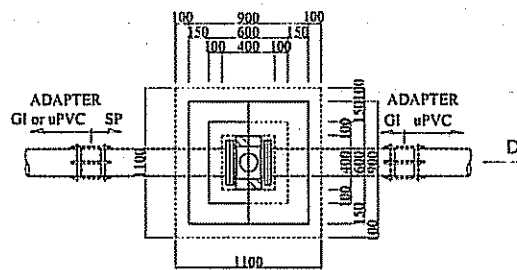
	PIPE DIAMETER (mm)				W (mm)	COVER WITH LOCK
	MAIN PIPE	MAIN PIPE IN CHAMBER	BRANCH PIPE	BRANCH PIPE IN CHAMBER		
TYPE A	uPVC 63	GI 50	uPVC 63	GI 50	800	2
	uPVC 75	GI 65	uPVC 63	GI 50		
	uPVC 75	GI 65	uPVC 75	GI 65		
TYPE B	uPVC 90	GI 80	uPVC 63	GI 50	1000	2
	uPVC 90	GI 80	uPVC 75	GI 65		
	uPVC 90	GI 80	uPVC 90	GI 80		
	uPVC 110	GI 100	uPVC 90	GI 80		
TYPE C	uPVC 110	GI 100	uPVC 110	GI 100	1400	2
	uPVC 125	GI 100	uPVC 125	GI 100		
	uPVC 140	GI 125	uPVC 140	GI 125		
	uPVC 160	GI 150	uPVC 160	GI 150		
	uPVC 200	GI 150	uPVC 200	GI 150		

Note : Surface of stone block shall be plastered with 25mm thickness.
: Dimension at valve support shall change based on the valve length

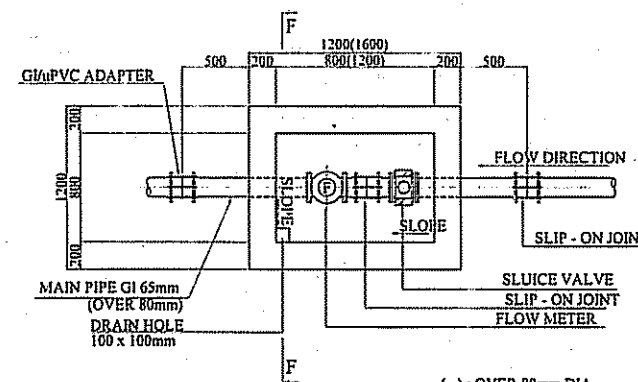
PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE VALVE CHAMBER		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:40	DATE FEBRUARY 2006	DRAWING NO. TD-005



SECTION A-A
Scale 1:40

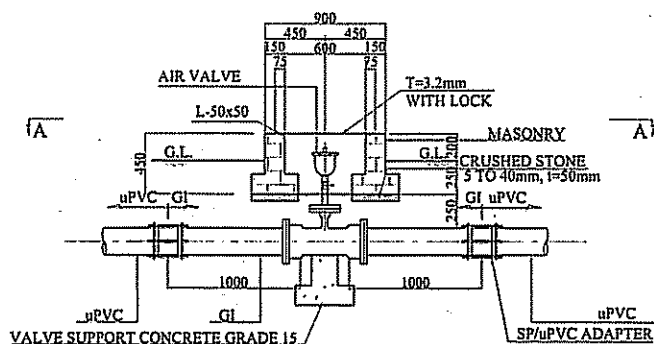


SECTION C-C
Scale 1:40

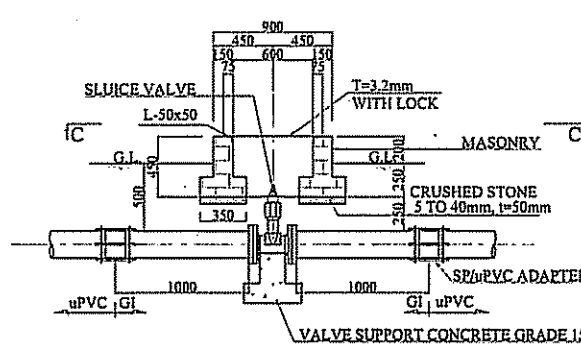


SECTION E-E
Scale 1:40

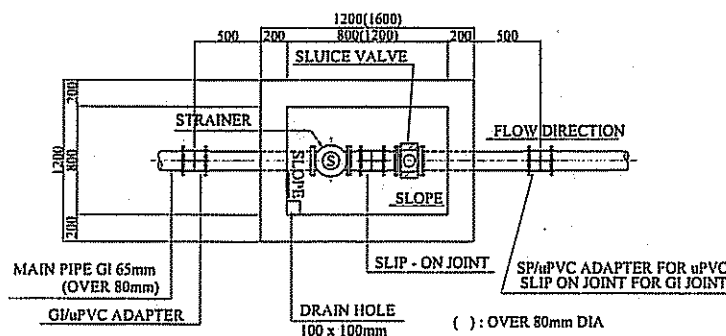
() : OVER 80mm DIA



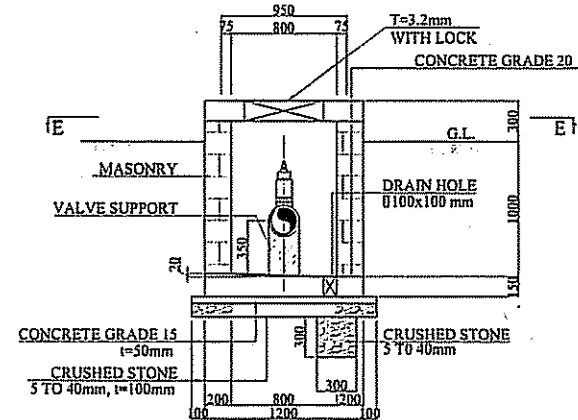
SECTION B-B
AIR VALVE CHAMBER
Scale 1:40



