社会開発調査部報告書

No. 53

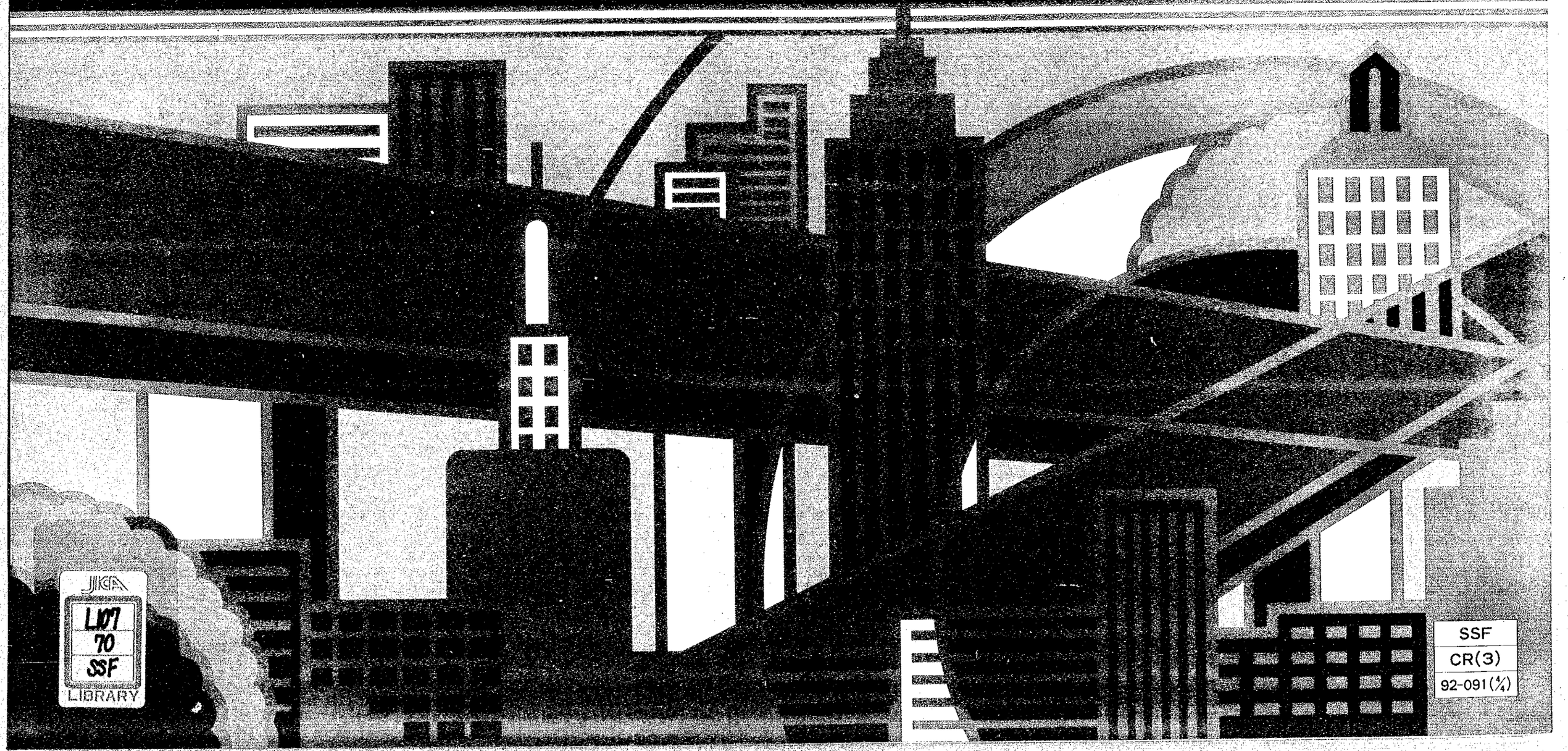
THE FEASIBILITY STUDY ON THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA

FINAL REPORT VOLUME IV

DRAWINGS

SEPTEMBER 1992

JAPAN INTERNATIONAL COOPERATION AGENCY



THE FEASIBILITY STUDY ON
THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA

FINAL REPORT VOLUME IV

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JAPAN INTERNATIONAL COOPERATION AGENCY

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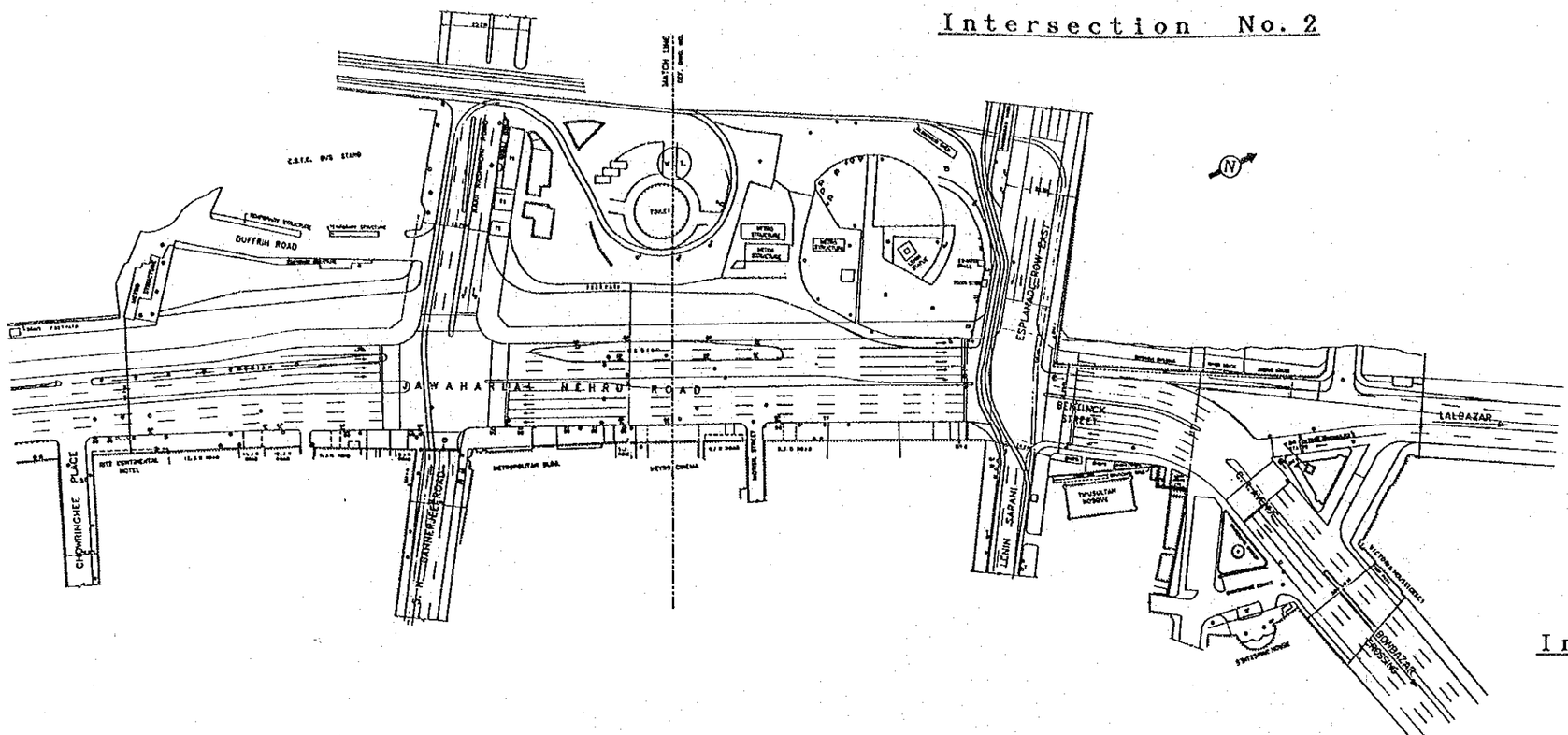
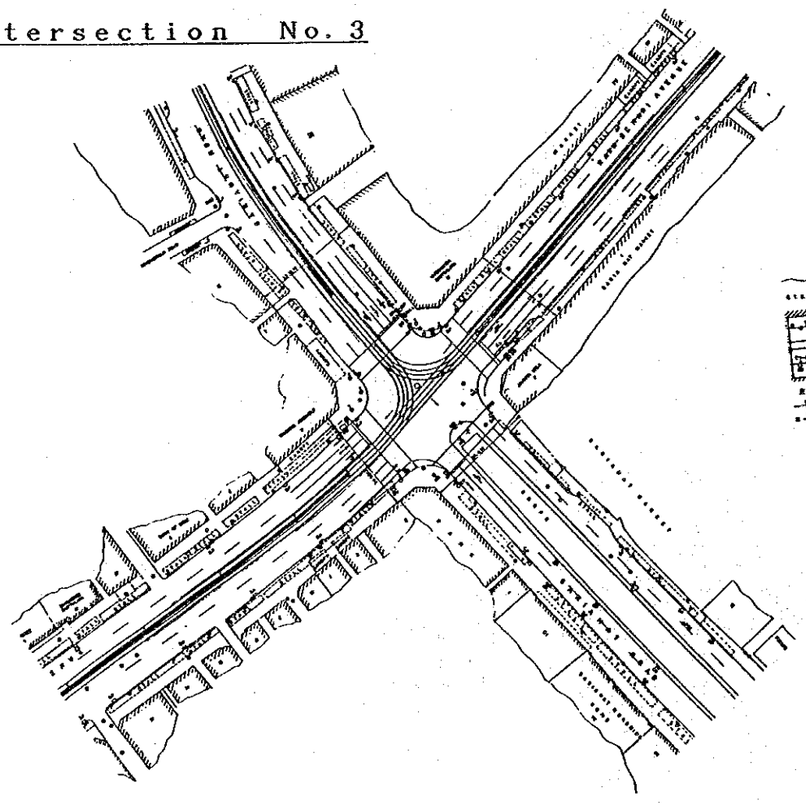
INTERSECTION
IMPROVEMENT AT GRADE

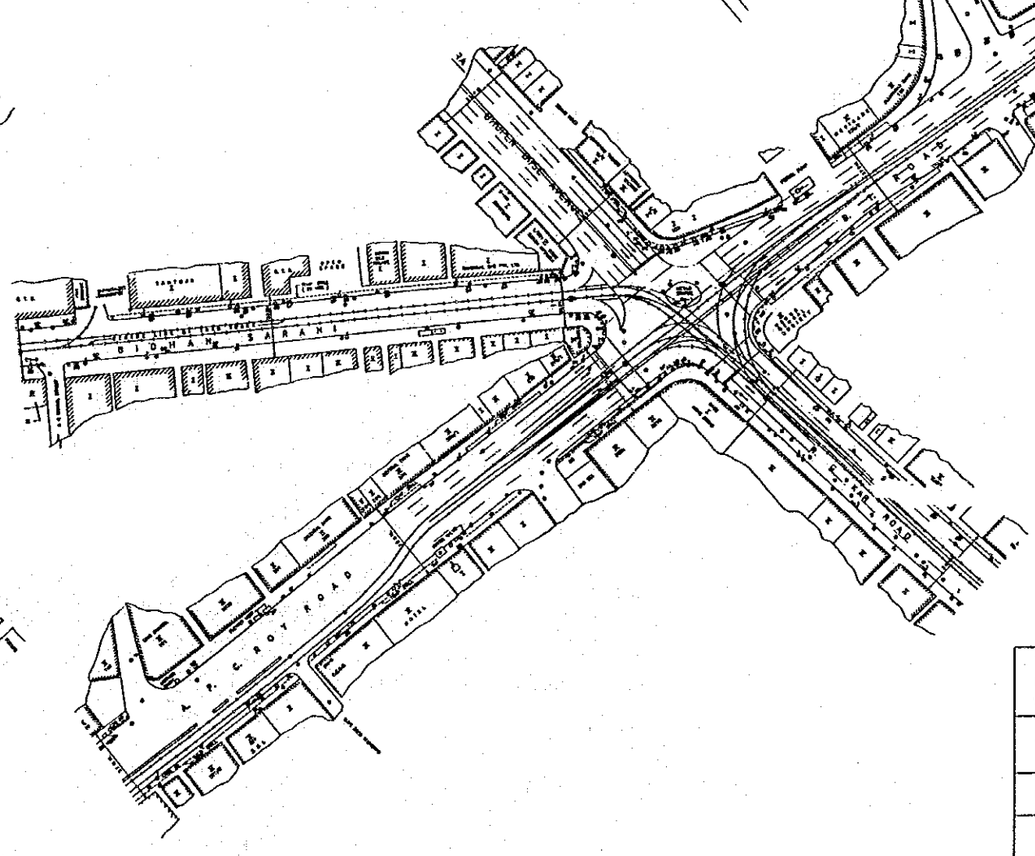
Intersection No. 2



Intersection No. 4

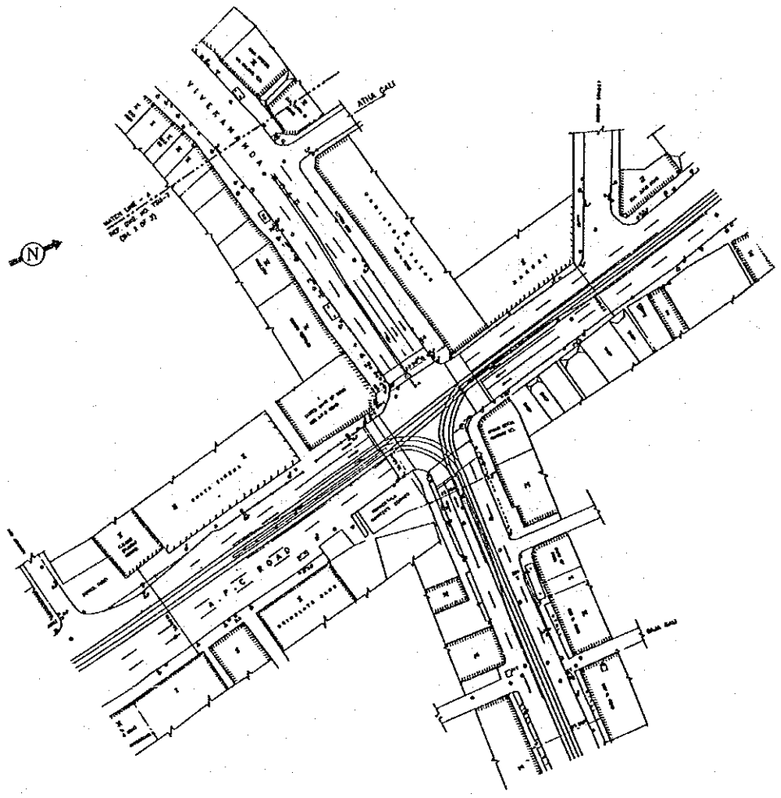
Intersection No. 3



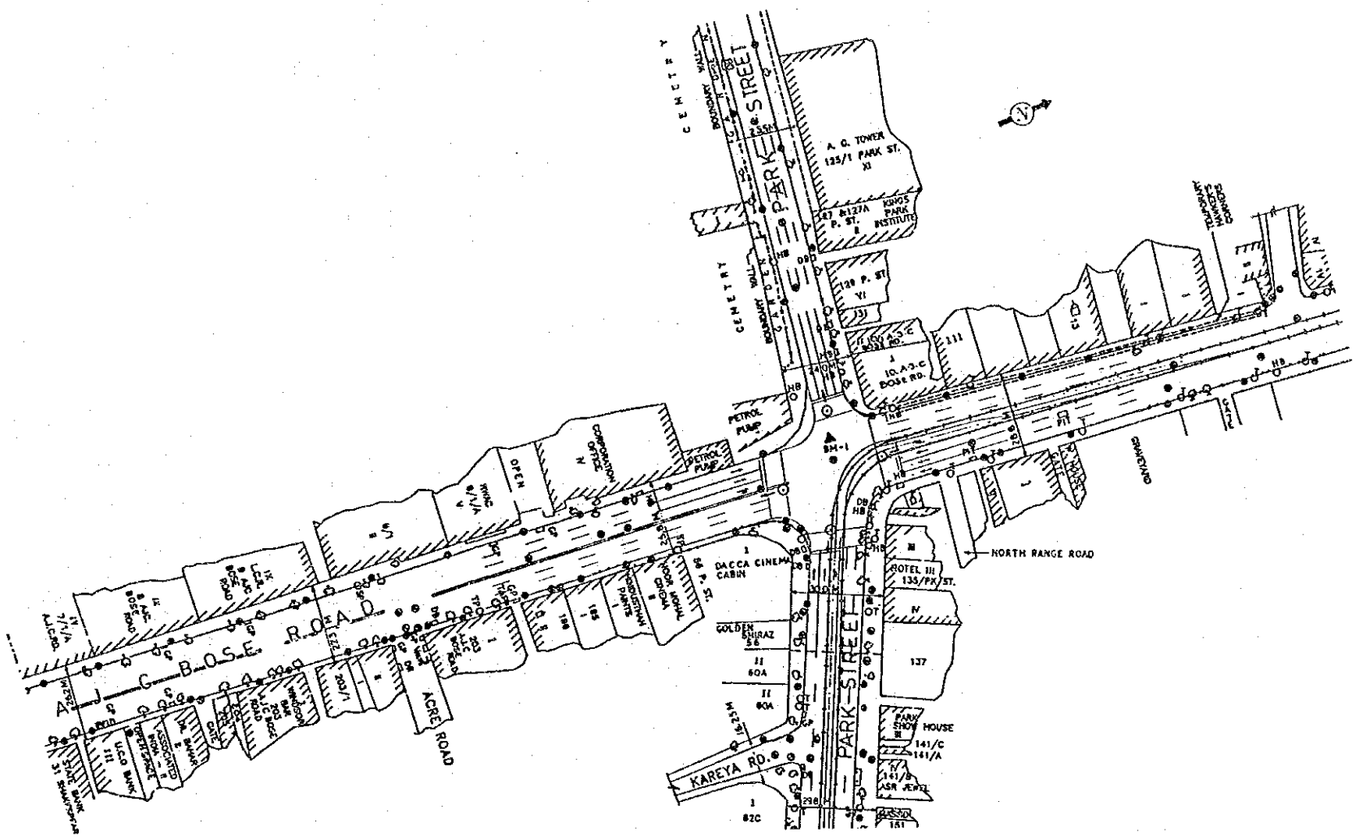


THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA IN WEST BENGAL , INDIA			
TITLE	INTERSECTION No. 2, No. 3, No. 4 AT GRADE IMPROVEMENTS		
DATE	AUGUST 1992	SCALE	
JAPAN INTERNATIONAL COOPERATION AGENCY			D.W.G No. 1

