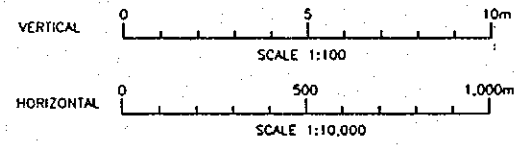


LEGEND	
- - - -	: LEFT GROUND
- - - -	: RIGHT GROUND
- - - -	: LOWEST RIVERBED
- - - -	: AVERAGE RIVERBED
- - - -	: EXISTING DIKE CROWN (RIGHT BANK)
- - - -	: EXISTING DIKE CROWN (LEFT BANK)

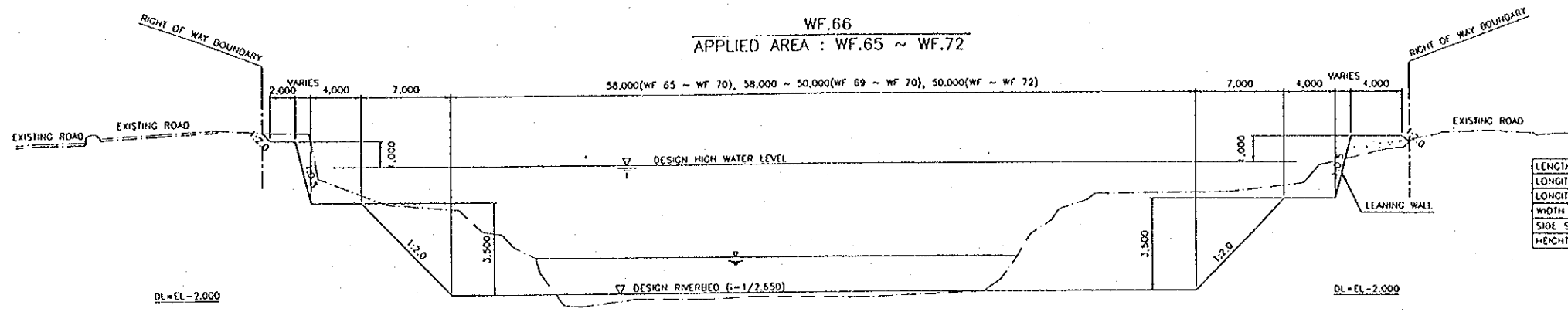
GRADIENT OF DESIGN H.W.L.		GRADIENT OF DESIGN RIVERBED	
DESIGN ELEVATION	DIKE CROWN	5.330	11.234
	HIGH WATER LEVEL	4.330	10.234
	RIVERBED	-1.270	4.334
EXISTING ELEVATION	RIGHT GROUND	8.70	12.19
	LEFT GROUND	7.28	12.41
	LOWEST RIVERBED	-1.33	4.11
DISTANCE	ACCUMULATED (m)	32.45	418.14
	PARTIAL (m)	32.45	418.14
STATION NO.		95	177



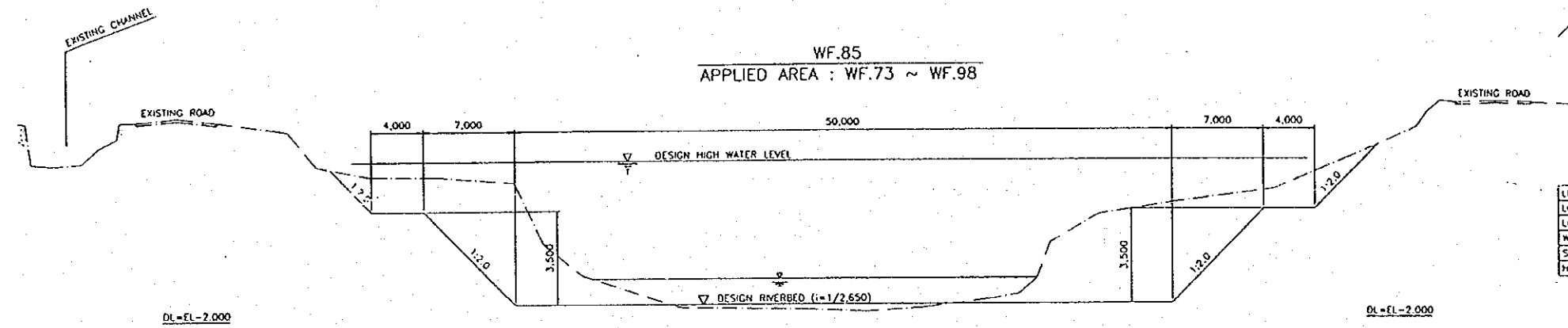
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

DWG. 6.2.5
LONGITUDINAL PROFILE OF GARANG RIVER

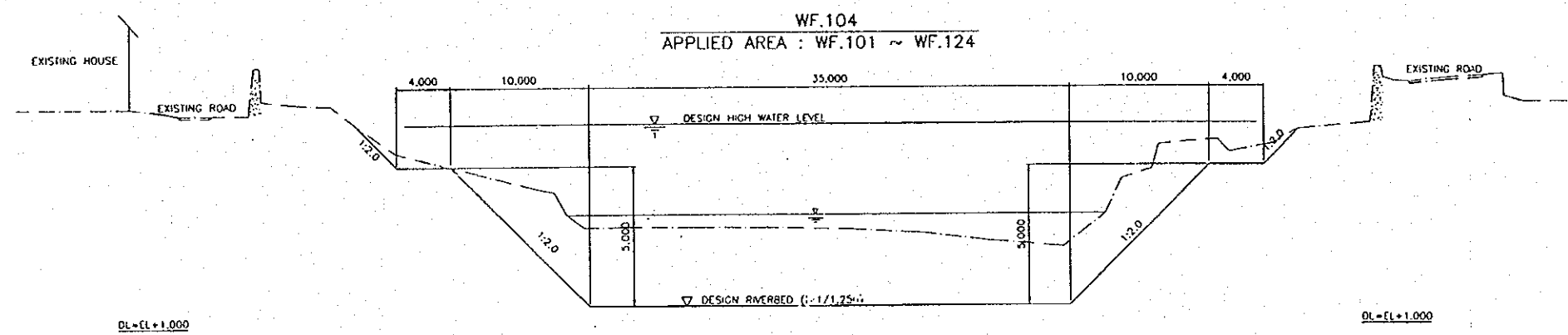
JAPAN INTERNATIONAL COOPERATION AGENCY



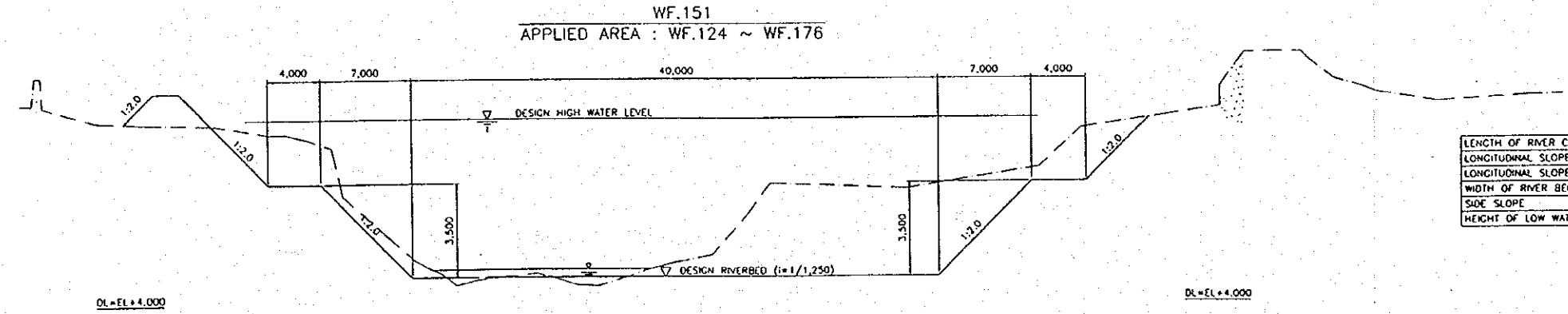
LENGTH OF RIVER CHANNEL	356.61 m
LONGITUDINAL SLOPE OF RIVER BED	i = 1/2.650
LONGITUDINAL SLOPE OF DIKE CROWN	-
WIDTH OF RIVER BED	58.0/50.0 m
SIDE SLOPE	1 : 2/1.0.5
HEIGHT OF LOW WATER CHANNEL	3.5 m



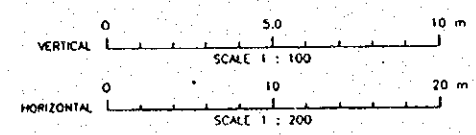
LENGTH OF RIVER CHANNEL	1,247.19 m
LONGITUDINAL SLOPE OF RIVER BED	i = 1/2.650
LONGITUDINAL SLOPE OF DIKE CROWN	-
WIDTH OF RIVER BED	50.0 m
SIDE SLOPE	1 : 2
HEIGHT OF LOW WATER CHANNEL	3.5 m



LENGTH OF RIVER CHANNEL	981.36 m
LONGITUDINAL SLOPE OF RIVER BED	i = 1/1.250
LONGITUDINAL SLOPE OF DIKE CROWN	-
WIDTH OF RIVER BED	35.0 m
SIDE SLOPE	1 : 2
HEIGHT OF LOW WATER CHANNEL	5.0 m



LENGTH OF RIVER CHANNEL	2,583.68 m
LONGITUDINAL SLOPE OF RIVER BED	i = 1/1.250
LONGITUDINAL SLOPE OF DIKE CROWN	-
WIDTH OF RIVER BED	40.0 m
SIDE SLOPE	1 : 2
HEIGHT OF LOW WATER CHANNEL	3.5 m



