

District: Kirehe	
Sector: Kigina	
Water Source: Gasebura	Type: Spring
Structure Data	
1. Intake	1 nos
2. Water Conveyance Pipe	Material: uPVC(PN10) Dia.: D75mm, Length: L=50m
3. Receiving Tank	Material: Reinforced Concrete Volume: 80m <sup>3</sup> x 1 nos
4. Pump	238L/min x 200mH x 15kw x 400V Number: 2nos
5. Generator	Output: 65 kVA
6. Transmission Pipe	Material: Polyethylene Lined Steel Pipe(PLSP,30K) Dia.: D150mm, Length: L=230m Material: uPVC(20K) Dia.: D150mm, Length: L=39m Material: uPVC(PN16) Dia.: D160mm, Length: L=414m Material: uPVC(PN10) Dia.: D160mm, Length: L=796m
7. Distribution Reservoir	Material: Reinforced Concrete Volume: 120m <sup>3</sup>
8. Distribution Pipe	Material: uPVC(PN16) Dia.: D160mm, Length: L=853m Dia.: D110mm, Length: L=620m Dia.: D75mm, Length: L=1,036m Material: uPVC(PN10) Dia.: D160mm, Length: L=1,047m Dia.: D110mm, Length: L=3,250m Dia.: D90mm, Length: L=940m Dia.: D63mm, Length: L=3,000m Dia.: D50mm, Length: L=1773m Dia.: D40mm, Length: L=82m
9. Break Pressure Tank	Material: Wet Masonry Number: 3nos
10. Public Tap Stand	2 taps x 3 3 taps x 3 4 taps x 11

PLATE No.

NO.	No. of TAPs	ZONE	EASTING (m)	NORTHING (m)	ELEVATION (mAMSL)
1	4	36M	244,836	9,747,802	1656
2	2	36M	244,480	9,748,407	1616
3	4	36M	244,142	9,748,634	1602
4	3	36M	243,661	9,749,548	1649
5	4	36M	243,072	9,750,364	1667
6	4	36M	242,846	9,750,053	1650
7	3	36M	242,714	9,750,404	1637
8	3	36M	242,369	9,750,805	1604
9	4	36M	244,083	9,751,050	1622
10	4	36M	243,972	9,751,647	1638
11	4	36M	243,532	9,752,357	1637
12	4	36M	242,596	9,753,066	1590
13	4	36M	243,646	9,748,719	1605
14	2	36M	243,112	9,748,676	1626
15	4	36M	242,573	9,748,623	1637
16	4	36M	241,883	9,748,500	1630
17	2	36M	243,021	9,748,955	1654

Note: Coordinates are indicating the points of branch on main pipe.

NO.	ZONE	EASTING (m)	NORTHING (m)	ELEVATION (mKigina/Kirehe Local)
BM D-04	36M	247307.39	9746969.61	1471.78
BM D-05	36M	245862.00	9746865.00	1518.81
BM D-06	36M	245689.82	9747066.92	1618.73
BM D-07	36M	245170.39	9747184.25	1674.01
BM D-08	36M	245281.19	9747664.59	1690.34
BM D-09	36M	244739.06	9748011.92	1639.84
BM D-10	37M	243599.22	9749790.87	1654.21
BM D-11	38M	241882.87	9748499.57	1629.92

Note: Ellipsoid: WGS1984

PIPE LINE NAME	B.P.	E.P.	PIPE DIAMETER / LENGTH
<b>WATER CONVEYANCE PIPE</b>			
CO	GASEBURA W.S.	COLLECTION TANK	DN75, L=50
<b>TRANSMISSION PIPE</b>			
TR	PUMPING STA.	TANK MD1	DN150-PLSP/30K, L=230 DN150-uPVC/20K, L=39m DN160-uPVC/PN16, L=414m DN160, L=796m
<b>DISTRIBUTION PIPE</b>			
DS1	TANK MD1	PS08-3	DN160-uPVC/PN16, L=853m DN110-uPVC/PN16, L=620m DN160, L=1,047m DN110, L=612m DN90, L=940m DN63, L=333m DN50 L=1,093m DN110, L=2,638m DN63, L=1,631m DN40 L=82m
DS2	JCT02	PS12-4	DN75-uPVC/PN16, L=1,036m DN63 L=1036m DN50 L=286m
DS3	JCT01	PS16-4	DN63 L=1036m DN50 L=394m
DS4	JCT03	PS17-2	DN50 L=394m

(Pipe class is uPVC PN10 unless otherwise mentioned)

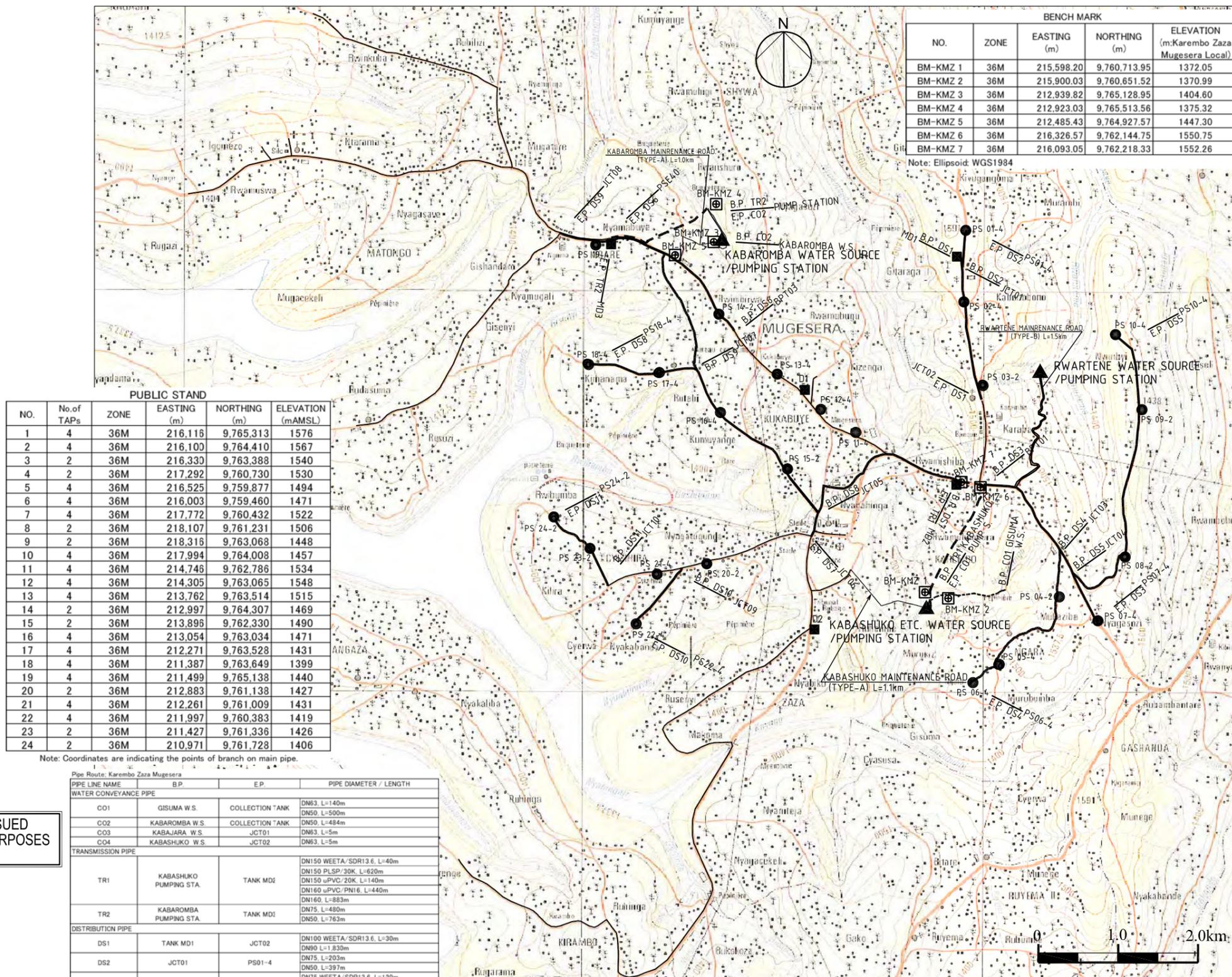
PROJECT NAME IMPLEMENTATION REVIEW STUDY ON THE PROJECT FOR RURAL WATER SUPPLY			
CLIENT MINISTRY OF INFRASTRUCTURE RWANDA		JAPAN INTERNATIONAL COOPERATION AGENCY	
TITLE KIGINA WATER SUPPLY SCHEME		GENERAL PLAN OF KIGINA SCHEME	
DATE March 2010	SCALE 1:30000	APPROVE	DESIGN
			DRAWING NO. KG_GN_010