Intersection No. 7

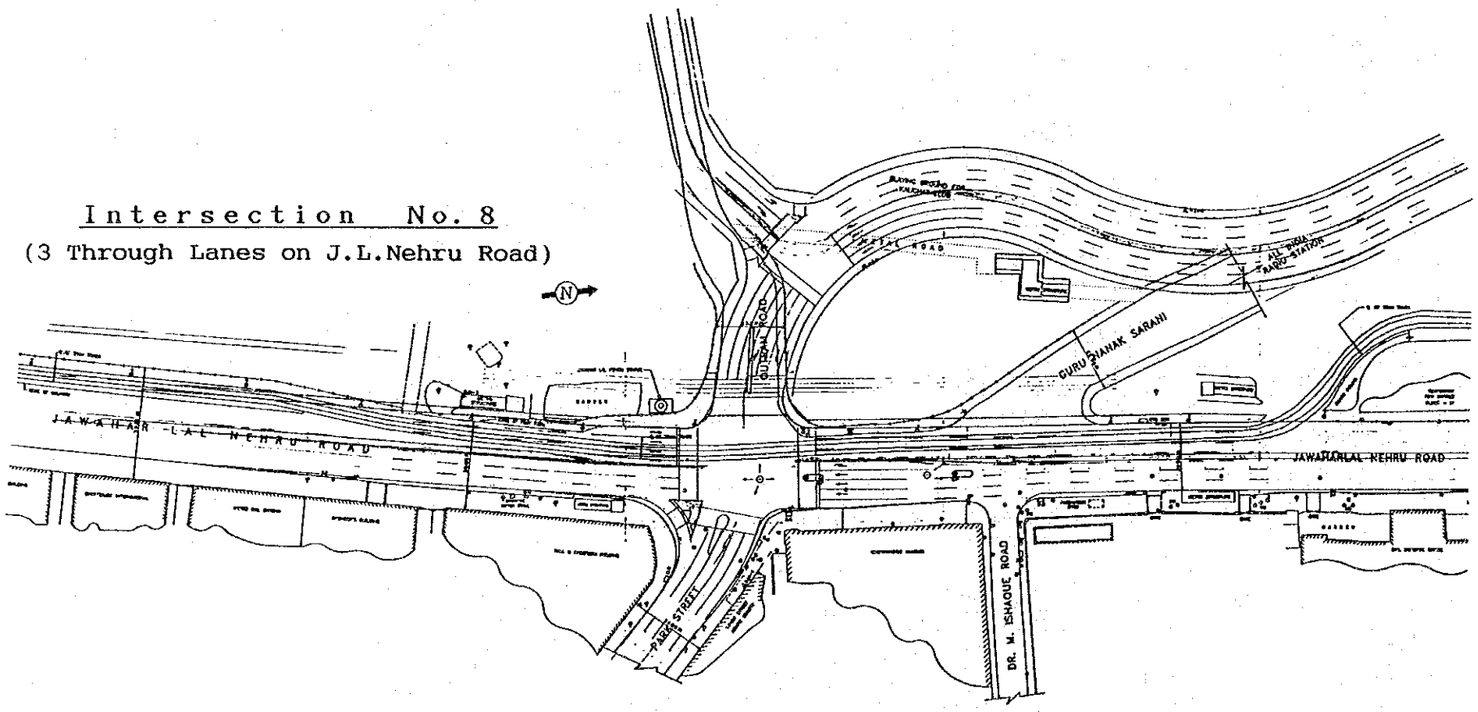


Intersection No. 10



Intersection No. 8

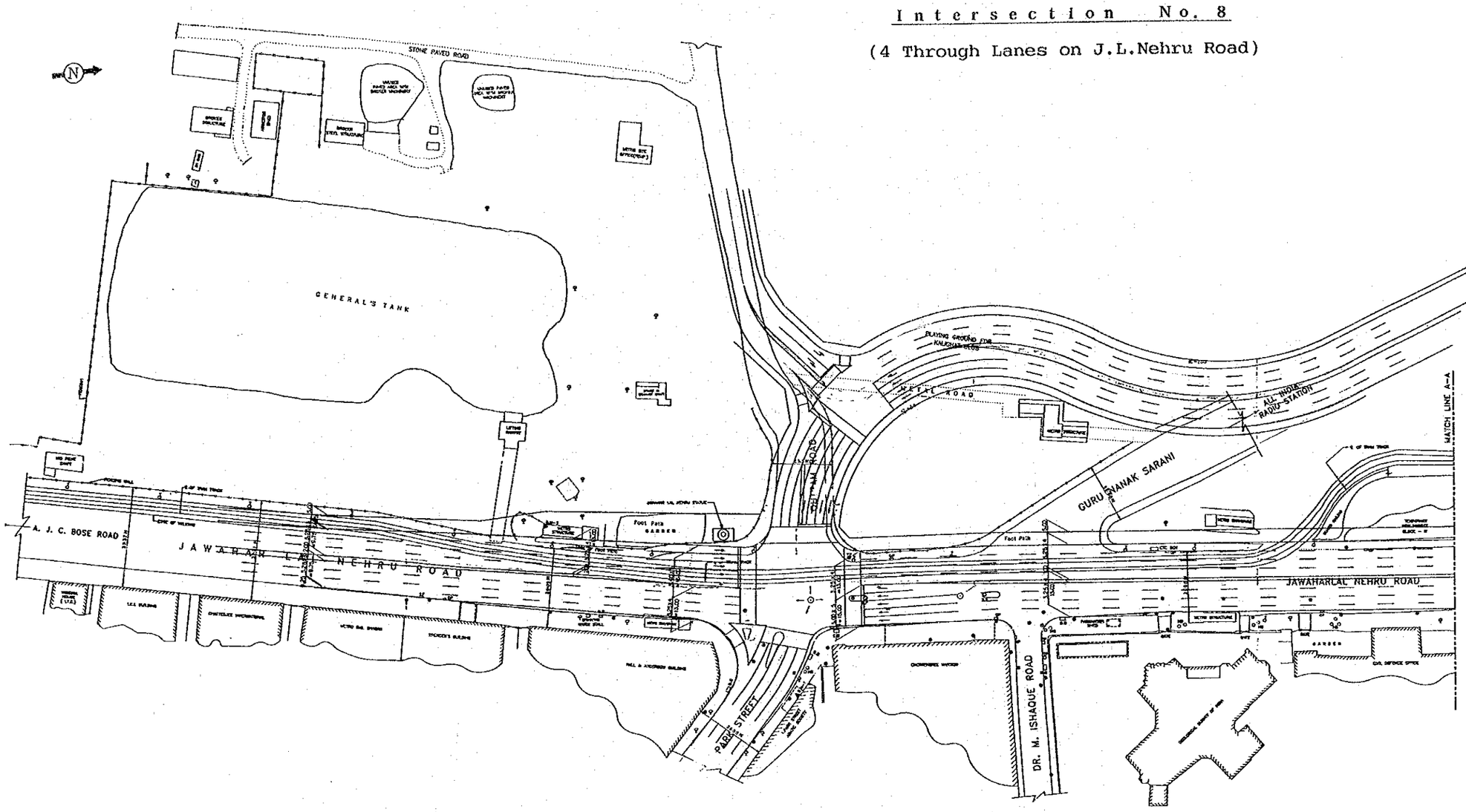
(3 Through Lanes on J.L.Nehru Road)



THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA IN WEST BENGAL , INDIA			
TITLE	INTERSECTION No. 7, No. 8, No. 10 AT GRADE IMPROVEMENTS		
DATE	AUGUST 1992	SCALE	
JAPAN INTERNATIONAL COOPERATION AGENCY			D.W.G No. 2

Intersection No. 8

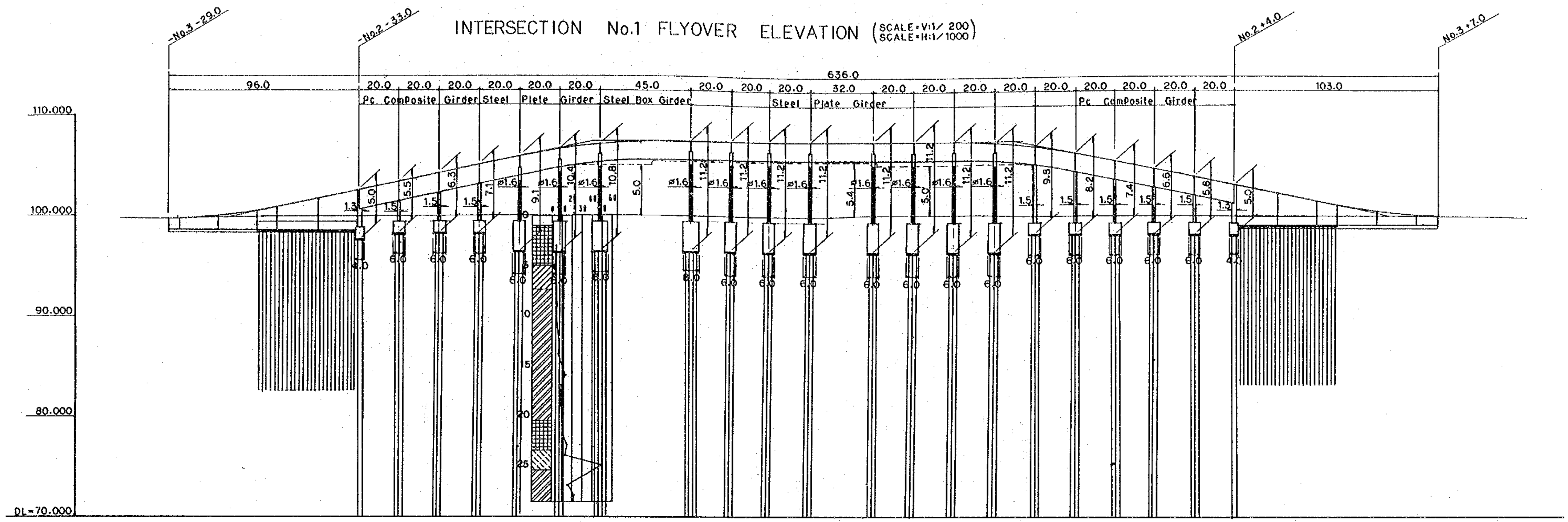
(4 Through Lanes on J.L.Nehru Road)



THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA IN WEST BENGAL , INDIA			
TITLE	INTERSECTION No.8 4-LANE AT GRADE IMPROVEMENTS		
DATE	AUGUST1992	SCALE	
JAPAN INTERNATIONAL COOPERATION AGENCY			D. W. G No. 2a

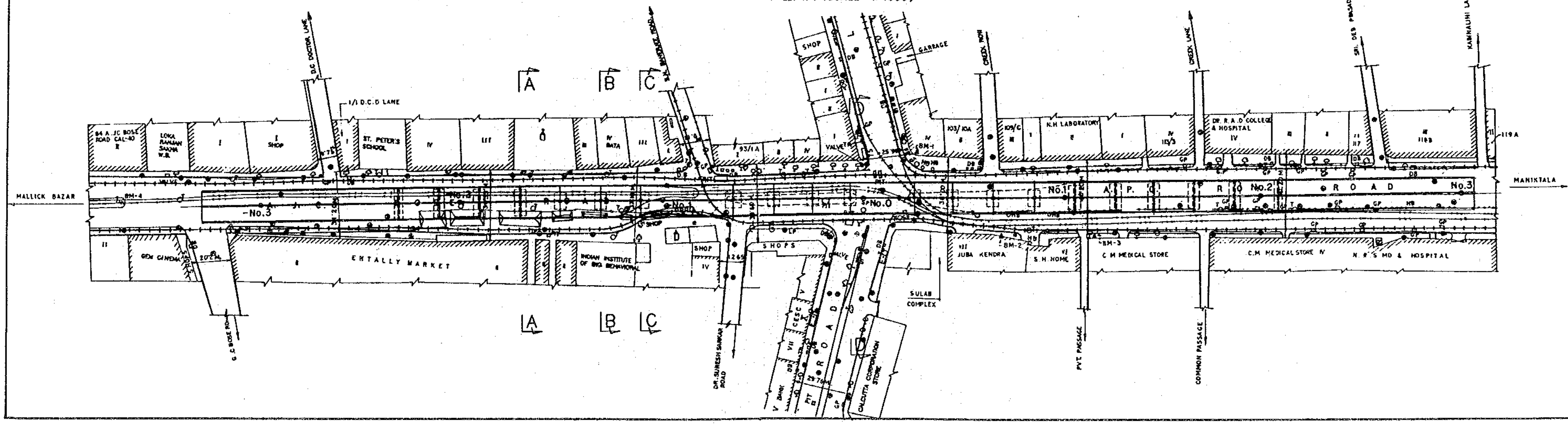
INTERSECTION
IMPROVEMENT FLYOVER

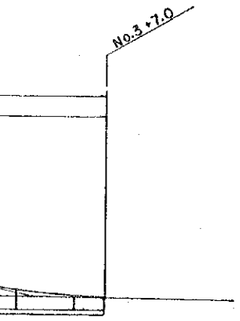
INTERSECTION No.1 FLYOVER ELEVATION (SCALE=V:1/ 200 SCALE=H:1/1000)



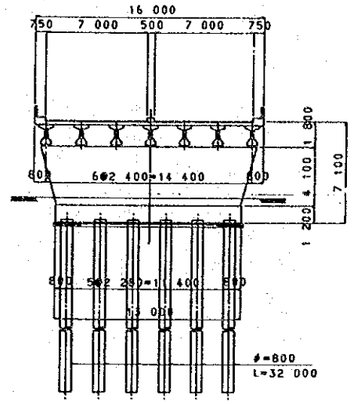
Grade	99.840 VCL=50.00 VCR=1250	I=4.000% L=189.0	VCL=50.00 107.400 VCR=1250		Level L=209.0	VCL=50.00 107.400 VCR=1250	I=4.000% L=188.0	VCL=50.00 VCR=1250 99.880	
Planning Height	100.090	104.000	107.150		107.400	107.150	103.160	100.130	
Ground Height	99.805	99.975		99.940	99.845	99.900	99.935		99.880
Chainage	-4.0 -3	-2	-150	-1	0	+94.0 1	2	+82.0	3

PLAN (SCALE=1/1000)

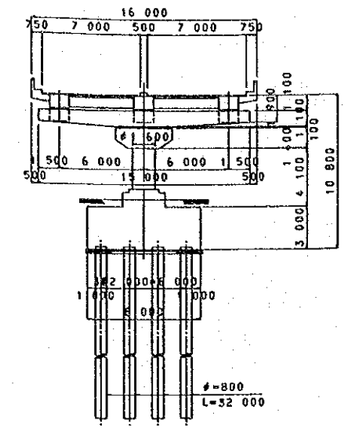


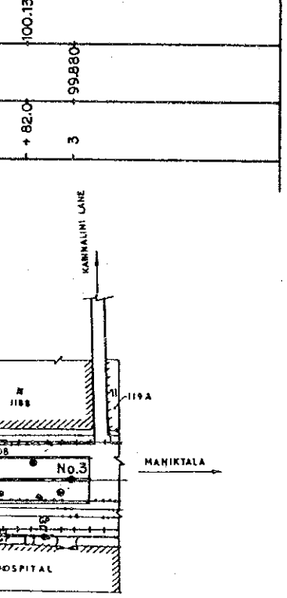


SECTION A-A (SCALE=1/200)

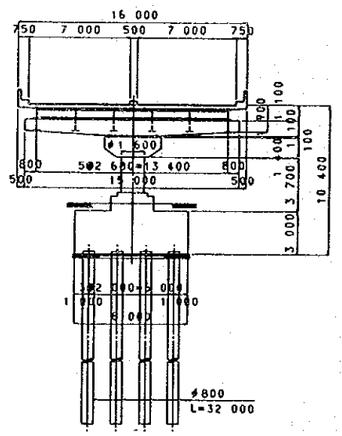


SECTION C-C (SCALE=1/200)





SECTION B-B (SCALE=1/200)



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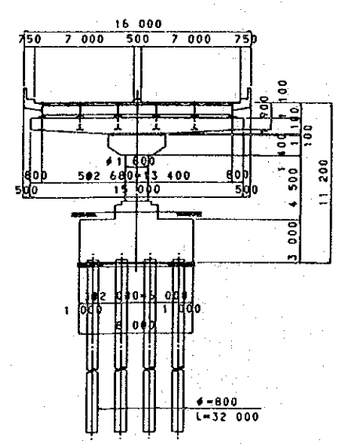


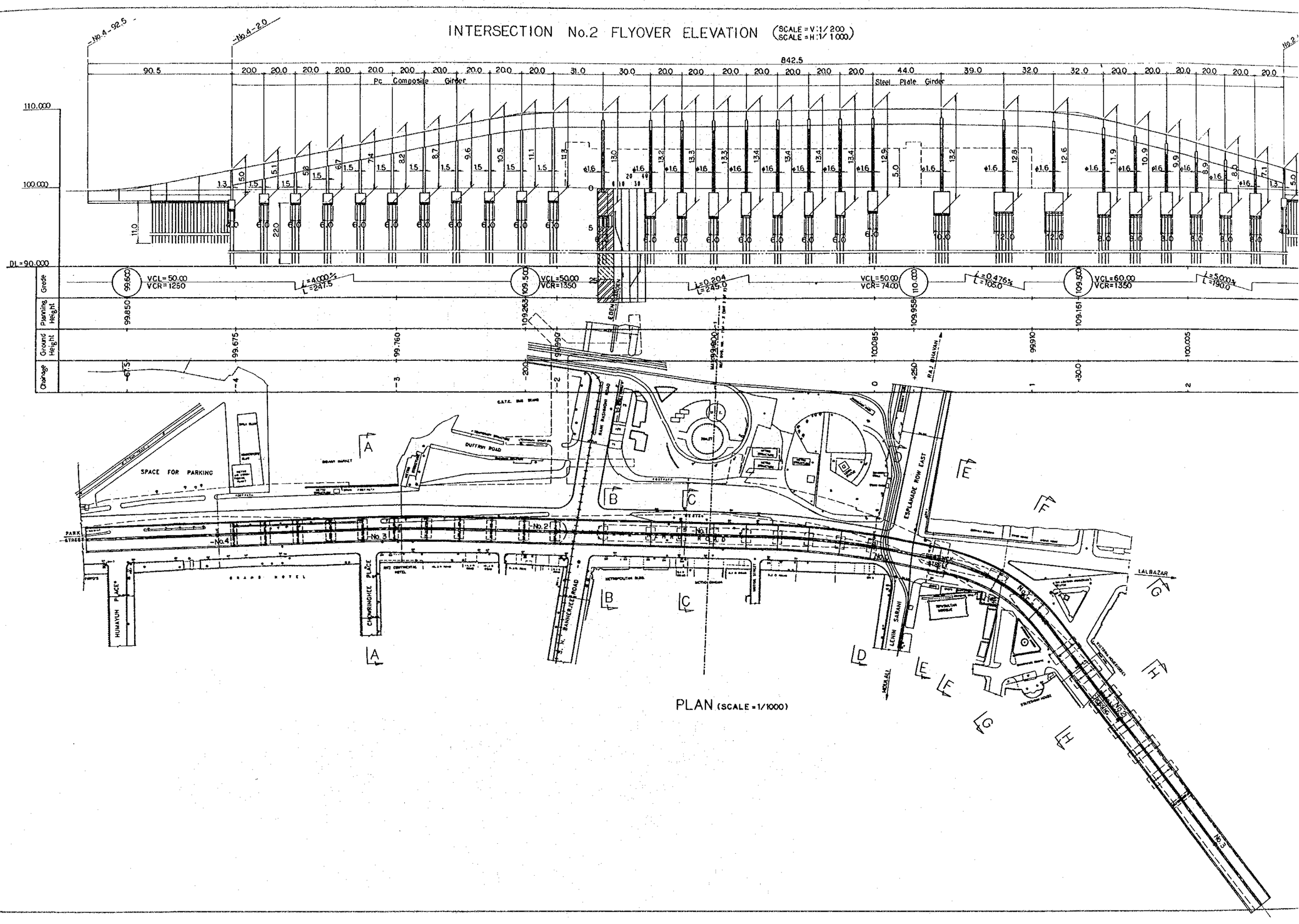
DESIGN DATA

TYPE	PC BOX GIRDAR	—— M
	PC COMPOSITE GIRDER	160.00 M
	STEEL BOX GIRDER	45.00 M
	STEEL PLATE GIRDER	232.00 M
TOTAL FLYOVER LENGTH	437.00 M	
CARRIAGEWAY WIDTH	14.00 M	
LIVE LOAD	CLASS-AA AND CLASS-A	
IMPACT COEFFICIENT	I=0.1≦40M, I=0.088>40M	I=4.5/6+L
SEISMIC COEFFICIENT	C=0.06	
STANDARD	I.R.C	