SECTION D-D
SLUICE VALVE CHAMBER
Scale 1:40



SLUICE VALVE WITH STRAINER
Scale 1:40



SECTION F-F
FLOW METER CHAMBER
Scale 1:40

Note : Surface of stone block shall be plastered with 25mm thickness.
: Dimension of valve support shall be varied based on the valve length.

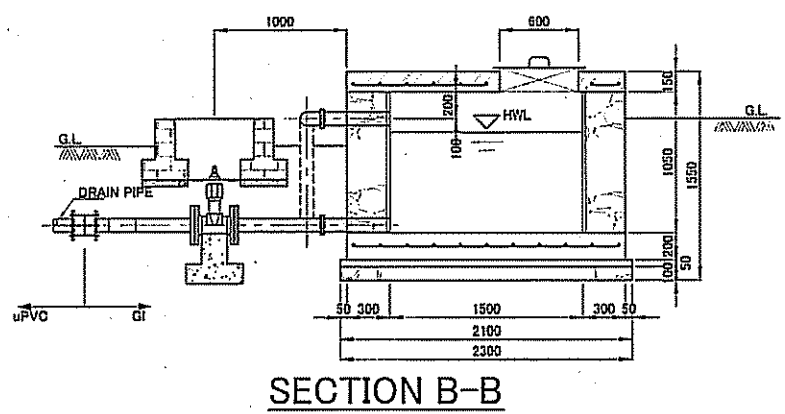
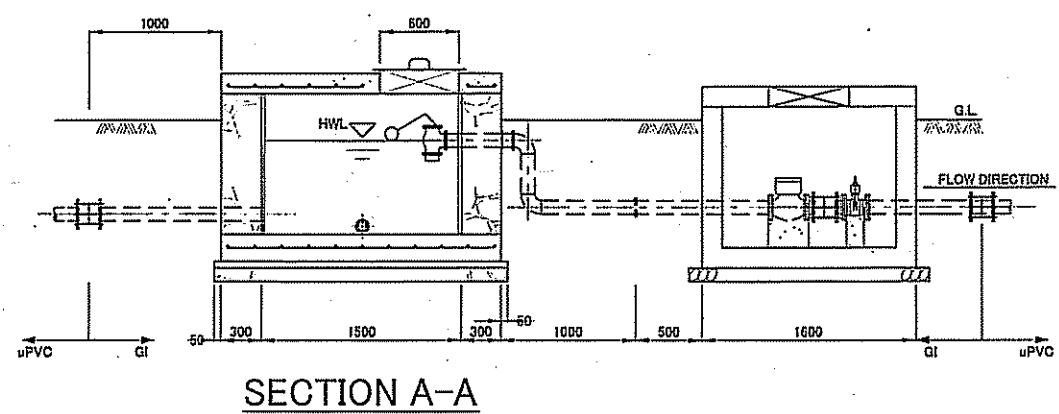
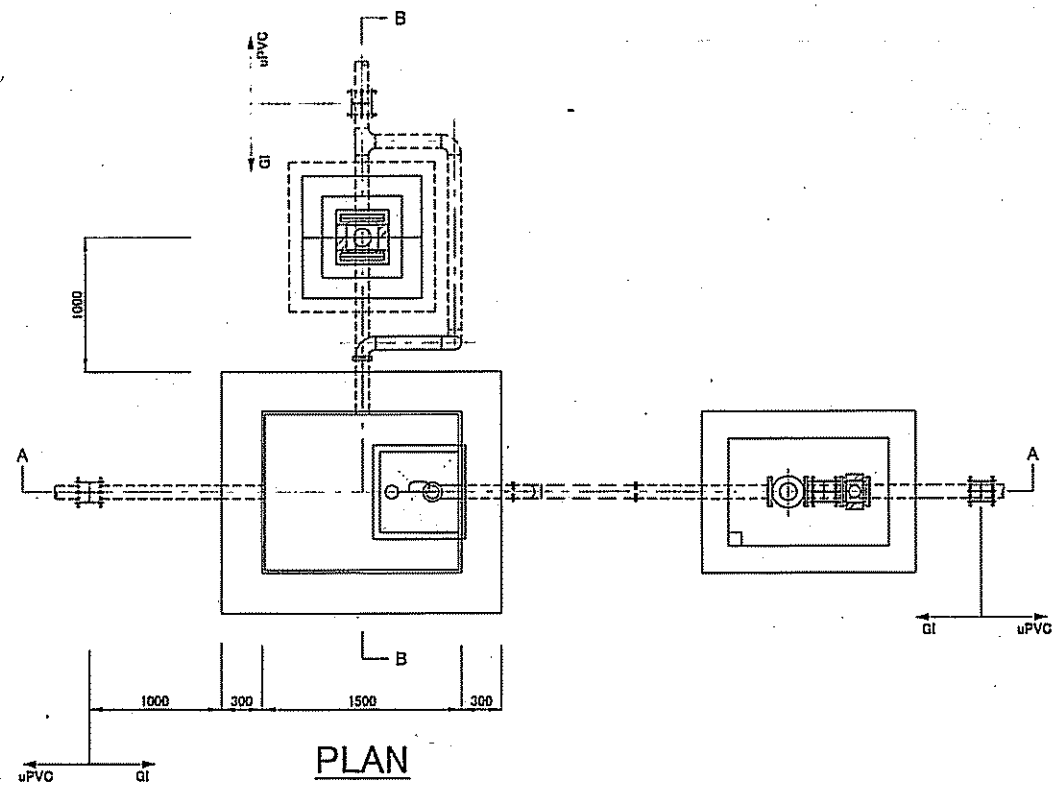
PROJECT NAME
THE PROJECT FOR RURAL WATER SUPPLY

