JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS
THE REPUBLIC OF UGANDA

THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS

FINAL REPORT

DRAWINGS

NOVEMBER 1997

NIPPON KOEI CO., LTD.
JAPAN ENGINEERING CONSULTANTS CO., LTD.

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS
THE REPUBLIC OF UGANDA

THE FEASIBILITY STUDY
OF
IMPROVEMENT OF TRUNK ROAD
AT
KAMPALA URBAN INTERFACE SECTIONS

FINAL REPORT

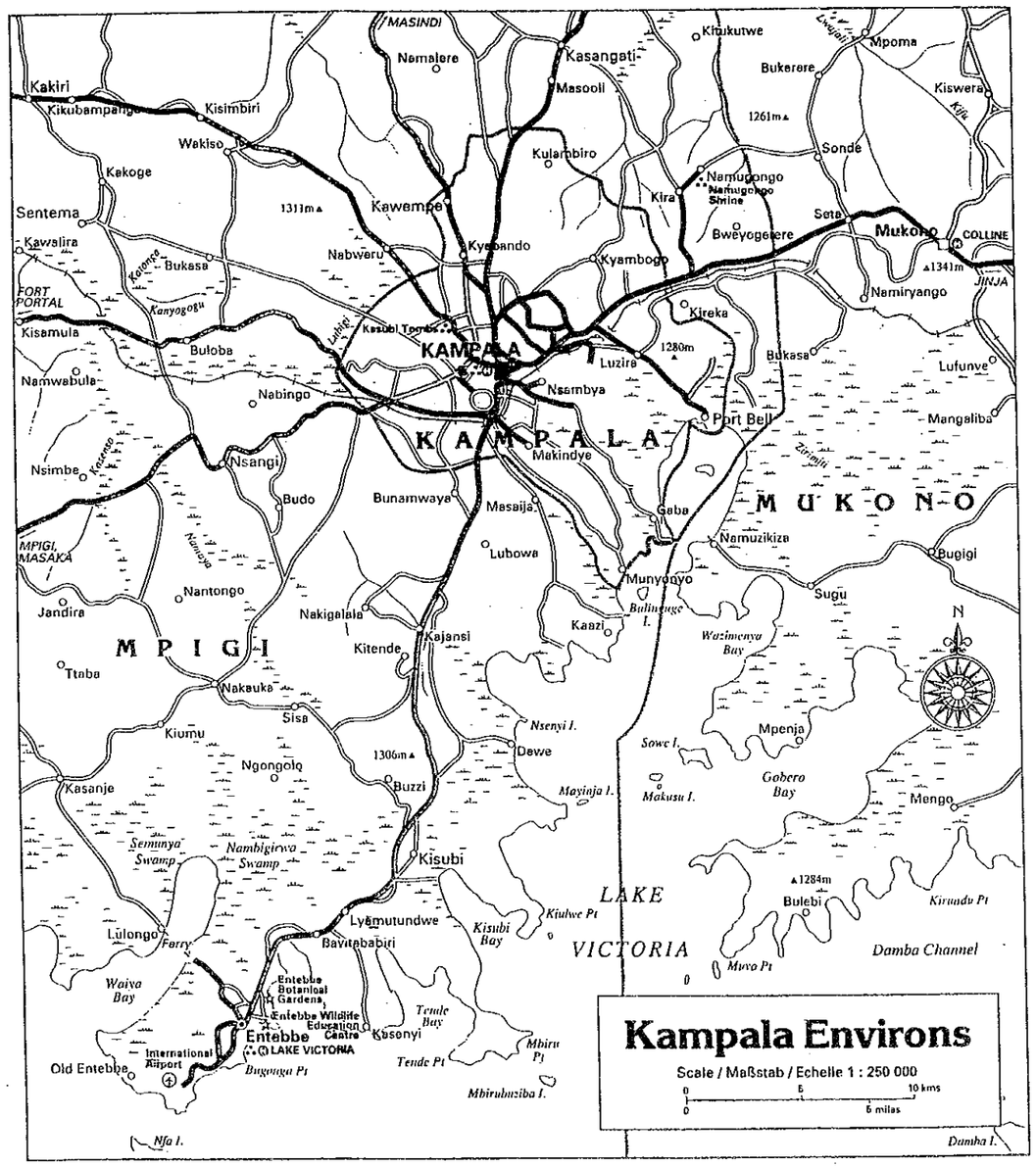
DRAWINGS

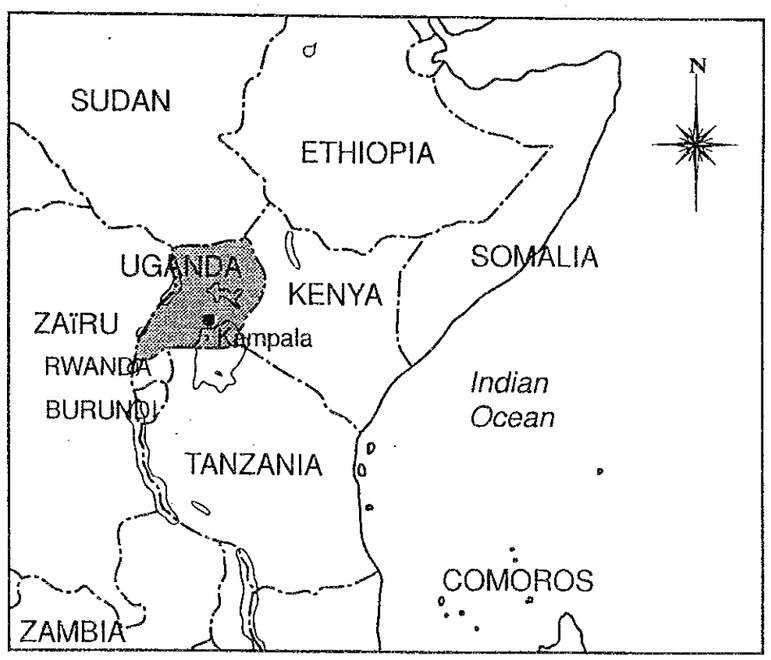
NOVEMBER 1997

NIPPON KOEI CO., LTD.
JAPAN ENGINEERING CONSULTANTS CO., LTD.

CONTENTS

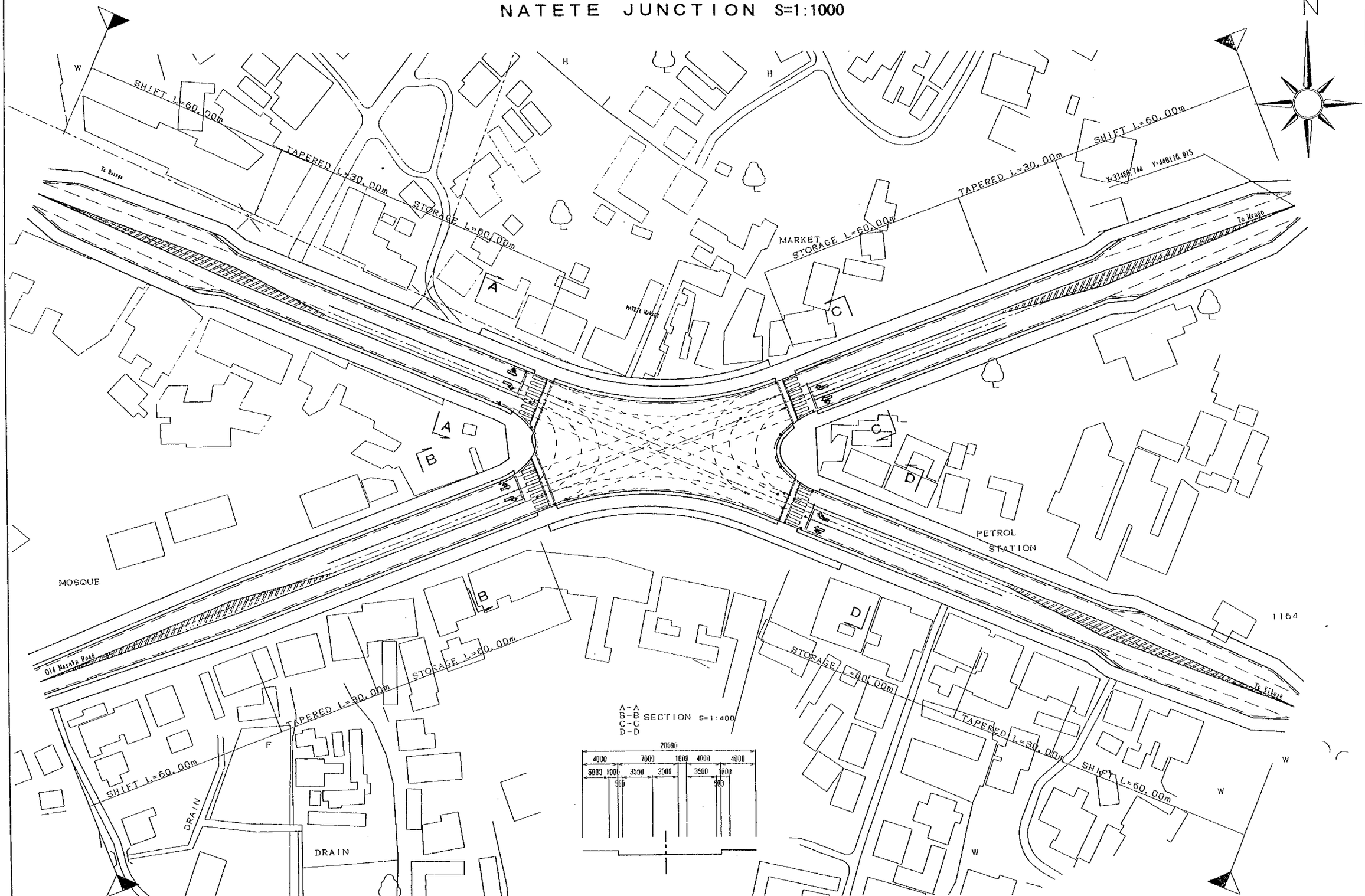
LOCATION MAP





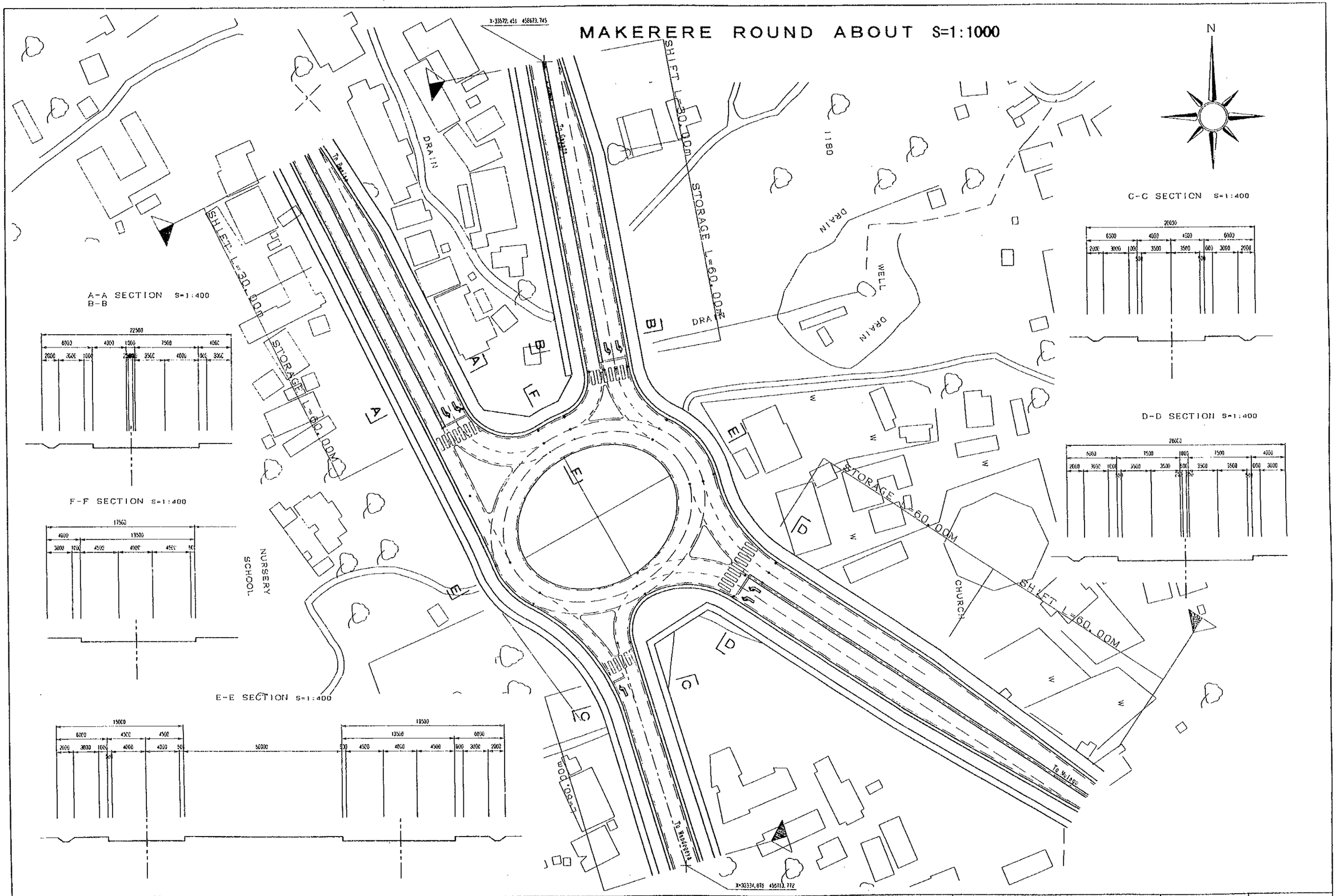
THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY		DATE	SHEET NO.
			LOCATION MAP	Sept 1997	1

NATETE JUNCTION S=1:1000



THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	NATETE	DATE	SHEET NO.
			JUNCTION	Sept 1997	2

MAKERERE ROUND ABOUT S=1:1000



N

A-A SECTION S=1:400
B-B

F-F SECTION S=1:400

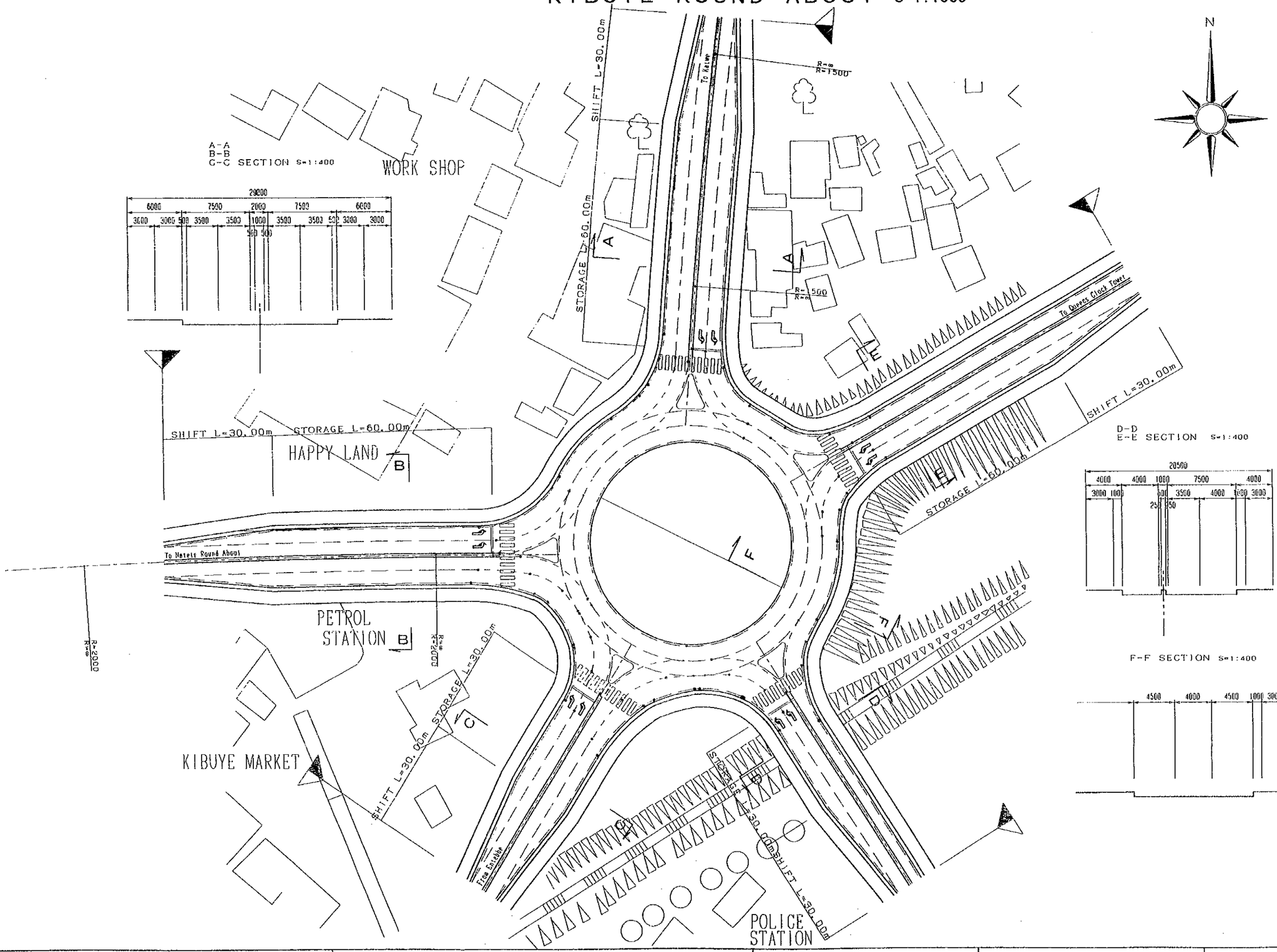
E-E SECTION S=1:400

C-C SECTION S=1:400

D-D SECTION S=1:400

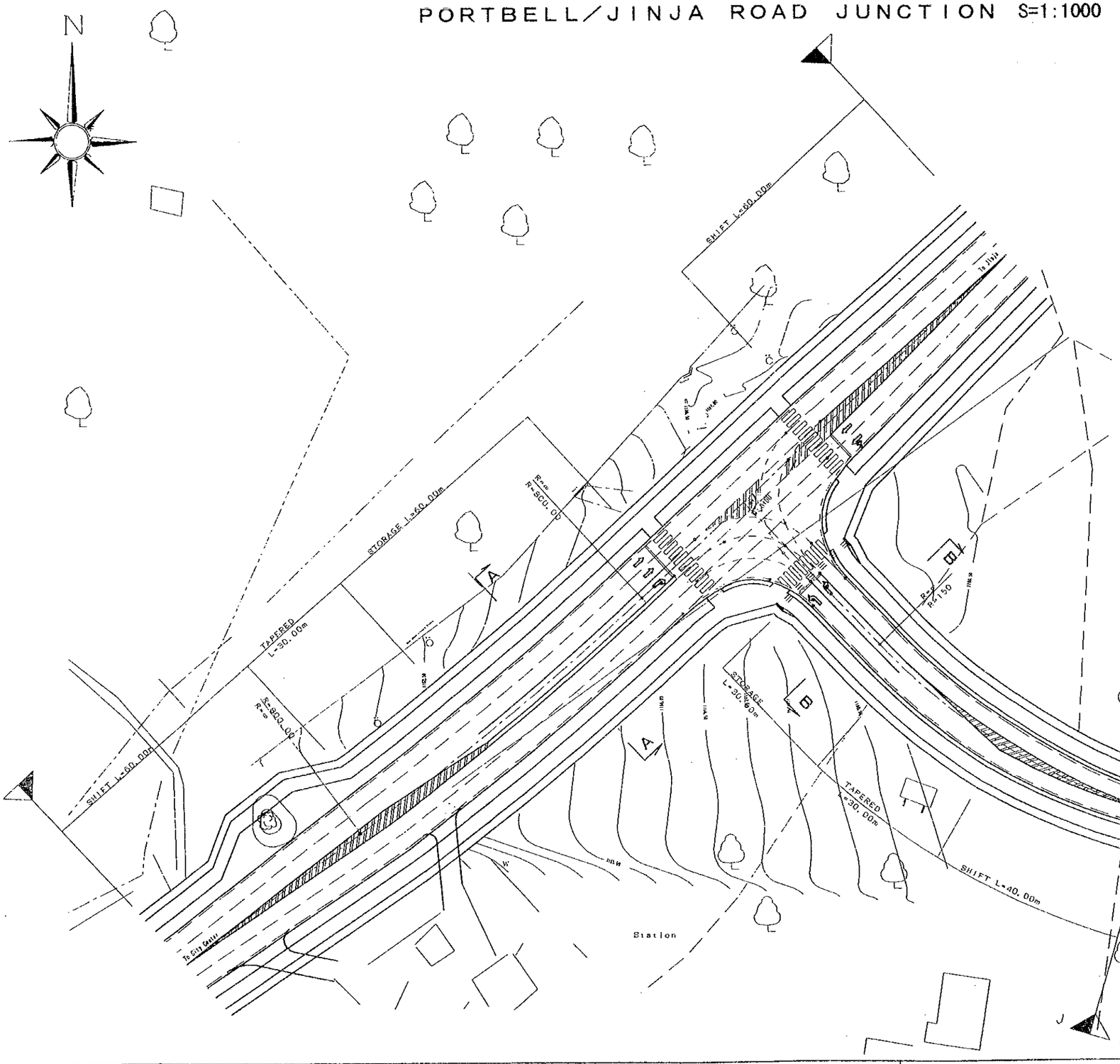
THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	MAKERERE ROUND ABOUT	DATE Sept 1997	SHEET NO. 3

KIBUYE ROUND ABOUT S=1:1000

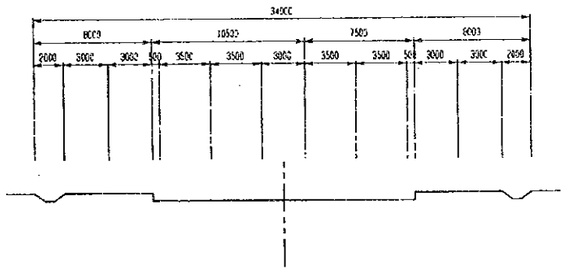


THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	KIBUYE ROUND ABOUT	DATE Sept 1997	SHEET NO. 4

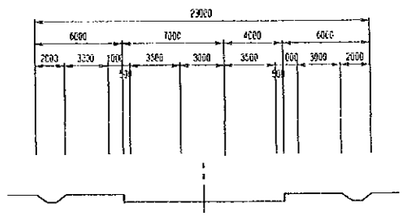
PORTBELL/JINJA ROAD JUNCTION S=1:1000



A-A SECTION S=1:400

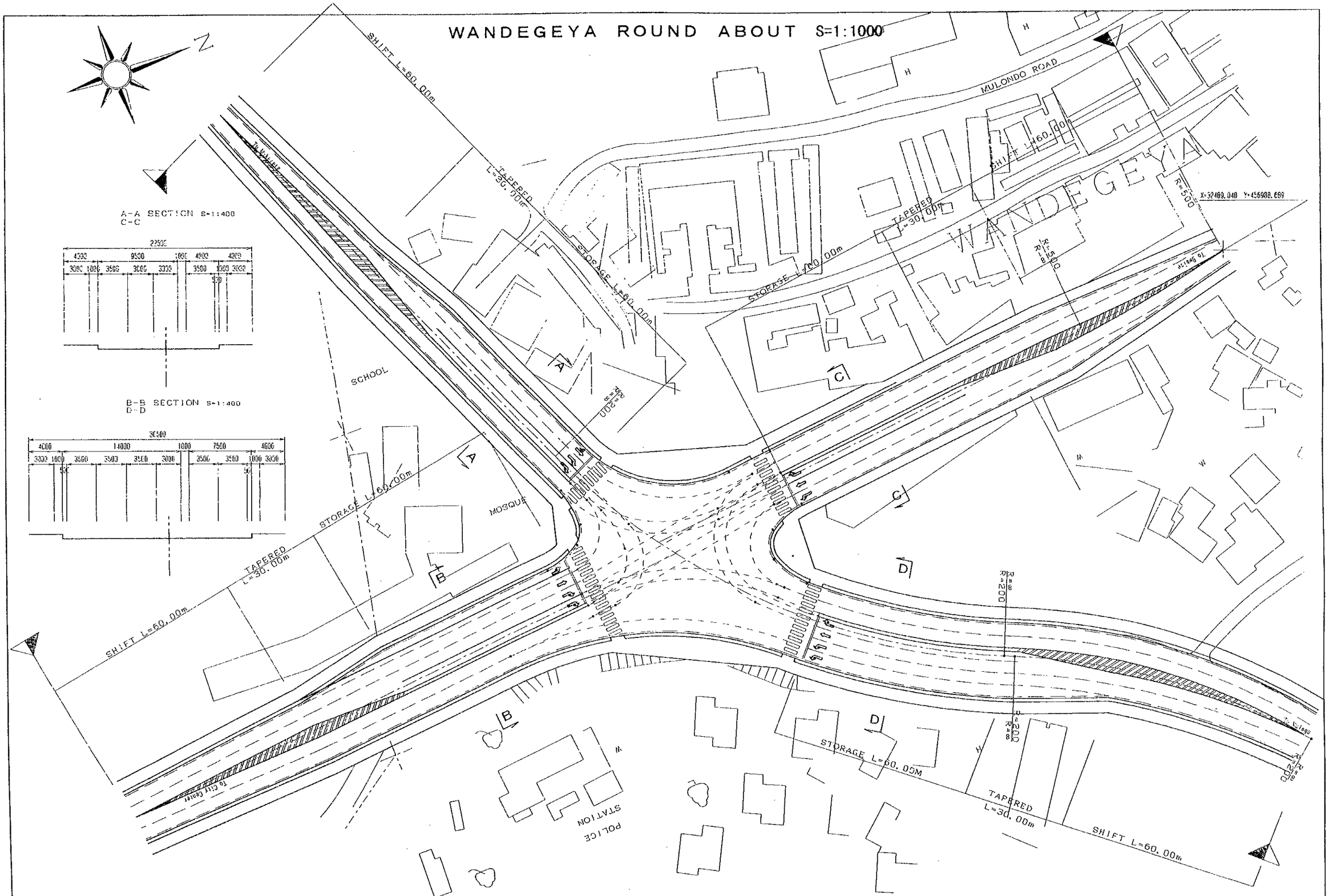


B-B SECTION S=1:400



THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	PORTBELL/JINJA ROAD JUNCTION	DATE Sept 1997	SHEET NO. 5

