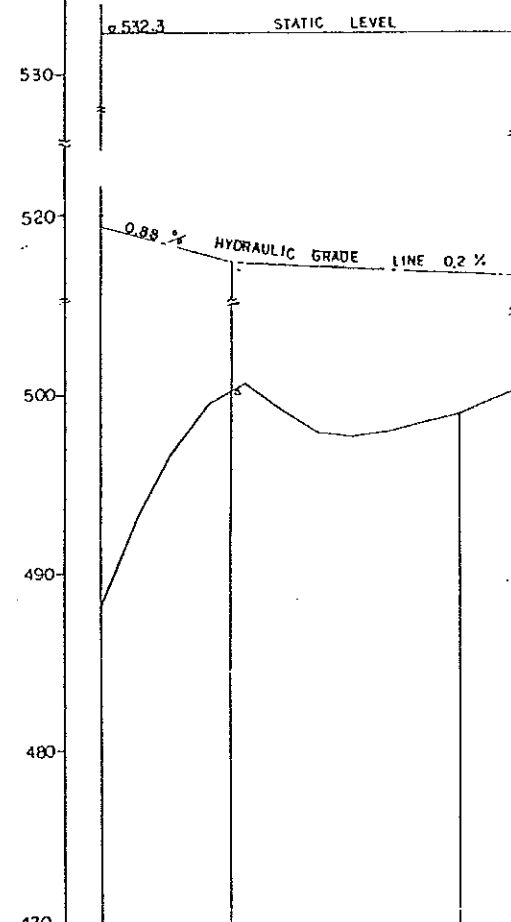
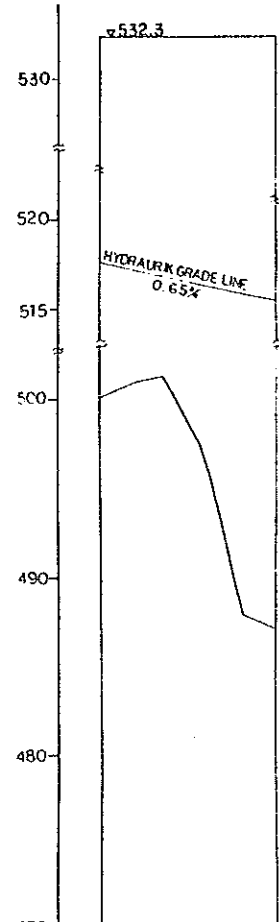
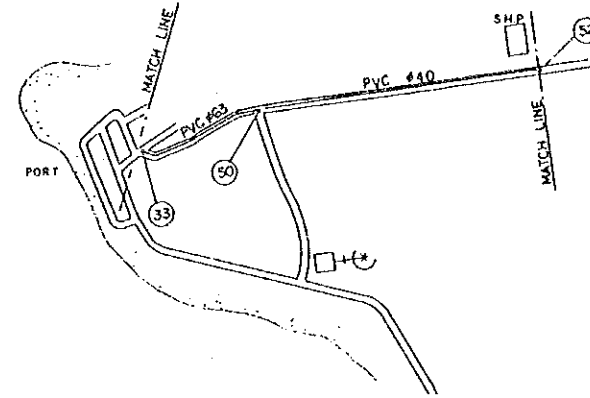
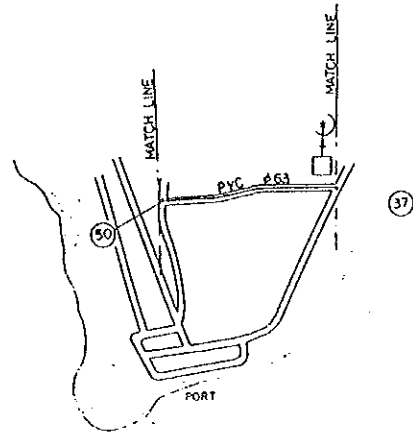
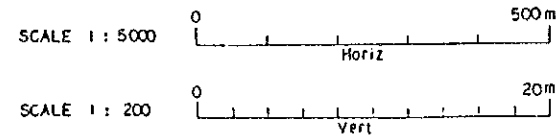


PLAN



DATUM	470		470	
SIZE & TYPE OF PIPE	PVC #63 L=248 m		PVC #63 L=184 m PVC #40 L=395 m	
HYDRAULIC GRADIENT LEVEL (M)	518.6	517.0	520.2	517.8
GROUND LEVELS (M)	500.90	500.96	498.00	500.00
DISTANCE (M)	0.00	8.90	0.00	395.00
STATION	0+00	0+09	0+00	3+95



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

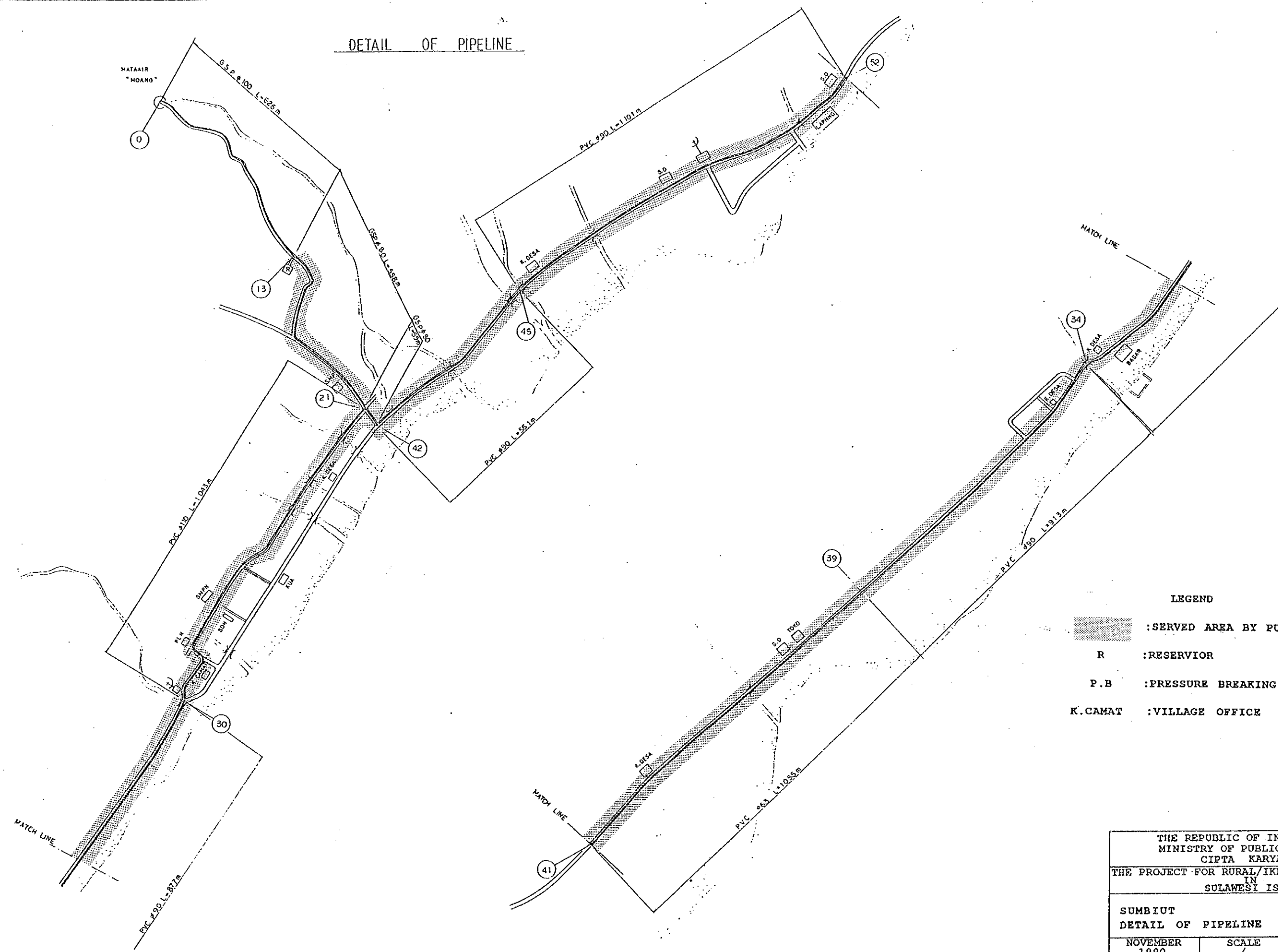
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND


BONEBOBAKAL
 PLAN & LONGITUDINAL SECTION (3/3)

NOVEMBER 1990	SCALE /	DRAWING NO. 47
------------------	------------	-------------------

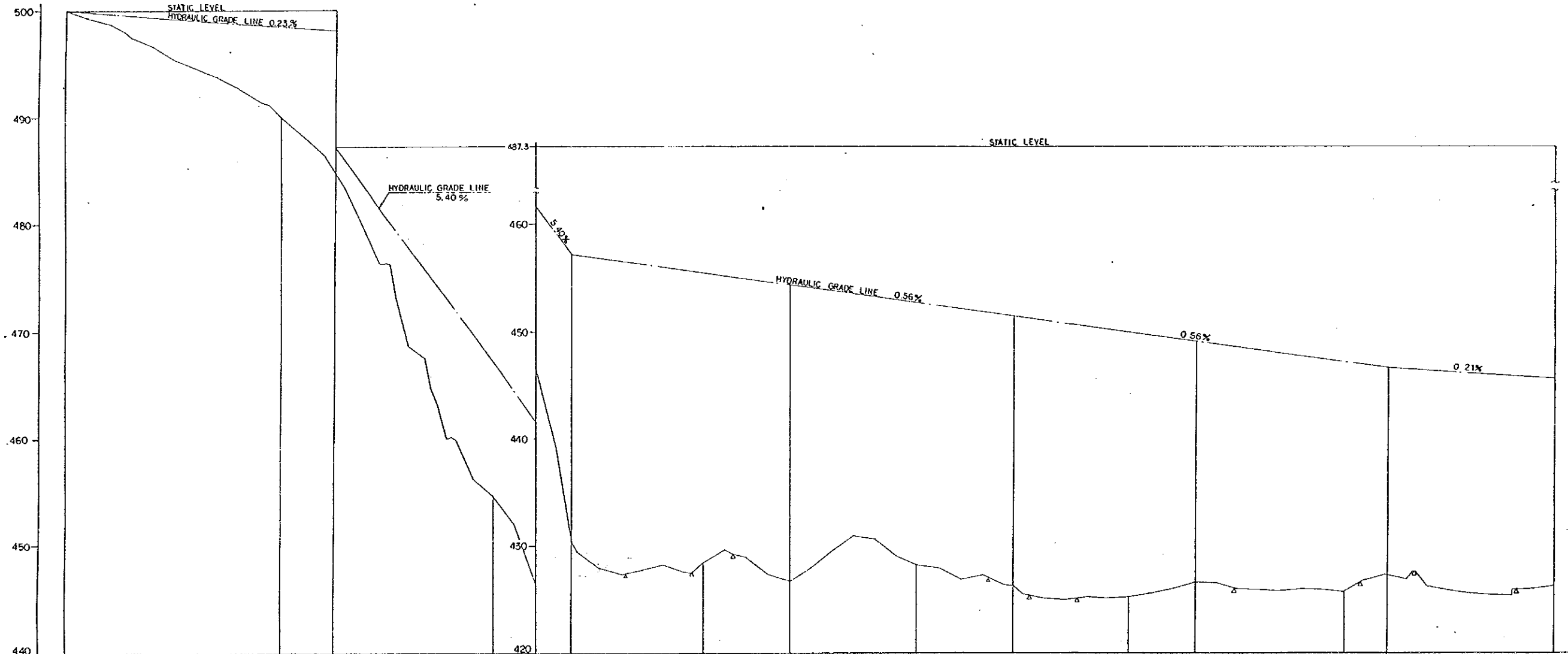
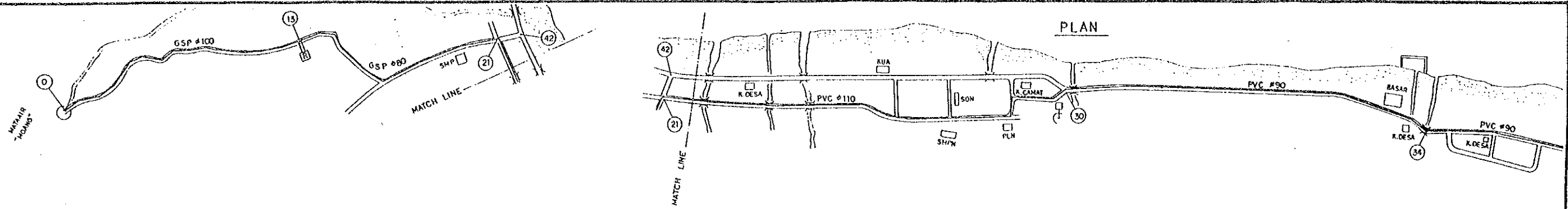
JAPAN INTERNATIONAL COOPERATION AGENCY

DETAIL OF PIPELINE

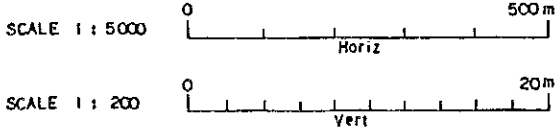


- LEGEND
-  : SERVED AREA BY PUBLIC TAPS
 - R : RESERVIOR
 - P.B : PRESSURE BREAKING PIT
 - K. CAMAT : VILLAGE OFFICE

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
SUMBIUT DETAIL OF PIPELINE		
NOVEMBER 1990	SCALE /	DRAWING NO. 48
JAPAN INTERNATIONAL COOPERATION AGENCY		



DATUM	440																																																						
SIZE & TYPE OF PIPE	GSP #100 L=626m											GSP #80 L=558m											PVC #110 L=1043m											PVC #90 L=877m											PVC #90 L=915m										
HYDRAULIC GRADIENT LEVEL (M)	900.0											487.3											454.2											448.9											446.4										
GROUND LEVELS (M)	900.000											487.3											454.2											448.9											446.4										
DISTANCE (M)	0.00, 36.31, 72.62, 108.93, 145.24, 181.55, 217.86, 254.17, 290.48, 326.79, 363.10, 399.41, 435.72, 472.03, 508.34, 544.65, 580.96, 617.27, 653.58, 689.89, 726.20, 762.51, 798.82, 835.13, 871.44, 907.75, 944.06, 980.37, 1016.68, 1052.99, 1089.30, 1125.61, 1161.92, 1198.23, 1234.54, 1270.85, 1307.16, 1343.47, 1379.78, 1416.09, 1452.40, 1488.71, 1525.02, 1561.33, 1597.64, 1633.95, 1670.26, 1706.57, 1742.88, 1779.19, 1815.50, 1851.81, 1888.12, 1924.43, 1960.74, 1997.05, 2033.36, 2069.67, 2105.98, 2142.29, 2178.60, 2214.91, 2251.22, 2287.53, 2323.84, 2360.15, 2396.46, 2432.77, 2469.08, 2505.39, 2541.70, 2578.01, 2614.32, 2650.63, 2686.94, 2723.25, 2759.56, 2795.87, 2832.18, 2868.49, 2904.80, 2941.11, 2977.42, 3013.73, 3050.04, 3086.35, 3122.66, 3158.97, 3195.28, 3231.59, 3267.90, 3304.21, 3340.52, 3376.83, 3413.14, 3449.45, 3485.76, 3522.07, 3558.38, 3594.69, 3631.00, 3667.31, 3703.62, 3739.93, 3776.24, 3812.55, 3848.86, 3885.17, 3921.48, 3957.79, 3994.10, 4030.41, 4066.72, 4103.03, 4139.34, 4175.65, 4211.96, 4248.27, 4284.58, 4320.89, 4357.20, 4393.51, 4429.82, 4466.13, 4502.44, 4538.75, 4575.06, 4611.37, 4647.68, 4683.99, 4720.30, 4756.61, 4792.92, 4829.23, 4865.54, 4901.85, 4938.16, 4974.47, 5010.78, 5047.09, 5083.40, 5119.71, 5156.02, 5192.33, 5228.64, 5264.95, 5301.26, 5337.57, 5373.88, 5410.19, 5446.50, 5482.81, 5519.12, 5555.43, 5591.74, 5628.05, 5664.36, 5700.67, 5736.98, 5773.29, 5809.60, 5845.91, 5882.22, 5918.53, 5954.84, 5991.15, 6027.46, 6063.77, 6100.08, 6136.39, 6172.70, 6209.01, 6245.32, 6281.63, 6317.94, 6354.25, 6390.56, 6426.87, 6463.18, 6499.49, 6535.80, 6572.11, 6608.42, 6644.73, 6681.04, 6717.35, 6753.66, 6789.97, 6826.28, 6862.59, 6898.90, 6935.21, 6971.52, 7007.83, 7044.14, 7080.45, 7116.76, 7153.07, 7189.38, 7225.69, 7262.00, 7298.31, 7334.62, 7370.93, 7407.24, 7443.55, 7479.86, 7516.17, 7552.48, 7588.79, 7625.10, 7661.41, 7697.72, 7734.03, 7770.34, 7806.65, 7842.96, 7879.27, 7915.58, 7951.89, 7988.20, 8024.51, 8060.82, 8097.13, 8133.44, 8169.75, 8206.06, 8242.37, 8278.68, 8314.99, 8351.30, 8387.61, 8423.92, 8460.23, 8496.54, 8532.85, 8569.16, 8605.47, 8641.78, 8678.09, 8714.40, 8750.71, 8787.02, 8823.33, 8859.64, 8895.95, 8932.26, 8968.57, 9004.88, 9041.19, 9077.50, 9113.81, 9150.12, 9186.43, 9222.74, 9259.05, 9295.36, 9331.67, 9367.98, 9404.29, 9440.60, 9476.91, 9513.22, 9549.53, 9585.84, 9622.15, 9658.46, 9694.77, 9731.08, 9767.39, 9803.70, 9840.01, 9876.32, 9912.63, 9948.94, 9985.25, 10021.56, 10057.87, 10094.18, 10130.49, 10166.80, 10203.11, 10239.42, 10275.73, 10312.04, 10348.35, 10384.66, 10420.97, 10457.28, 10493.59, 10529.90, 10566.21, 10602.52, 10638.83, 10675.14, 10711.45, 10747.76, 10784.07, 10820.38, 10856.69, 10893.00, 10929.31, 10965.62, 11001.93, 11038.24, 11074.55, 11110.86, 11147.17, 11183.48, 11219.79, 11256.10, 11292.41, 11328.72, 11365.03, 11401.34, 11437.65, 11473.96, 11510.27, 11546.58, 11582.89, 11619.20, 11655.51, 11691.82, 11728.13, 11764.44, 11800.75, 11837.06, 11873.37, 11909.68, 11945.99, 11982.30, 12018.61, 12054.92, 12091.23, 12127.54, 12163.85, 12200.16, 12236.47, 12272.78, 12309.09, 12345.40, 12381.71, 12418.02, 12454.33, 12490.64, 12526.95, 12563.26, 12599.57, 12635.88, 12672.19, 12708.50, 12744.81, 12781.12, 12817.43, 12853.74, 12890.05, 12926.36, 12962.67, 12998.98, 13035.29, 13071.60, 13107.91, 13144.22, 13180.53, 13216.84, 13253.15, 13289.46, 13325.77, 13362.08, 13398.39, 13434.70, 13471.01, 13507.32, 13543.63, 13579.94, 13616.25, 13652.56, 13688.87, 13725.18, 13761.49, 13797.80, 13834.11, 13870.42, 13906.73, 13943.04, 13979.35, 14015.66, 14051.97, 14088.28, 14124.59, 14160.90, 14197.21, 14233.52, 14269.83, 14306.14, 14342.45, 14378.76, 14415.07, 14451.38, 14487.69, 14524.00, 14560.31, 14596.62, 14632.93, 14669.24, 14705.55, 14741.86, 14778.17, 14814.48, 14850.79, 14887.10, 14923.41, 14959.72, 15000.00																																																						
STATION	0											100											200											300											400										



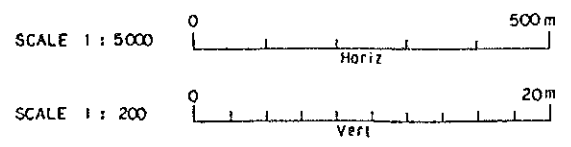
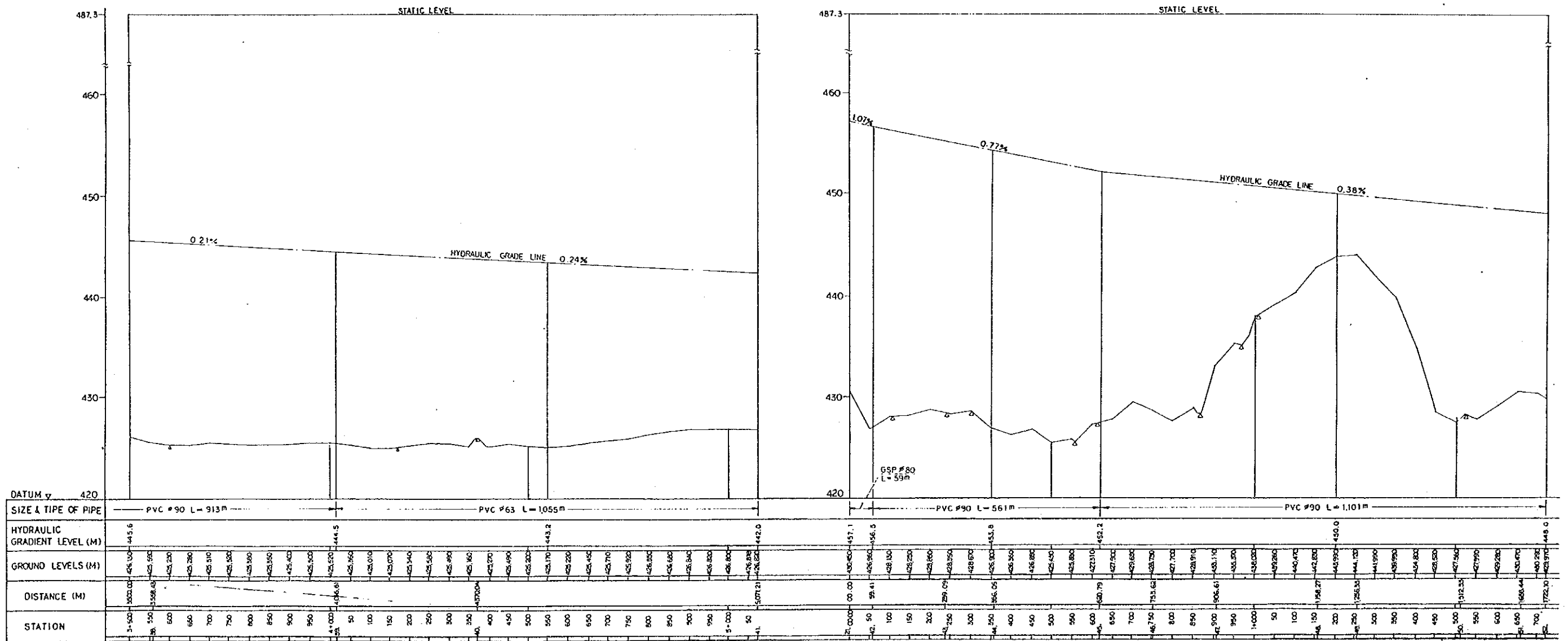
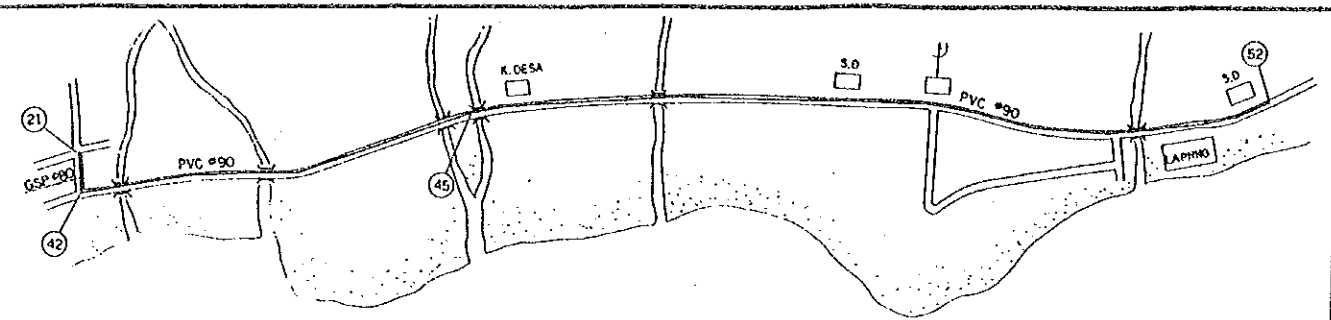
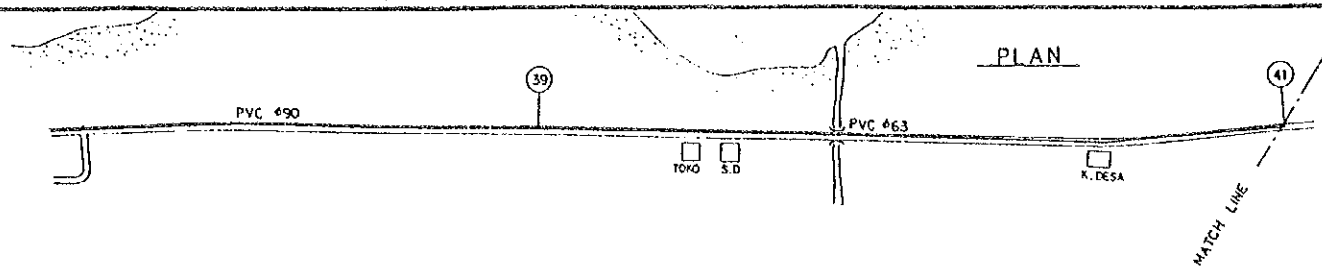
LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA
 THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

SUMBIUT
 PLAN & LONGITUDINAL SECTION (1/2)

NOVEMBER 1990	SCALE /	DRAWING NO. 49
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY



LONGITUDINAL SECTION

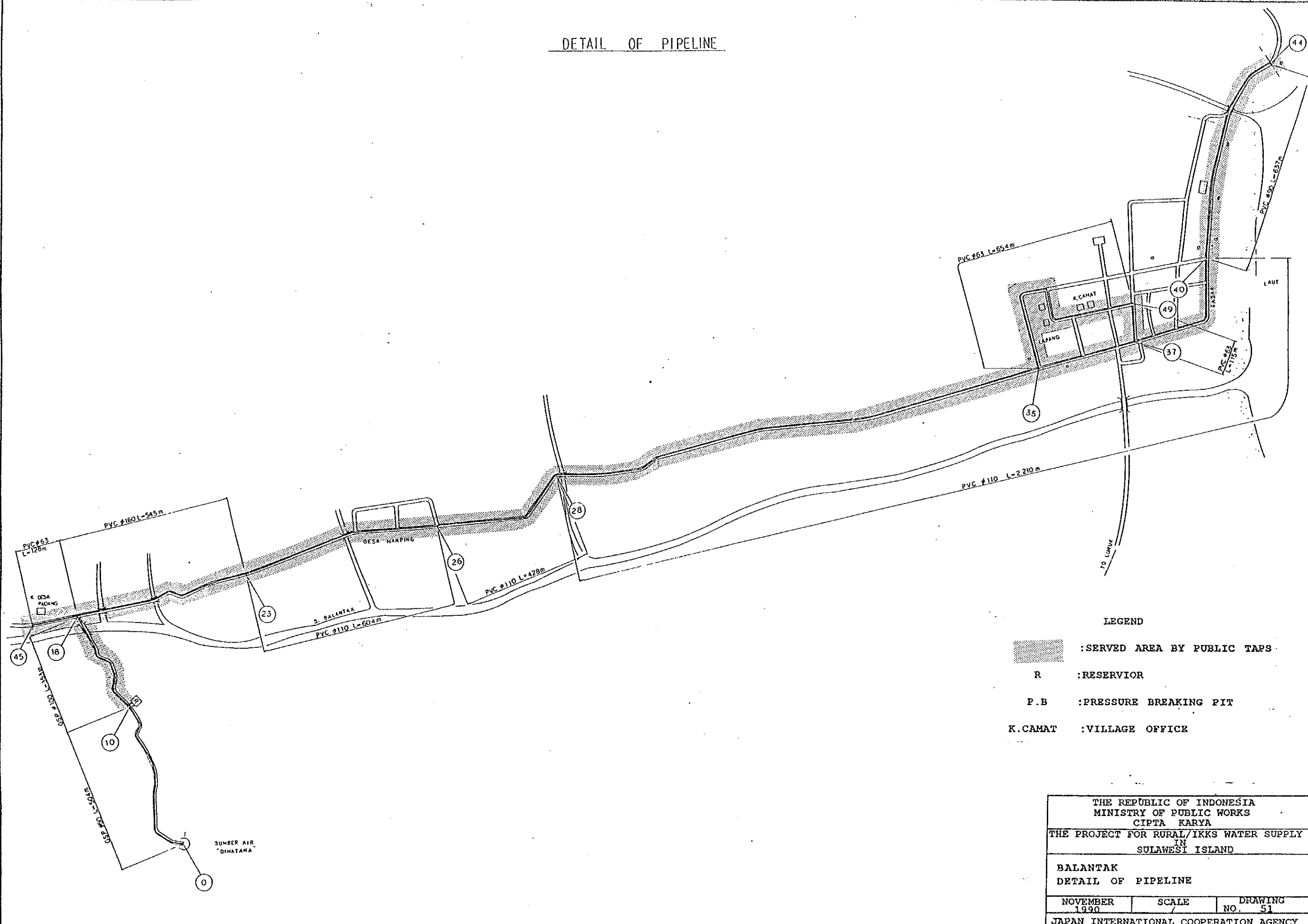
THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA
 THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND


SUMBIUT
 PLAN & LONGITUDINAL SECTION (2/2)

NOVEMBER 1990 SCALE / DRAWING NO. 50

JAPAN INTERNATIONAL COOPERATION AGENCY

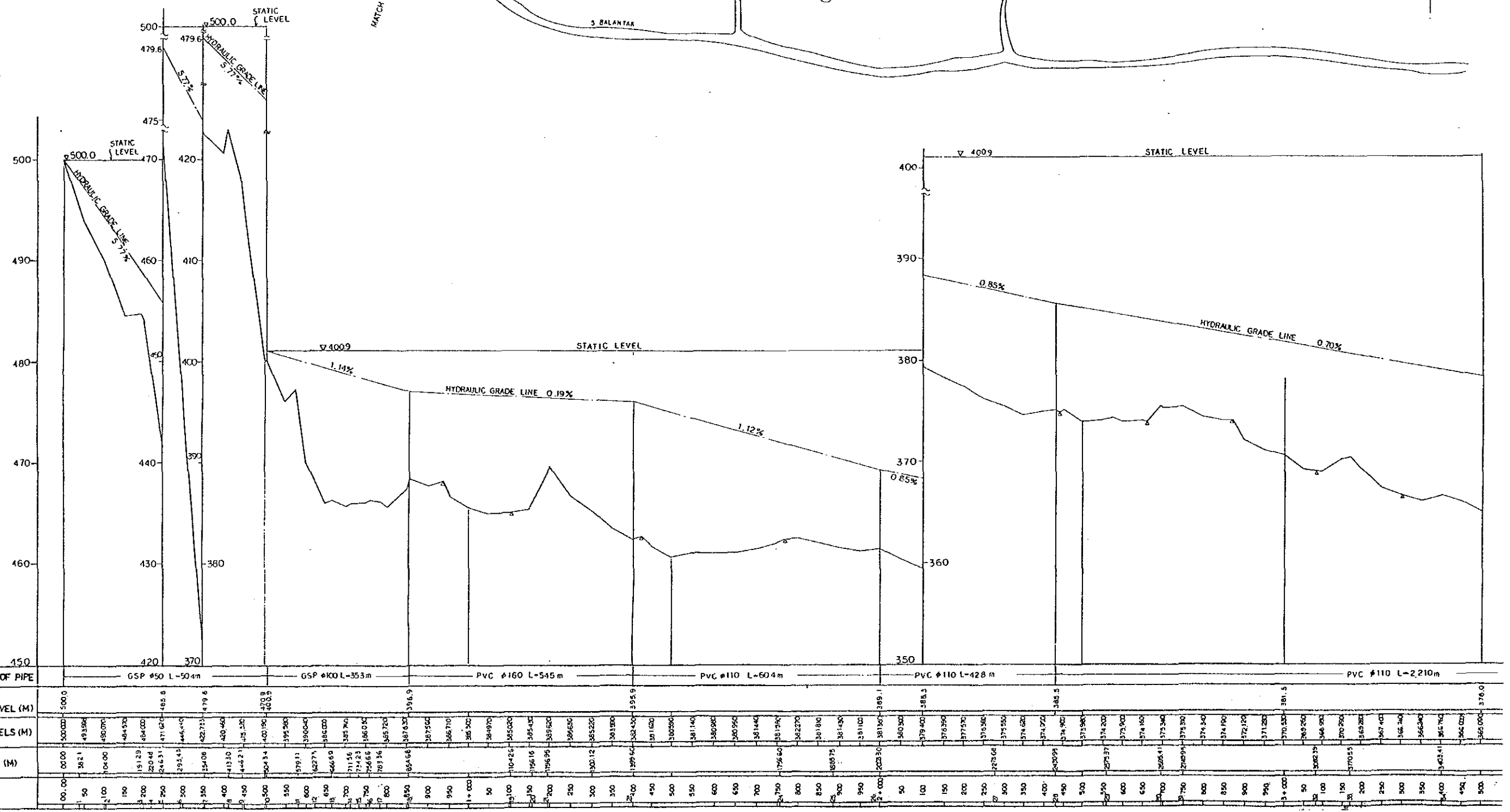
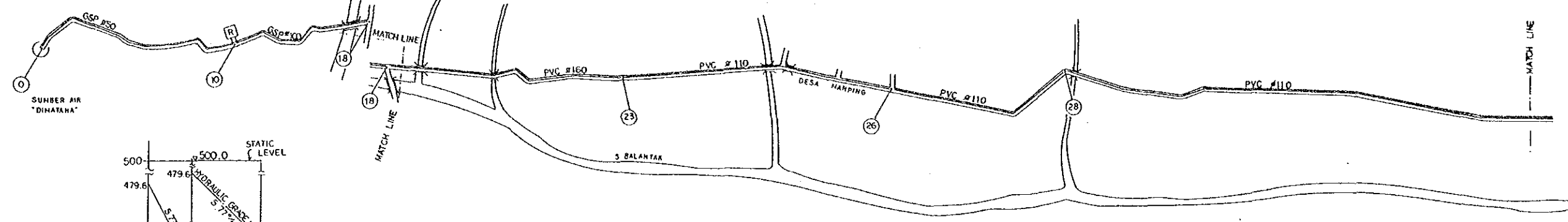
DETAIL OF PIPELINE



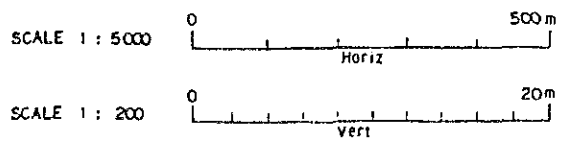
- LEGEND
-  :SERVED AREA BY PUBLIC TAPS
 - R :RESERVIOR
 - P.B :PRESSURE BREAKING PIT
 - K.CAMAT :VILLAGE OFFICE

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
BALANTAK DETAIL OF PIPELINE		
NOVEMBER 1990	SCALE 7	DRAWING NO. 51
JAPAN INTERNATIONAL COOPERATION AGENCY		

PLAN



STATION	DISTANCE (M)	GROUND LEVELS (M)	HYDRAULIC GRADIENT LEVEL (M)	SIZE & TYPE OF PIPE
0+00	0.00	500.00	500.00	GSP #50 L=50.4m
0+50	50.00	493.98	493.98	GSP #50 L=50.4m
1+00	100.00	490.00	490.00	GSP #50 L=50.4m
1+50	150.00	484.92	484.92	GSP #50 L=50.4m
2+00	200.00	484.00	484.00	GSP #50 L=50.4m
2+50	250.00	471.00	471.00	GSP #50 L=50.4m
3+00	300.00	446.00	446.00	GSP #50 L=50.4m
3+50	350.00	422.73	422.73	GSP #50 L=50.4m
4+00	400.00	420.40	420.40	GSP #50 L=50.4m
4+50	450.00	415.30	415.30	GSP #50 L=50.4m
5+00	500.00	403.21	403.21	GSP #50 L=50.4m
5+50	550.00	394.34	394.34	GSP #50 L=50.4m
6+00	600.00	395.38	395.38	GSP #50 L=50.4m
6+50	650.00	390.04	390.04	GSP #50 L=50.4m
7+00	700.00	385.00	385.00	GSP #50 L=50.4m
7+50	750.00	385.76	385.76	GSP #50 L=50.4m
8+00	800.00	386.00	386.00	GSP #50 L=50.4m
8+50	850.00	385.73	385.73	GSP #50 L=50.4m
9+00	900.00	387.63	387.63	GSP #50 L=50.4m
9+50	950.00	387.62	387.62	GSP #50 L=50.4m
10+00	1000.00	386.70	386.70	GSP #50 L=50.4m
10+50	1050.00	385.30	385.30	GSP #50 L=50.4m
11+00	1100.00	384.90	384.90	GSP #50 L=50.4m
11+50	1150.00	385.00	385.00	GSP #50 L=50.4m
12+00	1200.00	385.45	385.45	GSP #50 L=50.4m
12+50	1250.00	385.60	385.60	GSP #50 L=50.4m
13+00	1300.00	385.60	385.60	GSP #50 L=50.4m
13+50	1350.00	385.20	385.20	GSP #50 L=50.4m
14+00	1400.00	381.80	381.80	GSP #50 L=50.4m
14+50	1450.00	382.50	382.50	GSP #50 L=50.4m
15+00	1500.00	381.00	381.00	GSP #50 L=50.4m
15+50	1550.00	380.90	380.90	GSP #50 L=50.4m
16+00	1600.00	381.14	381.14	GSP #50 L=50.4m
16+50	1650.00	380.90	380.90	GSP #50 L=50.4m
17+00	1700.00	380.90	380.90	GSP #50 L=50.4m
17+50	1750.00	381.44	381.44	GSP #50 L=50.4m
18+00	1800.00	381.90	381.90	GSP #50 L=50.4m
18+50	1850.00	382.20	382.20	GSP #50 L=50.4m
19+00	1900.00	381.90	381.90	GSP #50 L=50.4m
19+50	1950.00	381.90	381.90	GSP #50 L=50.4m
20+00	2000.00	381.90	381.90	GSP #50 L=50.4m
20+50	2050.00	381.90	381.90	GSP #50 L=50.4m
21+00	2100.00	381.90	381.90	GSP #50 L=50.4m
21+50	2150.00	381.90	381.90	GSP #50 L=50.4m
22+00	2200.00	381.90	381.90	GSP #50 L=50.4m
22+50	2250.00	381.90	381.90	GSP #50 L=50.4m
23+00	2300.00	381.90	381.90	GSP #50 L=50.4m
23+50	2350.00	381.90	381.90	GSP #50 L=50.4m
24+00	2400.00	381.90	381.90	GSP #50 L=50.4m
24+50	2450.00	381.90	381.90	GSP #50 L=50.4m
25+00	2500.00	381.90	381.90	GSP #50 L=50.4m
25+50	2550.00	381.90	381.90	GSP #50 L=50.4m
26+00	2600.00	381.90	381.90	GSP #50 L=50.4m
26+50	2650.00	381.90	381.90	GSP #50 L=50.4m
27+00	2700.00	381.90	381.90	GSP #50 L=50.4m
27+50	2750.00	381.90	381.90	GSP #50 L=50.4m
28+00	2800.00	381.90	381.90	GSP #50 L=50.4m
28+50	2850.00	381.90	381.90	GSP #50 L=50.4m
29+00	2900.00	381.90	381.90	GSP #50 L=50.4m
29+50	2950.00	381.90	381.90	GSP #50 L=50.4m
30+00	3000.00	381.90	381.90	GSP #50 L=50.4m
30+50	3050.00	381.90	381.90	GSP #50 L=50.4m
31+00	3100.00	381.90	381.90	GSP #50 L=50.4m
31+50	3150.00	381.90	381.90	GSP #50 L=50.4m
32+00	3200.00	381.90	381.90	GSP #50 L=50.4m
32+50	3250.00	381.90	381.90	GSP #50 L=50.4m
33+00	3300.00	381.90	381.90	GSP #50 L=50.4m
33+50	3350.00	381.90	381.90	GSP #50 L=50.4m
34+00	3400.00	381.90	381.90	GSP #50 L=50.4m
34+50	3450.00	381.90	381.90	GSP #50 L=50.4m
35+00	3500.00	381.90	381.90	GSP #50 L=50.4m
35+50	3550.00	381.90	381.90	GSP #50 L=50.4m
36+00	3600.00	381.90	381.90	GSP #50 L=50.4m
36+50	3650.00	381.90	381.90	GSP #50 L=50.4m
37+00	3700.00	381.90	381.90	GSP #50 L=50.4m
37+50	3750.00	381.90	381.90	GSP #50 L=50.4m
38+00	3800.00	381.90	381.90	GSP #50 L=50.4m
38+50	3850.00	381.90	381.90	GSP #50 L=50.4m
39+00	3900.00	381.90	381.90	GSP #50 L=50.4m
39+50	3950.00	381.90	381.90	GSP #50 L=50.4m
40+00	4000.00	381.90	381.90	GSP #50 L=50.4m
40+50	4050.00	381.90	381.90	GSP #50 L=50.4m
41+00	4100.00	381.90	381.90	GSP #50 L=50.4m
41+50	4150.00	381.90	381.90	GSP #50 L=50.4m
42+00	4200.00	381.90	381.90	GSP #50 L=50.4m
42+50	4250.00	381.90	381.90	GSP #50 L=50.4m
43+00	4300.00	381.90	381.90	GSP #50 L=50.4m
43+50	4350.00	381.90	381.90	GSP #50 L=50.4m
44+00	4400.00	381.90	381.90	GSP #50 L=50.4m
44+50	4450.00	381.90	381.90	GSP #50 L=50.4m
45+00	4500.00	381.90	381.90	GSP #50 L=50.4m
45+50	4550.00	381.90	381.90	GSP #50 L=50.4m
46+00	4600.00	381.90	381.90	GSP #50 L=50.4m
46+50	4650.00	381.90	381.90	GSP #50 L=50.4m
47+00	4700.00	381.90	381.90	GSP #50 L=50.4m
47+50	4750.00	381.90	381.90	GSP #50 L=50.4m
48+00	4800.00	381.90	381.90	GSP #50 L=50.4m
48+50	4850.00	381.90	381.90	GSP #50 L=50.4m
49+00	4900.00	381.90	381.90	GSP #50 L=50.4m
49+50	4950.00	381.90	381.90	GSP #50 L=50.4m
50+00	5000.00	381.90	381.90	GSP #50 L=50.4m



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

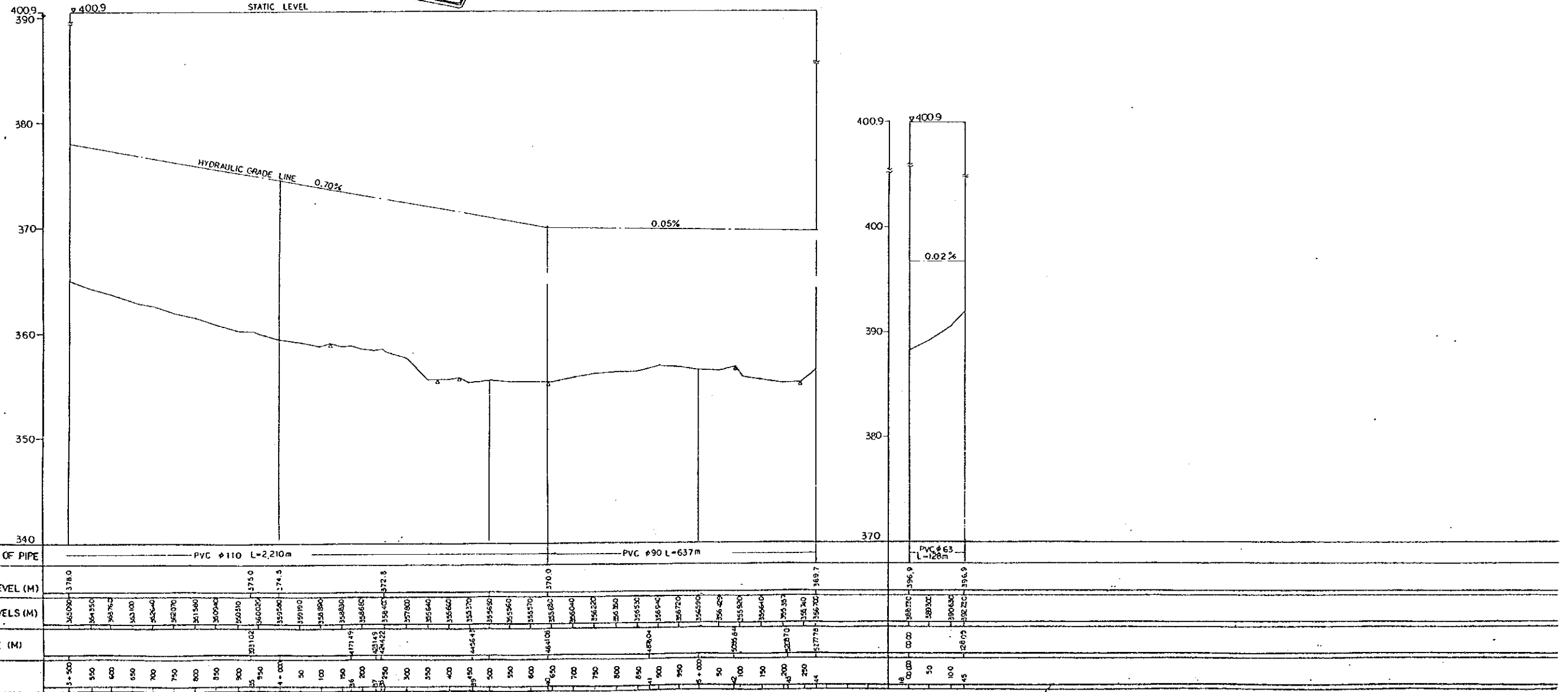
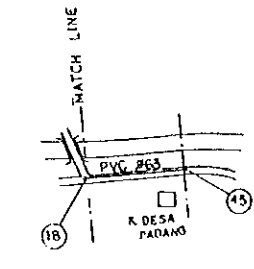
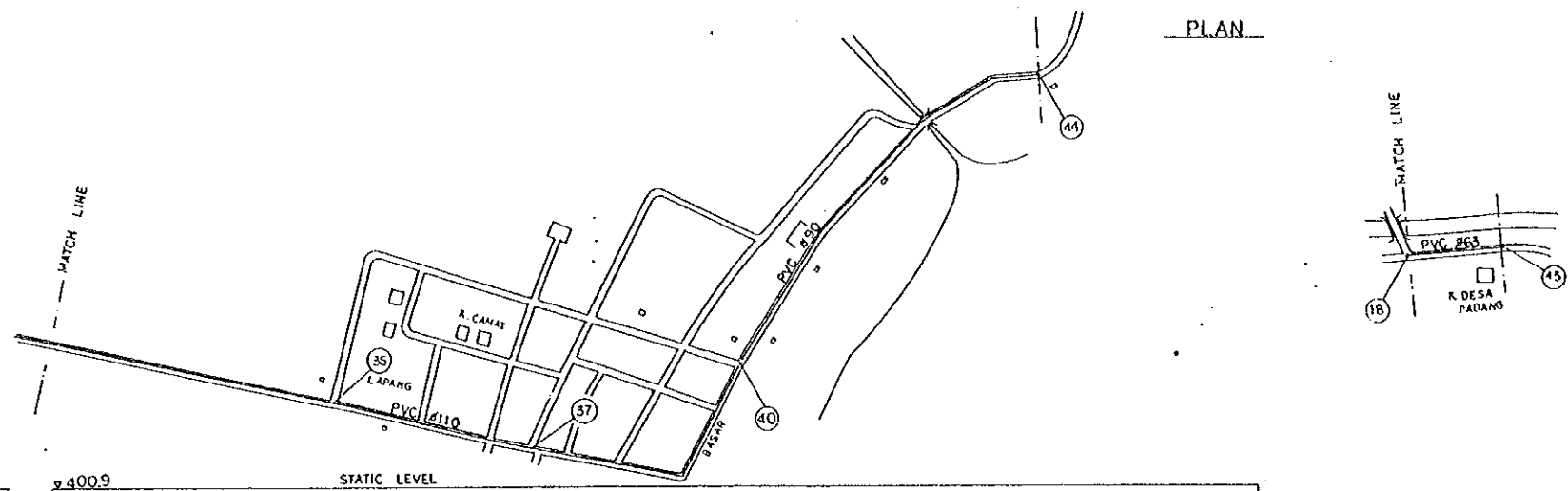
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