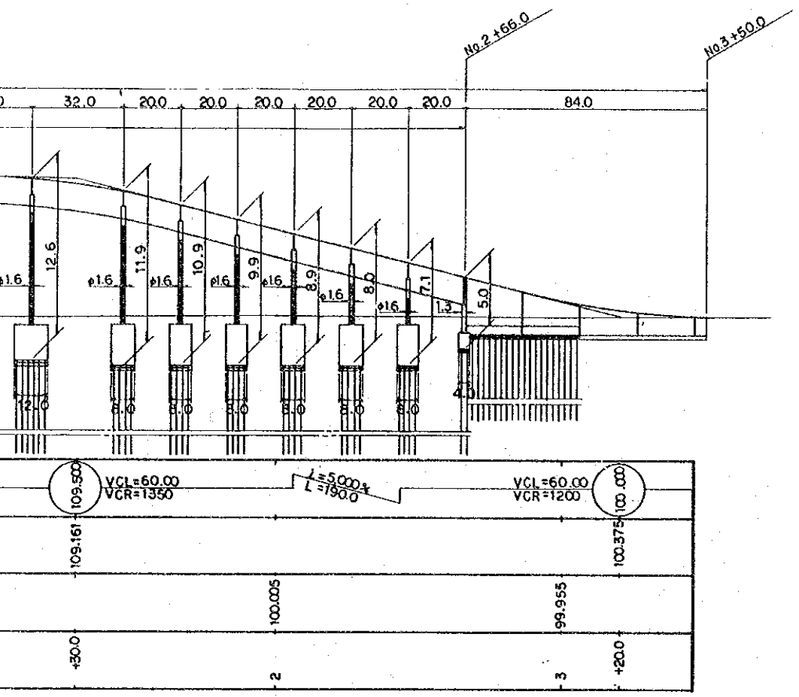
THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA IN WEST BENGAL , INDIA

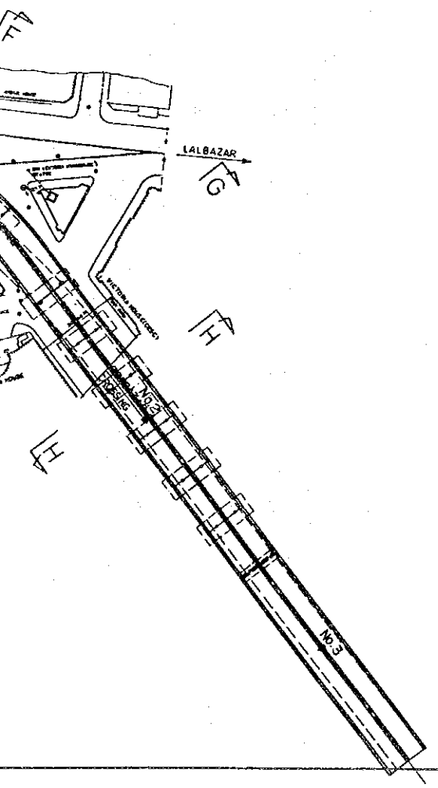
TITLE	INTERSECTION No.1 NORTH-SOUTH FLYOVER		
DATE	AUGUST 1992	SCALE	
JAPAN INTERNATIONAL COOPERATION AGENCY			D.W.G No. 3

INTERSECTION No.2 FLYOVER ELEVATION (SCALE = V:1/200 SCALE = H:1/1000)

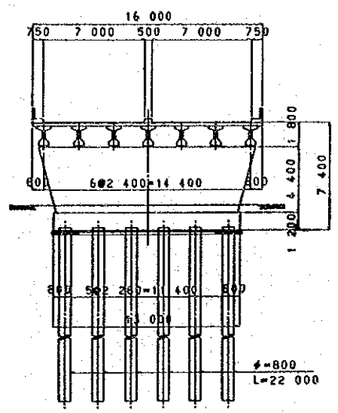


PLAN (SCALE = 1/1000)

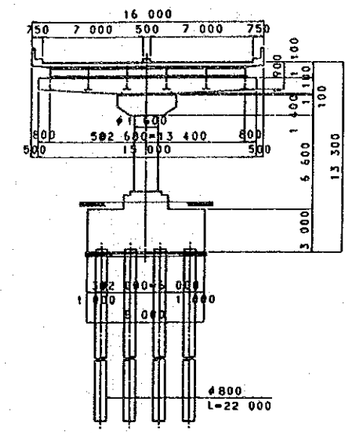




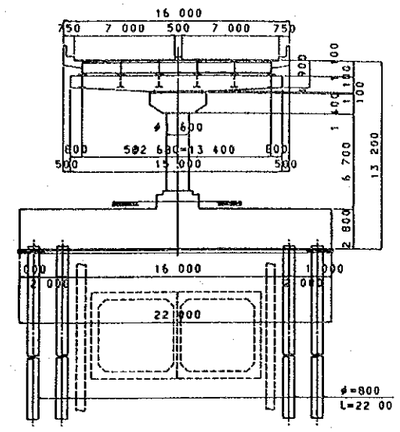
SECTION A–A (SCALE=1/200)



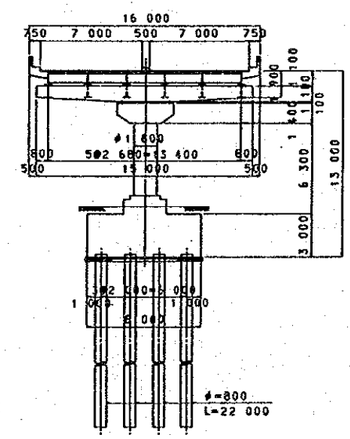
SECTION C–C (SCALE=1/200)



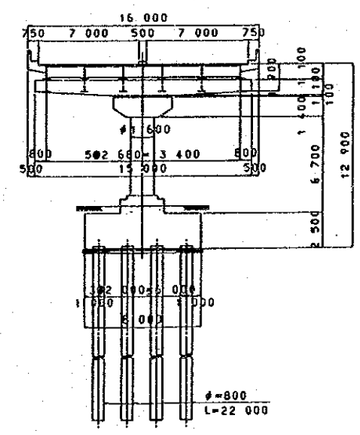
SECTION E–E (SCALE=1/200)



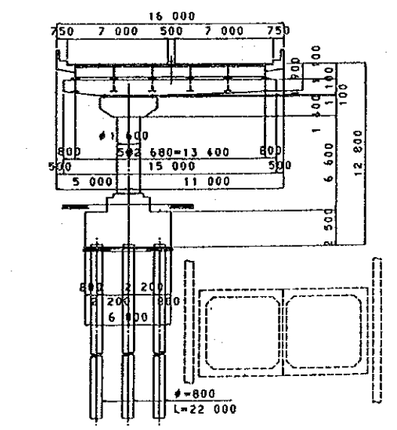
SECTION B–B (SCALE=1/200)



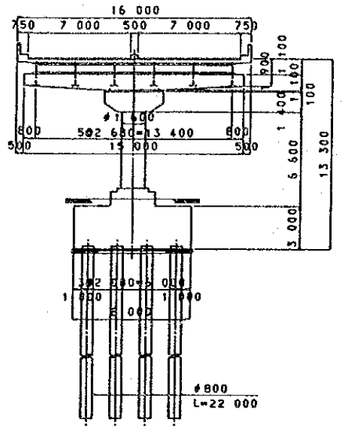
SECTION D–D (SCALE=1/200)



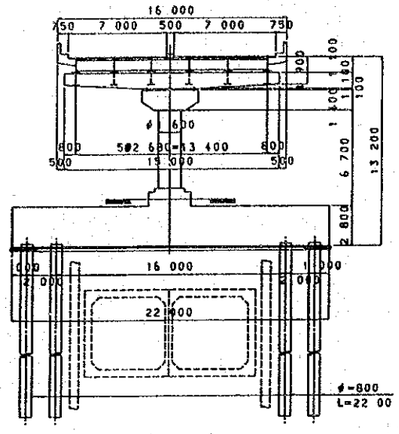
SECTION F–F (SCALE=1/200)



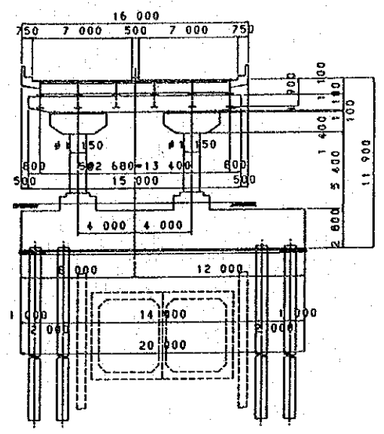
SECTION C－C (SCALE=1/200)



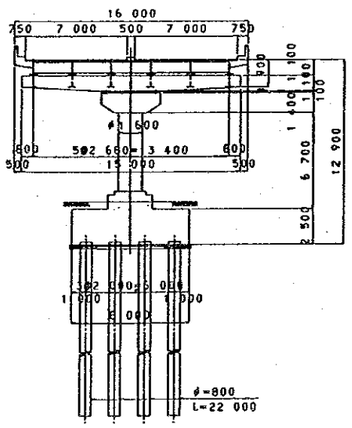
SECTION E－E (SCALE=1/200)



SECTION G－G (SCALE=1/200)



SECTION D－D (SCALE=1/200)



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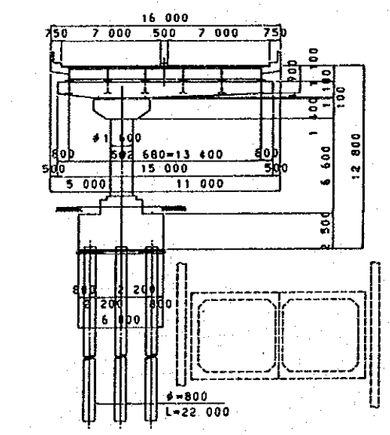
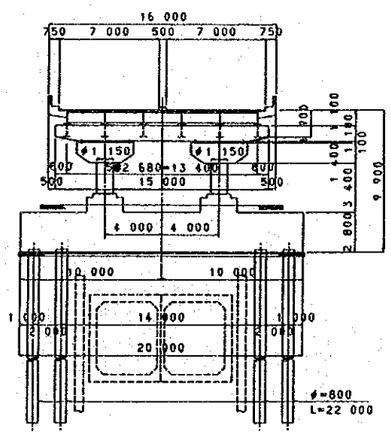


SECTION H－H (SCALE=1/200)

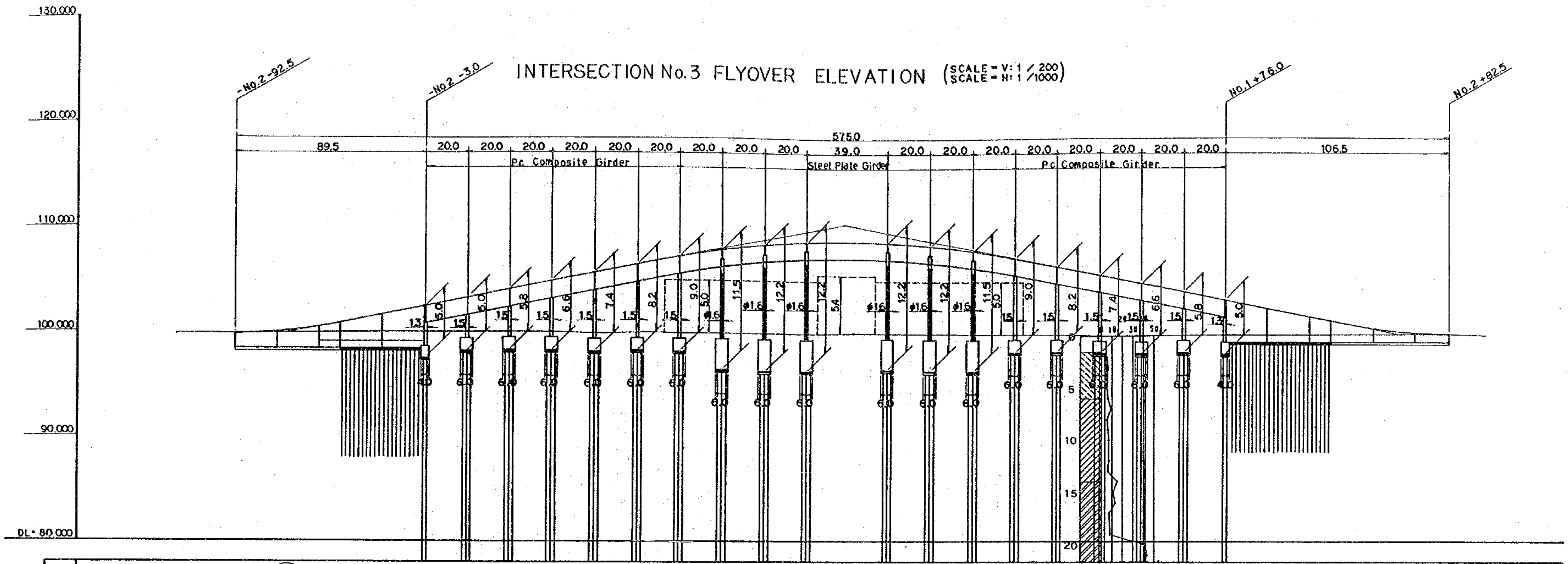


DESIGN DATA

TYPE	PC BOX GIRDAR	—— M
	PC COMPOSITE GIRDER	200.00 M
	STEEL BOX GIRDER	—— M
	STEEL PLATE GIRDER	468.00 M
TOTAL FLYOVER LENGTH	668.00 M	
CARRIAGEWAY WIDTH	14.00 M	
LIVE LOAD	CLASS-AA AND CLASS-A	
IMPACT COEFFICIENT	I=0.15≦40M, I=0.088>40M I=4.5/6+L	
SEISMIC COEFFICIENT	C=0.06	
STANDARD	I.R.C	

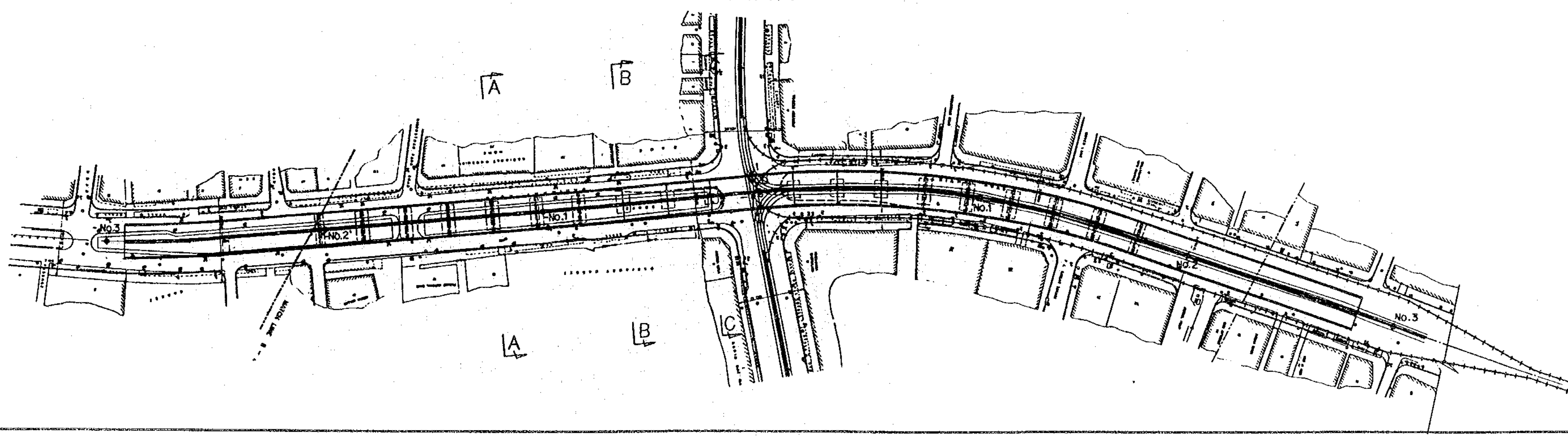
THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA IN WEST BENGAL, INDIA			
TITLE	INTERSECTION No. 2 NORTH-SOUTH FLYOVER		
DATE	AUGUST 1992	SCALE	
JAPAN INTERNATIONAL COOPERATION AGENCY			D.W.G No. 4

INTERSECTION No.3 FLYOVER ELEVATION (SCALE = V: 1 / 200, SCALE = H: 1 / 1000)

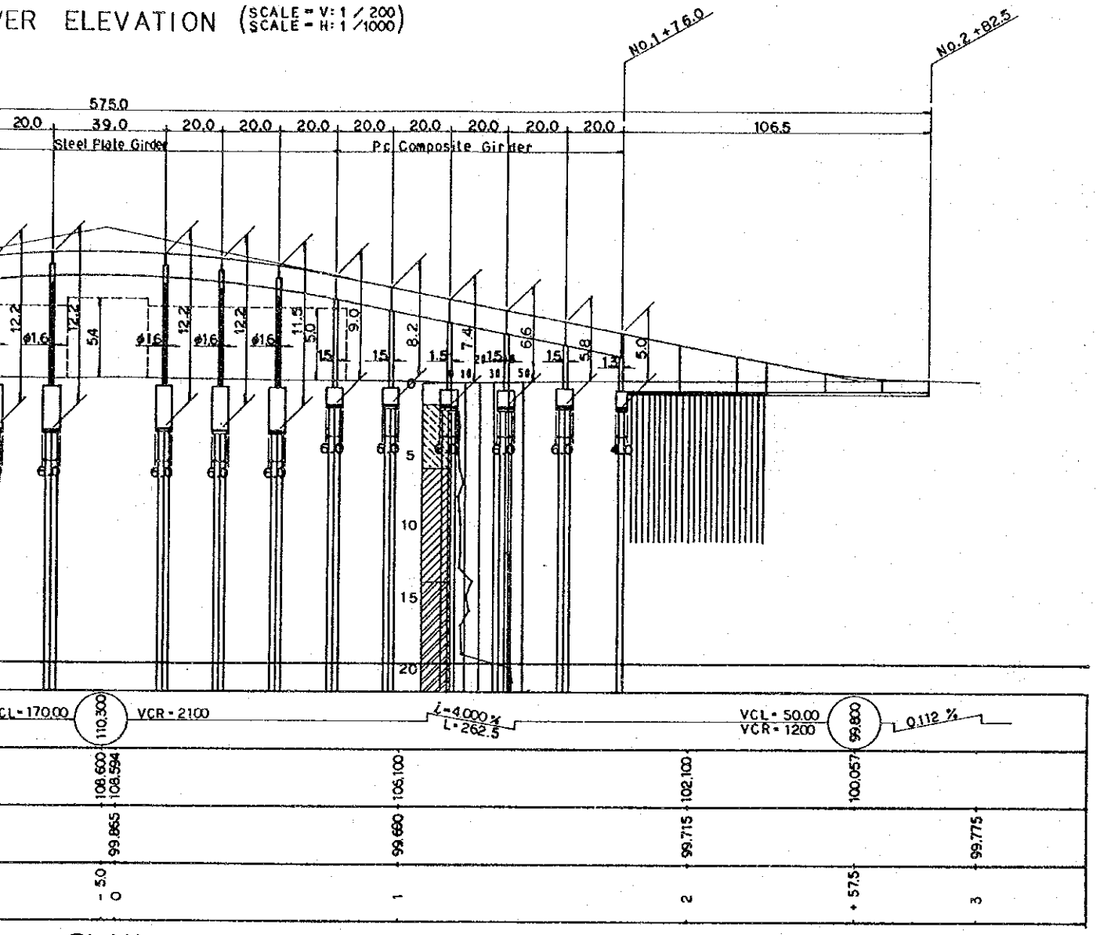


Grade	0.228 %	99.800 VCL = 50.00 VCR = 1300		i = 4000% L = 262.5	VCL = 170.00 110.300 VCR = 2100	i = 4.000 % L = 262.5		VCL = 50.00 VCR = 1200 99.800	0.112 %
Planning Height	99.735	100.036	102.500	106.500	108.600 106.594	106.100	102.100	100.057	
Ground Height	99.735		99.925	99.900	99.865	99.690	99.715		99.775
Chainage	-3	-67.5	-2	-1	5.0 0	1	2	+57.5	3