図3-7 計画概要平面図 (キギナスキーム)



PLATE No.

District: Ngoma	
Sector: Karemba, Zaza, Mugesera	
Water Source: Rwartene, Gisuma, Kabajara, Kabashuko, Kabaromba   Type: Spring	
Structure	Data
1. Intake	2 nos
2. Water Conveyance Pipe	Material: uPVC(PN10) Dia: D63mm, Length: L=150m Dia: D50mm, Length: L=984m
3. Receiving Tank	(1)at Kabashuko W.S. Material: Reinforced Concrete Volume: 100m <sup>3</sup> (2)at Kabaromba W.S. Material: Reinforced Concrete Volume: 30m <sup>3</sup>
4. Transmission Pump	(1) at Rwartene 205L/min x 220mH x 15kw x 400V Number : 2nos (2) at Kabashuko 236L/min x 210mH x 15kw x 400V Number : 2nos (3) at Kabaromba 61L/min x 100mH x 2.2kw x 400V Number : 2nos
5. Generator	(1)at Kabashuko W.S. Output: 65 kVA (2)at Kabaromba W.S. Output: 12.5 kVA
6. Transmission Pipe	Material: Polyethylene Pipe(WEETA,SDR13.6) Dia: D150mm, Length: L=40m Material: Polyethylene Lined Steel Pipe(PLSP,30K) Dia: D150mm, Length: L=620m Material: uPVC(20K) Dia: D150mm, Length: L=140m Material: uPVC(PN16) Dia: D160mm, Length: L=440m Dia: D75mm, Length: L=480m Material: uPVC(PN10) Dia: D160mm, Length: L=883m Dia: D75mm, Length: L=763m
7. Distribution Reservoir	(1)at Kabashuko W.S. Material: Reinforced Concrete (MD2) Volume: 120m <sup>3</sup> (2)at Kabaromba W.S. Material: Reinforced Concrete (MD3) Volume: 40m <sup>3</sup>
8. Distribution Pipe	Material: Polyethylene Pipe(WEETA,SDR13.6) Dia: D100mm, Length: L=69m Dia: D75mm, Length: L=120m Dia: D50mm, Length: L=786m Material: uPVC(PN10) Dia: D110mm, Length: L=5,404m Dia: D90mm, Length: L=4,436m Dia: D75mm, Length: L=1,139m Dia: D63mm, Length: L=1,692m Dia: D50mm, Length: L=3,258m Dia: D40mm, Length: L=7,907m
9. Break Pressure Tank	Material: Wet Masonry Number: 4nos
10. Public Tap Stand	2 taps x 9 4 taps x 15 Existing Stand to be Rehabilitated x 27



BENCH MARK				
NO.	ZONE	EASTING (m)	NORTHING (m)	ELEVATION (m:Karemba Zaza Mugesera Local)
BM-KMZ 1	36M	215,598.20	9,760,713.95	1372.05
BM-KMZ 2	36M	215,900.03	9,760,651.52	1370.99
BM-KMZ 3	36M	212,939.82	9,765,128.95	1404.60
BM-KMZ 4	36M	212,923.03	9,765,513.56	1375.32
BM-KMZ 5	36M	212,485.43	9,764,927.57	1447.30
BM-KMZ 6	36M	216,326.57	9,762,144.75	1550.75
BM-KMZ 7	36M	216,093.05	9,762,218.33	1552.26

Note: Ellipsoid: WGS1984

PUBLIC STAND					
NO.	No. of TAPs	ZONE	EASTING (m)	NORTHING (m)	ELEVATION (m:AMSL)
1	4	36M	216,118	9,765,313	1576
2	4	36M	216,100	9,764,410	1567
3	2	36M	216,330	9,763,388	1540
4	2	36M	217,292	9,760,730	1530
5	4	36M	216,525	9,759,877	1494
6	4	36M	216,003	9,759,460	1471
7	4	36M	217,772	9,760,432	1522
8	2	36M	218,107	9,761,231	1506
9	2	36M	218,316	9,763,068	1448
10	4	36M	217,994	9,764,008	1457
11	4	36M	214,748	9,762,786	1534
12	4	36M	214,305	9,763,065	1548
13	4	36M	213,762	9,763,514	1515
14	2	36M	212,997	9,764,307	1469
15	2	36M	213,898	9,762,330	1490
16	4	36M	213,054	9,763,034	1471
17	4	36M	212,271	9,763,528	1431
18	4	36M	211,387	9,763,649	1399
19	4	36M	211,499	9,765,138	1440
20	2	36M	212,883	9,761,138	1427
21	4	36M	212,261	9,761,009	1431
22	4	36M	211,997	9,760,383	1419
23	2	36M	211,427	9,761,336	1426
24	2	36M	210,971	9,761,728	1406

Note: Coordinates are indicating the points of branch on main pipe.

PIPE LINE NAME	BP	EP	PIPE DIAMETER / LENGTH
WATER CONVEYANCE PIPE			
CO1	GISUMA W.S.	COLLECTION TANK	DN63, L=140m
CO2	KABAROMBA W.S.	COLLECTION TANK	DN50, L=500m
CO3	KABAJARA W.S.	JCT01	DN63, L=484m
CO4	KABASHUKO W.S.	JCT02	DN63, L=5m
TRANSMISSION PIPE			
TR1	KABASHUKO PUMPING STA.	TANK MD2	DN150 WEETA/SDR13.6, L=40m DN150 PLSP/30K, L=620m DN150 uPVC/20K, L=140m DN160 uPVC/PN16, L=440m DN160, L=883m
TR2	KABAROMBA PUMPING STA.	TANK MD3	DN75, L=480m DN50, L=763m
DISTRIBUTION PIPE			
DS1	TANK MD1	JCT02	DN100 WEETA/SDR13.6, L=30m DN90, L=1,830m DN75, L=203m DN50, L=397m
DS2	JCT01	PS01-4	DN75 WEETA/SDR13.6, L=120m DN50 WEETA/SDR13.6, L=50m DN63, L=1,692m DN63, L=561m
DS3	BPT01	PS07-4	DN75 WEETA/SDR13.6, L=120m DN50 WEETA/SDR13.6, L=50m DN63, L=1,692m DN63, L=561m
DS4	JCT03	PS06-4	DN75, L=936m DN40, L=1,643m
DS5	JCT04	PS10-4	DN50 WEETA/SDR13.6, L=736m DN50, L=2,861m DN40, L=306m
DS6	BPT03	PSE 40	DN40, L=1,999m
DS7	TANK MD2	JCT06	DN90, L=2,606m
DS8	JCT05	PS18-4	DN100 WEETA/SDR13.6, L=39m DN110, L=2,554m DN40, L=1,336m
DS9	JCT07	JCT08	DN110, L=2,850m
DS10	JCT09	PW 22-4	DN40, L=820m
DS11	JCT10	PS24-2	DN40, L=1,142m