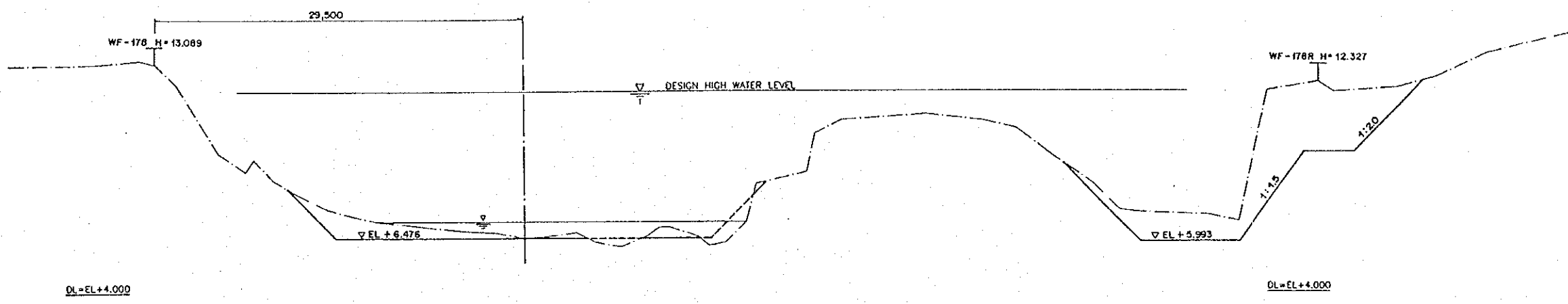
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

DWG. 6.2.6 (1/2)
STANDARD CROSS SECTION OF GARANG RIVER

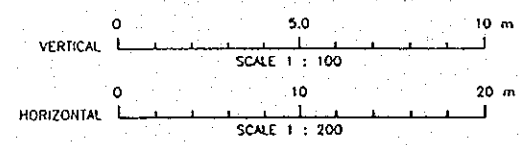
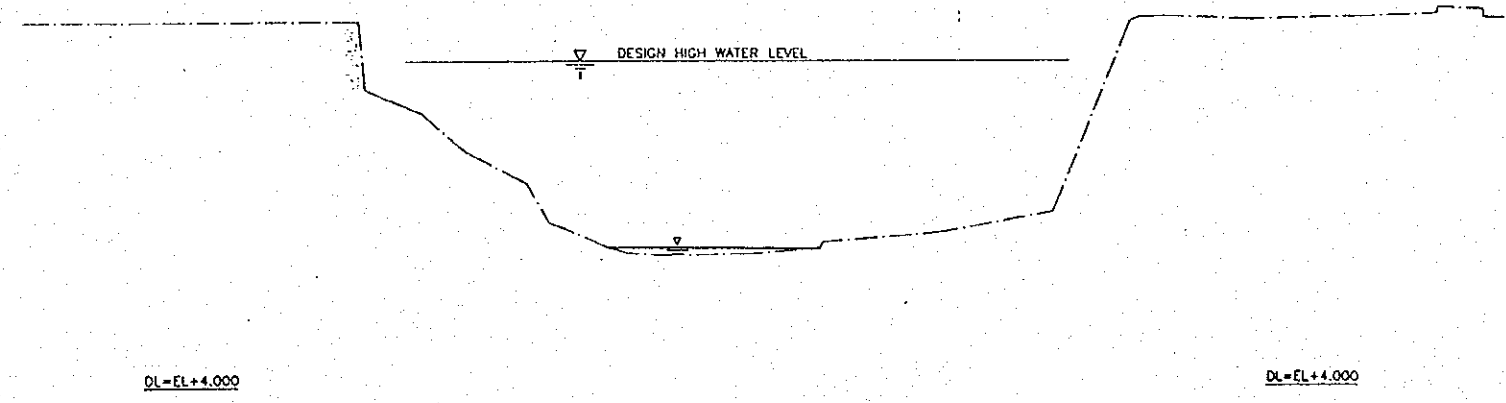
WF.178
 APPLIED AREA : WF.176 ~ WF.184

LENGTH OF RIVER CHANNEL	376.0 m
LONGITUDINAL SLOPE OF RIVER BED	1 = 1/500
LONGITUDINAL SLOPE OF DIKE CROWN	-
WIDTH OF RIVER BED	30.0~40.0 m
SIDE SLOPE	1 : 2
HEIGHT OF LOW WATER CHANNEL	3.0~3.5 m

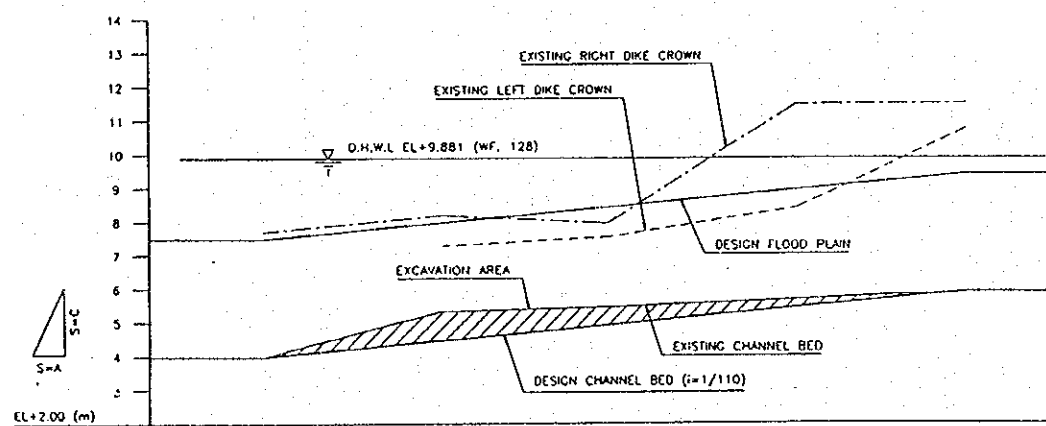
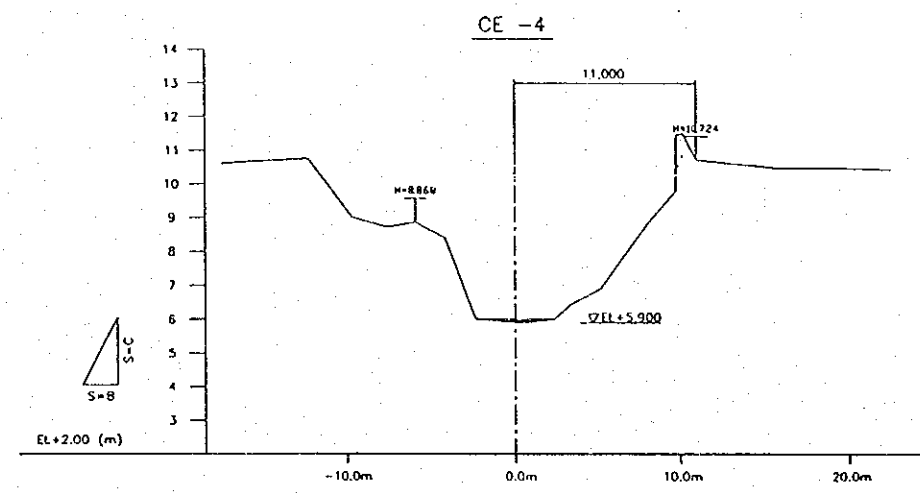
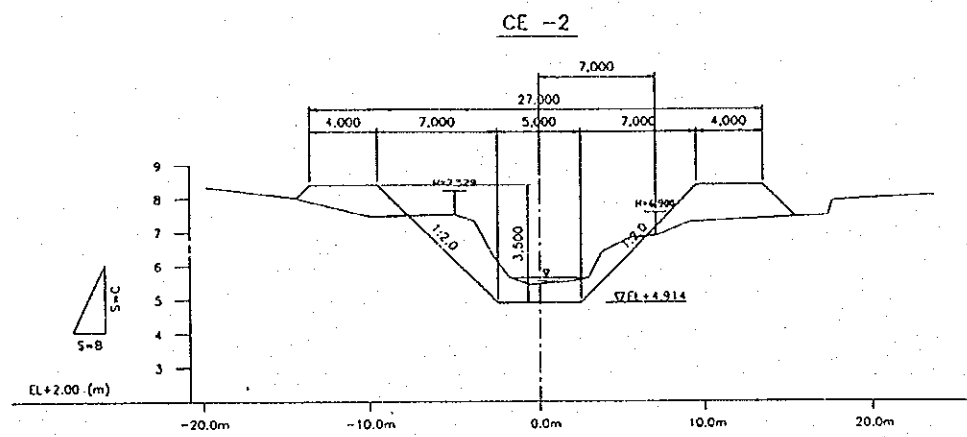
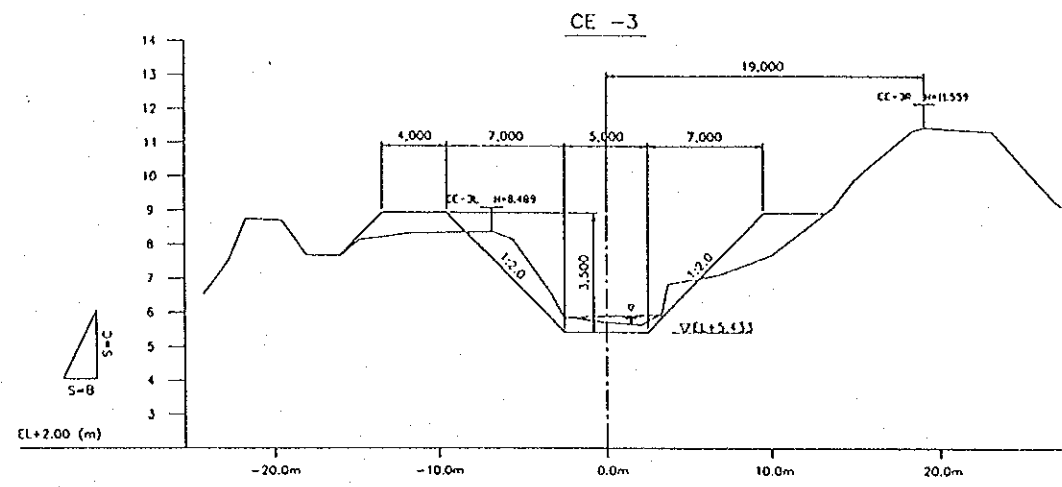
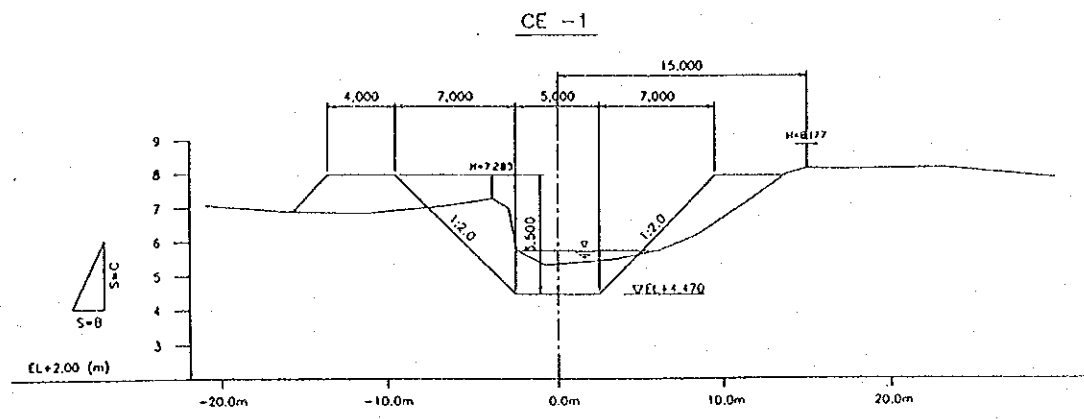