JAPAN INTERNATIONAL COOPERATION AGENCY
MINISTRY OF LAND, ENVIRONMENT, FORESTRY,
WATER AND MINES
THE REPUBLIC OF RWANDA

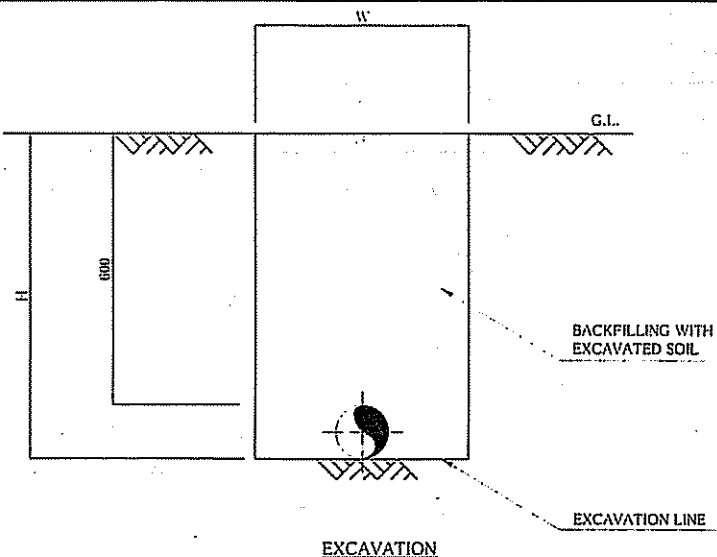
CONSULTANT
NIPPON KOEI CO.,LTD.

DRAWING TITLE
AIR VALVE, SLUICE VALVE AND FLOW METER CHAMBERS

SCALE 1:40 1:30	DATE FEBRUARY 2006	DRAWING NO. TD-006
--------------------	-----------------------	-----------------------



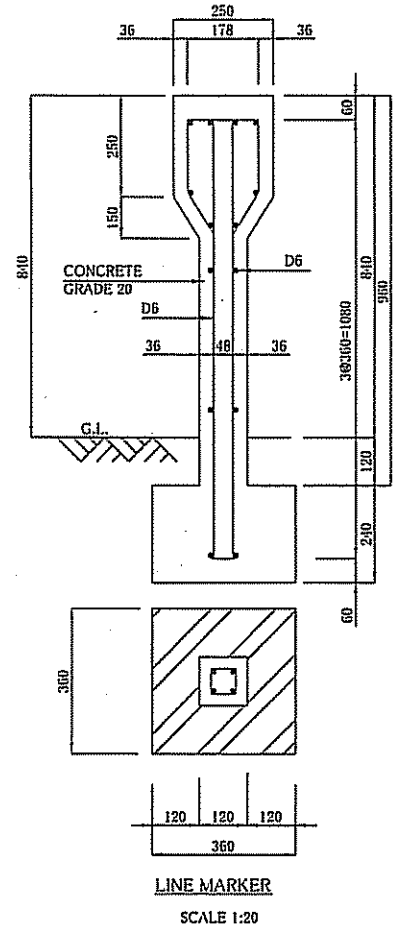
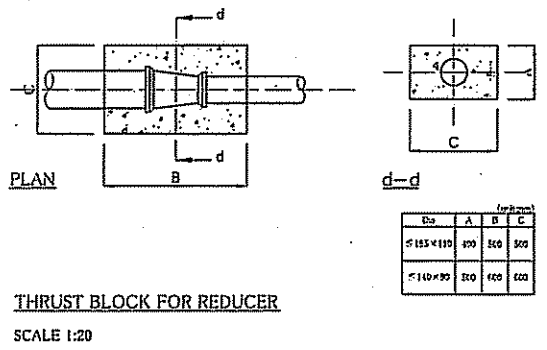
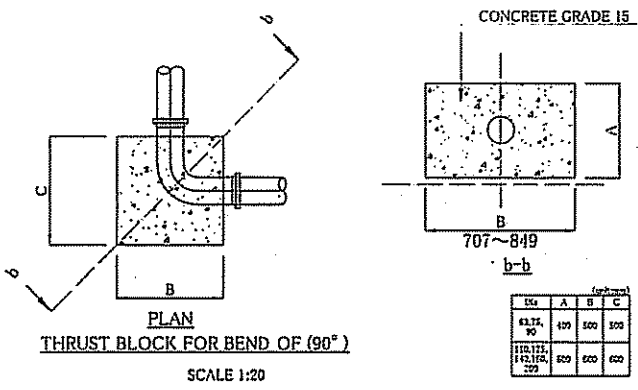
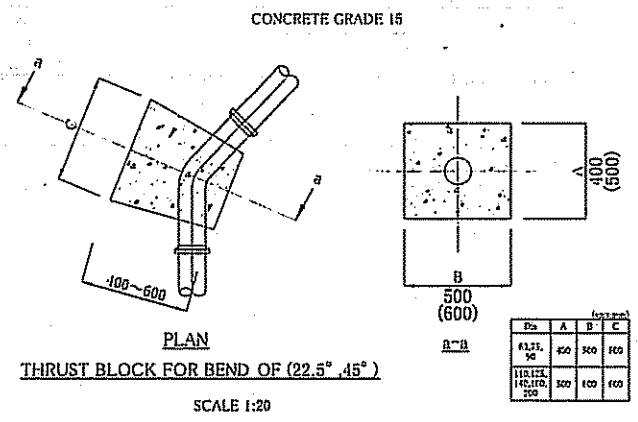
PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO.,LTD.	DRAWING TITLE BREAK PRESSURE TANK TYPE B		
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:40	DATE FEBRUARY 2006	DRAWING NO. TD-007