BALANTAK
 PLAN & LONGITUDINAL SECTION (1/3)

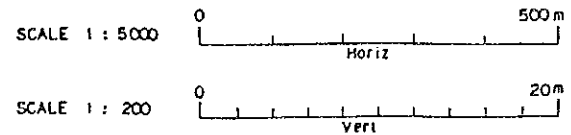
NOVEMBER 1990	SCALE 7	DRAWING NO. 52
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

PLAN



DATUM 340



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

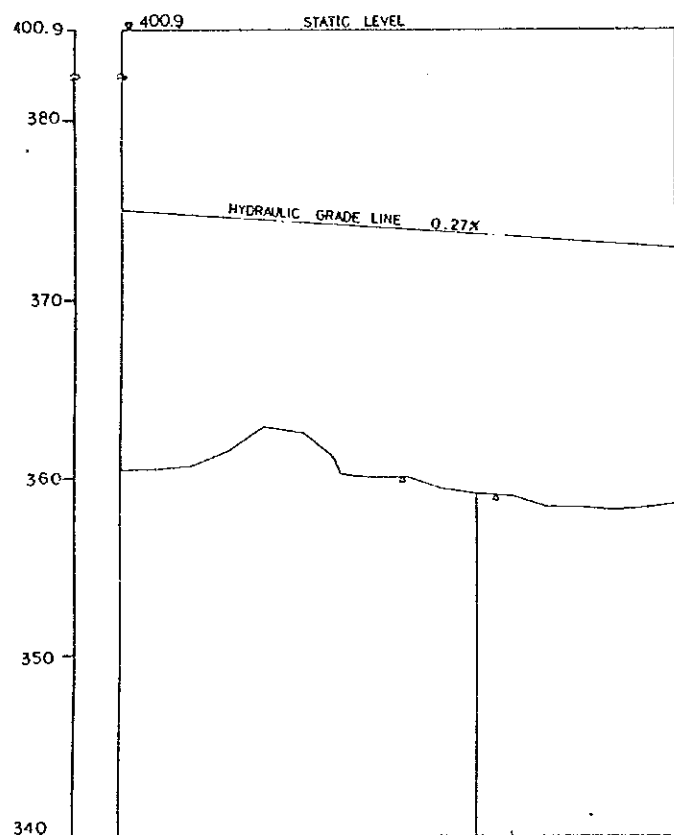
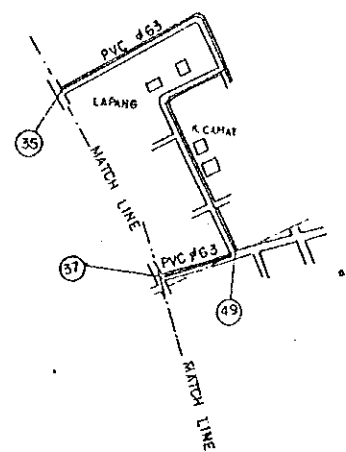
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

BALANTAK
 PLAN & LONGITUDINAL SECTION (2/3)

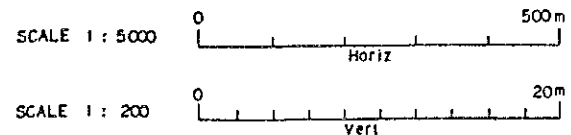
NOVEMBER 1990	SCALE /	DRAWING NO. 53
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

PLAN



DATUM	34.0
SIZE & TYPE OF PIPE	PVC #63 L= 769 m
HYDRAULIC GRADIENT LEVEL (M)	373.0
GROUND LEVELS (M)	360.350, 360.310, 360.600, 361.470, 362.680, 363.620, 361.040, 360.160, 360.090, 359.540, 359.070, 359.020, 358.490, 357.440, 356.300, 356.350, 372.9
DISTANCE (M)	0+00, 227.25, 509.92, 407.67, 359.170, 359.020, 358.490, 357.440, 768.17
STATION	35+00.000, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

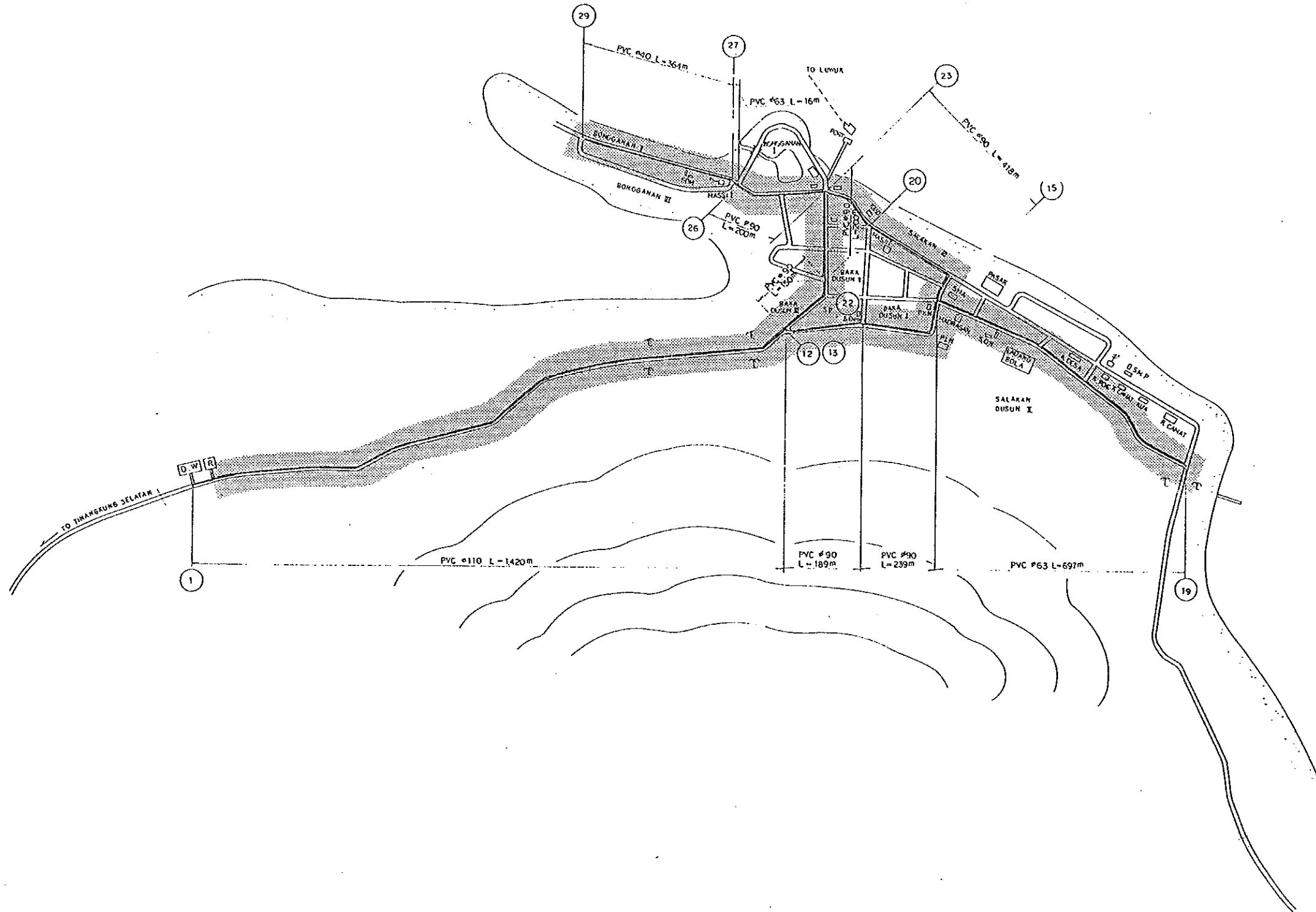
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

BALANTAK
 PLAN & LONGITUDINAL SECTION (3/3)


NOVEMBER 1990	SCALE /	DRAWING NO. 54
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

DETAIL OF PIPELINE

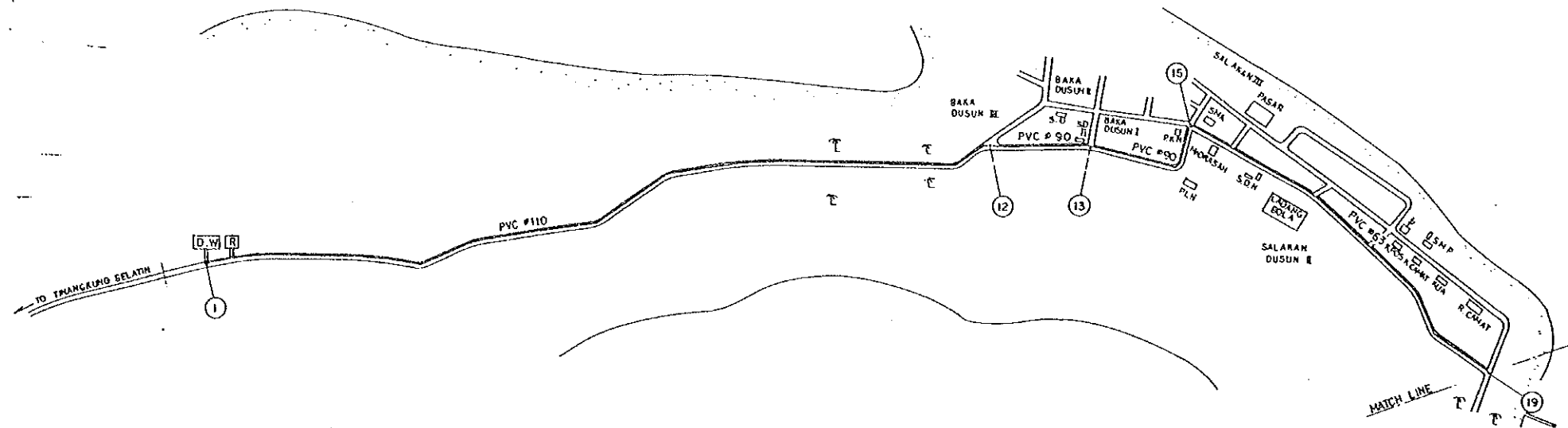


LEGEND

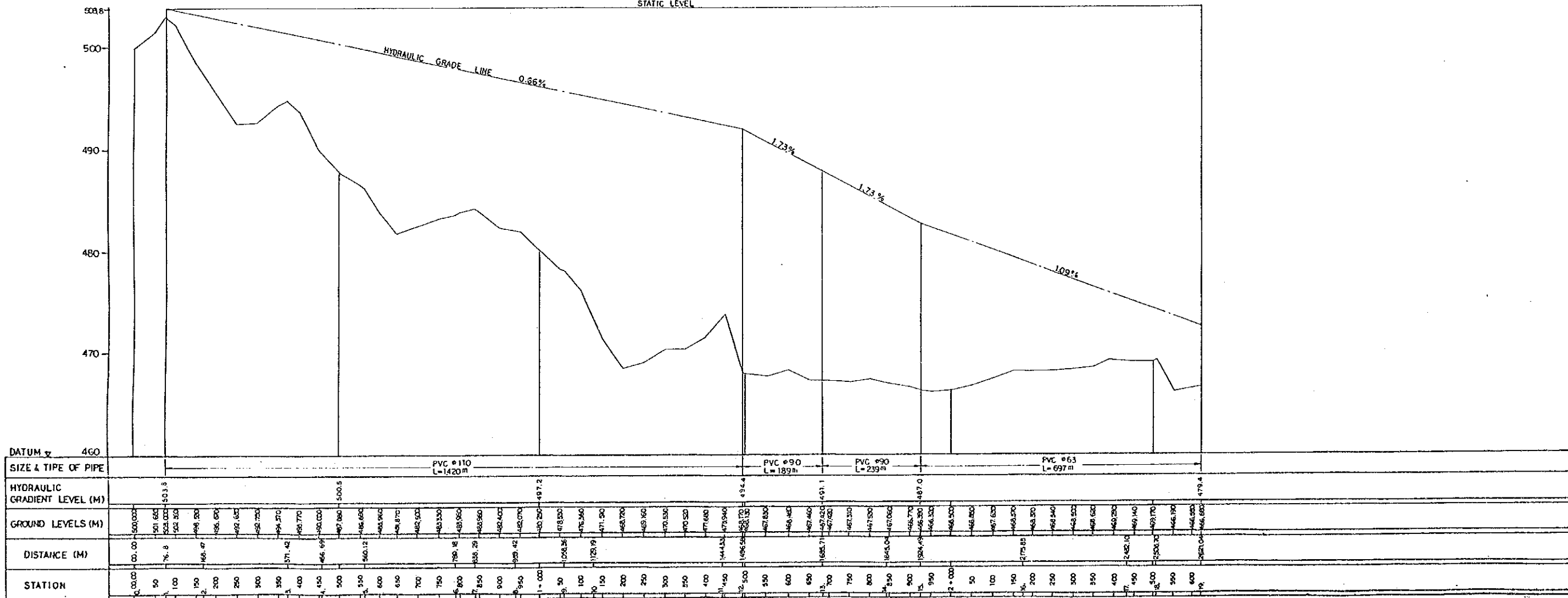
-  :SERVED AREA BY PUBLIC TAPS
- R :RESERVIOR
- P.B :PRESSURE BREAKING PIT
- K.CAMAT :VILLAGE OFFICE

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
SALAKAN DETAIL OF PIPELINE		
NOVEMBER 1990	SCALE /	DRAWING NO. 55
JAPAN INTERNATIONAL COOPERATION AGENCY		

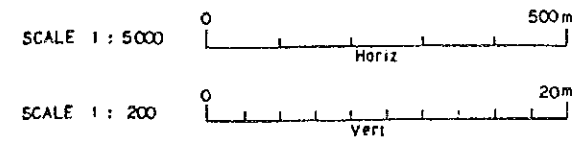
PLAN



STATIC LEVEL



LONGITUDINAL SECTION



THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

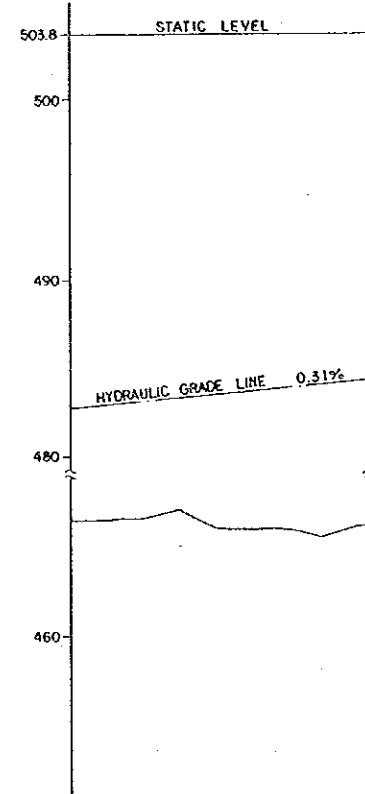
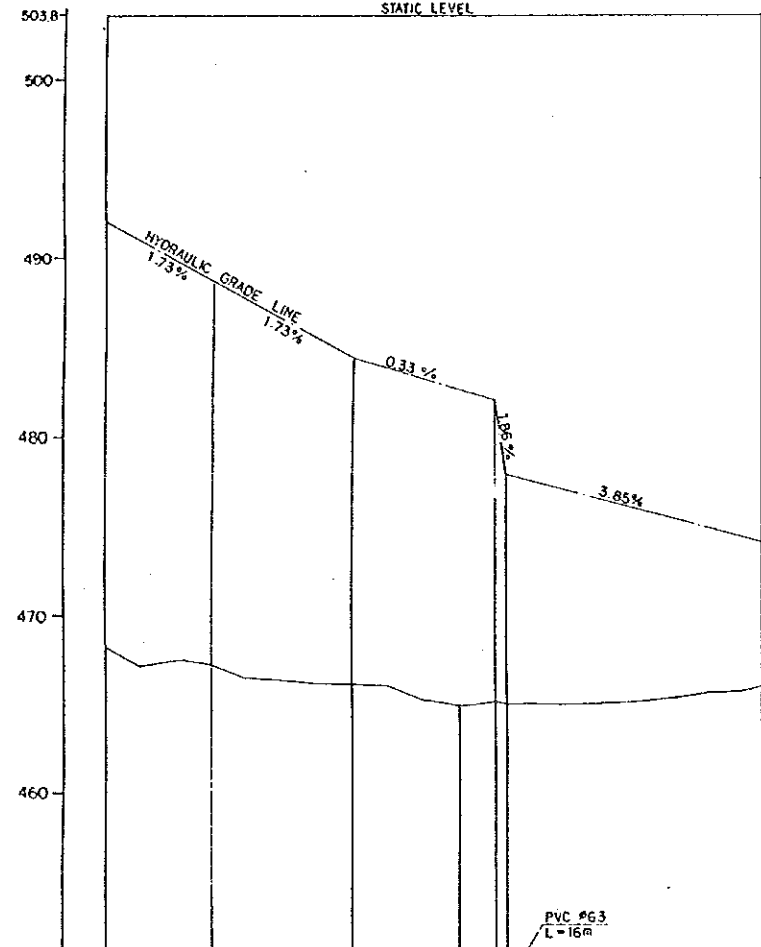
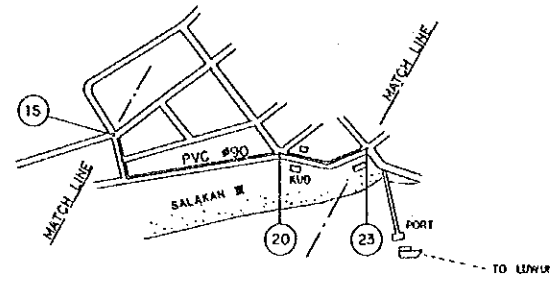
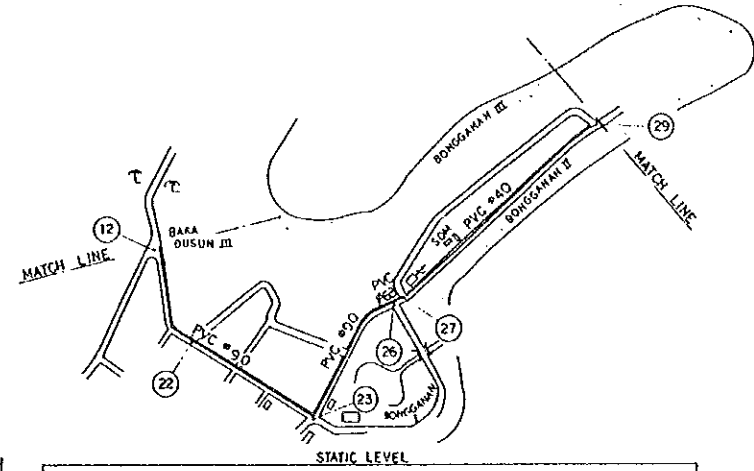
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

SALAKAN
 PLAN & LONGITUDINAL SECTION (1/2)

NOVEMBER 1990	SCALE /	DRAWING NO. 56
------------------	------------	-------------------

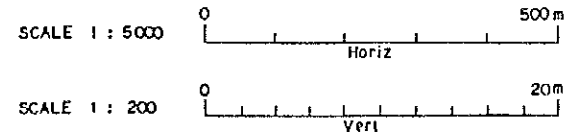
JAPAN INTERNATIONAL COOPERATION AGENCY

PLAN



DATUM	450		450	
SIZE & TYPE OF PIPE	PVC #90 L=150m		PVC #90 L=200m	
HYDRAULIC GRADIENT LEVEL (M)	489.4	491.8	488.3	487.0
GROUND LEVELS (M)	468.170	467.050	466.800	465.000
DISTANCE (M)	0+00	150	350	713.3
STATION	0+00	150	350	713.3

DATUM	450		450	
SIZE & TYPE OF PIPE	PVC #90 L=418m		PVC #90 L=418m	
HYDRAULIC GRADIENT LEVEL (M)	487.0	488.3	487.0	488.3
GROUND LEVELS (M)	465.000	465.500	465.000	465.500
DISTANCE (M)	1133.3	1551.7	1551.7	1970.0
STATION	1133.3	1551.7	1551.7	1970.0



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

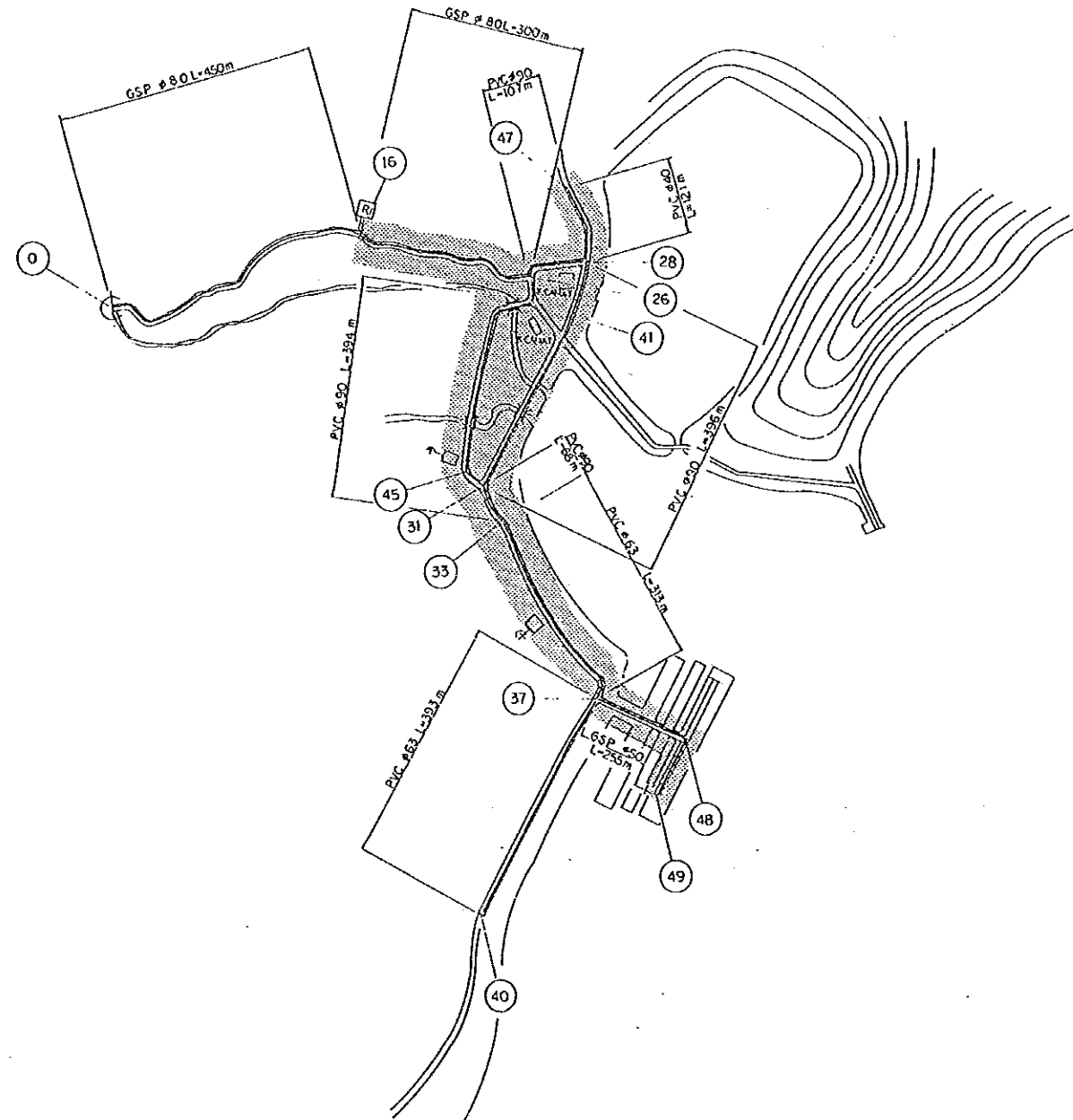
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

SALAKAN
 PLAN & LONGITUDINAL SECTION (2/2)


NOVEMBER 1990	SCALE /	DRAWING NO. 57
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

DETAIL OF PIPELINE

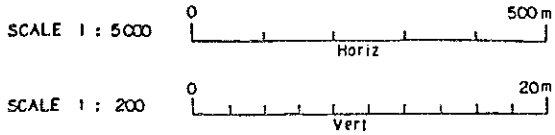
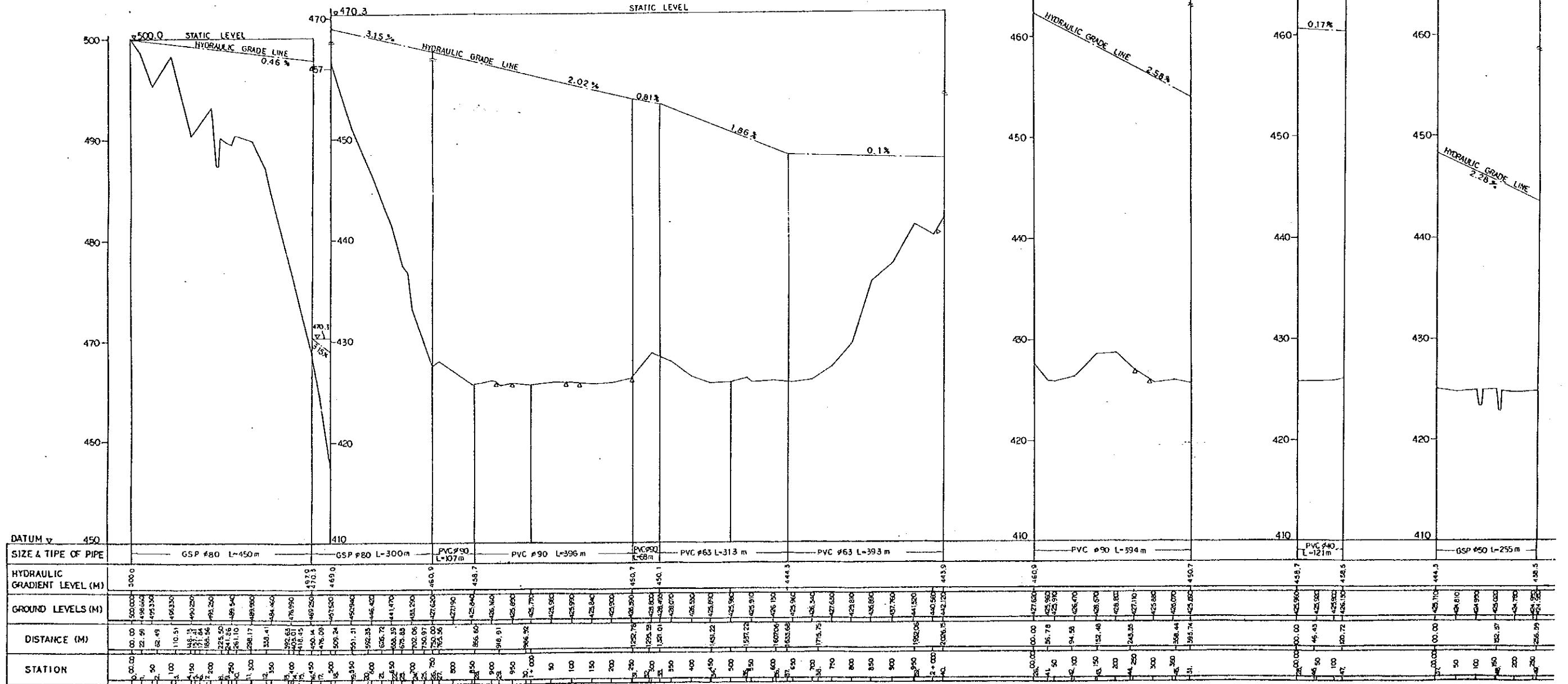
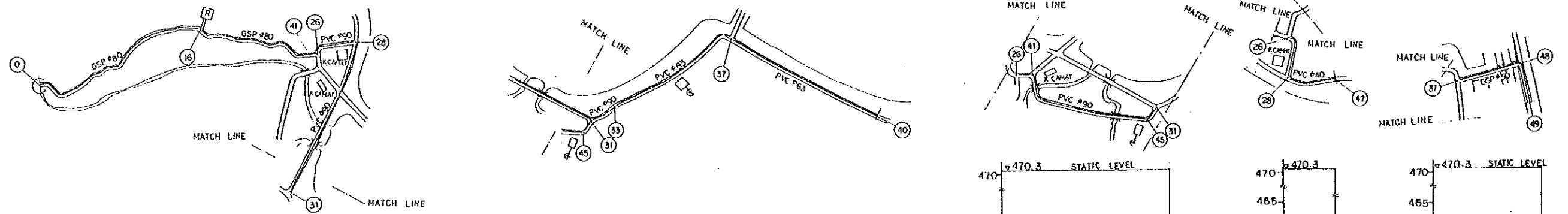


LEGEND

-  : SERVED AREA BY PUBLIC TAPS
- R : RESERVIOR
- P.B : PRESSURE BREAKING PIT
- K.CAMAT : VILLAGE OFFICE

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
LIANG DETAIL OF PIPELINE		
NOVEMBER 1990	SCALE 7	DRAWING NO. 58
JAPAN INTERNATIONAL COOPERATION AGENCY		

PLAN



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

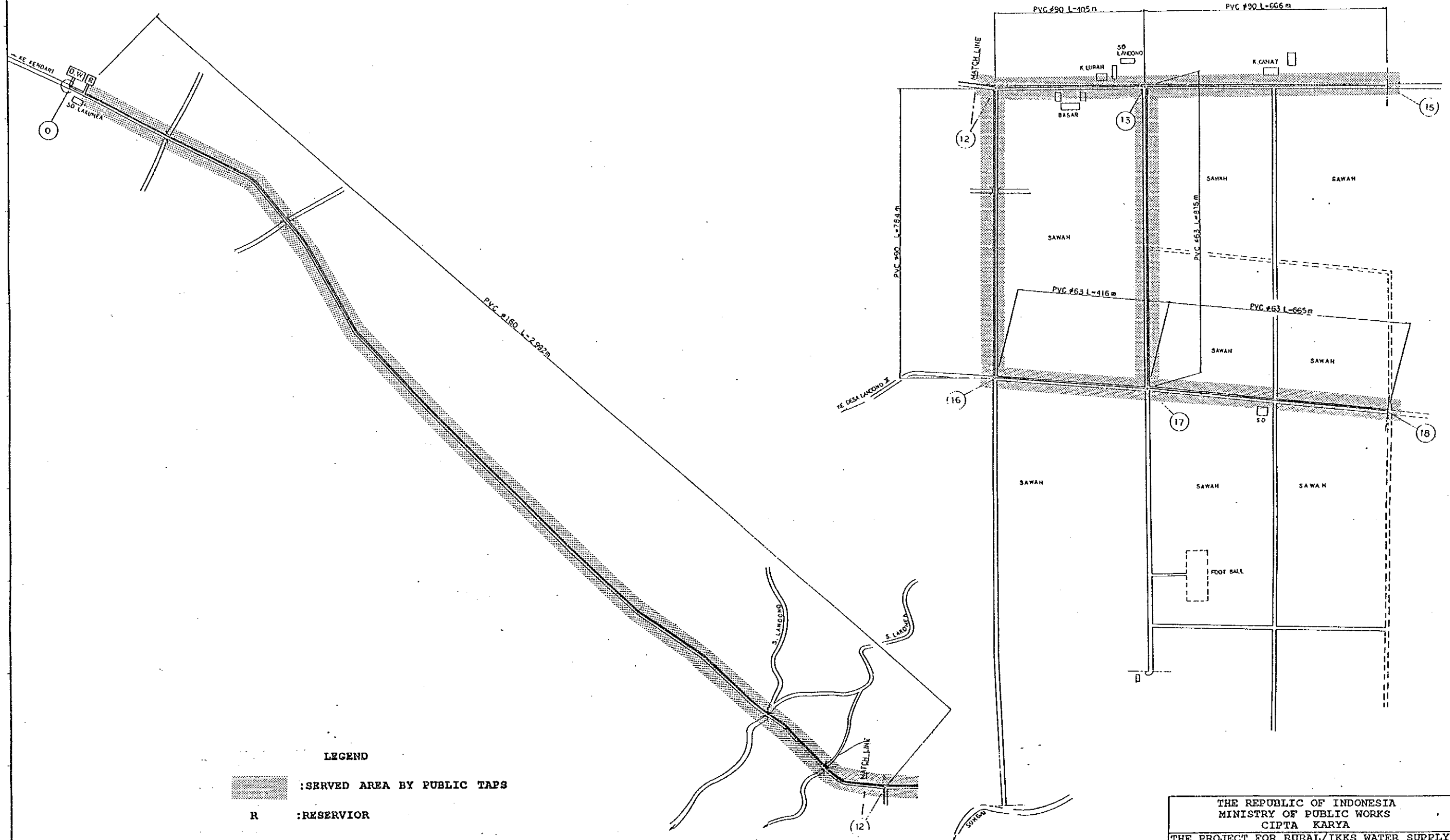
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

LIANG
 PLAN & LONGITUDINAL SECTION (1/1)


NOVEMBER 1990	SCALE /	DRAWING NO. 59
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

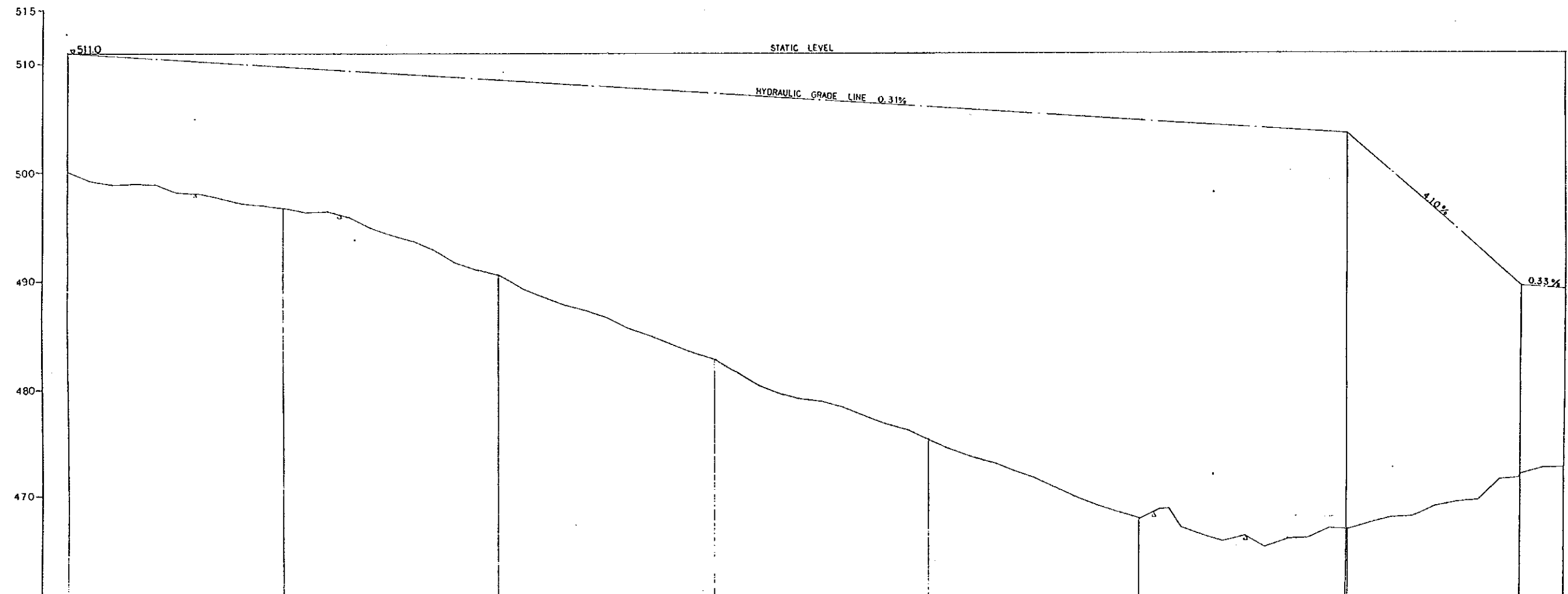
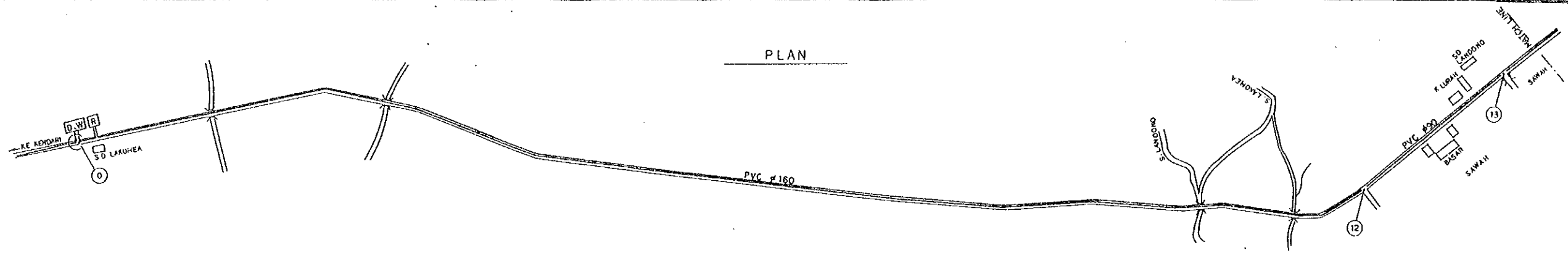
DETAIL OF PIPELINE



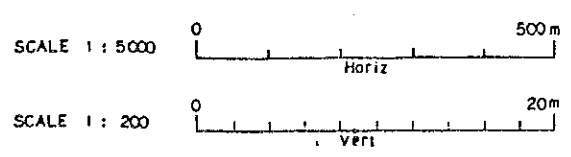
LEGEND

-  : SERVED AREA BY PUBLIC TAPS
- R : RESERVIOR
- P.B. : PRESSURE BREAKING PIT
- K.CAMAT : VILLAGE OFFICE

THE REPUBLIC OF INDONESIA		
MINISTRY OF PUBLIC WORKS		
CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY		
IN		
SULAWESI ISLAND		
LANDONO		
DETAIL OF PIPELINE		
NOVEMBER	SCALE	DRAWING
1990	/	NO. 60
JAPAN INTERNATIONAL COOPERATION AGENCY		



DATUM	460
SIZE & TYPE OF PIPE	PVC #160 L=2,992 m
HYDRAULIC GRADIENT LEVEL (M)	511.0
GROUND LEVELS (M)	509.5
DISTANCE (M)	507.9
STATION	506.8
	504.8
	503.3
	501.7
	496.1
	484.8
	481.8
	478.5
	475.5
	472.5
	469.5
	466.5
	463.5
	460.5
	457.5
	454.5
	451.5
	448.5
	445.5
	442.5
	439.5
	436.5
	433.5
	430.5
	427.5
	424.5
	421.5
	418.5
	415.5
	412.5
	409.5
	406.5
	403.5
	400.5
	397.5
	394.5
	391.5
	388.5
	385.5
	382.5
	379.5
	376.5
	373.5
	370.5
	367.5
	364.5
	361.5
	358.5
	355.5
	352.5
	349.5
	346.5
	343.5
	340.5
	337.5
	334.5
	331.5
	328.5
	325.5
	322.5
	319.5
	316.5
	313.5
	310.5
	307.5
	304.5
	301.5
	298.5
	295.5
	292.5
	289.5
	286.5
	283.5
	280.5
	277.5
	274.5
	271.5
	268.5
	265.5
	262.5
	259.5
	256.5
	253.5
	250.5
	247.5
	244.5
	241.5
	238.5
	235.5
	232.5
	229.5
	226.5
	223.5
	220.5
	217.5
	214.5
	211.5
	208.5
	205.5
	202.5
	199.5
	196.5
	193.5
	190.5
	187.5
	184.5
	181.5
	178.5
	175.5
	172.5
	169.5
	166.5
	163.5
	160.5
	157.5
	154.5
	151.5
	148.5
	145.5
	142.5
	139.5
	136.5
	133.5
	130.5
	127.5
	124.5
	121.5
	118.5
	115.5
	112.5
	109.5
	106.5
	103.5
	100.5
	97.5
	94.5
	91.5
	88.5
	85.5
	82.5
	79.5
	76.5
	73.5
	70.5
	67.5
	64.5
	61.5
	58.5
	55.5
	52.5
	49.5
	46.5
	43.5
	40.5
	37.5
	34.5
	31.5
	28.5
	25.5
	22.5
	19.5
	16.5
	13.5
	10.5
	7.5
	4.5
	1.5
	0.0



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

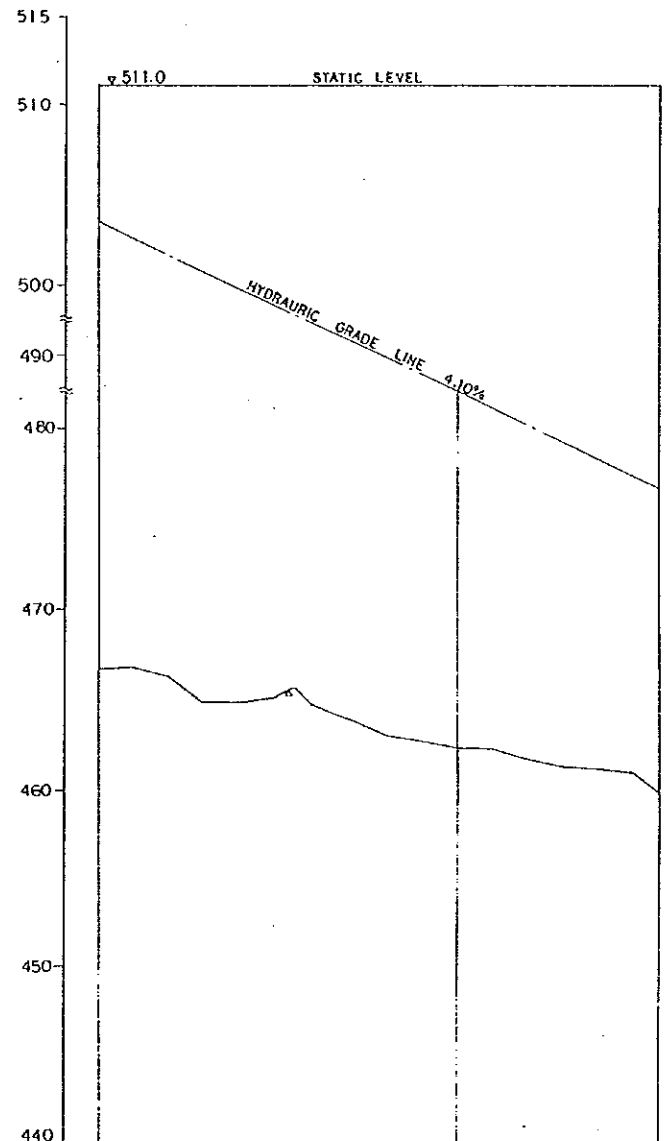
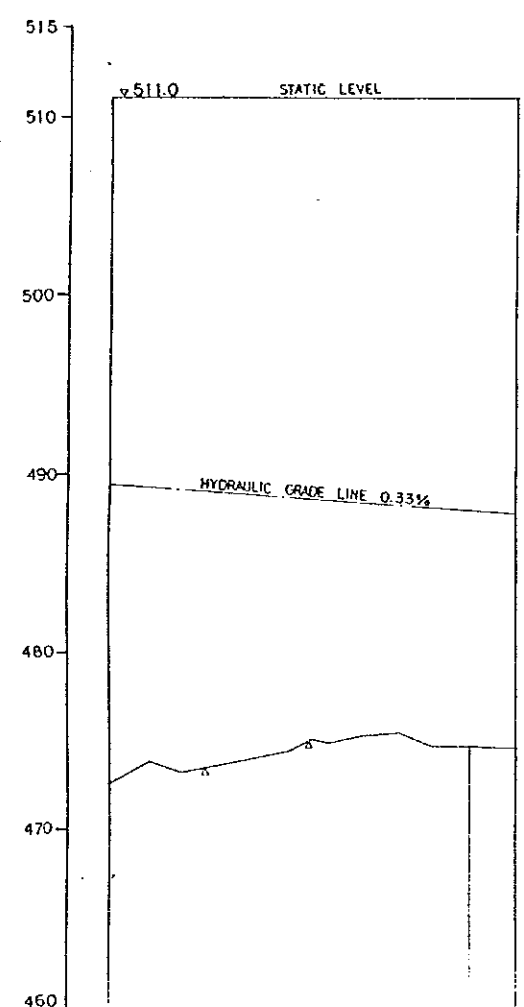
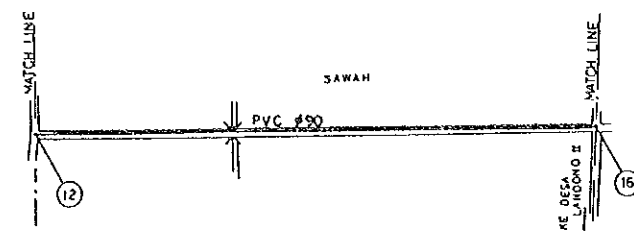
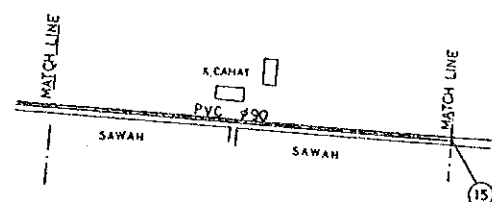
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

LANDONO
 PLAN & LONGITUDINAL SECTION (1/3)