WF.185
 APPLIED AREA : WF.184 ~ WF.186+36m

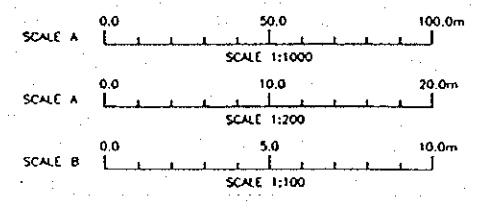
LENGTH OF RIVER CHANNEL	129.52 m
LONGITUDINAL SLOPE OF RIVER BED	-
LONGITUDINAL SLOPE OF DIKE CROWN	1 = 1/75
WIDTH OF RIVER BED	-
SIDE SLOPE	1 : 2
HEIGHT OF LOW WATER CHANNEL	-



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
 DWG. 6.2.6 (2/2)
 STANDARD CROSS SECTION OF GARANG RIVER
 JAPAN INTERNATIONAL COOPERATION AGENCY



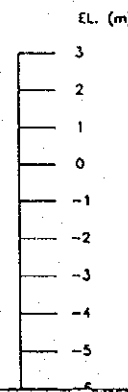
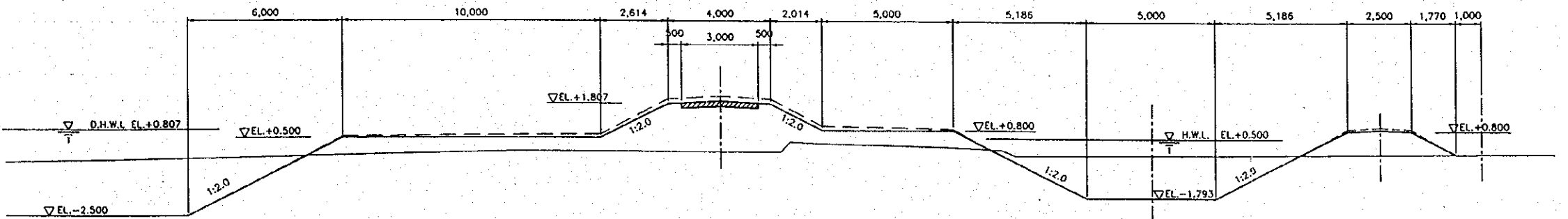
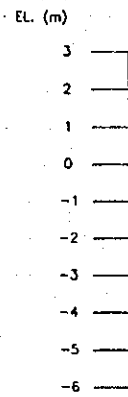
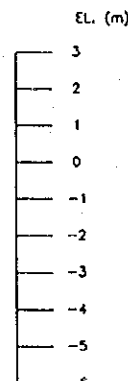
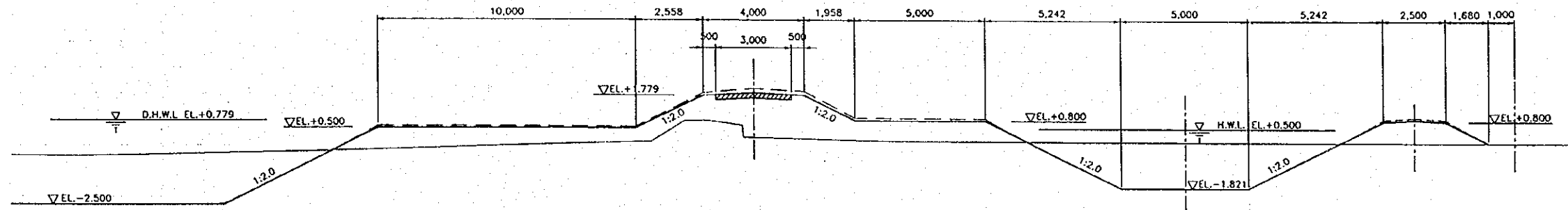
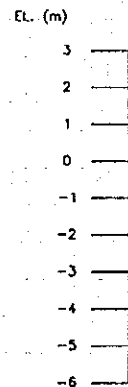
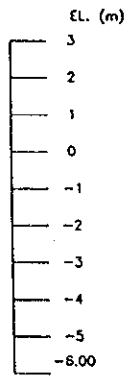
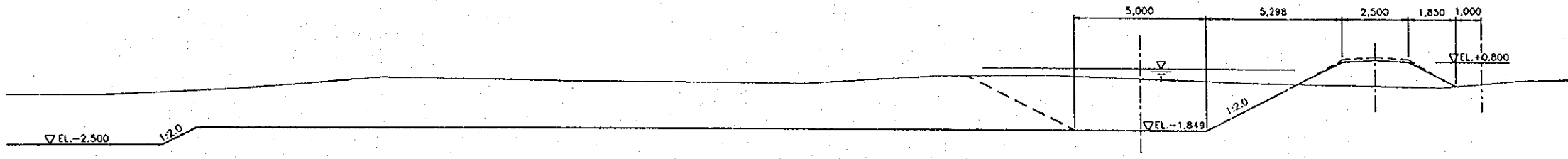
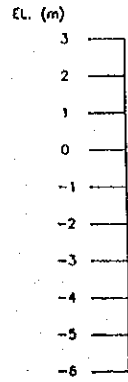
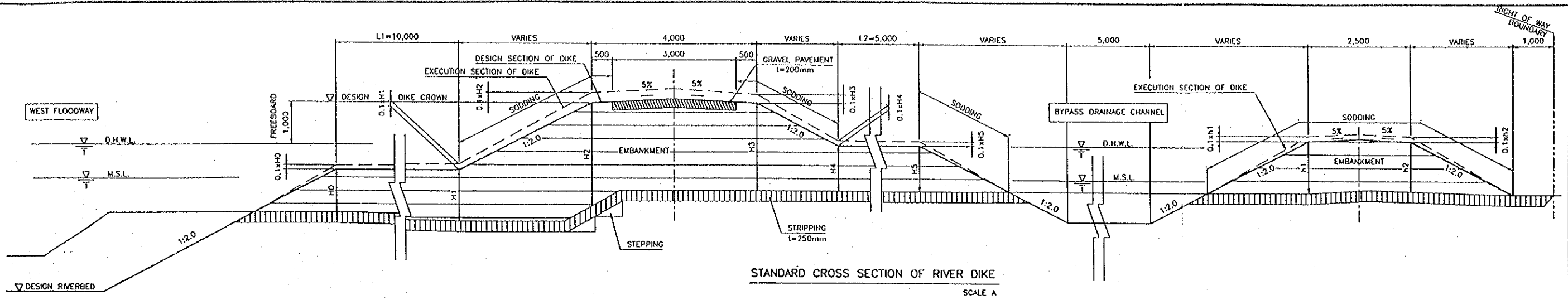
STATION NO.	DISTANCE (m)	DESIGN ELEVATION				EXISTING ELEVATION			
		FLOOD PLAIN	CHANNEL BED	RIGHT DIKE CROWN	LEFT DIKE CROWN	LOWEST CHANNEL BED	RIGHT DIKE CROWN	LEFT DIKE CROWN	LOWEST CHANNEL BED
WF. 128	0.00	7.481	3.981	7.70	7.25	4.18			
CE-1	53.83	7.570	4.470	8.15	7.28	5.33			
CE-2	48.83	8.414	4.914	7.94	7.53	5.45			
CE-3	57.05	8.833	5.433	11.46	8.39	5.67			
CE-4	51.38	9.400	5.900	11.50	10.75	5.90			



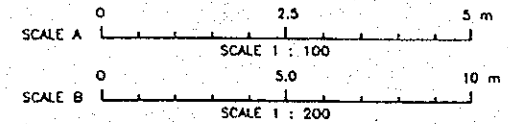
LONGITUDINAL PROFILE OF CENGKEK CHANNEL
SCALE H=A / V=C