PLAN (SCALE = 1/1000)

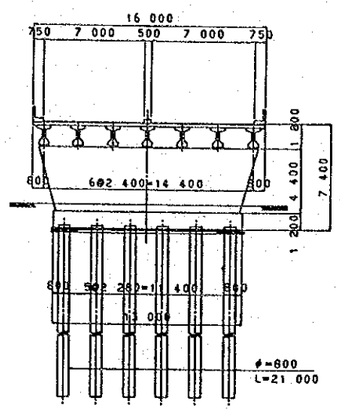


VER ELEVATION (SCALE = V: 1/200, SCALE = H: 1/1000)

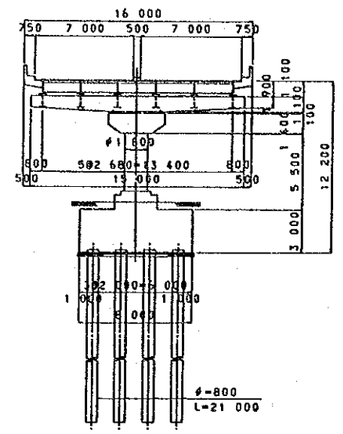


PLAN (SCALE=1/1000)

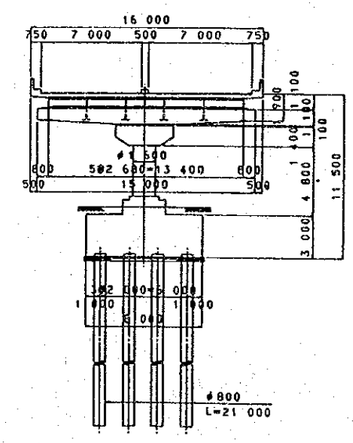
SECTION A-A (SCALE=1/200)



SECTION C-C (SCALE=1/200)



SECTION B-B (SCALE=1/200)



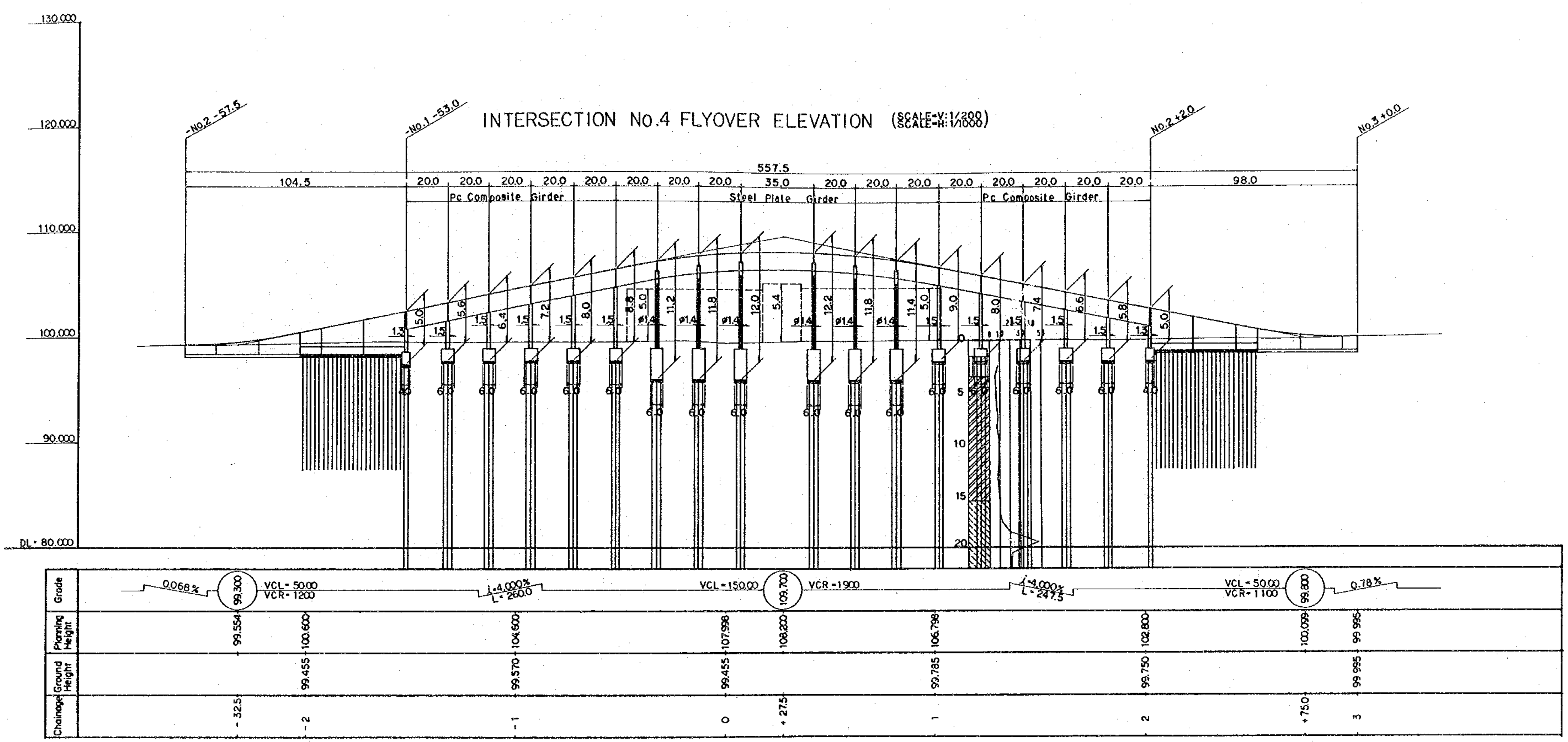
DESIGN DATA

TYPE	PC BOX GIRDAR	—— M
	PC COMPOSITE GIRDER	220.00 M
	STEEL BOX GIRDER	—— M
	STEEL PLATE GIRDER	159.00 M
TOTAL FLYOVER LENGTH	379.00 M	
CARRIAGEWAY WIDTH	14.00 M	
LIVE LOAD	CLASS-AA AND CLASS-A	
IMPACT COEFFICIENT	I=0.1≦40M, I=0.088>40M I=4.5/6+L	
SEISMIC COEFFICIENT	C=0.06	
STANDARD	I.R.C	

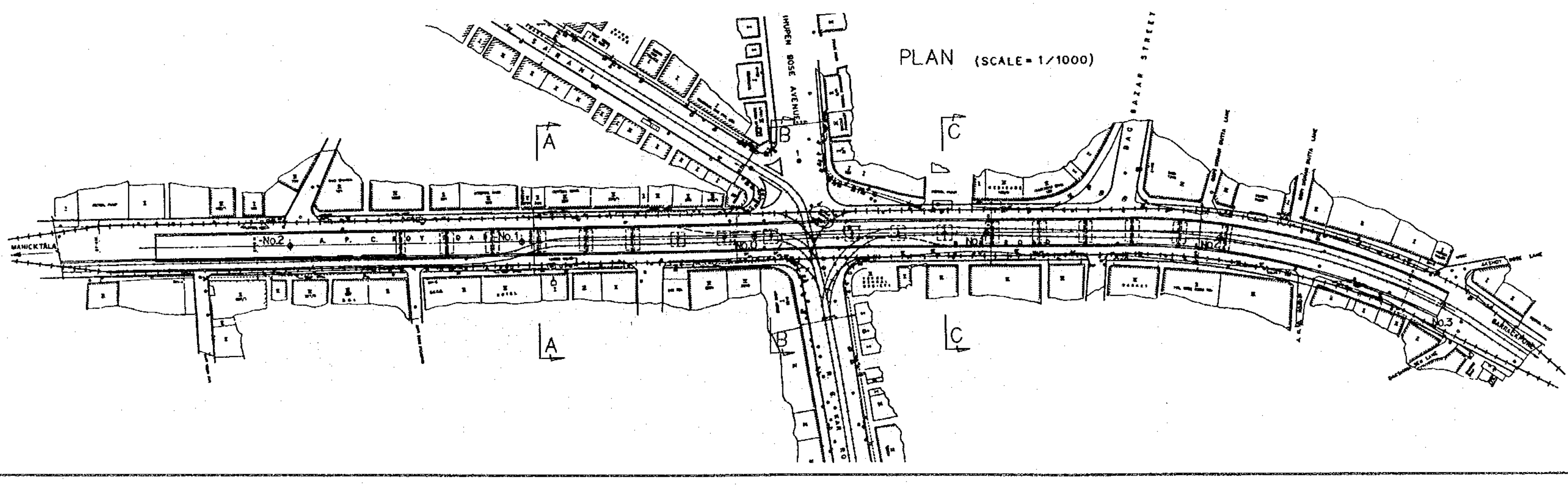
THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA IN WEST BENGAL, INDIA

TITLE	INTERSECTION No. 3 NORTH-SOUTH FLYOVER		
DATE	AUGUST 1992	SCALE	
JAPAN INTERNATIONAL COOPERATION AGENCY			D.W.G No. 5

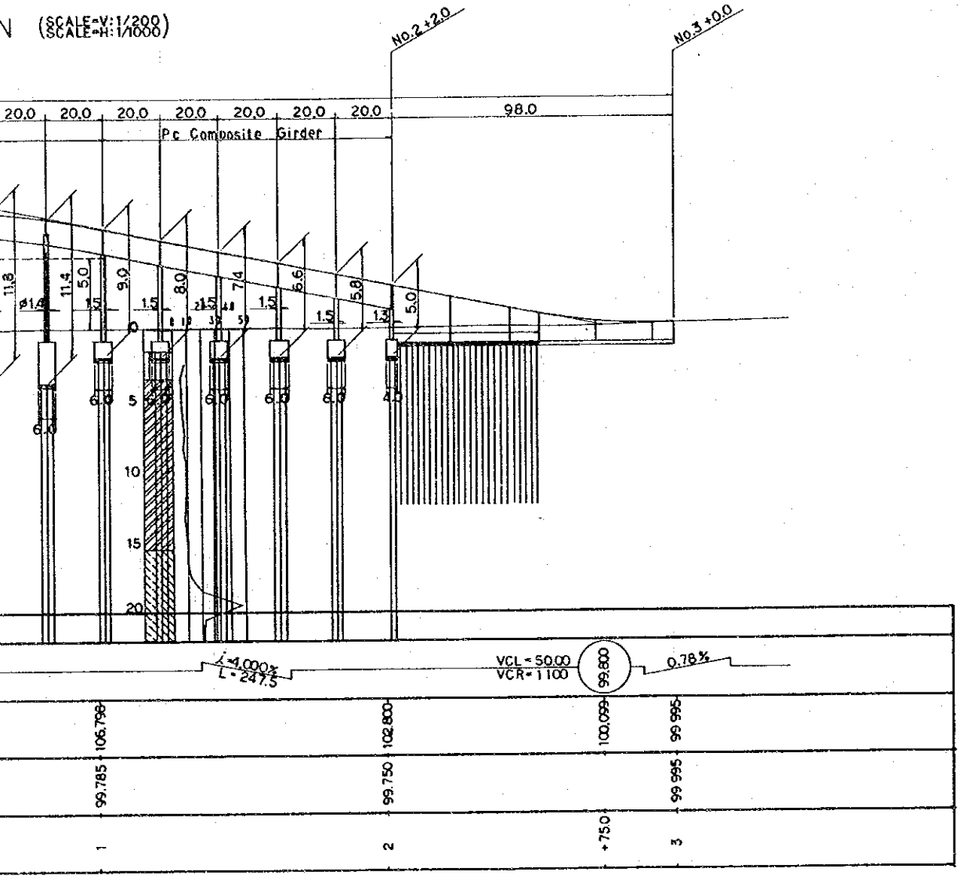
INTERSECTION No.4 FLYOVER ELEVATION (SCALE=V:1/200 SCALE=H:1/1000)



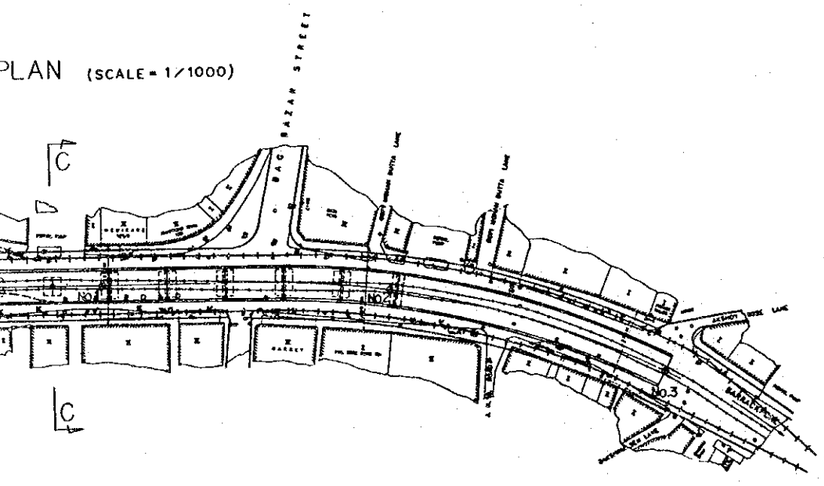
PLAN (SCALE= 1/1000)



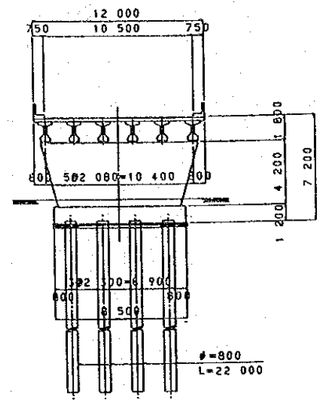
N (SCALE-V:1/200)
(SCALE-H:1/1000)



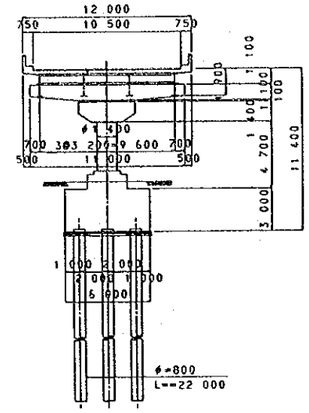
PLAN (SCALE=1/1000)



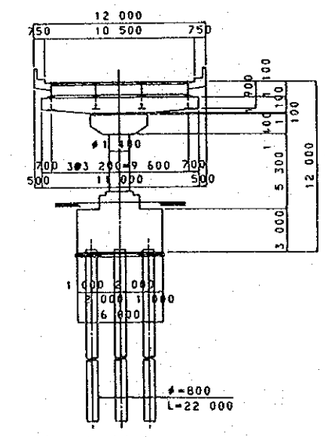
SECTION A-A (SCALE=1/200)



SECTION C-C (SCALE=1/200)



SECTION B-B (SCALE=1/200)



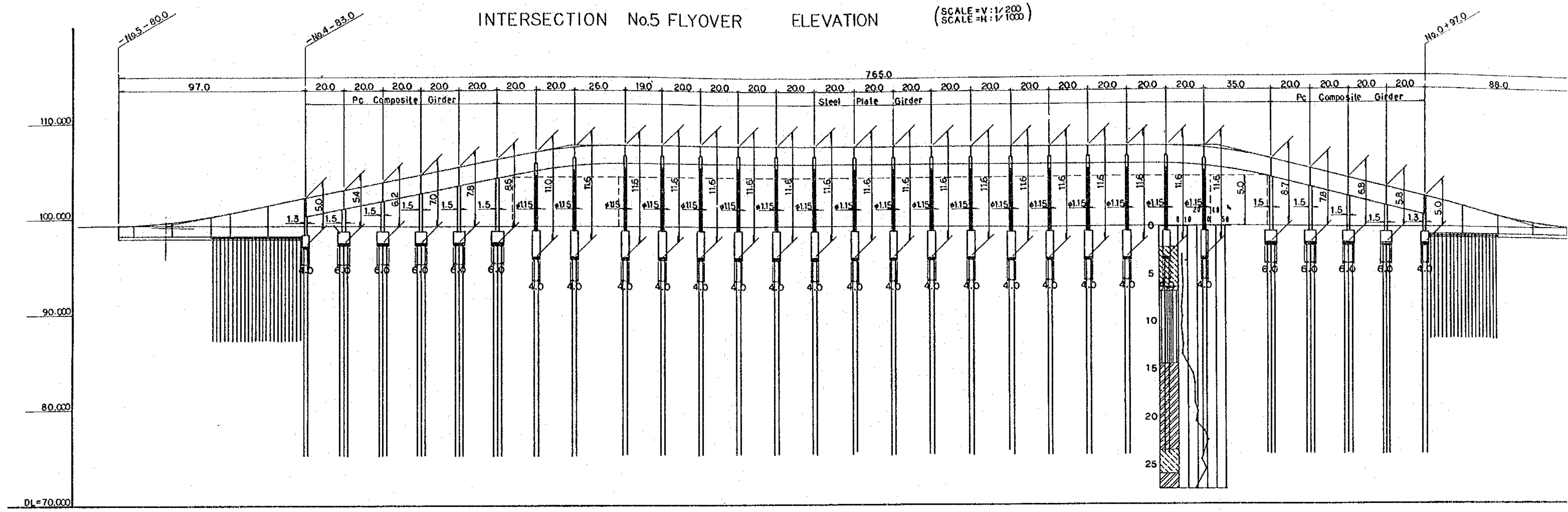
DESIGN DATA

TYPE	PC BOX GIRDAR	—— M
	PC COMPOSITE GIRDER	200.00 M
	STEEL BOX GIRDER	—— M
	STEEL PLATE GIRDER	155.00 M
TOTAL FLYOVER LENGTH	355.00 M	
CARRIAGEWAY WIDTH	10.50 M	
LIVE LOAD	CLASS-AA AND CLASS-A	
IMPACT COEFFICIENT	I=0.1≦40M, I=0.088>40M I=4.5/6+L	
SEISMIC COEFFICIENT	C=0.06	
STANDARD	I.R.C	

THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA IN WEST BENGAL , INDIA

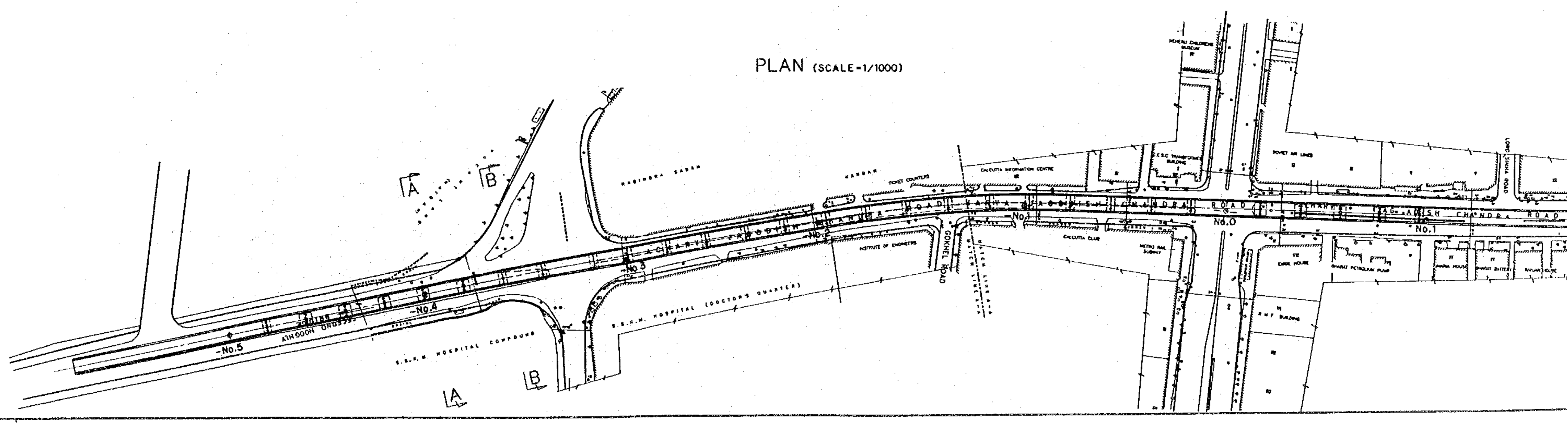
TITLE	INTERSECTION No.4 NORTH-SOUTH FLYOVER		
DATE	AUGUST 1992	SCALE	
JAPAN INTERNATIONAL COOPERATION AGENCY			D.W.G No. 6