WANDEGEYA ROUND ABOUT S=1:1000

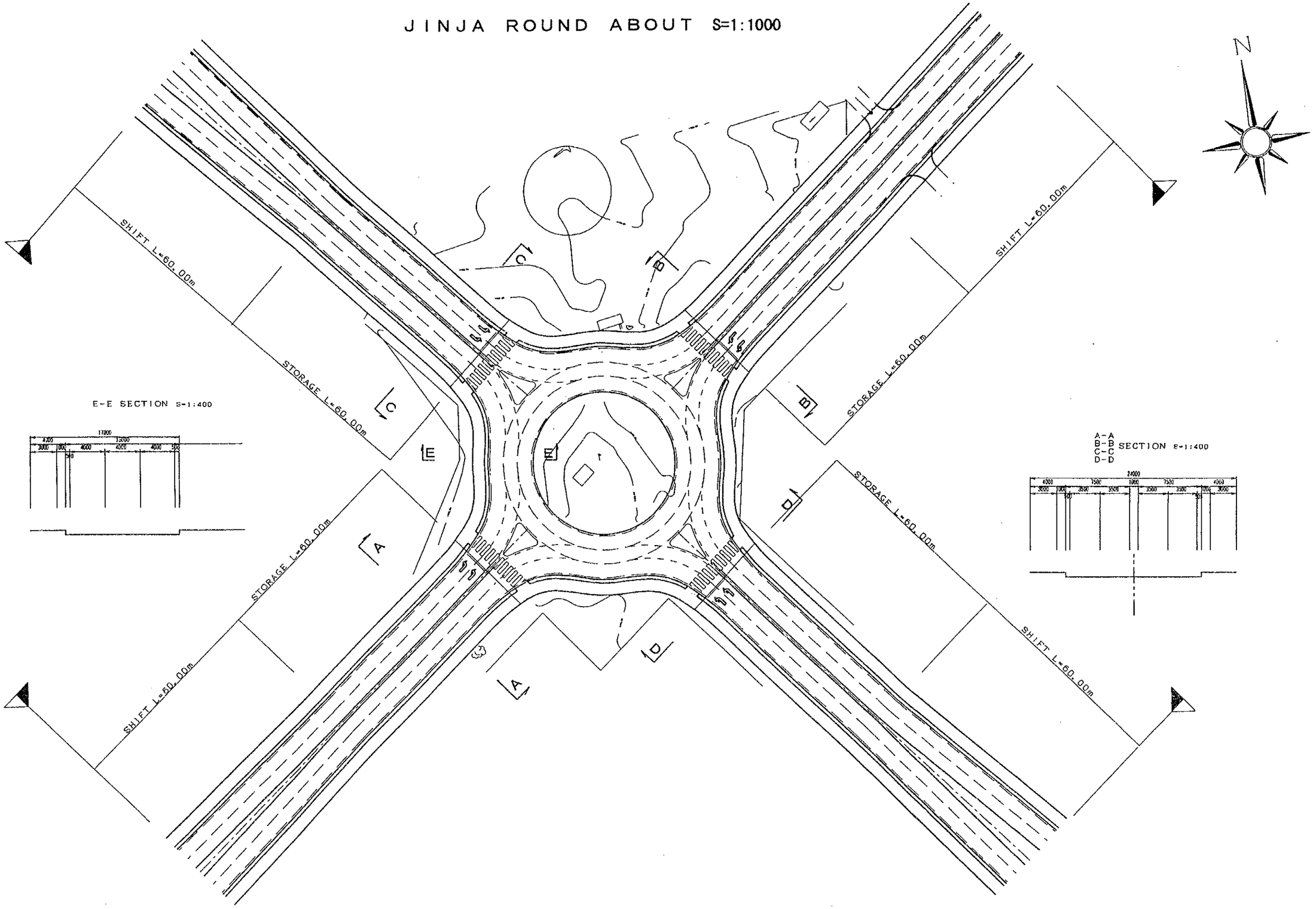


A-A SECTION S=1:400
C-C

B-B SECTION S=1:400
D-D

THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	WANDEGEYA ROUND ABOUT	DATE Sept 1997	SHEET NO. 6

JINJA ROUND ABOUT S=1:1000

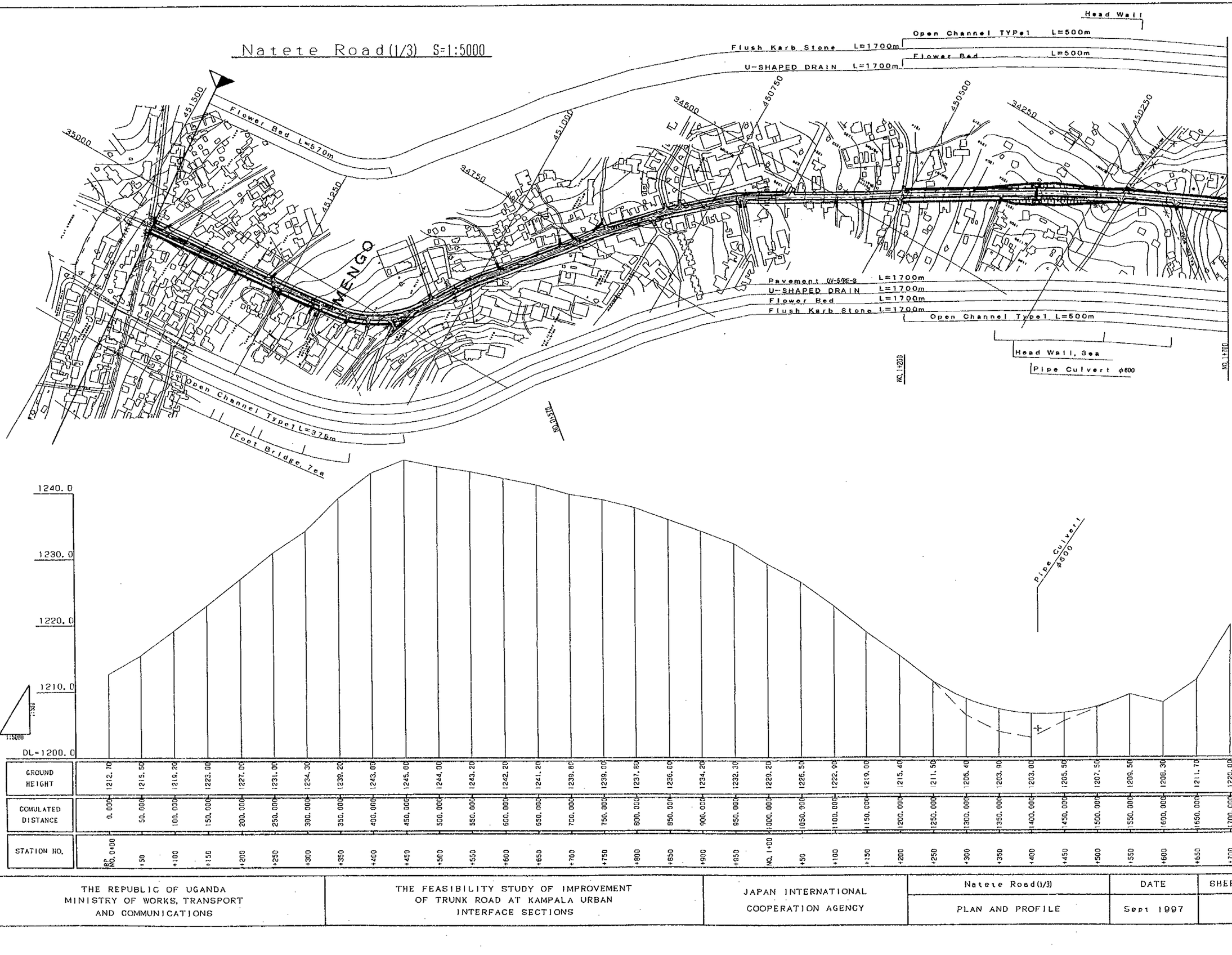


E-E SECTION S=1:400

A-A
B-B
C-C
D-D SECTION S=1:400

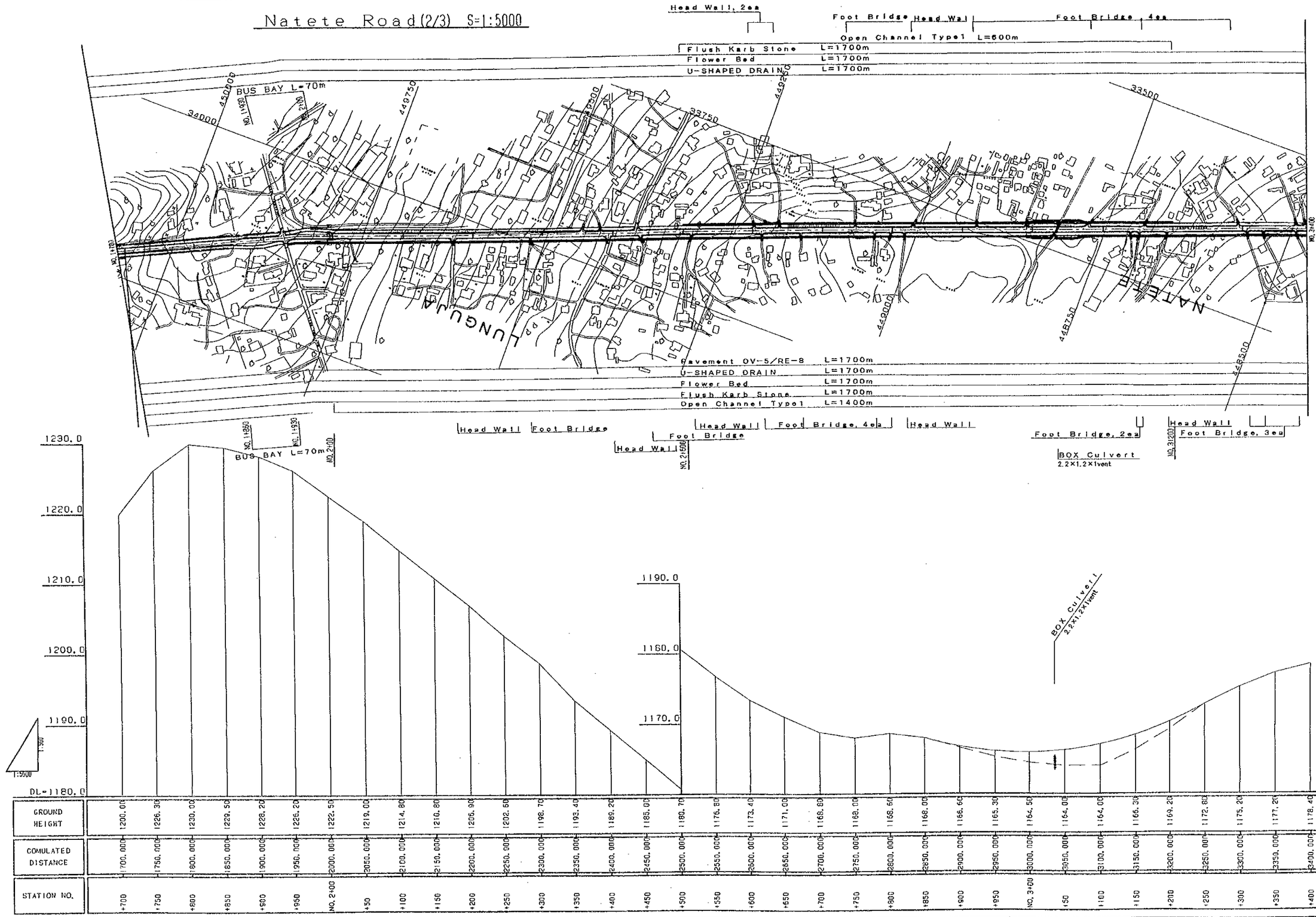
THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	JINJA ROUND ABOUT	DATE Sept 1997	SHEET NO. 7

Natete Road(1/3) S=1:5000



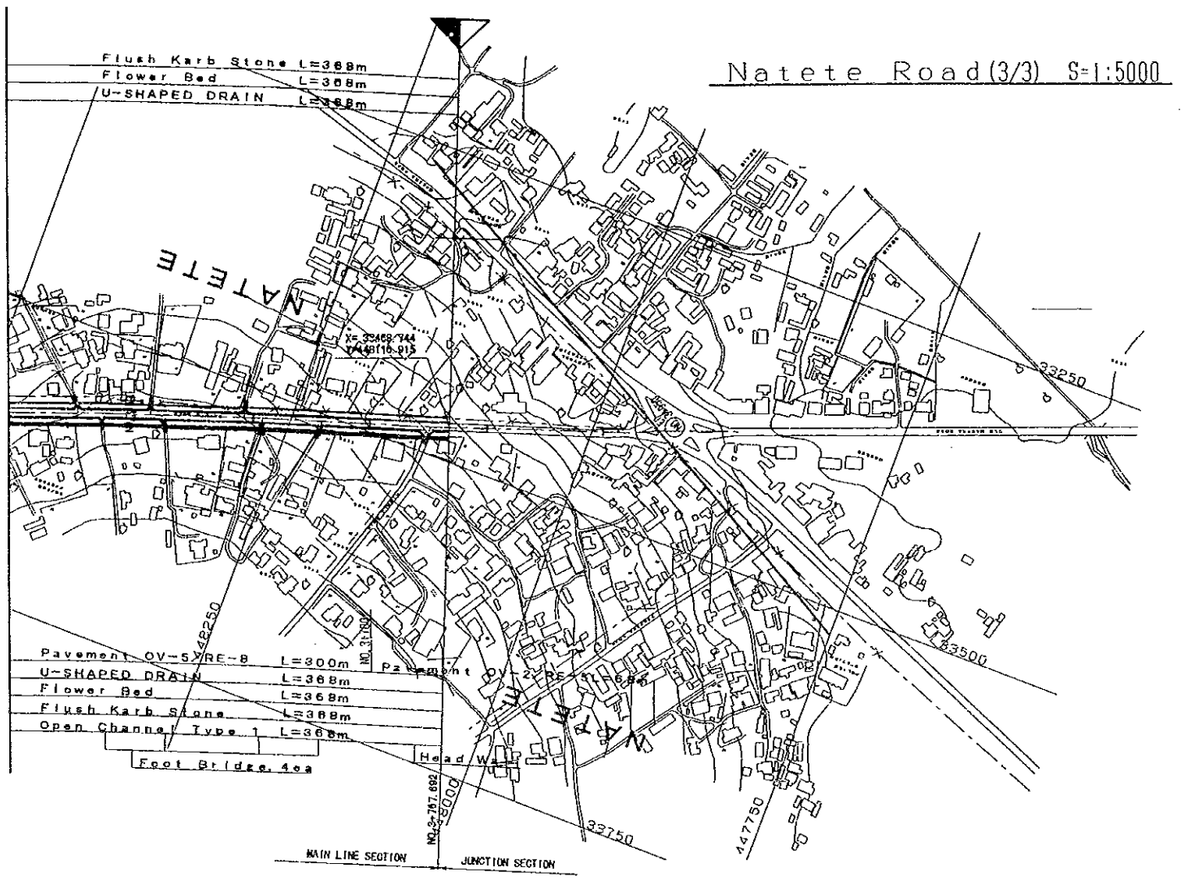
THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Natete Road(1/3) PLAN AND PROFILE	DATE: Sept 1997 SHEET NO.: 8

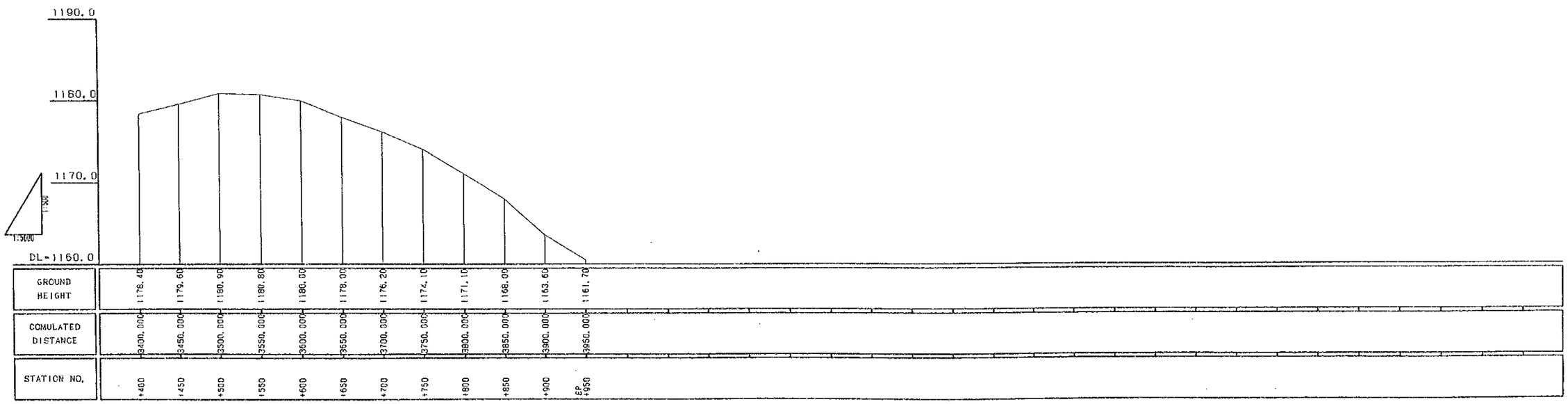
Natete Road(2/3) S=1:5000



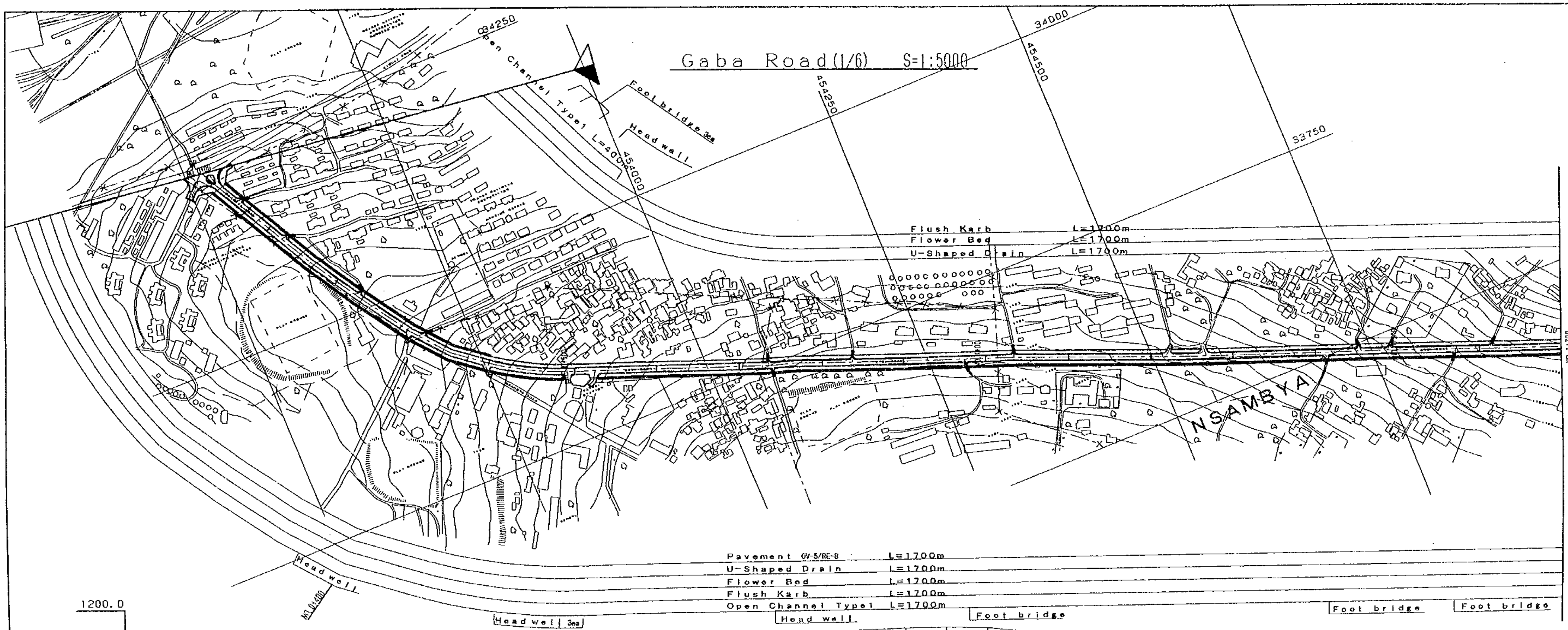
THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Natete Road(2/3)	DATE	SHEET NO.
			PLAN AND PROFILE	Sept 1997	9

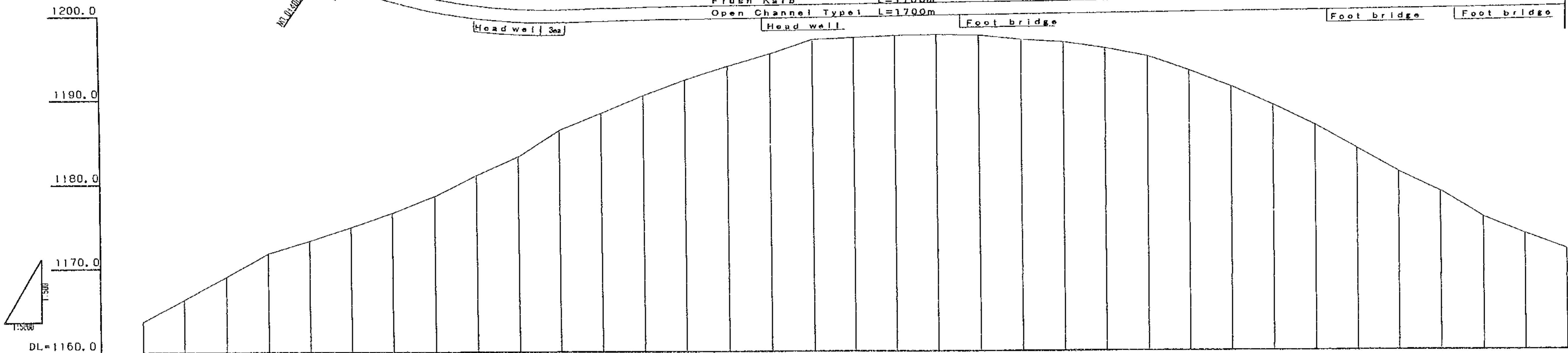
Natete Road(3/3) S=1:5000





THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Natete Road(3/3) PLAN AND PROFILE	DATE Sept 1997	SHEET NO. 10