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY

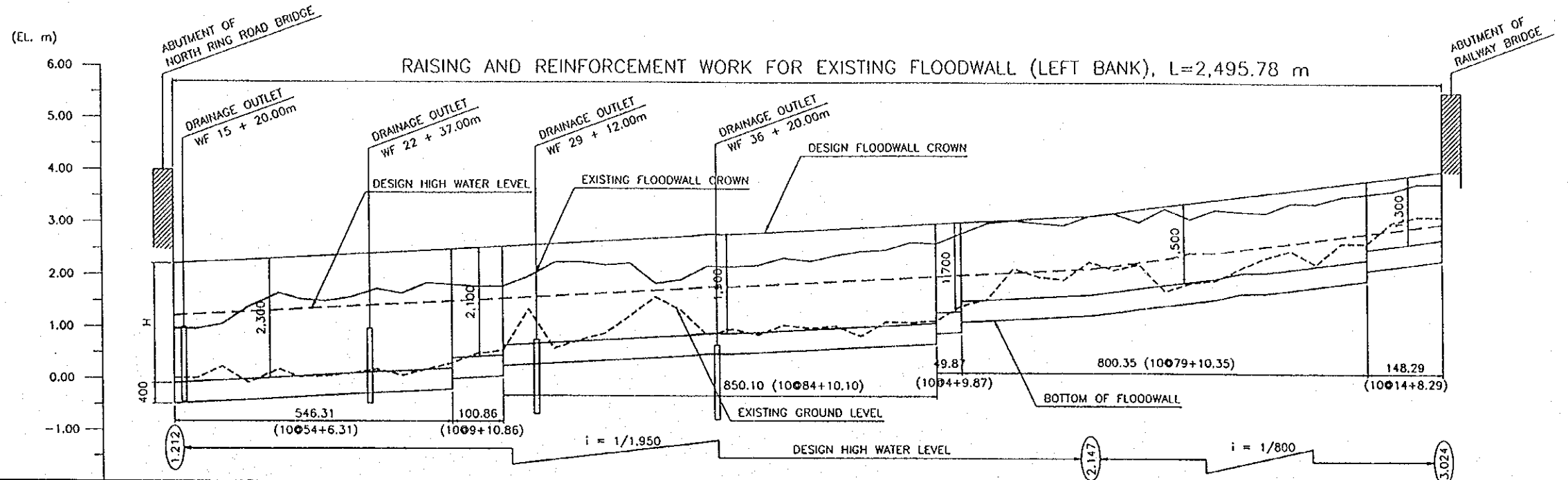
DWG. 6.2.7
LONGITUDINAL PROFILE AND CROSS SECTION OF TRIBUTARY



NOTE :
 1. THE EARTH DIKE SHALL BE CONSTRUCTED WITH AN EXTRA EMBANKMENT SHOWN ON THE DRAWING. THE EXECUTION SECTION OF DIKE INCLUDES AN EXTRA EMBANKMENT.
 $EXTRA\ EMBANKMENT(H) = h/(\text{HEIGHT OF DESIGN EMBANKMENT}) \times 10\%$



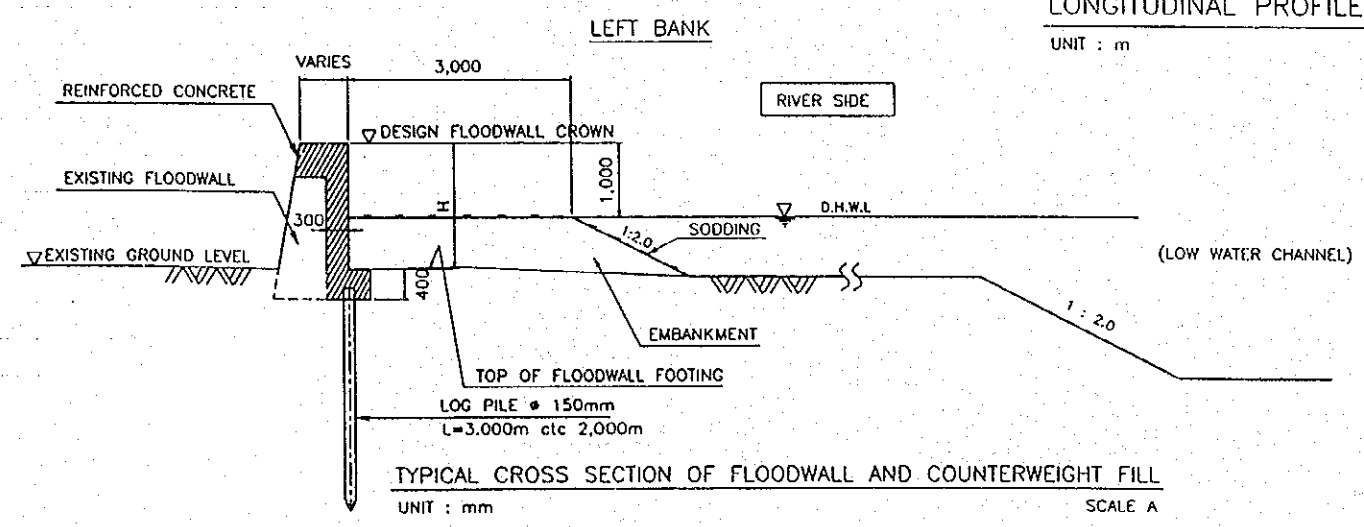
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
 DWG. 6.2.8
 STANDARD CROSS SECTION OF EARTH DIKE
 JAPAN INTERNATIONAL COOPERATION AGENCY



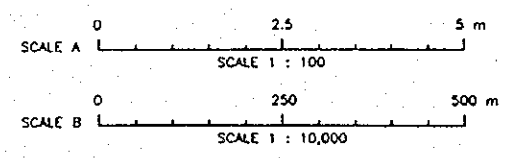
HORIZONTAL : SCALE B
 VERTICAL : SCALE A

DL=EL-2.000m

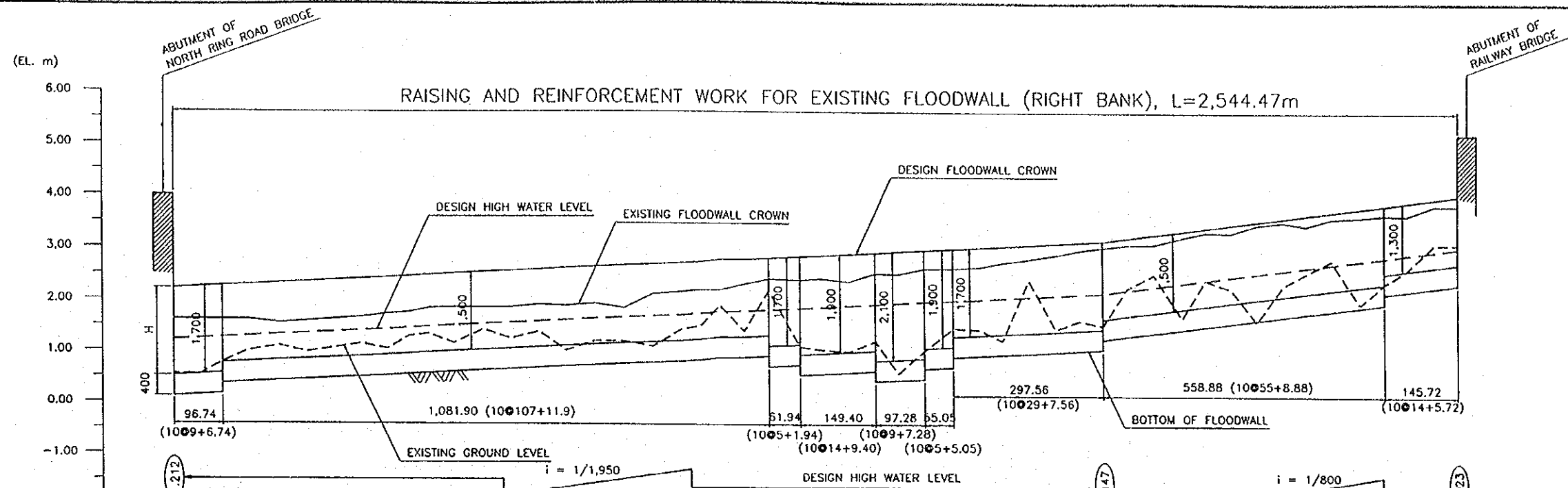
DESIGN ELEVATION (EL. m)	FLOODWALL CROWN		TOP OF FLOODWALL FOOTING		HIGH WATER	
	EL. m	Distance (m)	EL. m	Distance (m)	EL. m	Distance (m)
	2.212	0.00	-0.088	0.00	1.212	0.00
	2.241	46.02	-0.059	46.02	1.241	46.02
	2.264	95.88	-0.036	95.88	1.264	95.88
	2.290	145.87	-0.010	145.87	1.290	145.87
	2.322	205.92	0.022	205.92	1.322	205.92
	2.345	246.47	0.045	246.47	1.345	246.47
	2.372	296.14	0.072	296.14	1.372	296.14
	2.398	346.17	0.098	346.17	1.398	346.17
	2.424	396.31	0.129	396.31	1.424	396.31
	2.448	446.27	0.148	446.27	1.448	446.27
	2.471	496.42	0.171	496.42	1.471	496.42
	2.497	546.31	0.197	546.31	1.497	546.31
	2.524	595.36	0.224	595.36	1.524	595.36
	2.551	647.17	0.251	647.17	1.551	647.17
	2.578	696.8	0.278	696.8	1.578	696.8
	2.605	746.66	0.305	746.66	1.605	746.66
	2.633	800.8	0.333	800.8	1.633	800.8
	2.660	847.06	0.360	847.06	1.660	847.06
	2.688	897.04	0.388	897.04	1.688	897.04
	2.715	947.14	0.415	947.14	1.715	947.14
	2.738	997.24	0.438	997.24	1.738	997.24
	2.781	1047.51	0.481	1047.51	1.781	1047.51
	2.786	1097.36	0.486	1097.36	1.786	1097.36
	2.811	1147.35	0.511	1147.35	1.811	1147.35
	2.839	1197.28	0.539	1197.28	1.839	1197.28
	2.862	1247.43	0.562	1247.43	1.862	1247.43
	2.890	1297.24	0.590	1297.24	1.890	1297.24
	2.916	1347.27	0.616	1347.27	1.916	1347.27
	2.941	1397.37	0.641	1397.37	1.941	1397.37
	2.966	1447.21	0.666	1447.21	1.966	1447.21
	2.993	1497.27	0.693	1497.27	1.993	1497.27
	3.020	1547.14	0.720	1547.14	2.020	1547.14
	3.044	1597.42	0.744	1597.42	2.044	1597.42
	3.070	1647.34	0.770	1647.34	2.070	1647.34
	3.097	1697.3	0.797	1697.3	2.097	1697.3
	3.122	1747.21	0.822	1747.21	2.122	1747.21
	3.147	1797.42	0.847	1797.42	2.147	1797.42
	3.209	1847.3	0.909	1847.3	2.209	1847.3
	3.274	1897.34	0.974	1897.34	2.274	1897.34
	3.339	1947.31	1.039	1947.31	2.339	1947.31
	3.400	1997.29	1.100	1997.29	2.400	1997.29
	3.462	2047.38	1.162	2047.38	2.462	2047.38
	3.525	2097.42	1.225	2097.42	2.525	2097.42
	3.590	2147.44	1.290	2147.44	2.590	2147.44
	3.649	2197.53	1.349	2197.53	2.649	2197.53
	3.712	2246.59	1.412	2246.59	2.712	2246.59
	3.779	2297.53	1.479	2297.53	2.779	2297.53
	3.840	2347.49	1.540	2347.49	2.840	2347.49
	3.899	2397.79	1.599	2397.79	2.899	2397.79
	3.964	2447.78	1.664	2447.78	2.964	2447.78
	4.024	2495.78	1.724	2495.78	3.024	2495.78