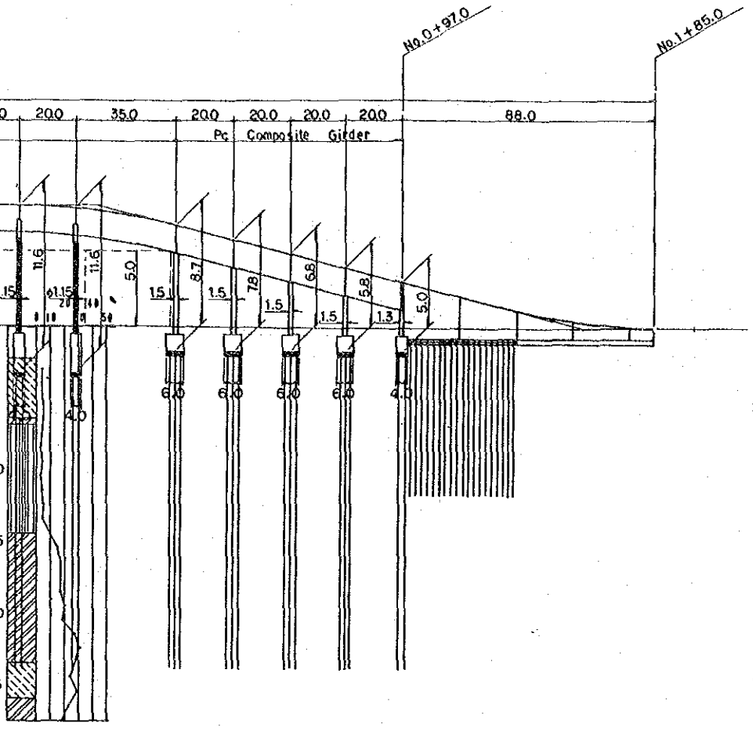
INTERSECTION No.5 FLYOVER ELEVATION (SCALE=V:1/200 SCALE=H:1/1000)



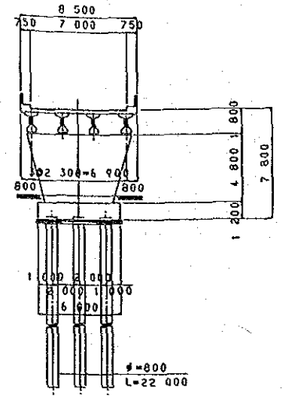
Grade	99.300 VCL=50.00 VCR=1000	i=4.000% L=210.0	VCL=50.00	107.700 VCR=990		i=0.059% L=335.0	VCL=50.00	107.500	VCR=1020 i=5.000% L=170.0	VCL=50.00 VCR=1000	99.000
Planning Height	99.550	101.500	105.500	107.450	107.670	107.610	107.550	107.190	106.890	102.000	99.310
Ground Height		99.300	99.240		99.160	99.300	99.090		99.140	98.985	
Chainage	-55.0	-5	-4	-45.0	-3	-2	-1	-10.0	0	1	+60.0

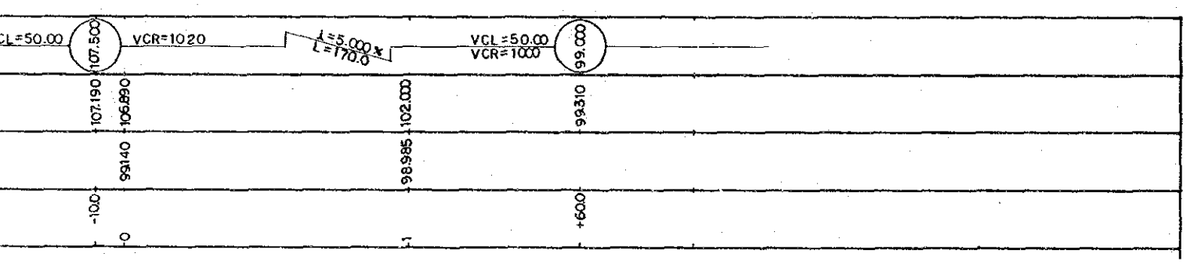
PLAN (SCALE=1/1000)

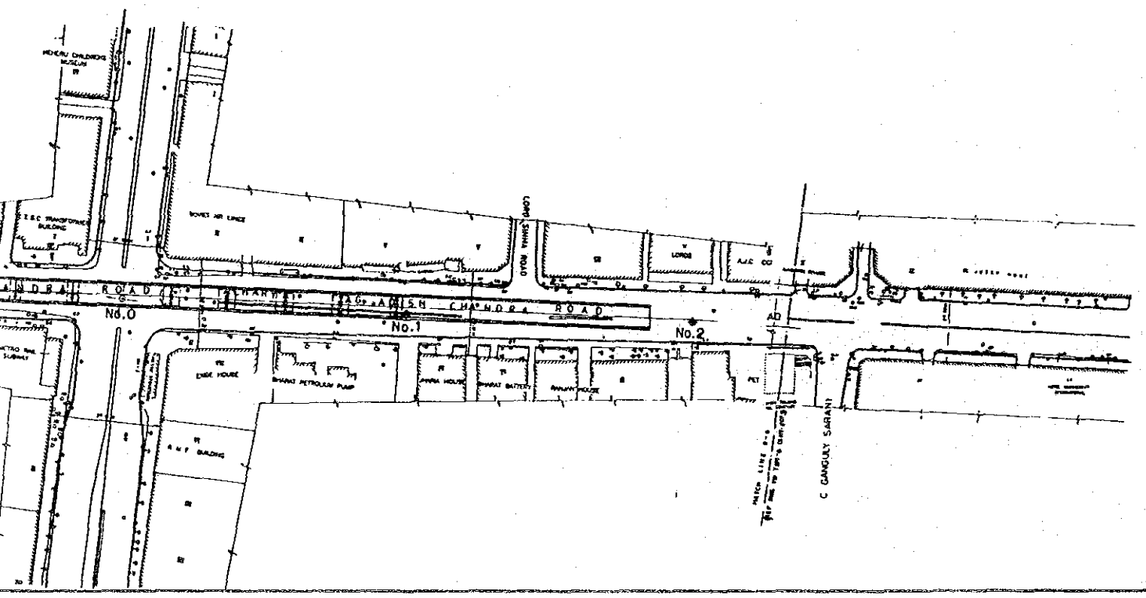




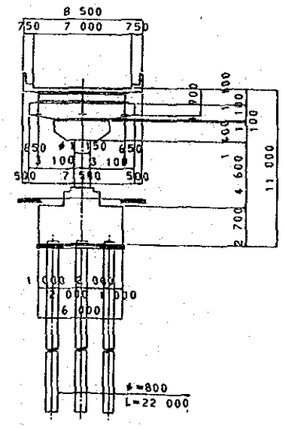
SECTION A—A (SCALE=1/200)







SECTION B—B (SCALE=1/200)



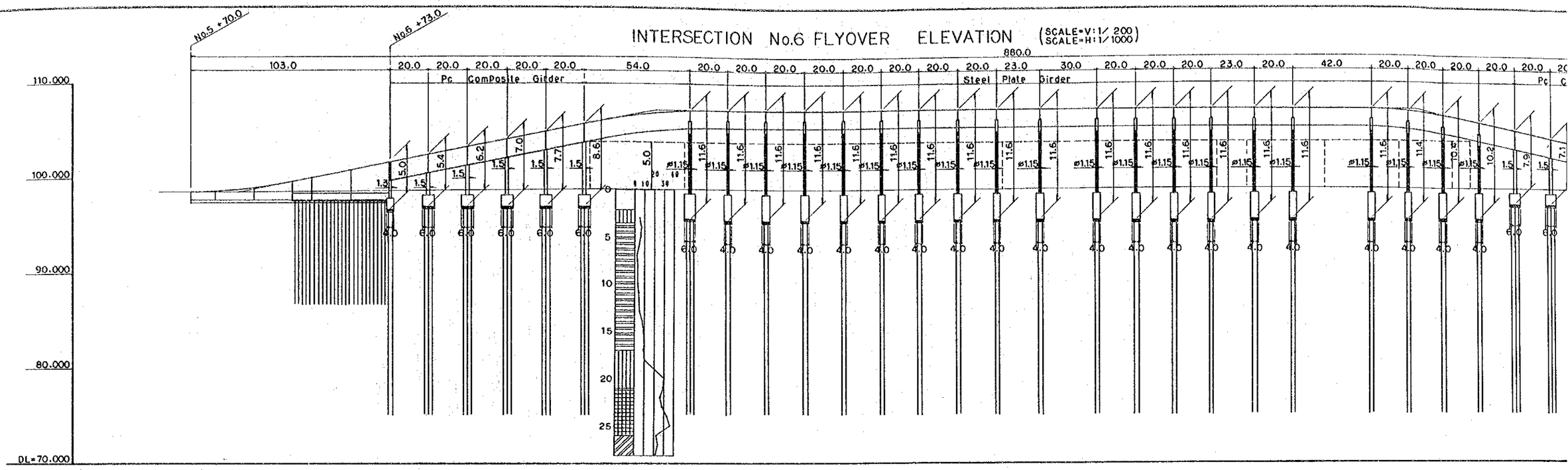
DESIGN DATA

TYPE	PC BOX GIRDAR	—— M
	PC COMPOSITE GIRDER	180.00 M
	STEEL BOX GIRDER	—— M
	STEEL PLATE GIRDER	400.00 M
TOTAL FLYOVER LENGTH	580.00 M	
CARRIAGEWAY WIDTH	7.00 M	
LIVE LOAD	CLASS-AA AND CLASS-A	
IMPACT COEFFICIENT	I=0.1≦40M, I=0.088>40M	I=4.5/6+L
SEISMIC COEFFICIENT	C=0.06	
STANDARD	I.R.C	

THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA IN WEST BENGAL, INDIA

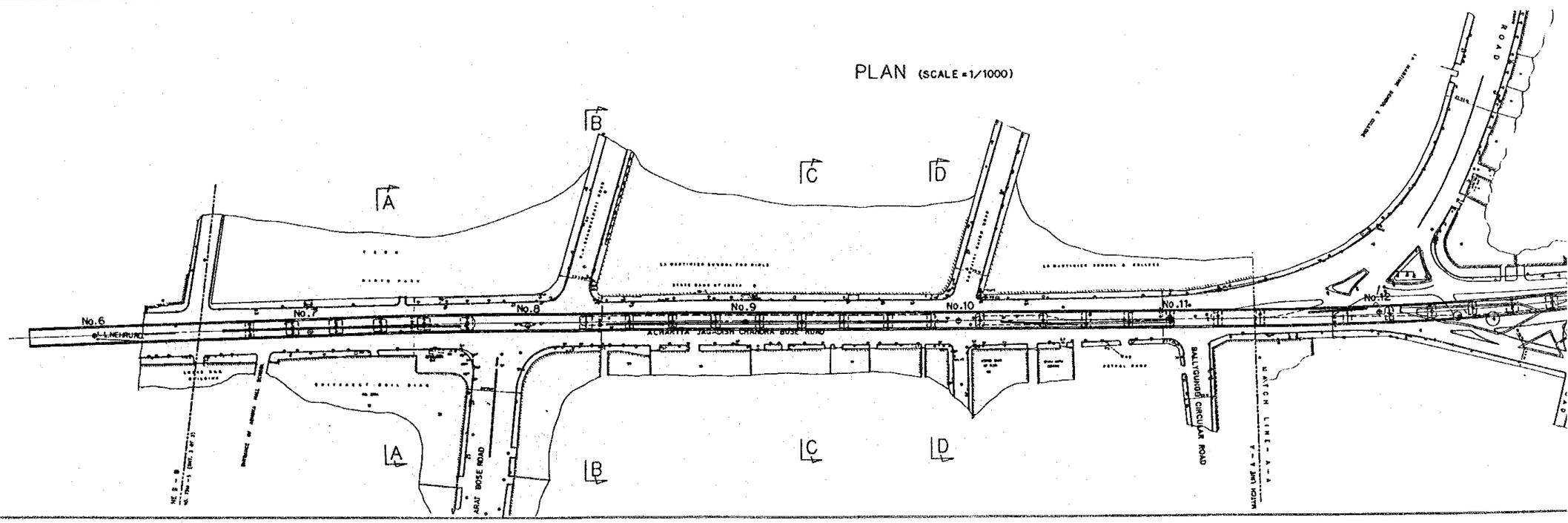
TITLE	INTERSECTION No.5 WEST-EAST FLYOVER		
DATE	AUGUST 1992	SCALE	
JAPAN INTERNATIONAL COOPERATION AGENCY			D.W.G No. 7

INTERSECTION No.6 FLYOVER ELEVATION (SCALE-V: 1/200 SCALE-H: 1/1000)

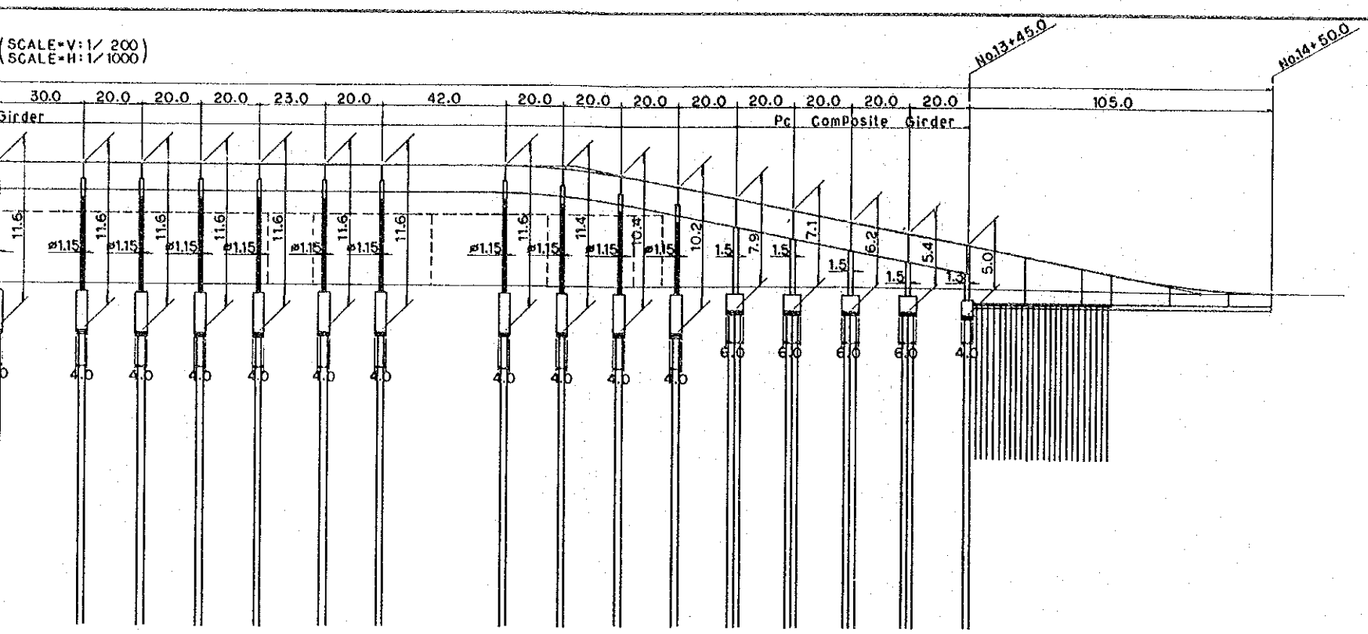


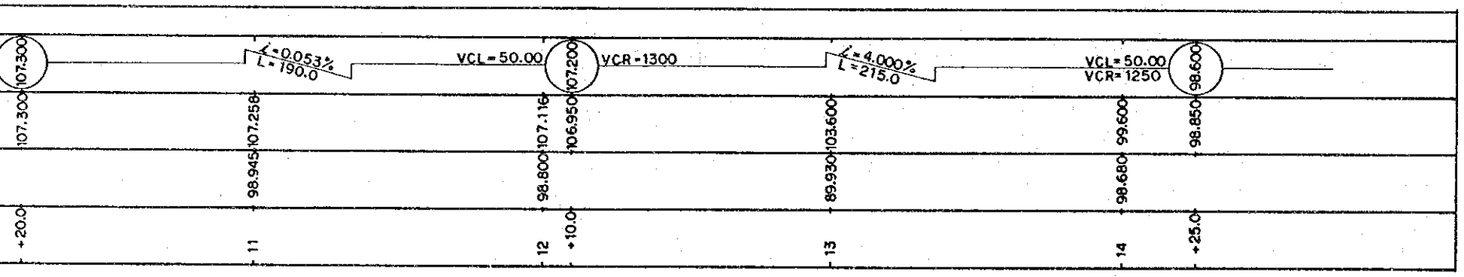
Grade	VCL=50.00 VCR=1250	98.600	i=4.000% L=215.0	VCL=50.00	107.200	VCR=1300	i=0.048% L=210.0	107.300	i=0.053% L=190.0	VCL=50.00	107.200	VCR=1300
Planning Height	98.850 98.950		102.800	106.711	106.950			107.300	107.258		107.116	106.950
Ground Height	98.545		98.775	98.825			98.825	98.820	98.945		98.800	
Chainage	+9.50 6		7	+10.0 8			9	10	+20.0 11		12	+10.0

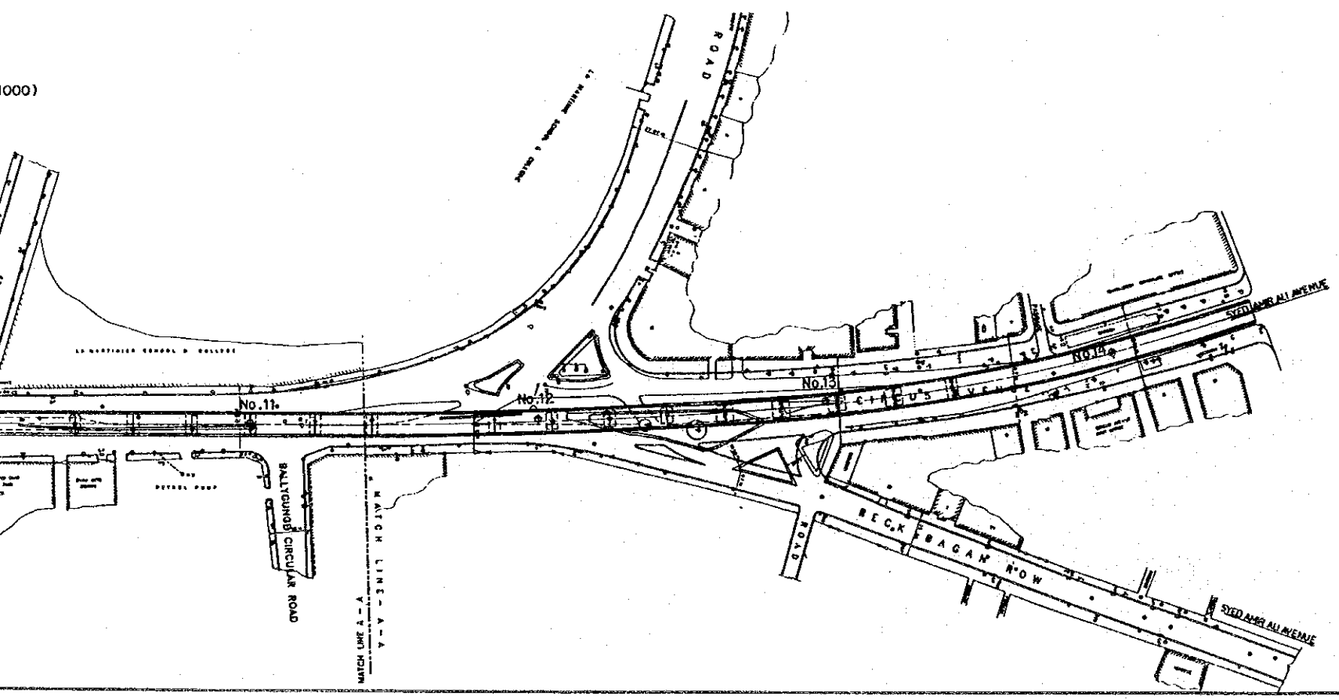
PLAN (SCALE =1/1000)