(If there is no class it means uPVC PN10)

LEGEND

- DISTRIBUTION PIPE
- TRANSMISSION PIPE
- WATER SOURCE/PUMP HOUSE
- PUBLIC STAND
- DISTRIBUTION TANK
- MAINTENANCE ROAD TO BE CONSTRUCTED BY THE CONTRACTOR
- BENCH MARK

DRAWING ISSUED FOR TENDER PURPOSES ONLY

PROJECT NAME IMPLEMENTATION REVIEW STUDY ON THE PROJECT FOR RURAL WATER SUPPLY			
CLIENT MINISTRY OF INFRASTRUCTURE RWANDA		JAPAN INTERNATIONAL COOPERATION AGENCY	
TITLE KAREMBO ZAZA MUGESERA WATER SUPPLY SCHEME GENERAL PLAN OF KAREMBO ZAZA MUGESERA SCHEME			
DATE March 2010	SCALE 1:55556	APPROVE	DESIGN
			DRAWING NO. KZM_GN_010

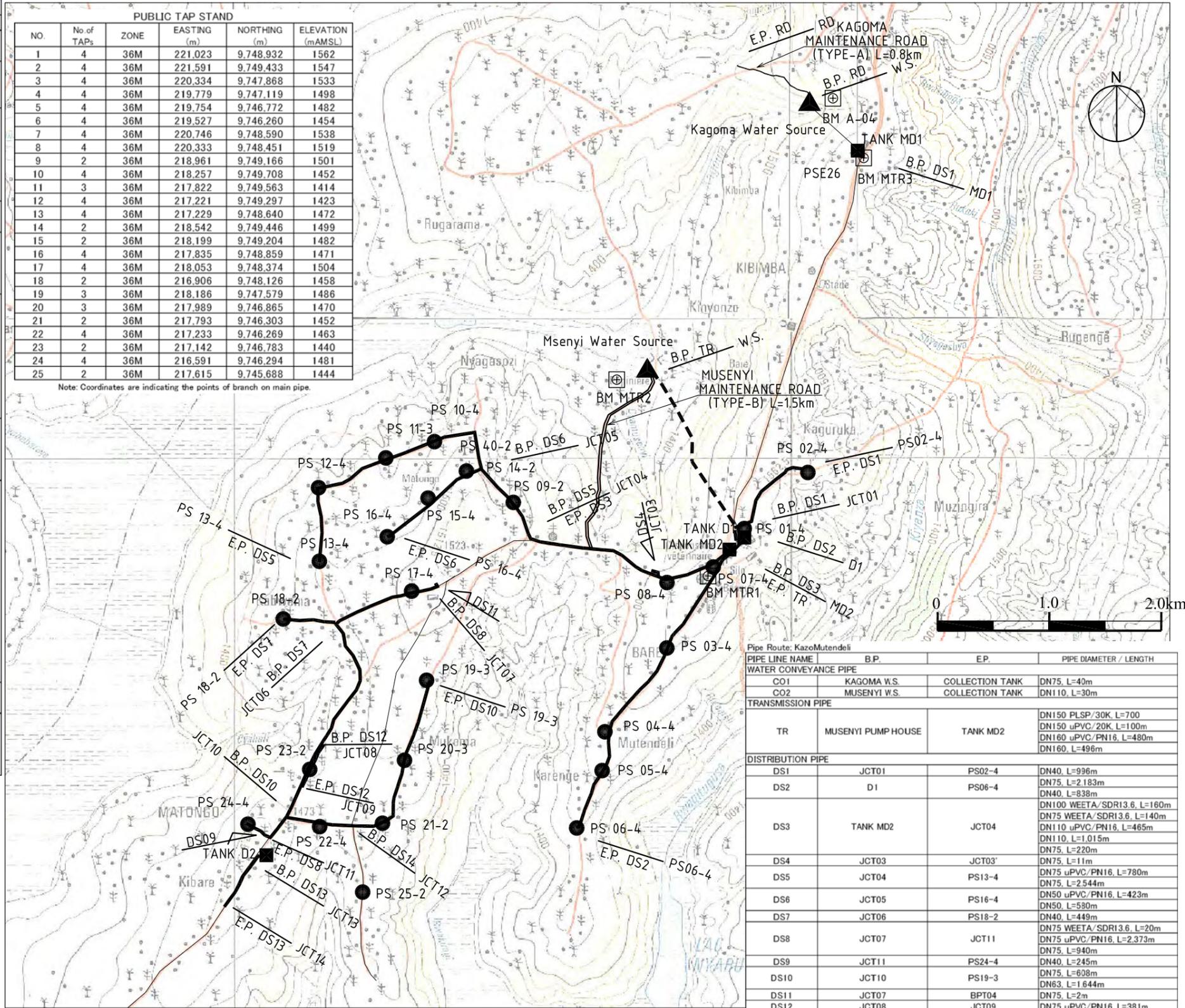
図3-9 計画概要平面図 (カレンボ・ザザ・ムゲセラスキーム)

PLATE No.

District: Ngoma	
Sector: Kazo, Mutendeli	
Water Source: Kagoma, Musenyi	Type: Spring
Structure	Data
1. Intake	1 no
2. Water Conveyance Pipe	Material: uPVC(PN10) Dia.: D110mm, Length: L=30m Dia.: D75mm, Length: L=42m
3. Receiving Tank	(1) at Kagoma W.S. Material: Reinforced Concrete Volume: 55m <sup>3</sup> (2) at Musenyi W.S. Material: Reinforced Concrete Volume: 100m <sup>3</sup>
4. Transmission Pump	at Musenyi 290L/min x 240mH x 30kw x 400V
5. Generator	(1) at Kagoma W.S. Output: 80 kVA (2) at Musenyi W.S. Output: 125 kVA
6. Transmission Pipe	Material: Polyethylene Lined Steel Pipe(PLSP,30K) Dia.: D150mm, Length: L=700m Material: uPVC(20K) Dia.: D150mm, Length: L=100m Material: uPVC(PN16) Dia.: D160mm, Length: L=480m Material: uPVC(PN10) Dia.: D160mm, Length: L=496m
7. Distribution Reservoir	Material: Reinforced Concrete (MD2) Volume: 140m <sup>3</sup> Existing Distribution Reservoir to be Rehabilitated Number : 2nos
8. Distribution Pipe	Material: Polyethylene Pipe(WEETA,SDR13.6) Dia.: D100mm, Length: L=160m Dia.: D75mm, Length: L=160m Material: uPVC(PN16) Dia.: D110mm, Length: L=465m Dia.: D75mm, Length: L=3,534m Dia.: D50mm, Length: L=423m Material: uPVC(PN10) Dia.: D110mm, Length: L=1,015m Dia.: D75mm, Length: L=6,508m Dia.: D63mm, Length: L=1,644m Dia.: D50mm, Length: L=580m Dia.: D40mm, Length: L=3,038m
9. Break Pressure Tank	Material: Wet Masonry Number: 5nos
10. Public Tap Stand	2 taps x 7 3 taps x 3 4 taps x 15 Existing Stand to be Rehabilitated x 27