LONGITUDINAL PROFILE OF FLOODWALL (LEFT BANK)
 UNIT : m
 SCALE A AND B



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
 DWG. 6.3.1 (1/2)
 LONGITUDINAL PROFILE OF RISING OF EXISTING FLOODWALL
 JAPAN INTERNATIONAL COOPERATION AGENCY



HORIZONTAL : SCALE B
VERTICAL : SCALE A

DL=EL-2.000m

DESIGN ELEVATION (EL. m)	FLOODWALL CROWN	
	TOP OF FLOODWALL FOOTING	HIGH WATER
	2.212	1.212
	2.241	1.241
	2.264	1.264
	2.290	1.290
	2.322	1.322
	2.345	1.345
	2.372	1.372
	2.398	1.398
	2.424	1.424
	2.448	1.448
	2.471	1.471
	2.497	1.497
	2.524	1.524
	2.551	1.551
	2.578	1.578
	2.605	1.605
	2.633	1.633
	2.660	1.660
	2.688	1.688
	2.715	1.715
	2.738	1.738
	2.781	1.781
	2.786	1.786
	2.811	1.811
	2.839	1.839
	2.862	1.862
	2.890	1.890
	2.916	1.916
	2.941	1.941
	2.966	1.966
	2.993	1.993
	3.020	2.020
	3.044	2.044
	3.070	2.070
	3.097	2.097
	3.122	2.122
	3.147	2.147
	3.171	2.171
	3.209	2.209
	3.274	2.274
	3.339	2.339
	3.400	2.400
	3.462	2.462
	3.525	2.525
	3.590	2.590
	3.649	2.649
	3.712	2.712
	3.779	2.779
	3.840	2.840
	3.899	2.899
	3.964	2.964
	4.023	3.023

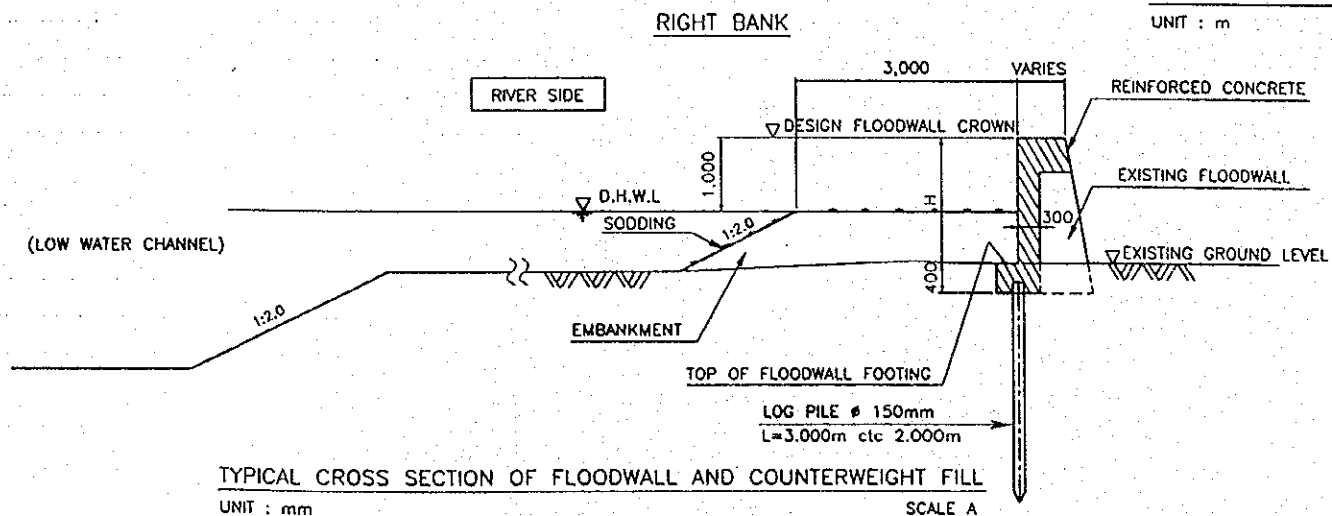
EXISTING ELEVATION (EL. m)	FLOODWALL CROWN	
	GROUND	
	1.610	0.550
	1.610	0.550
	1.610	0.780
	1.610	1.000
	1.550	1.100
	1.580	0.980
	1.620	1.060
	1.660	1.140
	1.720	1.040
	1.750	1.280
	1.830	1.330
	1.850	1.150
	1.840	1.420
	1.850	1.240
	1.900	1.380
	1.880	1.010
	1.920	1.200
	1.840	1.200
	2.110	1.100
	2.160	1.440
	2.200	1.500
	2.200	1.900
	2.310	1.400
	2.410	2.190
	2.390	1.100
	2.420	1.040
	2.360	1.000
	2.520	1.200
	2.510	0.580
	2.610	1.020
	2.620	1.460
	2.650	1.430
	2.730	1.220
	2.800	2.400
	2.860	1.440
	2.970	1.610
	3.030	1.520
	3.080	2.240
	3.050	2.510
	3.220	1.660
	3.320	2.400
	3.310	2.230
	3.460	1.590
	3.520	2.300
	3.450	2.540
	3.590	2.790
	3.620	1.940
	3.660	2.340
	3.650	2.610
	3.840	3.100
	3.840	3.100

DISTANCE (m)	ACCUMULATED	
	PARTIAL	
	0.00	0.00
	54.60	54.60
	96.74	96.74
	147.26	147.26
	209.58	209.58
	262.50	262.50
	316.87	316.87
	369.37	369.37
	420.93	420.93
	463.71	463.71
	502.82	502.82
	552.21	552.21
	610.44	610.44
	665.46	665.46
	720.98	720.98
	776.25	776.25
	832.40	832.40
	891.53	891.53
	948.45	948.45
	1007.26	1007.26
	1044.76	1044.76
	1082.18	1082.18
	1130.71	1130.71
	1178.64	1178.64
	1240.58	1240.58
	1281.25	1281.25
	1337.54	1337.54
	1389.98	1389.98
	1435.97	1435.97
	1487.26	1487.26
	1542.31	1542.31
	1595.13	1595.13
	1639.20	1639.20
	1692.53	1692.53
	1746.15	1746.15
	1793.59	1793.59
	1839.87	1839.87
	1888.75	1888.75
	1942.96	1942.96
	1998.04	1998.04
	2044.68	2044.68
	2095.25	2095.25
	2145.77	2145.77
	2199.55	2199.55
	2244.07	2244.07
	2295.59	2295.59
	2350.74	2350.74
	2398.75	2398.75
	2443.75	2443.75
	2497.47	2497.47
	2544.47	2544.47

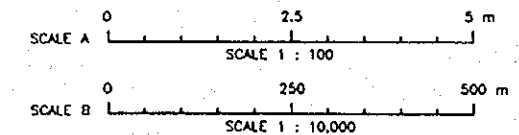
STATION NO.	DESIGN ELEVATION (EL. m)	EXISTING ELEVATION (EL. m)	DISTANCE (m)
WF15R+7	2.212	1.610	0.00
WF16R	2.241	1.610	54.60
WF17R	2.264	1.610	96.74
WF18R	2.290	1.610	147.26
WF19R	2.322	1.550	209.58
WF20R	2.345	1.580	262.50
WF21R	2.372	1.620	316.87
WF22R	2.398	1.660	369.37
WF23R	2.424	1.720	420.93
WF24R	2.448	1.750	463.71
WF25R	2.471	1.830	502.82
WF26R	2.497	1.850	552.21
WF27R	2.524	1.840	610.44
WF28R	2.551	1.850	665.46
WF29R	2.578	1.900	720.98
WF30R	2.605	1.880	776.25
WF31R	2.633	1.920	832.40
WF32R	2.660	1.840	891.53
WF33R	2.688	2.110	948.45
WF34R	2.715	2.160	1007.26
WF35R	2.738	2.200	1044.76
WF36R	2.781	2.200	1082.18
WF37R	2.786	2.310	1130.71
WF38R	2.811	2.410	1178.64
WF39R	2.839	2.390	1240.58
WF40R	2.862	2.420	1281.25
WF41R	2.890	2.360	1337.54
WF42R	2.916	2.520	1389.98
WF43R	2.941	2.510	1435.97
WF44R	2.966	2.610	1487.26
WF45R	2.993	2.620	1542.31
WF46R	3.020	2.650	1595.13
WF47R	3.044	2.730	1639.20
WF48R	3.070	2.800	1692.53
WF49R	3.097	2.860	1746.15
WF50R	3.122	2.970	1793.59
WF51R	3.147	3.030	1839.87
WF52R	3.171	3.080	1888.75
WF53R	3.209	3.050	1942.96
WF54R	3.274	3.220	1998.04
WF55R	3.339	3.320	2044.68
WF56R	3.400	3.310	2095.25
WF57R	3.462	3.460	2145.77
WF58R	3.525	3.520	2199.55
WF59R	3.590	3.450	2244.07
WF60R	3.649	3.590	2295.59
WF61R	3.712	3.620	2350.74
WF62R	3.779	3.660	2398.75
WF63R	3.840	3.650	2443.75
WF64R	3.899	3.840	2497.47
WF64R +47	3.964	3.840	2544.47

LONGITUDINAL PROFILE OF FLOODWALL (RIGHT BANK)