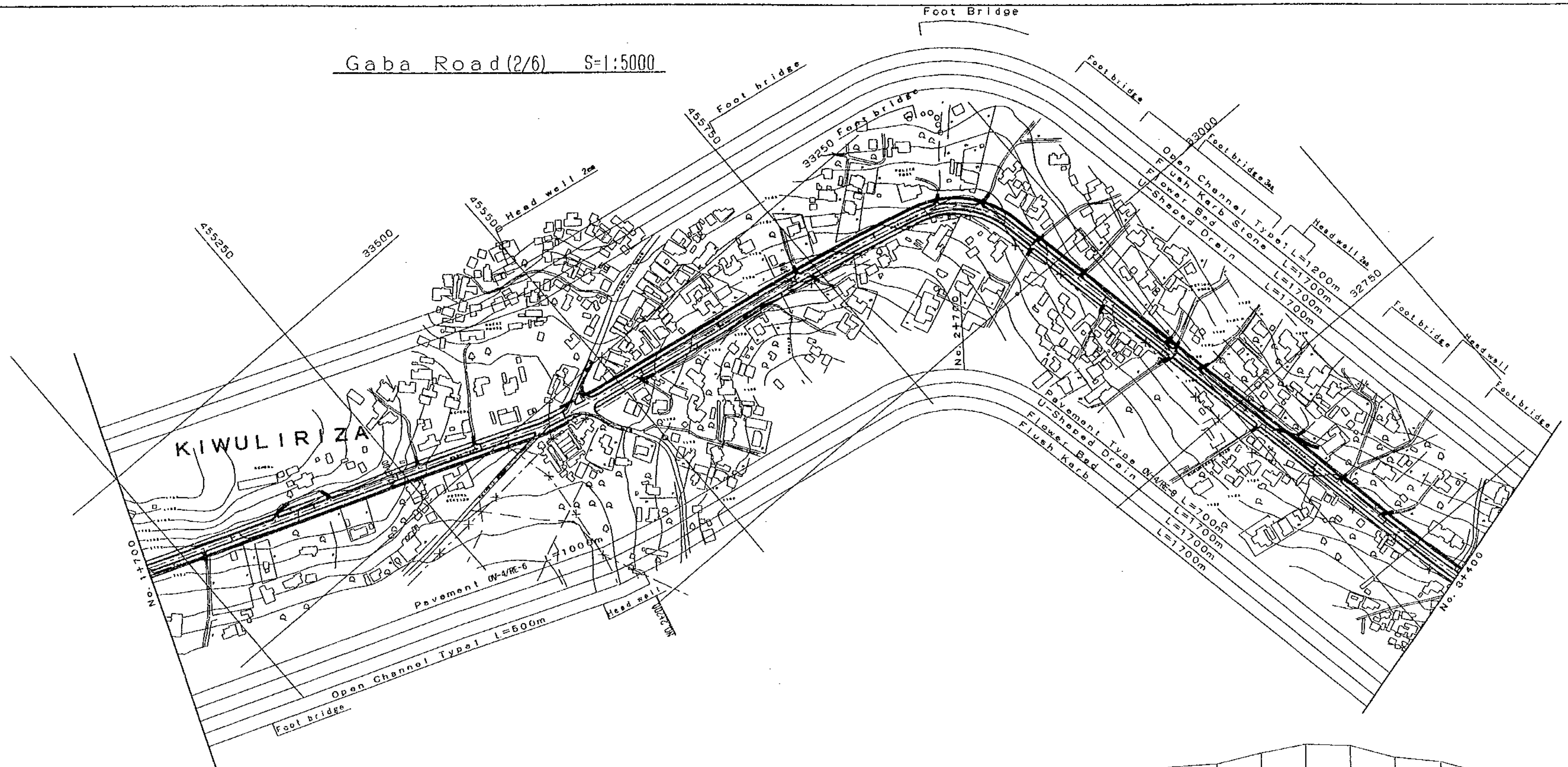


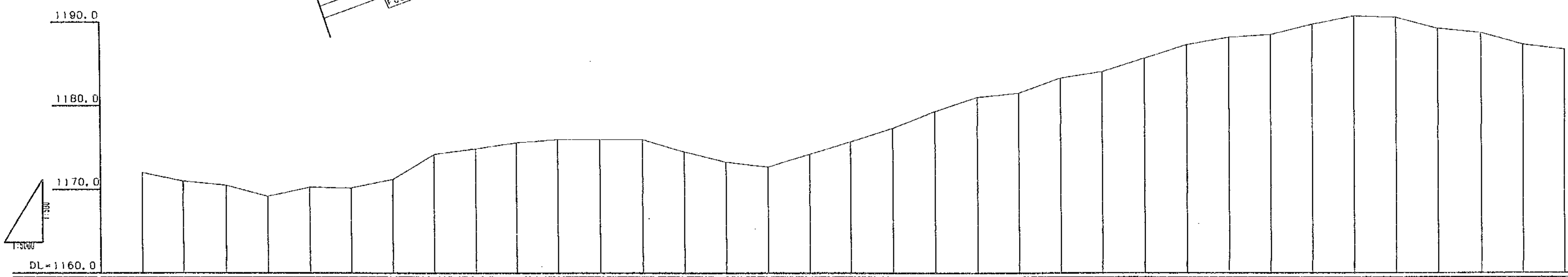
STATION NO.	BP NO.0+00	+50	+100	+150	+200	+250	+300	+350	+400	+450	+500	+550
GROUND HEIGHT	1163.70	1166.30	1169.00	1171.80	1173.30	1174.90	1176.60	1178.60	1181.10	1183.30	1186.40	1198.40
COMULATED DISTANCE	0.000	50.000	100.000	150.000	200.000	250.000	300.000	350.000	400.000	450.000	500.000	550.000

STATION NO.	+600	+650	+700	+750	+800	+850	+900	+950	NO.1+00	+50	+100	+150
GROUND HEIGHT	1190.50	1192.30	1193.90	1195.40	1197.10	1197.30	1197.50	1197.60	1197.50	1197.00	1196.70	1196.00
COMULATED DISTANCE	600.000	650.000	700.000	750.000	800.000	850.000	900.000	950.000	1000.000	1050.000	1100.000	1150.000

STATION NO.	+200	+250	+300	+350	+400	+450	+500	+550	+600	+650	+700
GROUND HEIGHT	1195.00	1193.30	1191.40	1189.20	1186.80	1184.00	1181.20	1178.90	1175.80	1173.80	1172.00
COMULATED DISTANCE	1200.000	1250.000	1300.000	1350.000	1400.000	1450.000	1500.000	1550.000	1600.000	1650.000	1700.000

THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Gaba Road(1/6) PLAN AND PROFILE	DATE Sept 1997	SHEET NO. 11





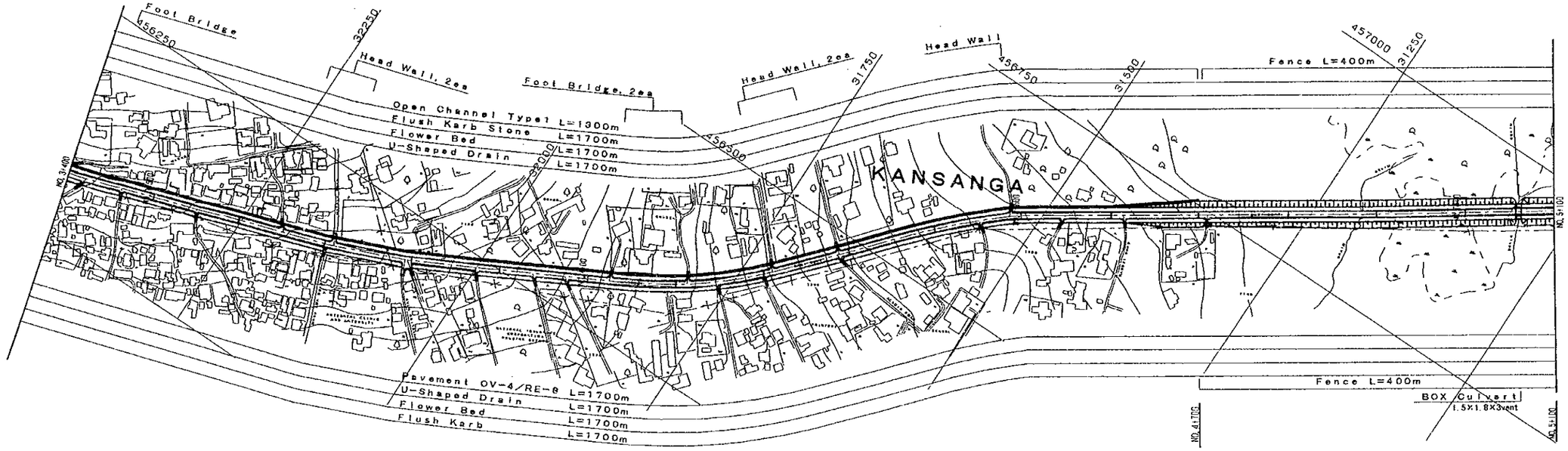
STATION NO.	+700	+750	+800	+850	+900	+950	NO. 2+00	+50	+100	+150	+200	+250
GROUND HEIGHT	1172.00	1171.00	1170.50	1169.20	1170.30	1170.20	1171.20	1174.20	1174.90	1175.60	1176.00	1176.00
COMULATED DISTANCE	1700.000	1750.000	1800.000	1850.000	1900.000	1950.000	2000.000	2050.000	2100.000	2150.000	2200.000	2250.000

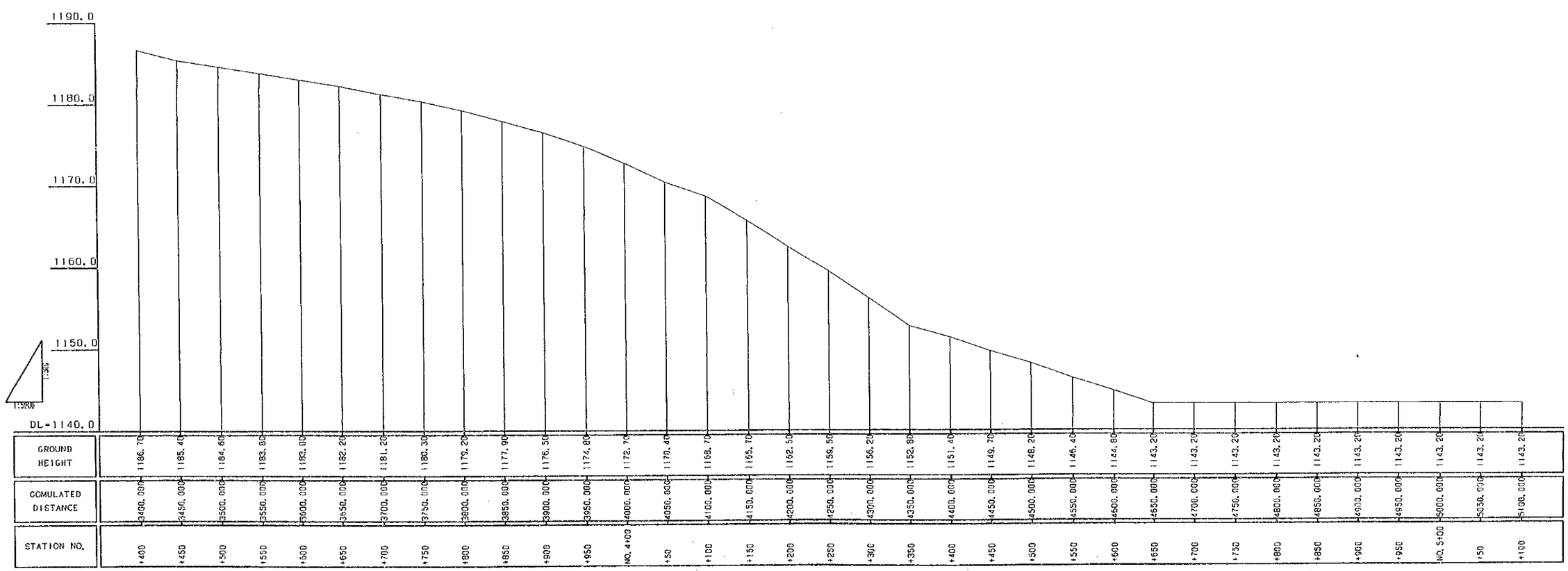
STATION NO.	+300	+350	+400	+450	+500	+550	+600	+650	+700	+750	+800	+850
GROUND HEIGHT	1176.00	1174.50	1173.30	1172.70	1174.20	1175.70	1177.30	1179.30	1181.00	1181.50	1183.30	1184.10
COMULATED DISTANCE	2300.000	2350.000	2400.000	2450.000	2500.000	2550.000	2600.000	2650.000	2700.000	2750.000	2800.000	2850.000

STATION NO.	+900	+950	NO. 3+00	+50	+100	+150	+200	+250	+300	+350	+400
GROUND HEIGHT	1185.70	1187.30	1188.20	1188.50	1189.70	1190.70	1190.50	1189.20	1188.70	1187.30	1185.70
COMULATED DISTANCE	2900.000	2950.000	3000.000	3050.000	3100.000	3150.000	3200.000	3250.000	3300.000	3350.000	3400.000

THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Gaba Road (2/6)	DATE	SHEET NO.
			PLAN AND PROFILE	Sept 1997	12

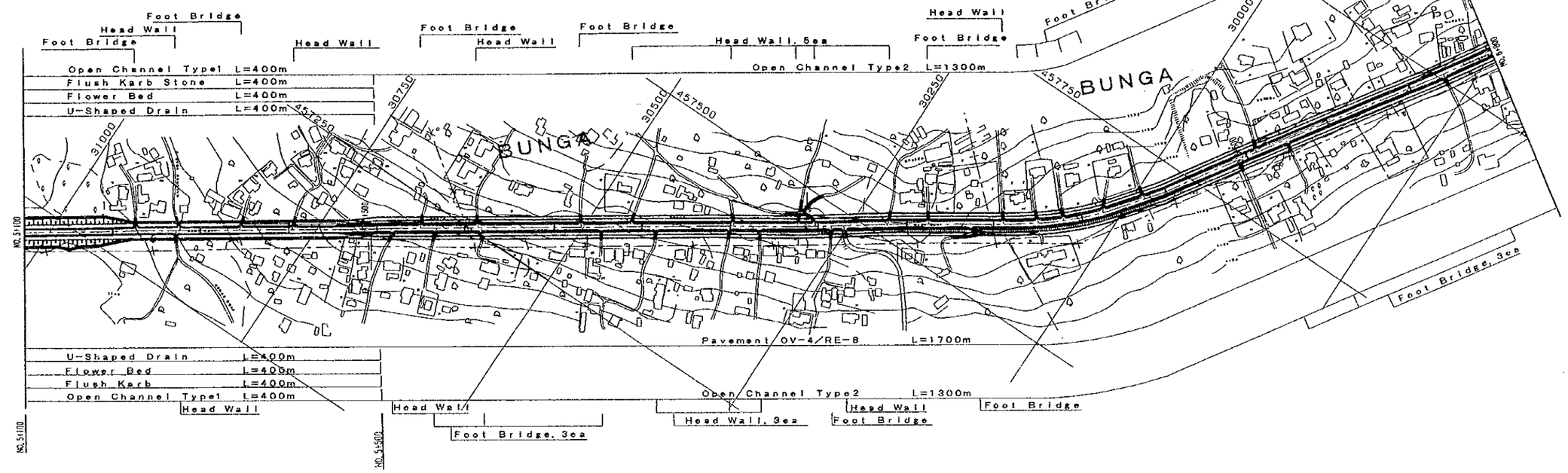
Gaba Road(3/6) S=1:5000

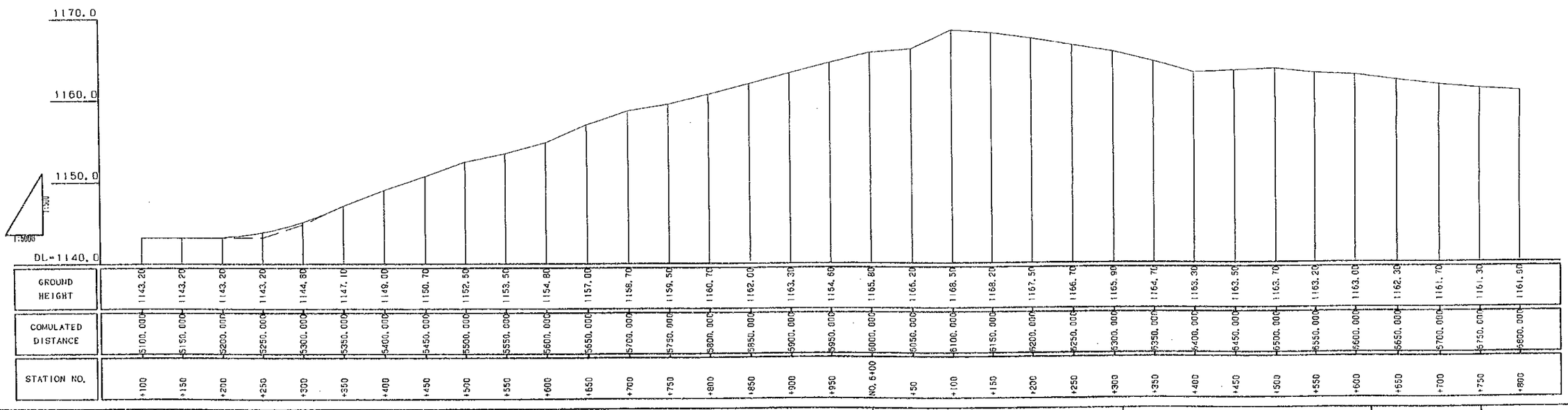




THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Gaba Road(3/6) PLAN AND PROFILE	DATE Sept 1997
				SHEET NO. 13

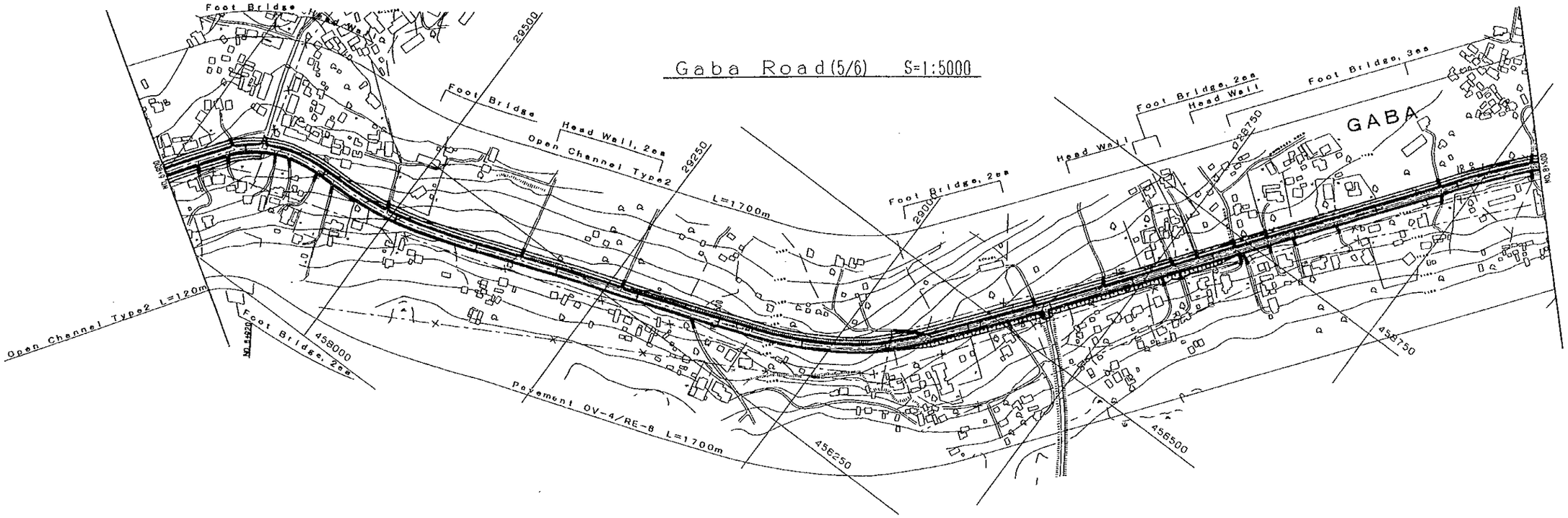
Gaba Road(4/6) S=1:5000

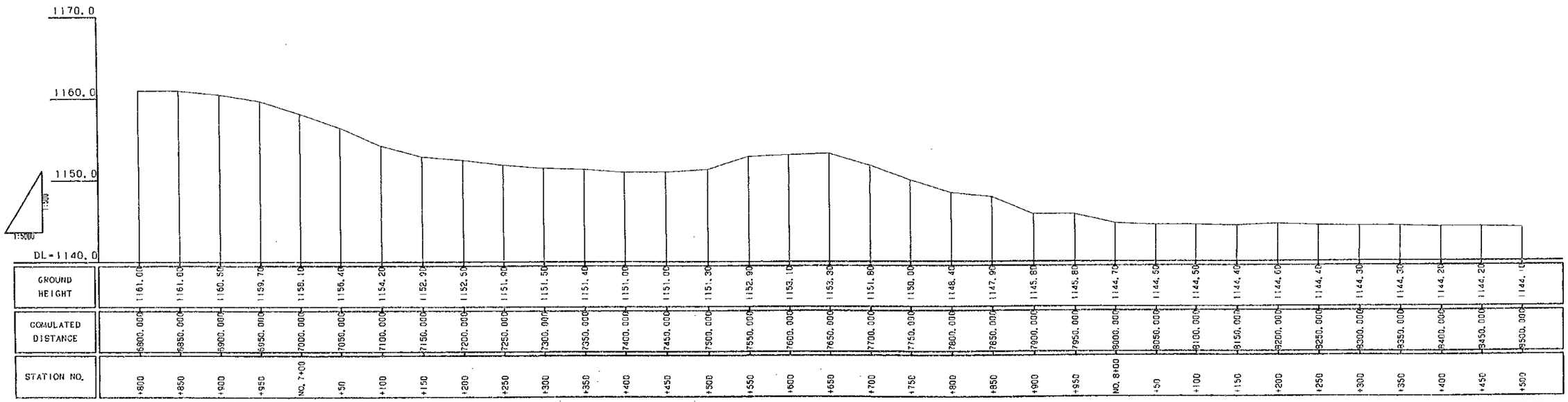




THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Gaba Road(4/6)	DATE	SHEET NO.
			PLAN AND PROFILE	Sept 1997	14

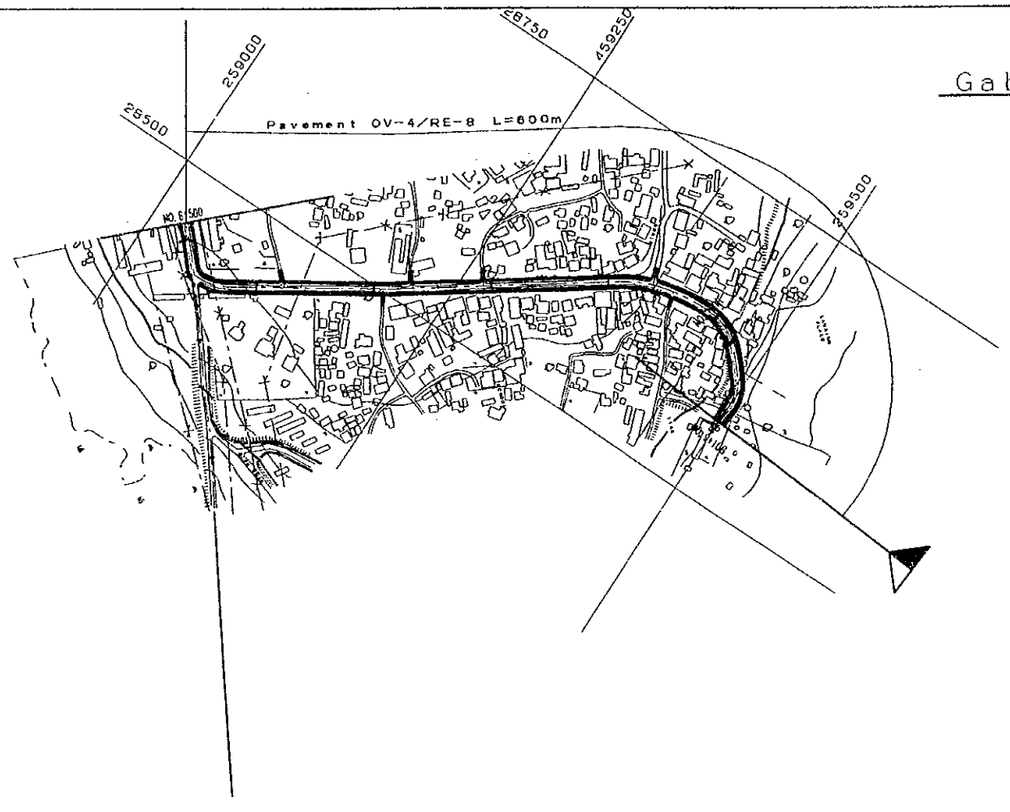
Gaba Road(5/6) S=1:5000

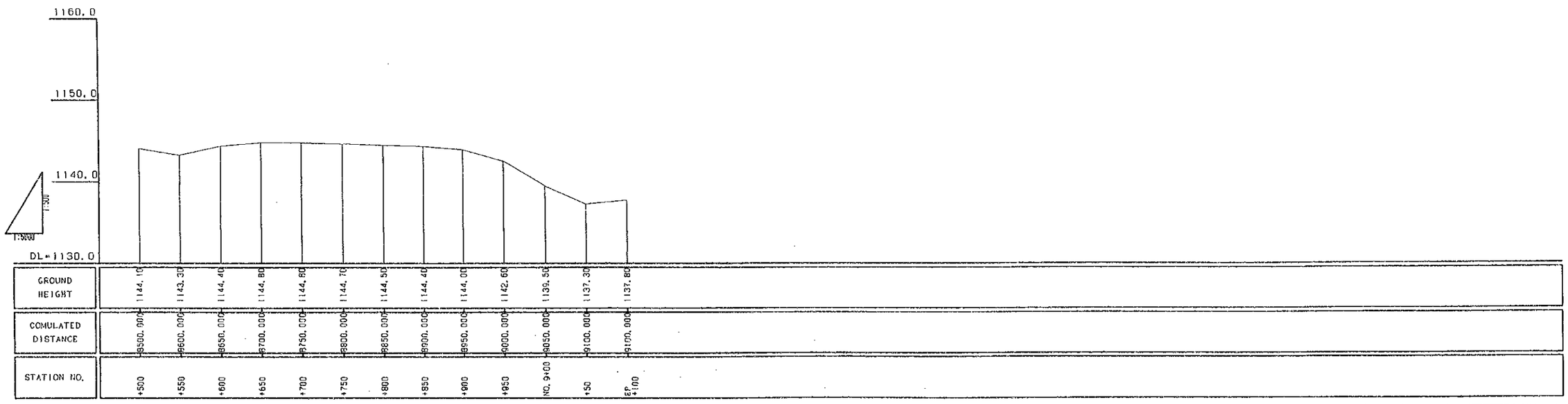




THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Gaba Road(5/6)	DATE	SHEET NO.
			PLAN AND PROFILE	Sept 1997	15