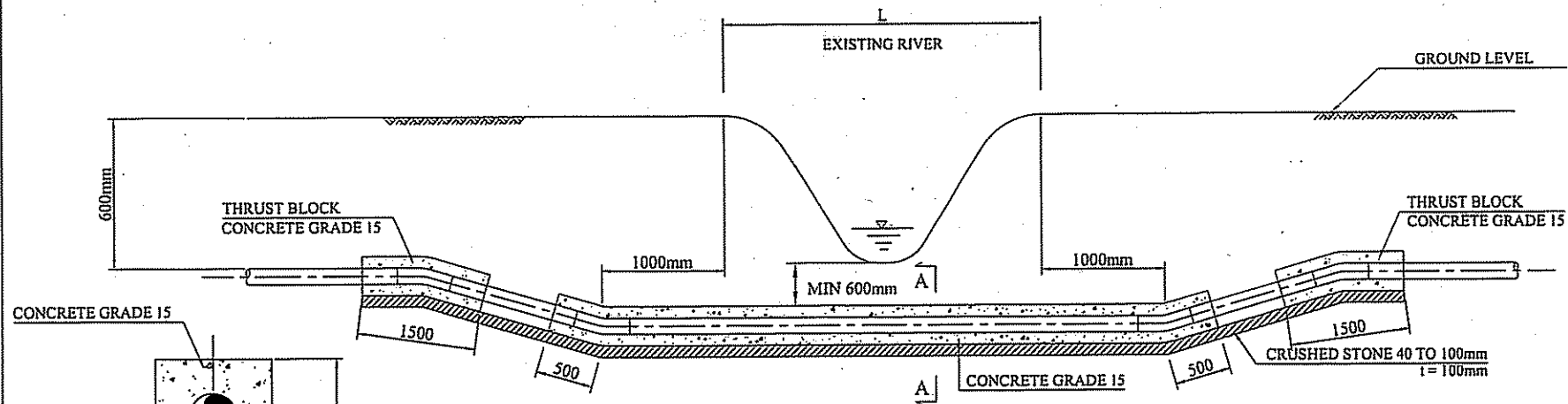
Dimension of Manual Excavation

Pipe Diameter (mm)	Width: W (m)	Excavation Depth: H (m)
63,75,90	0.60	0.70
110,125,140	0.60	0.75
160,200	0.70	0.80

Note: Excavated soil shall be used for backfilling
 : Surplus soil shall be spoiled.
 : Sand with 100mm in thickness shall be bedded below the pipe in case of hard ground formation such as rock, stone and etc.
 : Line marker shall be installed at valve chambers and at all changes of horizontal alignment and of transmission and distribution pipeline at 250m intervals
 : Thrust block shall be installed at all changes of horizontal alignment of transmission and distribution pipeline