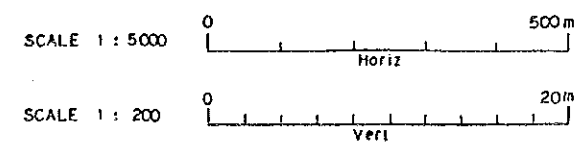
NOVEMBER 1990	SCALE 1/200	DRAWING NO. 61
------------------	----------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

PLAN



DATUM	v 460	
SIZE & TYPE OF PIPE	PVC #90 L=666 m	PVC #90 L=784 m
HYDRAULIC GRADIENT LEVEL (M)	484.8	482.9
GROUND LEVELS (M)	472.600, 479.910, 473.300, 473.790, 474.030, 474.570, 474.960, 475.390, 475.560, 474.690, 474.660, 474.510, 474.620, 482.9	465.700, 461.7, 466.690, 463.390, 465.070, 460.000, 462.270, 464.750, 463.960, 462.000, 462.790, 462.310, 461.2, 462.300, 461.700, 461.250, 461.770, 460.250, 469.700, 465.6
DISTANCE (M)	0, 304.25, 666	0, 392, 784
STATION	3+500, 3+550, 3+600, 3+650, 3+700, 3+750, 3+800, 3+850, 3+900, 3+950, 4+000, 4+050	8+000, 8+050, 8+100, 8+150, 8+200, 8+250, 8+300, 8+350, 8+400, 8+450, 8+500, 8+550, 8+600, 8+650, 8+700, 8+750, 8+800



LONGITUDINAL SECTION

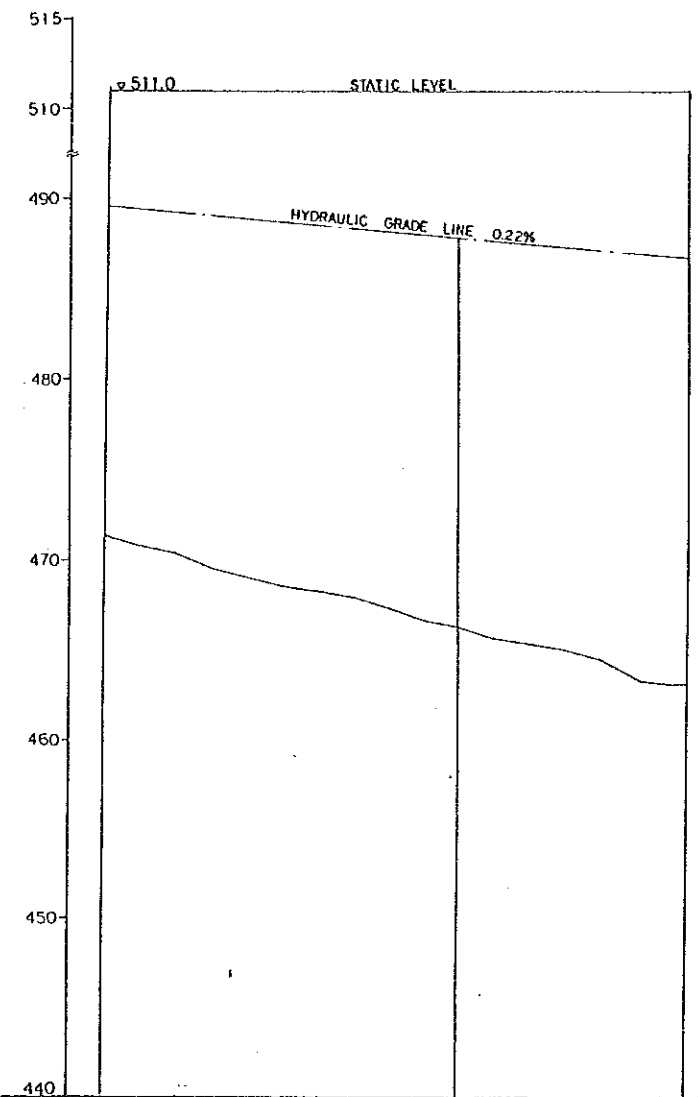
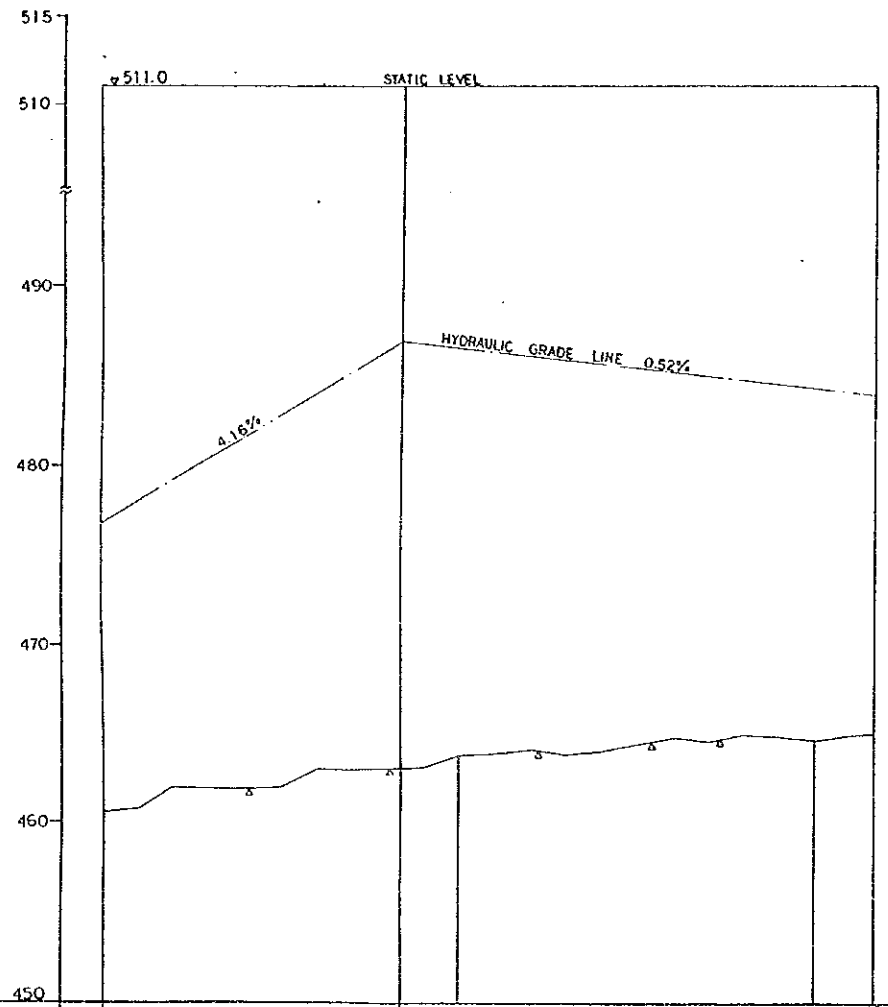
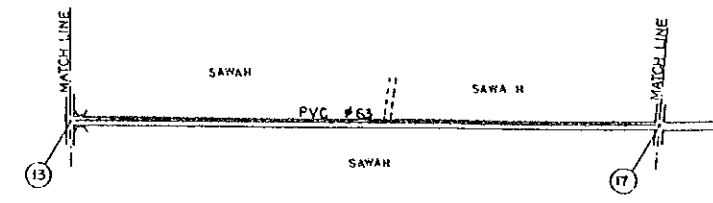
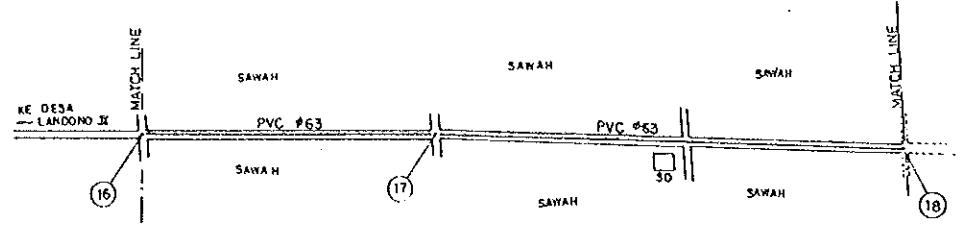
THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA
 THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

LANDONO
 PLAN & LONGITUDINAL SECTION (2/3)

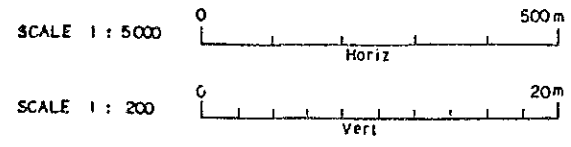
NOVEMBER 1990	SCALE /	DRAWING NO. 62
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

PLAN



DATUM	v 450	
SIZE & TYPE OF PIPE	PVC #63 L=416 m	PVC #63 L=665 m
HYDRAULIC GRADIENT LEVEL (M)	483.4	483.4
GROUND LEVELS (M)	460.000, 460.880, 461.930, 461.940, 461.970, 462.000, 463.000, 463.070, 463.000, 463.140, 463.200, 463.850, 464.000, 463.850, 464.070, 464.330, 464.680, 464.660, 464.980, 464.950, 464.780, 464.970, 465.000, 465.000	471.000, 470.940, 470.660, 469.800, 469.200, 468.800, 468.310, 468.000, 467.450, 466.900, 466.450, 466.400, 465.700, 465.460, 465.100, 464.940, 463.440, 463.900, 462.800, 463.4
DISTANCE (M)	0, 100, 200, 300, 400, 416	0, 100, 200, 300, 400, 500, 600, 700, 800, 815
STATION	16, 17	13, 14, 15, 16, 17



LONGITUDINAL SECTION


THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA
 THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

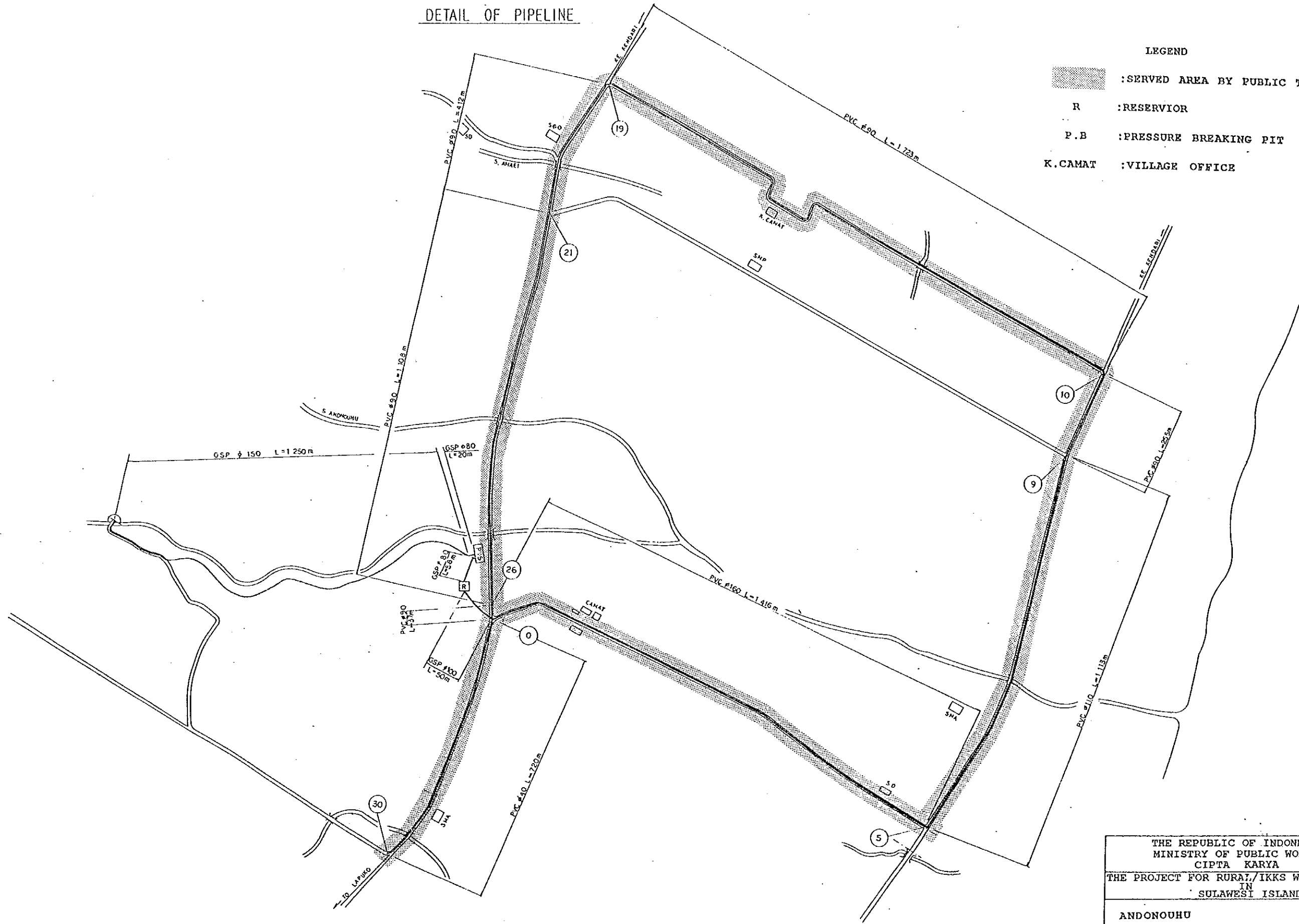
LANDONO
 PLAN & LONGITUDINAL SECTION (3/3)

NOVEMBER 1990	SCALE /	DRAWING NO. 63
------------------	------------	-------------------

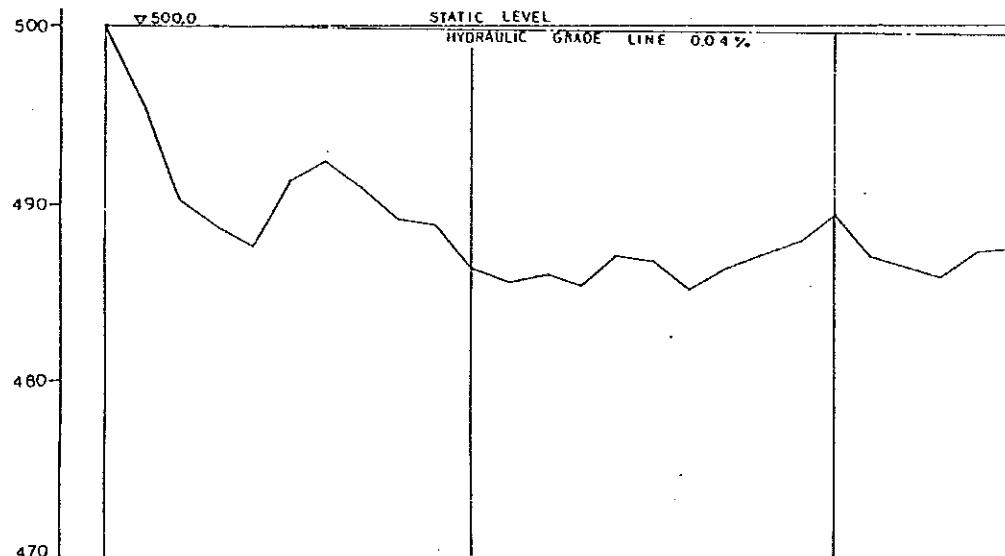
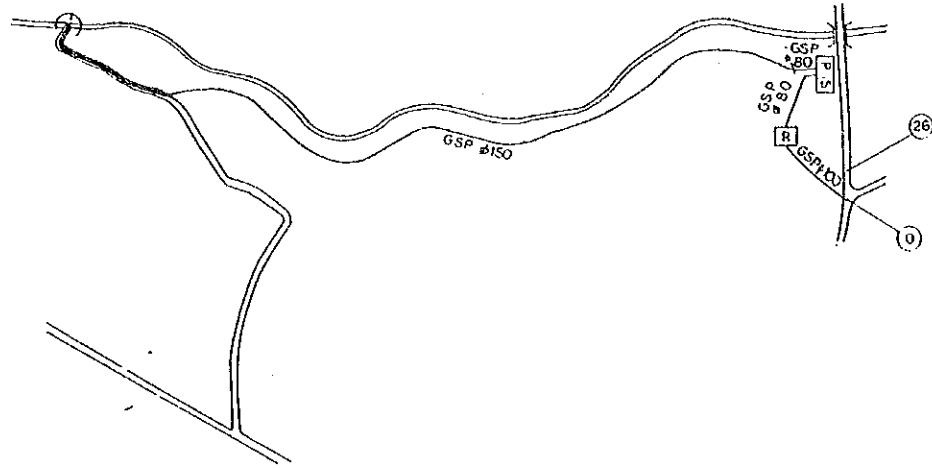
JAPAN INTERNATIONAL COOPERATION AGENCY

DETAIL OF PIPELINE

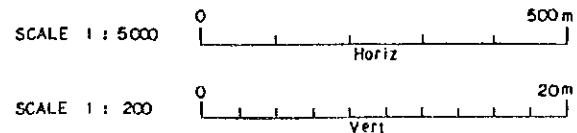
- LEGEND
-  : SERVED AREA BY PUBLIC TAPS
 - R : RESERVIOR
 - P.B : PRESSURE BREAKING PIT
 - K.CAMAT : VILLAGE OFFICE



PLAN

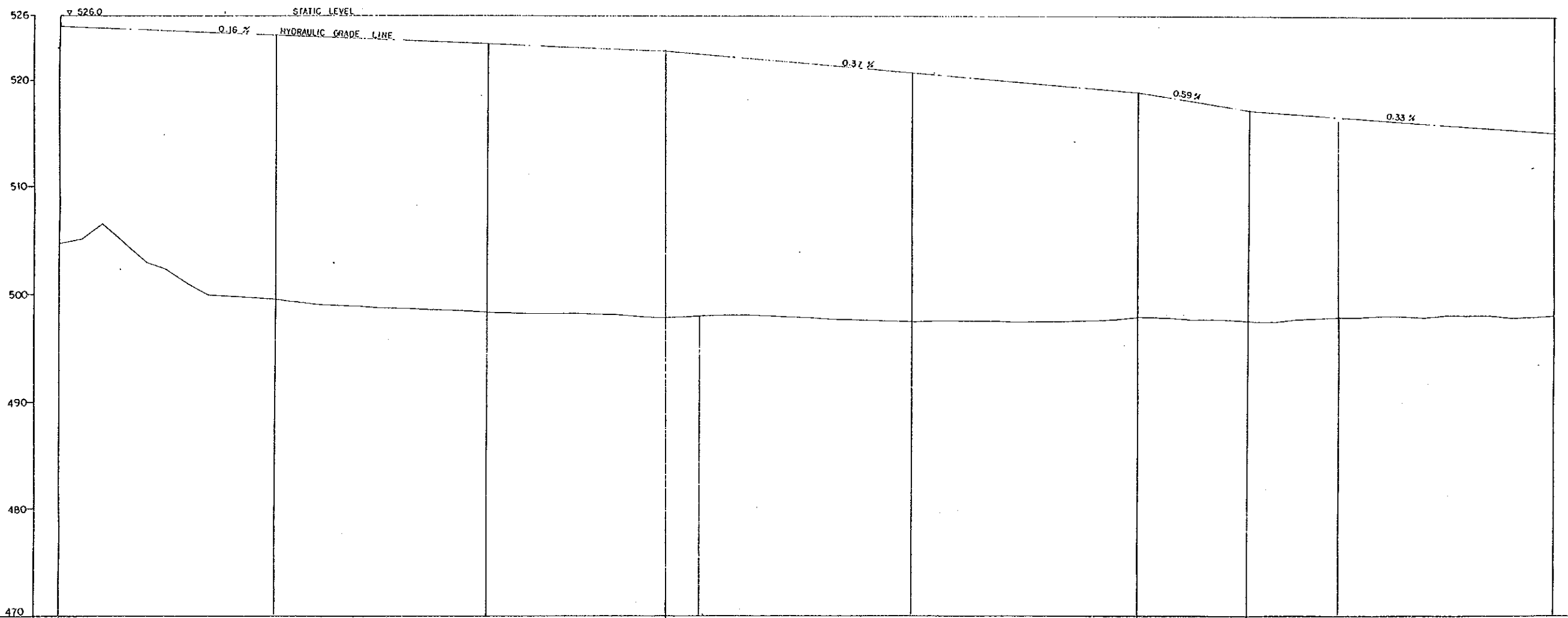
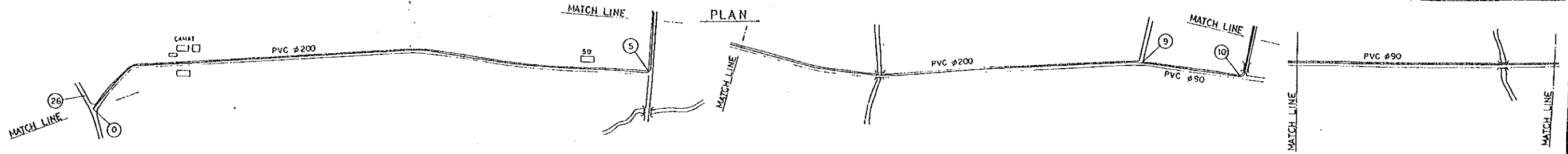


DATUM	470
SIZE & TYPE OF PIPE	GSP φ150 L=1250m
HYDRAULIC GRADIENT LEVEL (M)	500.0, 499.8, 499.6, 499.5
GROUND LEVELS (M)	500.000, 498.300, 498.000, 498.160, 497.700, 499.300, 498.400, 498.900, 498.160, 498.800, 498.300, 497.200, 498.300, 498.400, 497.200, 498.000, 497.200, 498.100, 497.400, 497.700, 499.5
DISTANCE (M)	00.00, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250
STATION	00+00, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250

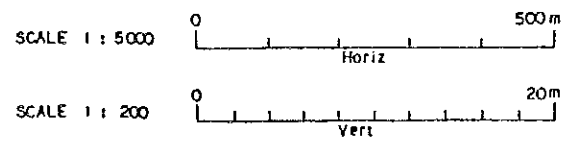


LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
ANDONOUHU PLAN & LONGITUDINAL SECTION (1/3)		
NOVEMBER 1990	SCALE /	DRAWING NO. 65
JAPAN INTERNATIONAL COOPERATION AGENCY		



DATUM	470
SIZE & TYPE OF PIPE	PVC φ200 L = 1,416 m PVC φ200 L = 1,113 m PVC φ90 L = 255 m PVC φ90 L = 1,723 m
HYDRAULIC GRADIENT LEVEL (M)	526.0 525.2 522.6 520.6 516.7 517.2
GROUND LEVELS (M)	504.74 506.15 506.94 504.70 503.02 502.40 501.10 499.80 498.42 497.04 496.55 493.67 491.42 489.30 488.30 487.90 486.82 485.67 484.92 483.68 483.10 482.82 482.57 482.29 481.92 481.17 480.44 479.05 478.07 478.24 479.82 480.12 479.92 479.92 479.04 478.89 478.90 478.50 478.17 478.50 478.90 478.40 478.44 478.02 478.92 479.70 479.92 479.82 479.20 478.65 478.40 478.62 478.32 478.00 478.00 478.20 478.20 478.30 478.30 478.50 478.50
DISTANCE (M)	0 50 100 146.23 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000 1050 1100 1150 1200 1250 1300 1350 1400 1450 1500 1550 1600 1650 1700 1750 1800 1850 1900 1950 2000 2050 2100 2150 2200 2250 2300 2350 2400 2450 2500 2550 2600 2650 2700 2750 2800 2850 2900 2950 3000
STATION	0+00 0+50 1+00 1+46.23 2+00 2+50 3+00 3+50 4+00 4+50 5+00 5+50 6+00 6+50 7+00 7+50 8+00 8+50 9+00 9+50 10+00 10+50 11+00 11+50 12+00 12+50 13+00 13+50 14+00 14+50 15+00 15+50 16+00 16+50 17+00 17+50 18+00 18+50 19+00 19+50 20+00 20+50 21+00 21+50 22+00 22+50 23+00 23+50 24+00 24+50 25+00 25+50 26+00 26+50 27+00 27+50 28+00 28+50 29+00 29+50 30+00



LONGITUDINAL SECTION

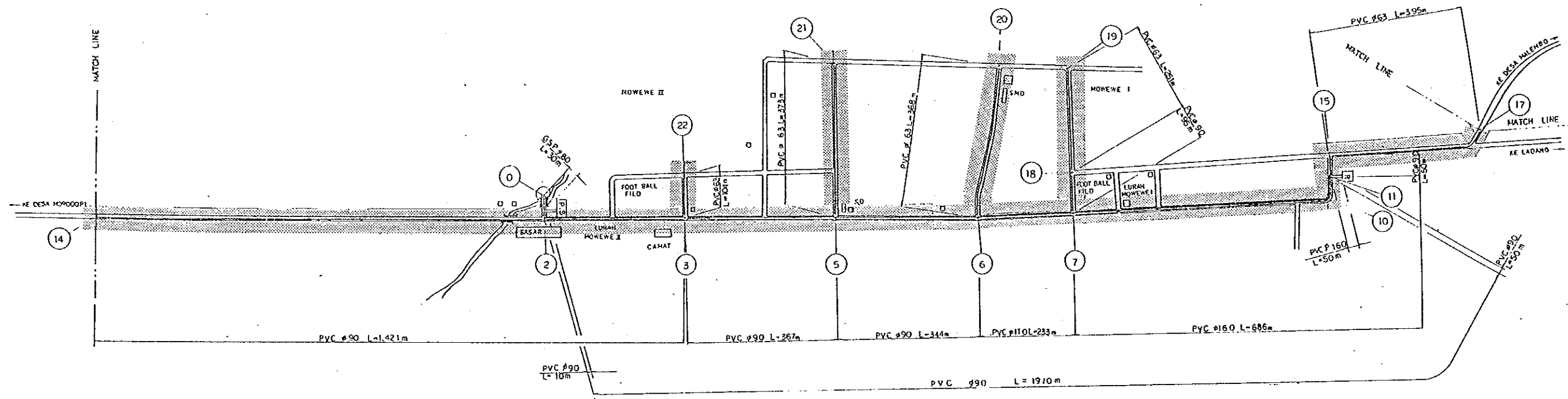
THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA
 THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

ANDONOUHU
 PLAN & LONGITUDINAL SECTION (2/3)


NOVEMBER 1990	SCALE	DRAWING NO. 66
---------------	-------	----------------

JAPAN INTERNATIONAL COOPERATION AGENCY

DETAIL OF PIPELINE

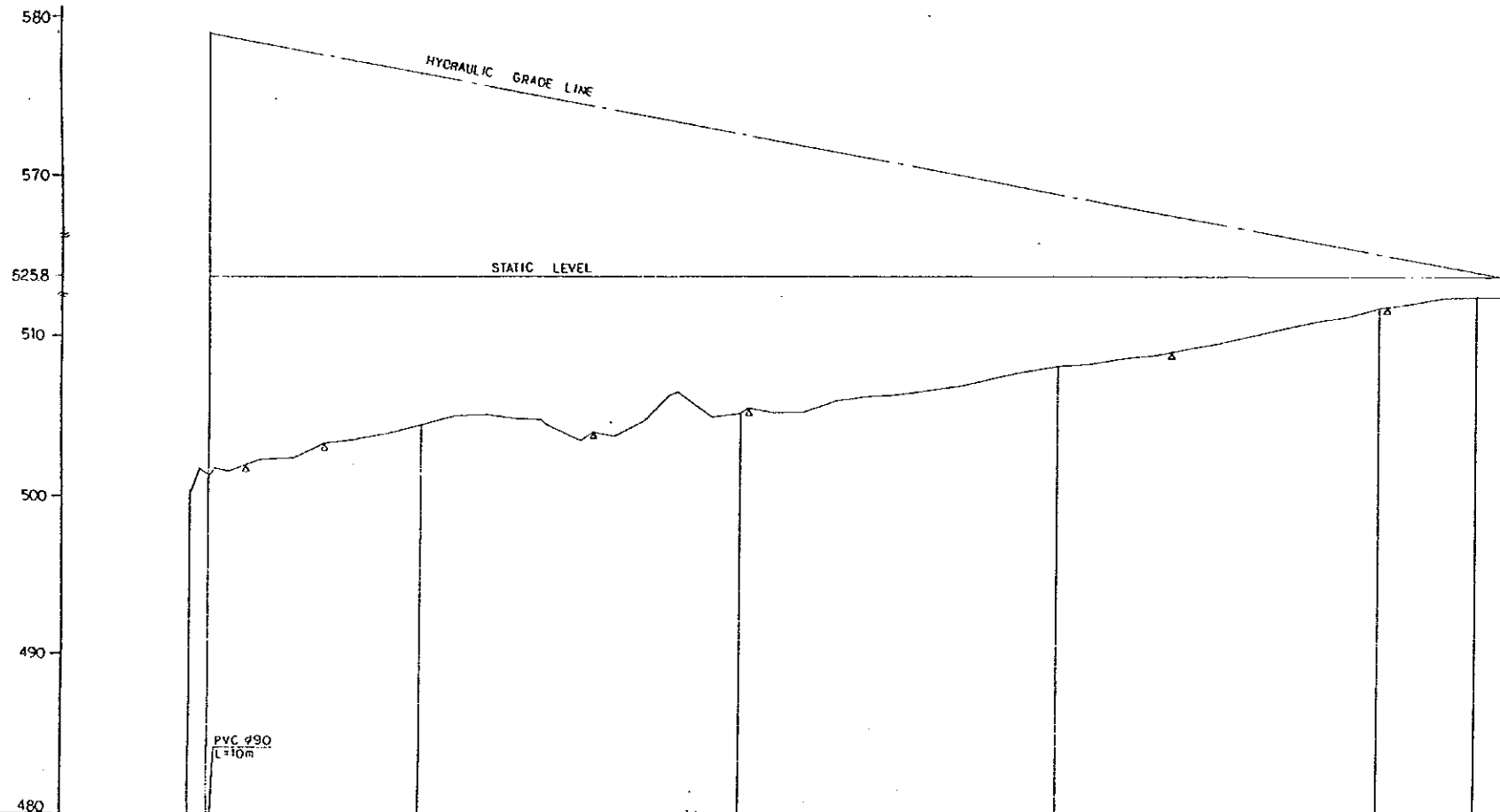
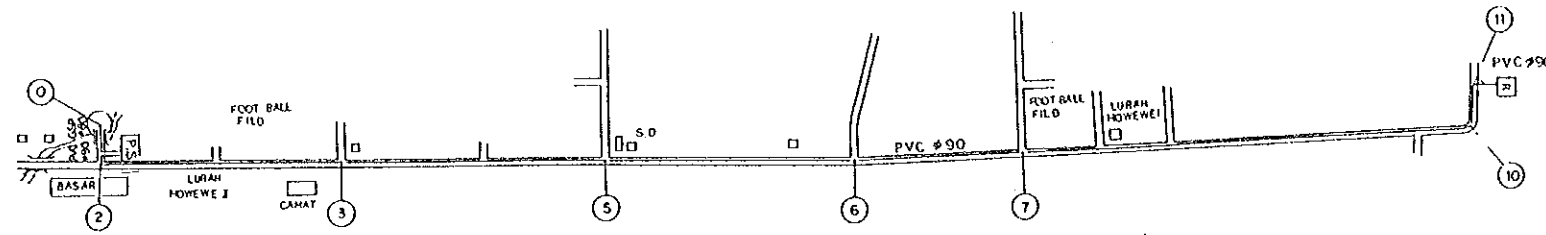


LEGEND

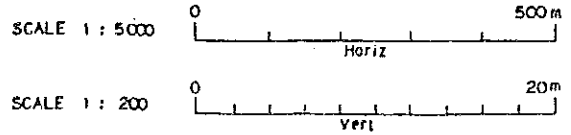
-  : SERVED AREA BY PUBLIC TAPS
- R : RESERVIOR
- P.B : PRESSURE BREAKING PIT
- K.CAMAT : VILLAGE OFFICE

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
MOWEWE DETAIL OF PIPELINE		
NOVEMBER 1990	SCALE	DRAWING NO. 68
JAPAN INTERNATIONAL COOPERATION AGENCY		

PLAN



DATUM	480																				
SIZE & TIPE OF PIPE	GSP# 80 L=30m			PVC φ90 L=1970m													PVC φ90 L=50m				
HYDRAULIC GRADIENT LEVEL (M)	579.0	578.7		570.5	570.5	570.5	570.5	570.5	570.5	570.5	570.5	570.5	570.5	570.5	570.5	570.5	570.5	570.5	570.5	525.8	
GROUND LEVELS (M)	500.000	501.660	502.300	502.400	503.560	503.640	504.000	504.600	505.100	505.260	504.900	502.660	503.340	504.140	505.660	505.160	505.300	505.400	505.600	500.000	500.000
DISTANCE (M)	0.000	30.00	60.00	90.00	120.00	150.00	180.00	210.00	240.00	270.00	300.00	330.00	360.00	390.00	420.00	450.00	480.00	510.00	540.00	570.00	600.00
STATION	0	30	60	90	120	150	180	210	240	270	300	330	360	390	420	450	480	510	540	570	600



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
CIPTA KARYA

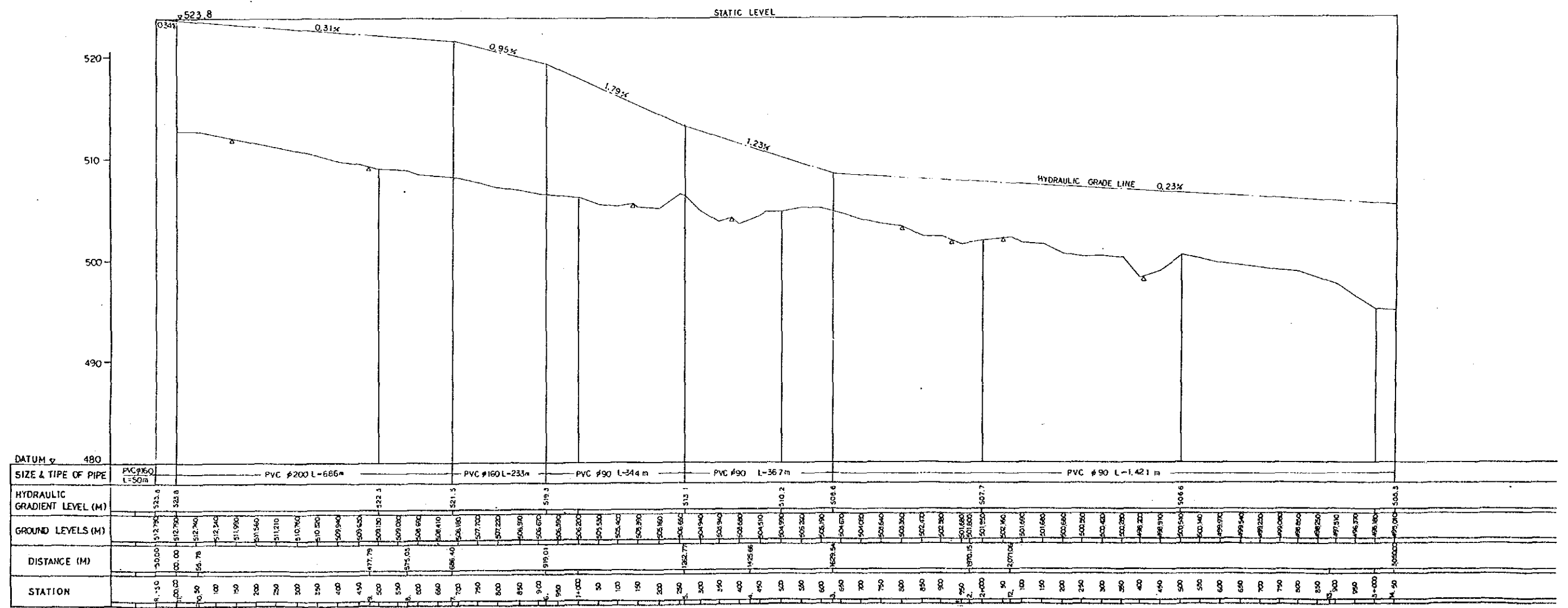
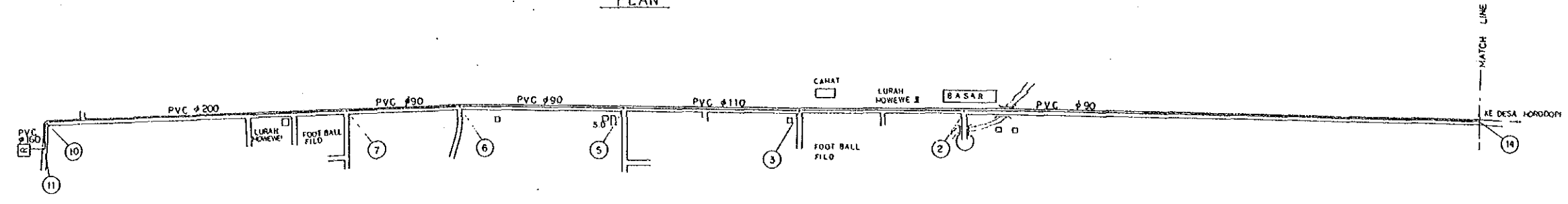
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
IN
SULAWESI ISLAND

MOWEWE
PLAN & LONGITUDINAL SECTION (1/4)

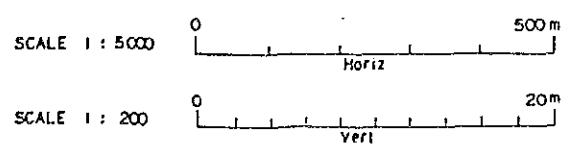
NOVEMBER 1990	SCALE /	DRAWING NO. 69
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

PLAN



LONGITUDINAL SECTION



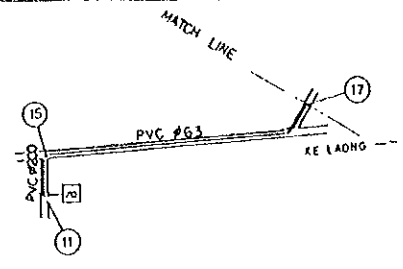
THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

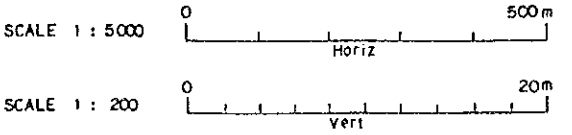
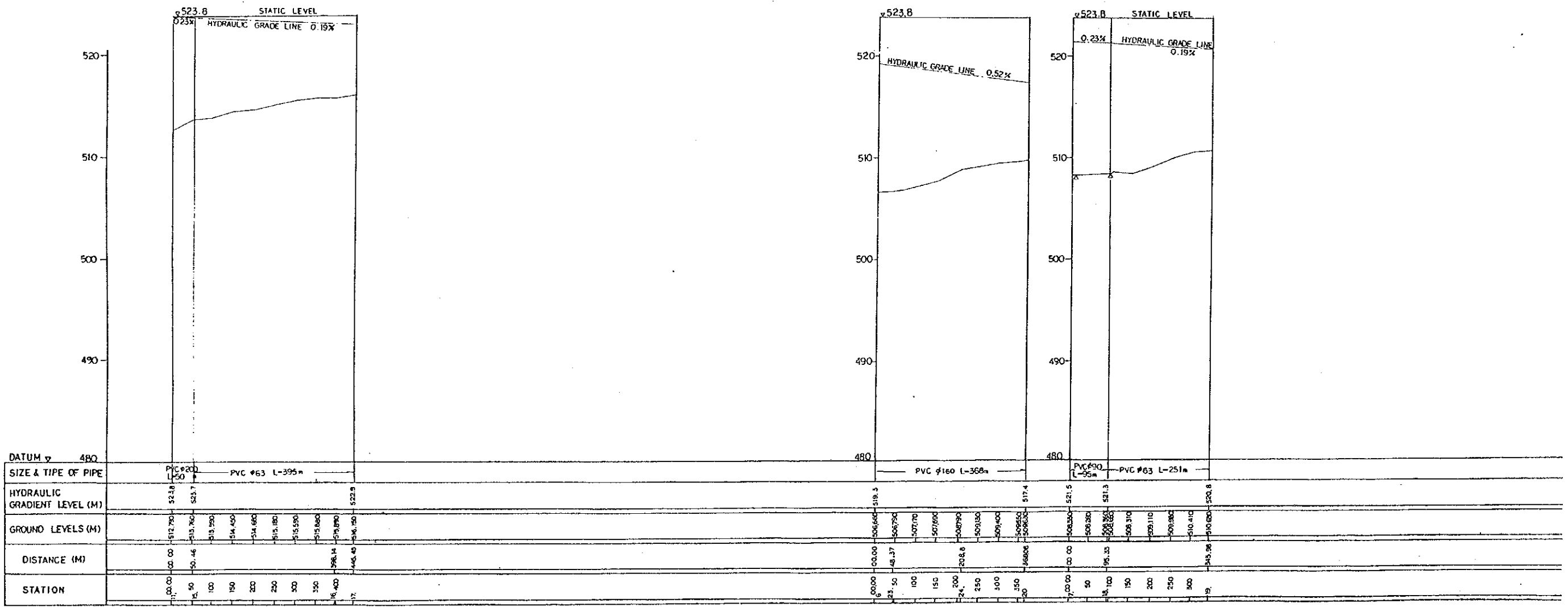
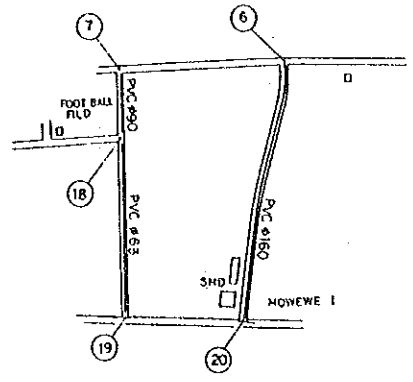
MOWEWE
 PLAN & LONGITUDINAL SECTION (2/4)

NOVEMBER 1990	SCALE /	DRAWING NO. 70
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY



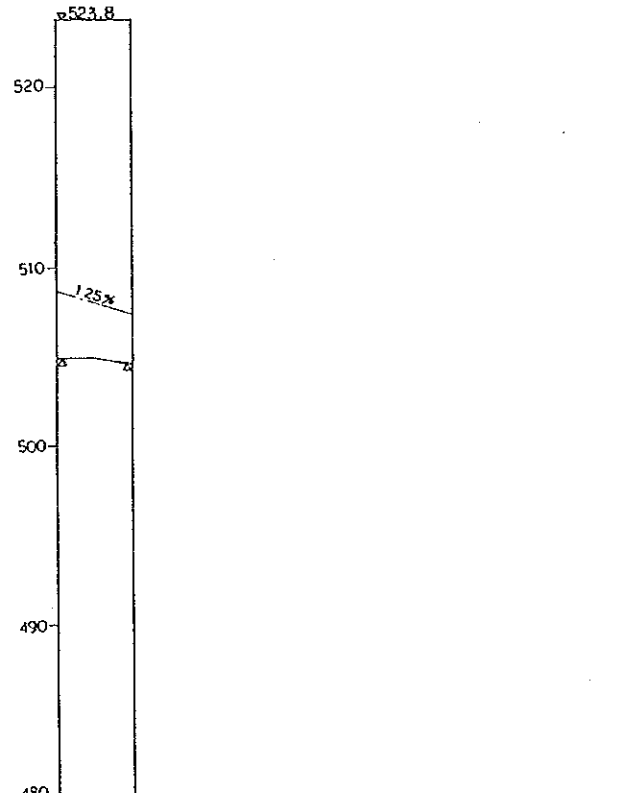
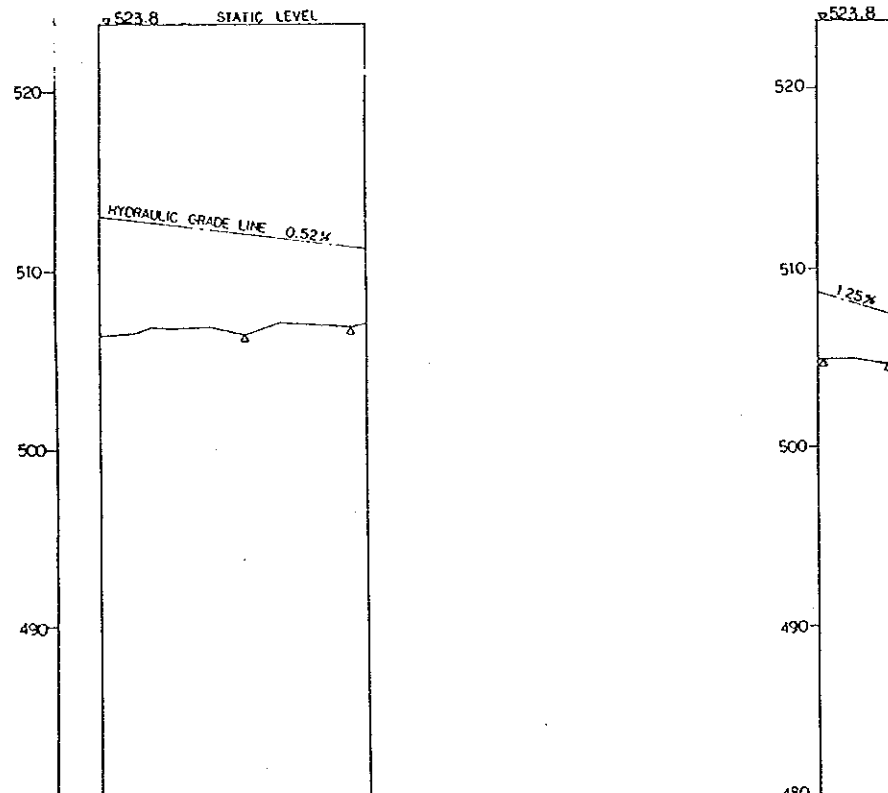
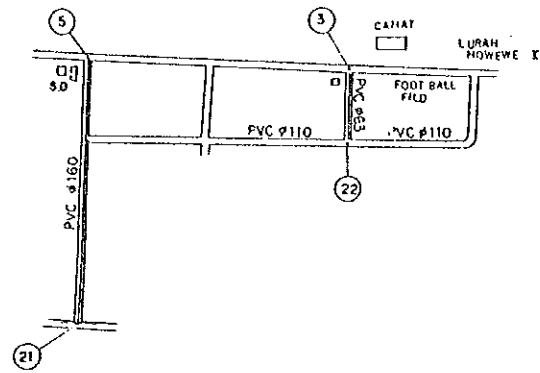
PLAN



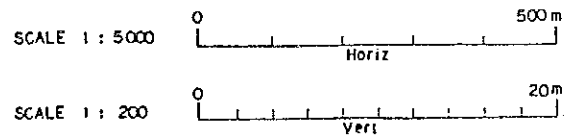
LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA
 THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND
 MOWEWE
 PLAN & LONGITUDINAL SECTION (3/4)
 NOVEMBER 1990 SCALE / DRAWING NO. 71
 JAPAN INTERNATIONAL COOPERATION AGENCY