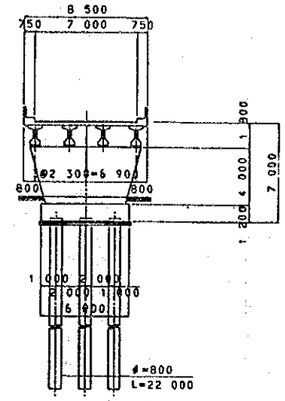
(SCALE=V:1/200)
(SCALE=H:1/1000)



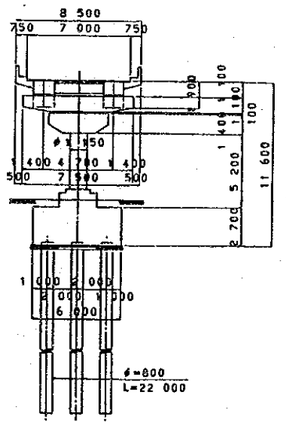




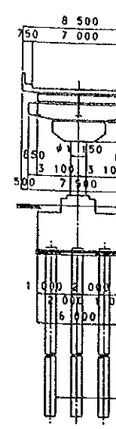
SECTION A–A (SCALE=1/200)



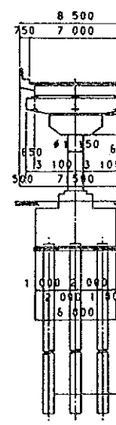
SECTION B–B (SCALE=1/200)



SECTION C–

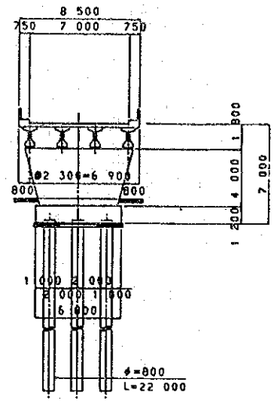


SECTION D–

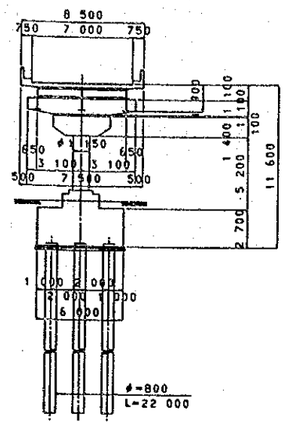


No.14+50.0

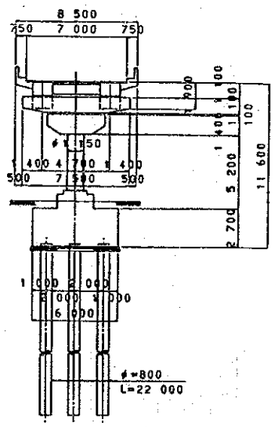
SECTION A–A (SCALE=1/200)



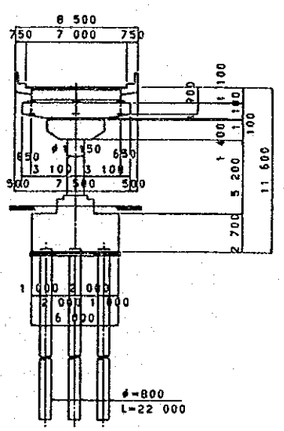
SECTION C–C (SCALE=1/200)



SECTION B–B (SCALE=1/200)



SECTION D–D (SCALE=1/200)



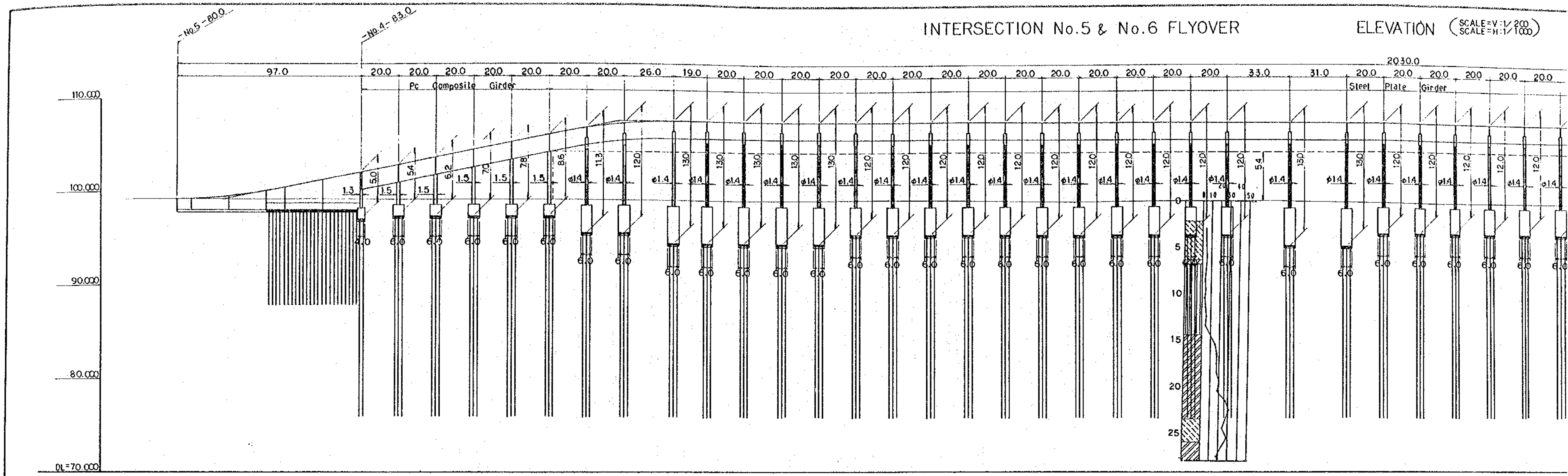
DESIGN DATA

TYPE	PC BOX GIRDAR	—— M
	PC COMPOSITE GIRDER	180.00 M
	STEEL BOX GIRDER	54.00 M
	STEEL PLATE GIRDER	438.00 M
TOTAL FLYOVER LENGTH	672.00 M	
CARRIAGEWAY WIDTH	7.00 M	
LIVE LOAD	CLASS-AA AND CLASS-A	
IMPACT COEFFICIENT	I=0.1≦40M, I=0.088>40M I=4.5/6+L	
SEISMIC COEFFICIENT	C=0.06	
STANDARD	I.R.C	

THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA IN WEST BENGAL , INDIA			
TITLE	INTERSECTION No. 6 WEST-EAST FLYOVER		
DATE	AUGUST 1992	SCALE	
JAPAN INTERNATIONAL COOPERATION AGENCY			D.W.G No. 8

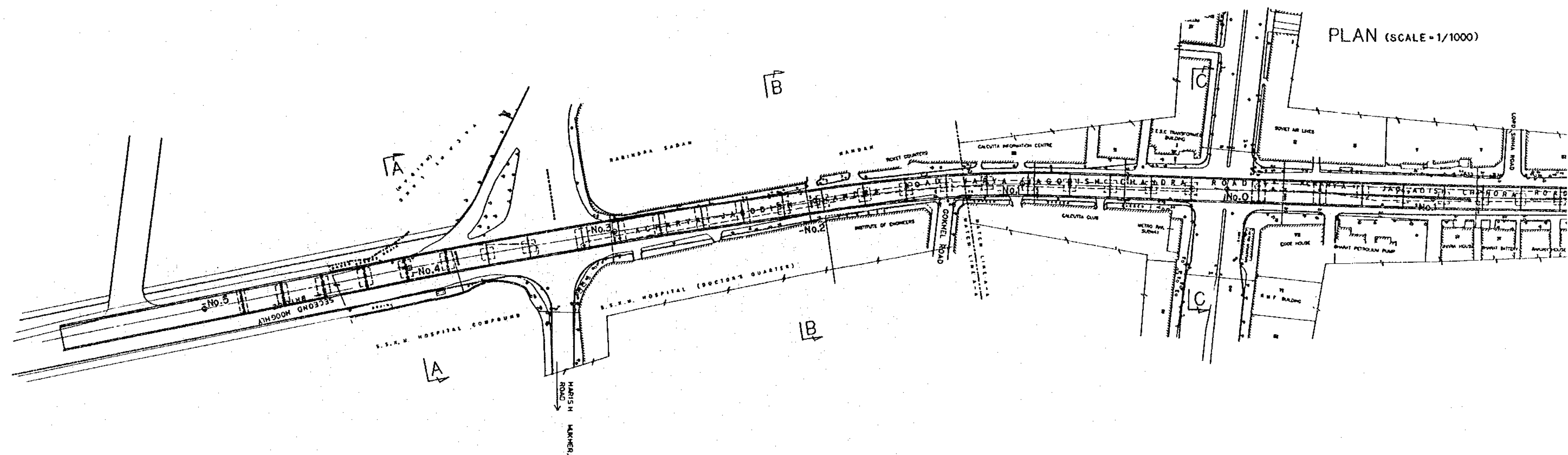
INTERSECTION No.5 & No.6 FLYOVER

ELEVATION (SCALE=V:1/200 SCALE=H:1/1000)



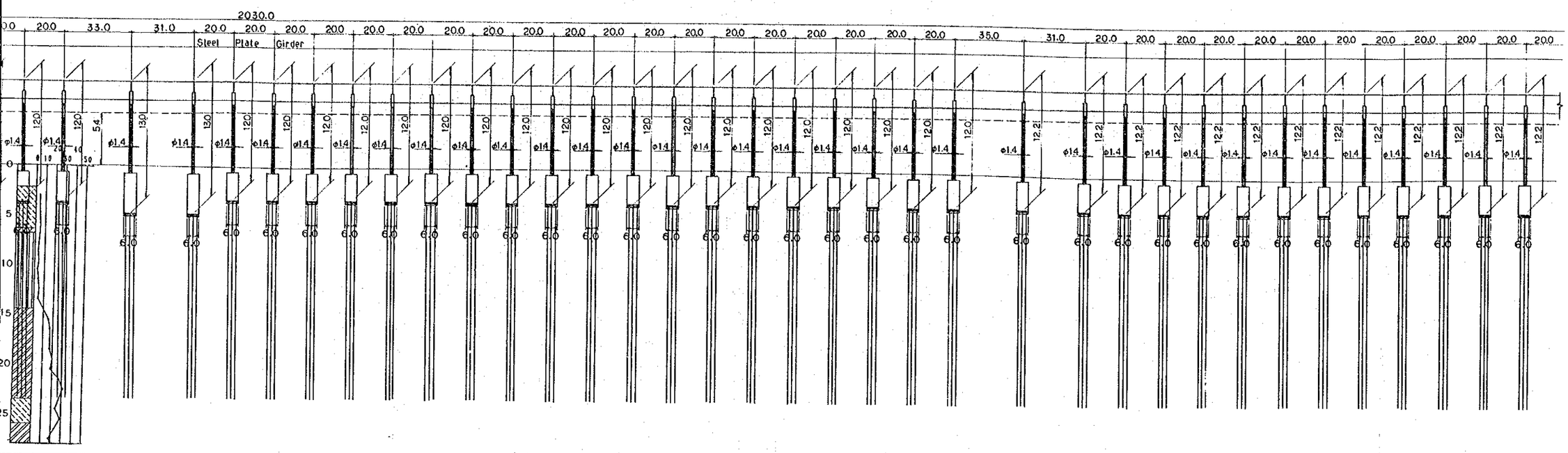
Grade	99.300	VCL=50.00 VCR=1250 · i=4.000% L=210.0		107.700	VCL=50.00 VCR=1250 · i=0.038% L=265.0		VCL=50.00	107.600	VCR=6500	
Planning Height		101.500	105.500		107.683	107.645	107.608		107.529	107.529
Ground Height		99.300	99.240		99.160	99.300	99.090		99.140	98.985
Chainage	-55.0	-5	-4	-45.0	-3	-2	-1	-80.0	0	1

PLAN (SCALE=1/1000)

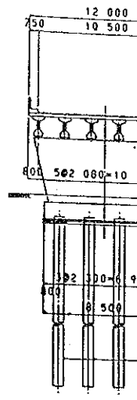


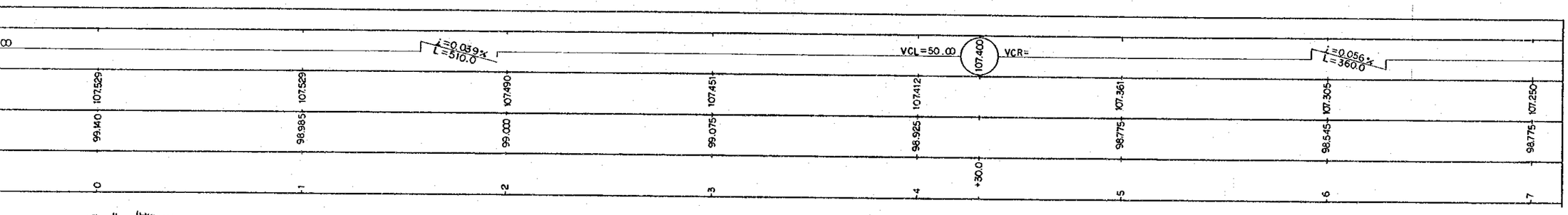
FLYOVER

ELEVATION (SCALE=V:1/200, SCALE=H:1/1000)

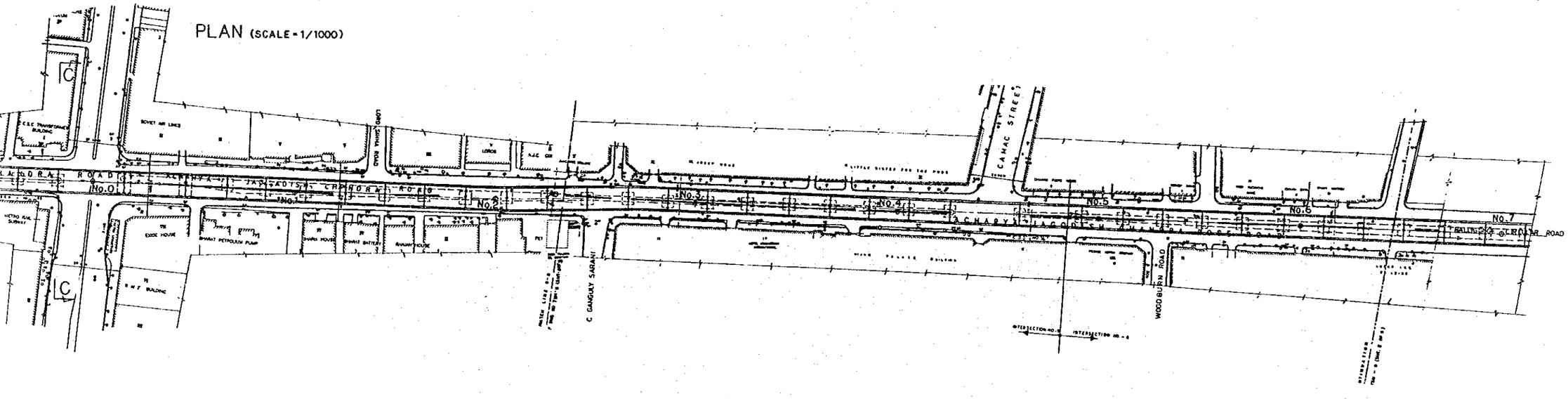


SECTION A

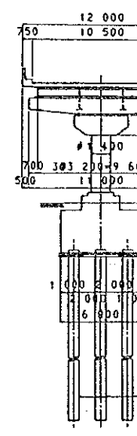


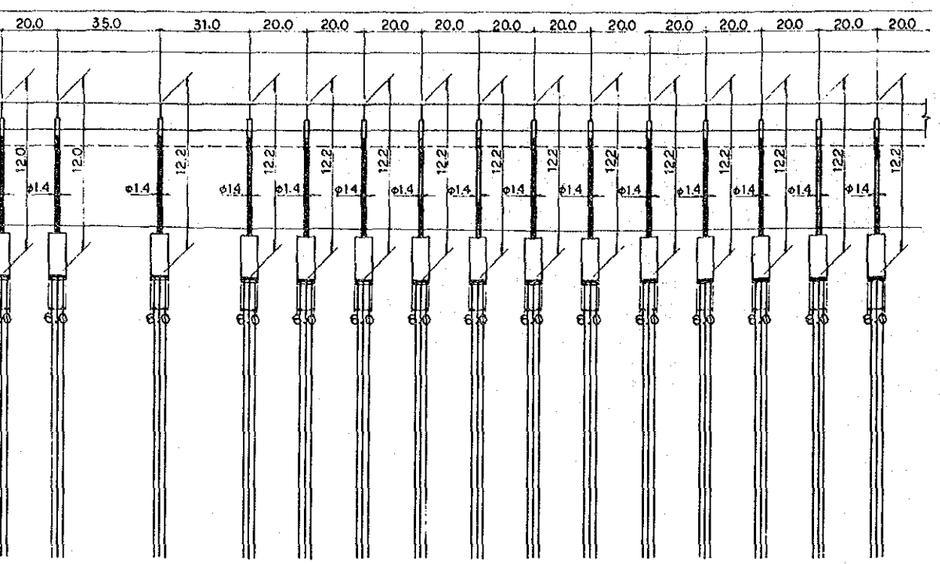


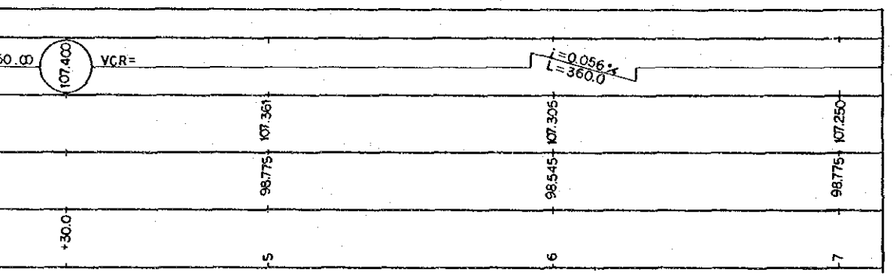
PLAN (SCALE = 1/1000)