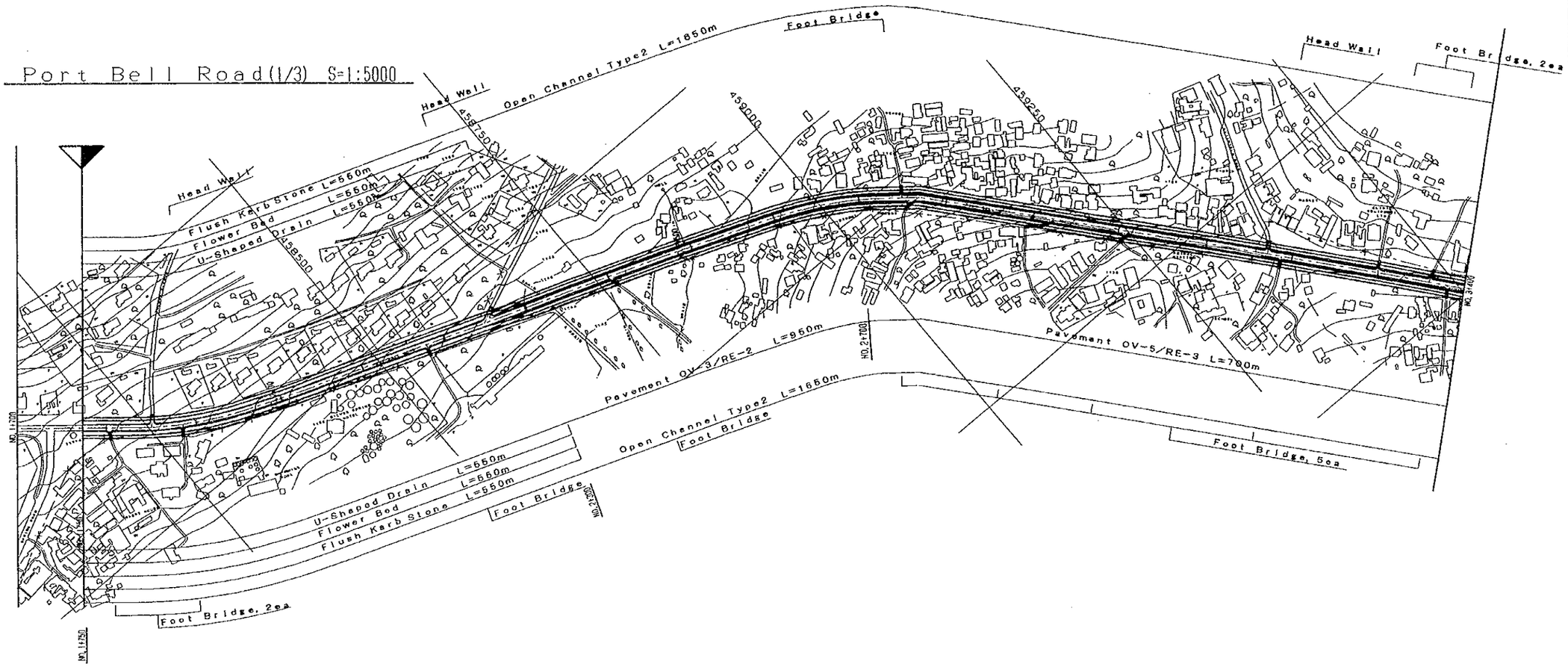
Gaba Road(6/6) S=1:5000

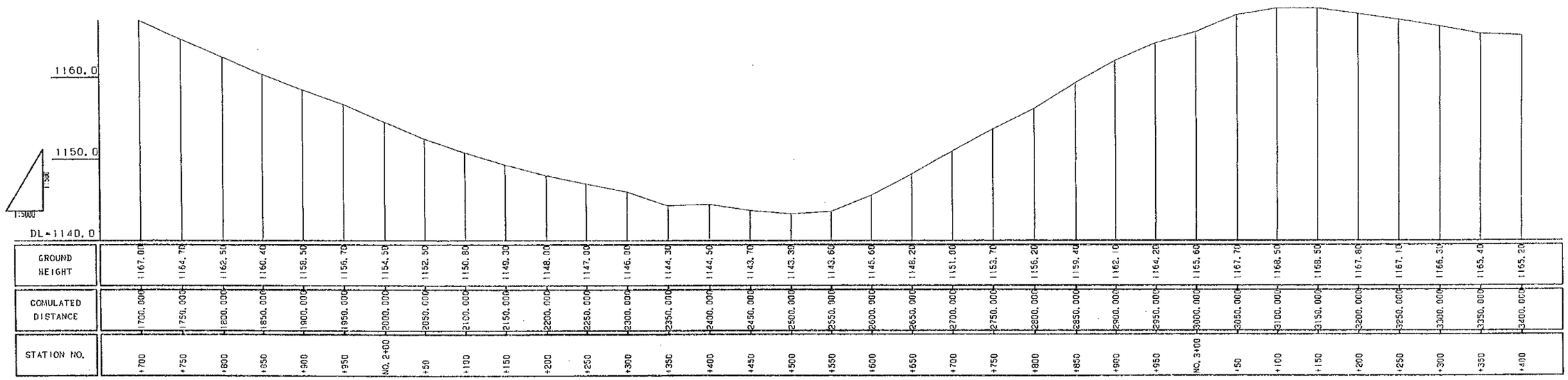




THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Gaba Road(6/6)	DATE	SHEET NO.
			PLAN AND PROFILE	Sept 1997	16

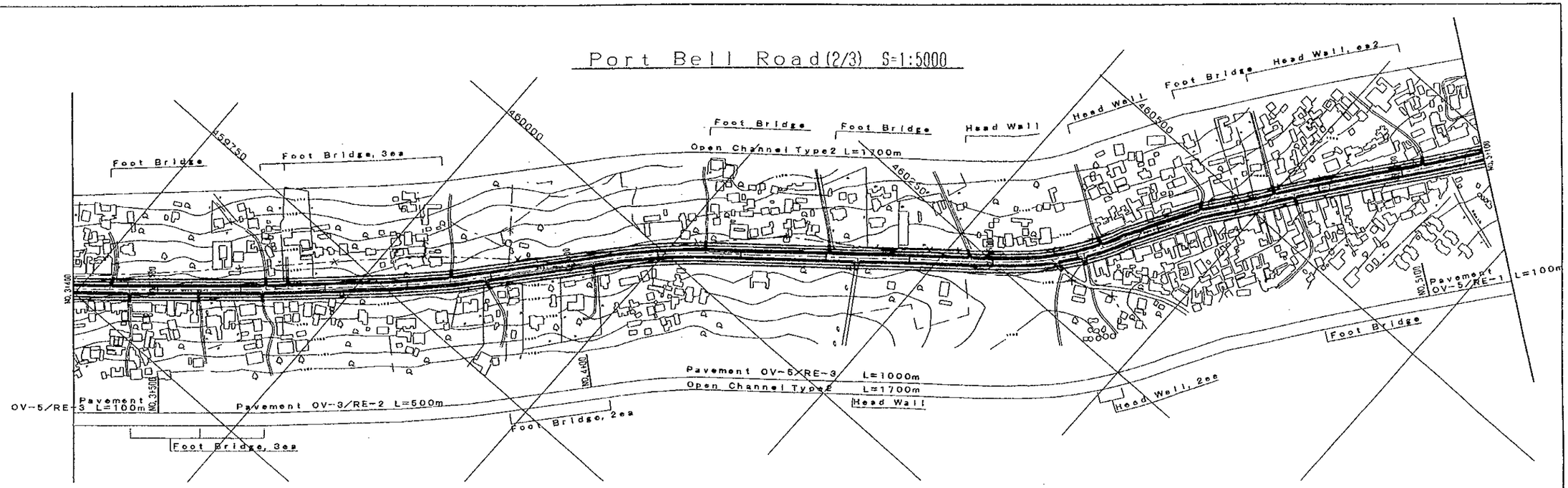
Port Bell Road(1/3) S=1:5000

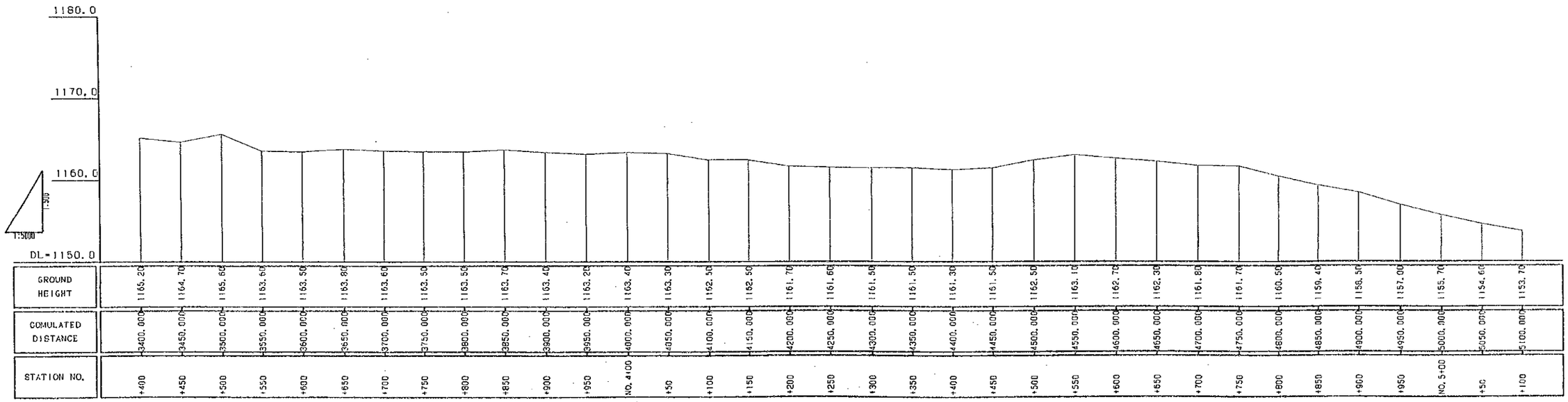




THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Port Bell Road(1/3) PLAN AND PROFILE	DATE Sept 1997	SHEET NO. 17

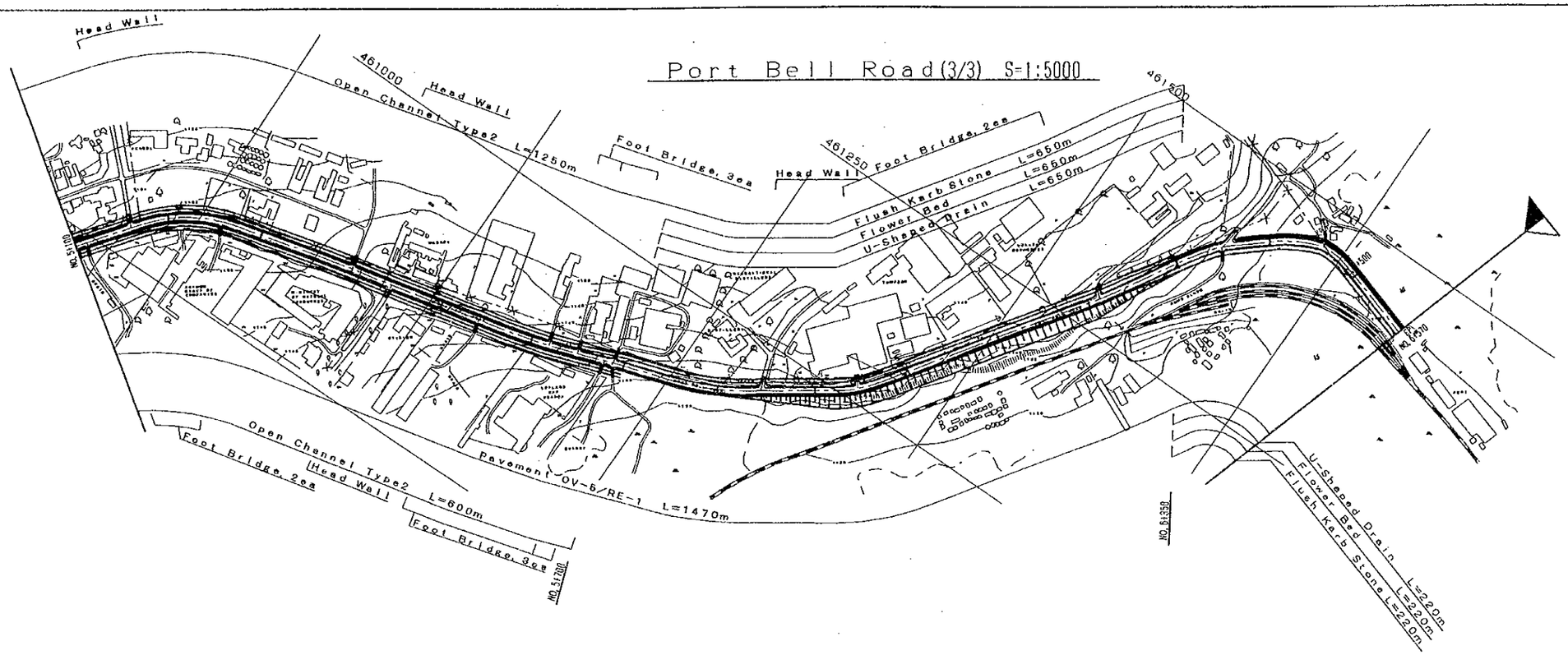
Port Bell Road(2/3) S=1:5000

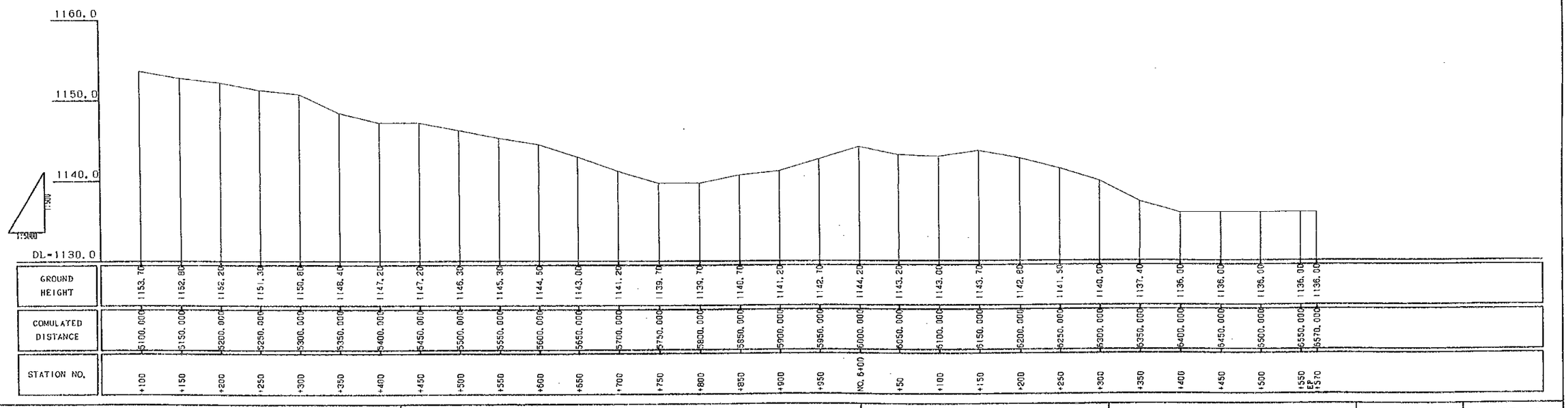




THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Port Bell Road(2/3) PLAN AND PROFILE	DATE Sept 1997	SHEET NO. 18

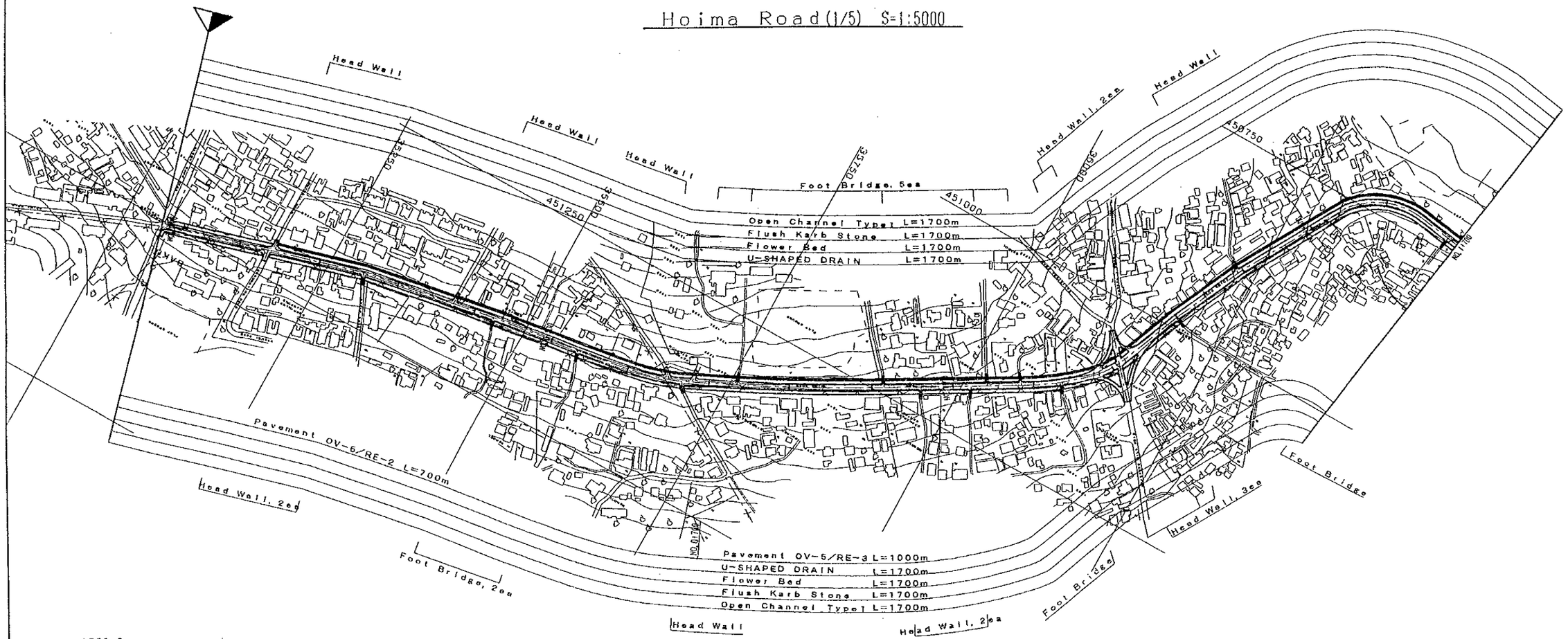
Port Bell Road(3/3) S=1:5000

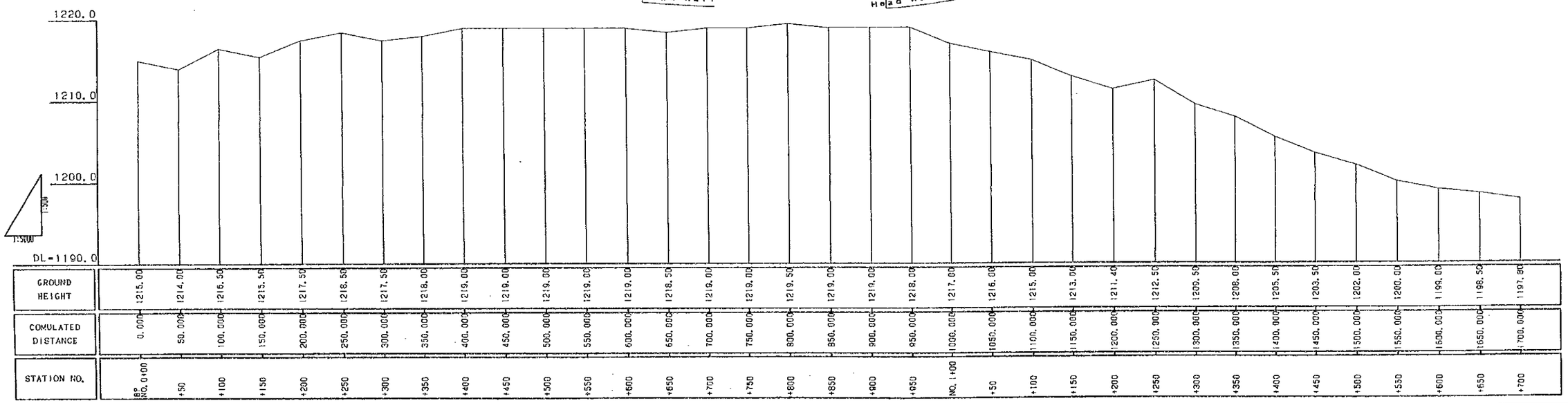




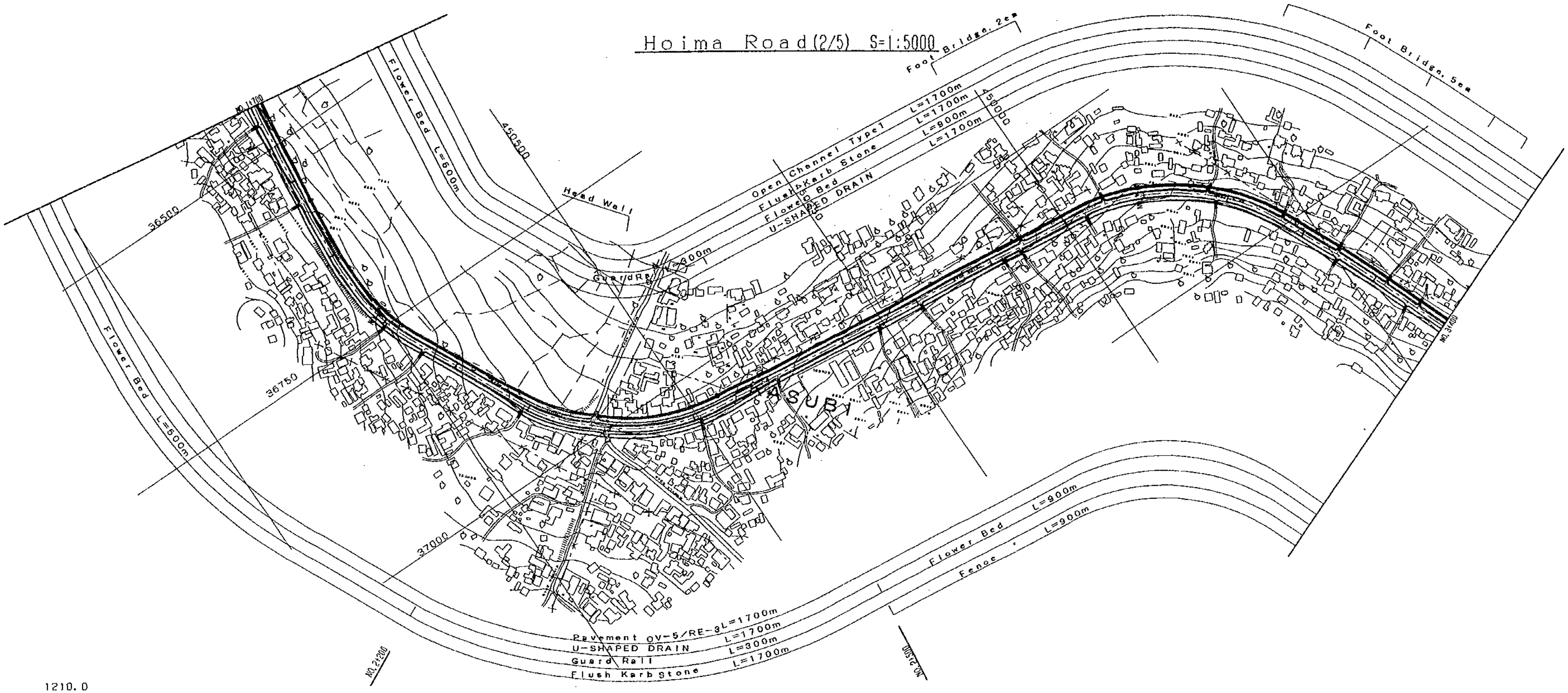
THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Port Bell Road(3/3)	DATE	SHEET NO.
			PLAN AND PROFILE	Sept 1997	19