NO.	No. of TAPs	ZONE	EASTING (m)	NORTHING (m)	ELEVATION (m AMSL)
1	4	36M	221,023	9,748,932	1562
2	4	36M	221,591	9,749,433	1547
3	4	36M	220,334	9,747,868	1533
4	4	36M	219,779	9,747,119	1498
5	4	36M	219,754	9,746,772	1482
6	4	36M	219,527	9,746,260	1454
7	4	36M	220,746	9,748,590	1538
8	4	36M	220,333	9,748,451	1519
9	2	36M	218,961	9,749,166	1501
10	4	36M	218,257	9,749,708	1452
11	3	36M	217,822	9,749,563	1414
12	4	36M	217,221	9,749,297	1423
13	4	36M	217,229	9,748,640	1472
14	2	36M	218,542	9,749,446	1499
15	2	36M	218,199	9,749,204	1482
16	4	36M	217,835	9,748,859	1471
17	4	36M	218,053	9,748,374	1504
18	2	36M	216,906	9,748,126	1458
19	3	36M	218,186	9,747,579	1486
20	3	36M	217,989	9,746,865	1470
21	2	36M	217,793	9,746,303	1452
22	4	36M	217,233	9,746,269	1463
23	2	36M	217,142	9,746,783	1440
24	4	36M	216,591	9,746,294	1481
25	2	36M	217,615	9,745,688	1444

Note: Coordinates are indicating the points of branch on main pipe.



**LEGEND**

- DISTRIBUTION PIPE
- TRANSMISSION PIPE
- WATER SOURCE/PUMP HOUSE
- PUBLIC STAND
- DISTRIBUTION TANK
- MAINTENANCE ROAD TO BE CONSTRUCTED BY THE CONTRACTOR
- BENCH MARK

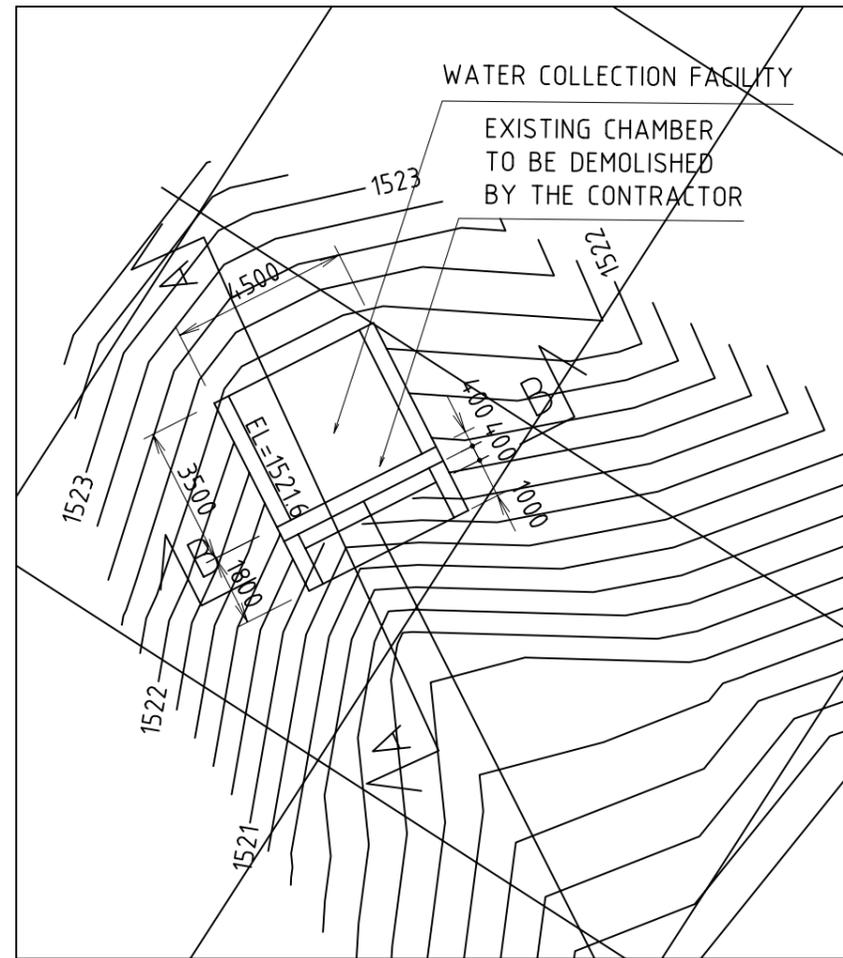
DRAWING ISSUED  
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ONLY

NO.	EASTING (m)	NORTHING (m)	ELEVATION (m:KazoMutendeli Local)
BM MTR-1	220,751.31	9,748,570.14	1540.45
BM MTR-2	219,865.82	9,750,123.39	1343.26
BM MTR-3	222,019.30	9,752,223.66	1596.16
BM MTR-4	221,595.62	9,752,707.82	1480.30