PLAN



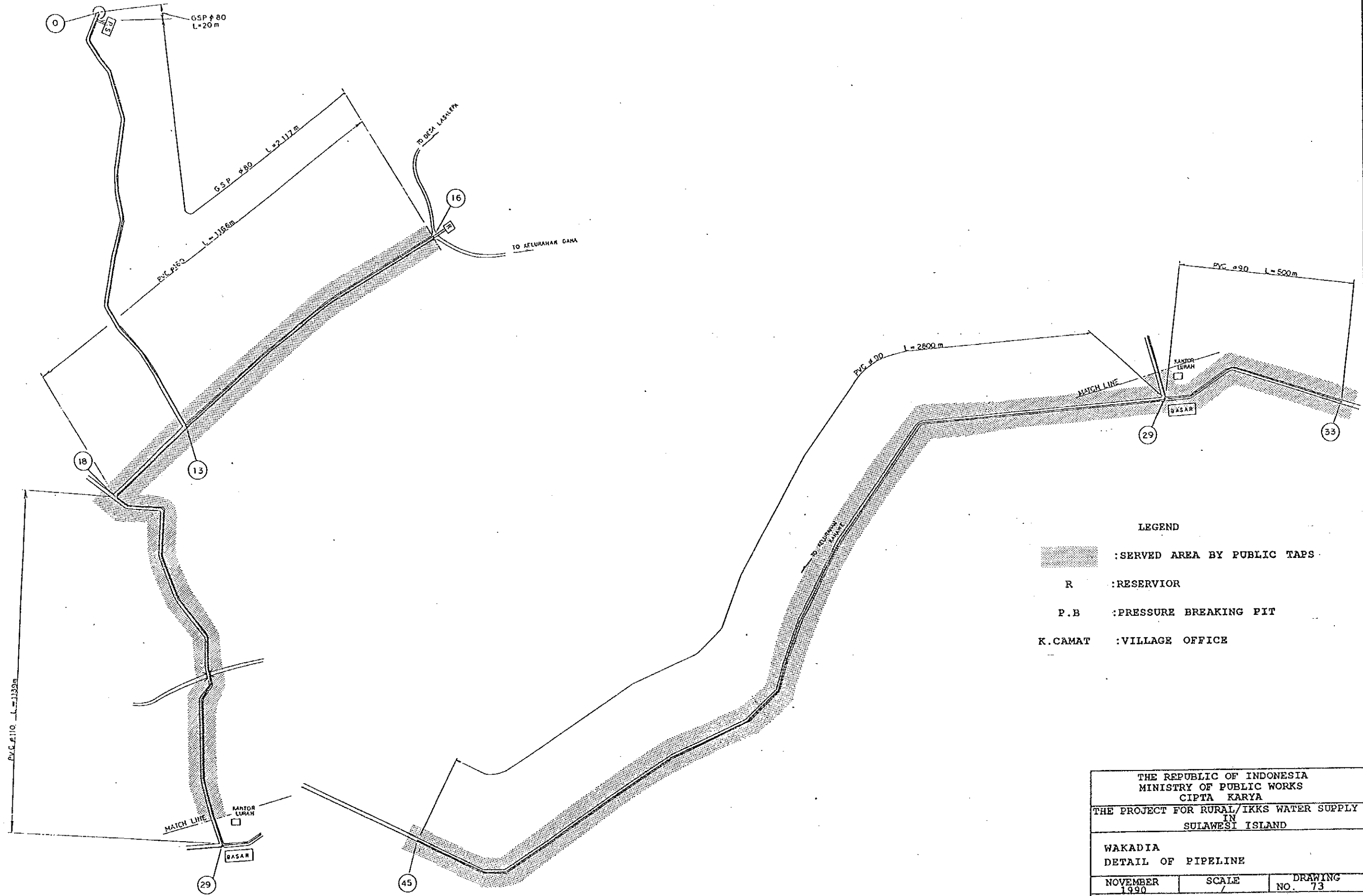
DATUM	480	480
SIZE & TYPE OF PIPE	PVC #160 L=373 m	PVC #63 L=104 m
HYDRAULIC GRADIENT LEVEL (M)	513.0	508.6
GROUND LEVELS (M)	506.400, 506.640, 506.880, 506.910, 506.400, 507.120, 507.110, 506.800, 507.100, 511.2	504.800, 504.800, 504.800, 504.800, 504.800, 507.3
DISTANCE (M)	0.00, 50, 100, 150, 200, 250, 300, 350, 373.27	0.00, 50, 104.00
STATION	0+00, 0+50, 1+00, 1+50, 2+00, 2+50, 3+00, 3+50, 3+73.27	0+00, 0+50, 0+104




LONGITUDINAL SECTION

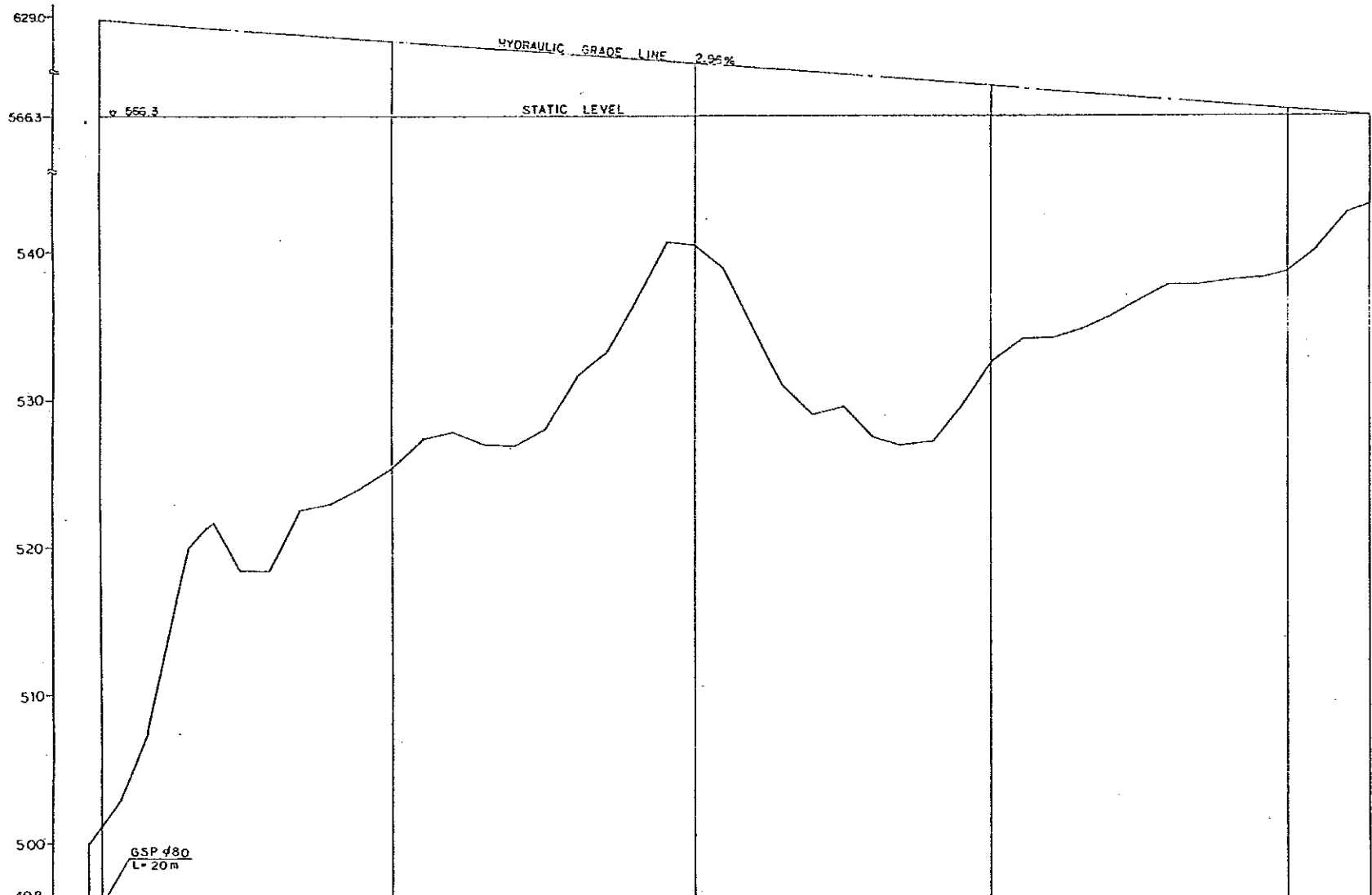
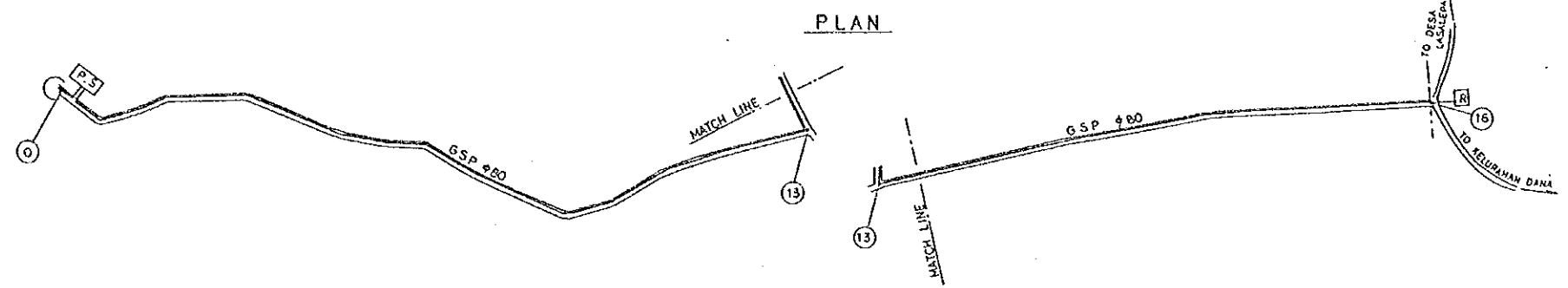
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
MOWEWE PLAN & LONGITUDINAL SECTION (4/4)		
NOVEMBER 1990	SCALE /	DRAWING NO. 72
JAPAN INTERNATIONAL COOPERATION AGENCY		

DETAIL OF PIPELINE

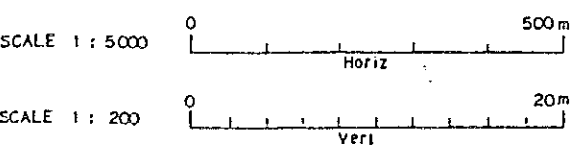


- LEGEND
-  : SERVED AREA BY PUBLIC TAPS
 - R : RESERVIOR
 - P.B. : PRESSURE BREAKING PIT
 - K.CAMAT : VILLAGE OFFICE

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
WAKADIA DETAIL OF PIPELINE		
NOVEMBER 1990	SCALE /	DRAWING NO. 73
JAPAN INTERNATIONAL COOPERATION AGENCY		



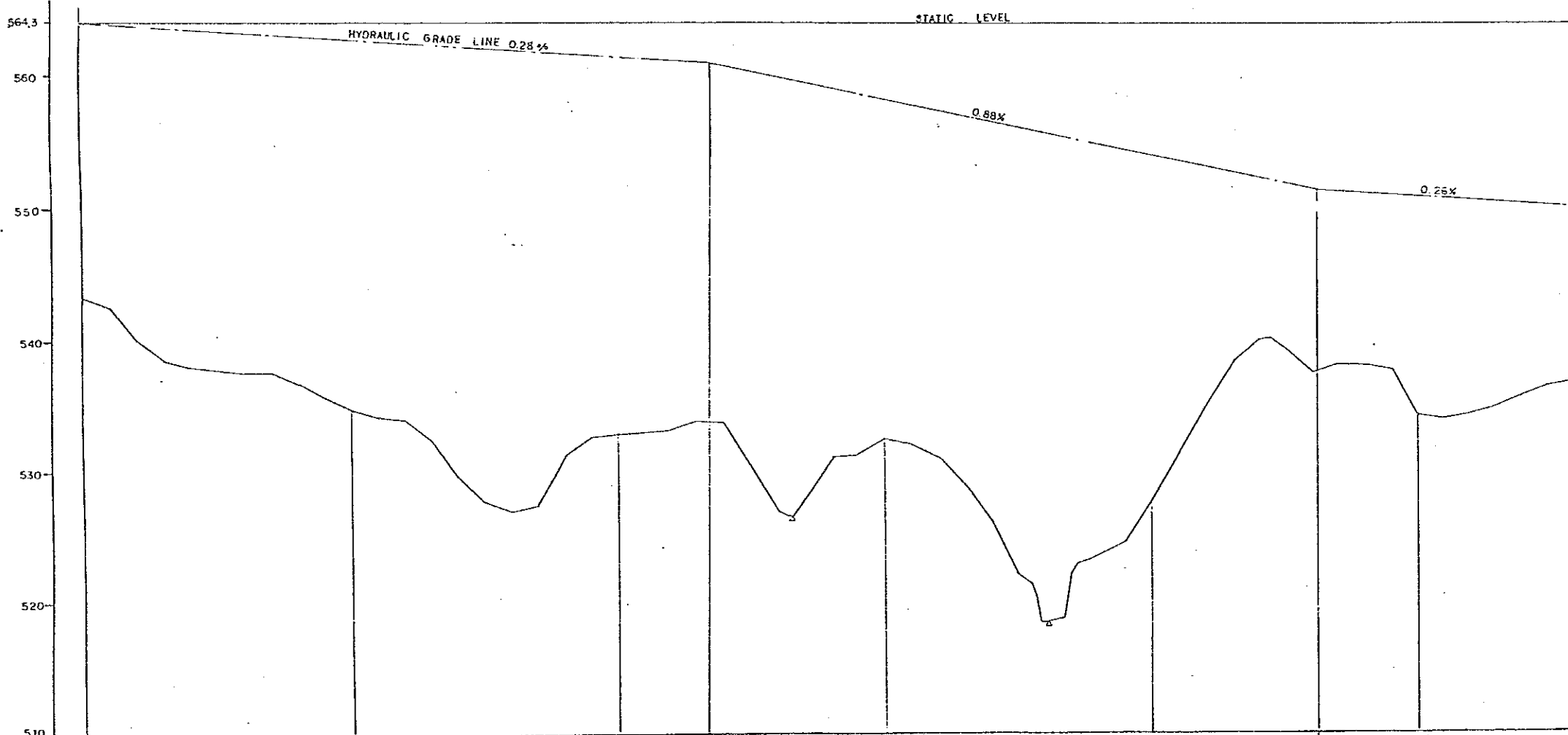
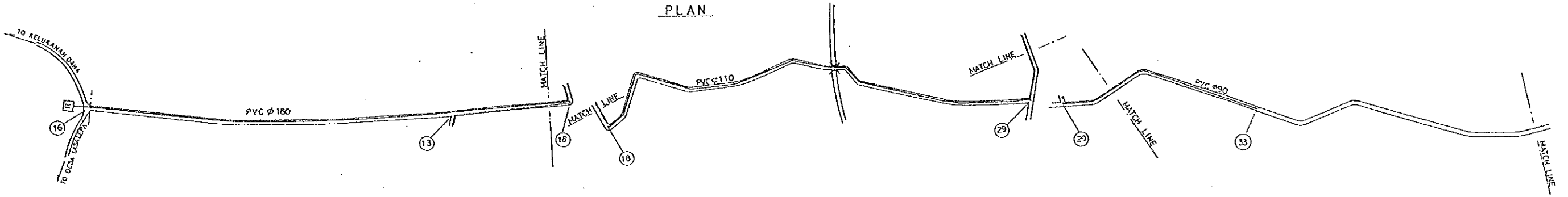
DATUM ∇ 498	
SIZE & TYPE OF PIPE	G S P 980 L = 2117 m
HYDRAULIC GRADIENT LEVEL (M)	629.0, 613.0, 598.6, 584.0, 569.2, 566.3
GROUND LEVELS (M)	500.00, 502.87, 507.57, 517.41, 523.70, 516.31, 518.90, 522.57, 523.02, 524.12, 525.07, 526.07, 527.50, 528.71, 527.06, 527.06, 528.50, 528.02, 531.15, 533.25, 535.50, 540.25, 540.25, 540.00, 538.04, 531.57, 530.90, 526.95, 529.02, 527.70, 526.70, 527.62, 529.67, 532.40, 534.00, 534.20, 534.70, 535.80, 536.50, 537.60, 537.05, 538.70, 539.50, 540.10, 540.00, 543.00, 543.00
DISTANCE (M)	00.00, 84.12, 152.92, 192.91, 246.31, 326.75, 400.00, 470.00, 546.21, 627.50, 612.97, 627.06, 716.77, 809.40, 833.82, 903.62, 1003.36, 1103.36, 1209.90, 1311.11, 1403.10, 1503.10, 1603.10, 1703.10, 1803.10, 1903.10, 2003.10, 2117.00
STATION	00, 90, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1050, 1100, 1150, 1200, 1250, 1300, 1350, 1400, 1450, 1500, 1550, 1600, 1650, 1700, 1750, 1800, 1850, 1900, 1950, 2000, 2050, 2100, 2117



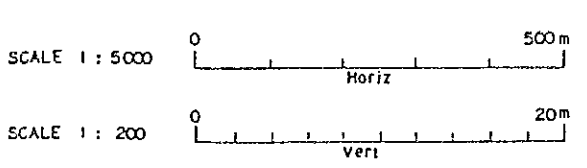
LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA
 THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND
 WAKADIA
 PLAN & LONGITUDINAL SECTION (1/3)
 NOVEMBER 1990 SCALE DRAWING NO. 74
 JAPAN INTERNATIONAL COOPERATION AGENCY

PLAN



DATUM	510
SIZE & TYPE OF PIPE	PVC Ø160 L = 1166 m
HYDRAULIC GRADIENT LEVEL (M)	564.3
GROUND LEVELS (M)	543.22, 542.02, 540.13, 538.62, 536.17, 533.92, 531.62, 529.65, 527.54, 525.24, 522.70, 520.92, 518.01, 514.23, 510.03, 505.44, 501.96, 499.96, 497.22, 494.96, 492.37, 489.52, 486.32, 482.70, 478.81, 474.54, 470.83, 466.74, 462.24, 457.34, 452.04, 446.34, 440.24, 433.74, 426.84, 419.54, 411.84, 403.74, 395.24, 386.34, 377.04, 367.34, 357.24, 346.74, 335.84, 324.54, 312.84, 300.74, 288.24, 275.34, 262.04, 248.34, 234.24, 219.74, 204.84, 189.54, 173.84, 157.74, 141.24, 124.34, 107.04, 89.34, 71.54, 53.24, 34.54, 15.44, -4.54, -25.04, -45.14, -64.84, -83.54, -101.24, -118.04, -133.84, -148.64, -162.44, -175.24, -187.04, -197.84, -207.64, -216.44, -224.24, -231.04, -236.84, -241.64, -245.44, -248.24, -250.04, -250.84, -250.64, -249.44, -247.24, -244.04, -238.84, -232.64, -225.44, -217.24, -208.04, -196.84, -184.64, -171.44, -157.24, -141.04, -122.84, -102.64, -80.44, -56.24, -30.04, -1.84, 18.34, 48.54, 98.74, 148.94, 199.14, 249.34, 299.54, 349.74
DISTANCE (M)	0+00, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1+000, 1+050, 1+100, 1+150, 1+200, 1+250, 1+300, 1+350, 1+400, 1+450, 1+500, 1+550, 1+600, 1+650, 1+700, 1+750, 1+800, 1+850, 1+900, 1+950, 2+000
STATION	0+00, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1+000, 1+050, 1+100, 1+150, 1+200, 1+250, 1+300, 1+350, 1+400, 1+450, 1+500, 1+550, 1+600, 1+650, 1+700, 1+750, 1+800, 1+850, 1+900, 1+950, 2+000



LONGITUDINAL SECTION

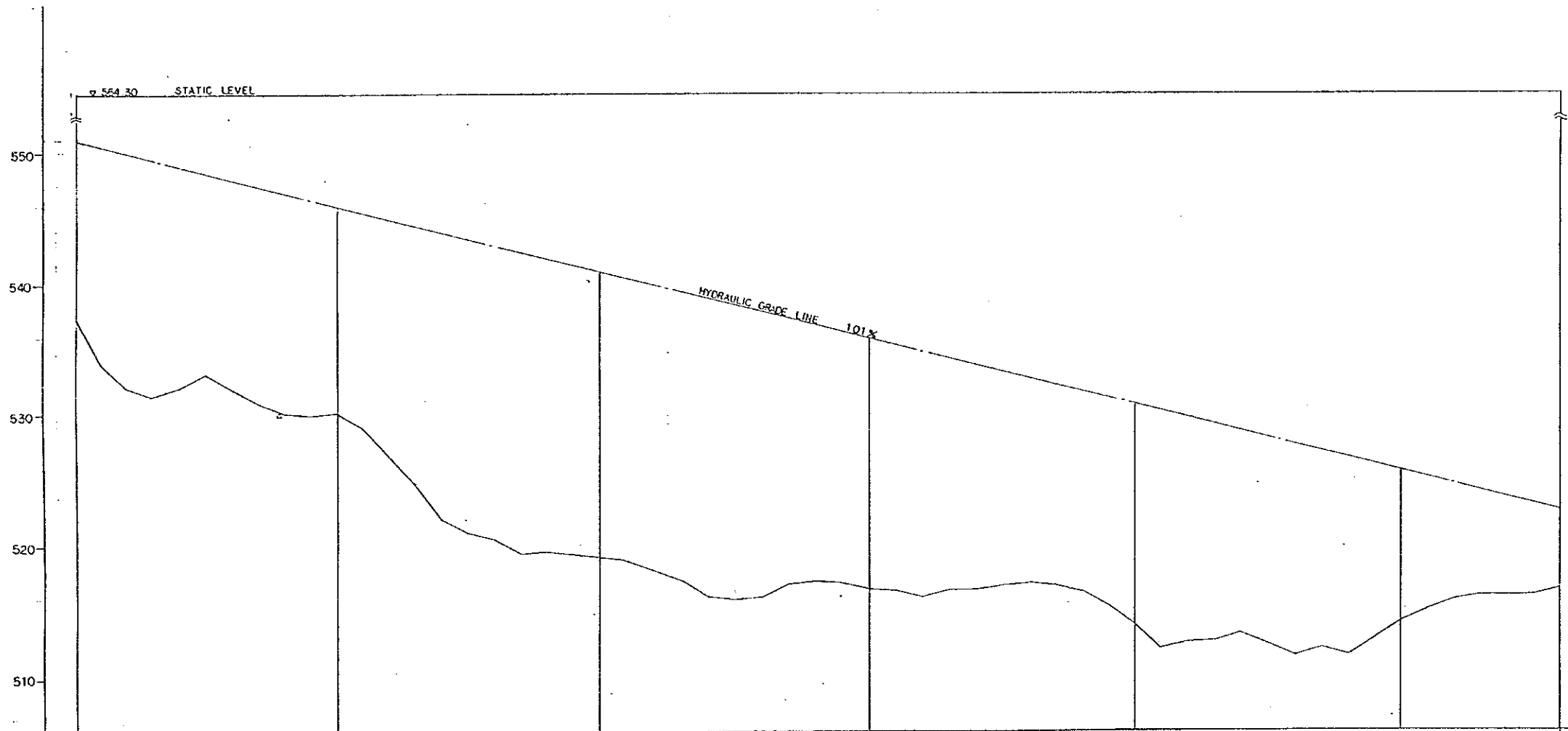
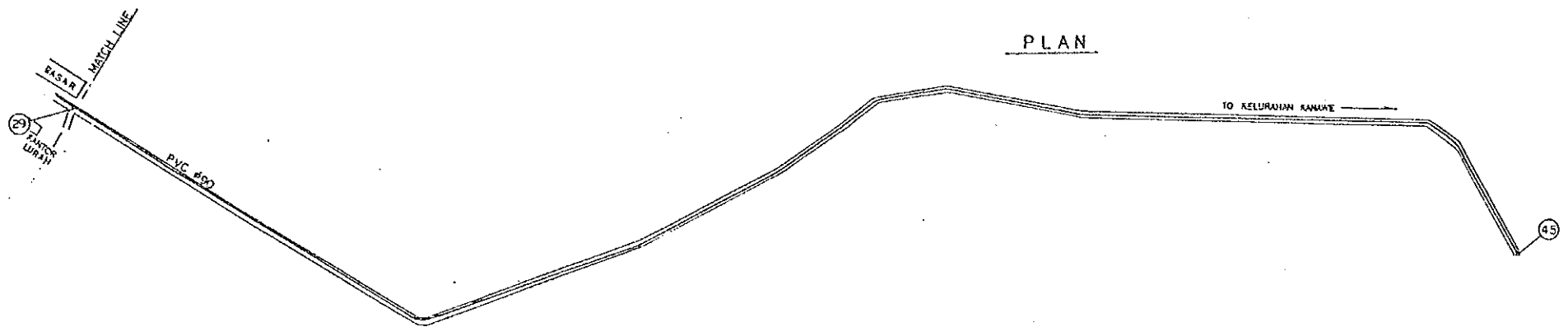
THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

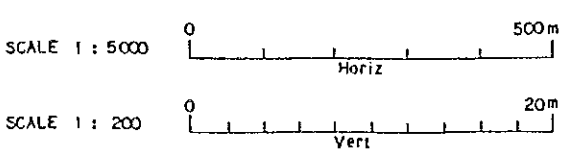
WAKADIA
 PLAN & LONGITUDINAL SECTION (2/3)

NOVEMBER 1990	SCALE /	DRAWING NO. 75
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY



STATION	DISTANCE (M)	GROUND LEVELS (M)	HYDRAULIC GRADIENT LEVEL (M)	SIZE & TYPE OF PIPE
0+000	0.00	537.30	551.0	PVC ϕ 90 L = 2800 m
50	49.92	533.07	551.0	
100	99.84	532.04	551.0	
150	149.76	531.94	551.0	
200	199.68	532.70	551.0	
250	249.60	533.10	551.0	
300	299.52	533.96	551.0	
350	349.44	530.86	551.0	
400	399.36	530.70	551.0	
450	449.28	530.07	551.0	
500	499.20	530.20	546.0	
550	549.12	529.36	546.0	
600	599.04	527.20	546.0	
650	648.96	527.00	546.0	
700	698.88	522.70	546.0	
750	748.80	521.20	546.0	
800	798.72	520.60	546.0	
850	848.64	519.40	546.0	
900	898.56	519.50	546.0	
950	948.48	519.10	546.0	
1000	998.40	519.20	546.0	
1050	1048.32	519.00	546.0	
1100	1098.24	518.80	546.0	
1150	1148.16	518.60	546.0	
1200	1198.08	518.30	546.0	
1250	1248.00	517.90	546.0	
1300	1297.92	517.50	546.0	
1350	1347.84	517.20	546.0	
1400	1397.76	517.00	546.0	
1450	1447.68	516.80	546.0	
1500	1497.60	516.70	546.0	
1550	1547.52	516.80	546.0	
1600	1597.44	516.80	546.0	
1650	1647.36	516.80	546.0	
1700	1697.28	516.80	546.0	
1750	1747.20	516.80	546.0	
1800	1797.12	516.80	546.0	
1850	1847.04	516.80	546.0	
1900	1896.96	516.80	546.0	
1950	1946.88	516.80	546.0	
2000	1996.80	516.80	546.0	
2050	2046.72	516.80	546.0	
2100	2096.64	516.80	546.0	
2150	2146.56	516.80	546.0	
2200	2196.48	516.80	546.0	
2250	2246.40	516.80	546.0	
2300	2296.32	516.80	546.0	
2350	2346.24	516.80	546.0	
2400	2396.16	516.80	546.0	
2450	2446.08	516.80	546.0	
2500	2496.00	516.80	546.0	
2550	2545.92	516.80	546.0	
2600	2595.84	516.80	546.0	
2650	2645.76	516.80	546.0	
2700	2695.68	516.80	546.0	
2750	2745.60	516.80	546.0	
2800	2795.52	516.80	546.0	
2850	2845.44	516.80	546.0	
2900	2895.36	516.80	546.0	
2950	2945.28	516.80	546.0	
3000	2995.20	516.80	546.0	
3050	3045.12	516.80	546.0	
3100	3095.04	516.80	546.0	
3150	3144.96	516.80	546.0	
3200	3194.88	516.80	546.0	
3250	3244.80	516.80	546.0	
3300	3294.72	516.80	546.0	
3350	3344.64	516.80	546.0	
3400	3394.56	516.80	546.0	
3450	3444.48	516.80	546.0	
3500	3494.40	516.80	546.0	
3550	3544.32	516.80	546.0	
3600	3594.24	516.80	546.0	
3650	3644.16	516.80	546.0	
3700	3694.08	516.80	546.0	
3750	3744.00	516.80	546.0	
3800	3793.92	516.80	546.0	
3850	3843.84	516.80	546.0	
3900	3893.76	516.80	546.0	
3950	3943.68	516.80	546.0	
4000	3993.60	516.80	546.0	
4050	4043.52	516.80	546.0	
4100	4093.44	516.80	546.0	
4150	4143.36	516.80	546.0	
4200	4193.28	516.80	546.0	
4250	4243.20	516.80	546.0	
4300	4293.12	516.80	546.0	
4350	4343.04	516.80	546.0	
4400	4392.96	516.80	546.0	
4450	4442.88	516.80	546.0	
4500	4492.80	516.80	546.0	
4550	4542.72	516.80	546.0	
4600	4592.64	516.80	546.0	
4650	4642.56	516.80	546.0	
4700	4692.48	516.80	546.0	
4750	4742.40	516.80	546.0	
4800	4792.32	516.80	546.0	
4850	4842.24	516.80	546.0	
4900	4892.16	516.80	546.0	
4950	4942.08	516.80	546.0	
5000	4992.00	516.80	546.0	



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

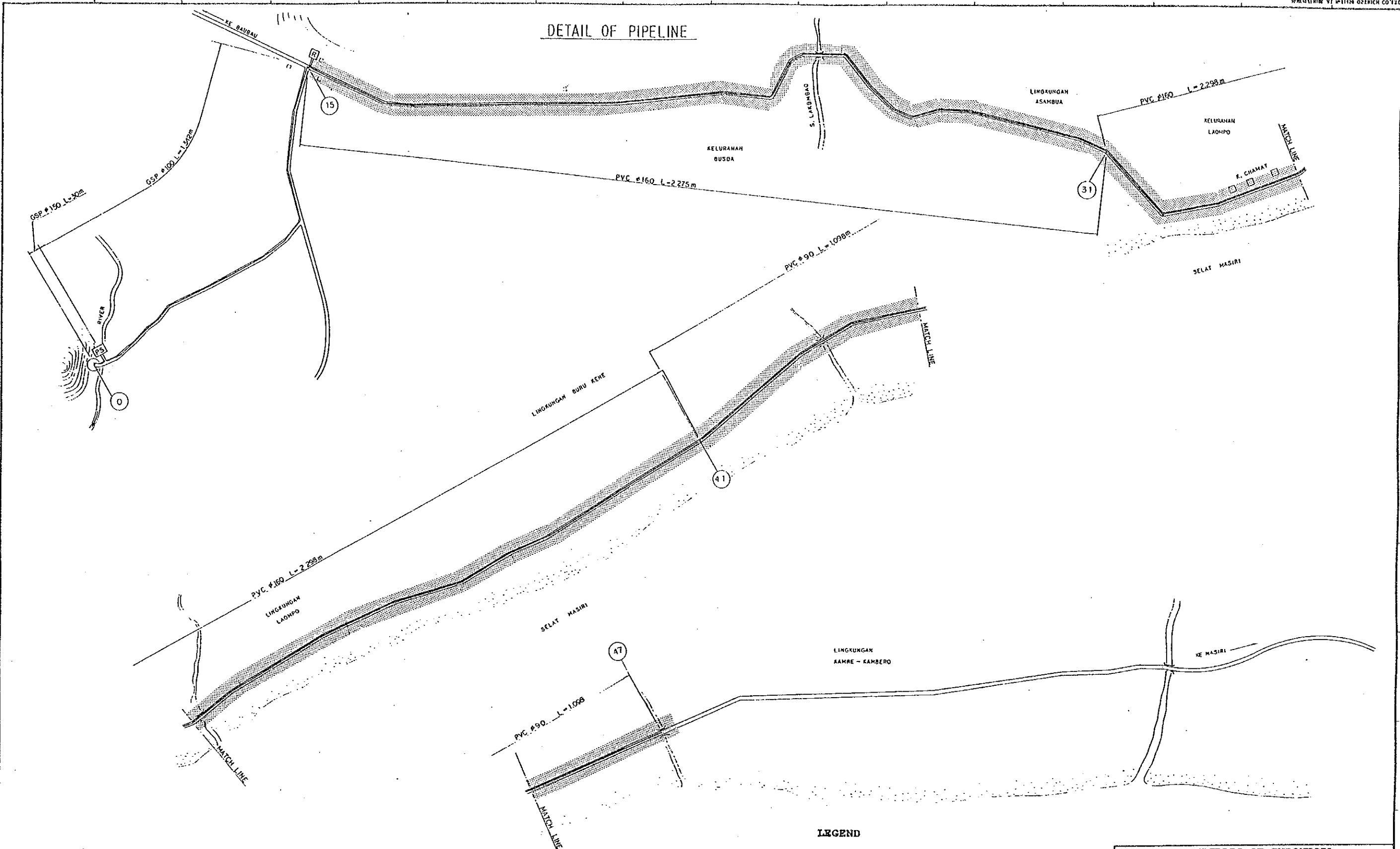
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

WAKADIA
 PLAN & LONGITUDINAL SECTION (3/3)

NOVEMBER 1990	SCALE /	DRAWING NO. 76
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

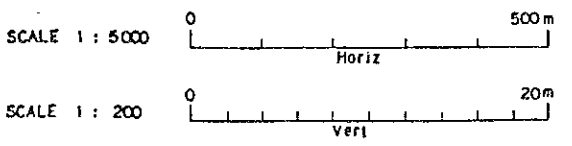
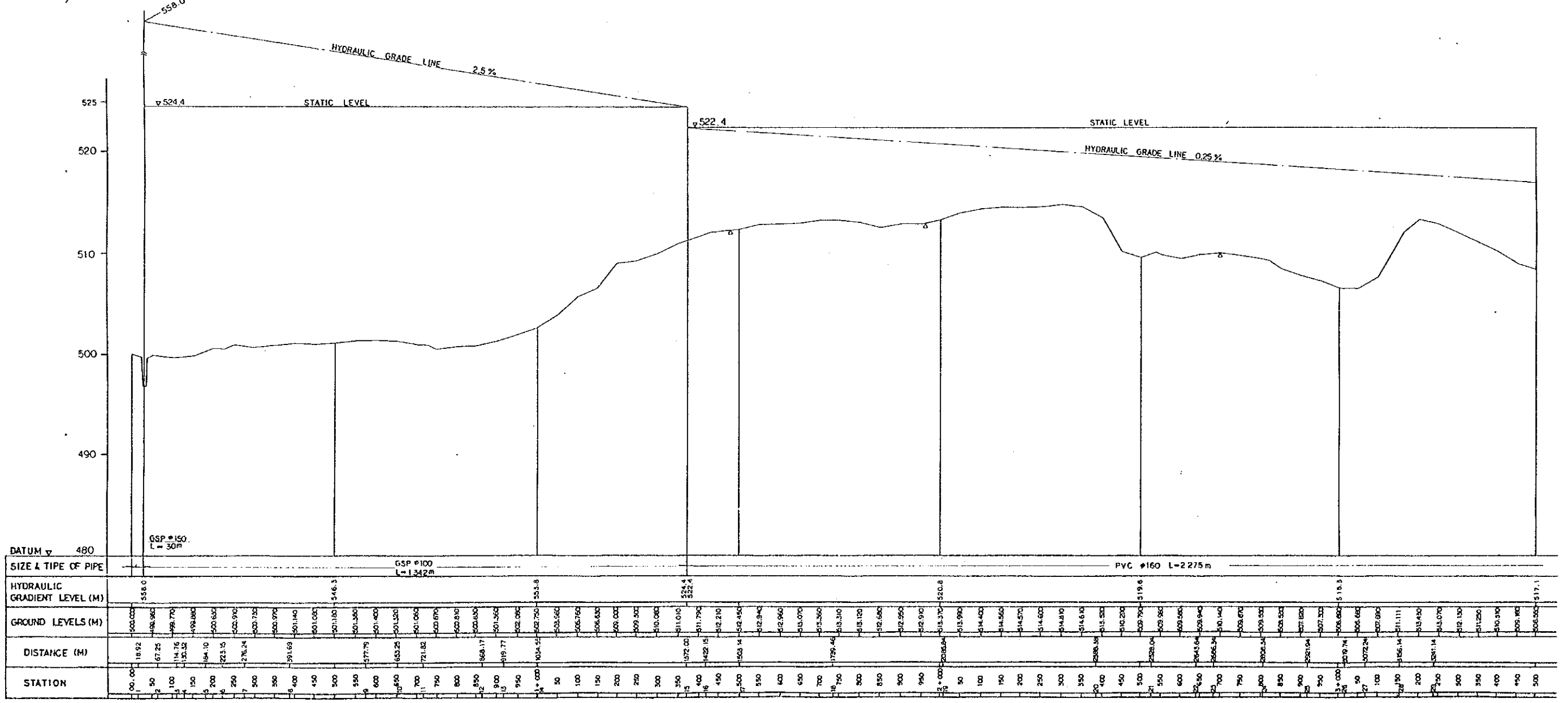
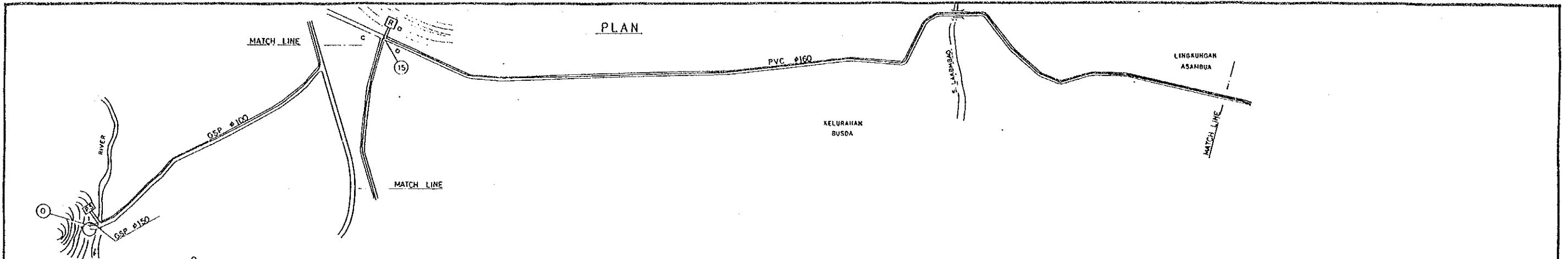
DETAIL OF PIPELINE



LEGEND

- : SERVED AREA BY PUBLIC TAPS
- R : RESERVIOR
- P.B : PRESSURE BREAKING PIT
- K.CAMAT : VILLAGE OFFICE

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
LAOMPO DETAIL OF PIPELINE		
NOVEMBER 1990	SCALE /	DRAWING NO. 77
JAPAN INTERNATIONAL COOPERATION AGENCY		



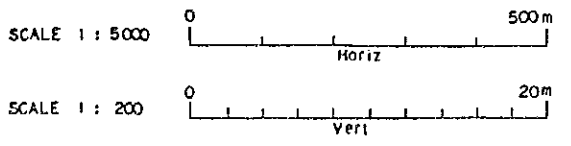
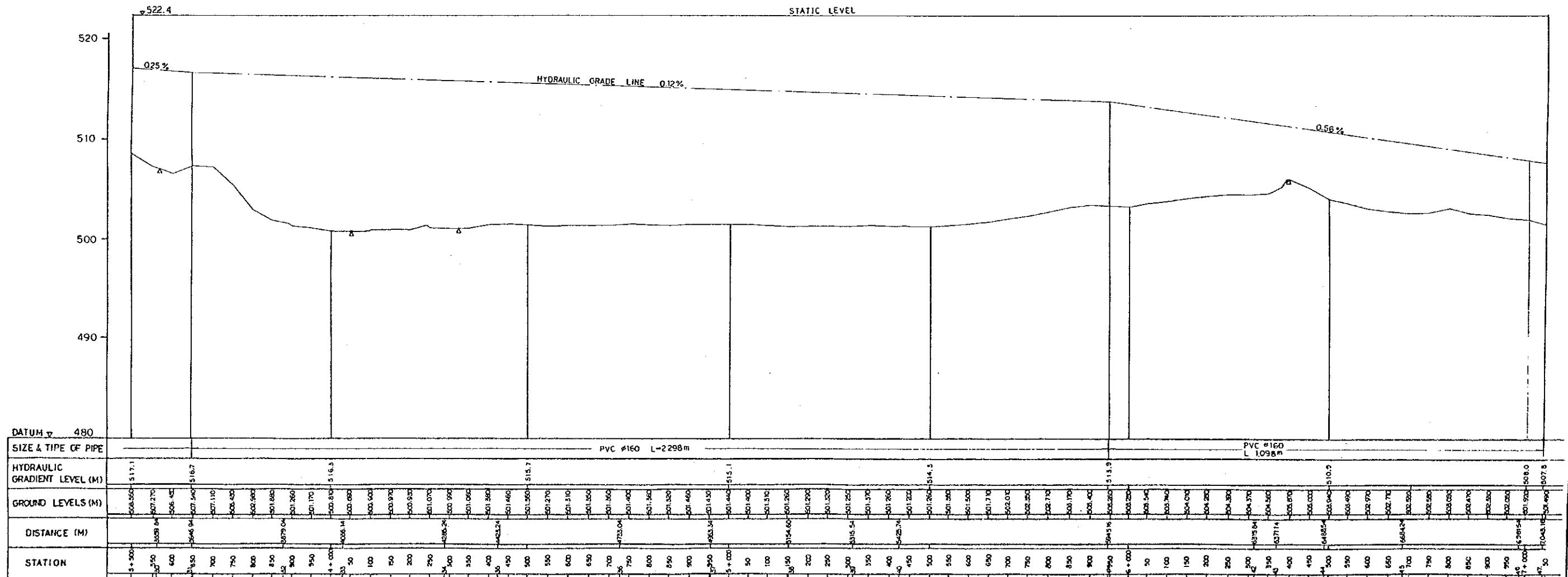
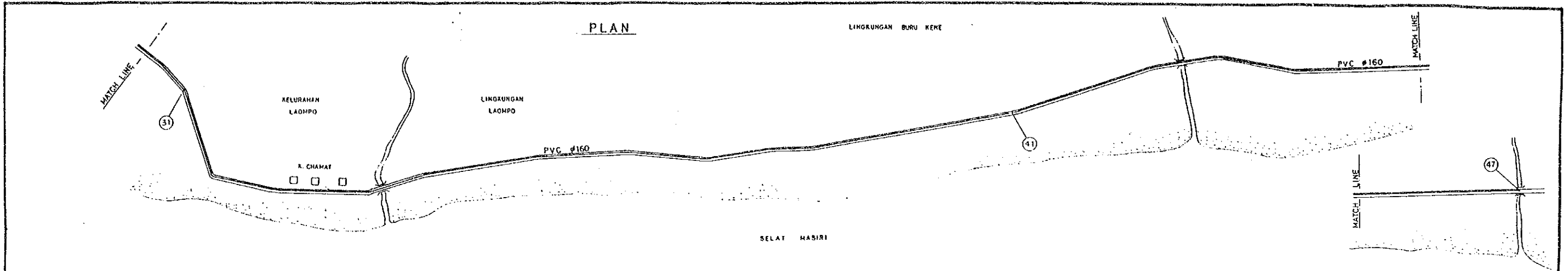
LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA
 THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

LAOMPO
 PLAN & LONGITUDINAL SECTION (1/2)

NOVEMBER 1990	SCALE /	DRAWING NO. 78
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

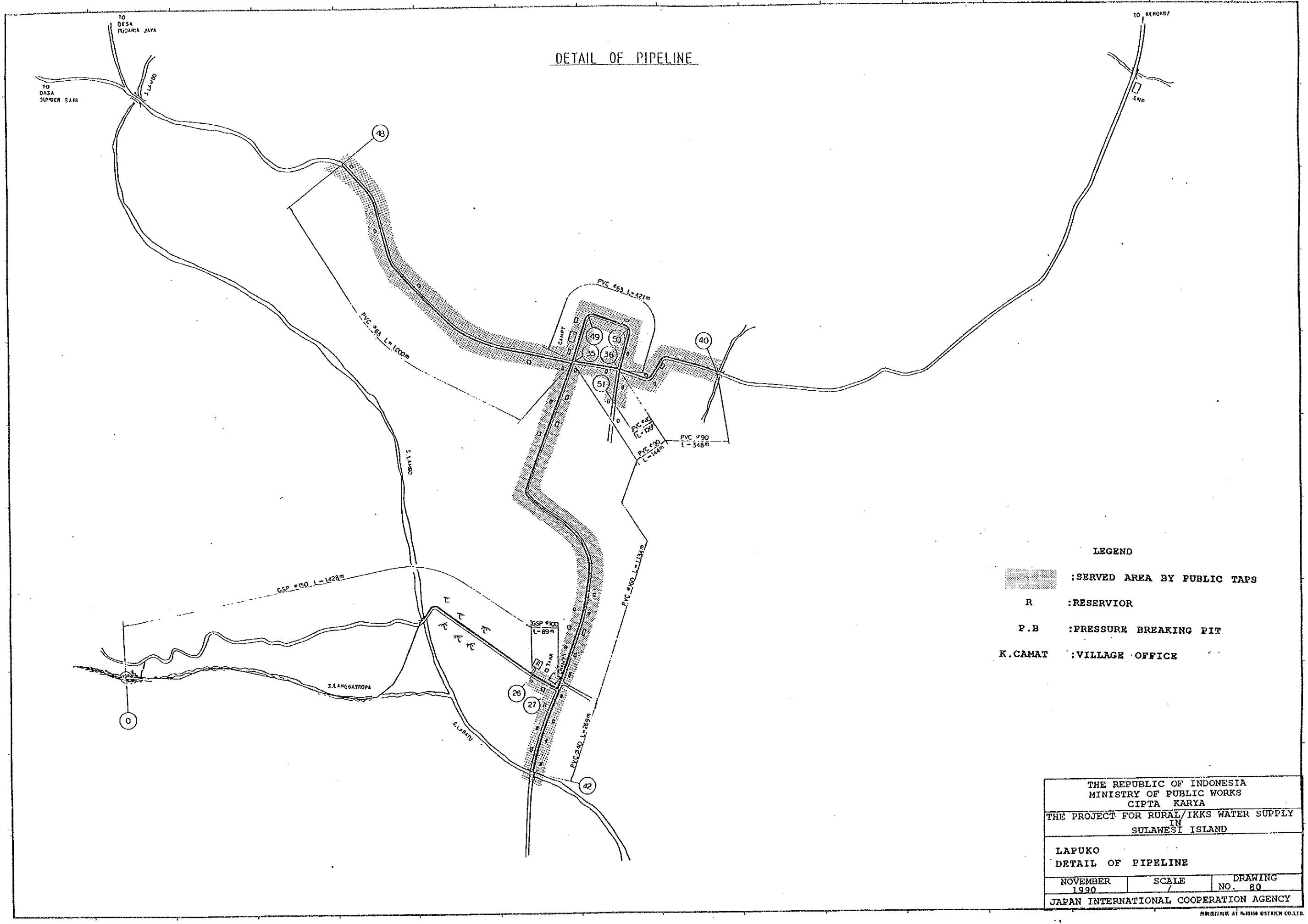
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND


LAOMPO
 PLAN & LONGITUDINAL SECTION (2/2)

NOVEMBER 1990	SCALE /	DRAWING NO. 79
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