UNIT : m SCALE A AND B

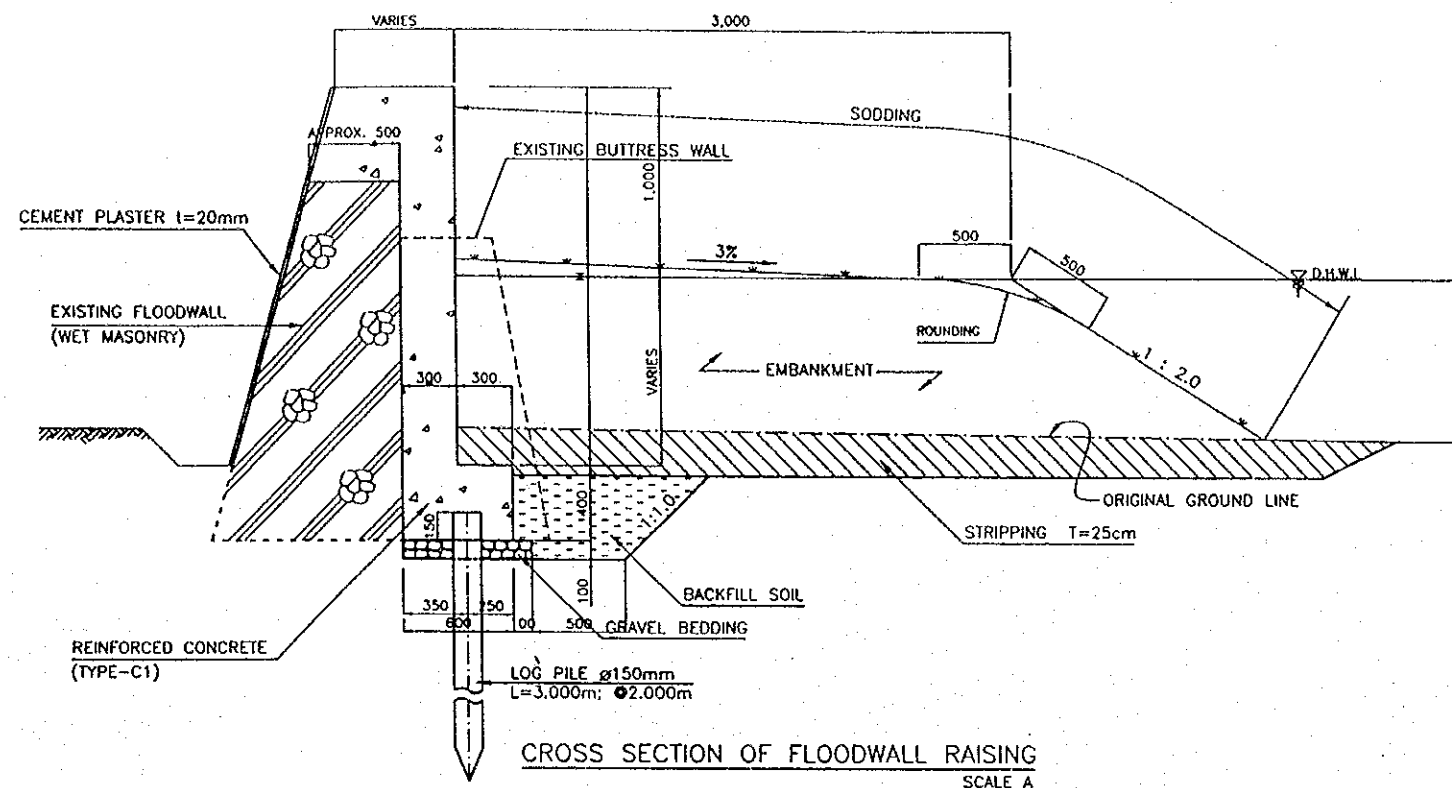


TYPICAL CROSS SECTION OF FLOODWALL AND COUNTERWEIGHT FILL
UNIT : mm SCALE A

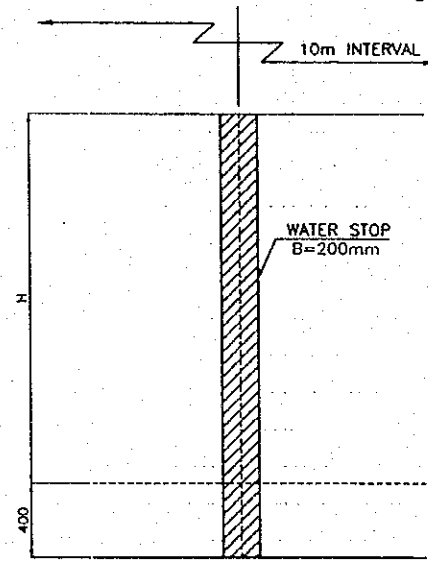


THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY

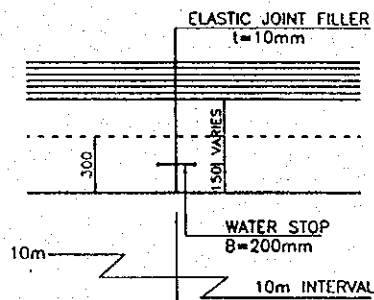
DWG. 6.3.1 (2/2)
LONGITUDINAL PROFILE OF RISING OF EXISTING FLOODWALL



CROSS SECTION OF FLOODWALL RAISING
SCALE A



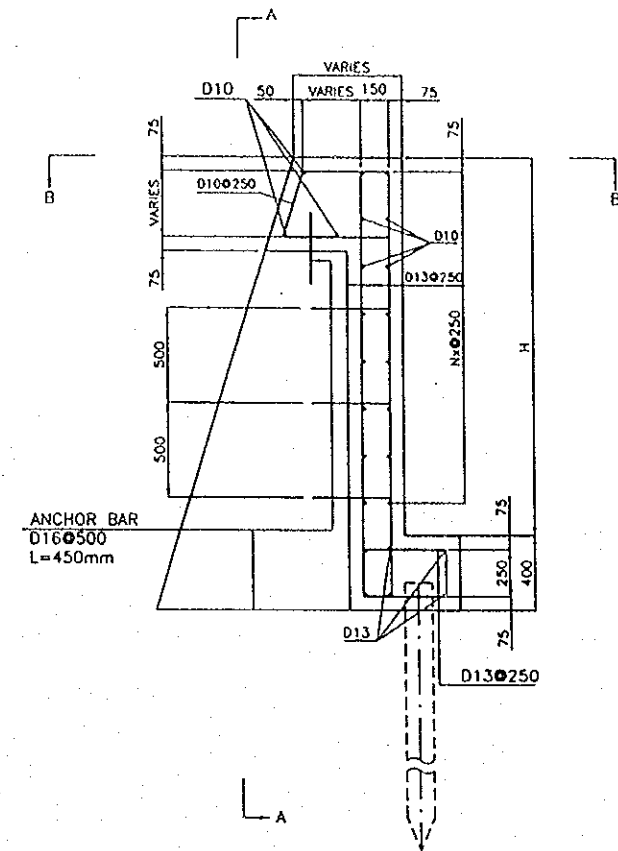
SECTION A-A



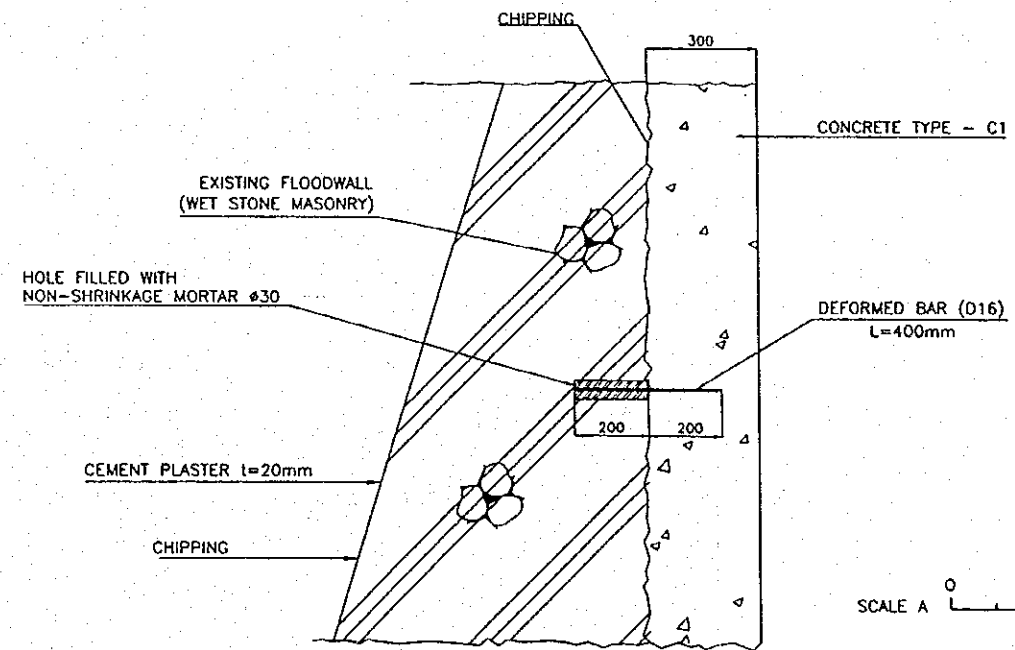
SECTION B-B

DETAIL OF JOINT
SCALE A

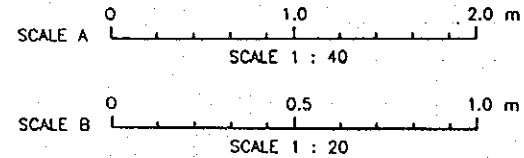
NOTE:
1. THE EXISTING BUTTRESS WALL SHOWN ON THE DRAWING SHALL BE DEMOLISHED AND REMOVED BEFORE THE RAISING WORK