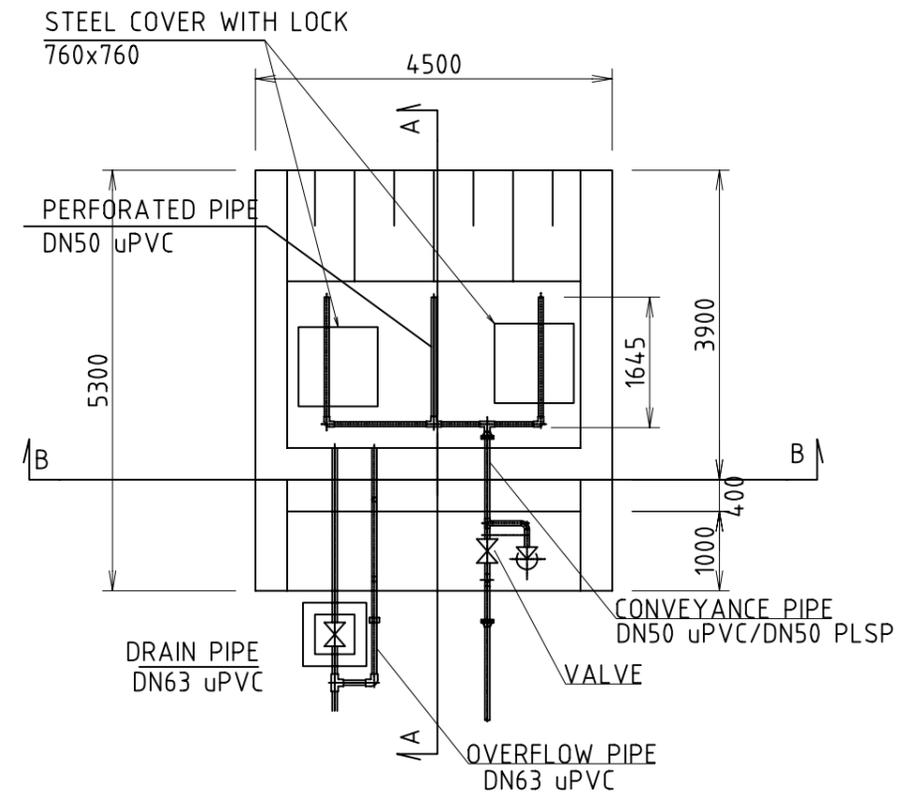
PIPE LINE NAME	B.P.	E.P.	PIPE DIAMETER / LENGTH
<b>WATER CONVEYANCE PIPE</b>			
CO1	KAGOMA W.S.	COLLECTION TANK	DN75, L=40m
CO2	MUSENYI W.S.	COLLECTION TANK	DN110, L=30m
<b>TRANSMISSION PIPE</b>			
TR	MUSENYI PUMP HOUSE	TANK MD2	DN150 PLSP/30K, L=700 DN150 uPVC/20K, L=100m DN160 uPVC/PN16, L=480m DN160, L=496m
<b>DISTRIBUTION PIPE</b>			
DS1	JCT01	PS02-4	DN40, L=996m
DS2	D1	PS06-4	DN75, L=2,183m DN40, L=838m
DS3	TANK MD2	JCT04	DN100 WEETA/SDR13.6, L=160m DN75 WEETA/SDR13.6, L=140m DN110 uPVC/PN16, L=465m DN110, L=1,015m DN75, L=220m
DS4	JCT03	JCT03'	DN75, L=11m
DS5	JCT04	PS13-4	DN75 uPVC/PN16, L=780m DN75, L=2,544m
DS6	JCT05	PS16-4	DN50 uPVC/PN16, L=423m DN50, L=580m
DS7	JCT06	PS18-2	DN40, L=449m
DS8	JCT07	JCT11	DN75 WEETA/SDR13.6, L=20m DN75 uPVC/PN16, L=2,373m DN75, L=940m
DS9	JCT11	PS24-4	DN40, L=245m
DS10	JCT10	PS19-3	DN75, L=608m DN63, L=1,644m
DS11	JCT07	BPT04	DN75, L=2m
DS12	JCT08	JCT09	DN75 uPVC/PN16, L=381m
DS13	JCT13	JCT14	DN75 uPVC/PN16, L=510m
DS14	JCT12	JCT12'	DN40 uPVC/PN, L=11m

PROJECT NAME IMPLEMENTATION REVIEW STUDY ON THE PROJECT FOR RURAL WATER SUPPLY	
CLIENT MINISTRY OF INFRASTRUCTURE RWANDA	JAPAN INTERNATIONAL COOPERATION AGENCY
TITLE KAZO MUTENDELI WATER SUPPLY SCHEME GENERAL PLAN OF KAZO MUTENDELI SCHEME	
DATE March 2010	SCALE 1:40000
APPROVE	DESIGN
DRAWING NO. KM_GN_010	

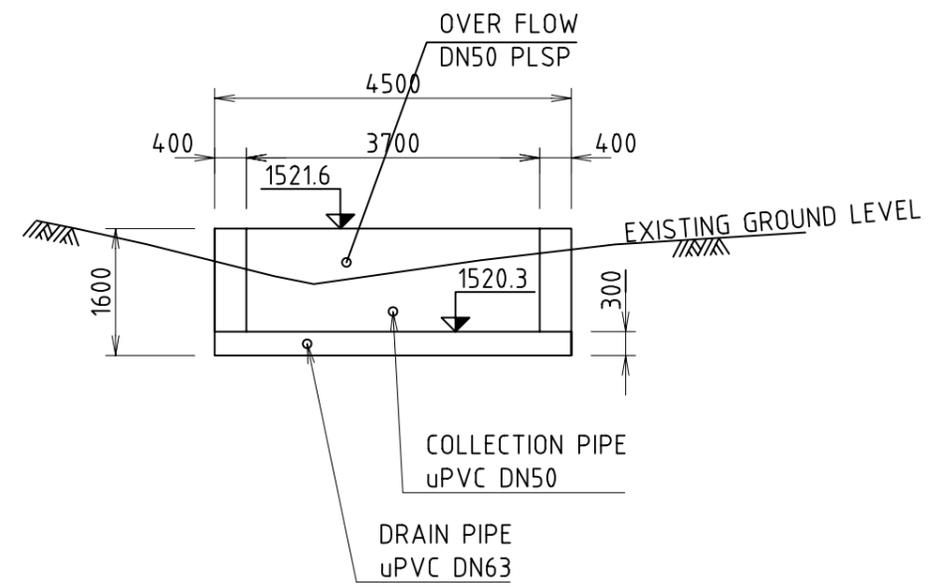
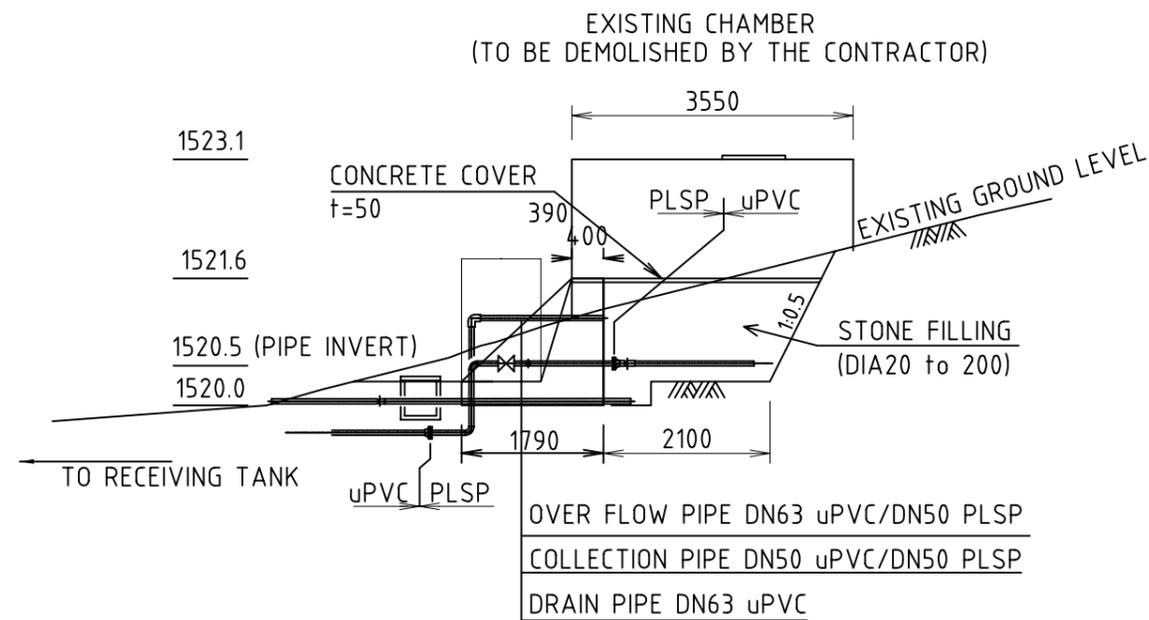
図3-10 計画概要平面図 (カゾ・ムテンデルスキーム)



WATER COLLECTION FACILITY (1:200)