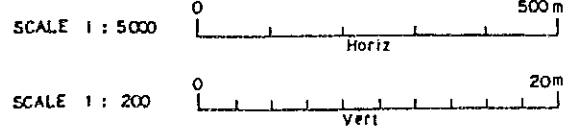
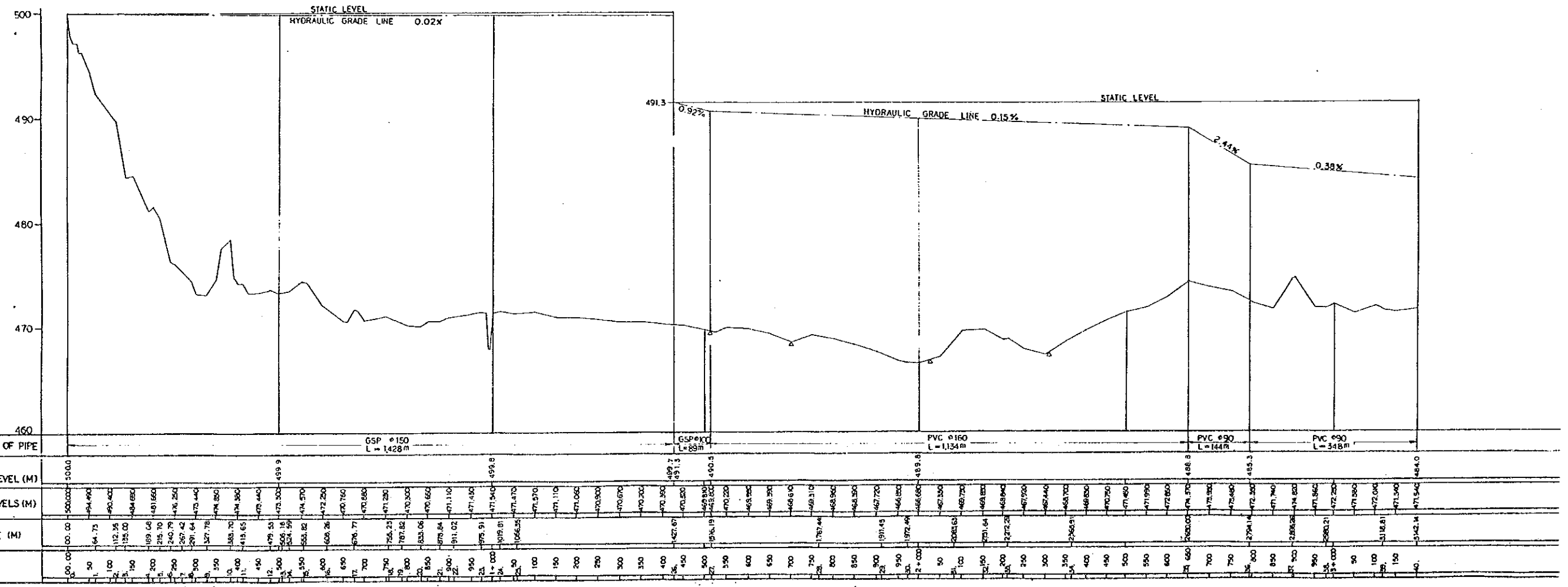
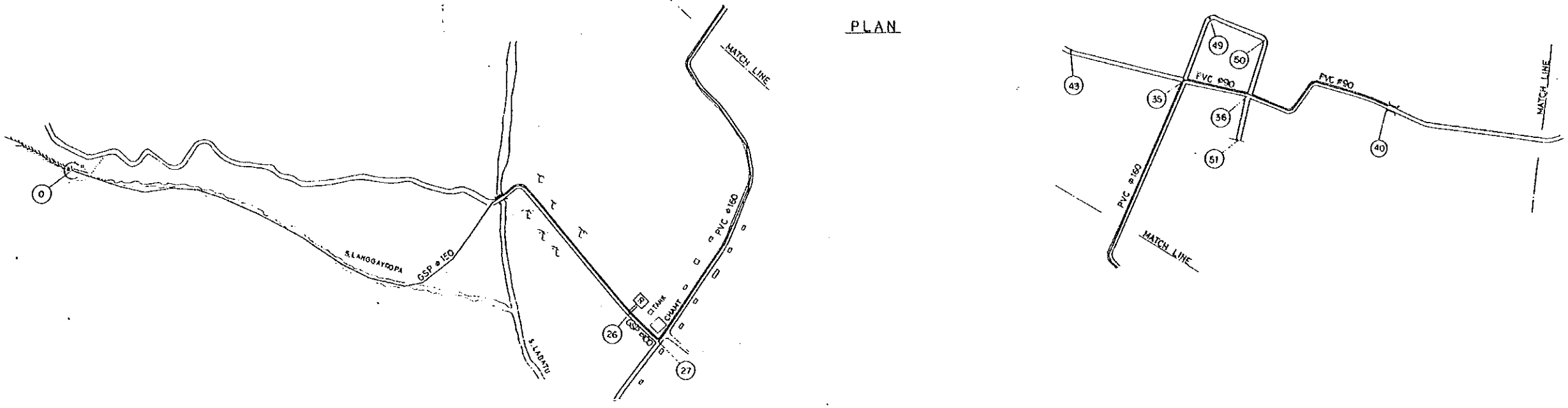
DETAIL OF PIPELINE



-  : SERVED AREA BY PUBLIC TAPS
- R : RESERVIOR
- P.B : PRESSURE BREAKING PIT
- K. CAMAT : VILLAGE OFFICE

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
LAPUKO DETAIL OF PIPELINE		
NOVEMBER 1990	SCALE 1/	DRAWING NO. 80
JAPAN INTERNATIONAL COOPERATION AGENCY		

PLAN



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

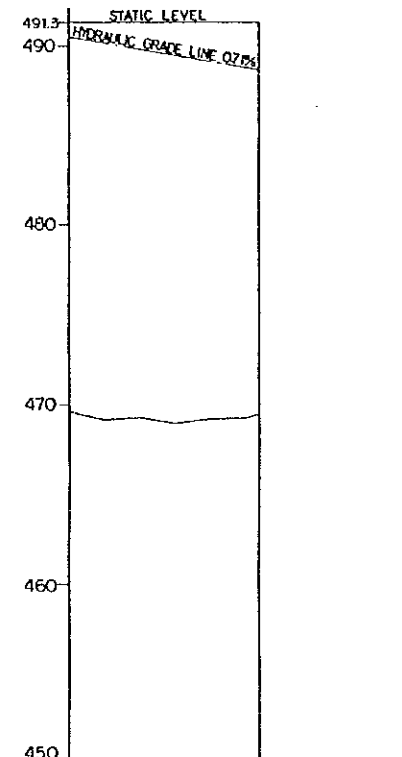
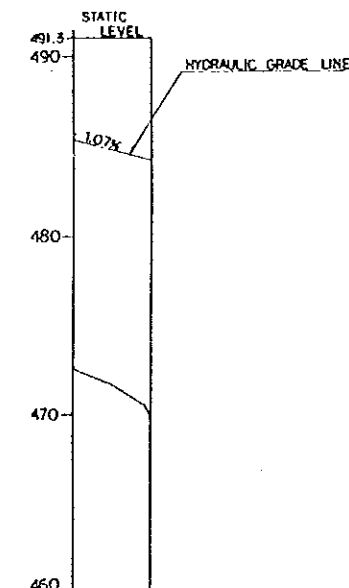
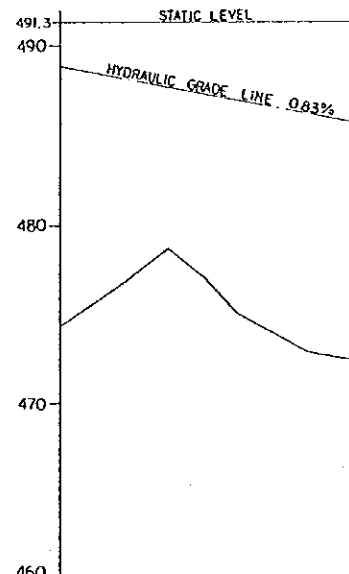
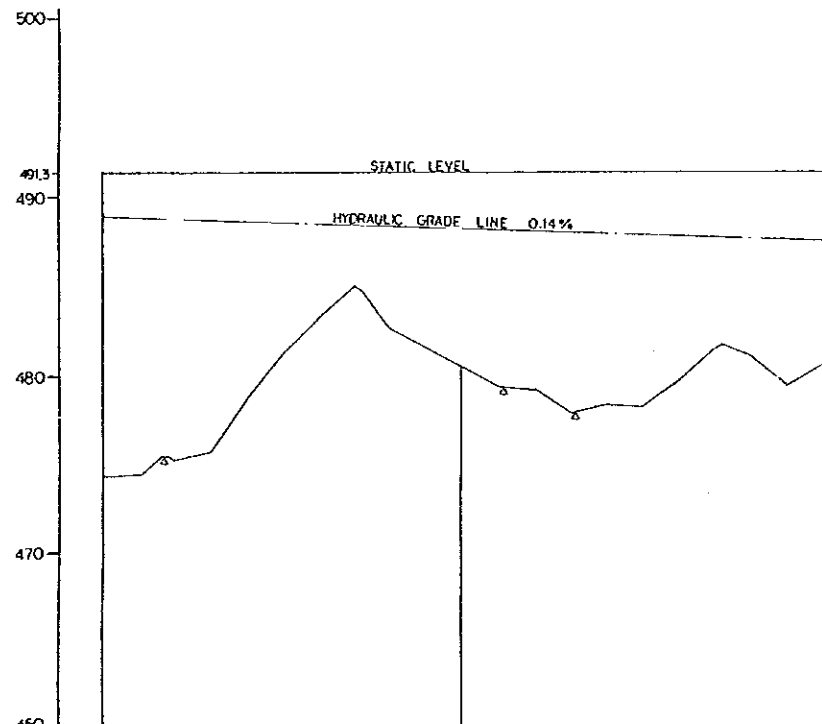
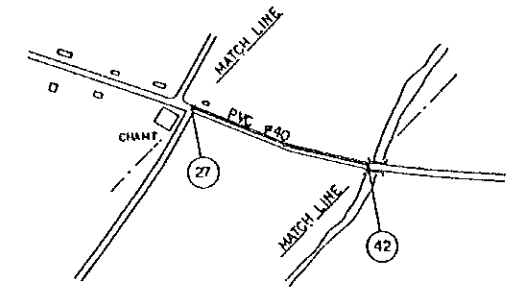
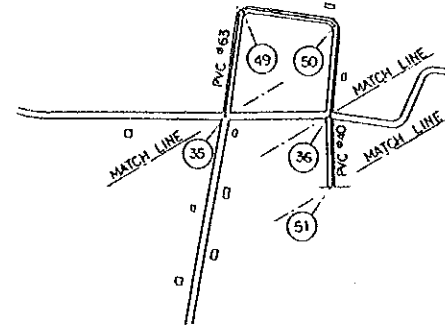
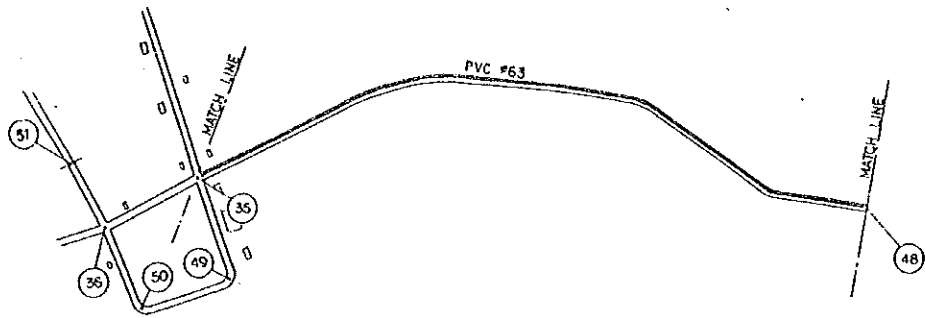
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

LAPUKO
 PLAN & LONGITUDINAL SECTION (1/2)

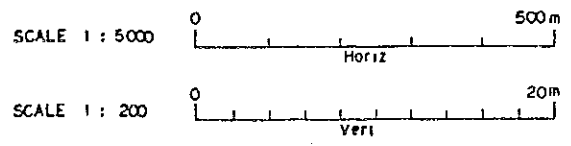
NOVEMBER 1990	SCALE 1:5000	DRAWING NO. 81
------------------	-----------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

PLAN



STATION	DISTANCE (M)	GROUND LEVELS (M)	HYDRAULIC GRADIENT LEVEL (M)	SIZE & TYPE OF PIPE
35.00	00.00	474.50	488.8	PVC #63 L = 1000m
50	100	474.300		
100	150	475.300		
150	200	475.750		
200	250	478.600		
250	300	481.570		
300	350	483.270		
350	400	484.960		
400	450	482.610		
450	500	481.640		
500	550	480.500	486.1	PVC #63 L = 421m
550	600	479.310		
600	650	479.250		
650	700	477.950		
700	750	478.440		
750	800	478.550		
800	850	479.870		
850	900	481.410		
900	950	481.190		
950	1000	480.640	487.4	
1000	1050	476.370	488.8	
1050	1100	475.600		
1100	1150	477.200		
1150	1200	478.700		
1200	1250	478.250		
1250	1300	475.040		
1300	1350	473.960		
1350	1400	472.980		
1400	1450	472.850	485.3	PVC #40 L = 209m
1450	1500	470.440	484.2	
1500	1550	469.700	490.3	
1550	1600	468.310		
1600	1650	468.300		
1650	1700	466.000		
1700	1750	468.940		
1750	1800	469.840		
1800	1850	468.750	485.6	
1850	1900	468.750		



LONGITUDINAL SECTION

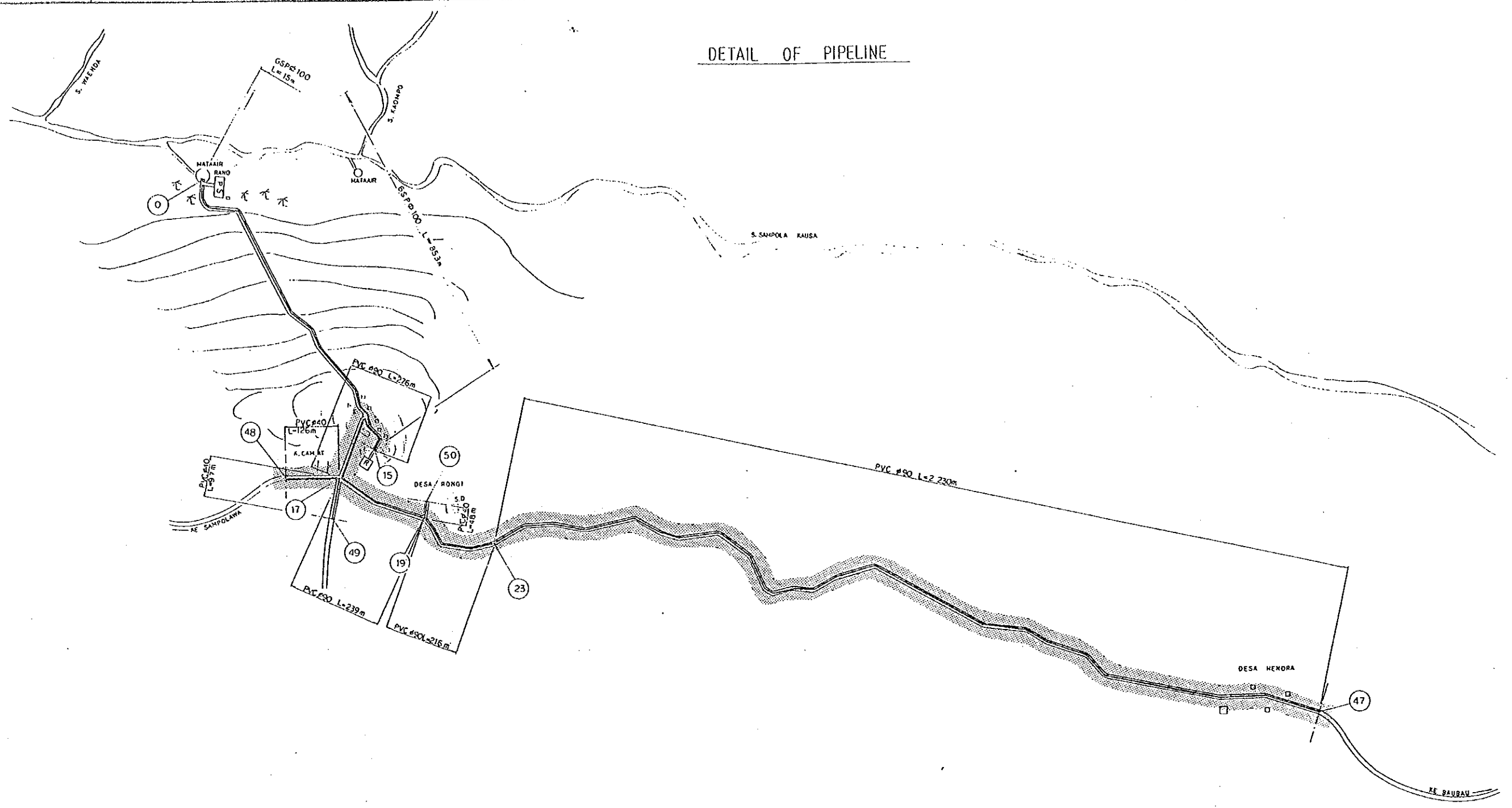
THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA
 THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

LAPUKO
 PLAN & LONGITUDINAL SECTION (2/2)


NOVEMBER 1990	SCALE 1/	DRAWING NO. 82
------------------	-------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

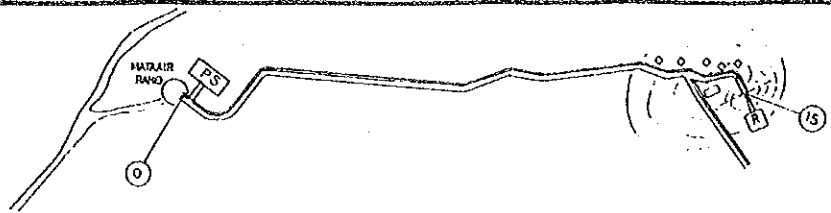
DETAIL OF PIPELINE



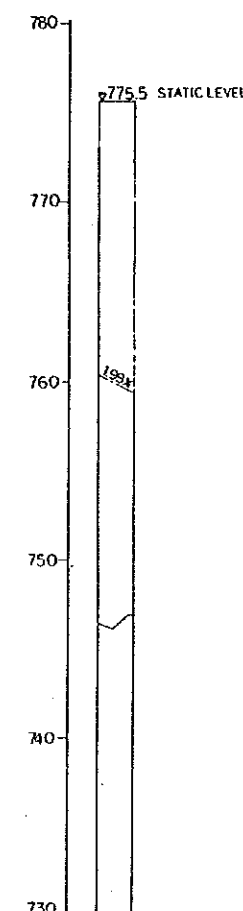
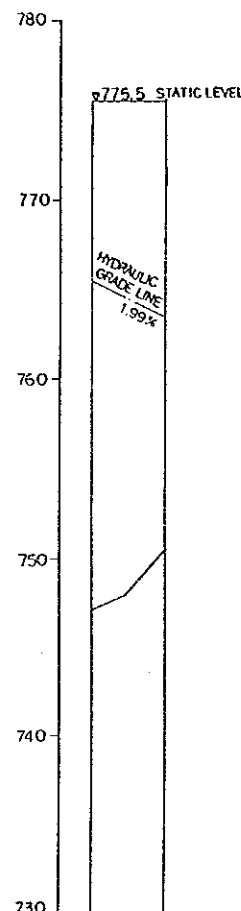
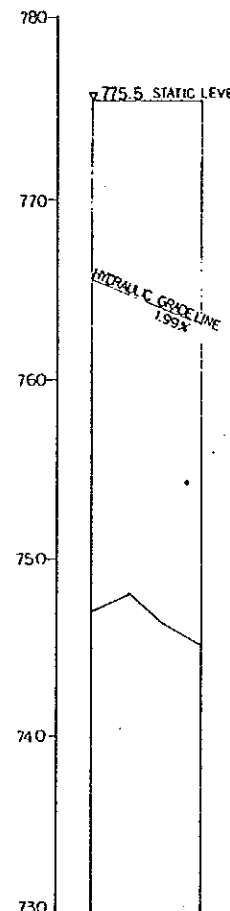
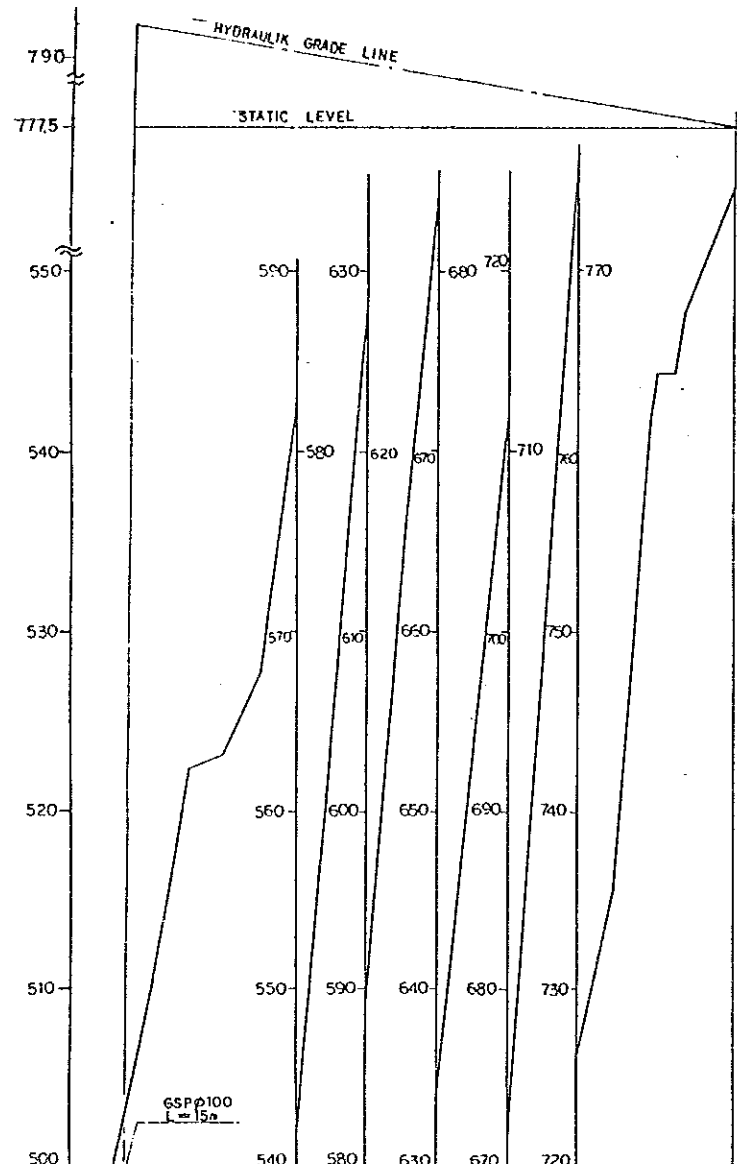
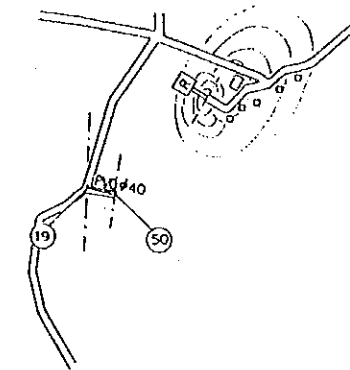
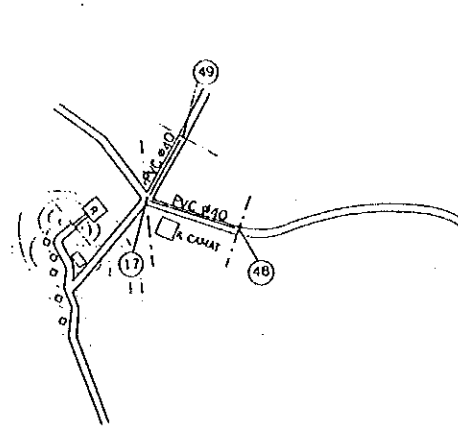
LEGEND

-  :SERVED AREA BY PUBLIC TAPS
- R :RESERVIOR
- P.B. :PRESSURE BREAKING PIT
- K.CAMAT :VILLAGE OFFICE

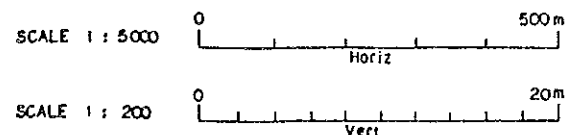
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
SANDANGPANGAN DETAIL OF PIPELINE		
NOVEMBER 1990	SCALE /	DRAWING NO. 83
JAPAN INTERNATIONAL COOPERATION AGENCY		



PLAN



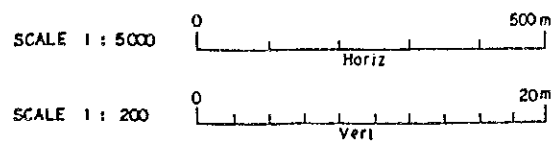
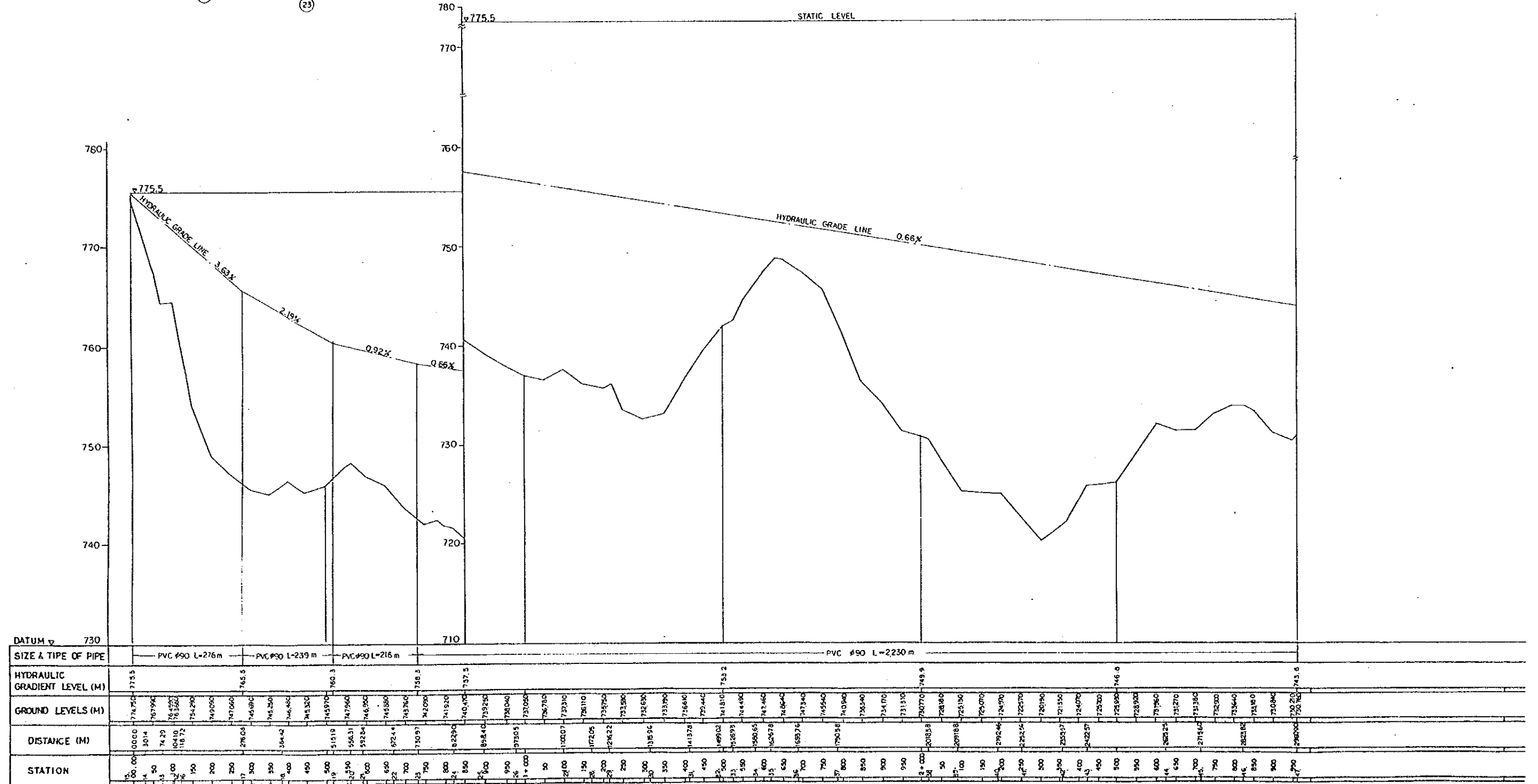
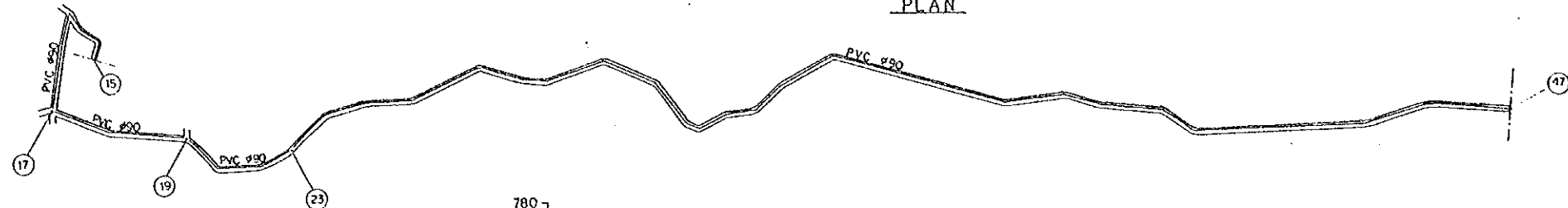
SIZE & TYPE OF PIPE	65SP 100 L=853.4										PVC 40 L=126m		PVC 40 L=97m		PVC 40 L=18m		
HYDRAULIC GRADIENT LEVEL (M)	795.0											765.5	765.0	765.5	763.6	760.3	769.4
GROUND LEVELS (M)	500.00	510.36	522.30	527.65	542.04	561.00	589.40	618.00	644.25	653.85	672.10	678.00	745.00	747.00	747.00	745.00	745.00
DISTANCE (M)	0.00	54.45	108.90	163.35	217.80	272.25	326.70	381.15	435.60	490.05	544.50	600.00	655.50	711.00	766.50	775.50	789.40
STATION	0+00	0+54.45	1+08.90	1+63.35	2+17.80	2+72.25	3+26.70	3+81.15	4+35.60	4+90.05	5+44.50	6+00.00	6+55.50	7+11.00	7+66.50	7+75.50	7+89.40



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA
 THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND
 SANDANGPANGAN
 PLAN & LONGITUDINAL SECTION (1/2)
 NOVEMBER 1990 SCALE / DRAWING NO. 84
 JAPAN INTERNATIONAL COOPERATION AGENCY

PLAN



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

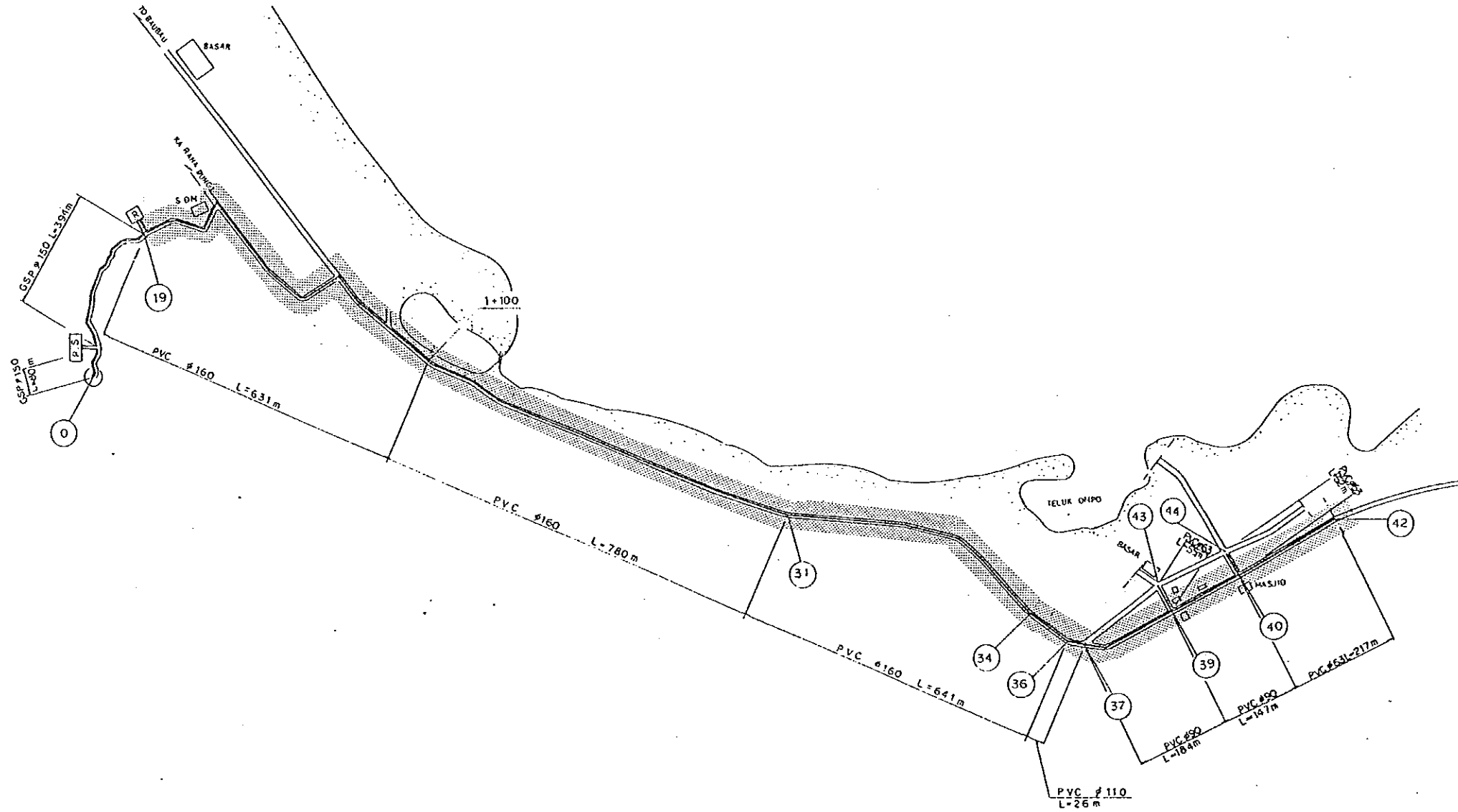
THE PROJECT FOR RURAL/IRKS WATER SUPPLY
 IN
 SULAWESI ISLAND

SANDANGPANGAN
 PLAN & LONGITUDINAL SECTION (2/2)


NOVEMBER 1990	SCALE /	DRAWING NO. 85
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

DETAIL OF PIPELINE

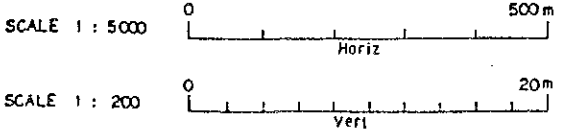
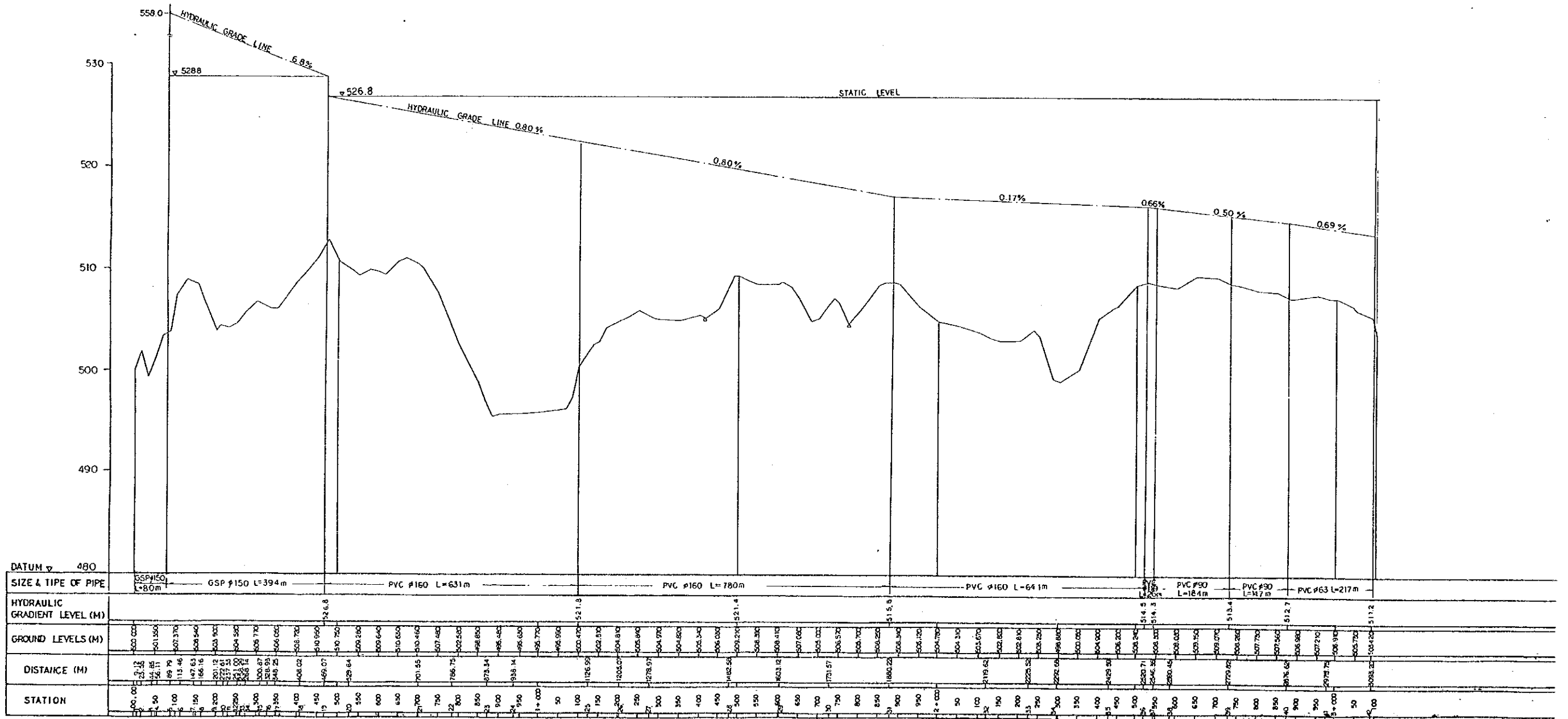
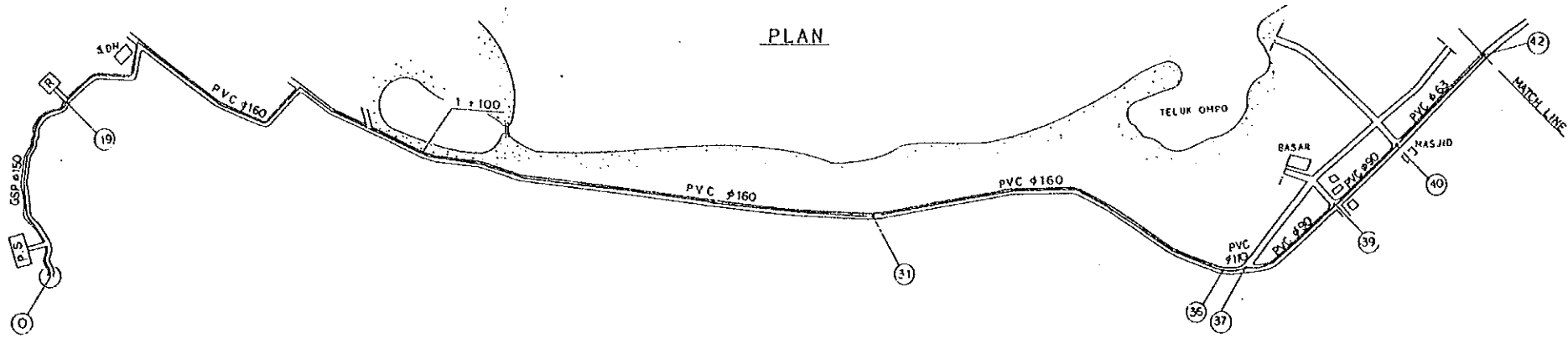


LEGEND

-  :SERVED AREA BY PUBLIC TAPS
- R :RESERVIOR
- P.B :PRESSURE BREAKING PIT
- K.CAMAT :VILLAGE OFFICE

THE REPUBLIC OF INDONESIA		
MINISTRY OF PUBLIC WORKS		
CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY		
IN		
SULAWESI ISLAND		
TAKIMPO		
DETAIL OF PIPELINE		
NOVEMBER 1990	SCALE /	DRAWING NO. 86
JAPAN INTERNATIONAL COOPERATION AGENCY		

PLAN



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

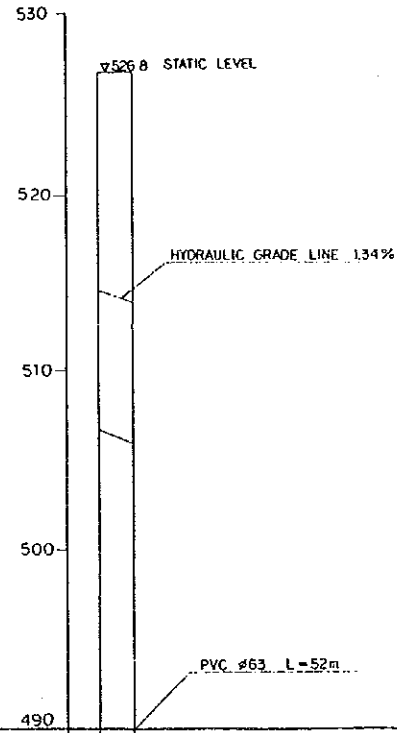
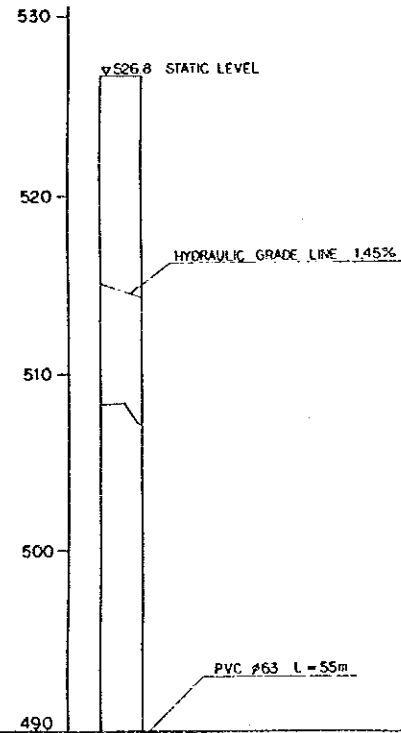
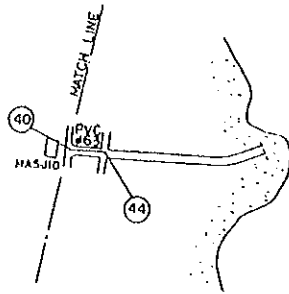
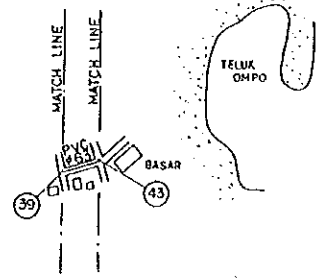
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

TAKIMPO
 PLAN & LONGITUDINAL SECTION (1/2)

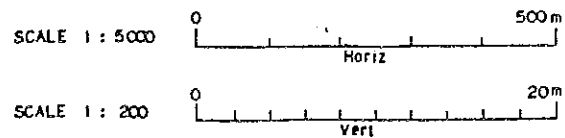
NOVEMBER 1990	SCALE /	DRAWING NO. 87
------------------	------------	-------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

PLAN



DATUM	490	490
SIZE & TYPE OF PIPE		
HYDRAULIC GRADIENT LEVEL (M)	512.4 512.8	512.7 512.0
GROUND LEVELS (M)	508.25 507.26	506.84 506.83
DISTANCE (M)	00.00 55.00	00.00 52.06
STATION	0+00.00 0+55.00	0+00.00 0+52.06



LONGITUDINAL SECTION

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA
 THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

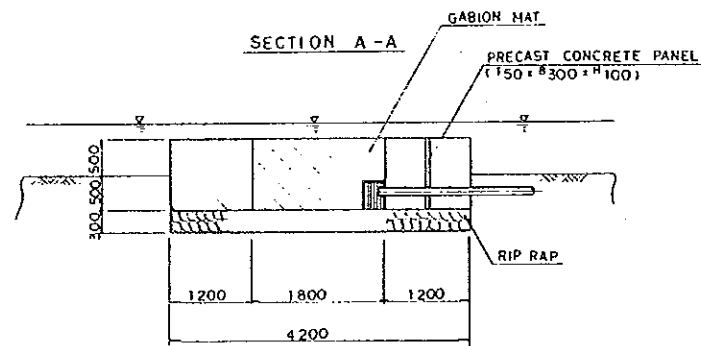
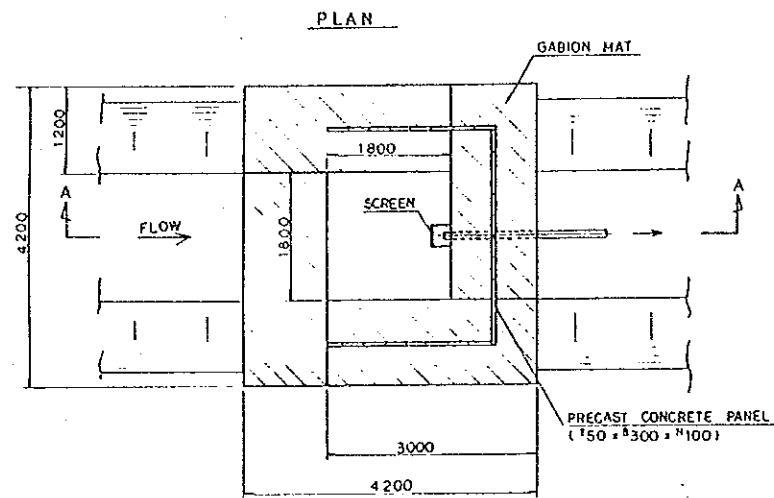
TAKIMPO
 PLAN & LONGITUDINAL SECTION (2/2)