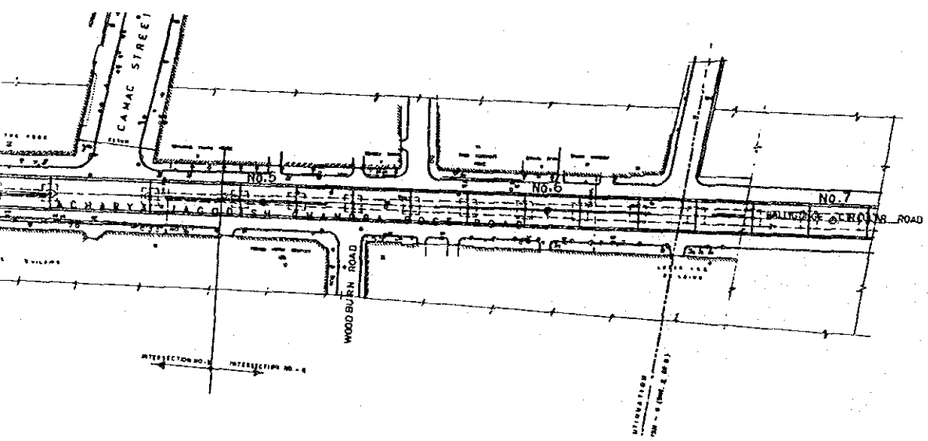


SECTION B

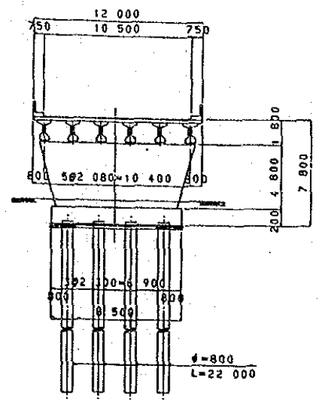




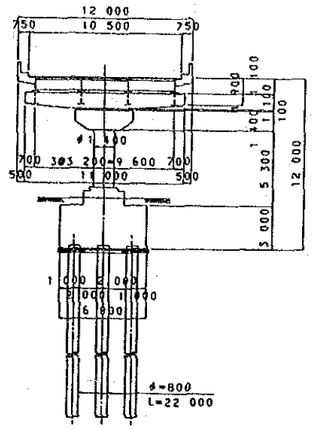




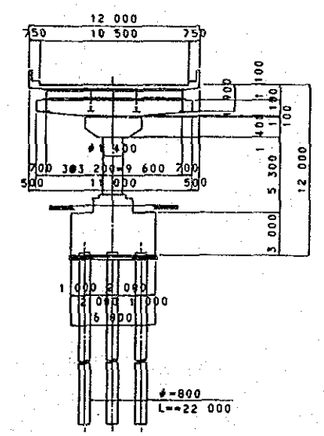
SECTION A－A (SCALE=1/200)



SECTION C－C (SCALE=1/200)



SECTION B－B (SCALE=1/200)



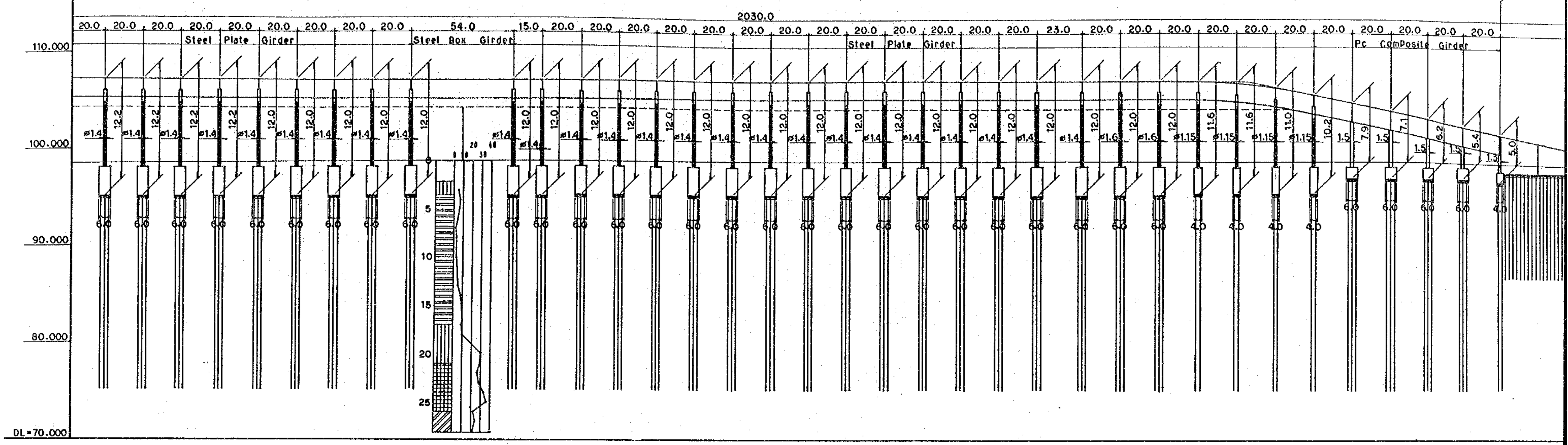
DESIGN DATA

TYPE	PC BOX GIRDAR	—— M
	PC COMPOSITE GIRDER	340.00 M
	STEEL BOX GIRDER	54.00 M
	STEEL PLATE GIRDER	1613.00 M
TOTAL FLYOVER LENGTH	2007.00 M	
CARRIAGEWAY WIDTH	10.50 M	
LIVE LOAD	CLASS-AA AND	CLASS-A
IMPACT COEFFICIENT	I=0.1≦40M, I=0.088>40M	I=4.5/6+L
SEISMIC COEFFICIENT	C=0.06	
STANDARD	I.R.C	

THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA IN WEST BENGAL, INDIA

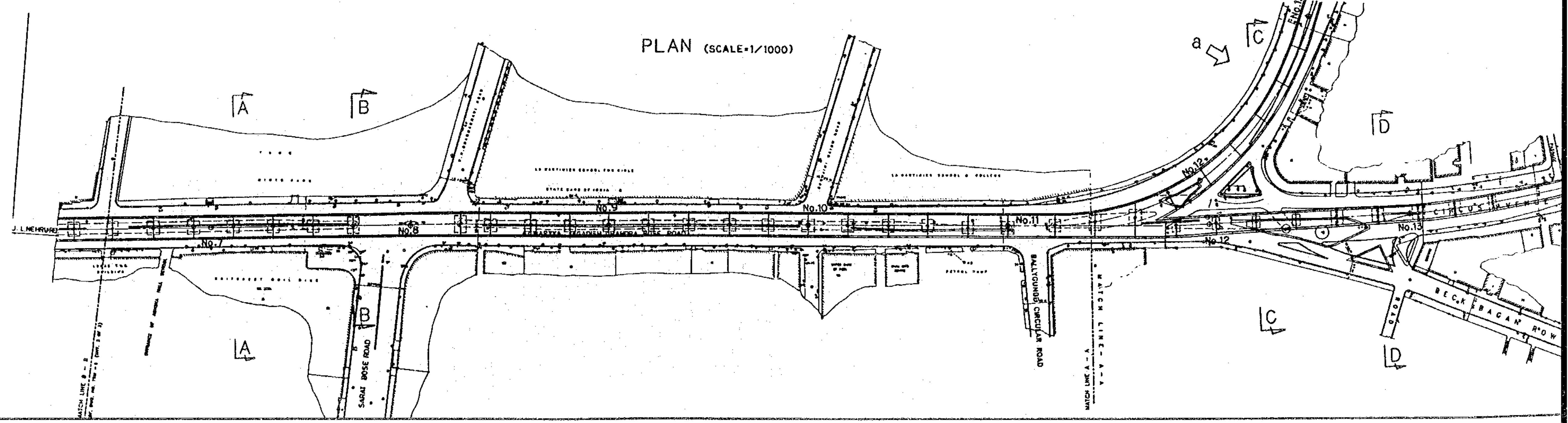
TITLE	INTERSECTION No.5&No.6 WEST-EAST FLYOVER		
DATE	AUGUST 1992	SCALE	
JAPAN INTERNATIONAL COOPERATION AGENCY			D.W.G NO. 9

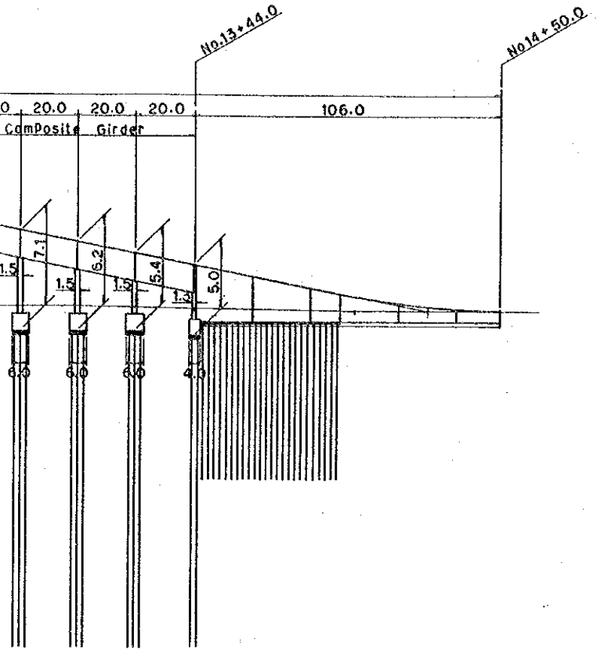
INTERSECTION No.5 & No.6 FLYOVER ELEVATION (SCALE=V:1/200 SCALE=H:1/1000)

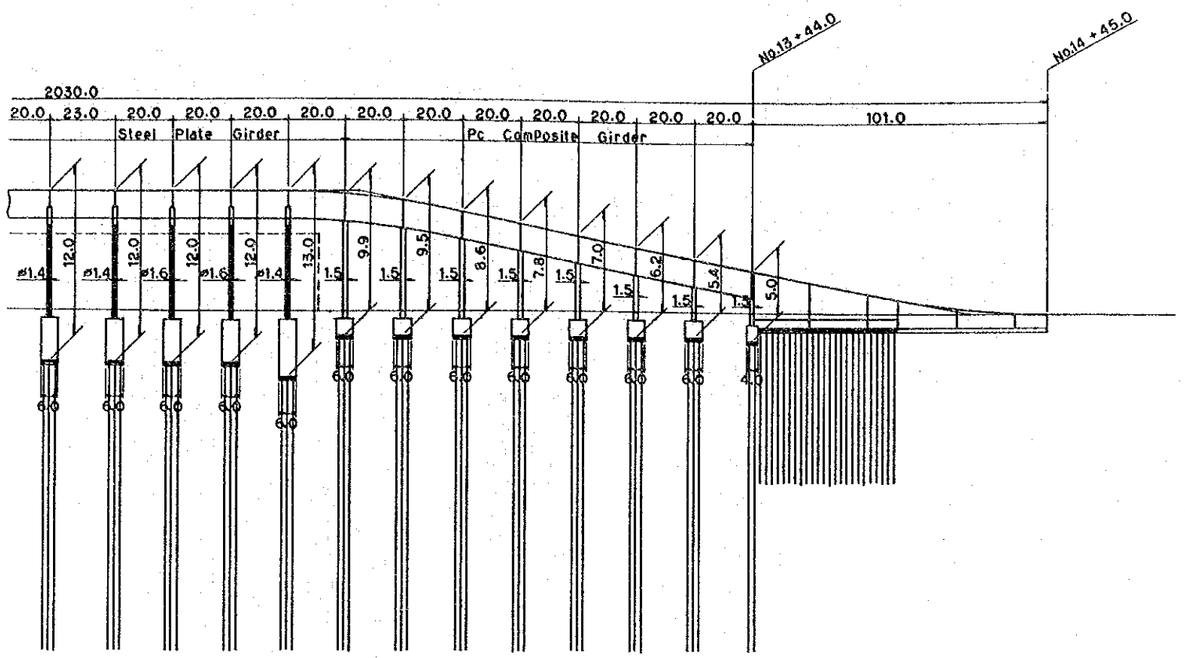


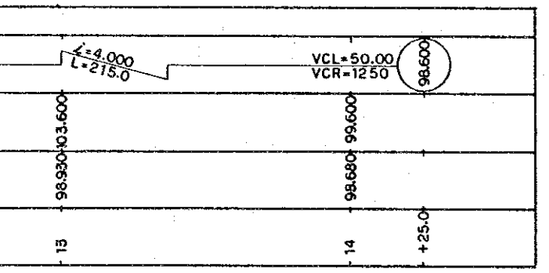
Chainage	7	+90.0	8	9	10	+20.0	11	12	+10.0	13
Grade	i=0.056% L=360.0	VCL=50.00 107.200 VCR=		i=0.043% L=230.0		VCL=50.00 107.300 VCR=	i=0.053% L=190.0		VCL=50.00 107.200 VCR=1300	i=4.000 L=215.0
Planning Height	107.250		107.200	107.248	107.291		107.258			103.600
Ground Height	98.775		98.825	98.825	98.820		98.945	98.800		98.930

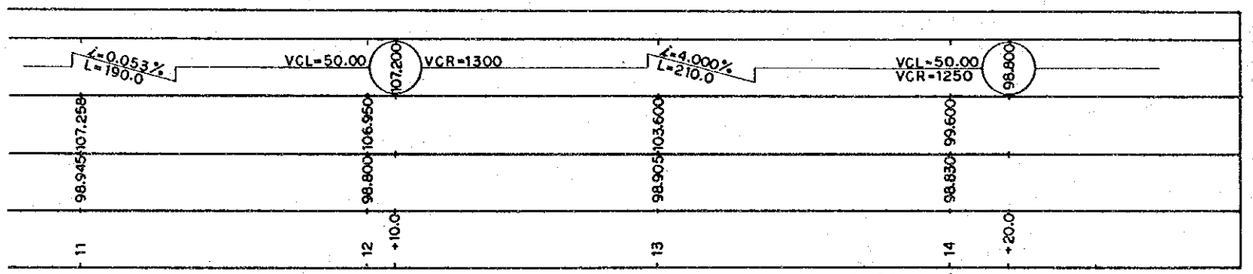
PLAN (SCALE=1/1000)



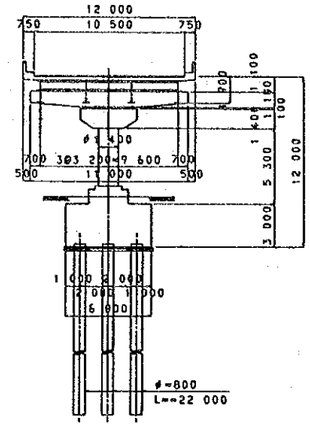




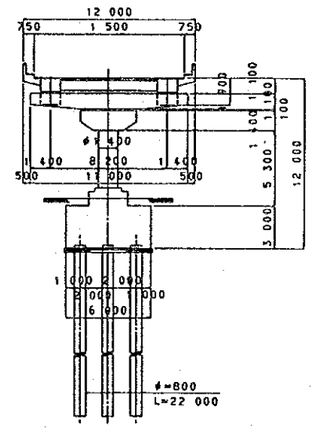


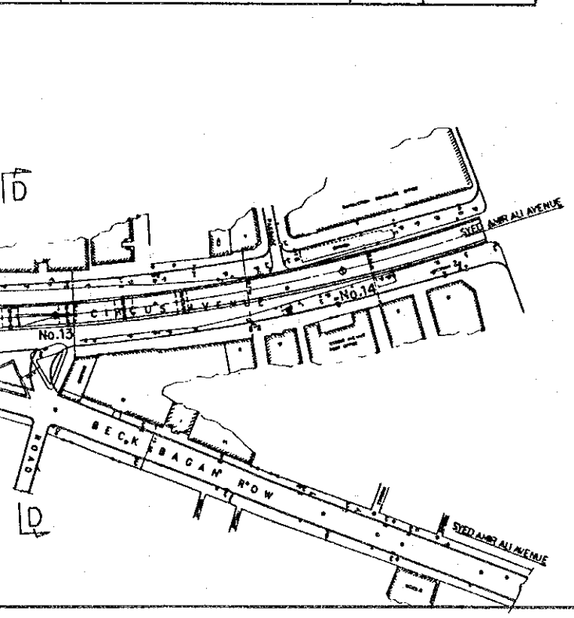


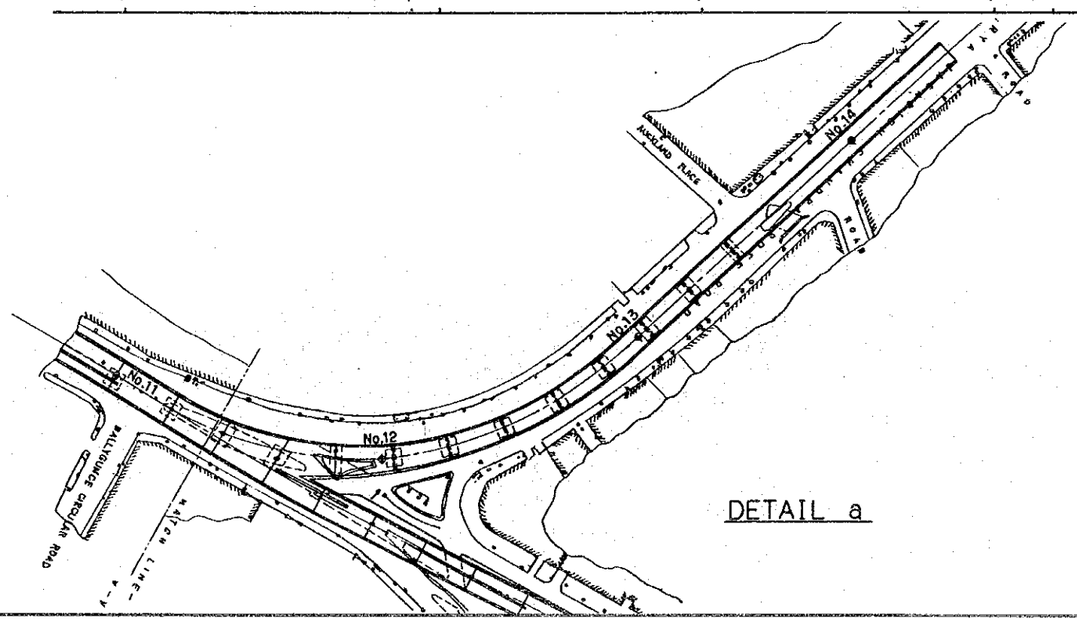
SECTION A–A (SCALE=1/200)



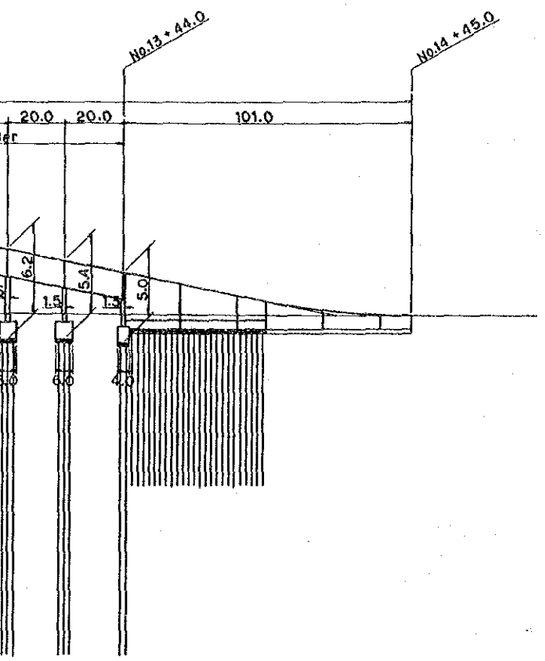
SECTION B–B (SCALE=1/200)