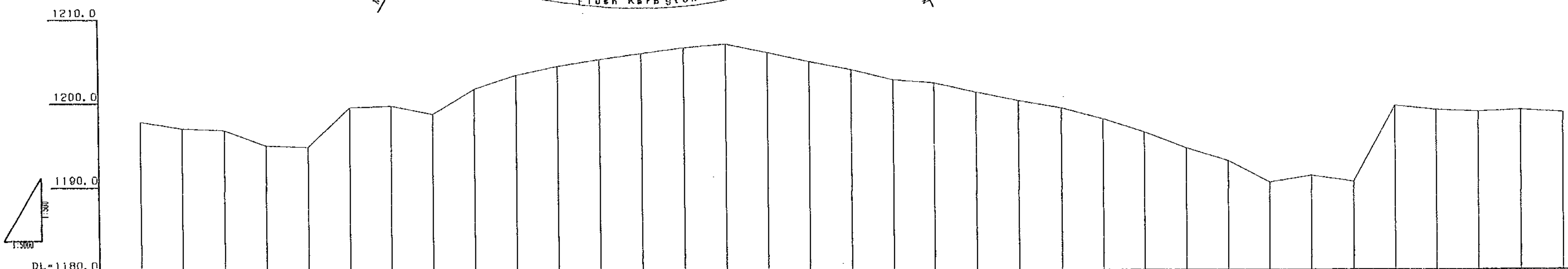
Hoima Road(1/5) S=1:5000





THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Hoima Road(1/5) PLAN AND PROFILE	DATE Sept 1997	SHEET NO. 20





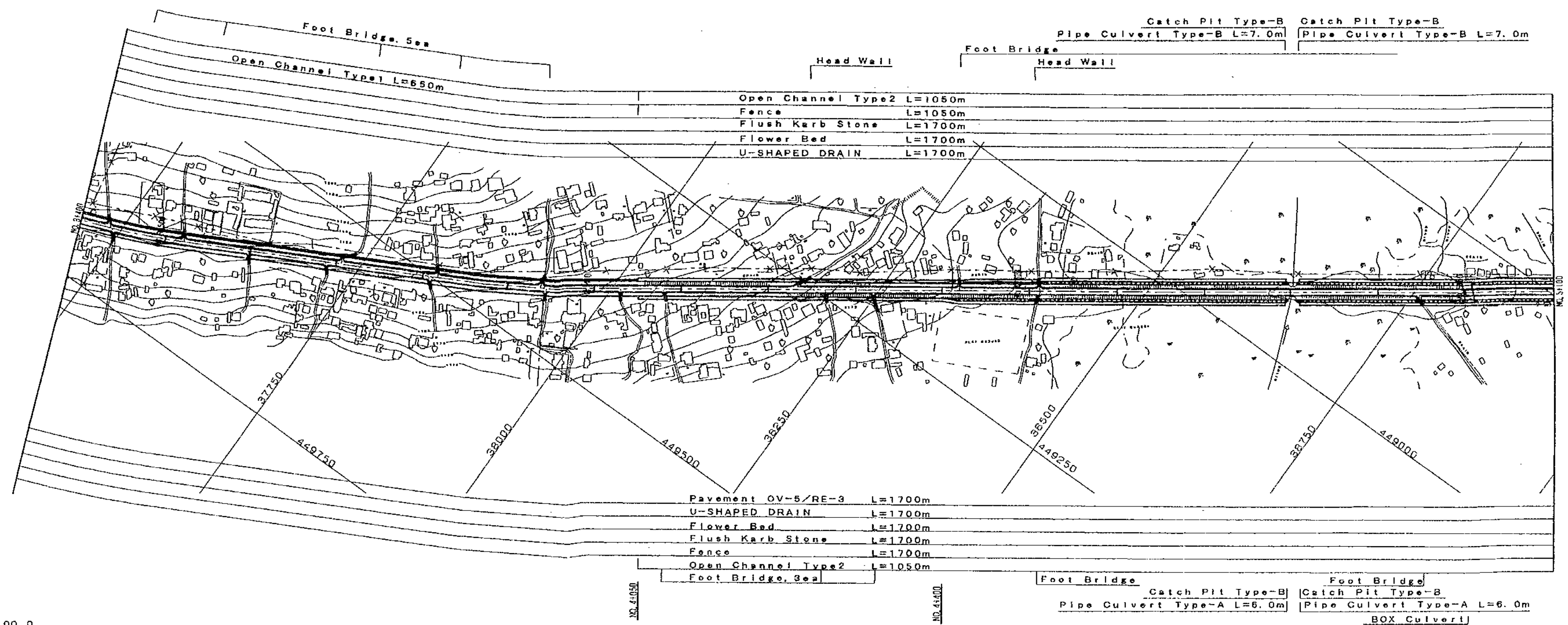
GROUND HEIGHT	1197.80	1197.00	1196.80	1195.90	1194.80	1195.00	1197.00	1198.70	1201.70	1203.30	1204.40	1205.20
COMULATED DISTANCE	1700.000	1750.000	1800.000	1850.000	1900.000	1950.000	2000.000	2050.000	2100.000	2150.000	2200.000	2250.000
STATION NO.	+700	+750	+800	+850	+900	+950	NO. 2+00	+50	+100	+150	+200	+250

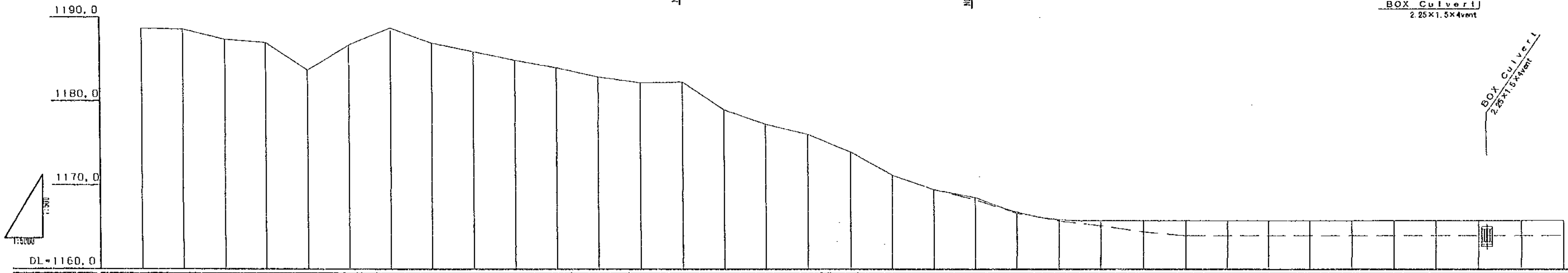
GROUND HEIGHT	1205.90	1206.60	1207.00	1206.00	1204.90	1203.90	1202.70	1202.30	1201.20	1200.20	1199.30	1198.00
COMULATED DISTANCE	2300.000	2350.000	2400.000	2450.000	2500.000	2550.000	2600.000	2650.000	2700.000	2750.000	2800.000	2850.000
STATION NO.	+300	+350	+400	+450	+500	+550	+600	+650	+700	+750	+800	+850

GROUND HEIGHT	1196.40	1194.50	1193.00	1190.40	1191.20	1190.50	1199.50	1199.00	1198.80	1199.00	1188.70
COMULATED DISTANCE	2900.000	2950.000	3000.000	3050.000	3100.000	3150.000	3200.000	3250.000	3300.000	3350.000	3400.000
STATION NO.	+900	+950	NO. 3+00	+50	+100	+150	+200	+250	+300	+350	+400

THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Hoima Road (2/5) PLAN AND PROFILE	DATE Sept 1997	SHEET NO. 21

Hoima Road (3/5) S=1:5000





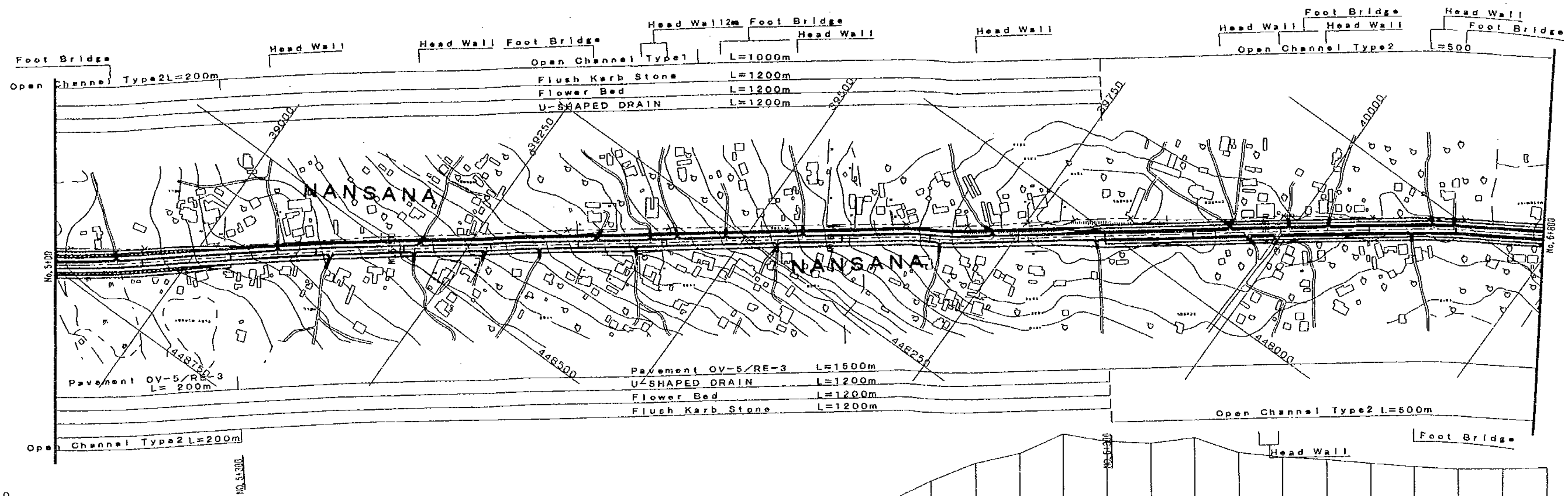
STATION NO.	+400	+450	+500	+550	+600	+650	+700	+750	+800	+850	+900	+950
GROUND HEIGHT	1188.70	1188.60	1187.40	1187.00	1183.70	1186.70	1187.00	1186.90	1185.90	1184.90	1184.00	1182.90
COMULATED DISTANCE	3400.000	3450.000	3500.000	3550.000	3600.000	3650.000	3700.000	3750.000	3800.000	3850.000	3900.000	3950.000

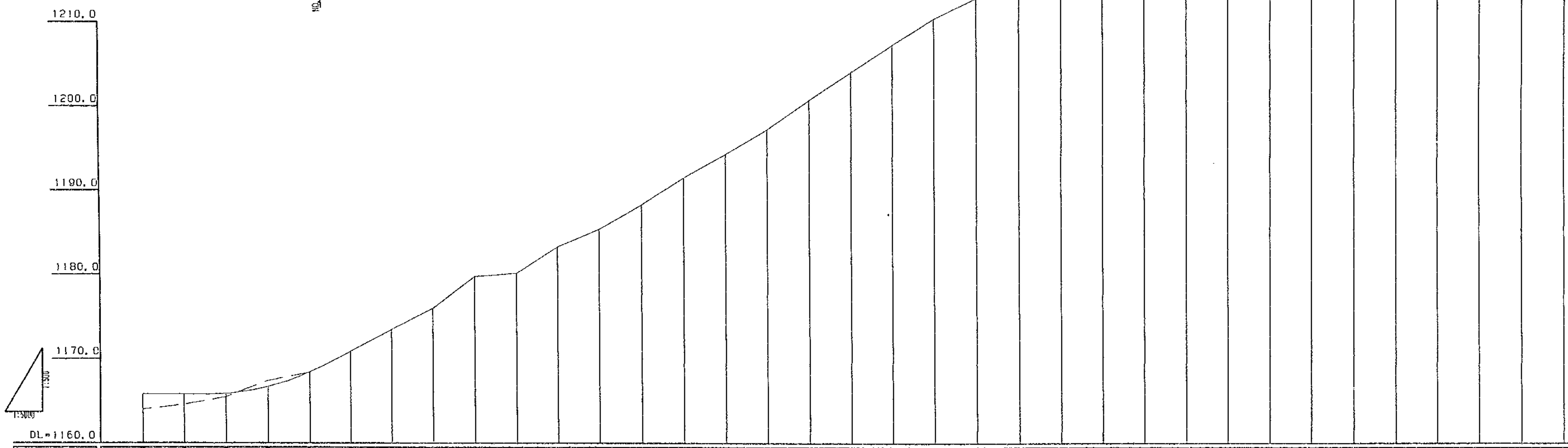
STATION NO.	NO.4+00	+50	+100	+150	+200	+250	+300	+350	+400	+450	+500	+550
GROUND HEIGHT	1182.20	1182.30	1179.00	1177.30	1176.10	1174.00	1171.20	1169.50	1168.30	1166.70	1165.80	1165.20
COMULATED DISTANCE	4000.000	4050.000	4100.000	4150.000	4200.000	4250.000	4300.000	4350.000	4400.000	4450.000	4500.000	4550.000

STATION NO.	+600	+650	+700	+750	+800	+850	+900	+950	NO.5+00	+50	+100
GROUND HEIGHT	1164.50	1164.00	1164.00	1164.00	1164.00	1164.00	1164.00	1164.00	1164.00	1164.00	1164.00
COMULATED DISTANCE	4600.000	4650.000	4700.000	4750.000	4800.000	4850.000	4900.000	4950.000	5000.000	5050.000	5100.000

THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Hoima Road (3/5)	DATE	SHEET NO.
			PLAN AND PROFILE	Sept 1997	22

Hoima Road(4/5) S=1:5000





STATION NO.	+100	+150	+200	+250	+300	+350	+400	+450	+500
GROUND HEIGHT	1164.00	1164.60	1165.50	1167.40	1168.40	1170.90	1173.50	1176.00	1179.80
COMULATED DISTANCE	5100.000	5150.000	5200.000	5250.000	5300.000	5350.000	5400.000	5450.000	5500.000

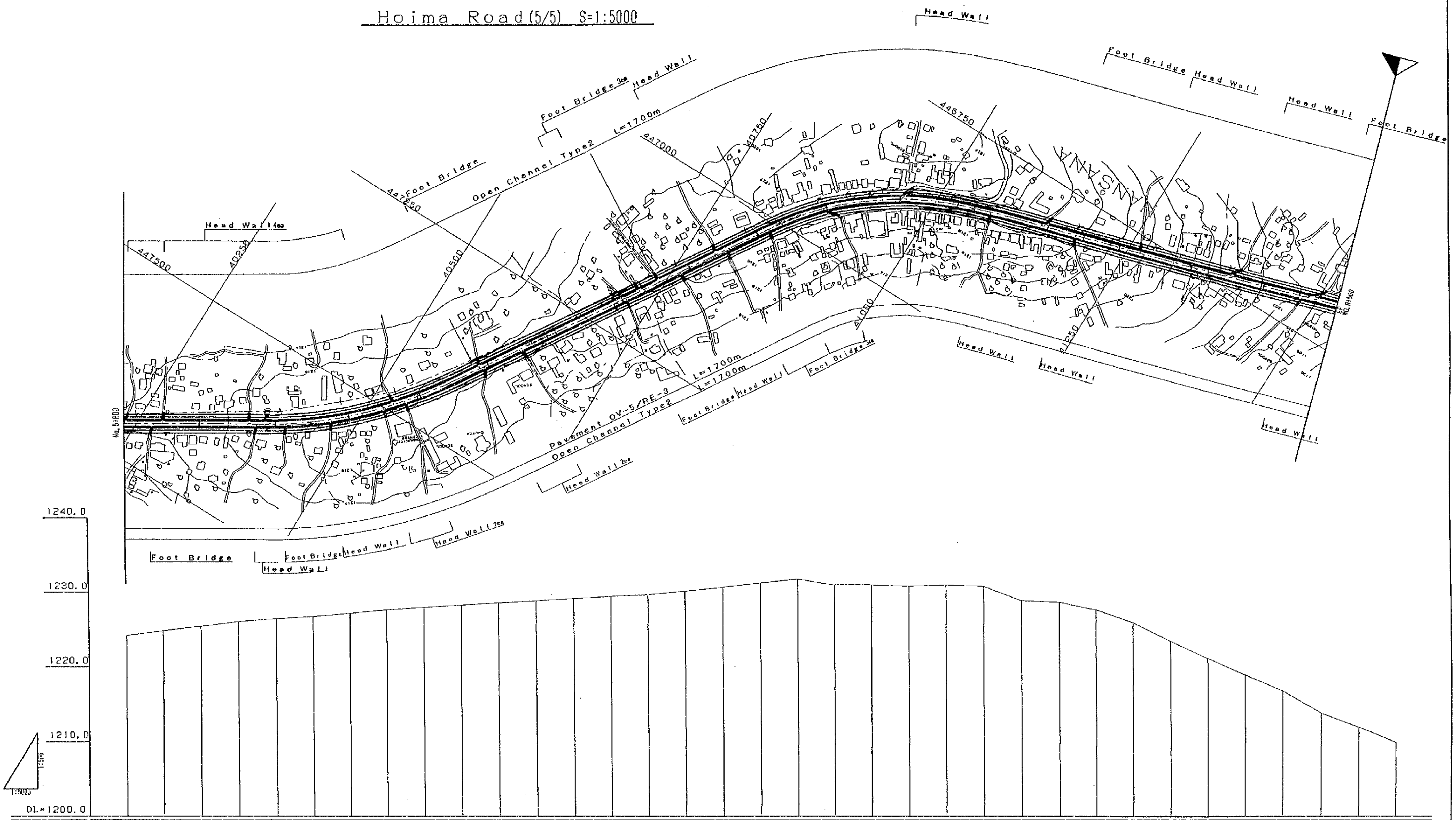
STATION NO.	+550	+600	+650	+700	+750	+800	+850	+900	+950
GROUND HEIGHT	1180.20	1183.30	1185.40	1188.30	1191.50	1194.30	1197.20	1200.70	1204.00
COMULATED DISTANCE	5550.000	5600.000	5650.000	5700.000	5750.000	5800.000	5850.000	5900.000	5950.000

STATION NO.	NO. 6+00	+50	+100	+150	+200	+250	+300	+350	+400
GROUND HEIGHT	1207.20	1210.30	1212.70	1214.70	1215.80	1218.00	1217.20	1217.00	1217.60
COMULATED DISTANCE	6000.000	6050.000	6100.000	6150.000	6200.000	6250.000	6300.000	6350.000	6400.000

STATION NO.	+450	+500	+550	+600	+650	+700	+750	+800
GROUND HEIGHT	1215.90	1215.40	1215.10	1214.70	1214.30	1214.00	1214.00	1214.20
COMULATED DISTANCE	6450.000	6500.000	6550.000	6600.000	6650.000	6700.000	6750.000	6800.000

THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Hoima Road(4/5) PLAN AND PROFILE	DATE Sept 1997	SHEET NO. 23

Hoima Road(5/5) S=1:5000

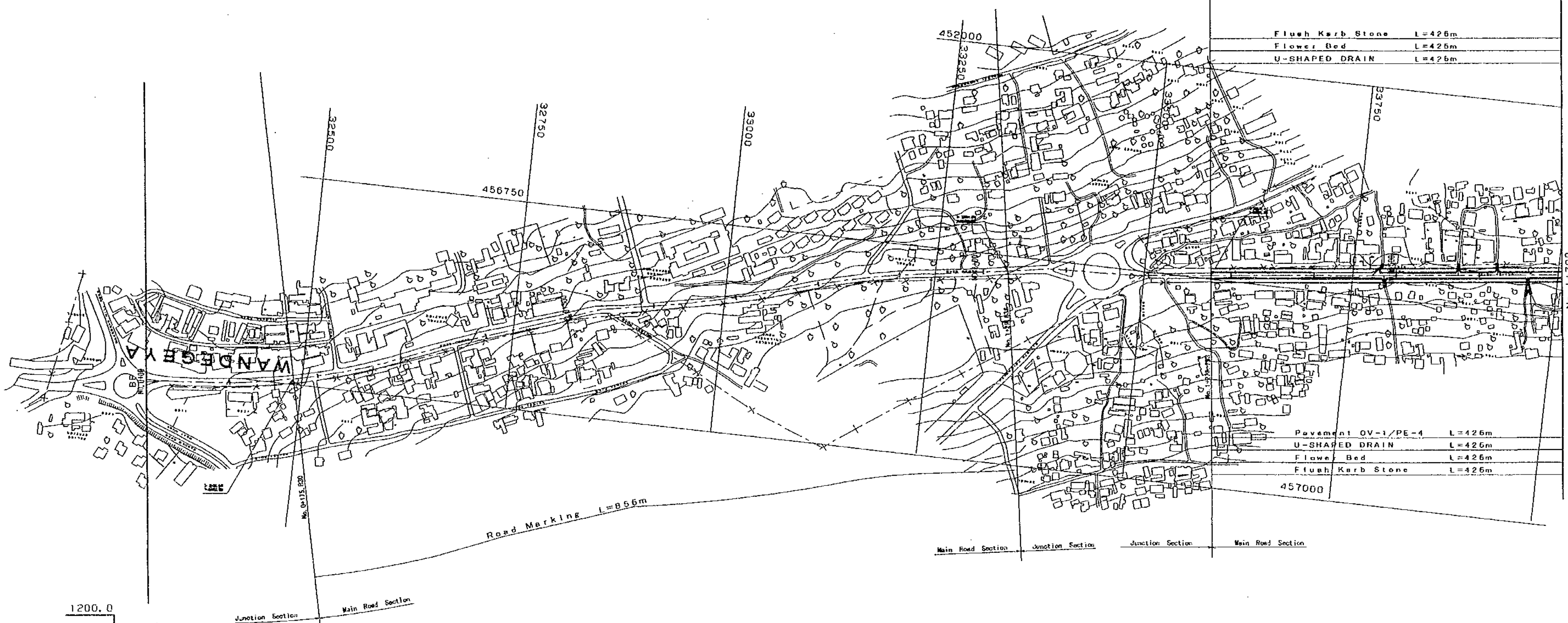


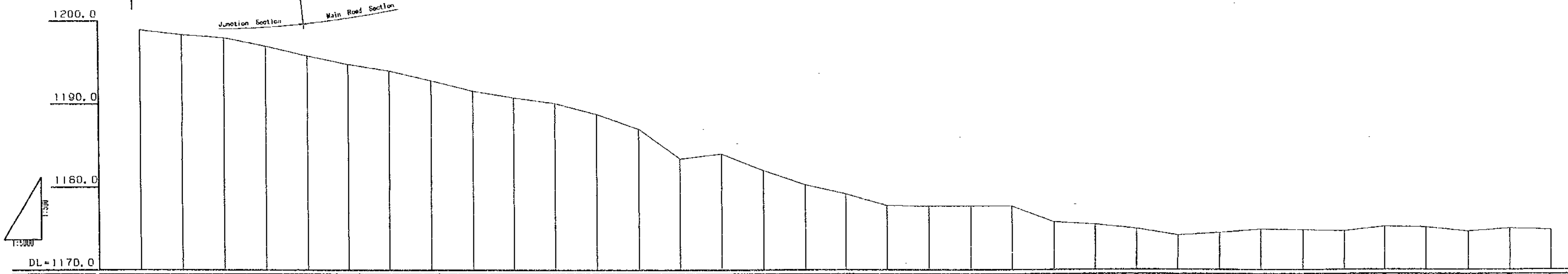
GROUND HEIGHT	1214.20	1214.90	1215.50	1216.10	1216.50	1216.80	1217.20	1217.70	1218.00	1218.30	1218.60	1218.90	1219.20	1219.50	1219.70	1220.20	1220.70	1221.30
COMULATED DISTANCE	6800.000	6850.000	6900.000	6950.000	7000.000	7050.000	7100.000	7150.000	7200.000	7250.000	7300.000	7350.000	7400.000	7450.000	7500.000	7550.000	7600.000	7650.000
STATION NO.	+800	+850	+900	+950	NO. 7+00	+50	+100	+150	+200	+250	+300	+350	+400	+450	+500	+550	+600	+650

GROUND HEIGHT	1221.80	1221.00	1221.00	1220.80	1221.00	1220.80	1218.90	1218.70	1217.70	1216.00	1213.50	1211.20	1209.00	1206.90	1203.90	1202.00	1200.00
COMULATED DISTANCE	7700.000	7750.000	7800.000	7850.000	7900.000	7950.000	8000.000	8050.000	8100.000	8150.000	8200.000	8250.000	8300.000	8350.000	8400.000	8450.000	8500.000
STATION NO.	+700	+750	+800	+850	+900	+950	NO. 8+00	+50	+100	+150	+200	+250	+300	+350	+400	+450	EP +500

THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Hoima Road(5/5) PLAN AND PROFILE	DATE Sept 1997	SHEET NO. 24

Gayaza Road(1/4) S=1:5000



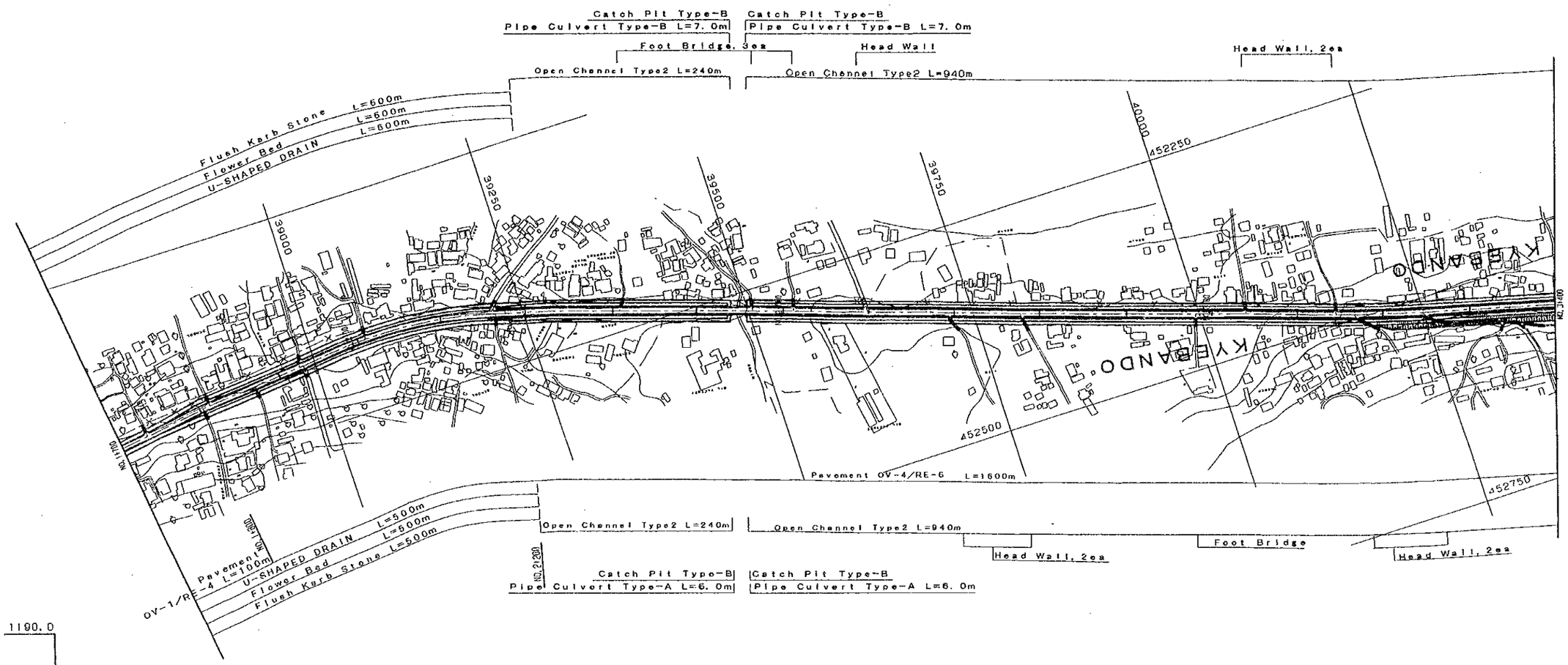


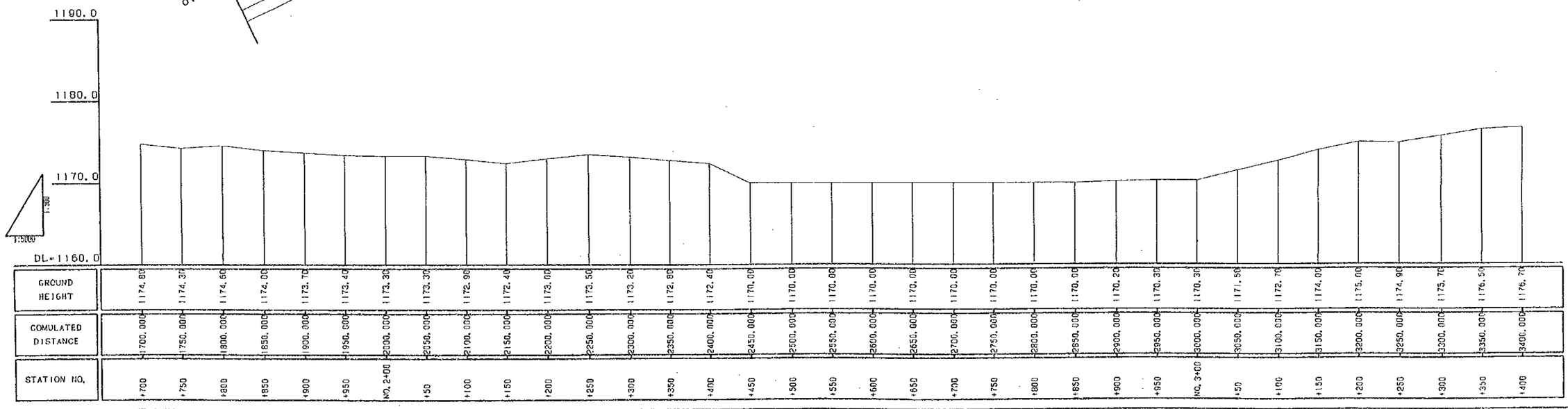
GROUND HEIGHT	1199.00	1198.40	1198.00	1197.00	1195.80	1194.80	1194.00	1192.80	1191.60	1190.80	1190.10	1188.80	1187.00	1183.40	1184.00	1182.00	1180.30	1179.20
COMULATED DISTANCE	0.000	50.000	100.000	150.000	200.000	250.000	300.000	350.000	400.000	450.000	500.000	550.000	600.000	650.000	700.000	750.000	800.000	850.000
STATION NO.	BP NO.0+00	+50	+100	+150	+200	+250	+300	+350	+400	+450	+500	+550	+600	+650	+700	+750	+800	+850

GROUND HEIGHT	1178.00	1177.00	1177.00	1177.00	1175.80	1175.50	1175.00	1174.20	1174.50	1174.90	1174.80	1174.70	1175.20	1175.10	1174.60	1175.00	1174.80
COMULATED DISTANCE	900.000	950.000	1000.000	1050.000	1100.000	1150.000	1200.000	1250.000	1300.000	1350.000	1400.000	1450.000	1500.000	1550.000	1600.000	1650.000	1700.000
STATION NO.	+900	+950	NO.1+00	+50	+100	+150	+200	+250	+300	+350	+400	+450	+500	+550	+600	+650	+700

THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Gayaza Road(1/4)	DATE	SHEET NO.
			PLAN AND PROFILE	Sept 1997	25

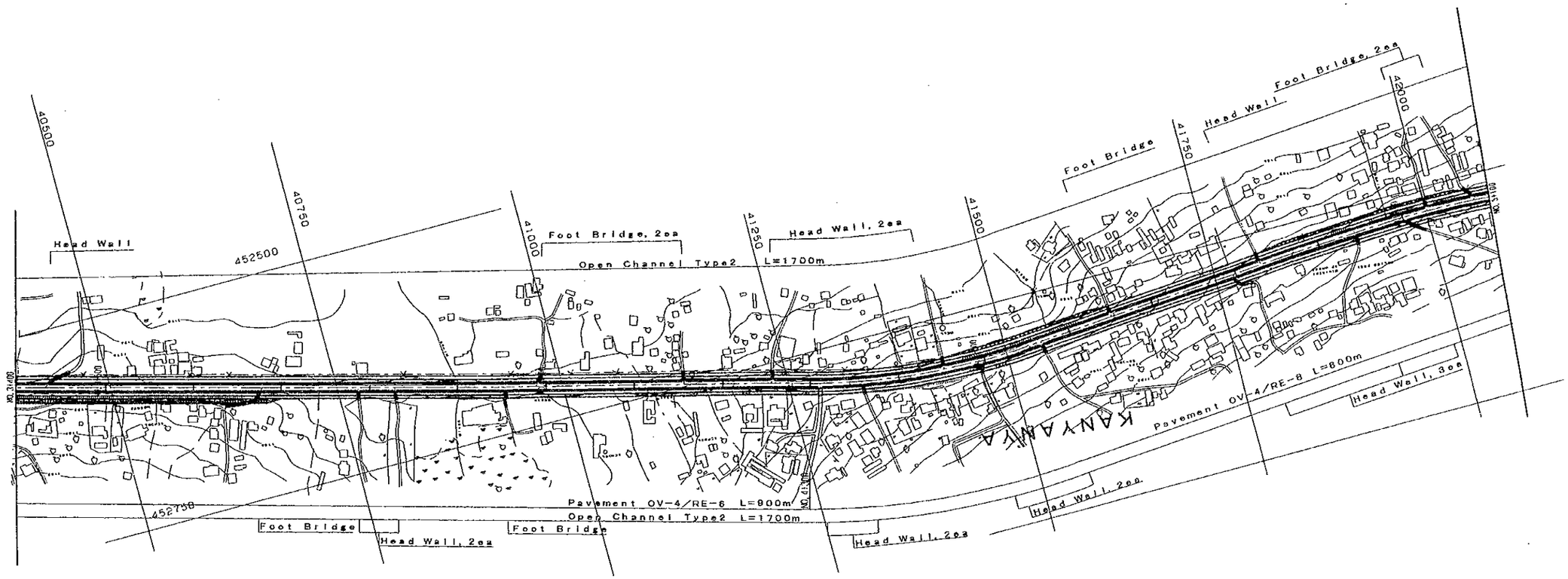
Gayaza Road(2/4) S=1:5000

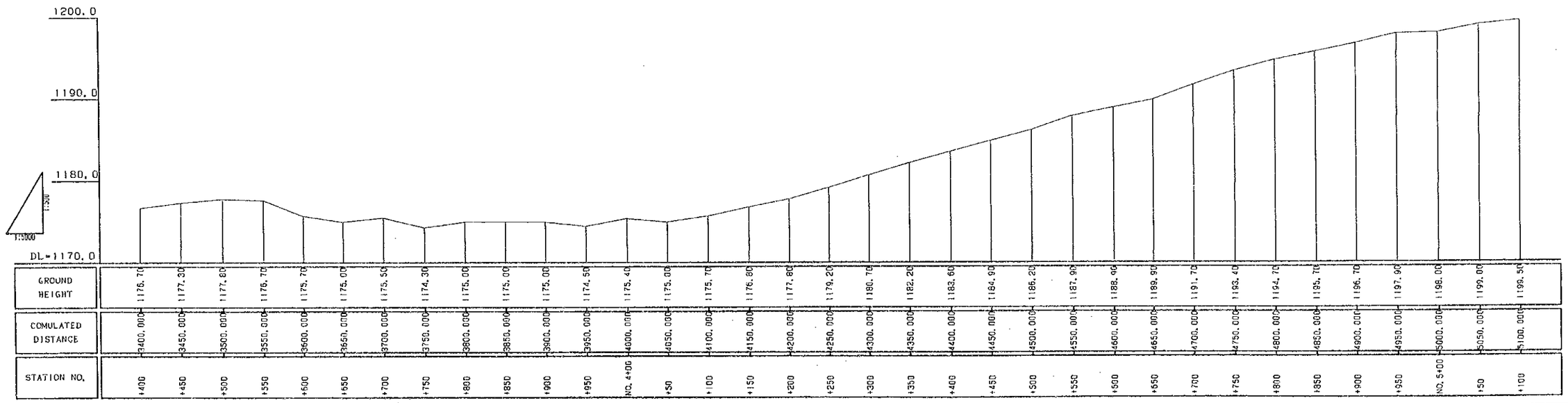




THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Gayeza Road(2/4)	DATE	SHEET NO.
			PLAN AND PROFILE	Sept 1997	26

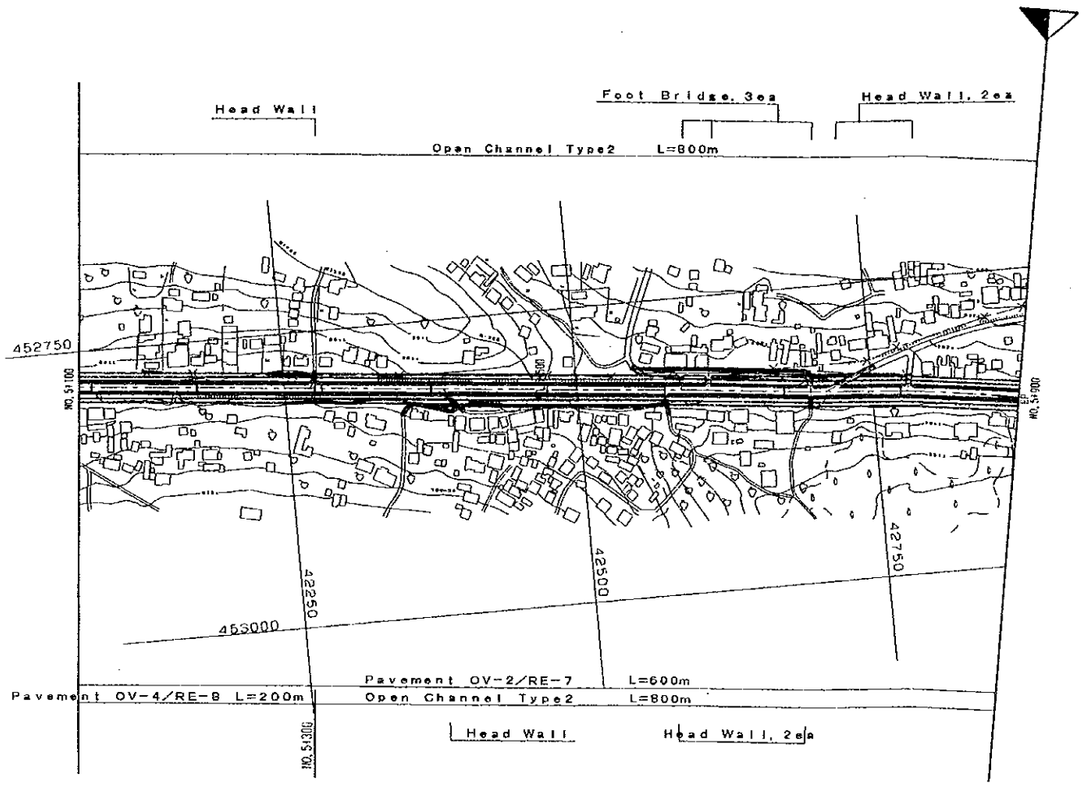
Gayaza Road(3/4) S=1:5000

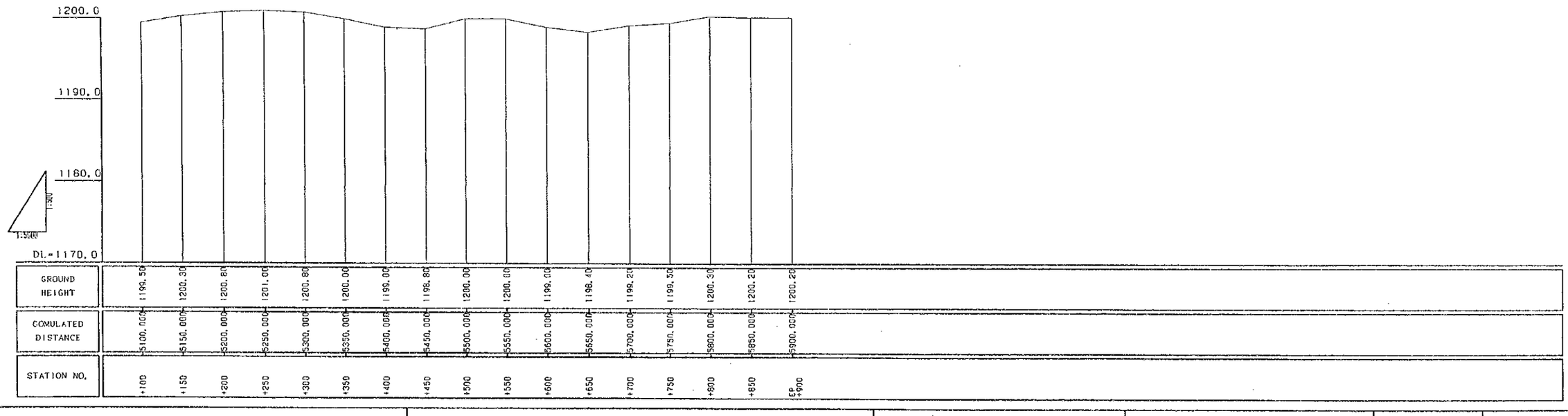




THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Gayaza Road(3/4) PLAN AND PROFILE	DATE Sept 1997	SHEET NO. 27

Gayaza Road(4/4) S=1:5000

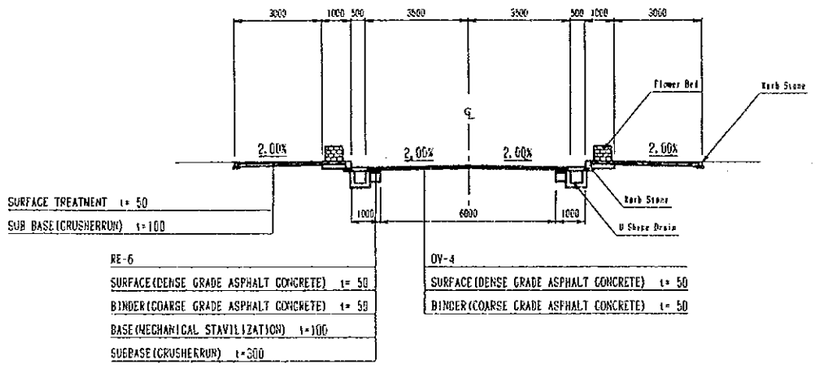




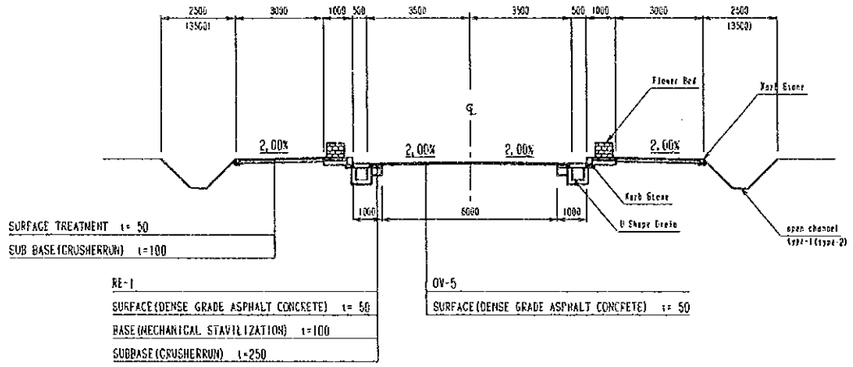
THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	Gayaza Road(4/4)	DATE	SHEET NO.
			PLAN AND PROFILE	Sept 1997	28

TYPICAL CROSS SECTION S=1:100

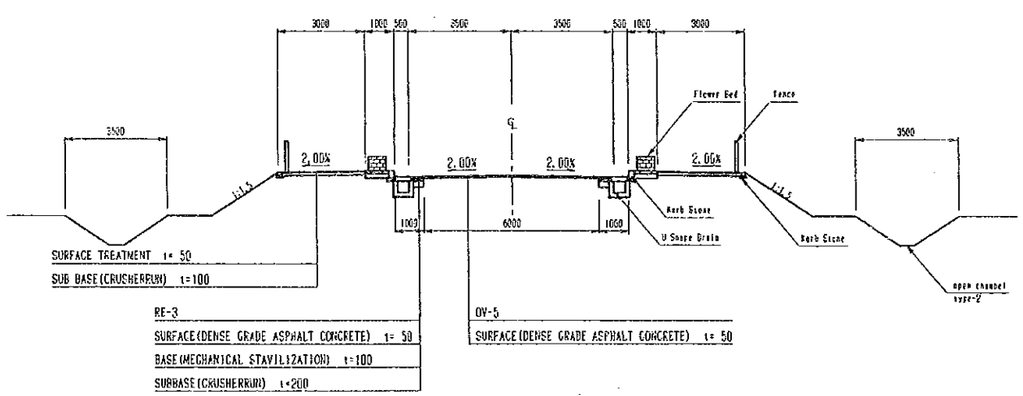
TYPE-1



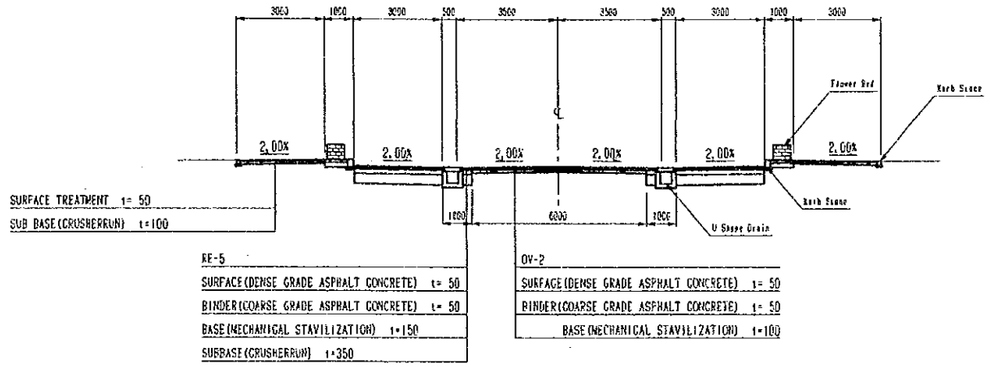
TYPE-2



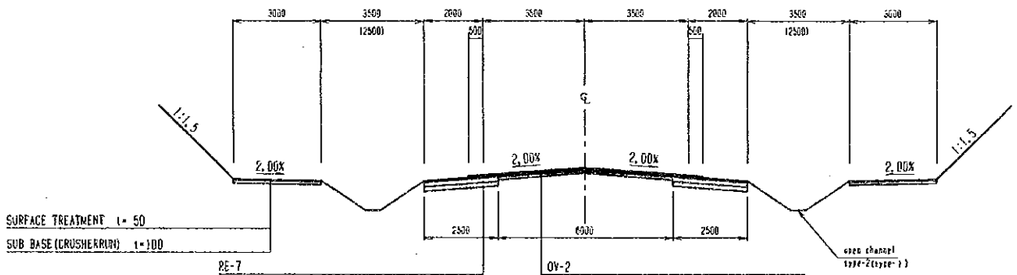
TYPE-3
(EMBANKMENT)



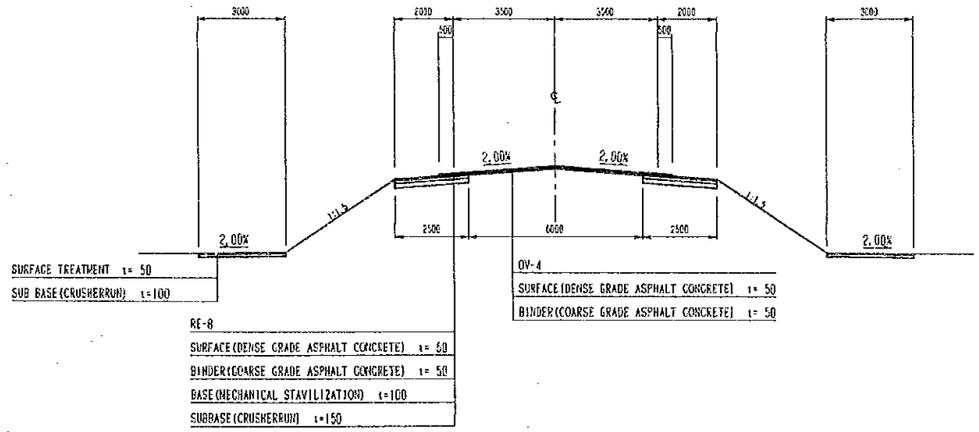
TYPE-4



TYPE-5
(cut)



TYPE-6
(EMBANKMENT)



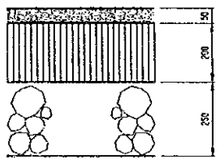
THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	TYPICAL CROSS SECTION	DATE: Sept 1997 SHEET NO.: 29

PAVEMENT STRUCTURE S=1:20

Reconstruction Type

A-Traffic

Re-1 Design C,B,R 4%

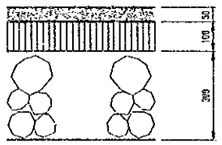


Surface (dense grade asphalt concrete)

Base
(Mechanical stabilization)

Sub base
(crusherrun)

Re-2 Design C,B,R 6%

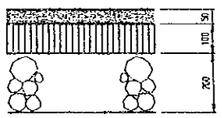


Surface (dense grade asphalt concrete)

Base (Mechanical stabilization)

Sub base
(crusherrun)