NOVEMBER 1990	SCALE /	DRAWING NO. 88
------------------	------------	-------------------

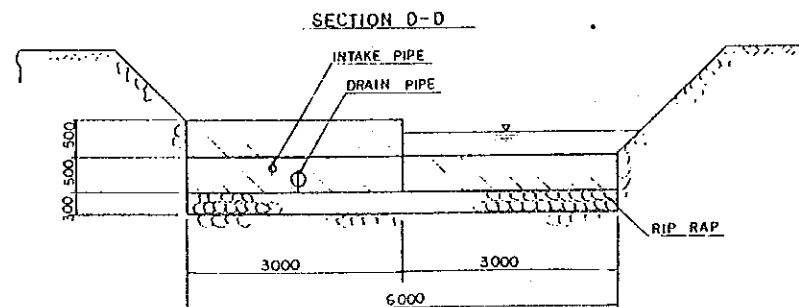
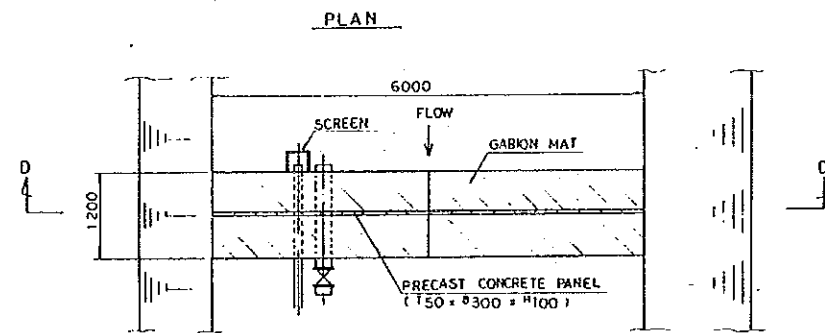
JAPAN INTERNATIONAL COOPERATION AGENCY

INTAKE FACILITIES

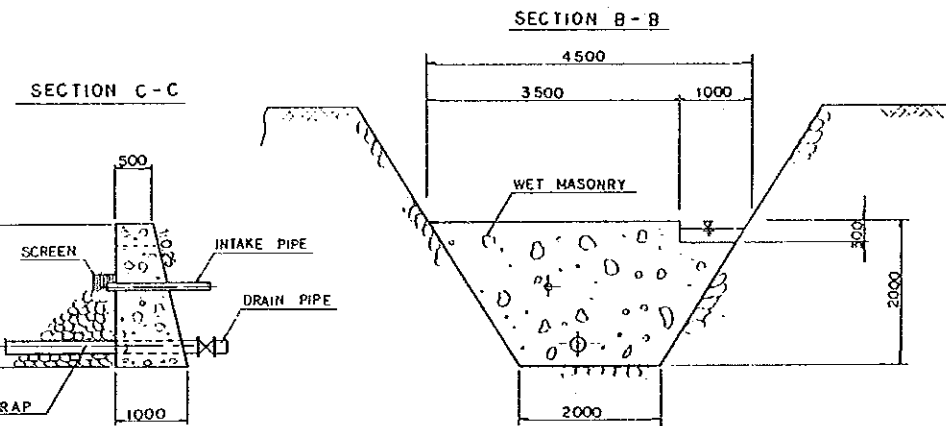
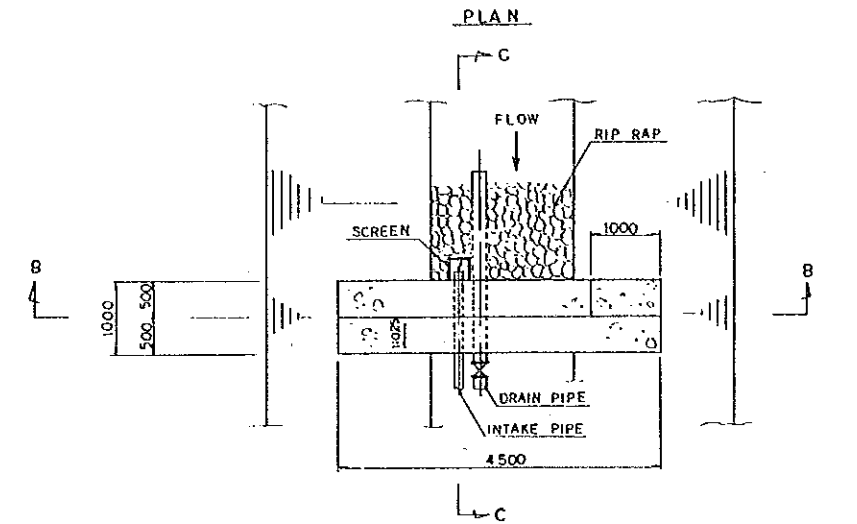
TYPE 'A'



TYPE 'C'

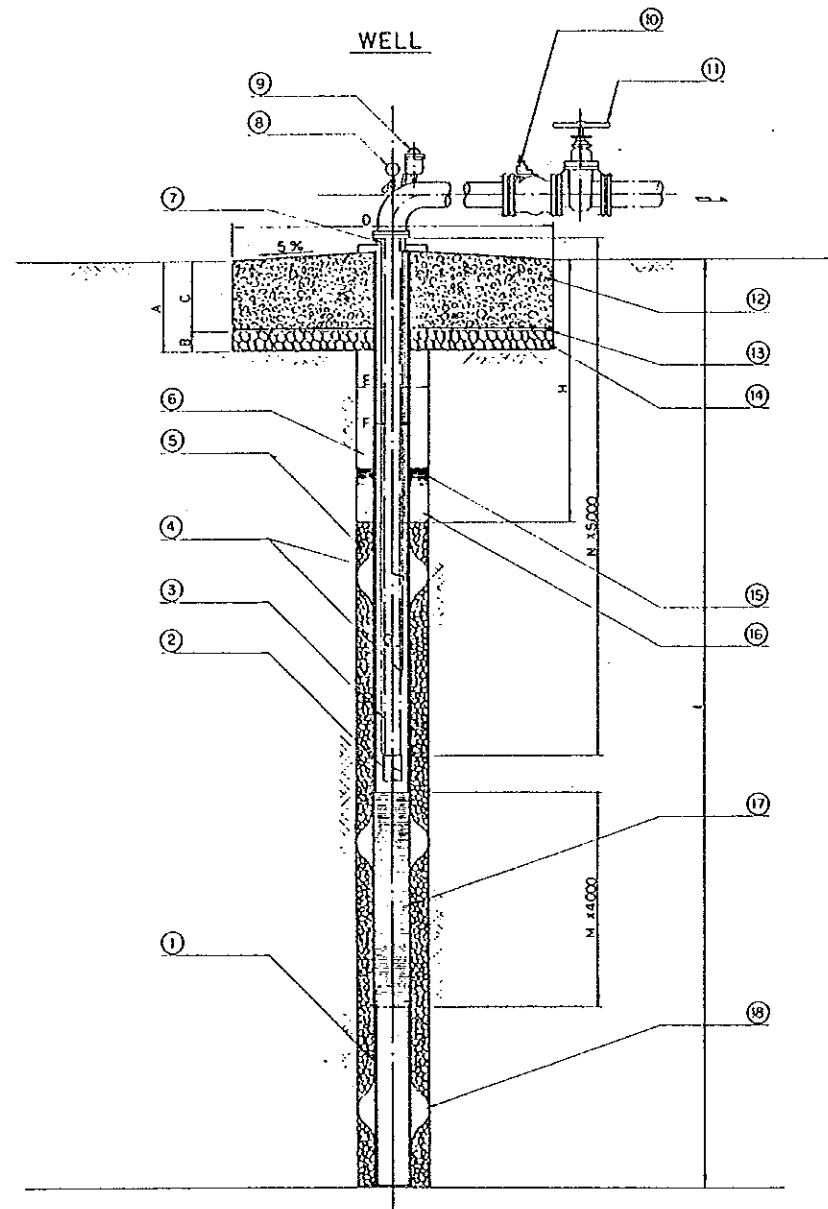


TYPE 'B'



THE REPUBLIC OF INDONESIA		
MINISTRY OF PUBLIC WORKS		
CIPTA KARYA		
THE PROJECT FOR RURAL/IRKS WATER SUPPLY		
IN		
SULAWESI ISLAND		
INTAKE FACILITIES		
(TYPE-A, B & C)		
NOVEMBER	SCALE	DRAWING
1990		NO. 89
JAPAN INTERNATIONAL COOPERATION AGENCY		

DEEP TUBE WELL



LIST OF MEMBERS

NO	NAME	NO	CHECK VALVE
1	CAGING	10	CHECK VALVE
2	PUMP BODY	11	SLUICE VALVE
3	DISCHARGE PIPE	12	CONCRETE
4	GRAVEL PACK	13	REINFORCING BER
5	CEMENT SEAL	14	CRUSHED STONE
6	CEMENT SEAL	15	CLAY
7	SUBMERSIBLE CABLE	16	SAND
8	PRESSURE GAUGE	17	SCREEN
9	AIR VENT	18	CENT RISER

DIMENSIONS

MASAMBA	
A	650 mm
B	150 mm
C	500 mm
D	1800 mm
E	400 mm
F	200 mm
G	80 mm
H	15.000 mm
I	80 m
N	12 nos.
M	5 nos.

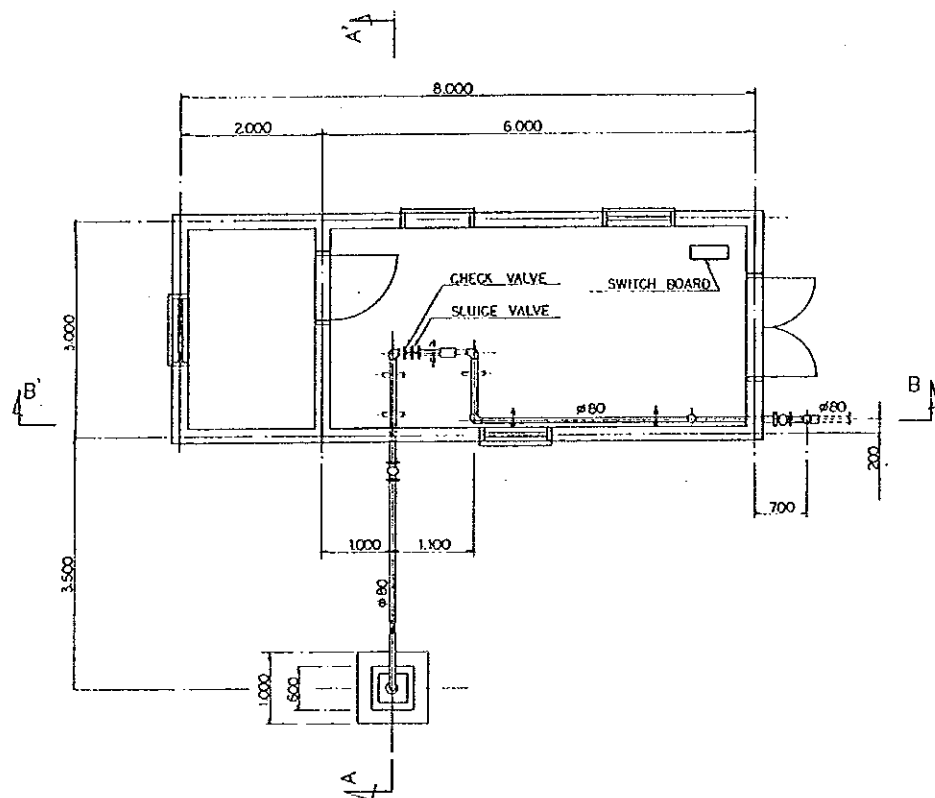
LANDONO	
A	650 mm
B	150 mm
C	500 mm
D	1800 mm
E	400 mm
F	200 mm
G	80 mm
H	15.000 mm
I	51 m
N	7 nos.
M	4 nos.

SALAKAN	
A	650 mm
B	150 mm
C	500 mm
D	1800 mm
E	400 mm
F	200 mm
G	80 mm
H	15.000 mm
I	42 m
N	6 nos.
M	3 nos.

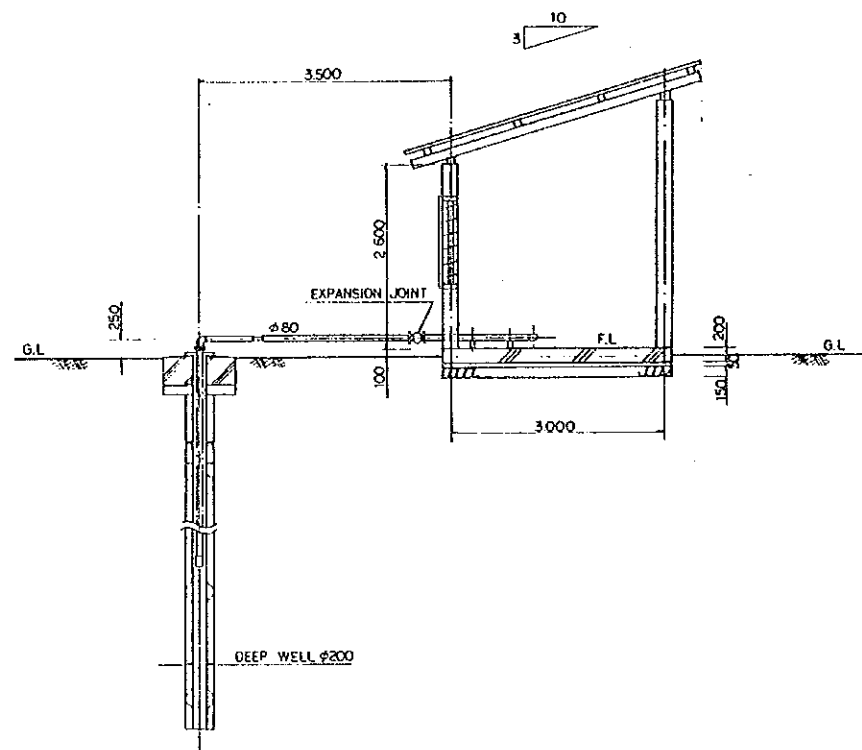
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IRKS WATER SUPPLY IN SULAWESI ISLAND		
DETAIL OF DEEP TUBE WELL		
NOVEMBER 1990	SCALE /	DRAWING NO. 90
JAPAN INTERNATIONAL COOPERATION AGENCY		

PUMPING STATION (S = 1/50)

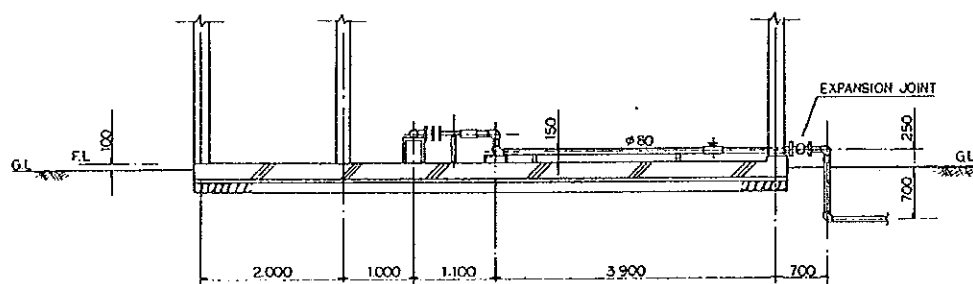
PLAN



SECTION A-A'

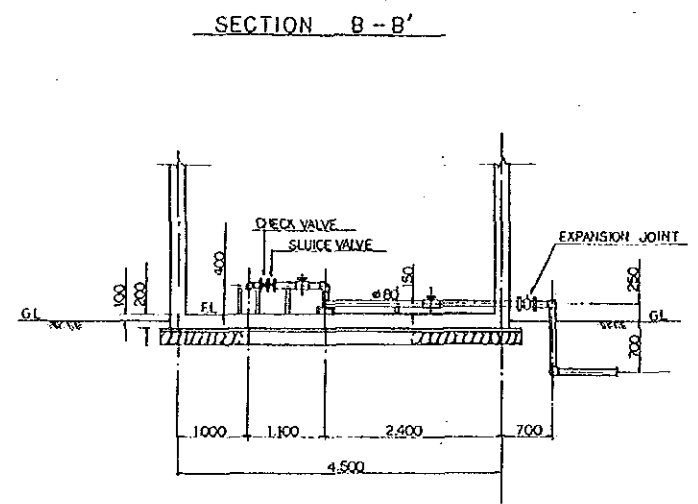
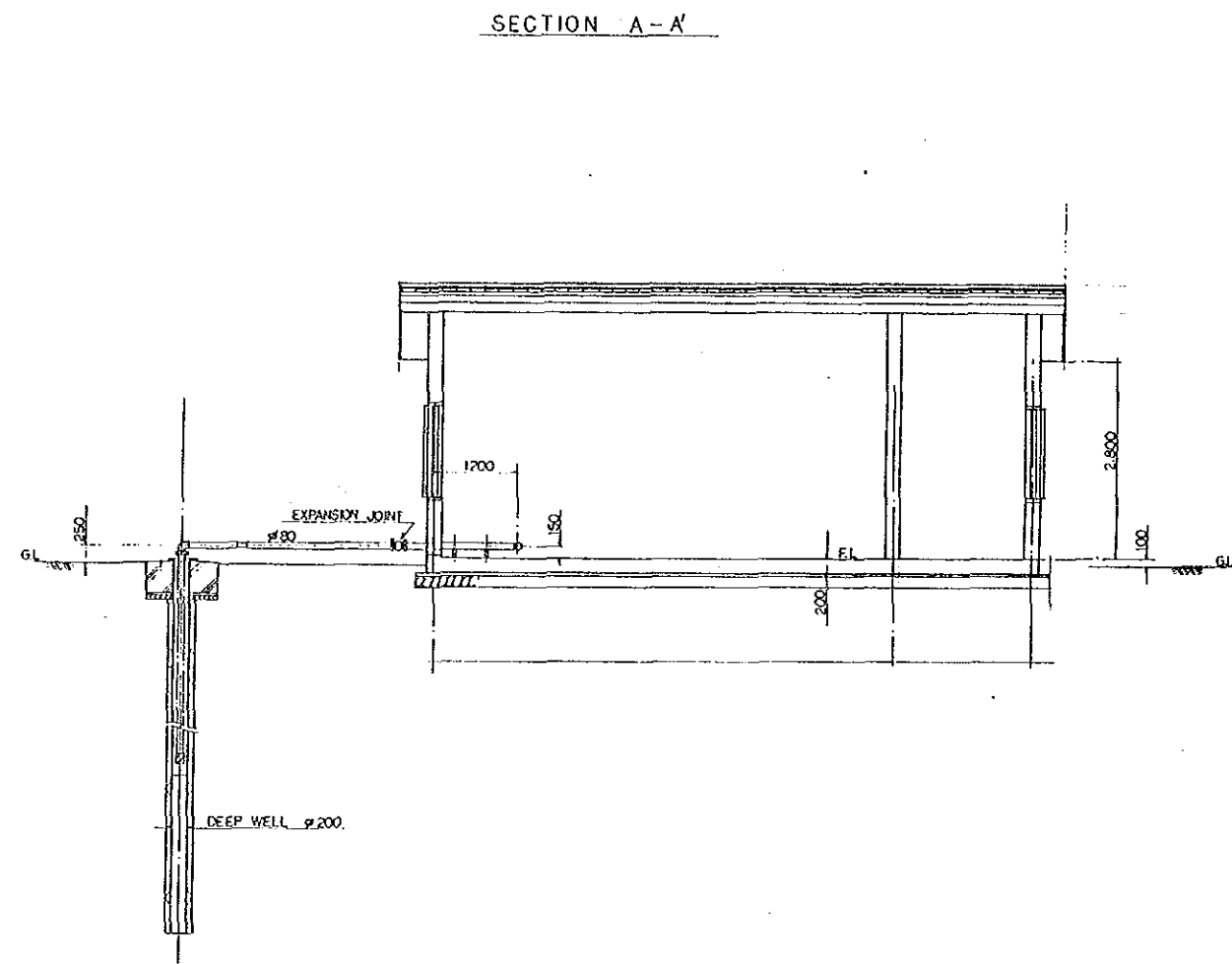
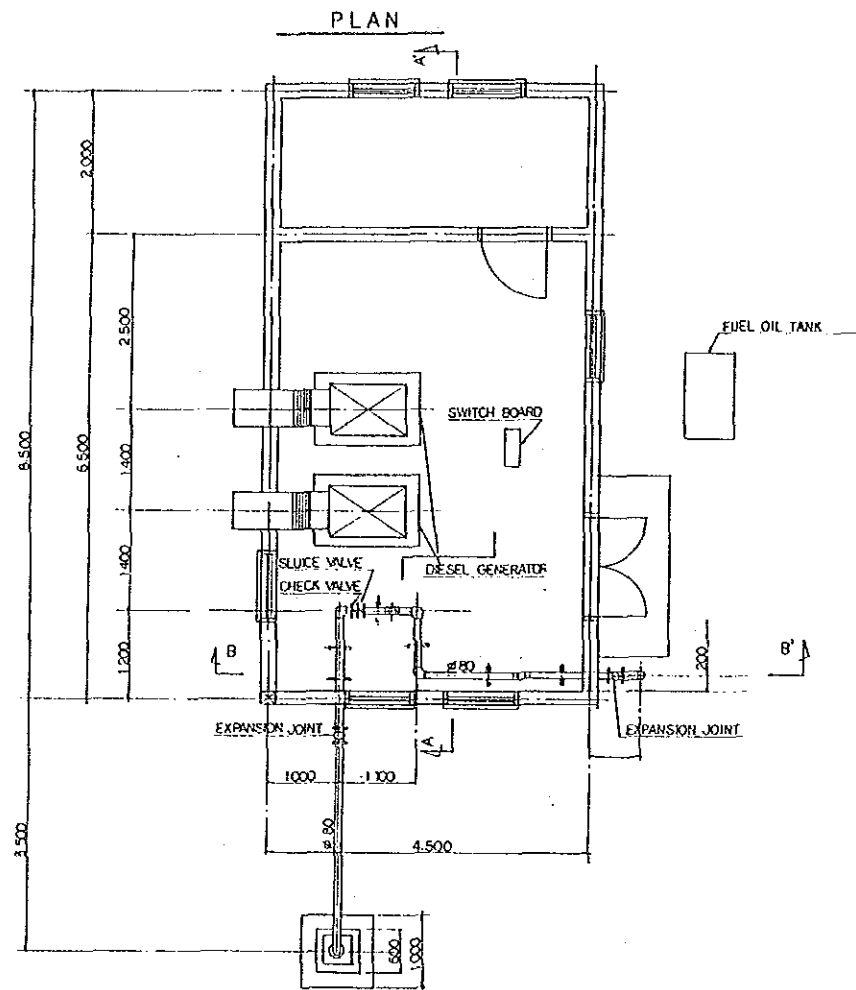


SECTION B-B'



THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
PUMPING STATION (1/5)		
NOVEMBER 1990	SCALE /	DRAWING NO. 91
JAPAN INTERNATIONAL COOPERATION AGENCY		

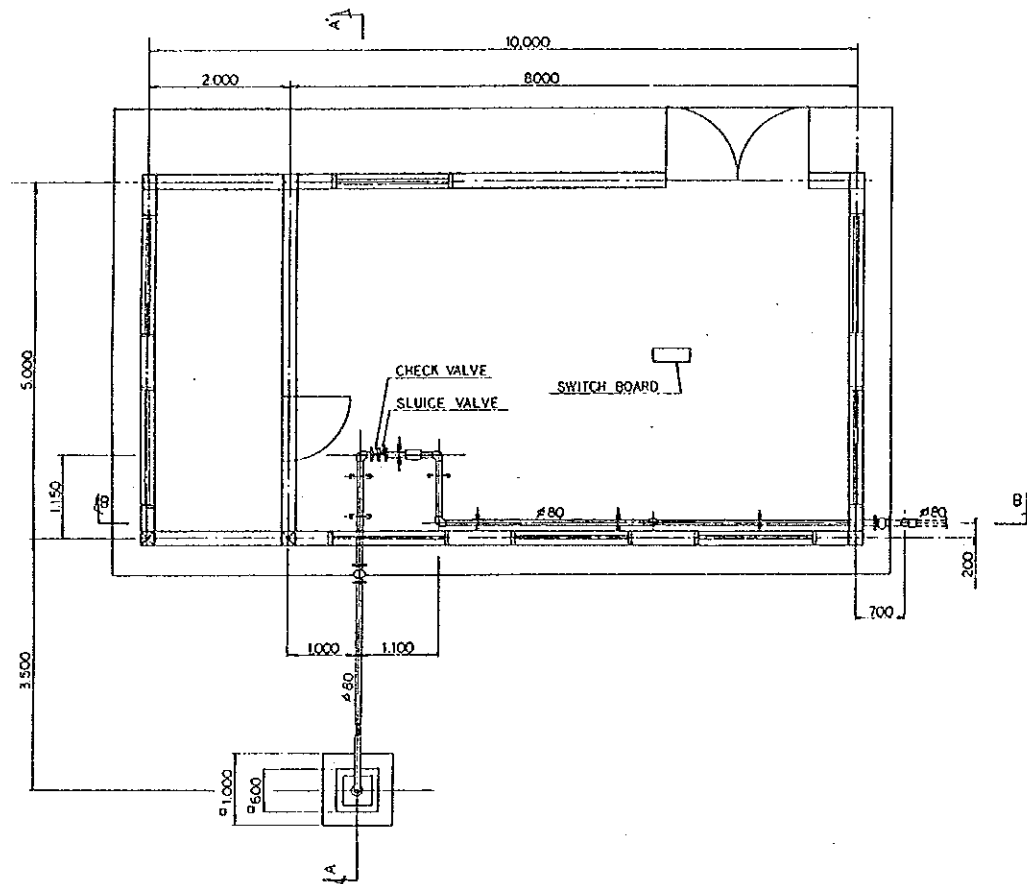
PUMPING STATION (5=1/50)



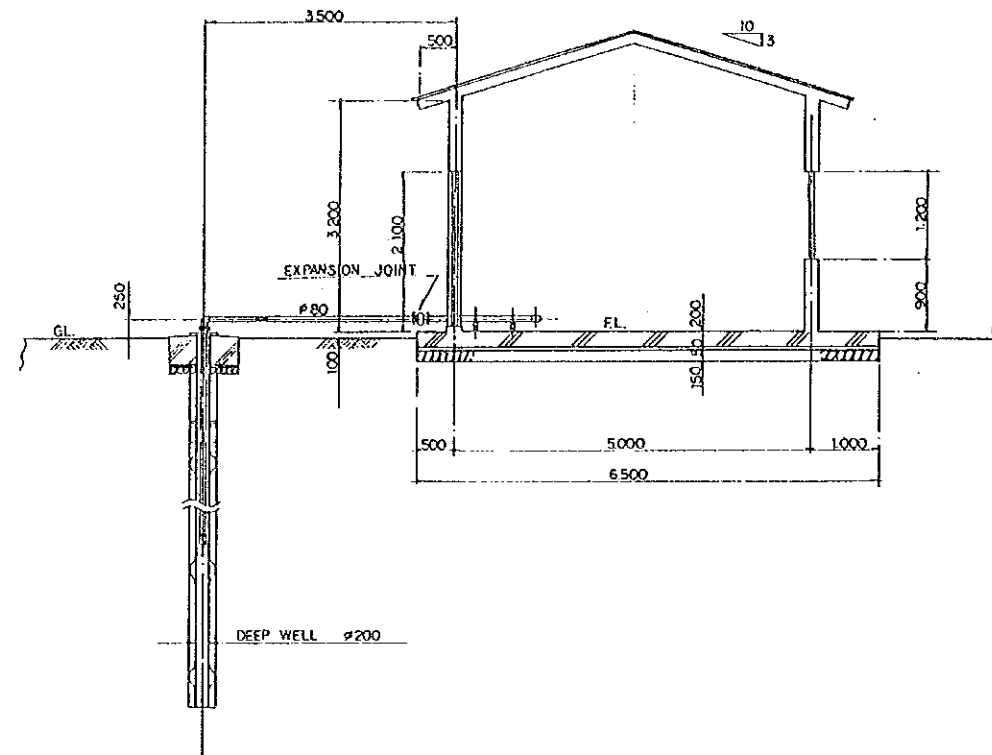
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
PUMPING STATION (2/5)		
NOVEMBER 1990	SCALE /	DRAWING NO. 92
JAPAN INTERNATIONAL COOPERATION AGENCY		

PUMPING STATION (S=1/50)

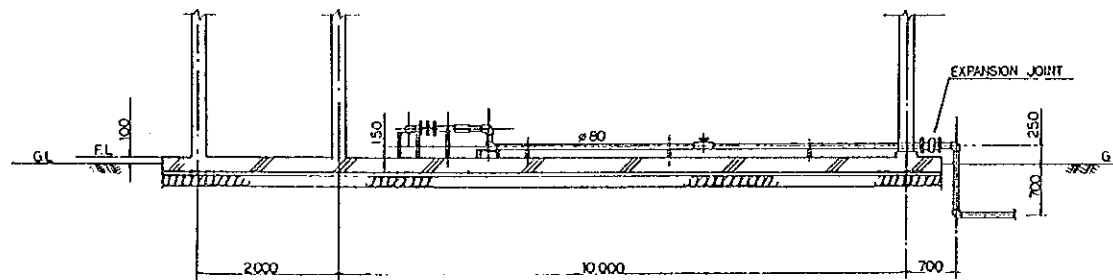
PLAN



SECTION A-A'



SECTION B-B'

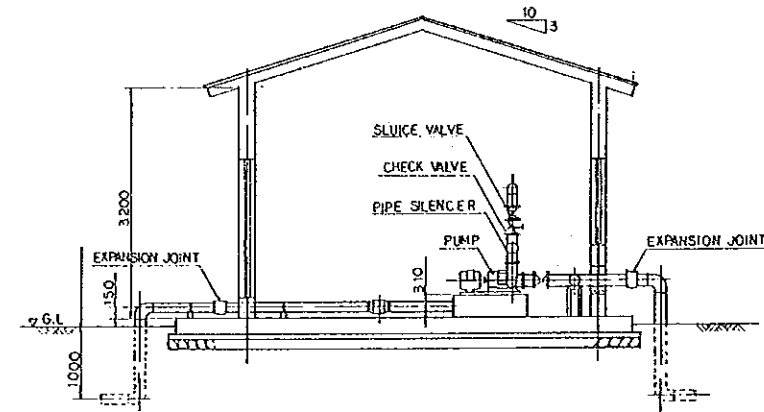
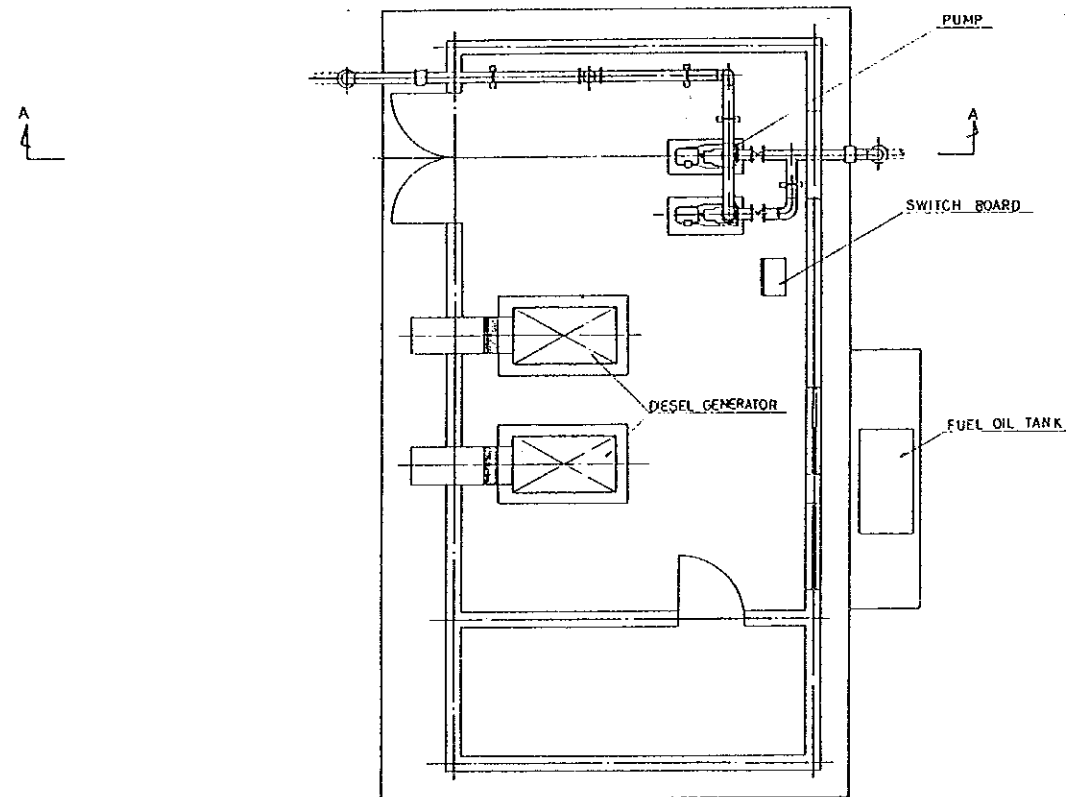


THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
PUMPING STATION (3/5)		
NOVEMBER 1990	SCALE /	DRAWING NO. 93
JAPAN INTERNATIONAL COOPERATION AGENCY		

PUMPING STATION (S=1/50)

PLAN

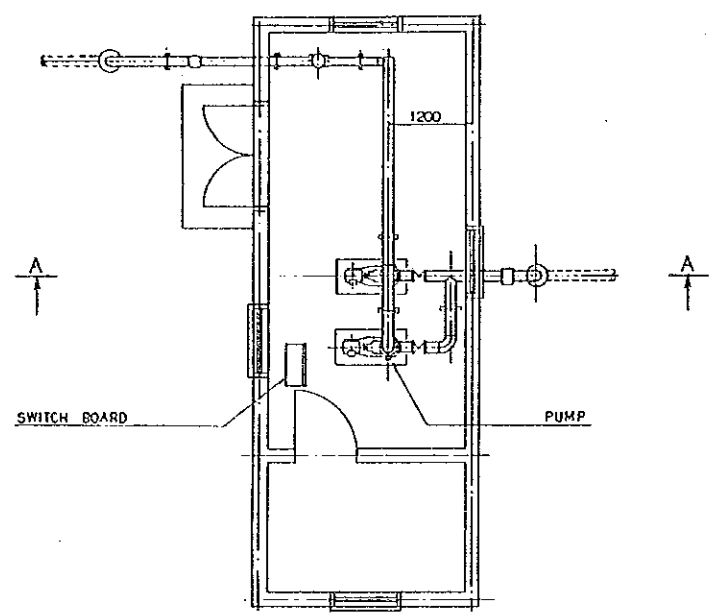
SECTION A-A



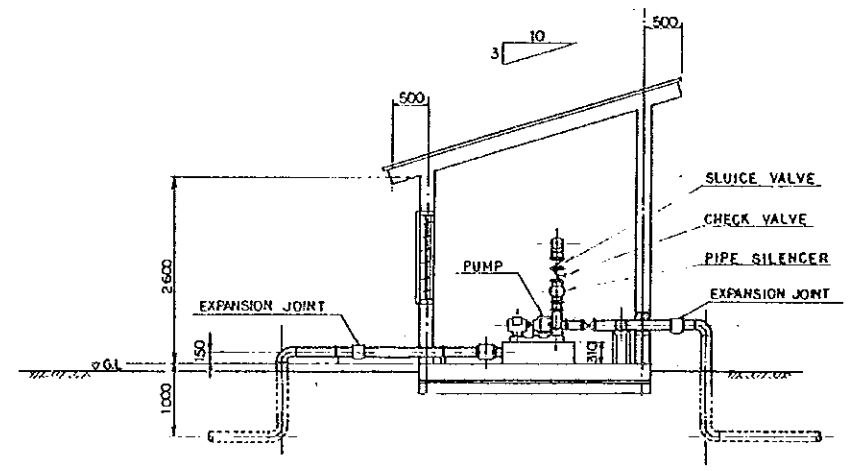
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
PUMPING STATION (4/5)		
NOVEMBER 1990	SCALE /	DRAWING NO. 94
JAPAN INTERNATIONAL COOPERATION AGENCY		

PUMPING STATION

PLAN



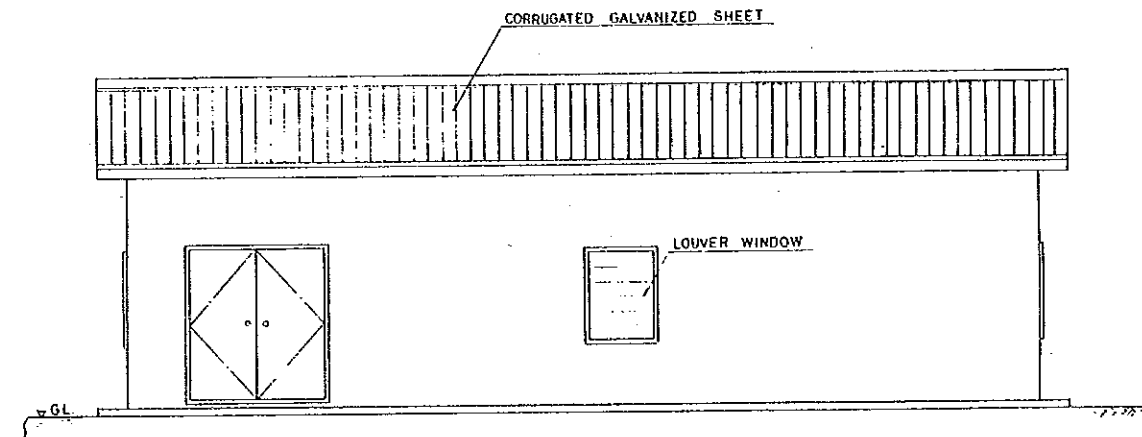
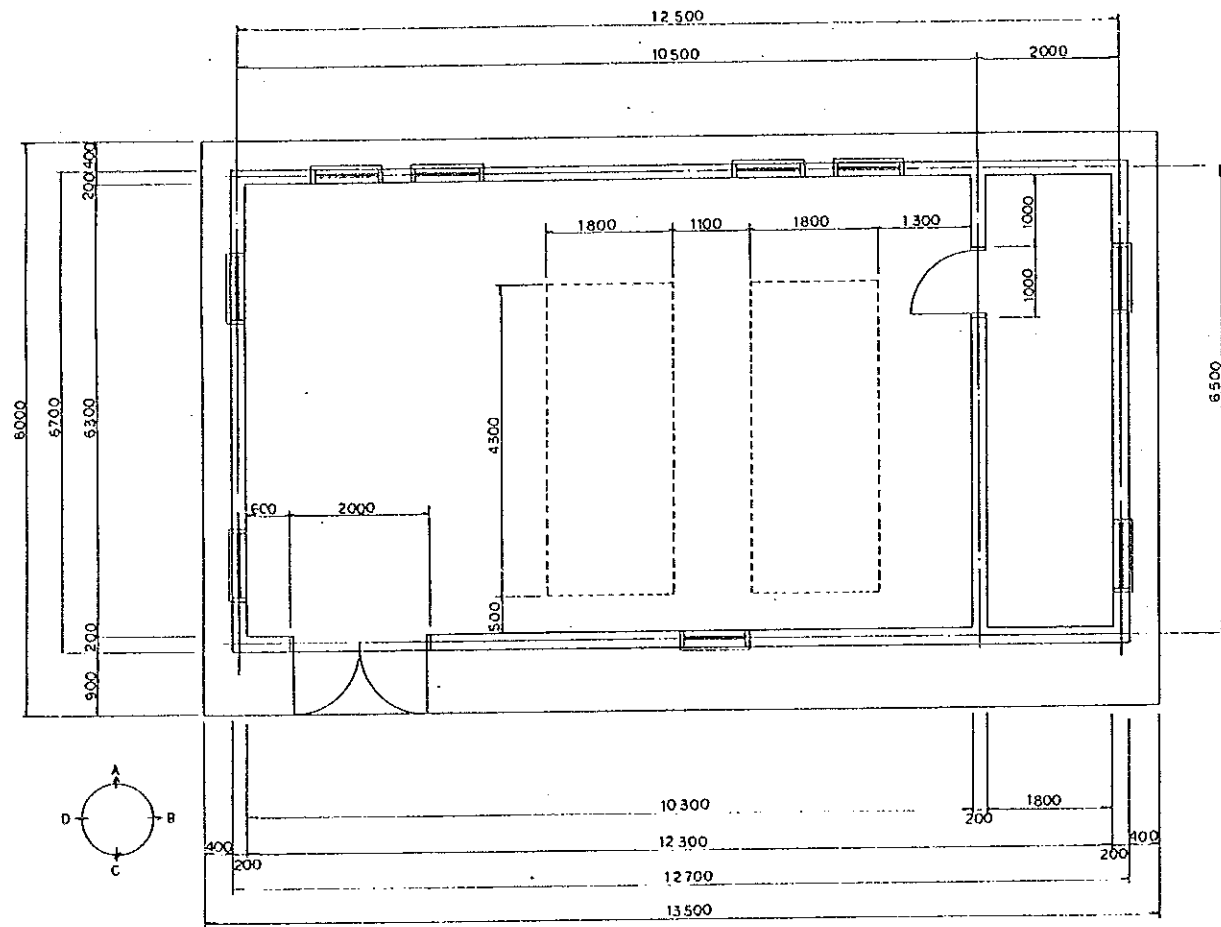
SECTION A-A



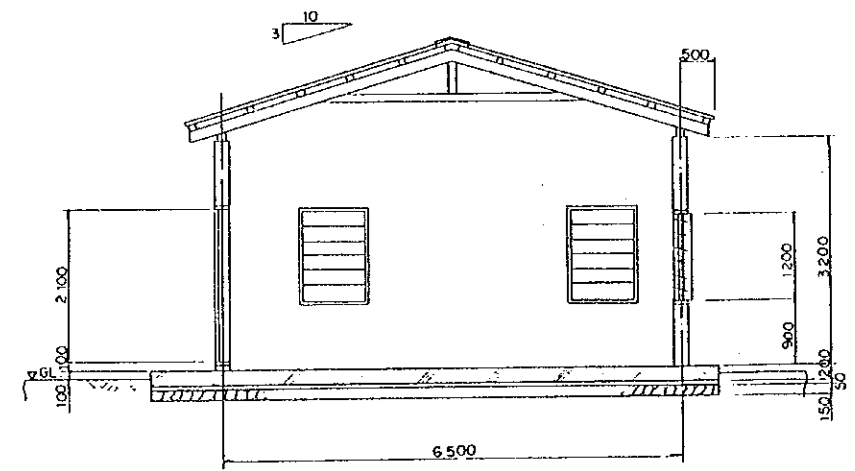
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
PUMPING STATION (5/5)		
NOVEMBER 1990	SCALE /	DRAWING NO. 95
JAPAN INTERNATIONAL COOPERATION AGENCY		

PUMP HOUSE

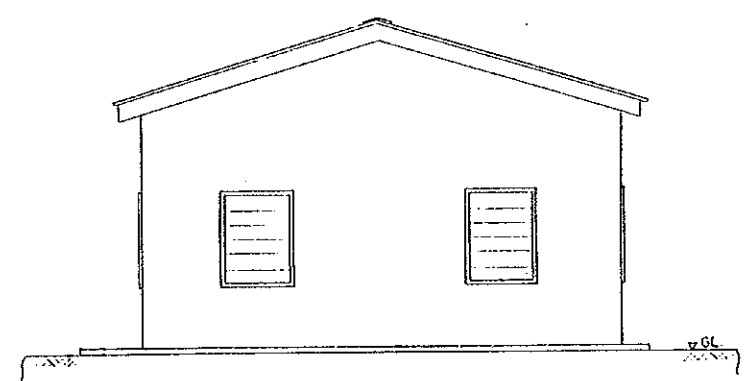
PLAN SCALE 1:50



A--ELEVATION SCALE 1:50



SECTION DETAIL SCALE 1:50



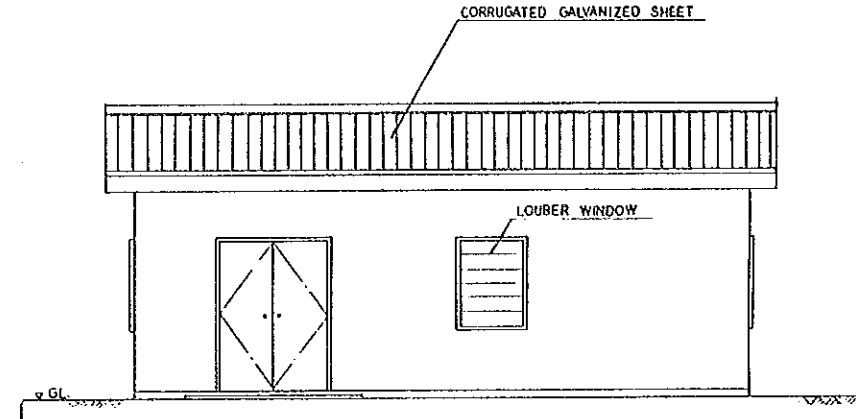
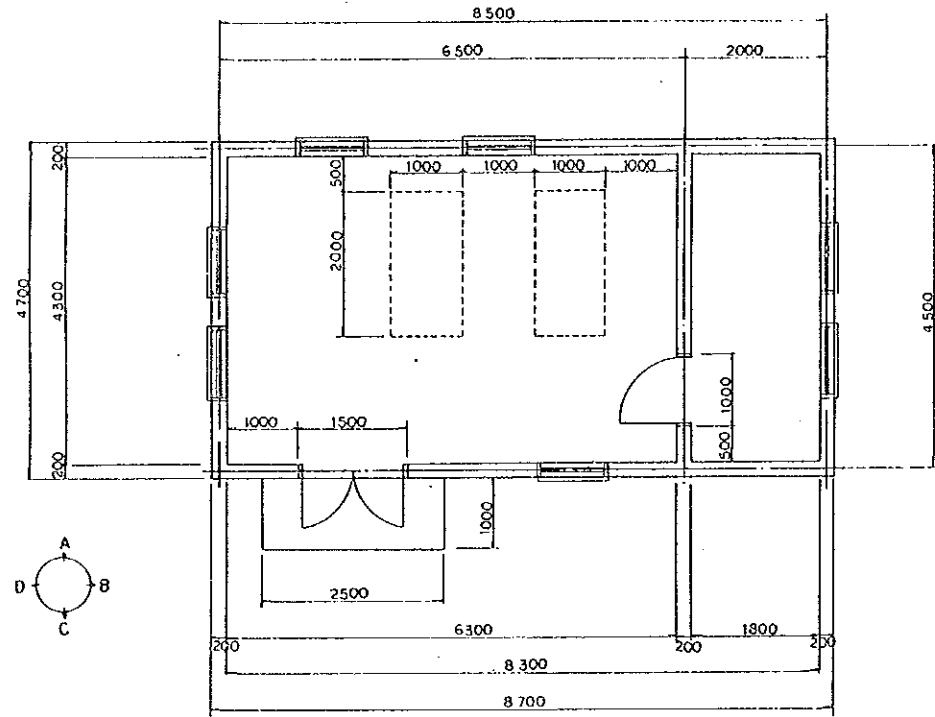
D--ELEVATION SCALE 1:50

LOCATION OF MOWEWE
WAKADIA
SANDANGPANGAN

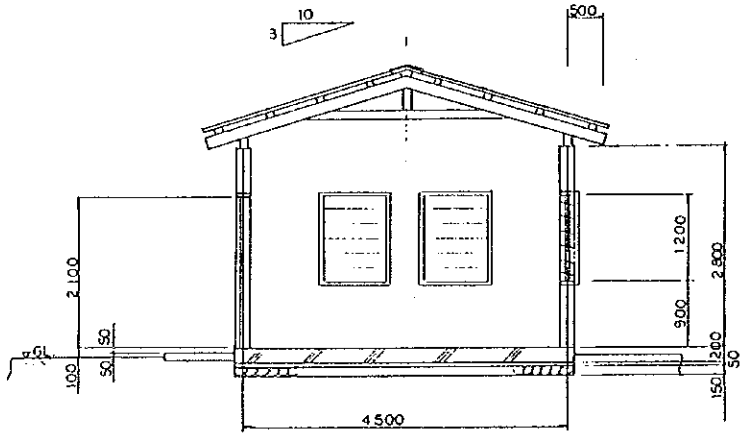
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
PUMPING HOUSE (1/4)		
NOVEMBER 1990	SCALE /	DRAWING NO. 96
JAPAN INTERNATIONAL COOPERATION AGENCY		