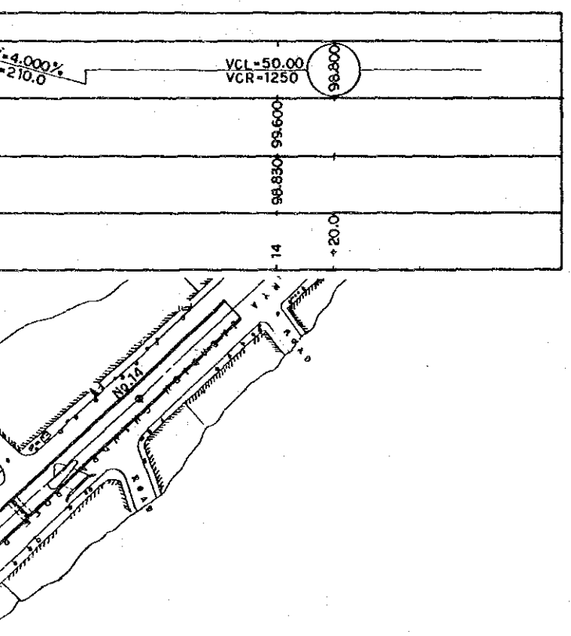






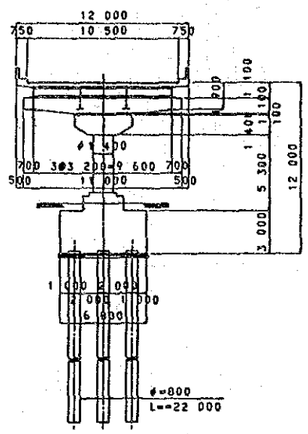
DETAIL a



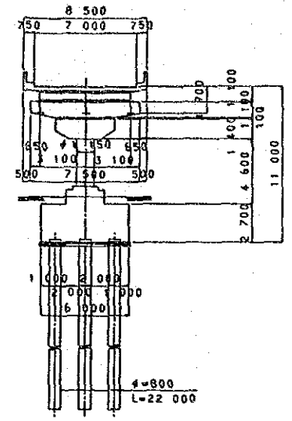


DETAIL a

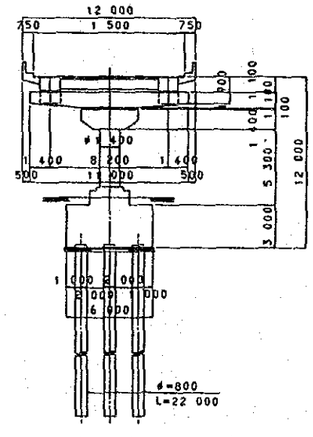
SECTION A-A (SCALE=1/200)



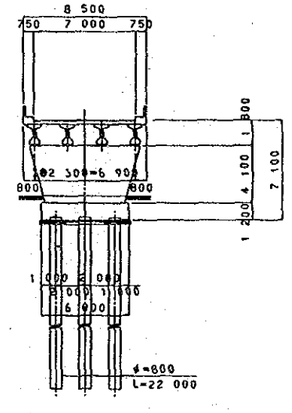
SECTION C-C (SCALE=1/200)



SECTION B-B (SCALE=1/200)



SECTION D-D (SCALE=1/200)



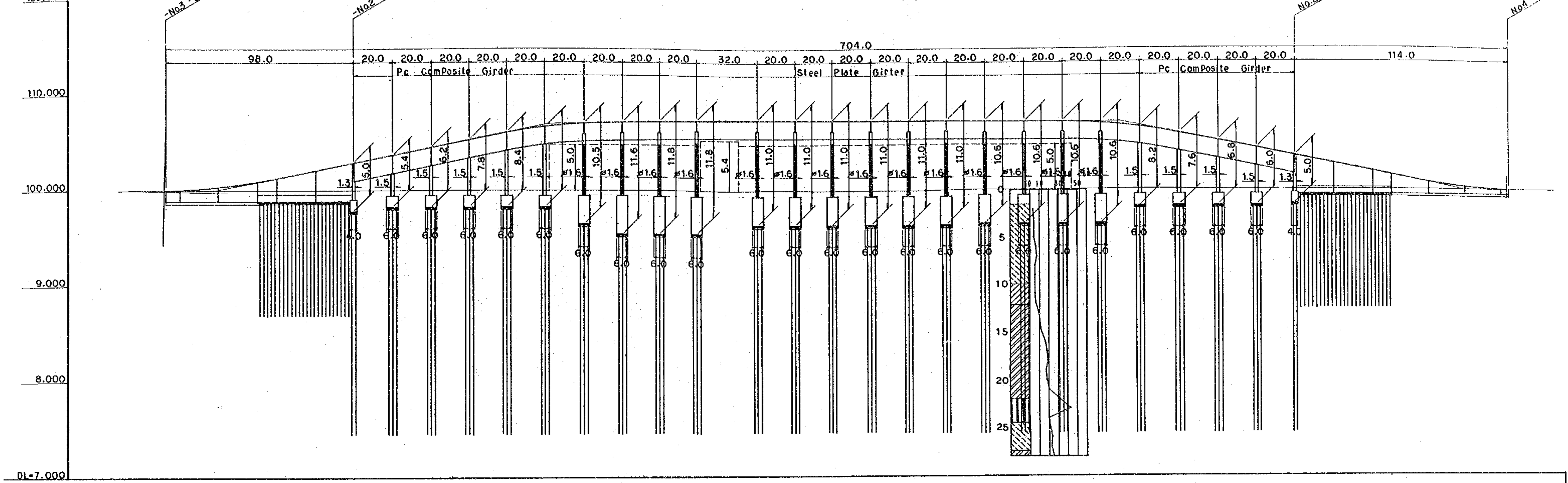
DESIGN DATA

TYPE	PC BOX GIRDAR	—— M
	PC COMPOSITE GIRDER	340.00 M
	STEEL BOX GIRDER	54.00 M
	STEEL PLATE GIRDER	1613.00 M
TOTAL FLYOVER LENGTH	2007.00 M	
CARRIAGEWAY WIDTH	10.50, 14.00, 7.00 M	
LIVE LOAD	CLASS-AA AND CLASS-A	
IMPACT COEFFICIENT	I=0.1≦40M, I=0.088>40M I=4.5/6+L	
SEISMIC COEFFICIENT	C=0.06	
STANDARD	I.R.C	

THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA IN WEST BENGAL , INDIA

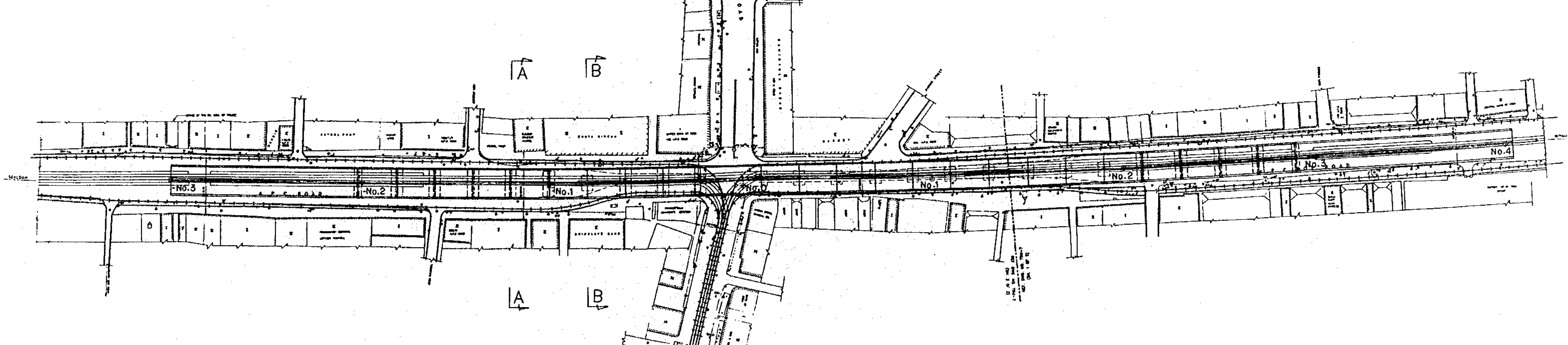
TITLE	INTERSECTION No. 5&No. 6 WEST-EAST FLYOVER		
DATE	AUGUST 1992	SCALE	
JAPAN INTERNATIONAL COOPERATION AGENCY			D.W.G No. 10

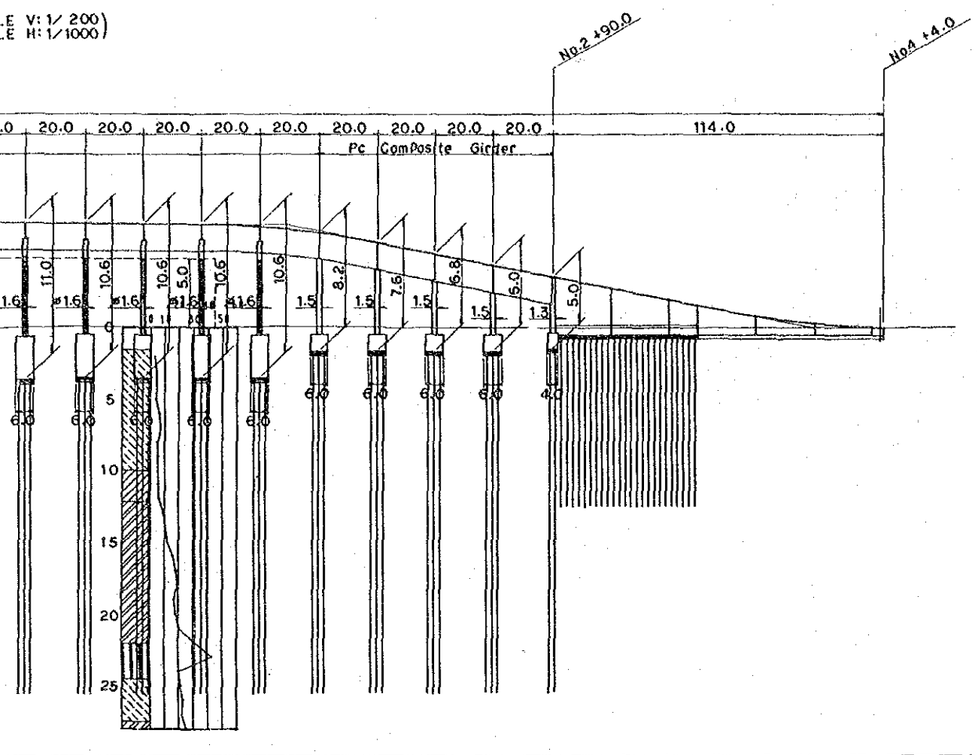
INTERSECTION No.7 FLYOVER ELEVATION (SCALE V: 1/200, SCALE H: 1/1000)

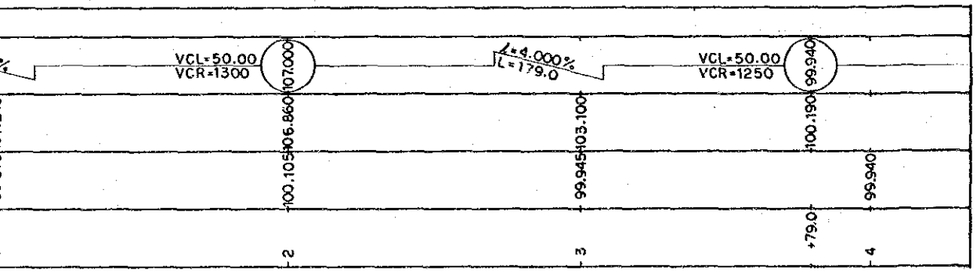


Chainage	Ground Height	Planning Height	Grade
-3		100.005	
-75.0		100.250	100.000 (VCL=50.00, VCR=1250)
			i=4.000 %, L=175.0
-2	100.005	103.000	
-1	99.985	106.780	107.000 (VCL=50.00, VCR=1400)
			i=0.444%, L=90.0
-10.0		107.363	107.000
0	99.930	107.380	VCL=50.00, VCR=8600
1	99.870	107.240	i=0.143%, L=210.0
2	100.105	106.860	107.000 (VCL=50.00, VCR=1300)
			i=4.000%, L=179.0
3	99.945	103.100	
+79.0		100.190	99.940 (VCL=50.00, VCR=1250)
4	99.940		

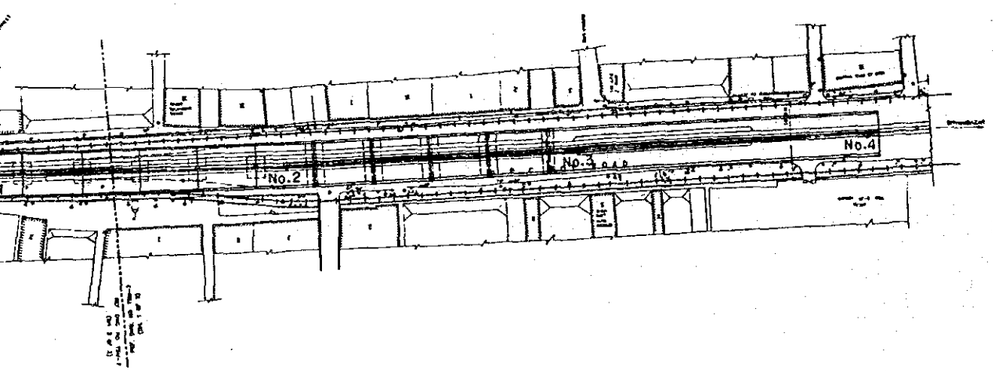
PLAN (SCALE = 1/1000)



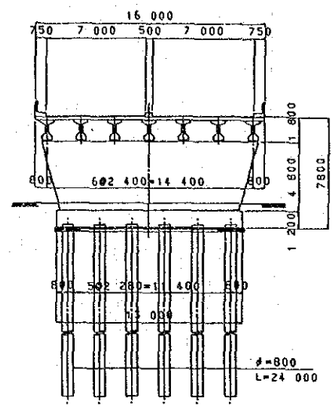




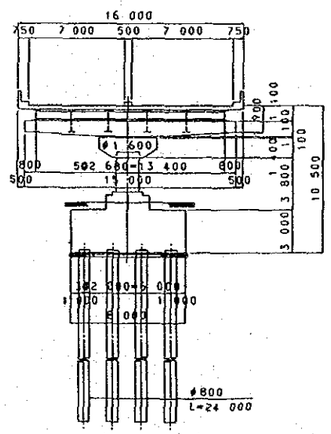
LE = 1/1000)



SECTION A—A (SCALE=1/200)



SECTION B—B (SCALE=1/200)



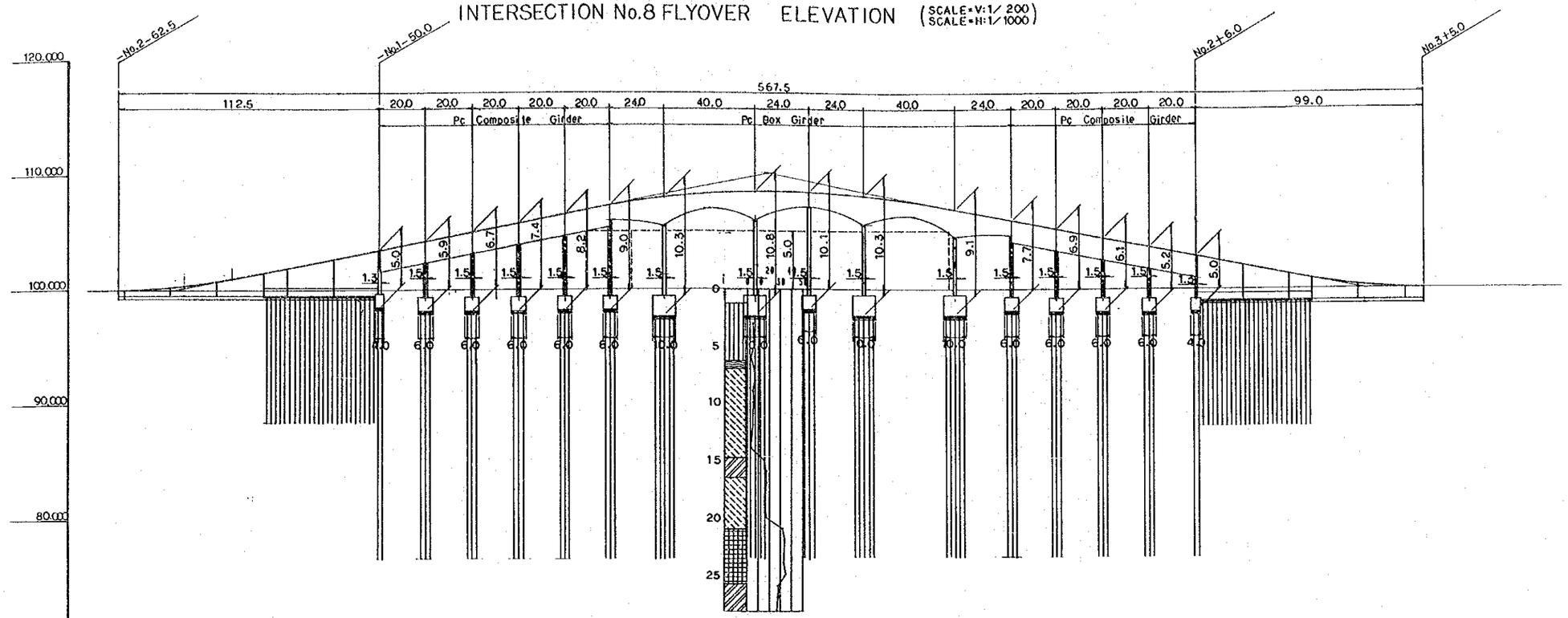
DESIGN DATA

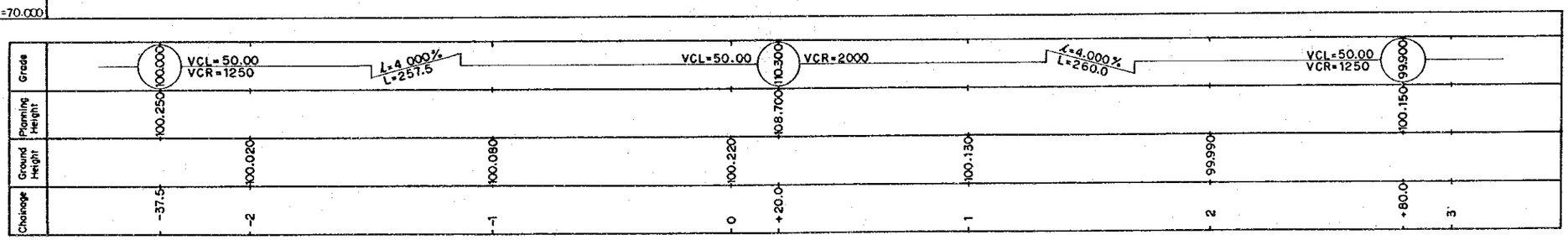
TYPE	PC BOX GIRDAR	—— M
	PC COMPOSITE GIRDER	180.00 M
	STEEL BOX GIRDER	—— M
	STEEL PLATE GIRDER	312.00 M
TOTAL FLYOVER LENGTH	492.00 M	
CARRIAGEWAY WIDTH	14.00 M	
LIVE LOAD	CLASS-AA AND CLASS-A	
IMPACT COEFFICIENT	I=0.1≦40M, I=0.088>40M	I=4.5/6+L
SEISMIC COEFFICIENT	C=0.06	
STANDARD	I.R.C	

THE TRANSPORT INFRASTRUCTURE DEVELOPMENT PROJECT IN CALCUTTA IN WEST BENGAL, INDIA

TITLE	INTERSECTION No. 7 NORTH-SOUTH FLYOVER		
DATE	AUGUST 1992	SCALE	
JAPAN INTERNATIONAL COOPERATION AGENCY			D.W.G No. 11

INTERSECTION No.8 FLYOVER ELEVATION (SCALE=V:1/200 SCALE=H:1/1000)





PLAN (SCALE = 1/1000)