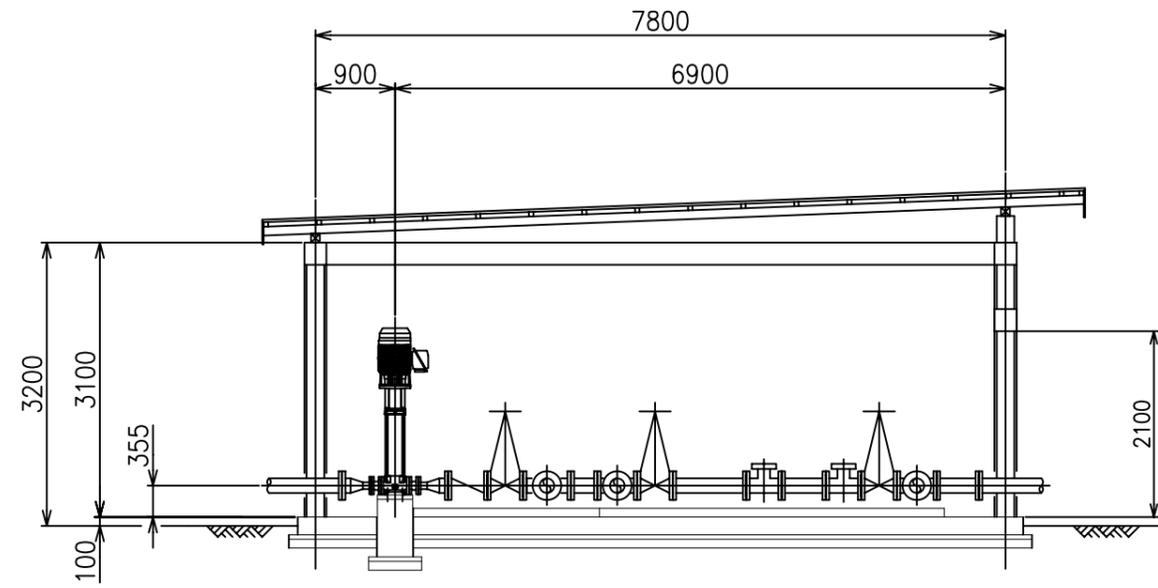
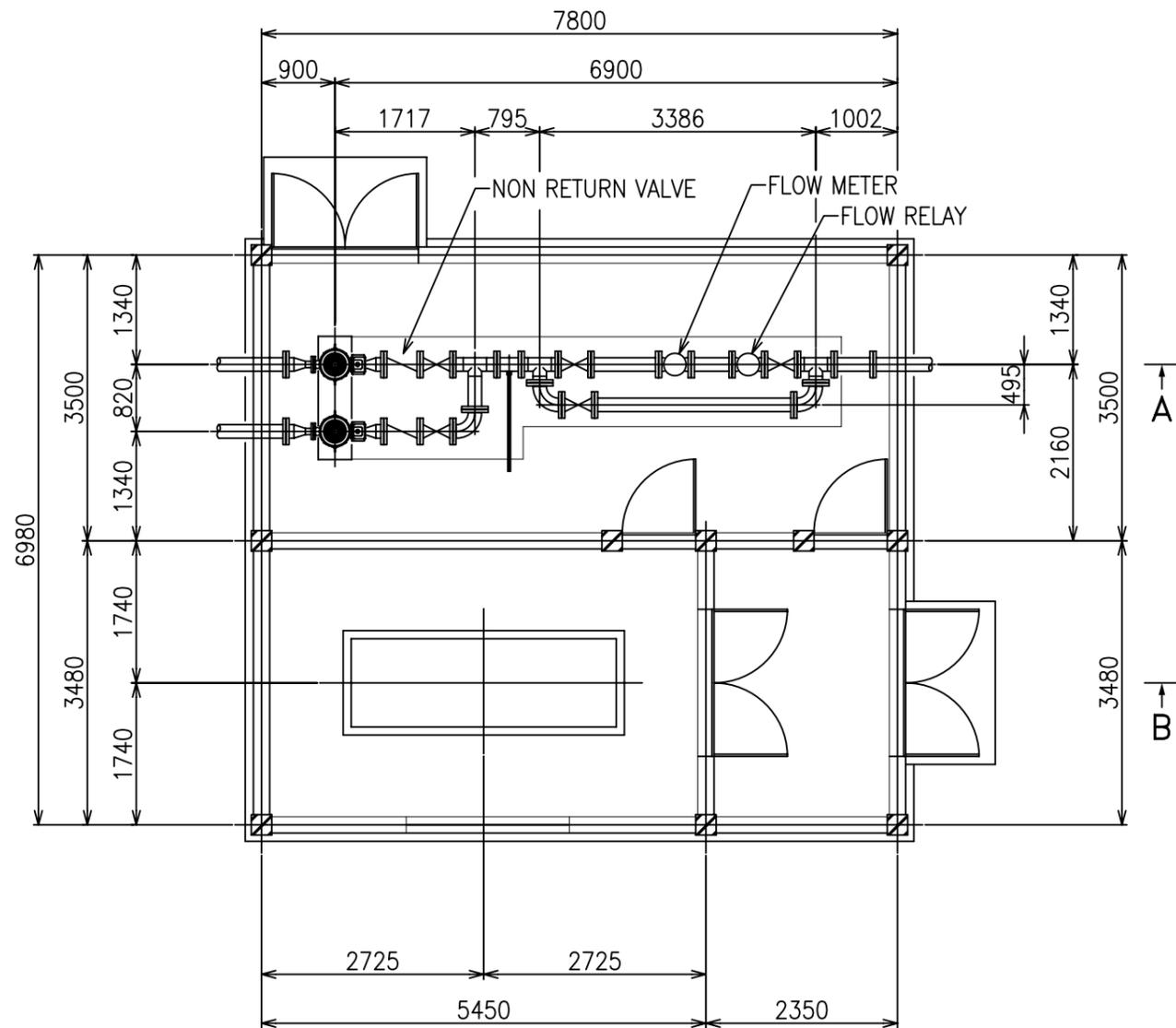


PLAN OF WATER COLLECTION FACILITY (1:100)