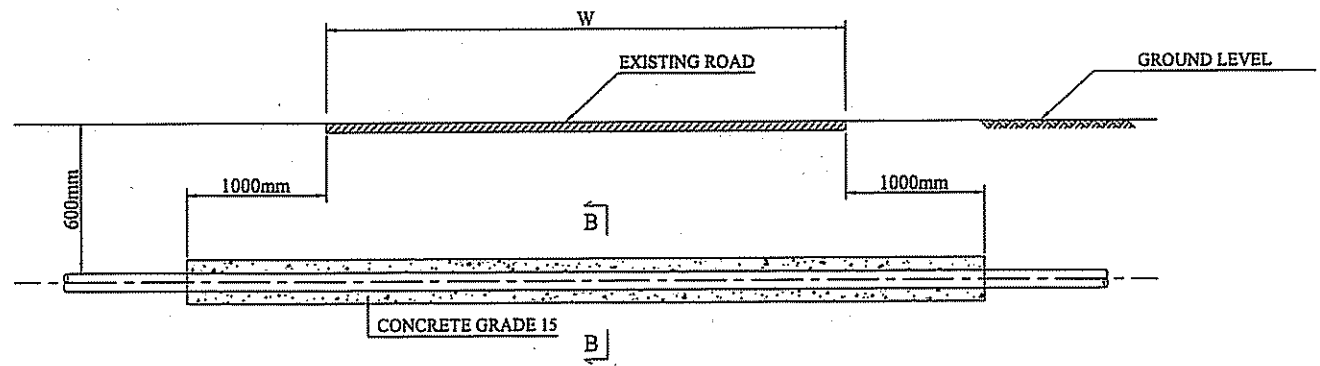
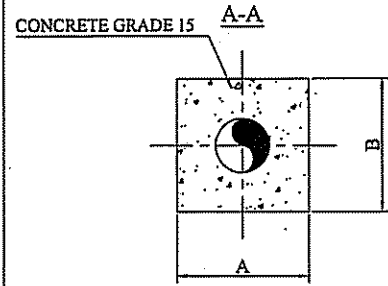
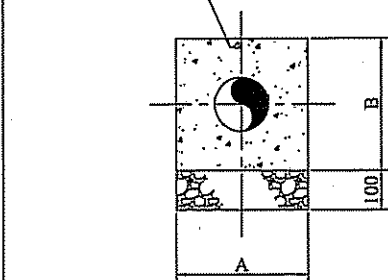
PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE PIPE INSTALLATION, LINE MARKER AND THRUST BLOCK	
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:15 1:20 NONE	DATE FEBRUARY 2006



RIVER CROSSING

(unit:mm)

Dia	A	B
63,75, 90	300	300
110,125, 140	350	350
160, 200	400	400



ROAD CROSSING

(unit:mm)

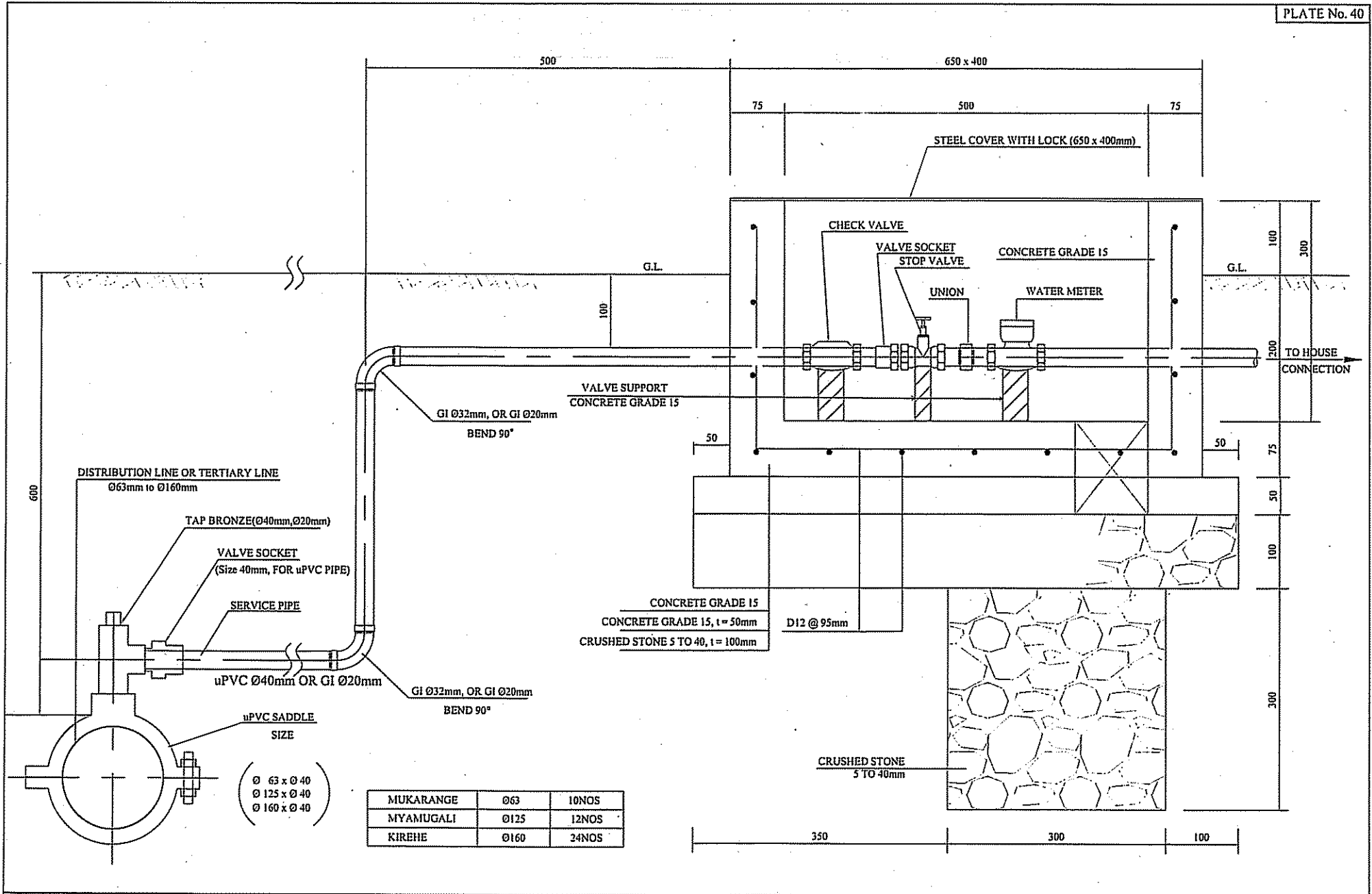
Dia	A	B
63,75, 90	300	300
110,125, 140	350	350
160, 200	400	400