Re-3 Design C,B,R 12% and 20%



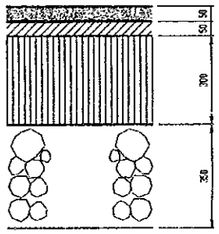
Surface (dense grade asphalt concrete)

Base (Mechanical stabilization)

Sub base
(crusherrun)

B-Traffic

Re-4 Design C,B,R 2%

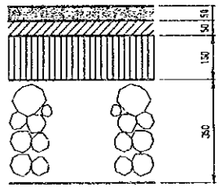


Surface (dense grade asphalt concrete)
Binder (coarse grade asphalt concrete)

Base
(Mechanical stabilization)

Sub base
(crusherrun)

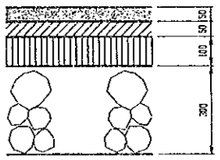
Re-5 Design C,B,R 4%



Surface (dense grade asphalt concrete)
Binder (coarse grade asphalt concrete)
Base (Mechanical stabilization)

Sub base
(crusherrun)

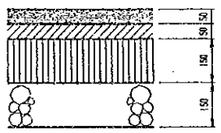
Re-6 Design C,B,R 6%



Surface (dense grade asphalt concrete)
Binder (coarse grade asphalt concrete)
Base (Mechanical stabilization)

Sub base
(crusherrun)

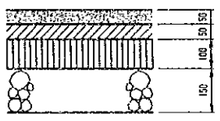
Re-7 Design C,B,R 8%



Surface (dense grade asphalt concrete)
Binder (coarse grade asphalt concrete)
Base (Mechanical stabilization)

Sub base(crusherrun)

Re-8 Design C,B,R 12% and 20%



Surface (dense grade asphalt concrete)
Binder (coarse grade asphalt concrete)
Base (Mechanical stabilization)

Sub base(crusherrun)

Overlay Type

OV-1

Surface (dense grade asphalt concrete)
Binder (coarse grade asphalt concrete)
Base
(Mechanical stabilization)

OV-2

Surface (dense grade asphalt concrete)
Binder (coarse grade asphalt concrete)
Base (Mechanical stabilization)

OV-3

Surface (dense grade asphalt concrete)
Base (Mechanical stabilization)

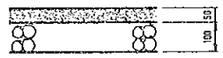
OV-4

Surface (dense grade asphalt concrete)
Binder (coarse grade asphalt concrete)

OV-5

Surface (dense grade asphalt concrete)

Side Walk

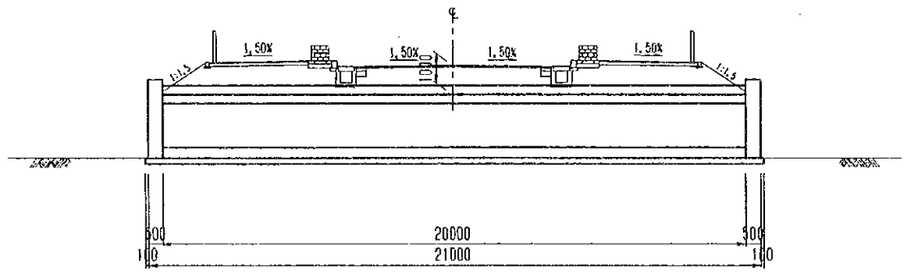


Surface Treatment
Sub Base (Crusherrun)

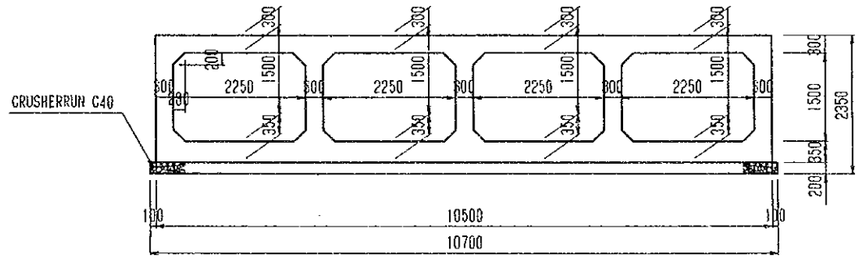
THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	PAVEMENT STRUCTURE	DATE: Sept 1997 SHEET NO.: 30

CULVERT BOX DWG (1/3)

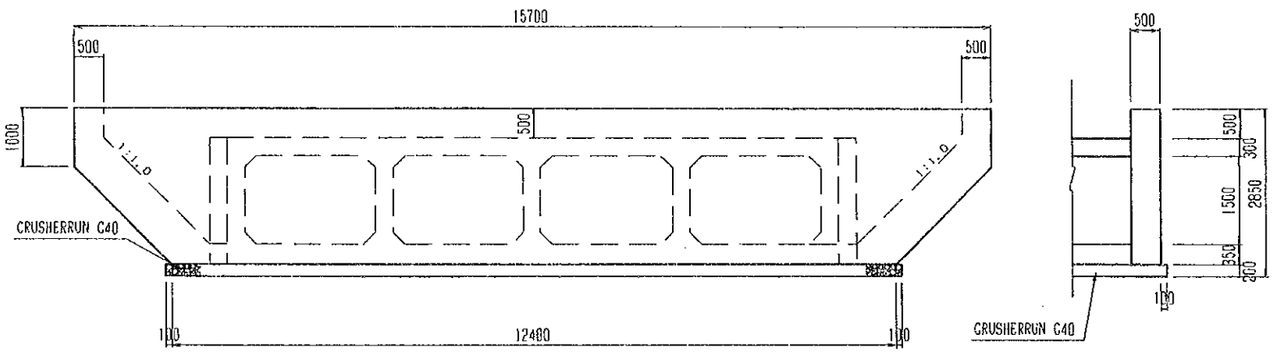
SIDE DWG S=1:200



CROSS SECTION DWG S=1:100



WING DWG S=1:100



BOX MATERRIALS LIST

PER Each

CLASSIFCATION		UNIT	QUANTITY
REINFORCEMENT BAR	D16	kg	4290
	D13	kg	12100
	TOTAL	kg	16390
CONCRETE	SLAB	m³	63
	SIDE WALL	m³	52
	FLOOR	m³	74
	TOTAL	m³	189
FORM		m²	510
FOUNDATION		m²	43
		m²	

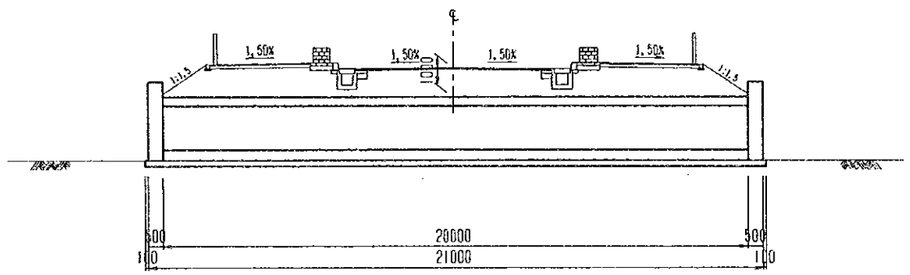
WING MATERRIALS LIST

CLASSIFCATION	UNIT	QUANTITY
REINFORCEMENT BAR D16	kg	1530
CONCRETE	m³	17
FORM	m²	116
FOUNDATION	m²	3

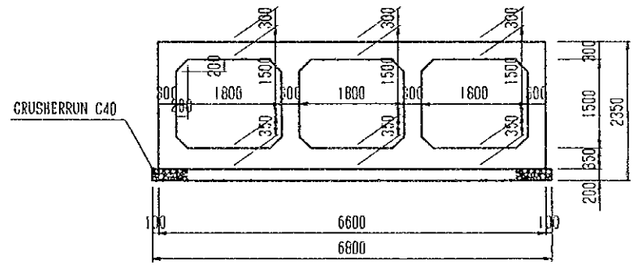
THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY		DATE	SHEET NO.
			CULVERT BOX DWG (1/3)	Sept 1997	31

CULVERT BOX DWG (2/3)

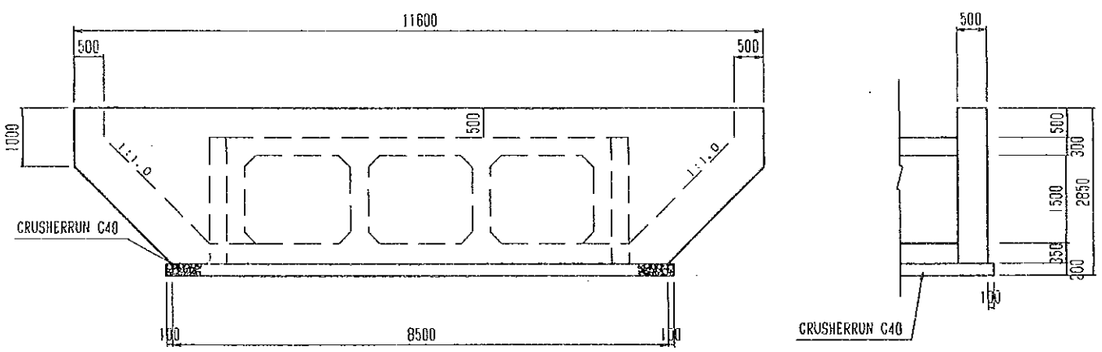
SIDE DWG S=1:200



CROSS SECTION DWG S=1:100



WING DWG S=1:100



BOX MATERIALS LIST

PER Each

CLASSIFICATION		UNIT	QUANTITY
REINFORCEMENT BAR	D13	kg	10710
	TOTAL	kg	10710
CONCRETE	SLAB	m^3	40
	SIDE WALL	m^3	41
	FLOOR	m^3	47
	TOTAL	m^3	128
FORM		m^2	360
FOUNDATION		m^3	28
		m^3	

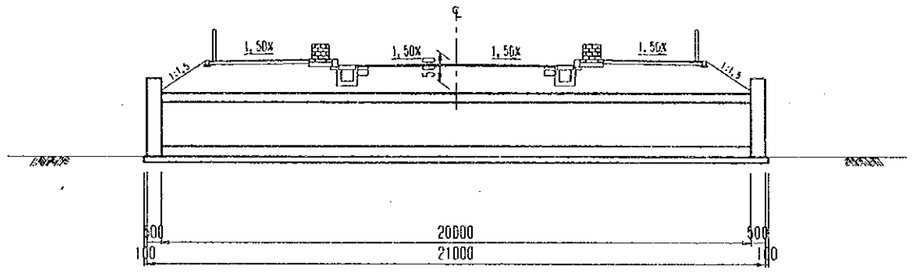
WING MATERIALS LIST

CLASSIFICATION	UNIT	QUANTITY
REINFORCEMENT BAR D16	kg	1350
CONCRETE	m^3	15
FORM	m^2	98
FOUNDATION	m^3	3

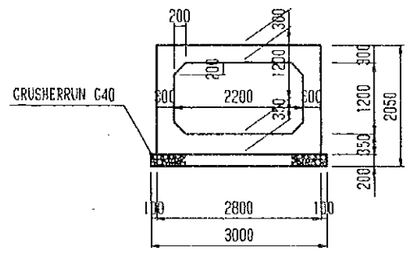
THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	CULVERT BOX DWG (2/3)	DATE: Sept 1997 SHEET NO.: 32

CULVERT BOX DWG (3/3)

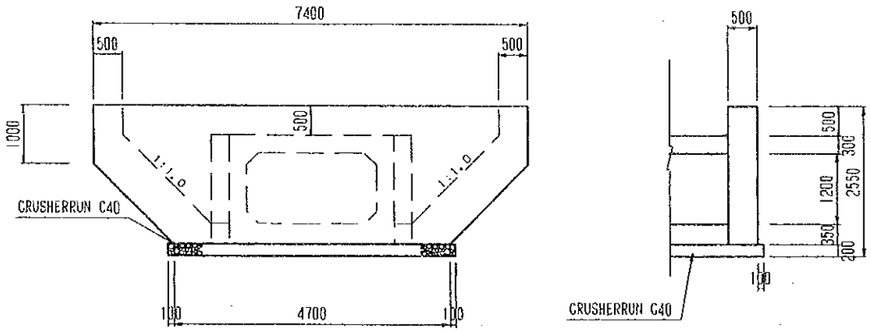
SIDE DWG S=1:200



CROSS SECTION DWG S=1:100



WING DWG S=1:100



BOX MATERRIALS LIST

PER Each

CLASSIFICATION		UNIT	QUANTITY
REINFORCEMENT BAR	D16	kg	1210
	D13	kg	3390
	TOTAL	kg	4600
CONCRETE	SLAB	m^3	17
	SIDE WALL	m^3	16
	FLOOR	m^3	20
	TOTAL	m^3	53
FORM		m^2	166
FOUNDATION		m^3	12
		m^3	

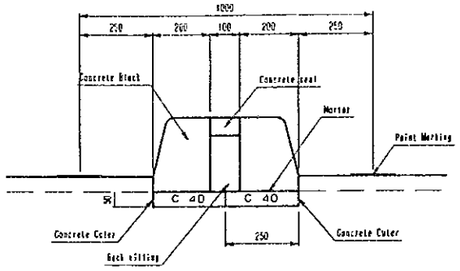
WING MATERRIALS LIST

CLASSIFICATION	UNIT	QUANTITY
REINFORCEMENT BAR D16	kg	990
CONCRETE	m^3	11
FORM	m^2	47
FOUNDATION	m^2	2

THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	CULVERT BOX DWG (3/3)	DATE: Sept 1997 SHEET NO.: 33

STRUCTURE DWG (1/5)

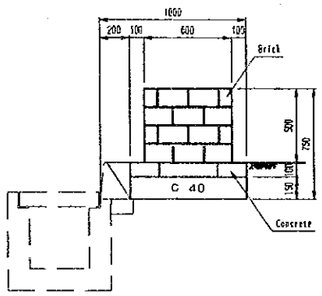
Median strip S=1:20



MATERIALS LIST — PER 100m

CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARKS
CONCRETE BLOCK	160 205 ×250×600	no.	334	
MORTAR	1:3	cu.m	0.41	BED MORTAR
CONCRETE	RE1626	〃	0.60	t=60/for Seat
FOUNDATION	CRUSHERRUN C 40	〃	2.50	
FORM		sq.m	10.00	
BACK TILLING		cu.m	1.50	

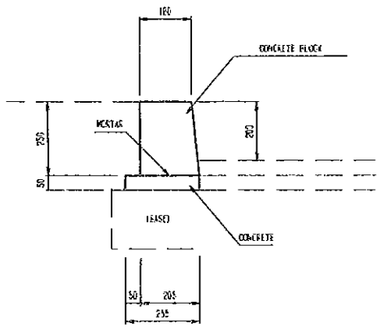
Flower bed S=1:40



MATERIALS LIST — PER 10m

CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARKS
BRICK		sq.m	10.60	
CONCRETE		cu.m	0.42	
FOUNDATION	CRUSHERRUN C 40	〃	1.20	
FORM		sq.m	2.04	

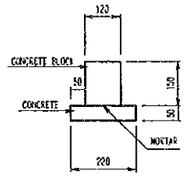
KERB STONE S=1:20



MATERIALS LIST — PER 100m

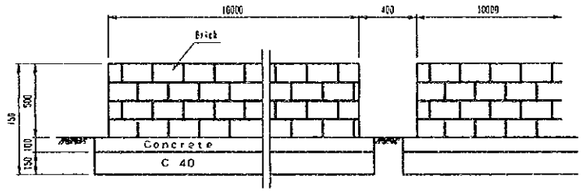
CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARKS
CONCRETE BLOCK	160 205 ×250×600	no.	166	
MORTAR	1:3	cu.m	0.21	BED MORTAR
CONCRETE		〃	1.28	

FLUSH KERB STONE S=1:20

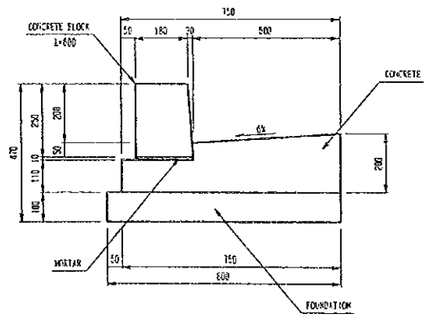


MATERIALS LIST — PER 100m

CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARKS
CONCRETE BLOCK	150×120×600	no.	165	
MORTAR	1:3	cu.m	0.12	BED MORTAR
CONCRETE		〃	1.10	
FOUNDATION	CRUSHERRUN C 40	〃		
FORM		sq.m	10.00	



L-SIDE DITCH S=1:20



MATERIALS LIST — PER 100m

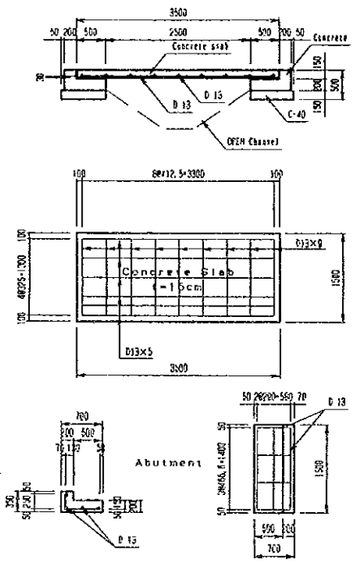
CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARKS
CONCRETE BLOCK	160 205 M250 M500	no.	165	
MORTAR	1:3	cu.m	0.21	BED MORTAR
CONCRETE	RB1626	〃	11.98	
FOUNDATION	CRUSHERRUN C 40	〃	6.00	
FORM		sq.m	31.00	

THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	STRUCTURE DWG (1/5)

DATE	SHEET NO.
Sept 1997	34

STRUCTURE DWG (2/5)

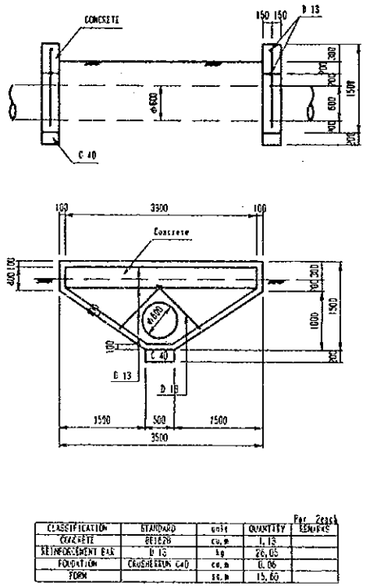
Foot bridge S=1:100



CLASSIFICATION	Slab				Abutment			
	STANDARD	unit	QUANTITY	REMARKS	STANDARD	unit	QUANTITY	REMARKS
CONCRETE	EB16/20	cu.m	0.70		EB16/20	cu.m	0.45	
REINFORCEMENT BAR	D 13	kg	28.66		D 13	kg	16.93	
FOUDATION		cu.m			CRUSHERRUN C40	cu.m	0.36	
FORM		sq.m	6.75			sq.m	1.50	

Per one each

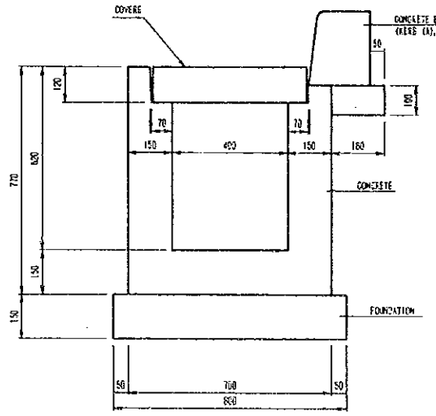
Head Wall S=1:100



CLASSIFICATION	STANDARD	unit	QUANTITY	REMARKS
CONCRETE	EB16/20	cu.m	1.15	
REINFORCEMENT BAR	D 13	kg	26.05	
FOUDATION	CRUSHERRUN C40	cu.m	0.06	
FORM		sq.m	15.60	

Per 2sides

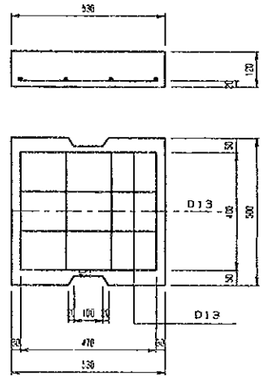
U-SHAPED DRAIN S=1:20



MATERIALS LIST(U-SHAPE DRAIN) PER 100m

CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARKS
CONCRETE BLOCK	100/200 × 250 × 600	no.	166.67	
CONCRETE	EB16/20	cu.m	26.93	
FOUNDATION	CRUSHERRUN C-40	m	12.00	DRAINAGE
		m	1.66	CONCRETEBLOCK
FORM		sq.m	268.0	

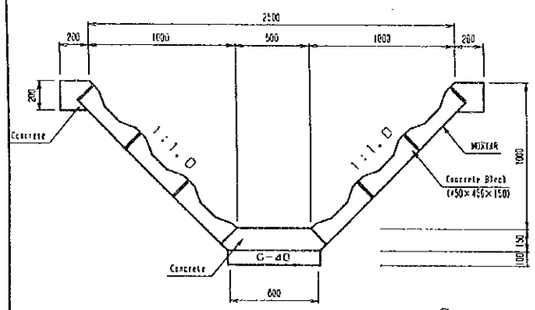
COVER



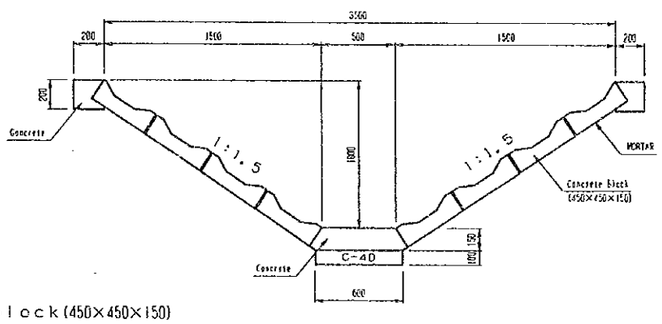
MATERIALS LIST(COVER) PER EACH

CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARKS
CONCRETE	σck=240kg/cm²	cu.m	0.031	
REINFORCEMENT BAR	D13	kg	3.483	
FORM		sq.m	0.247	

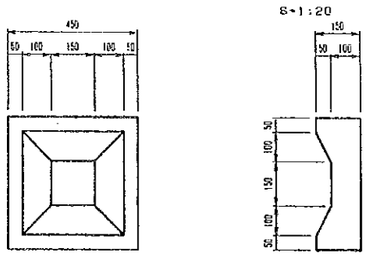
Open Channel (Type, 1) S=1:40



Open Channel (Type, 2) S=1:40



Concrete block (450×450×150) S=1:20



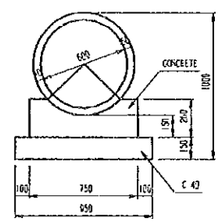
Classification	STANDARD	unit	QUANTITY	REMARKS
CONCRETE BLOCK	450×450×150	no.	1365	
CONCRETE	EB16/20	cu.m	13.00	
MORTAR	1:3	m	1.38	
Foundation	CRUSHERRUN C40	m	6.00	
Form		sq.m	40.0	

Per 100m

Classification	STANDARD	unit	QUANTITY	REMARKS
CONCRETE BLOCK	450×450×150	no.	1761	
CONCRETE	EB16/20	cu.m	15.03	
MORTAR	1:3	m	1.80	
Foundation	CRUSHERRUN C40	m	6.00	
Form		sq.m	40.00	

Per 100m

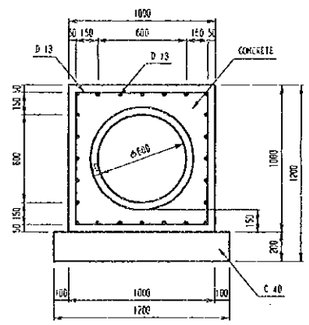
PIPE CULVERT TYPE-A (D=600) S=1:40



MATERIALS LIST PER 100m

CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARKS
PIPE CULVERT	JIS A 5303	m	41	
CONCRETE	σck=160kg/cm²	cu.m	15.63	
FOUNDATION	CRUSHERRUN C40	cu.m	14.25	
FORM		sq.m	59.00	