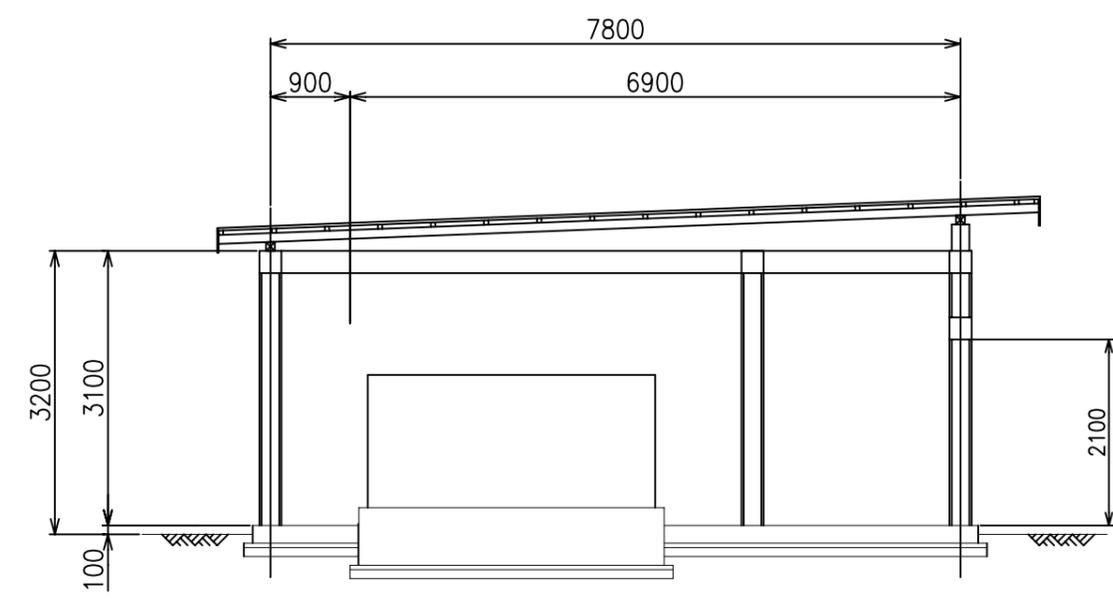


PROJECT NAME				
IMPLEMENTATION REVIEW STUDY ON THE PROJECT FOR RURAL WATER SUPPLY				
CLIENT				
MINISTRY OF INFRASTRUCTURE RWANDA			JAPAN INTERNATIONAL COOPERATION AGENCY	
TITLE				
KIGINA WATER SUPPLY WATER COLLECTION / PUMPING STATION AT GASEBURA (1 OF 2)				
DATE	SCALE	APPROVE	DESIGN	DRAWING NO.
March 2010				

PLATE No.



SECTION A-A  
SCALE 1:60

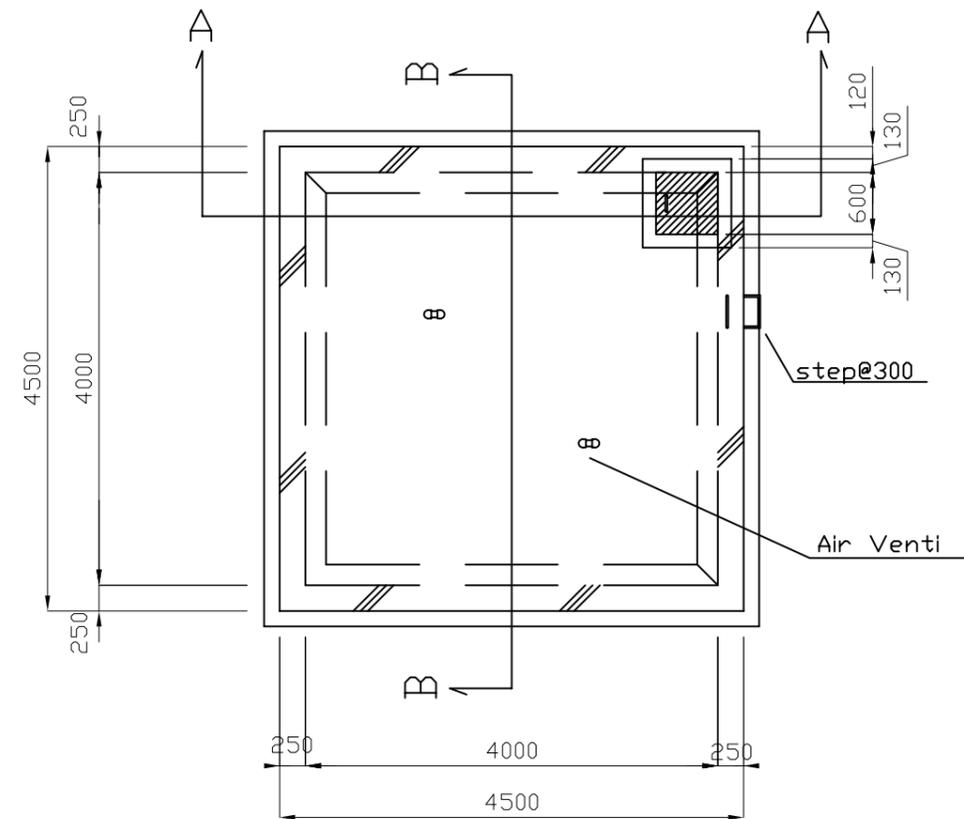


SECTION B-B  
SCALE 1:60

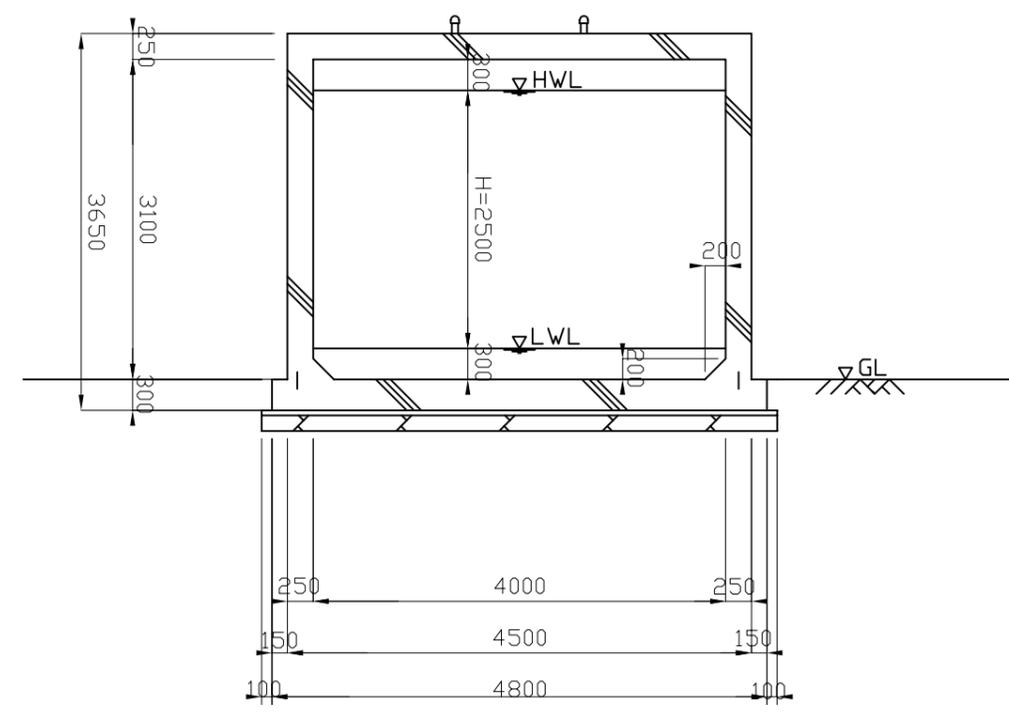
PROJECT NAME				
IMPLEMENTATION REVIEW STUDY ON THE PROJECT FOR RURAL WATER SUPPLY				
CLIENT				
MINISTRY OF INFRASTRUCTURE RWANDA			JAPAN INTERNATIONAL COOPERATION AGENCY	
TITLE				
TYPICAL DRAWINGS / CONTROL HOUSE WITH GENERATOR TYPE A				
DATE	SCALE	APPROVE	DESIGN	DRAWING NO.
March 2010				