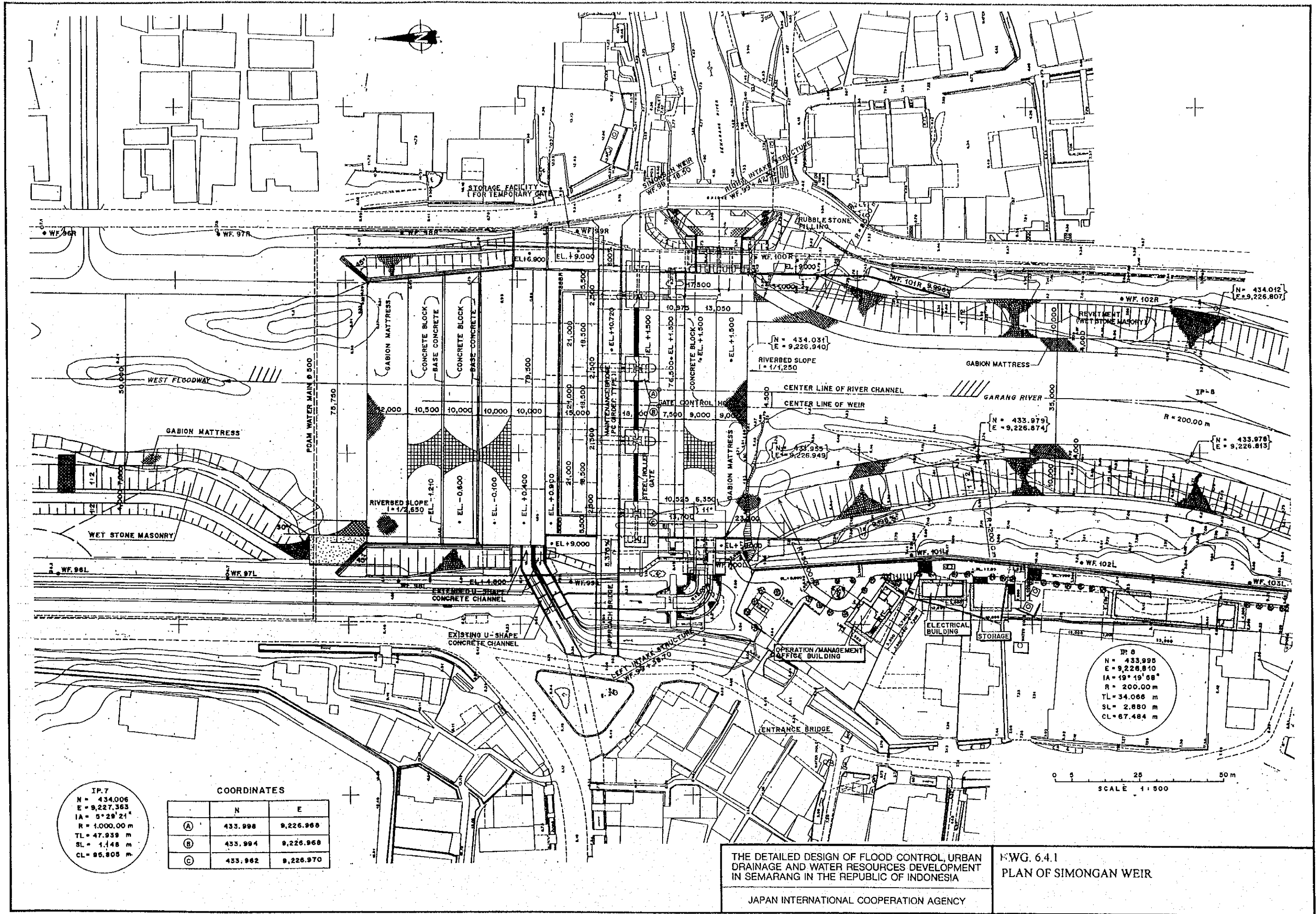
ARRANGEMENT OF REINFORCING BARS
SCALE A



DETAIL OF JOINT AND ANCHOR
SCALE B



<p>THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>DWG. 6.3.2 TYPICAL CROSS SECTION AND STRUCTURAL DETAILS OF RAISING OF EXISTING FLOODWALL</p>
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IP-7
 N = 434.006
 E = 9,227.363
 IA = 5° 29' 21"
 R = 1,000.00 m
 TL = 47.939 m
 SL = 1.448 m
 CL = 85.805 m

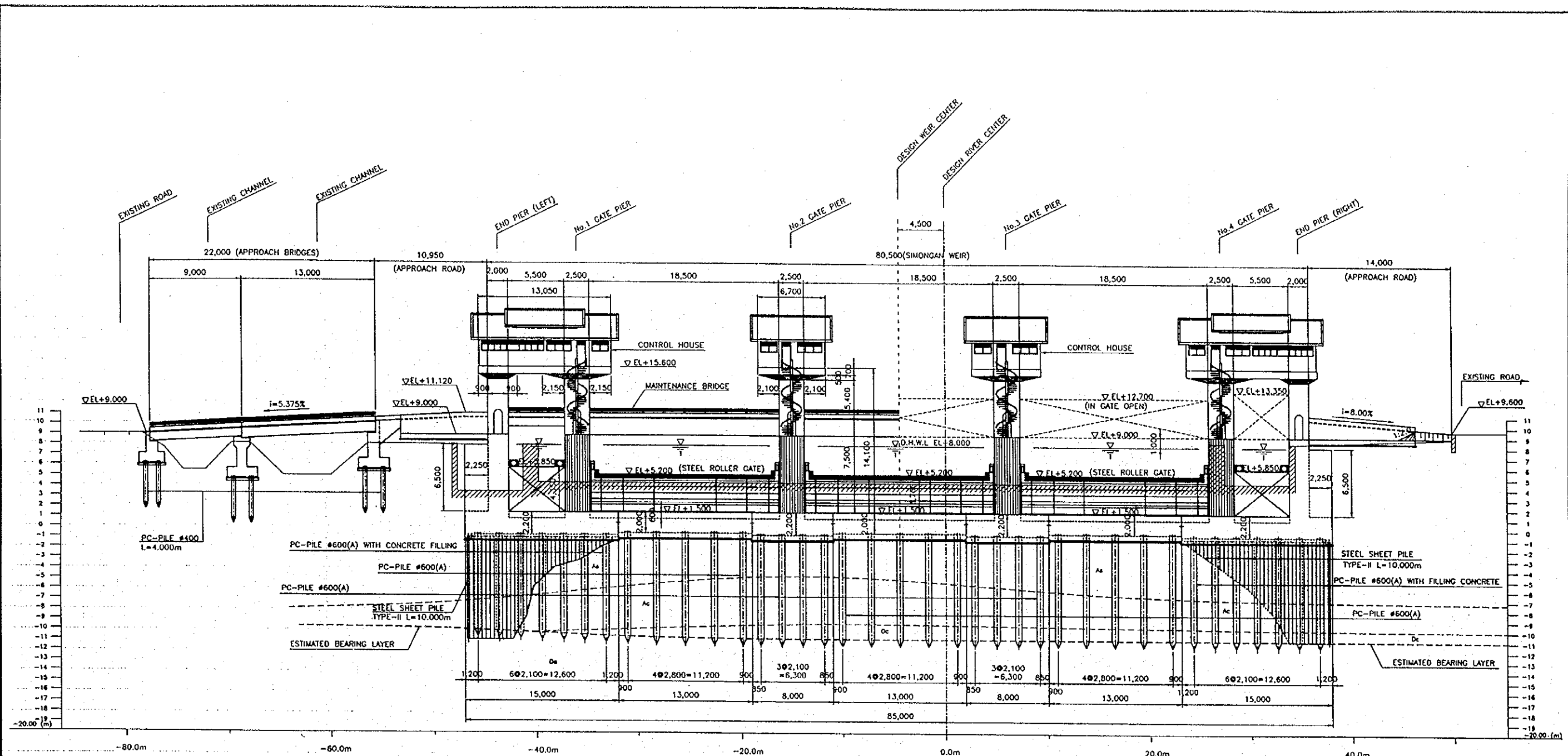
COORDINATES

	N	E
(A)	433.998	9,226.968
(B)	433.994	9,226.969
(C)	433.962	9,226.970

IP-8
 N = 433.998
 E = 9,226.810
 IA = 19° 19' 58"
 R = 200.00 m
 TL = 34.066 m
 SL = 2.880 m
 CL = 67.484 m

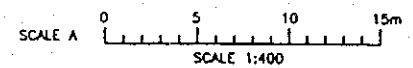
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
 JAPAN INTERNATIONAL COOPERATION AGENCY