PROJECT NAME
THE PROJECT FOR RURAL WATER SUPPLY

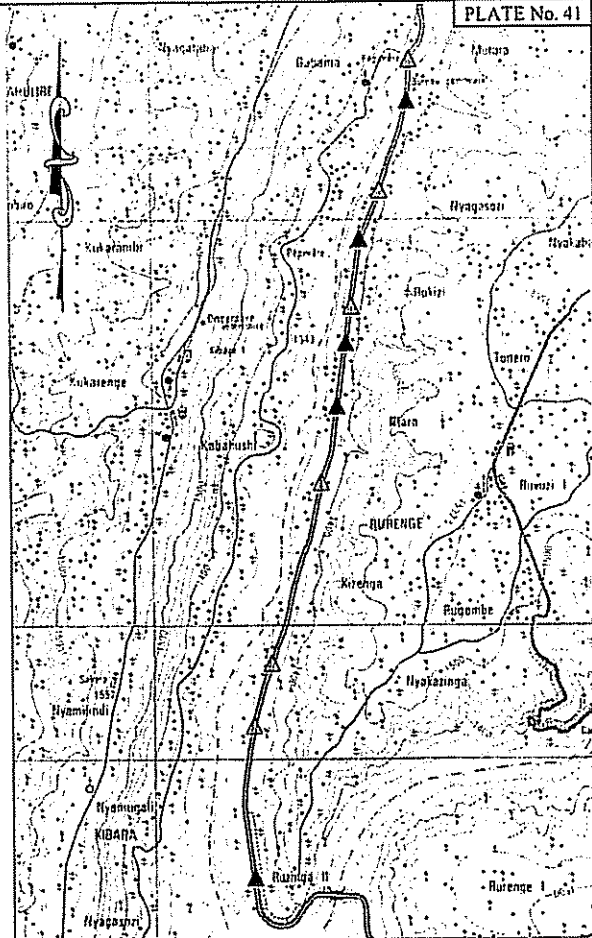
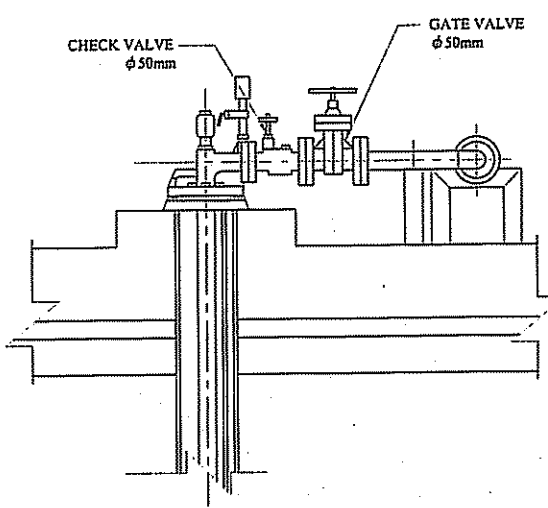
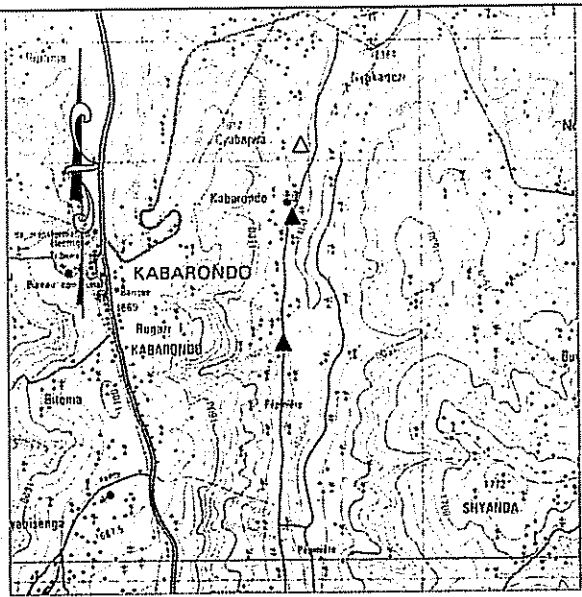
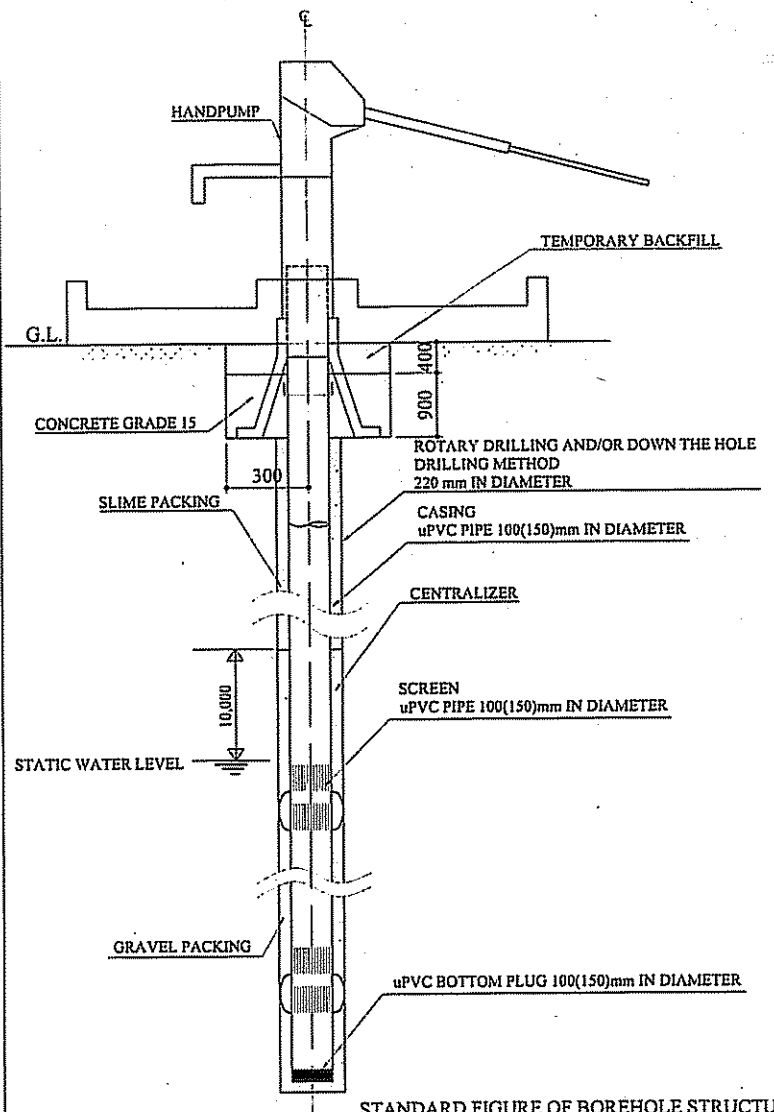
JAPAN INTERNATIONAL COOPERATION AGENCY
MINISTRY OF LAND, ENVIRONMENT, FORESTRY,
WATER AND MINES
THE REPUBLIC OF RWANDA