PUMP HOUSE

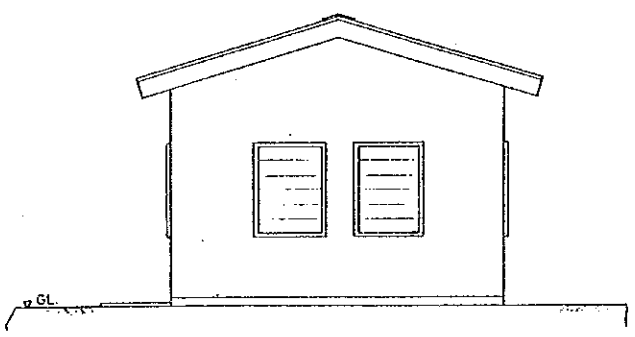
P L A N SCALE 1:50



A - ELEVATION SCALE 1:50



SECTION DETAIL SCALE 1:50



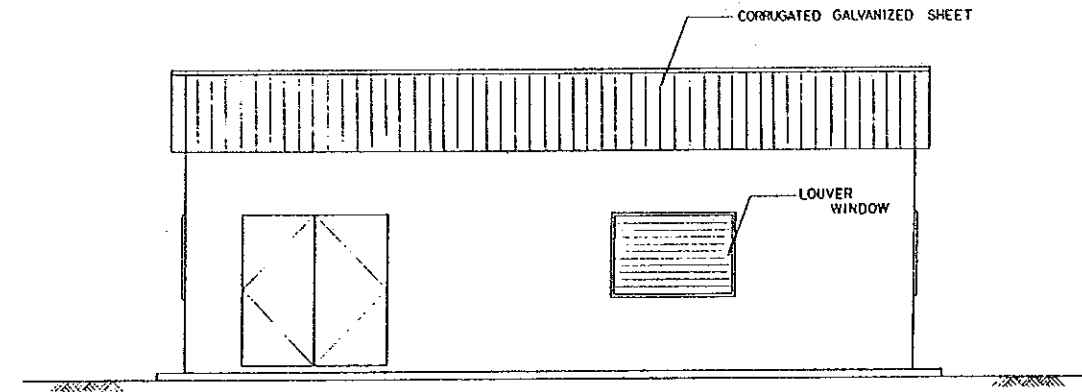
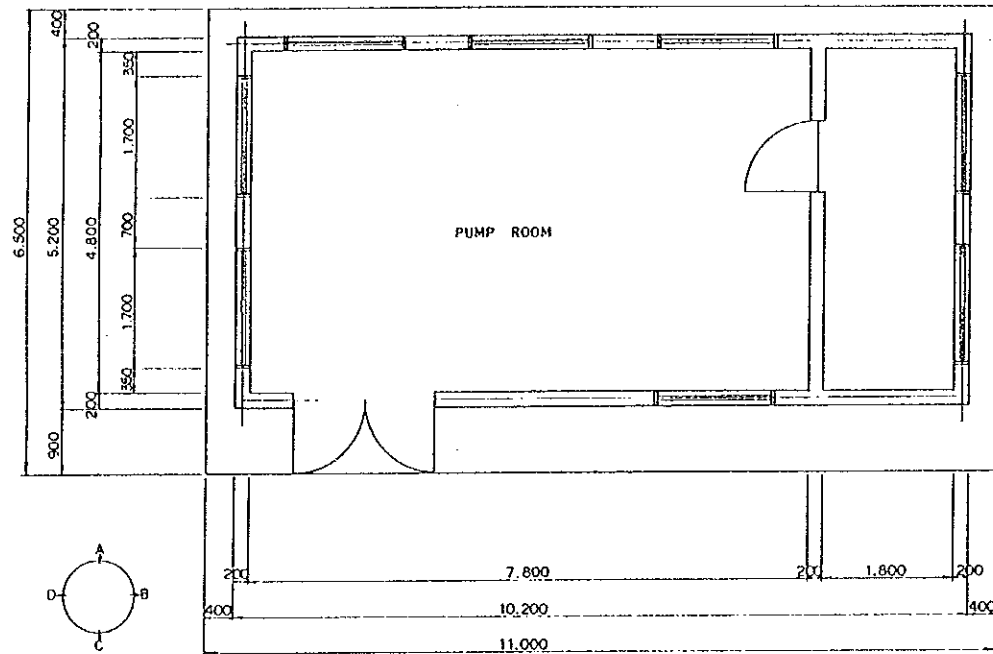
D - ELEVATION SCALE 1:50

LOCATION OF SALAKAN

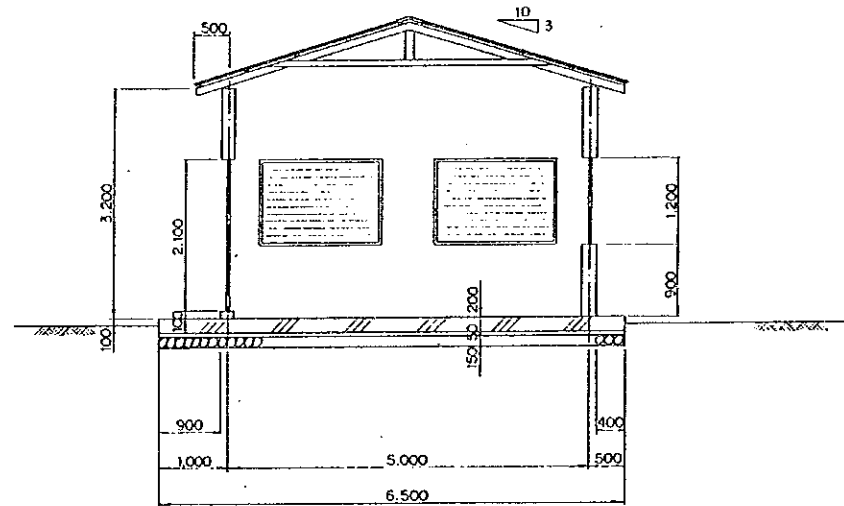
THE REPUBLIC OF INDONESIA		
MINISTRY OF PUBLIC WORKS		
CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY		
IN		
SULAWESI ISLAND		
PUMPING HOUSE (2/4)		
NOVEMBER	SCALE	DRAWING
1990	/	NO. 97
JAPAN INTERNATIONAL COOPERATION AGENCY		

PUMP HOUSE

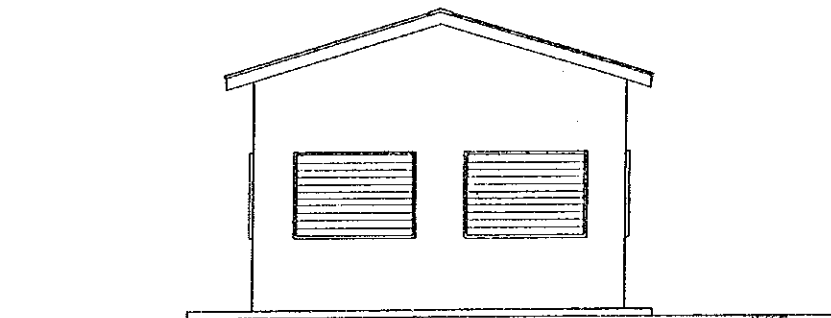
PLAN SCALE 1:50



A-ELEVATION SCALE 1:50



SECTION DETAIL SCALE 1:50



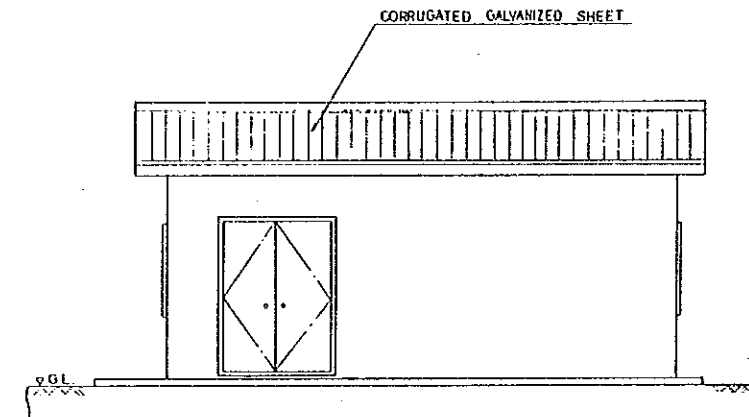
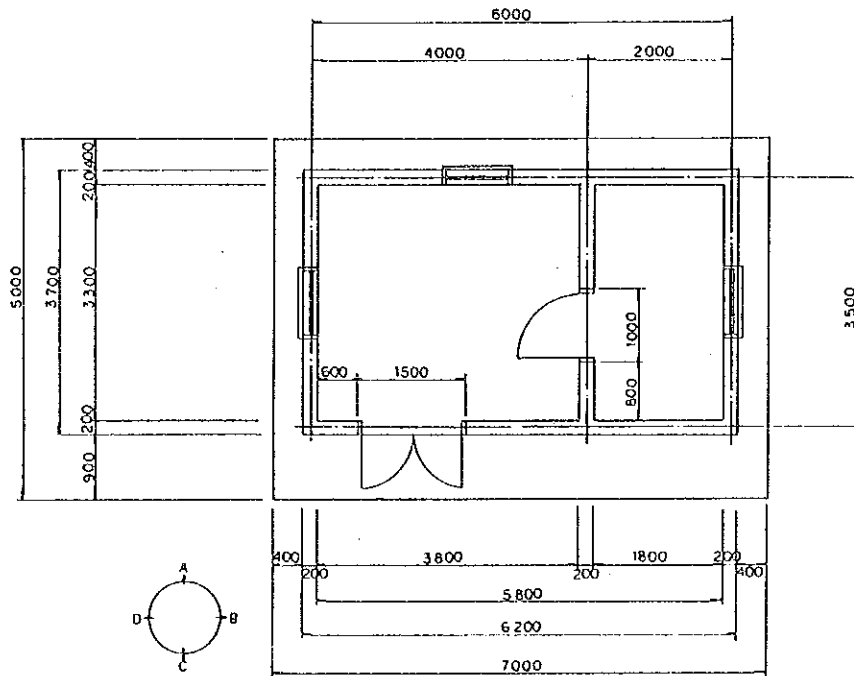
D-ELEVATION SCALE 1:50

LOCATION OF LANDONO
BONEBOKAL
LAOMPO
TAKIMPO

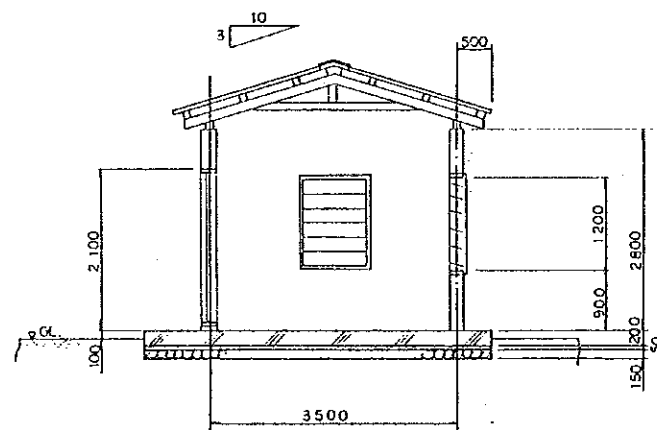
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
PUMPING HOUSE (3/4)		
NOVEMBER 1990	SCALE 1/	DRAWING NO. 98
JAPAN INTERNATIONAL COOPERATION AGENCY		

PUMP HOUSE

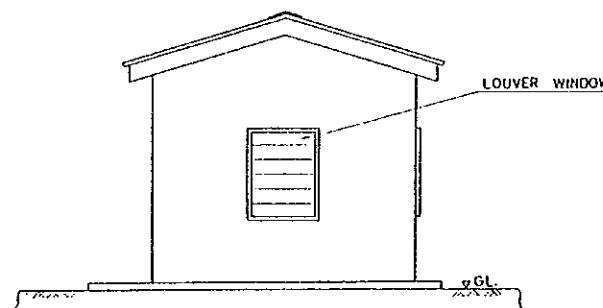
PLAN SCALE 1:50



A - ELEVATION SCALE 1:50



SECTION DETAIL SCALE 1:50



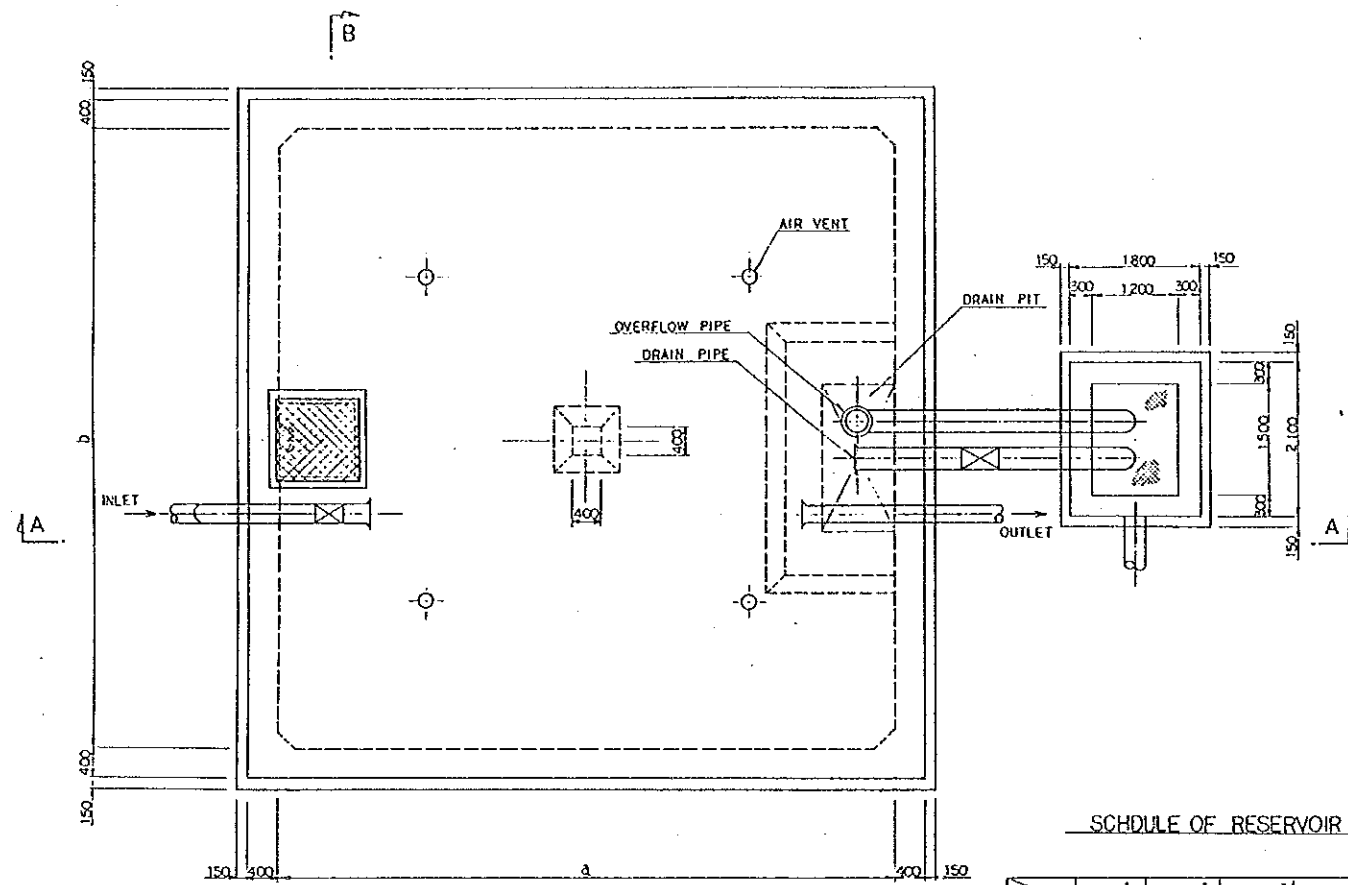
D - ELEVATION SCALE 1:50

LOCATION OF MASAMBA
ANDONOHU

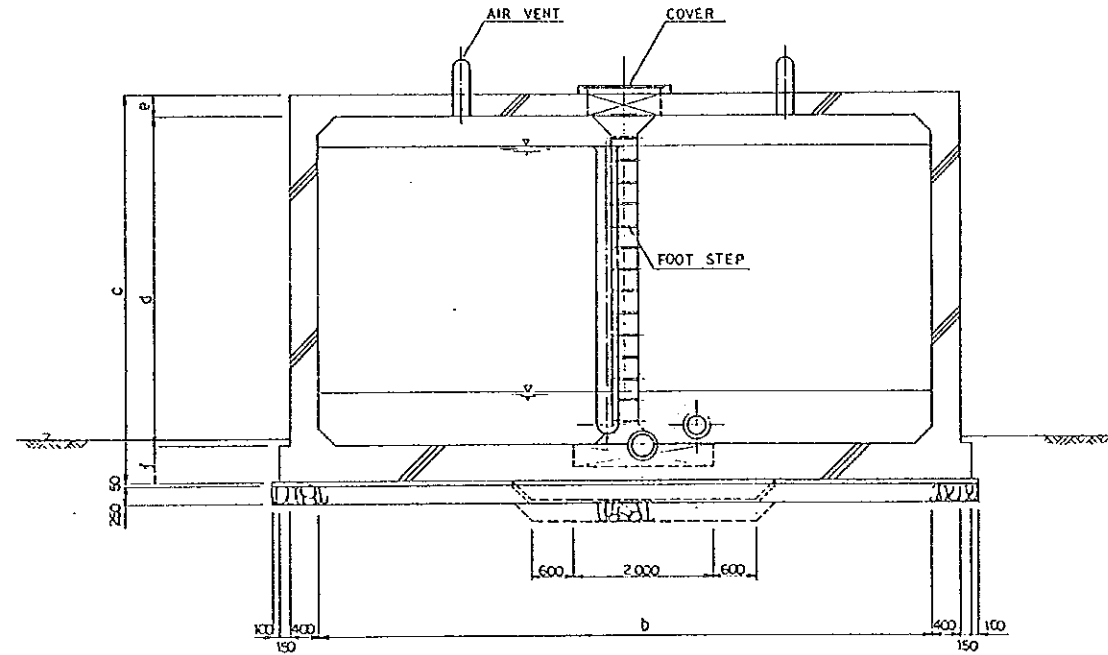
THE REPUBLIC OF INDONESIA		
MINISTRY OF PUBLIC WORKS		
CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY		
IN		
SULAWESI ISLAND		
PUMPING HOUSE (4/4)		
NOVEMBER 1990	SCALE /	DRAWING NO. 99
JAPAN INTERNATIONAL COOPERATION AGENCY		

SERVICE RESERVOIR

SECTIONAL PLAN



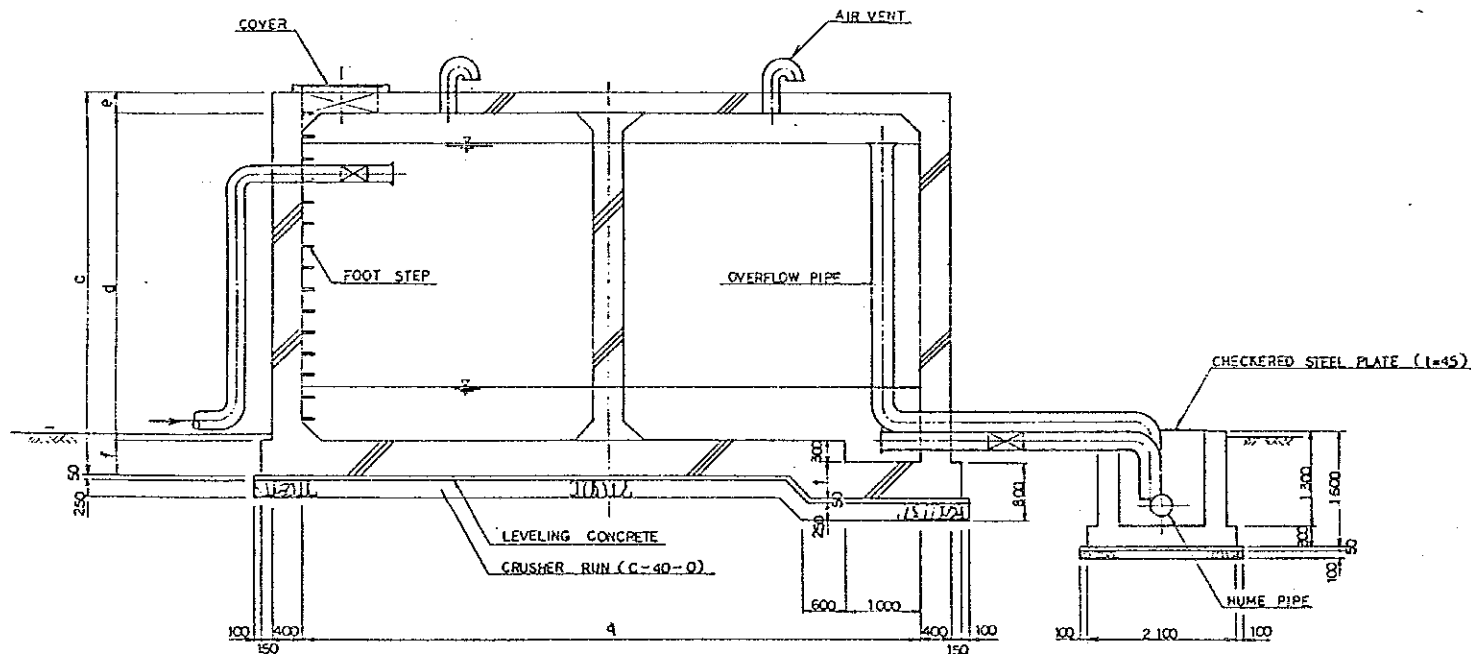
SECTION B-B



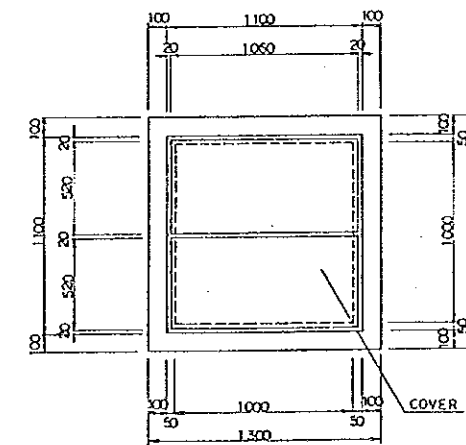
SCHEDULE OF RESERVOIR

	50 m ³	100 m ³	150 m ³	200 m ³	300 m ³
a	3500	5500	6500	7500	8500
b	3500	5500	6500	7500	8500
c	5300	5300	5300	5300	5300
d	4500	4500	4500	4500	4500
e	300	300	300	300	300
f	500	500	500	500	500

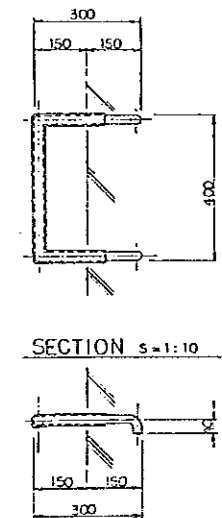
SECTION A-A



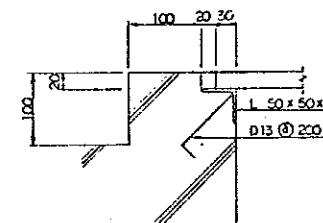
DETAIL OF COVER s=1:20



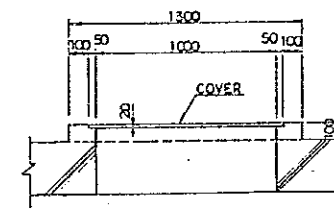
DETAIL OF FOOT SEPT s=1:10



DETAIL s=1:5



SECTION s=1:20

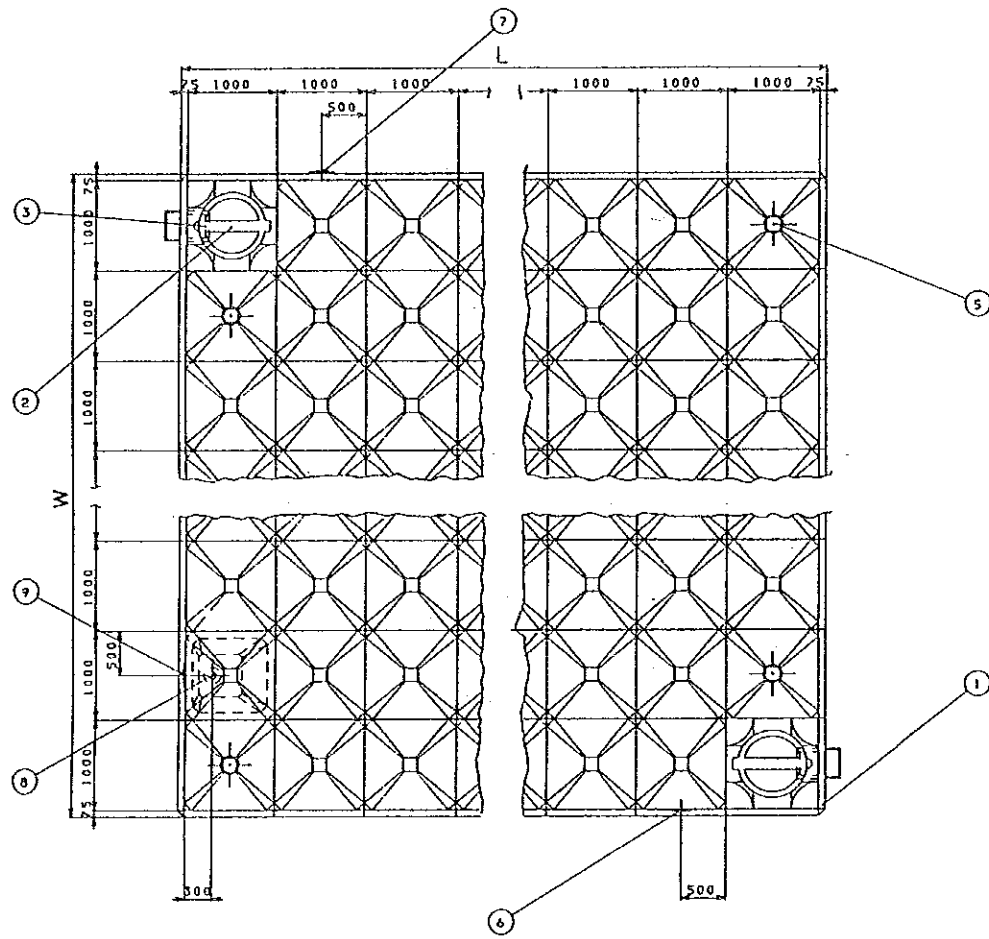


THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA
 THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

DETAIL OF SERVICE RESERVOIR

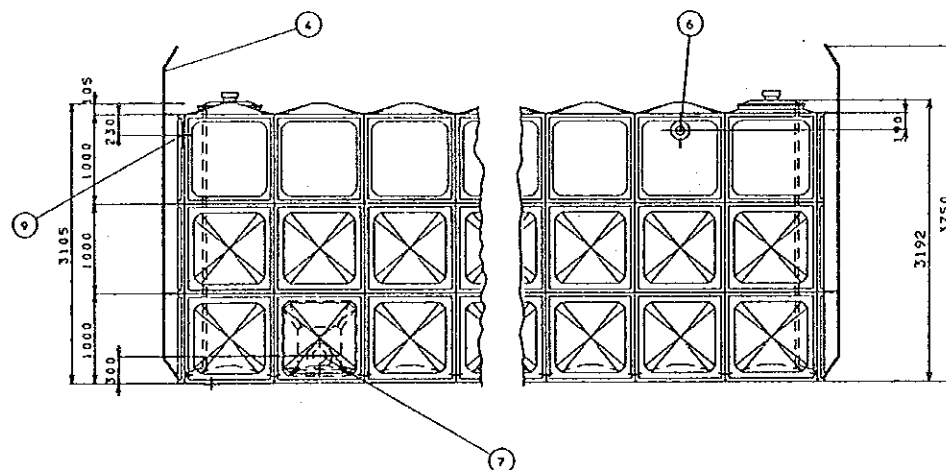
NOVEMBER 1990	SCALE	DRAWING NO. 100
------------------	-------	--------------------

JAPAN INTERNATIONAL COOPERATION AGENCY



DIMENSIONS

SITE	TANK CAPACITY M ³	TANK SIZE			TOWER HEIGHT (M)
		W (M)	L (M)	H (M)	
HASAMBA	300	10	10	3	15
LANDONO	150	7	7.5	3	10
MOWEWE	150	7	7.5	3	10
WAKADIA	150	7	7.5	3	20
LAPUKO	100	6	6	3	20
TAKIMPO	200	8	8.5	3	15
ANDONOBU	150	7	7.5	3	20



FRP WATER TANK

9	OVER FLOW	STEEL	150	100	100	100
8	DRAINAGE	STEEL	80	50	50	50
7	OUTLET	STEEL	150	150	150	100
6	INLET	STEEL	100	80	80	80
5	AIR VENT (100A)	P.V.C	6	6	4	4
4	EXTERNAL LADDER	S.G.P	2	2	2	1
3	INTERNAL LADDER	F.R.P	2	2	2	1
2	HANHOLE	F.R.P	2	2	2	1
1	WATER TANK	F.R.P	1	1	1	1
No.	N A M E	TANK MATERIAL	300	200	150	100
			SIZE OR QTY			

NOTE
1. Bridgestone will not be held liable if the erection of our water tank is not made in accordance with tank dimension shown in the drawing.

THE REPUBLIC OF INDONESIA
MINISTRY OF PUBLIC WORKS
CIPTA KARYA

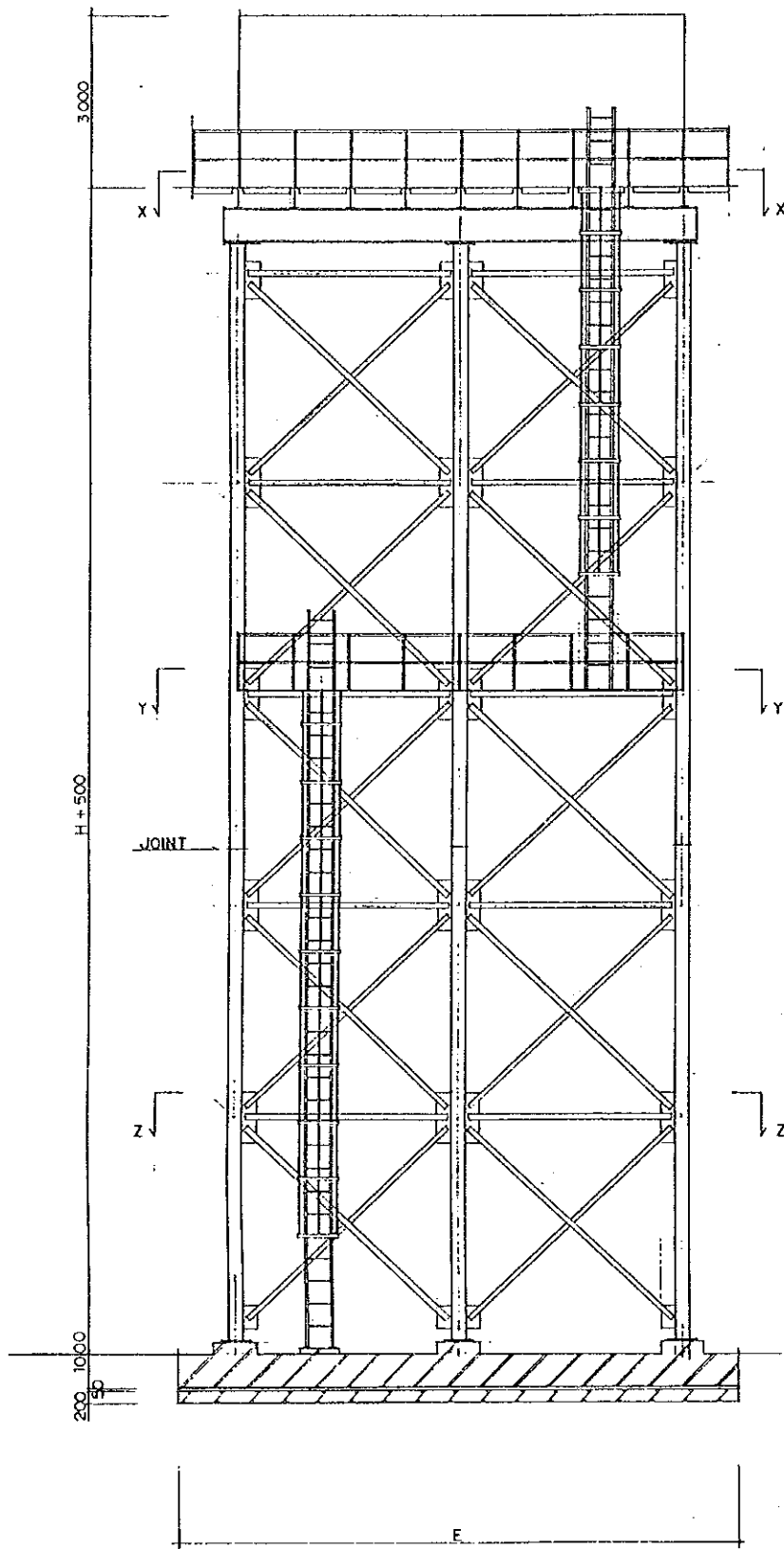
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
IN
SULAWESI ISLAND

DETAIL OF ELEVATED TANK (1/3)

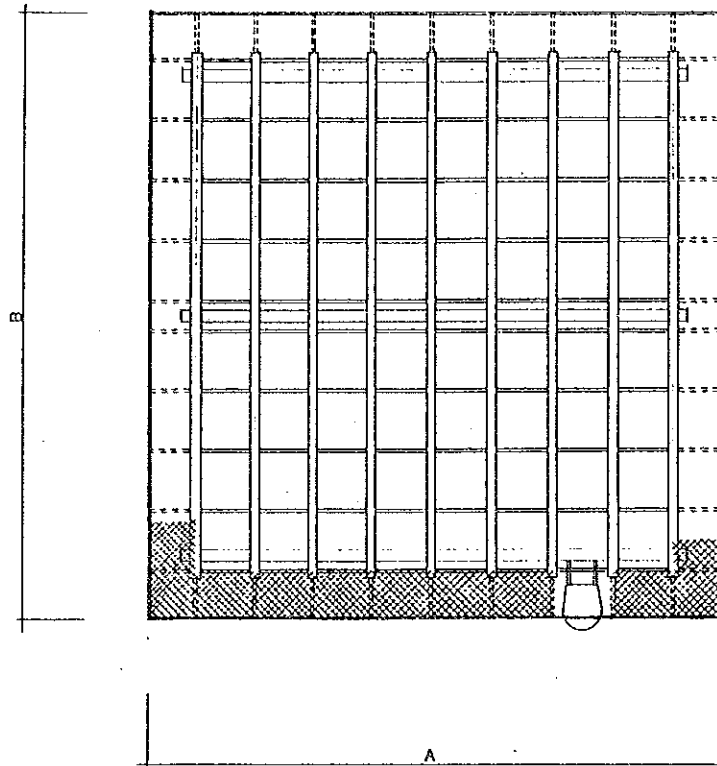
NOVEMBER 1990	SCALE /	DRAWING NO. 101
------------------	------------	--------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

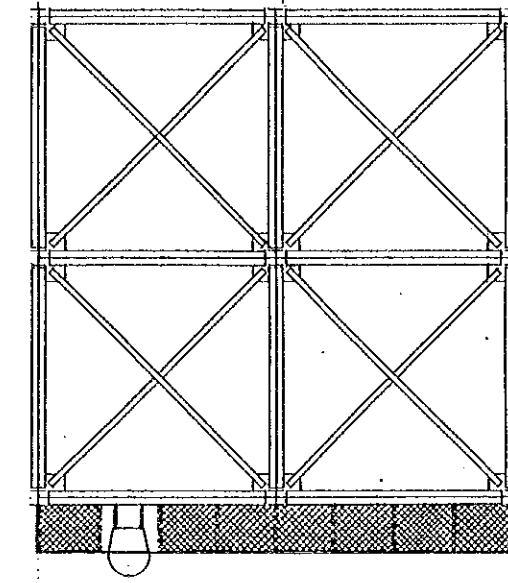
M3 TANK CAPACITY



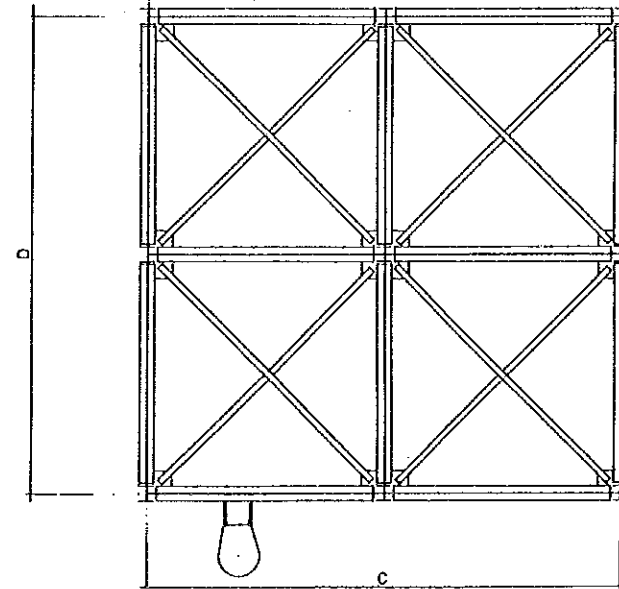
ELEVATION



X-X SECTION



Y-Y SECTION



Z-Z SECTION

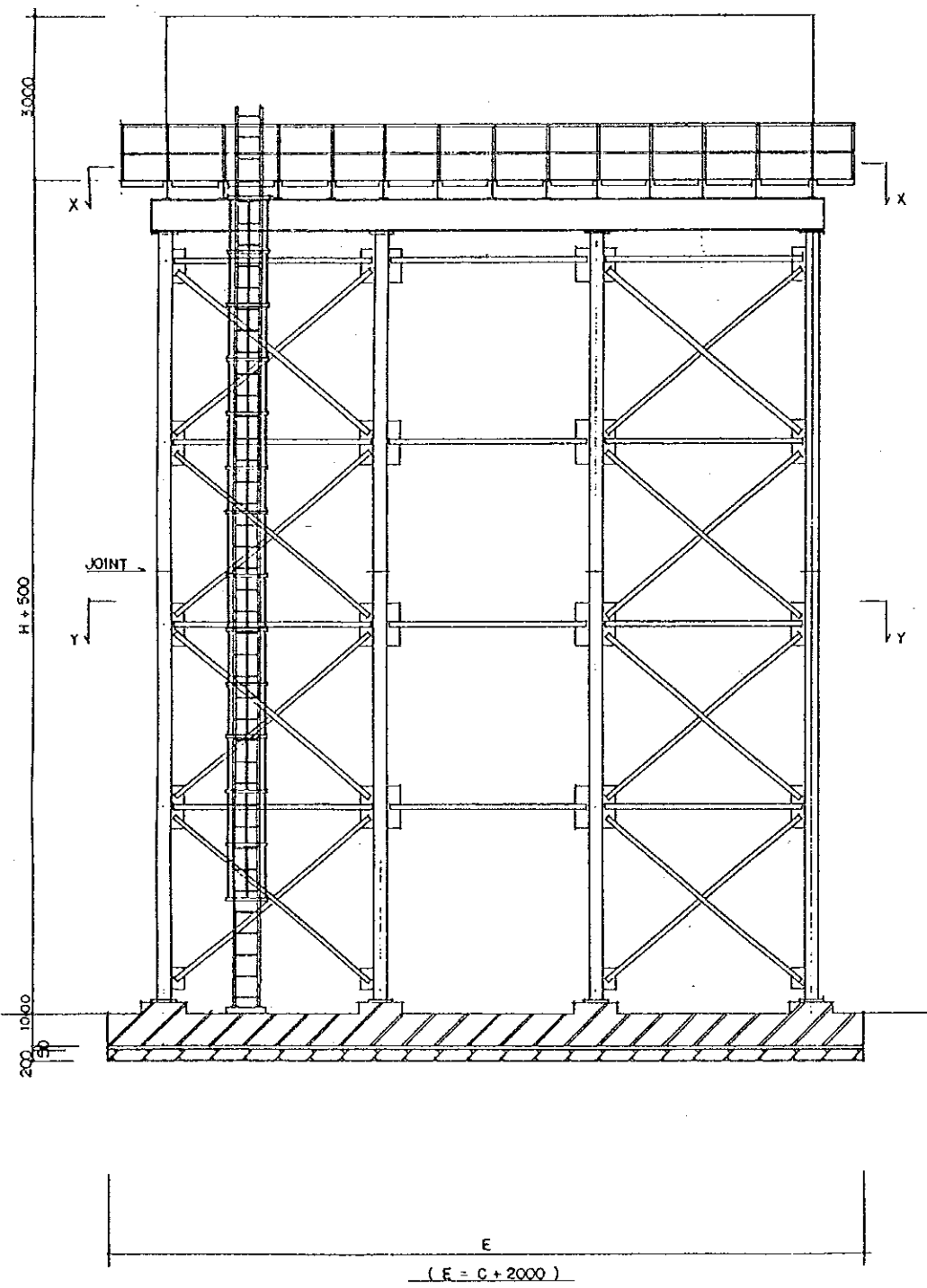
DIMENSIONS

SITE	M3 (m ³)	TANK SIZE W x L (m)	H (m)	A (m)	B (m)	C (m)	D (m)	E (m)
LANDONO	150	7 x 7.5	10	8.6	9.1	7	7	9
MOWEWE	150	7 x 7.5	10	8.6	9.1	7	7	9
WAKADIA	150	7 x 7.5	20	8.6	9.1	7	7	9
LAPUKO	100	6 x 6	20	7.6	7.6	6	6	8
TAKIMPO	200	8 x 8.5	15	9.6	10.1	8	8	10
ANDONOHU	150	7 x 7.5	20	8.6	9.1	7	7	9

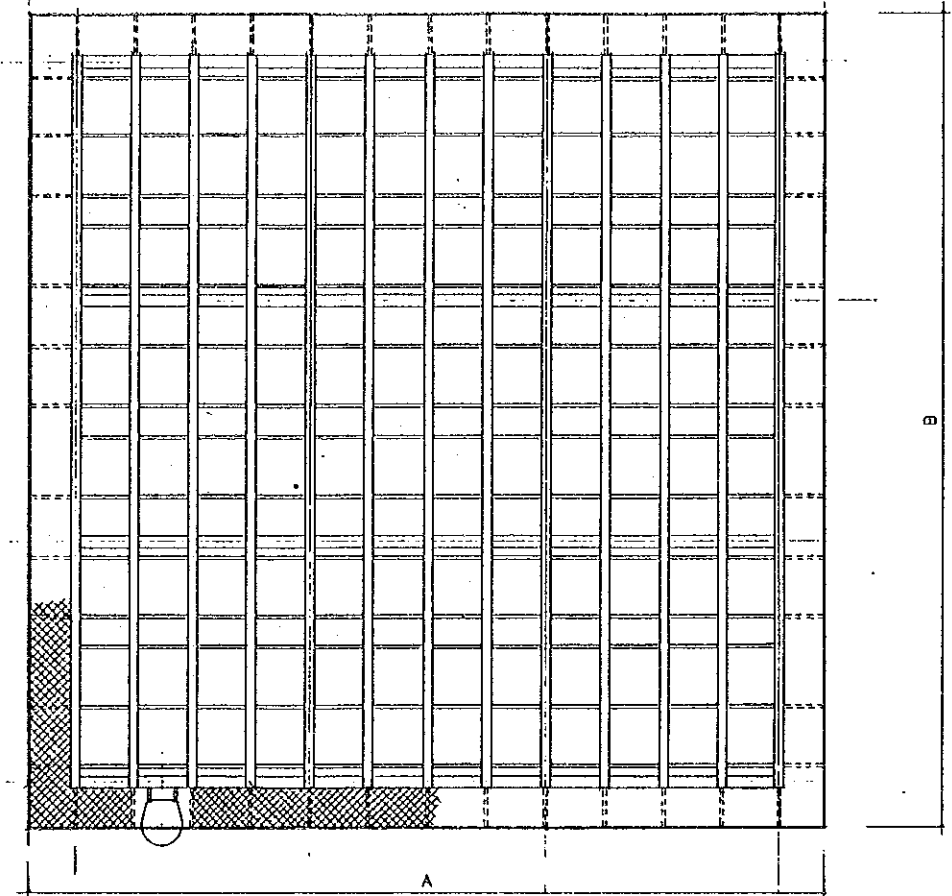
GENERAL NOTE
 1. ALL MATERIALS SHALL BE JIS G 3101 SS41 UNLESS OTHERWISE NOTED.
 2. CONNECTION BOLTS SHALL BE JIS B 1186 F10T.
 3. CIVIL WORK SHALL NOT BE INCLUDED IN OUR SCOPE OF WORK.

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
DETAIL OF ELEVATED TANK (2/3)		
NOVEMBER 1990	SCALE /	DRAWING NO. 102
JAPAN INTERNATIONAL COOPERATION AGENCY		

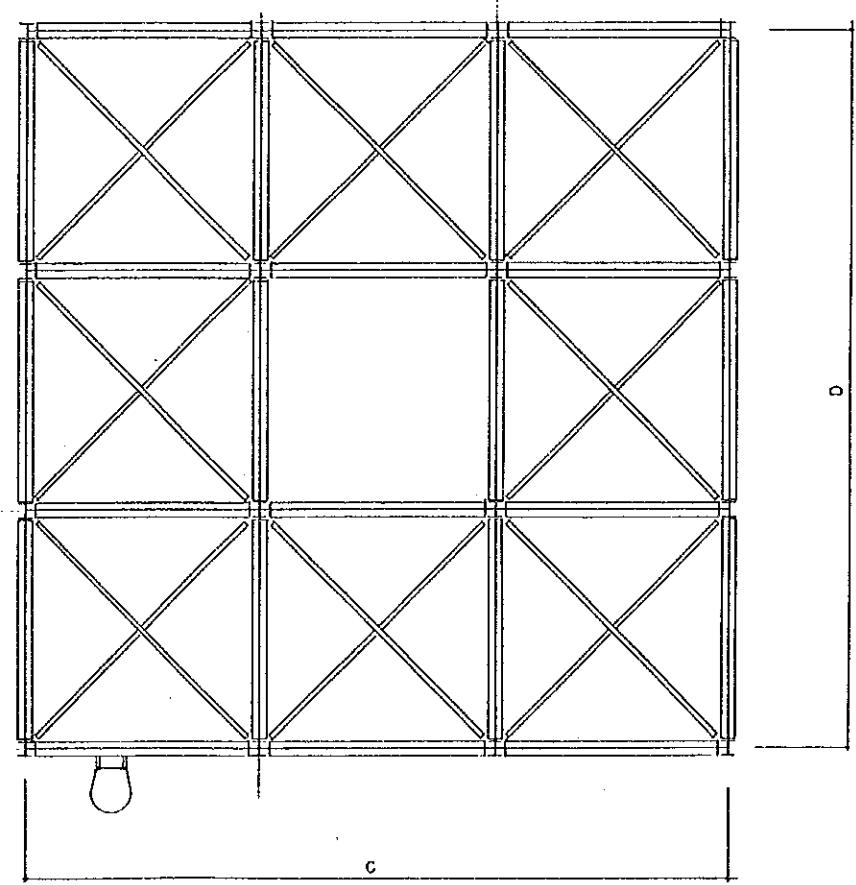
M3 : TANK CAPACITY



ELEVATION



X-X SECTION



Y-Y SECTION

DIMENSIONS

SITE	M3 (m ³)	TANK SIZE W L (m)	H (m)	A (m)	B (m)	C (m)	D (m)	E (m)
MASAMBA	300	10x10	15	11.6	11.6	10	10	12

- GENERAL NOTE
1. ALL MATERIALS SHALL BE JIS G 3101 SS41 UNLESS OTHERWISE NOTED.
 2. CONNECTION BOLTS SHALL BE JIS B 1186 F10T.
 3. CIVIL WORK SHALL NOT BE INCLUDED IN OUR SCOPE OF WORK.