図3-12 機械室 (ポンプ、発電機室) 平面・断面図

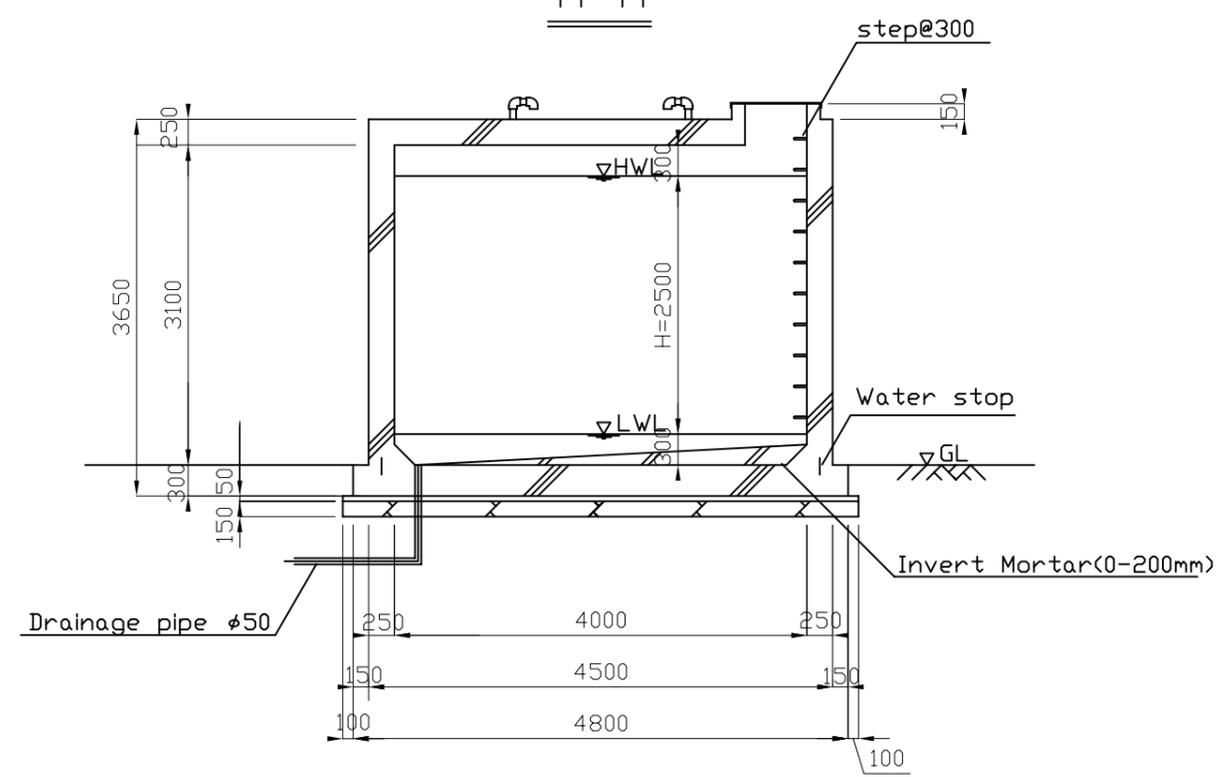
PLAN 1/100



B-B

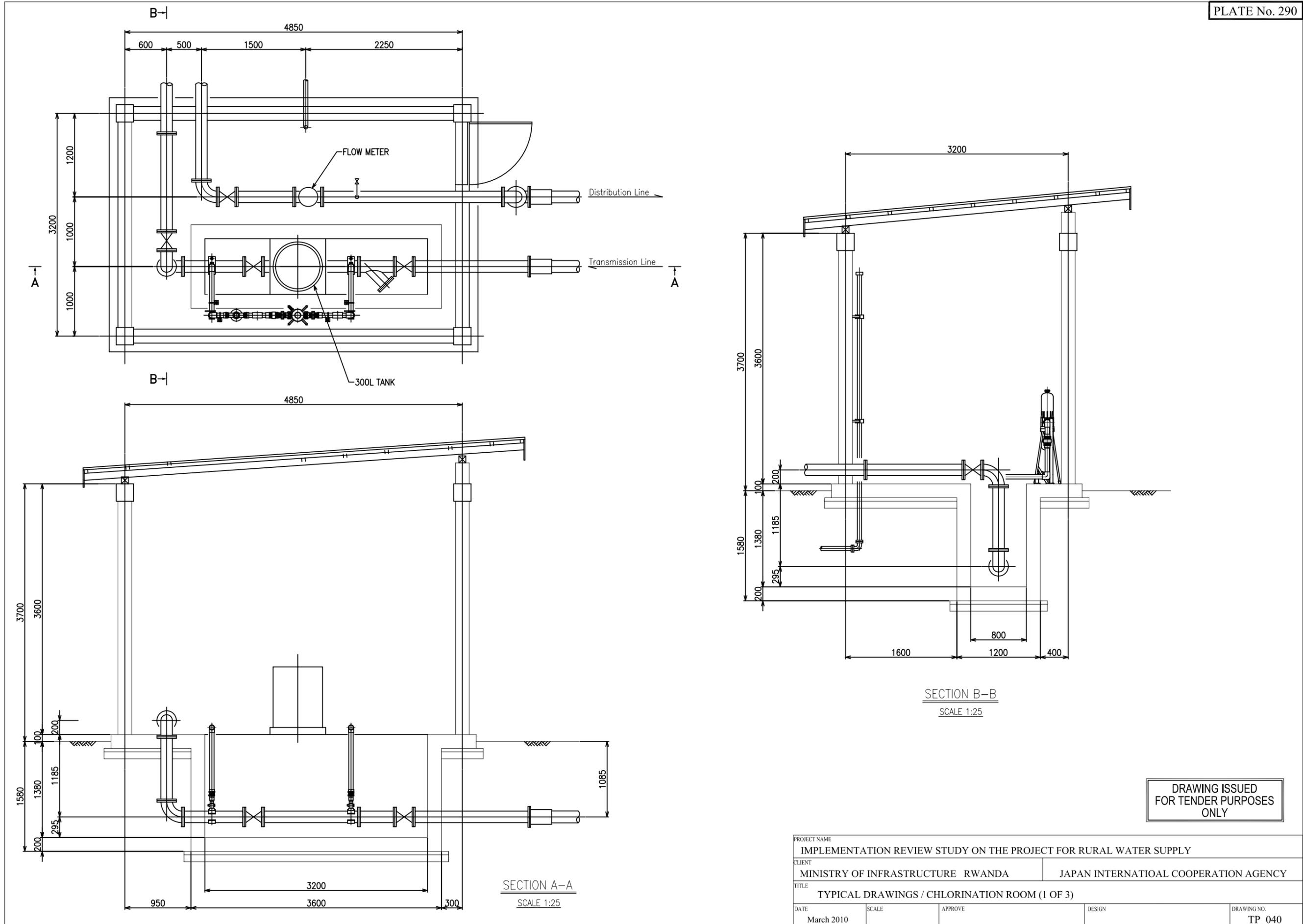


A-A



PROJECT NAME				
IMPLEMENTATION REVIEW STUDY ON THE PROJECT FOR RURAL WATER SUPPLY				
CLIENT				
MINISTRY OF INFRASTRUCTURE RWANDA			JAPAN INTERNATIONAL COOPERATION AGENCY	
TITLE				
Structure of Distribution Reservoir(40m)				
DATE	SCALE	APPROVE	DESIGN	DRAWING NO.
March 2010				

図3-13 配水池平面・断面図



DRAWING ISSUED FOR TENDER PURPOSES ONLY

図3-14 塩素滅菌設備構造図