PIPECULVERT TYPE-B (D=600) S=1:40



MATERIALS LIST(PIPE CULVERT TYPE-B) PER 100m

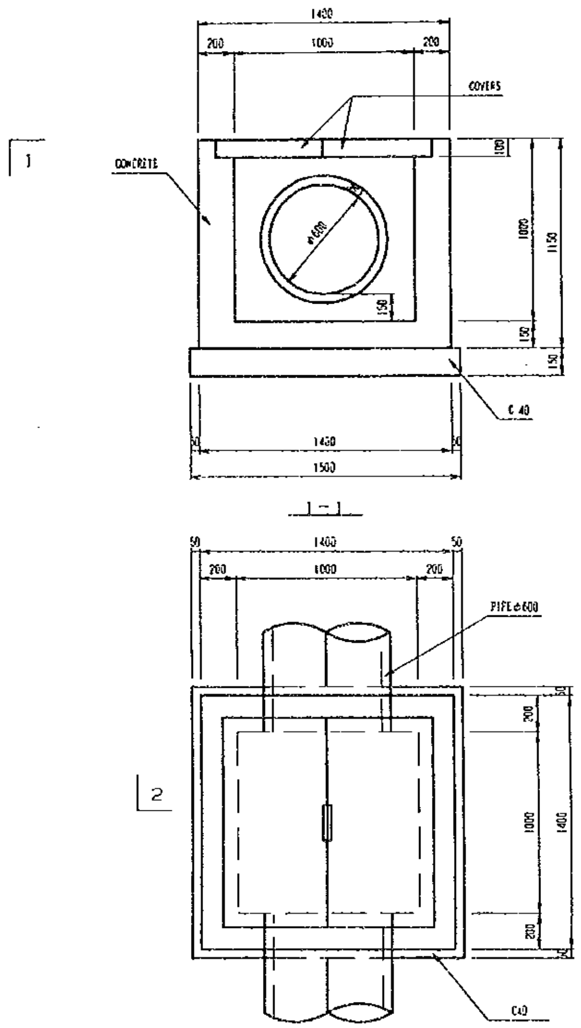
CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARKS
CONCRETE	σck=160kg/cm²	cu.m	51.52	
FOUNDATION	CRUSHERRUN C 40	m	24.00	
FORM			200	
PIPE CULVERT	JIS A 5303	no.m	41.00	D600
REINFORCEMENT BAR	D13	kg	426.84	

THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	STRUCTURE DWG (2/5) / DATE: Sept 1997 / SHEET NO.: 35

STRUCTURE DWG (3/5)

CATCH PIT TYPE-A S=1:40

2-2

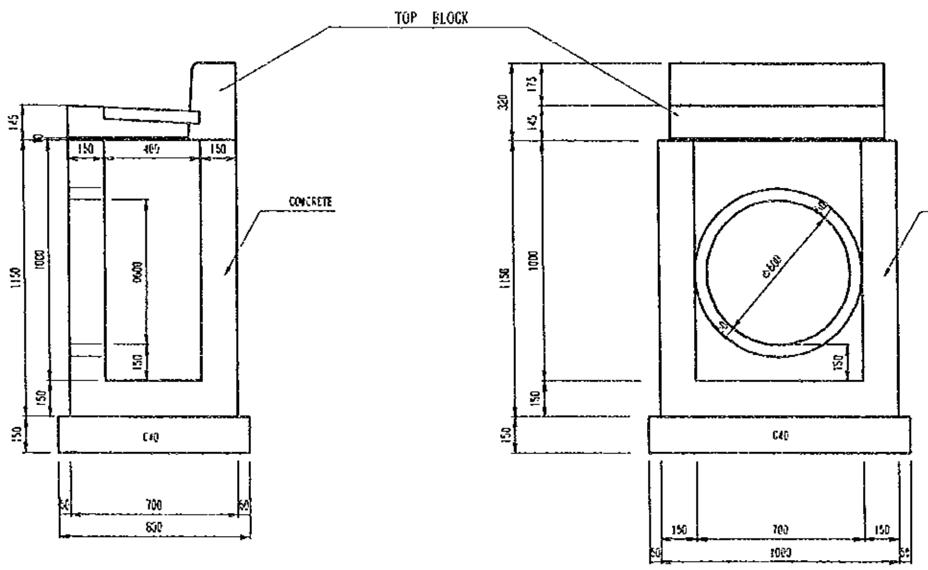


MATERIALS LIST (MAN HOLE(A-G)) PER EACH

CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARKS
CONCRETE	σck=160kg/cm2	cu.m	1.052	
FOUNDATION	CRUSHERRUN C 40	〃	0.336	
FORM		sq.m	8.520	
COVERS		no.		
REINFORCEMENT BAR	D13	kg		

CATCH PIT S=1:30

TYPE-B

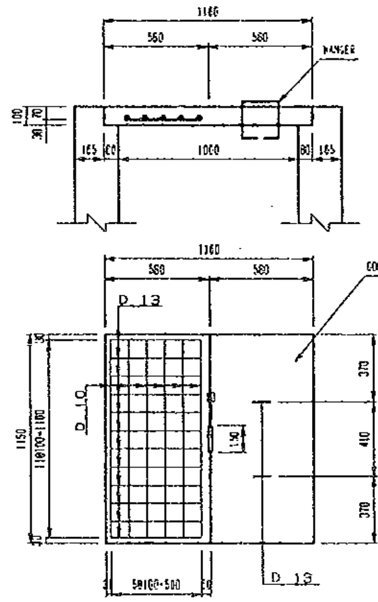


MATERIALS LIST(CATCH PIT TYPE-B) PAR Each

CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARKS
CONCRETE	σck=160kg/cm2	cu.m	0.55	
FOUNDATION	CRUSHERRUN C-40	〃	0.14	
FORM		sq.m	7.00	
TOP BLOCK		no.	1	

DETAIL OF COVERS

S=1:40

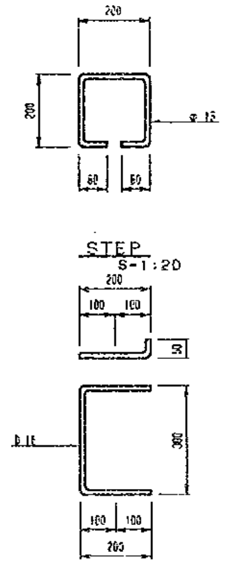


HANGER

S=1:20

STEP

S=1:20

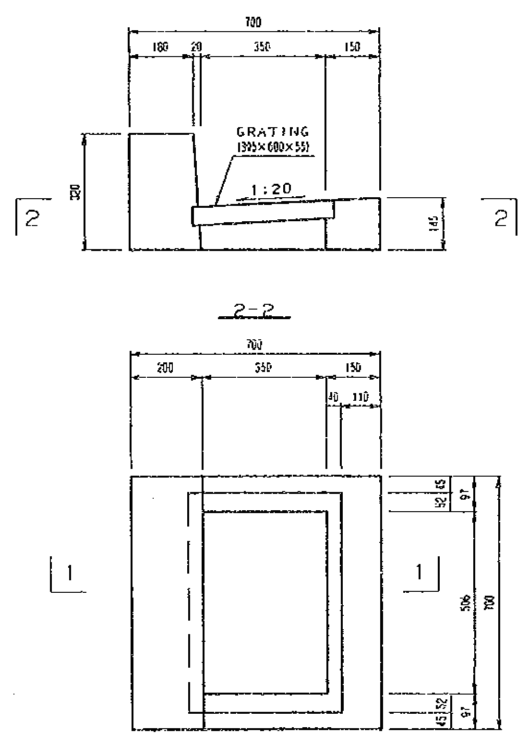


MATERIALS LIST (MAN HOLE(A-G)) PER EACH

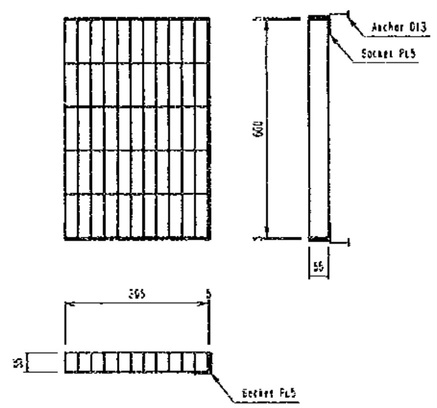
CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARKS
CONCRETE	σck=160kg/cm2	cu.m	0.134	
FORM		sq.m	0.696	
REINFORCEMENT BAR	D10	kg	14.000	
HANGER	φ13	〃	3.000	
STEP	D16	〃	7.000	

TOP BLOCK S=1:20

1-1



GRATING



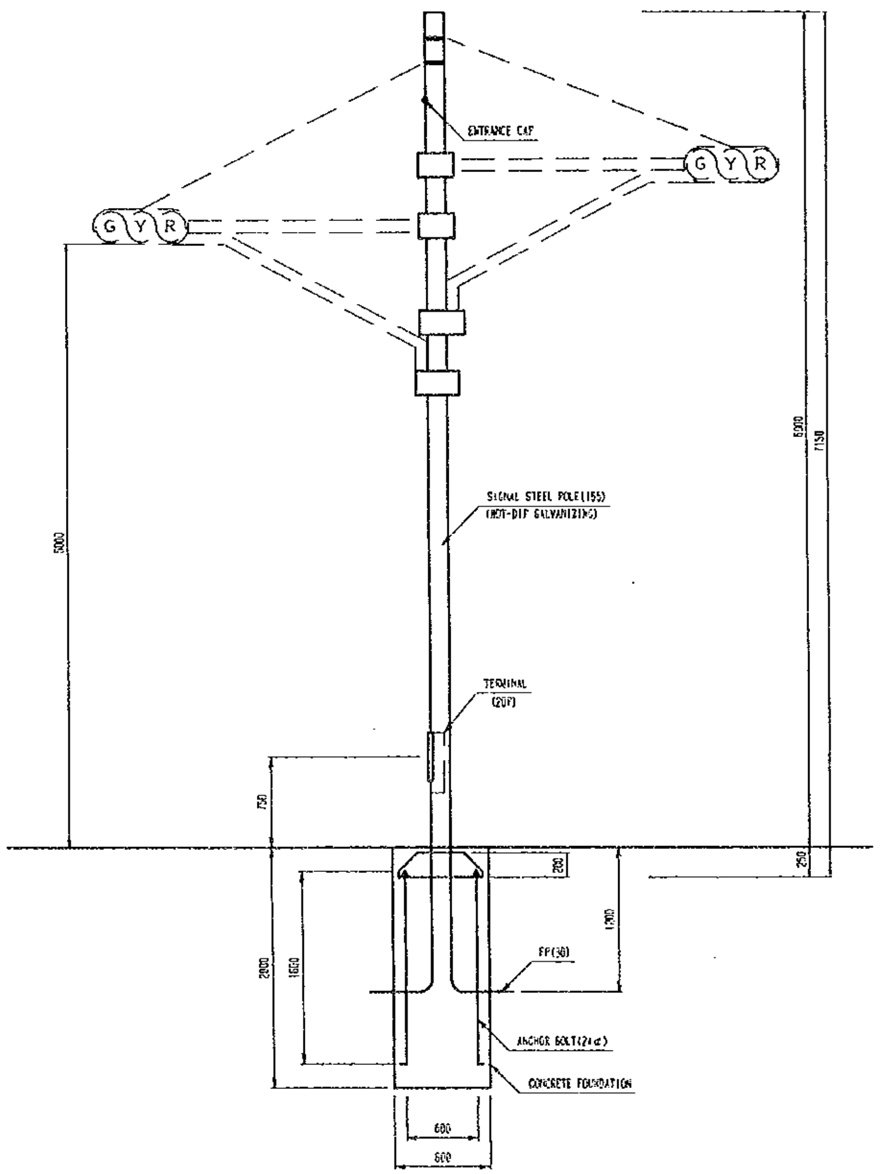
MATERIALS LIST PER EACH

CLASSIFICATION	STANDARD	UNIT	QUANTITY	REMARKS
CONCRETE	σck=160kg/cm2	cu.m	0.066	
MORTAR	1:3	〃	0.004	
FORM		sq.m	1.171	
GRATING		no.	410×766×55	

THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	STRUCTURE DWG (3/5)	DATE: Sept 1997	SHEET NO. 36

STRUCTURE DWG (4/5)

Traffic Signal S=1:60

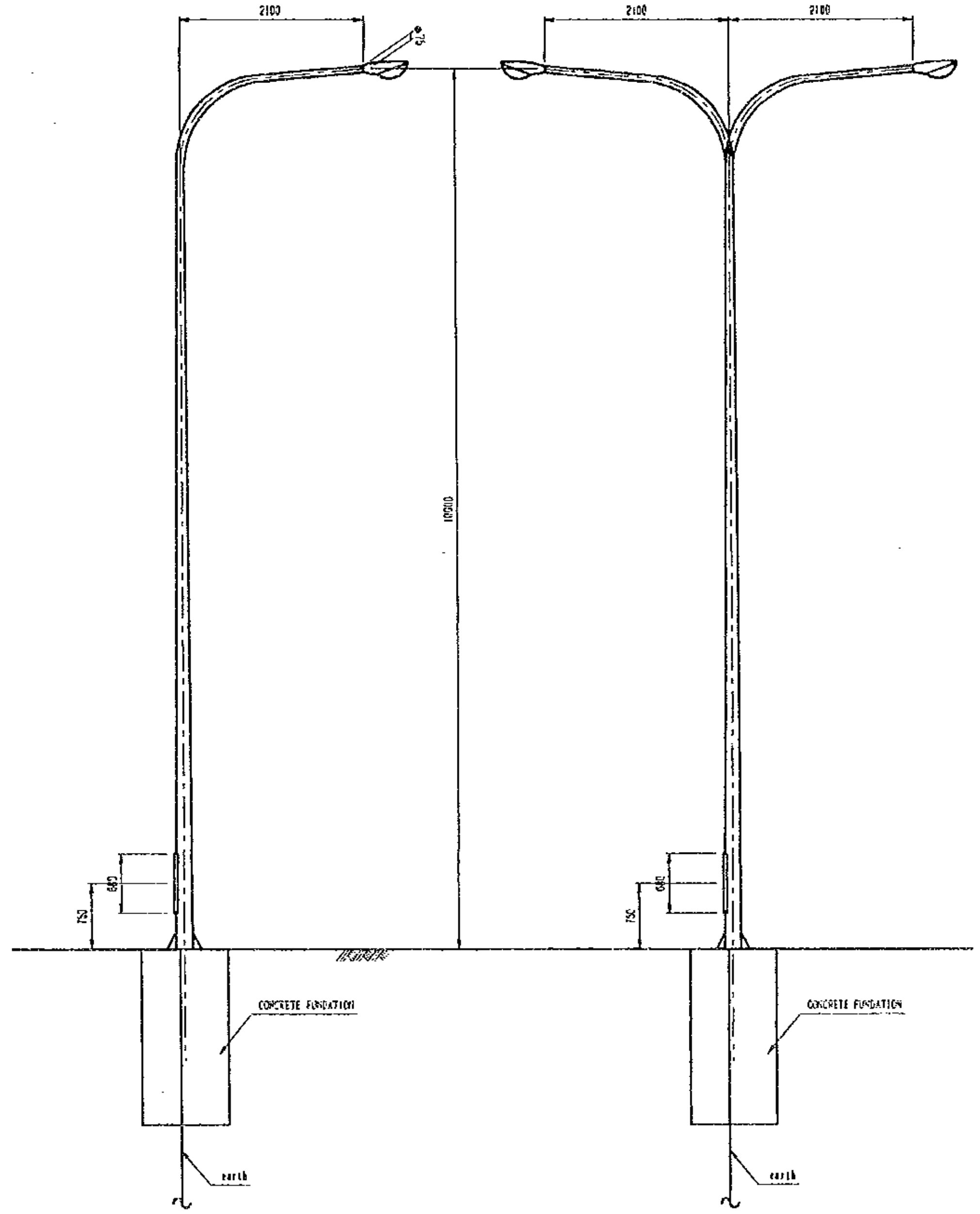


MATERIALS LIST — For Each

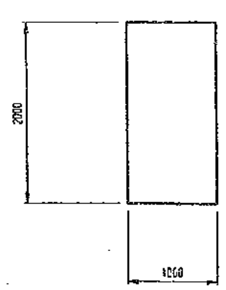
CLASSIFICATION	STANDARD	unit	QUANTITY	REMARKS
SIGNAL STEEL POLE	HOT-DIP GALVANIZING	no.	1.0	
FF (30)	Flared Flair	no.	1.0	
TERMINAL BOX	NLP/20P	no.	1.0	
ANCHOR BOLT	φ 24	no.	1.0	
ENTRANCE CAP		no.	1.0	
CONCRETE FOUNDATION		cu.m	1.28	

Road Lighting S=1:60

L-TYPE T-TYPE



Concrete foundation



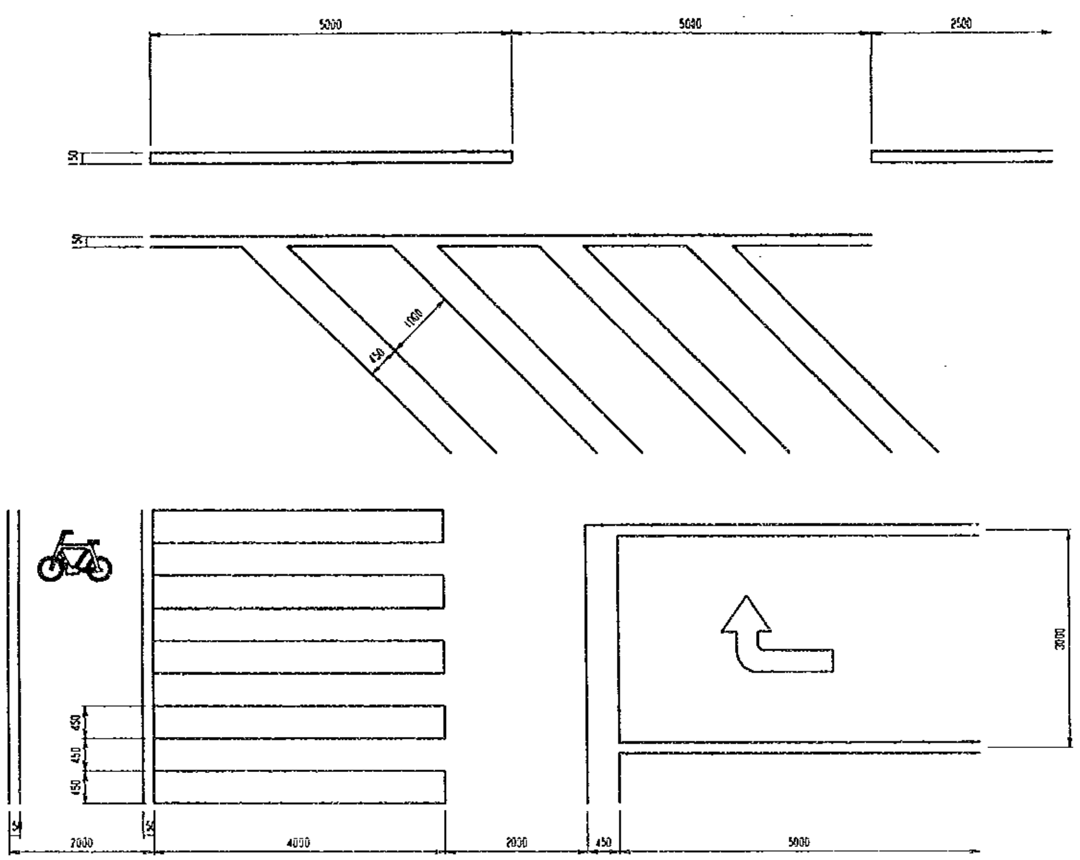
MATERIALS LIST — For Each

CLASSIFICATION	STANDARD	unit	QUANTITY	REMARKS
Lighting Pole	H=10m	no.	1.0	
CONCRETE FUNDATION	H1625	cu.m	2.0	
FORM	Spiral Duct φ500	m	2.10	
earth	φ10×1.5m	no.	1.0	

				DATE	SHEET NO.
THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY	STRUCTURE DWG (4/5)	Sept 1997	37

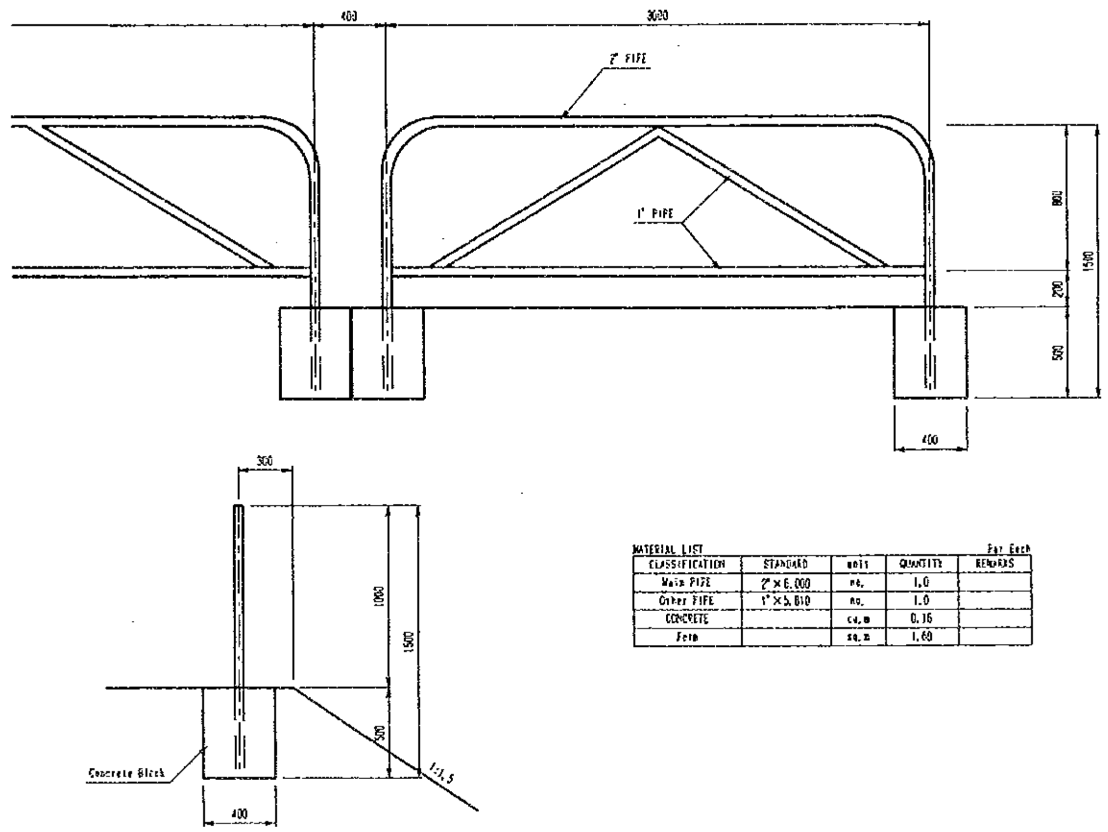
STRUCTURE DWG (5/5)

Road Marking S=1:100



※ Note
White paint with beads

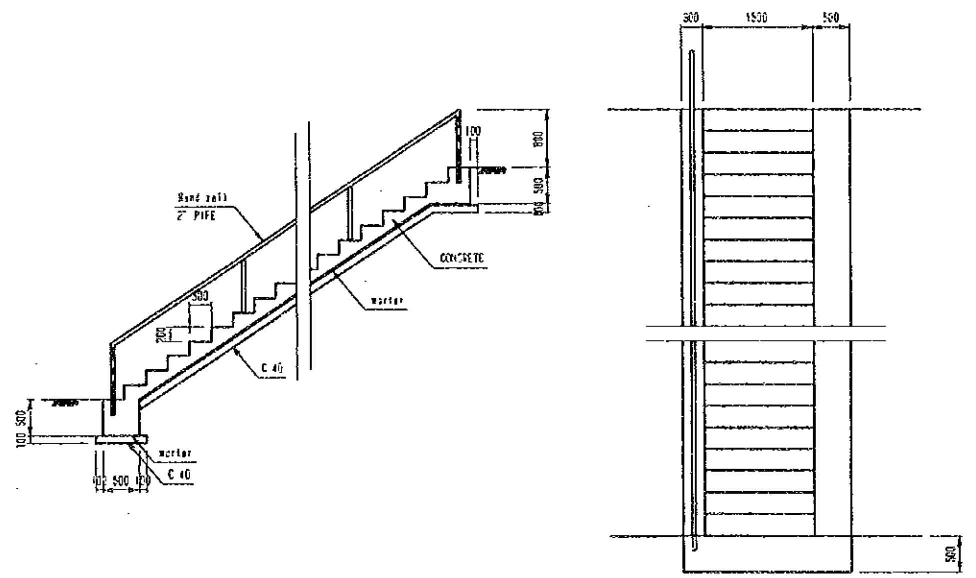
Fence S=1:40



MATERIAL LIST — For Each

CLASSIFICATION	STANDARD	unit	QUANTITY	REMARKS
Main PIPE	2"×6,000	no.	1.0	
Other PIPE	1"×5,810	no.	1.0	
CONCRETE		cu.m	0.16	
Form		sq.m	1.60	

Stairs S=1:100



MATERIAL LIST — For Each

CLASSIFICATION	STANDARD	unit	Quantity	REMARKS
CONCRETE	BE1626	cu.m	3.55	
MORTAR	1:3	〃	0.06	
FOUNDATION	CRUSHERRUN C40	〃	1.47	
Form		sq.m	10.35	
Hand rail	2"×9.50	no.	1.0	

※ Note
This material LIST is stairs Than H=3.0m

THE REPUBLIC OF UGANDA MINISTRY OF WORKS, TRANSPORT AND COMMUNICATIONS	THE FEASIBILITY STUDY OF IMPROVEMENT OF TRUNK ROAD AT KAMPALA URBAN INTERFACE SECTIONS	JAPAN INTERNATIONAL COOPERATION AGENCY		DATE	SHEET NO.
			STRUCTURE DWG (5/5)	Sept 1997	38