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

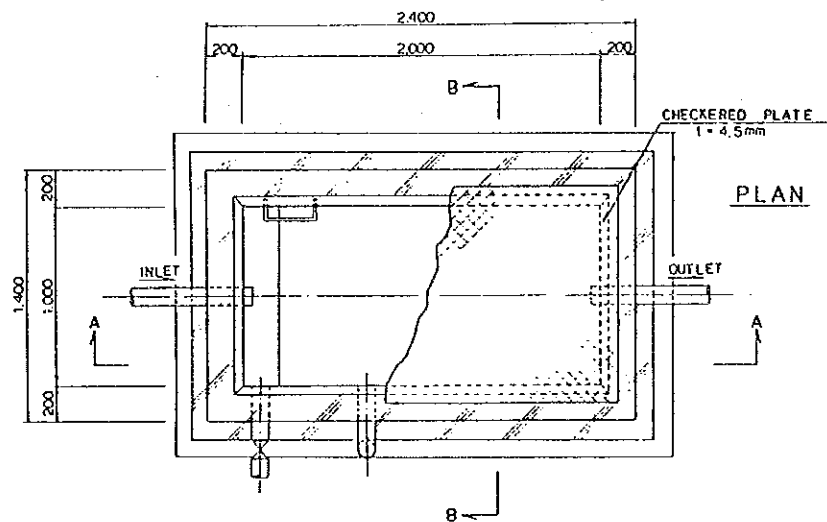
THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

DETAIL OF ELEVATED TANK (3/3)

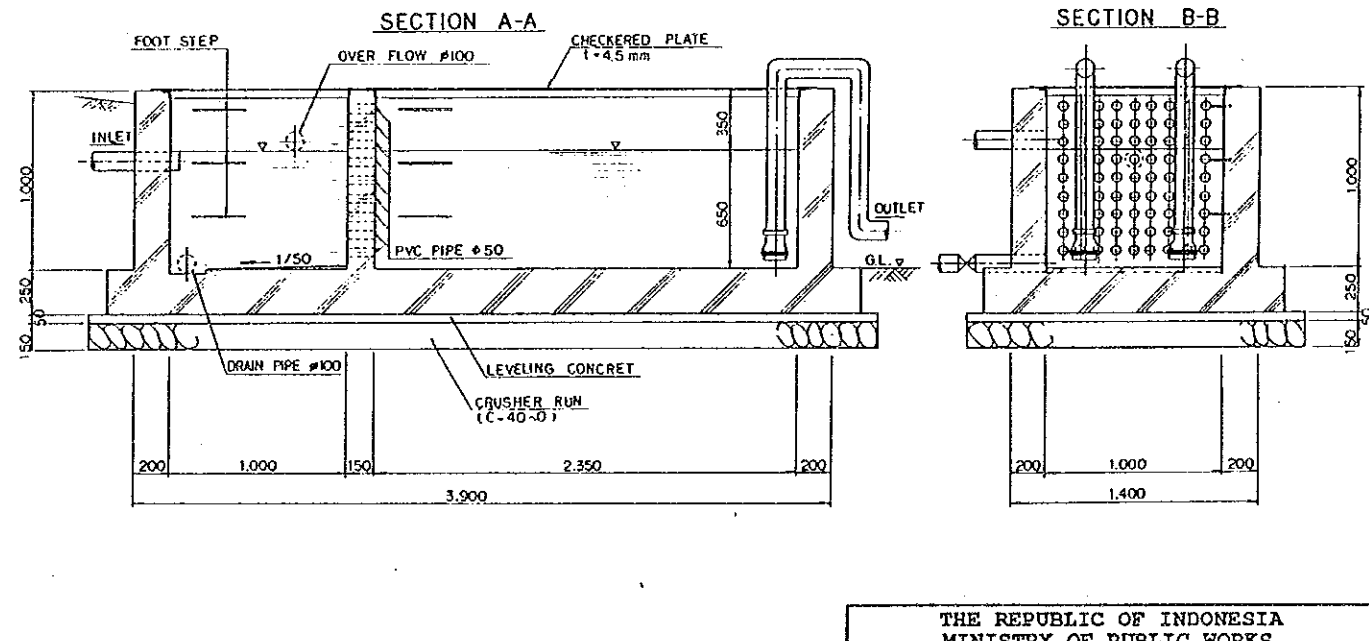
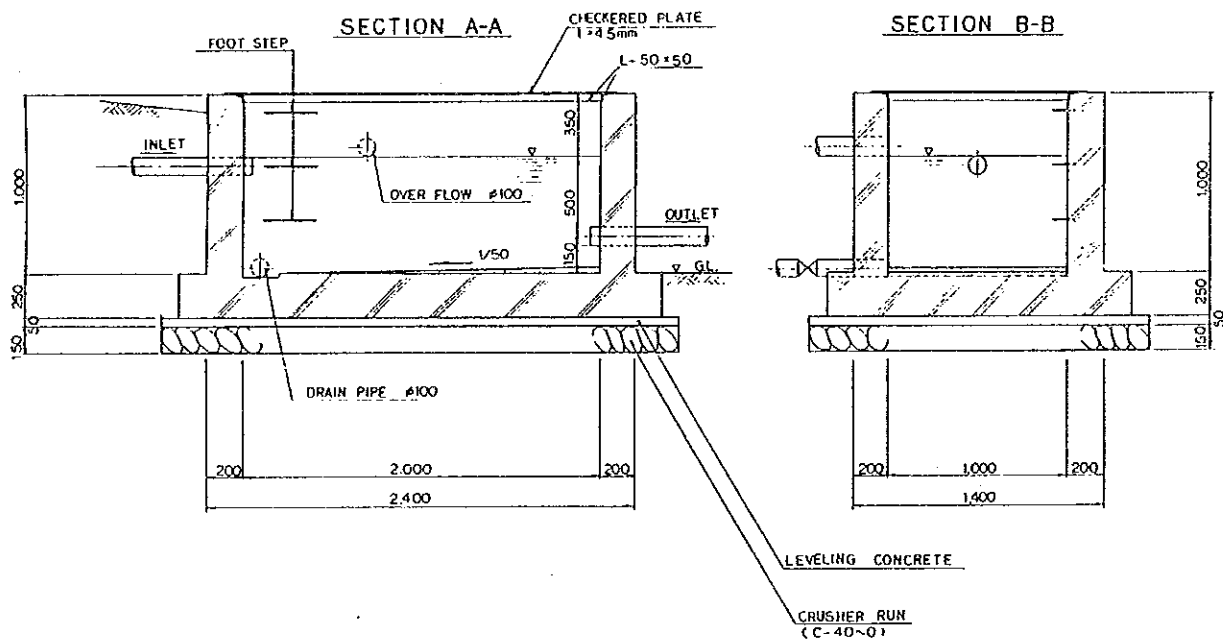
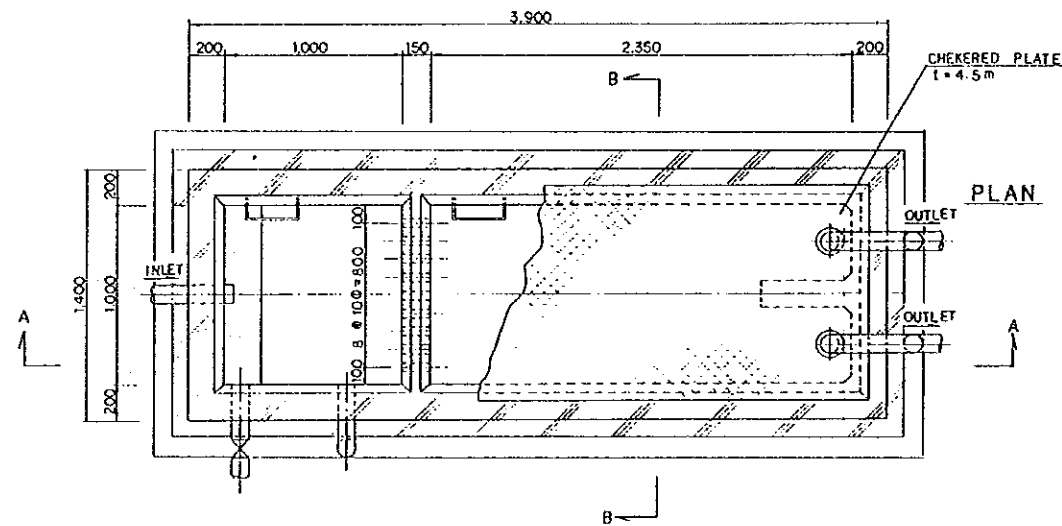
NOVEMBER 1990	SCALE /	DRAWING NO. 103
------------------	------------	--------------------

JAPAN INTERNATIONAL COOPERATION AGENCY

SAND SETTLING PIT
AT ULSALU, LIANG (S-1/20)

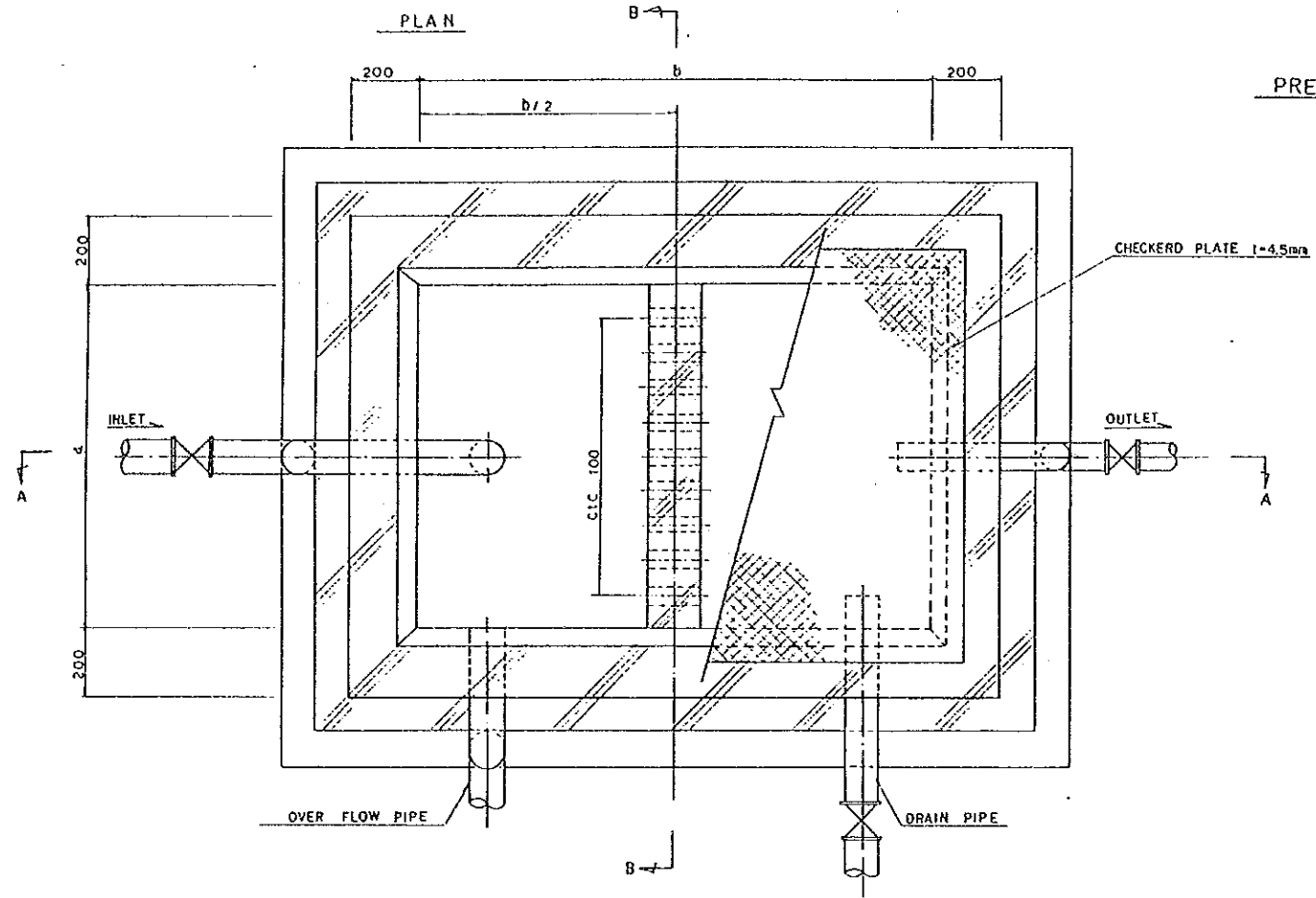


SAND SETTLING PIT
AT ANDUONOHU, MOWEWE, LAOMPO (S-1/20)

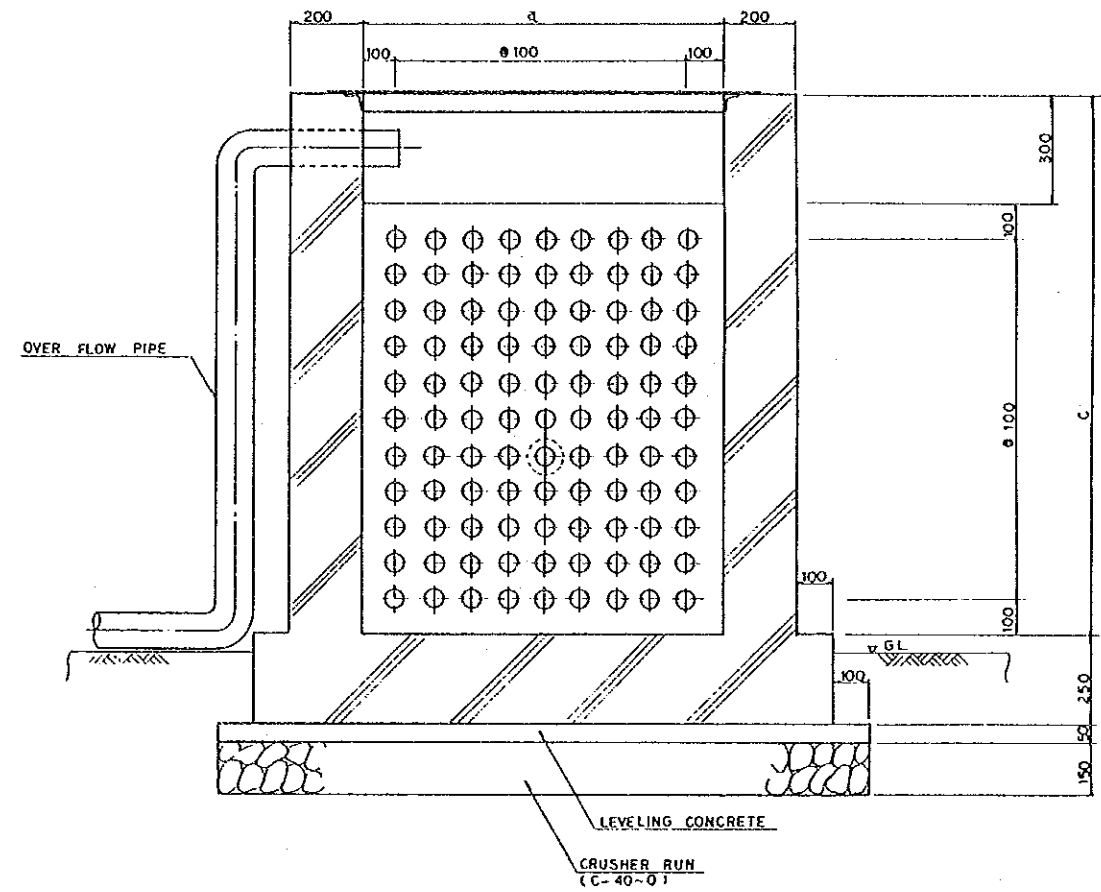


THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
SAND SETTLING PIT (TYPE-A, B)		
NOVEMBER 1990	SCALE 1/20	DRAWING NO. 104
JAPAN INTERNATIONAL COOPERATION AGENCY		

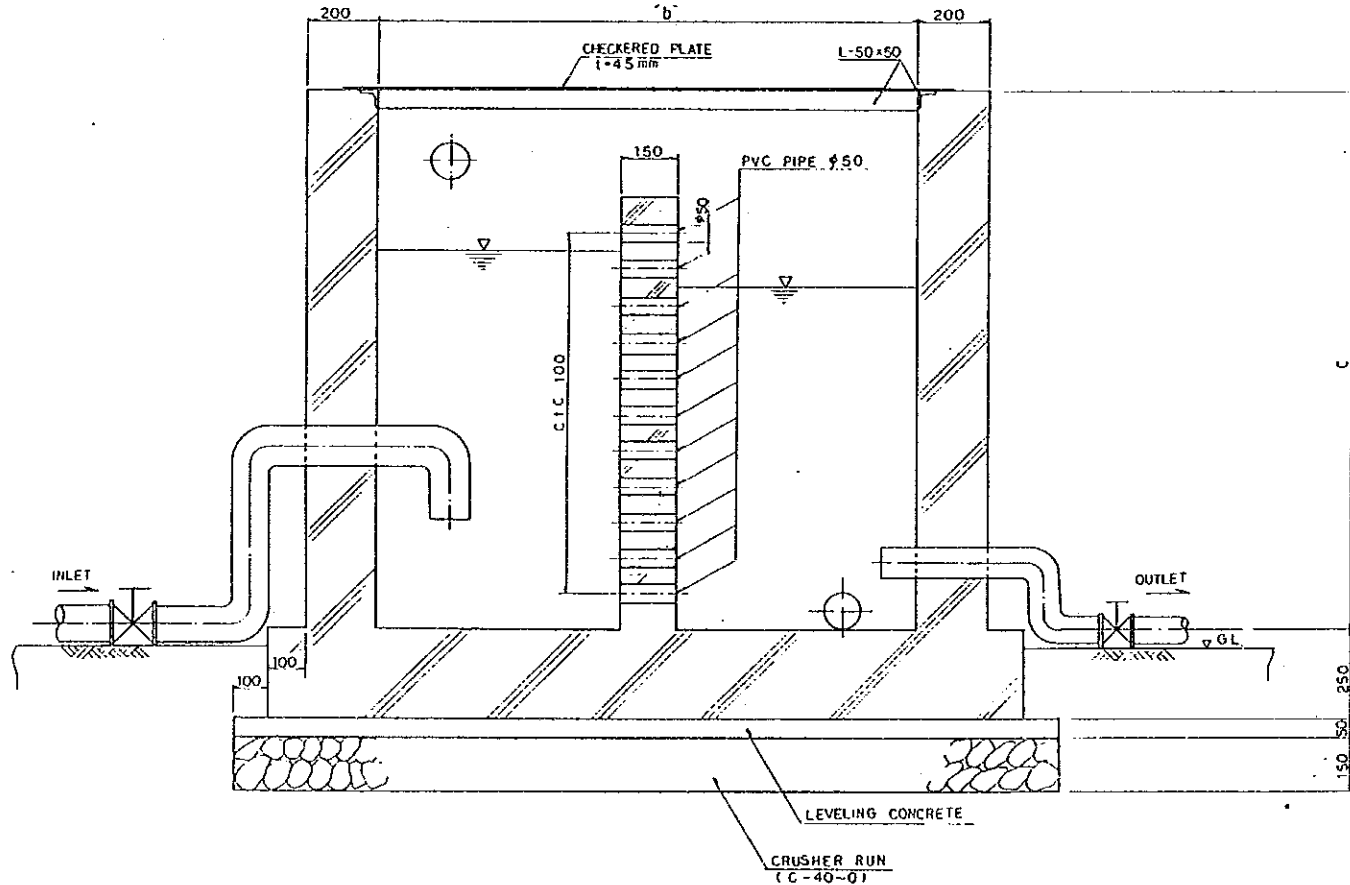
PRESSURE BREAKING PIT



SECTION B-B



SECTION A-A



UNIT : MM

LOCATION	a	b	c	Q'TY
ULUSALU	1000	1500	1500	1
TIROMANDA	1000	1500	1200	5
BINNANGA	1300	2000	1500	1

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

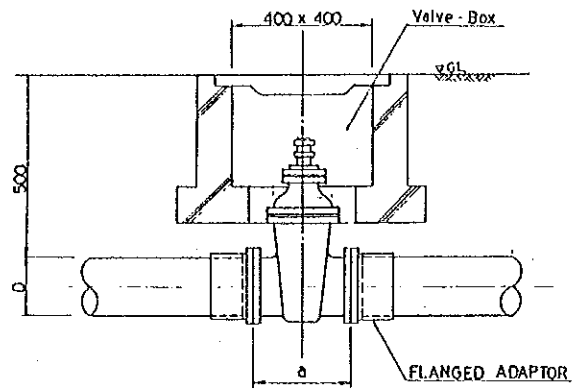
PRESSURE BREAKING PIT
 (TYPE-A, B & C)

NOVEMBER 1990 SCALE DRAWING NO. 105

JAPAN INTERNATIONAL COOPERATION AGENCY

UNDER GROUND TYPE

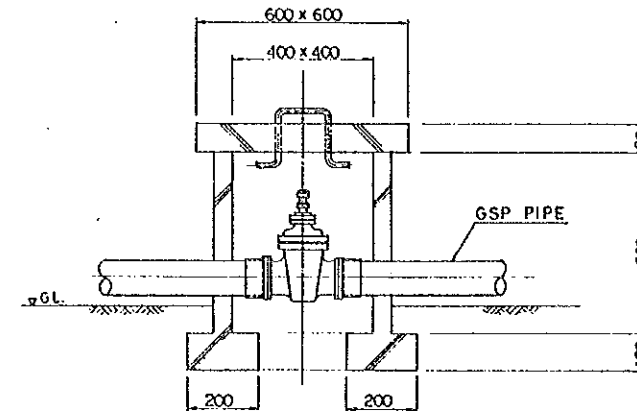
SLUICE VALVE



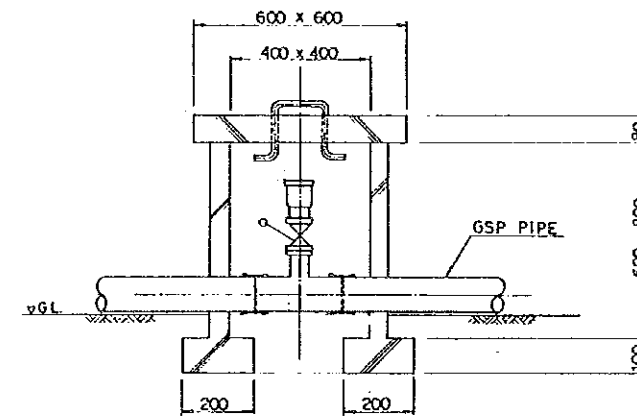
	d (mm)	D (mm)
φ50	180	60
φ80	240	90
φ100	250	110
φ150	280	160
φ200	300	200
φ250	380	250

ON THE GROUND TYPE

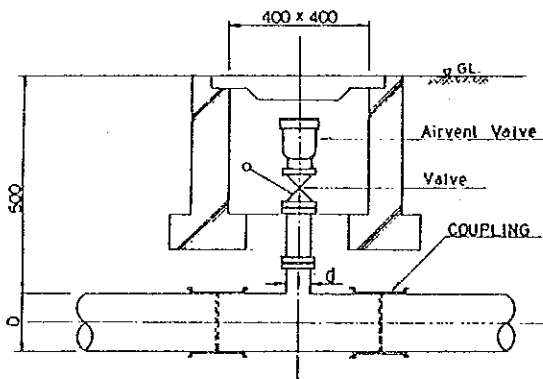
SLUICE VALVE



AIR VALVE

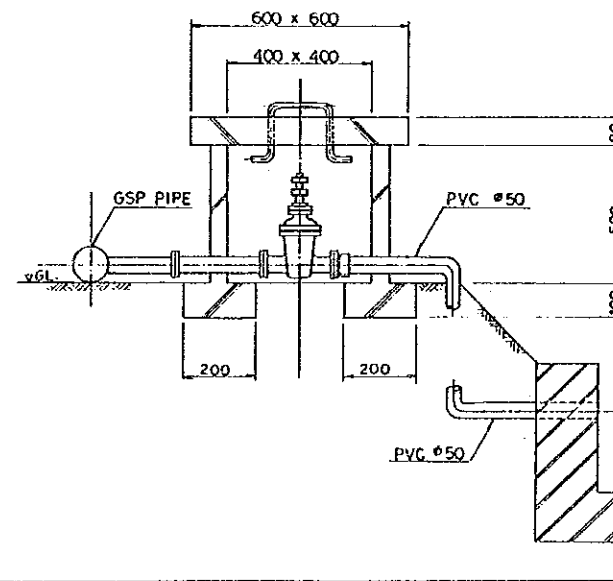


AIR VALVE

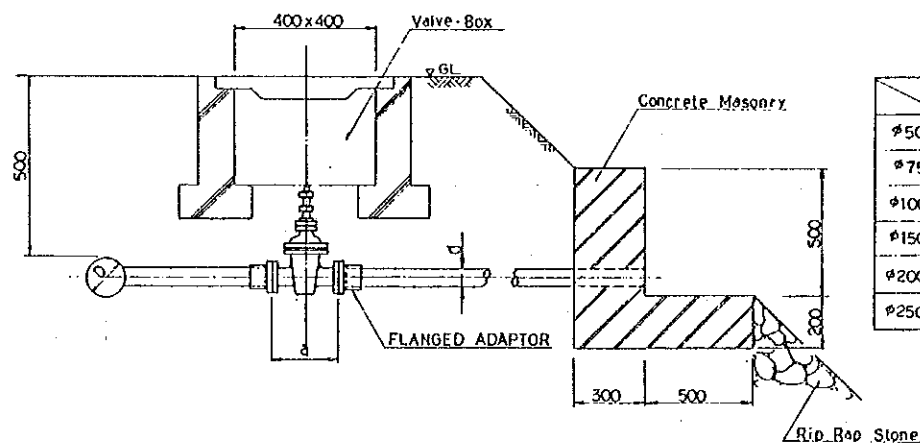


	d (mm)	D (mm)	Description
φ50	50	63	Single Airvent Valve
φ80	75	90	"
φ100	75	110	"
φ150	75	150	"
φ200	75	200	"
φ250	75	250	"

WASH OUT



WASH OUT

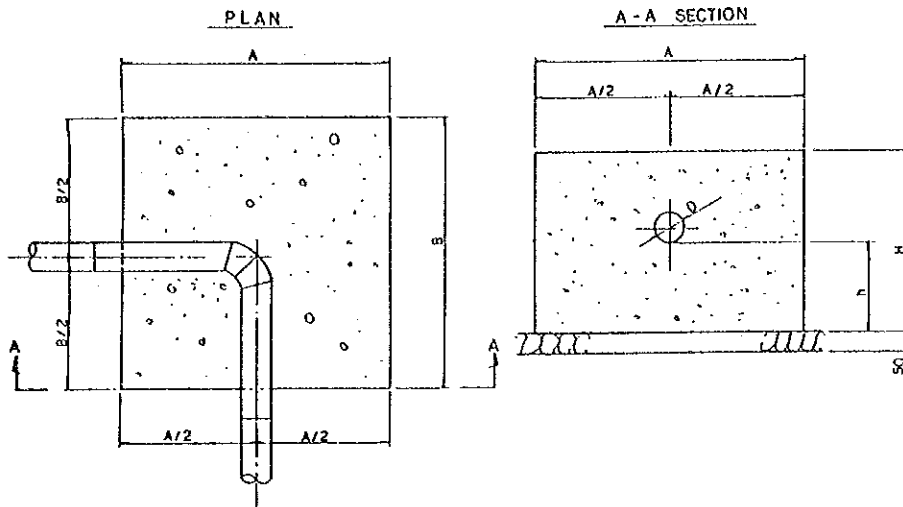


	d (mm)	d (mm)	D (mm)
φ50	180	50	63
φ75	180	50	90
φ100	180	50	110
φ150	180	50	110
φ200	180	50	110
φ250	180	50	110

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA
 THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND
 VALVE CHAMBER
 (SLUICE VALVE,
 AIR VALVE & WASH OUT)
 NOVEMBER 1990 SCALE DRAWING NO. 106
 JAPAN INTERNATIONAL COOPERATION AGENCY

THRUST BLOCK AND TYPICAL FITTING OF PIPELINE

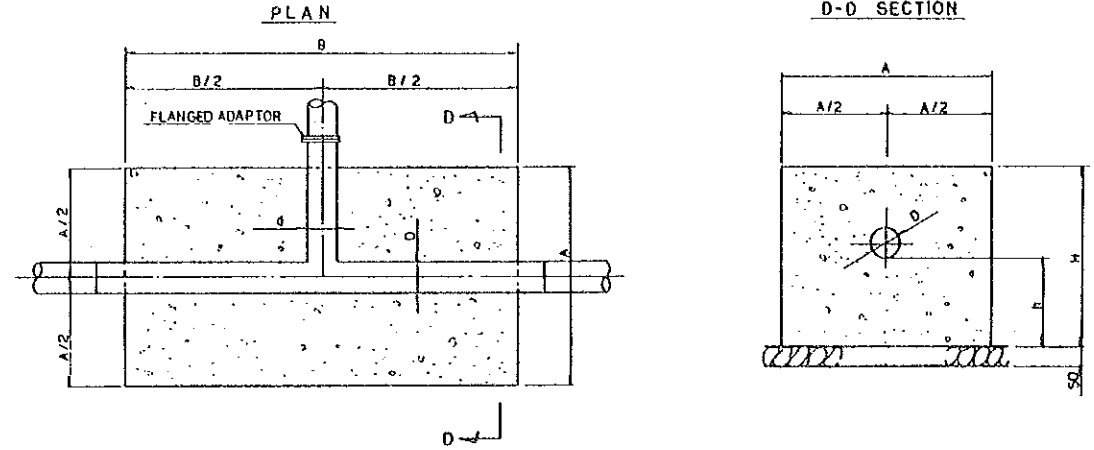
BEND 90°



DIMENSION UNIT: mm

D	A	B	H	h
250	2,200	2,200	800	300
200	1,800	1,800	750	300
150	1,400	1,400	660	300
100	1,000	1,000	500	250
80	750	750	500	250
50	500	500	300	150

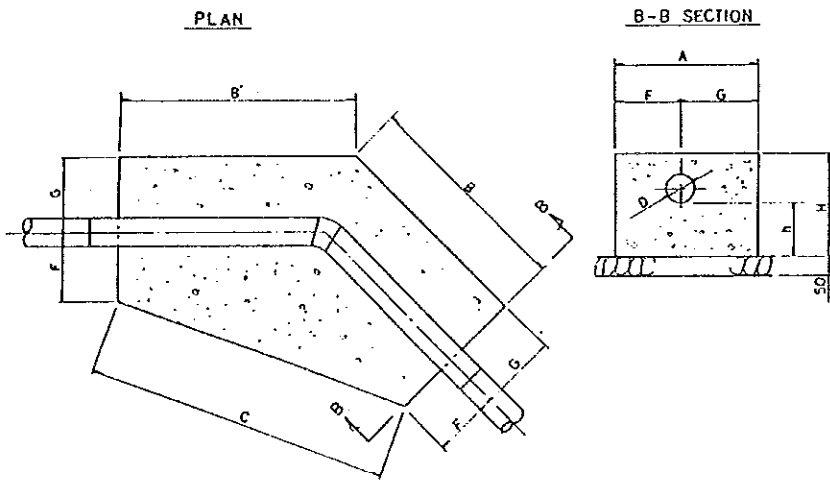
TEE



DIMENSION UNIT: mm

D × d	A	B	H	h
250 × 250	1,600	2,550	800	300
200 × 200	1,300	2,100	800	350
150 × 150	950	1,650	800	350
100 × 100	700	1,300	600	300
80 × 80	600	1,100	500	250
50 × 50	500	1,000	400	150

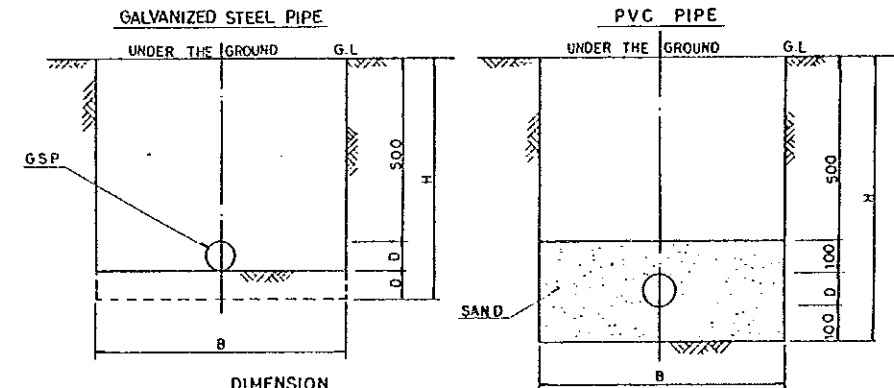
BEND 45°



DIMENSION UNIT: mm

D	A	B	B'	C	F	G	H	h
250	1,000	1,111	1,156	1,496	490	510	807	300
200	730	950	1,006	1,249	350	380	600	350
150	570	773	831	1,048	270	300	663	300
100	420	594	662	839	200	220	457	200
80	400	594	662	839	190	210	290	150
50	350	500	500	700	170	180	250	100

TYPICAL CROSS SECTION



DIMENSION UNIT: mm

D	B	H	L
150	700	665	700
100	700	614	700
80	700	589	700
50	700	560	700
40	700	540	700

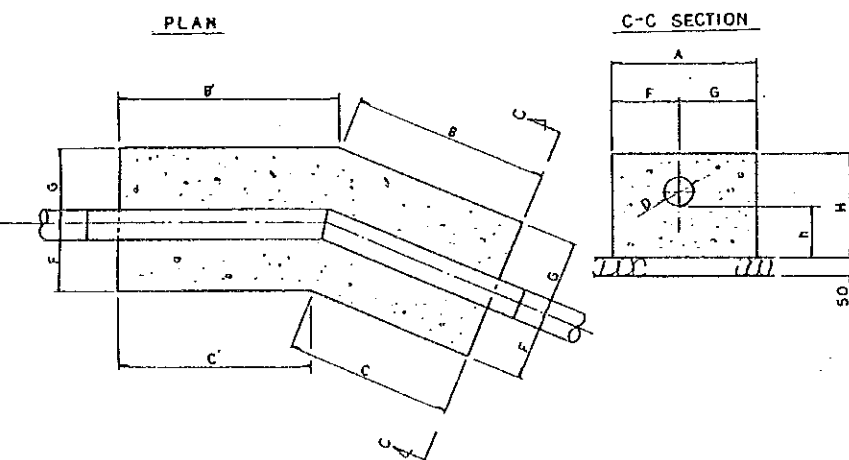
DIMENSION UNIT: mm

D	B	H
315	800	1 015
250	800	950
200	800	900
160	700	860
110	700	810
90	700	790
63	700	763
16~40	700	740

L : OVER EXCAVATION LENGTH FOR JOINT

D : OUTSID DIAMETER

BEND 22 1/2° - 11 1/4°



BEND 22 1/2° DIMENSION UNIT: mm

D	A	B	B'	C	C'	F	G	H	h
250	620	665	710	541	586	300	320	1,047	450
200	530	652	708	546	602	250	280	735	300
150	470	603	661	509	567	220	250	458	200
100	420	549	617	465	553	200	220	310	150
80	400	547	615	467	535	190	210	290	150
50	350	500	500	450	450	170	180	250	100

BEND 11 1/4° DIMENSION UNIT: mm

D	A	B	B'	C	C'	F	G	H	h
250	620	632	677	575	620	300	320	515	150
200	530	624	680	575	631	250	280	410	150
150	470	577	635	534	529	220	250	360	150
100	420	527	595	488	556	200	220	310	150
80	400	525	594	488	557	190	210	290	150
50	350	500	500	450	450	170	180	250	100

THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 CIPTA KARYA

THE PROJECT FOR RURAL/IKKS WATER SUPPLY
 IN
 SULAWESI ISLAND

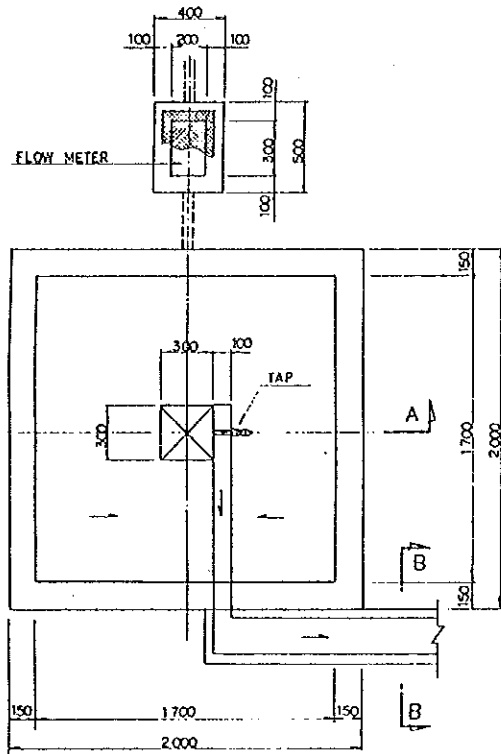
THRUST BLOCK AND
 TYPICAL FITTING OF PIPELINE

NOVEMBER 1990	SCALE /	DRAWING NO. 107
------------------	------------	--------------------

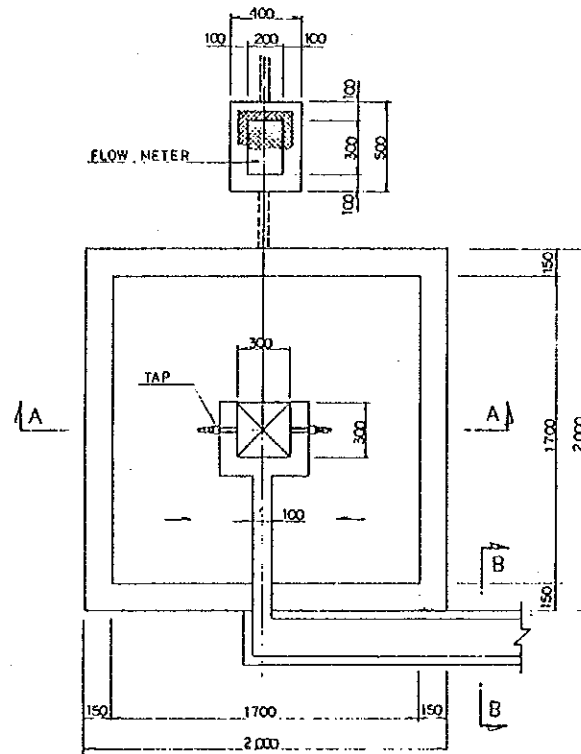
JAPAN INTERNATIONAL COOPERATION AGENCY

PUBLIC WATER FILLING STATION (S=1/20)

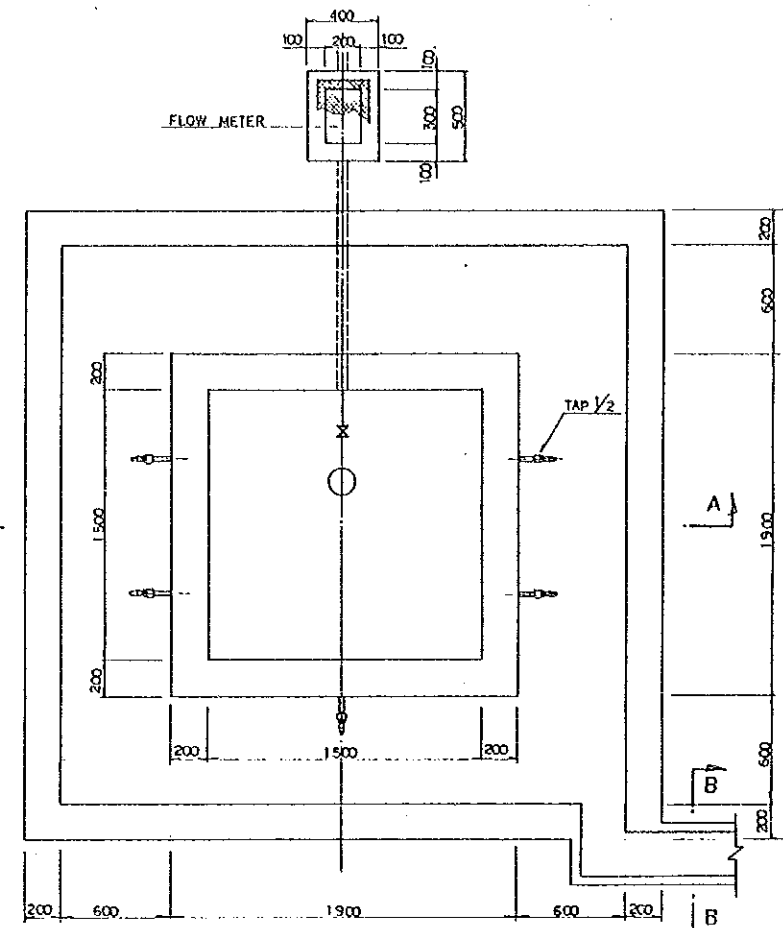
ONE TAP



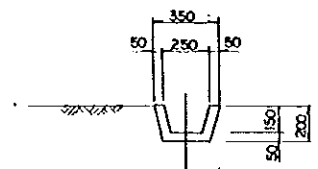
TWO TAPS



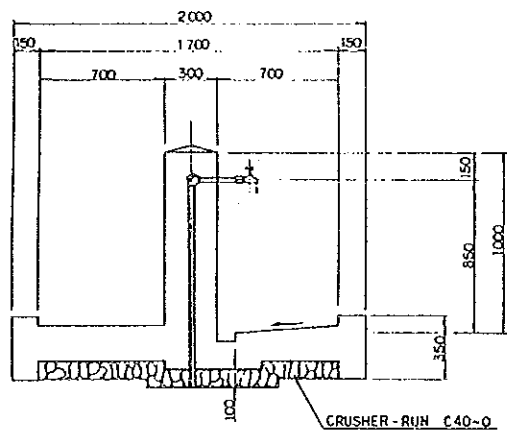
FIVE TAPS



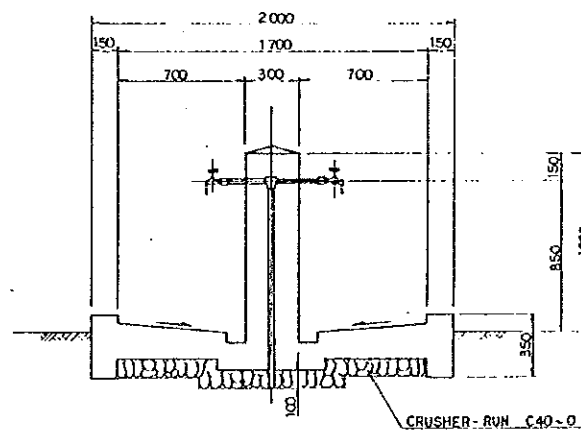
SECTION B-B



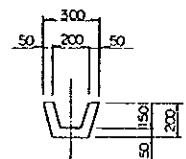
SECTION A-A



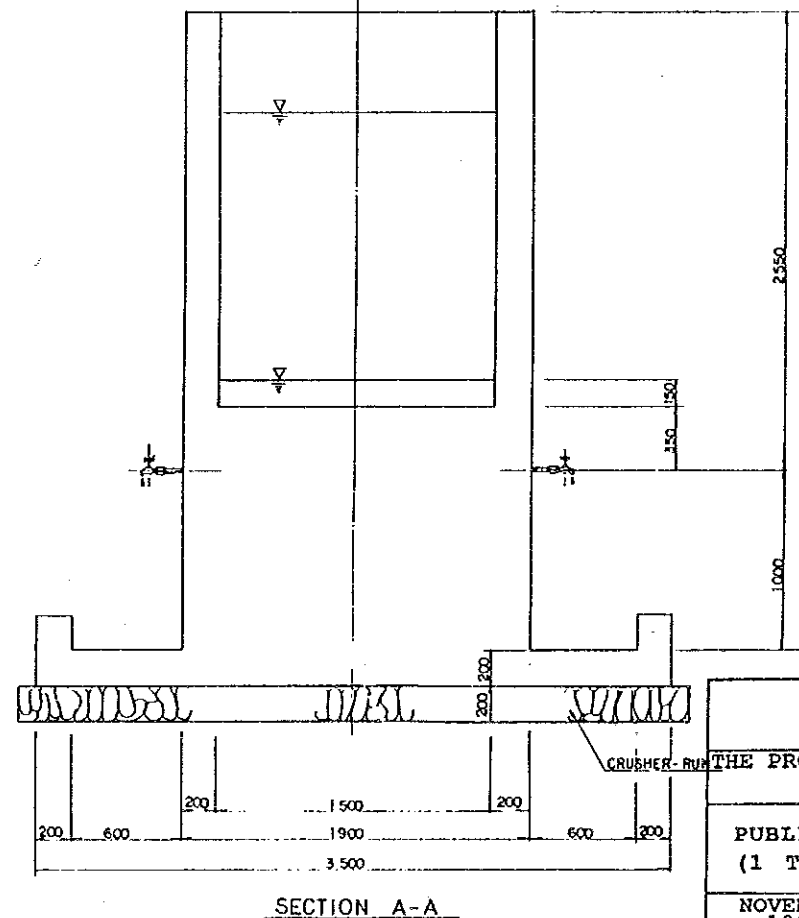
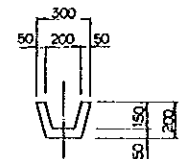
SECTION A-A



SECTION B-B



SECTION B-B



SECTION A-A

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS CIPTA KARYA		
THE PROJECT FOR RURAL/IKKS WATER SUPPLY IN SULAWESI ISLAND		
PUBLIC WATER FILLING STATION (1 TAP, 2 TAPS & 5 TAPS)		
NOVEMBER 1990	SCALE /	DRAWING NO. 108
JAPAN INTERNATIONAL COOPERATION AGENCY		