CONSULTANT
NIPPON KOEI CO.,LTD.

DRAWING TITLE
RIVER AND ROAD CROSSING OF PIPE
SCALE NONE
DATE FEBRUARY 2006
DRAWING NO. TD-009



PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO., LTD.	DRAWING TITLE CONSUMER CONNECTION	
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:5	DATE FEBRUARY 2006
			DRAWING NO. TD-010	



LEGEND

- ▲ NEW HAND PUMP
- △ HAND PUMP FOR REHABILITATION
- ◻ HAND PUMP IN USE

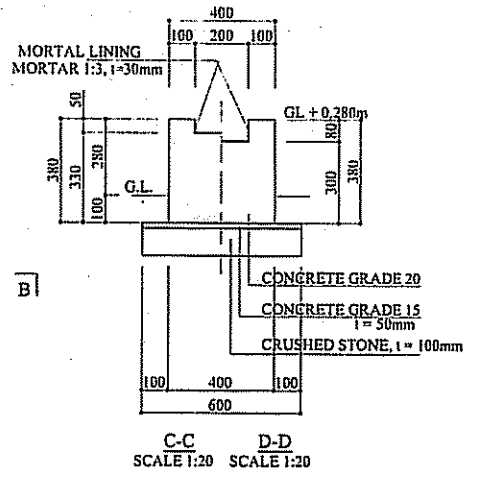
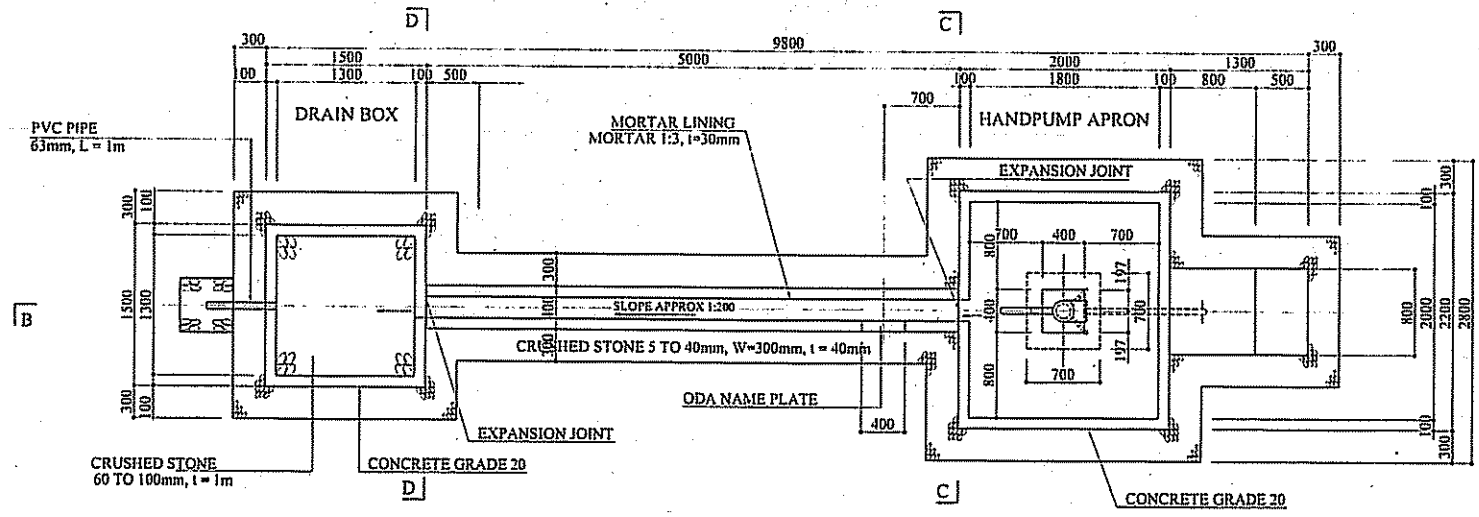
0 1000 2000 3000
 SCALE 1:50000

NOTE : SEE PW004 FOR RWINKWAVU SITE

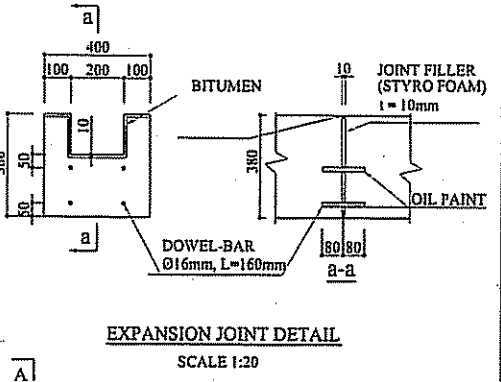
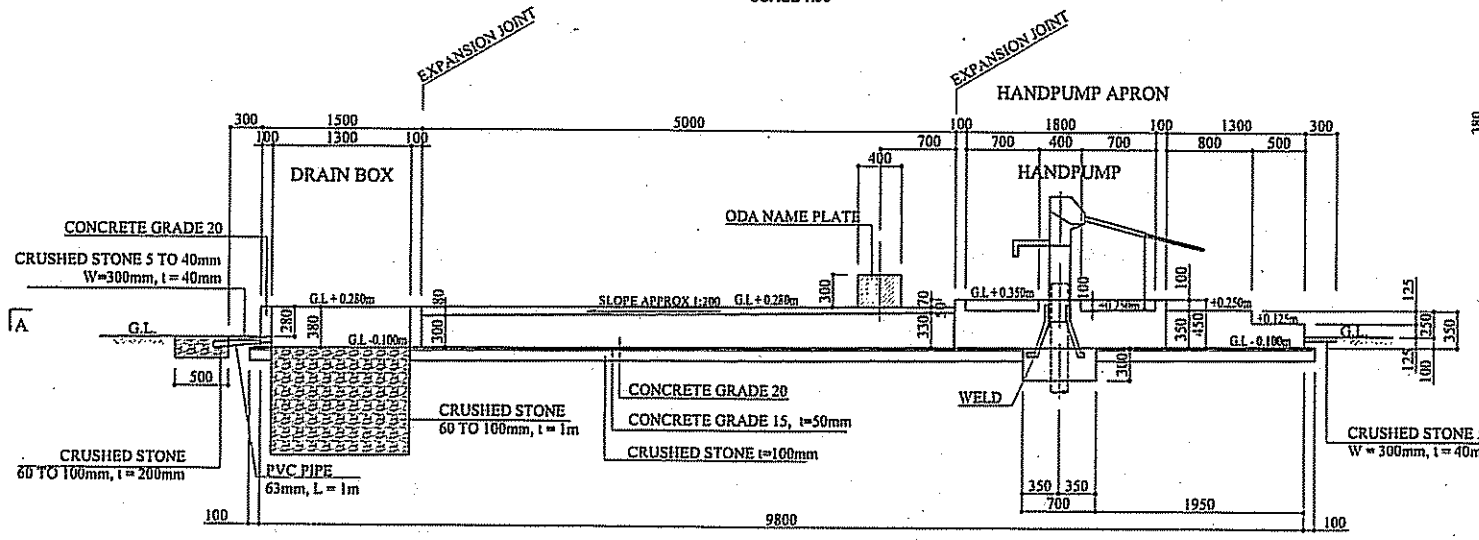
BOREHOLE DRILLING

NEW SECTOR NAME	NO. OF BOREHOLE	CASING PIPE DIAMETER(mm)	AVERAGE DEPTH(m)	PUMP TYPE
RWINKWAVU	8	100	50	HAND PUMP
KABARONDO	2	100	51	HAND PUMP
MURAMA	5	100	50	HAND PUMP
KAZABAZANA	1	150	55	MOTOR PUMP

PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT NIPPON KOEI CO.,LTD.	DRAWING TITLE BOREHOLE STRUCTURE	
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE None 1/5000	DATE FEBRUARY 2006



A-A
SCALE 1:50



EXPANSION JOINT DETAIL
SCALE 1:20

B-B
SCALE 1:50

PROJECT NAME THE PROJECT FOR RURAL WATER SUPPLY	CLIENT JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANT Ⓞ NIPPON KOEI CO., LTD.	DRAWING TITLE STRUCTURE OF HAND PUMP FACILITY	
	MINISTRY OF LAND, ENVIRONMENT, FORESTRY, WATER AND MINES THE REPUBLIC OF RWANDA		SCALE 1:50 1:20	DATE FEBRUARY 2006