N.W.G. 6.4.1
 PLAN OF SIMONGAN WEIR



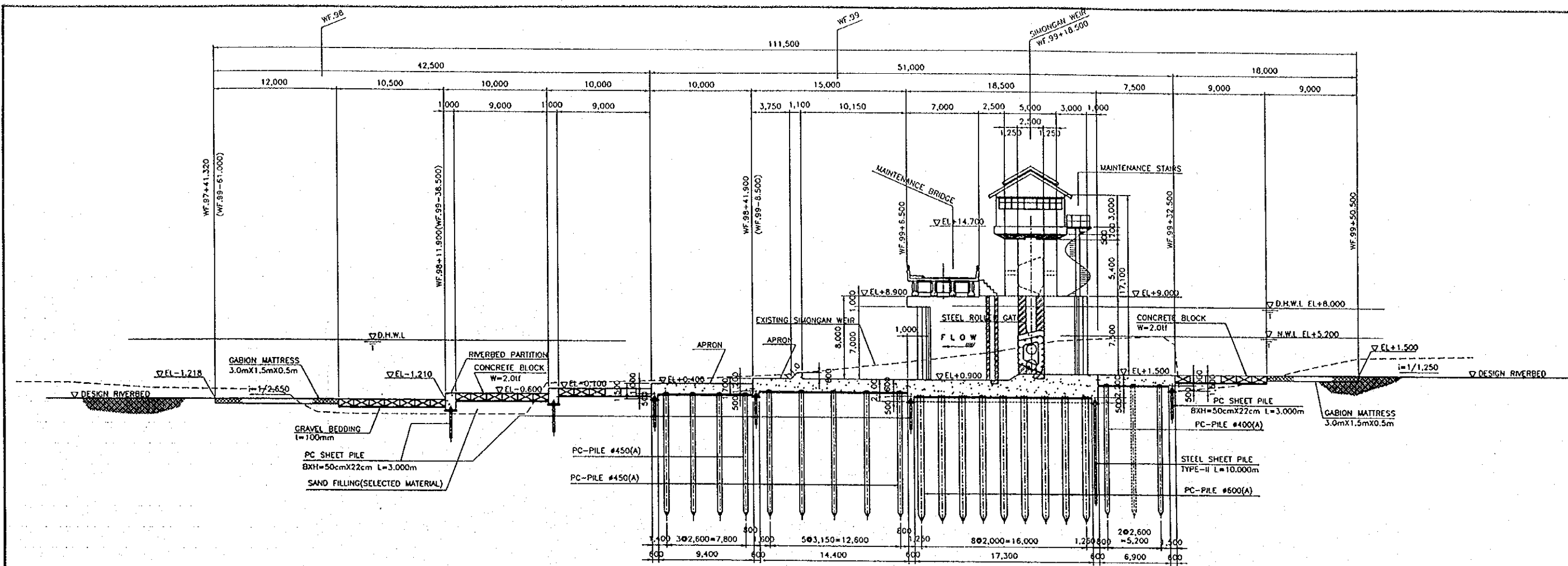
UPSTREAM ELEVATION OF WEIR
SCALE A

NOTE:
 1. PILE LENGTH SHOWN ON THIS DRAWING IS TENTATIVE.
 THE CONTRACTOR SHALL DETERMINE THE LENGTH OF PILE BY TEST PILING.
 2. THE ESTIMATED FORMATION OF GEOLOGICAL LAYER IS SHOWN ON THE DRAWING FOR REFERENCE.
 As, Ac, Dc AND Do SHOWN ON THE DRAWING INDICATE LAYER'S NAME AND ARE DESCRIBED AS FOLLOWS:
 As : ALLUVIUM SOIL CONSISTING OF FINE GRAIN TO MIDDLE GRAIN SAND, CONTAINING THE INTERCALATED CLAY AND SILT PARTIALLY.
 N-VALUE OF
 Ac : SOFT ALLUVIUM SOIL CONSISTING OF CLAY AND SANDY CLAY.
 N-VALUE OF
 Dc : DILUVIUM SOIL CONSISTING OF HARD CLAY, PARTLY CONTAINING CORAL LIMESTONE.
 N-VALUE OF
 Do : DAMAR FORMATION (SEDIMENTARY ROCK UNIT) WITH N-VALUE OF MORE THAN 50.

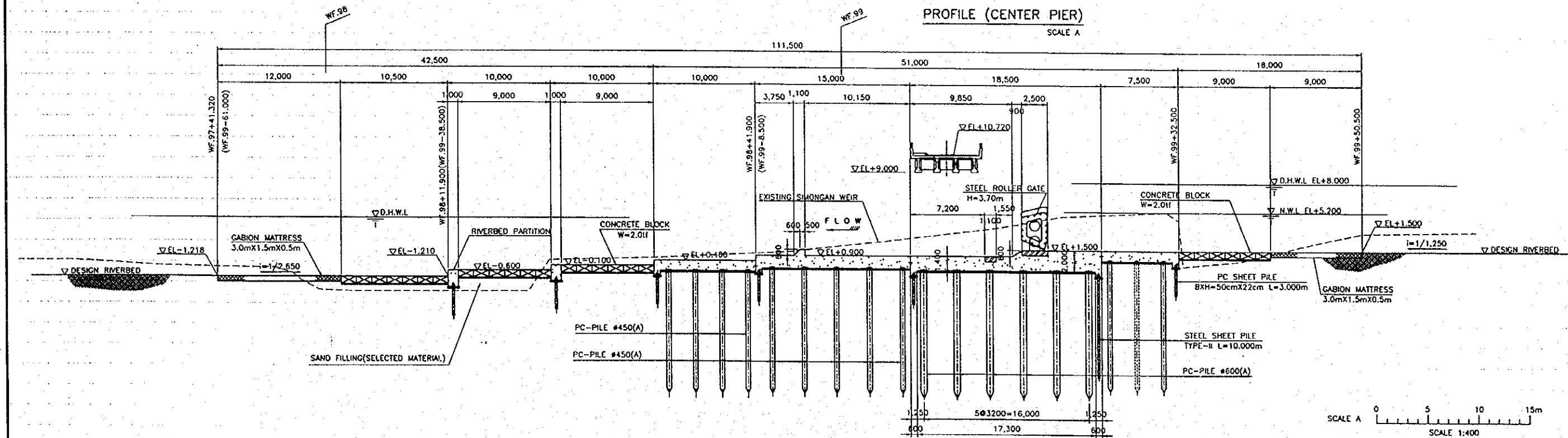


THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
 JAPAN INTERNATIONAL COOPERATION AGENCY

DWG. 6.4.2
 UPSTREAM ELEVATION OF SIMONGAN WEIR



PROFILE (CENTER PIER)
SCALE A

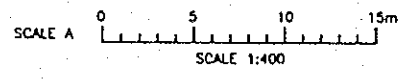


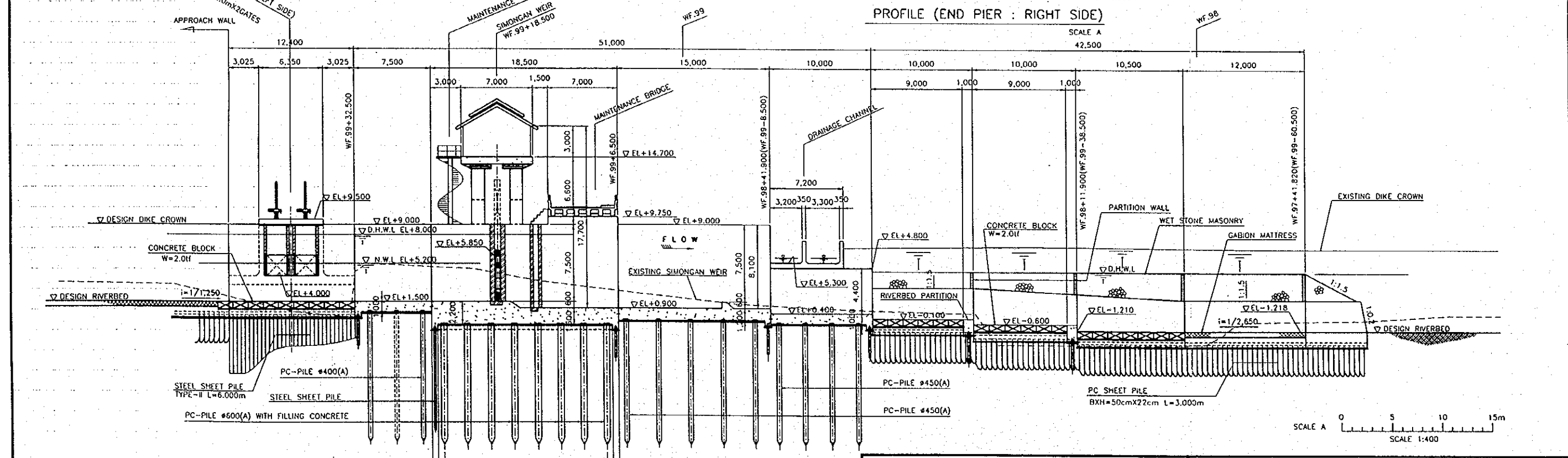
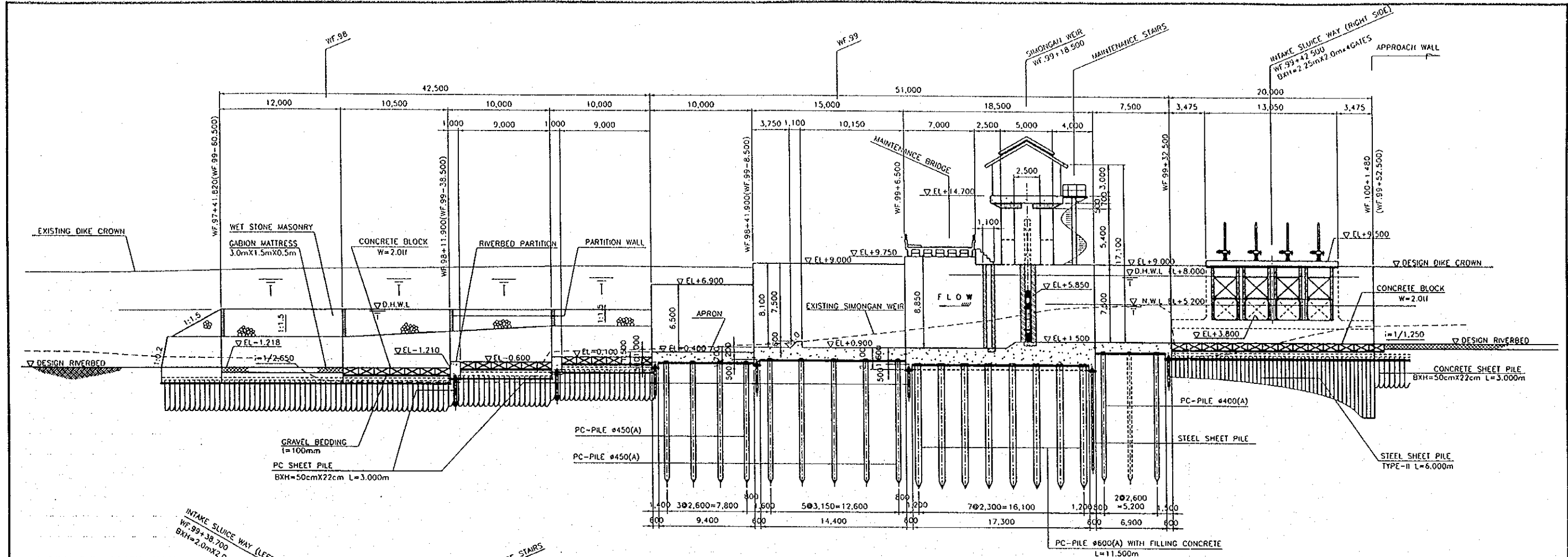
PROFILE (GATE FLOOR SLAB)
SCALE A

NOTE:
PILE LENGTH SHOWN ON THIS DRAWING IS TENTATIVE.
THE CONTRACTOR SHALL DETERMINE THE LENGTH OF PILE BY TEST PILING.

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG. 6.4.3 (1/2)
PROFILE OF SIMONGAN WEIR



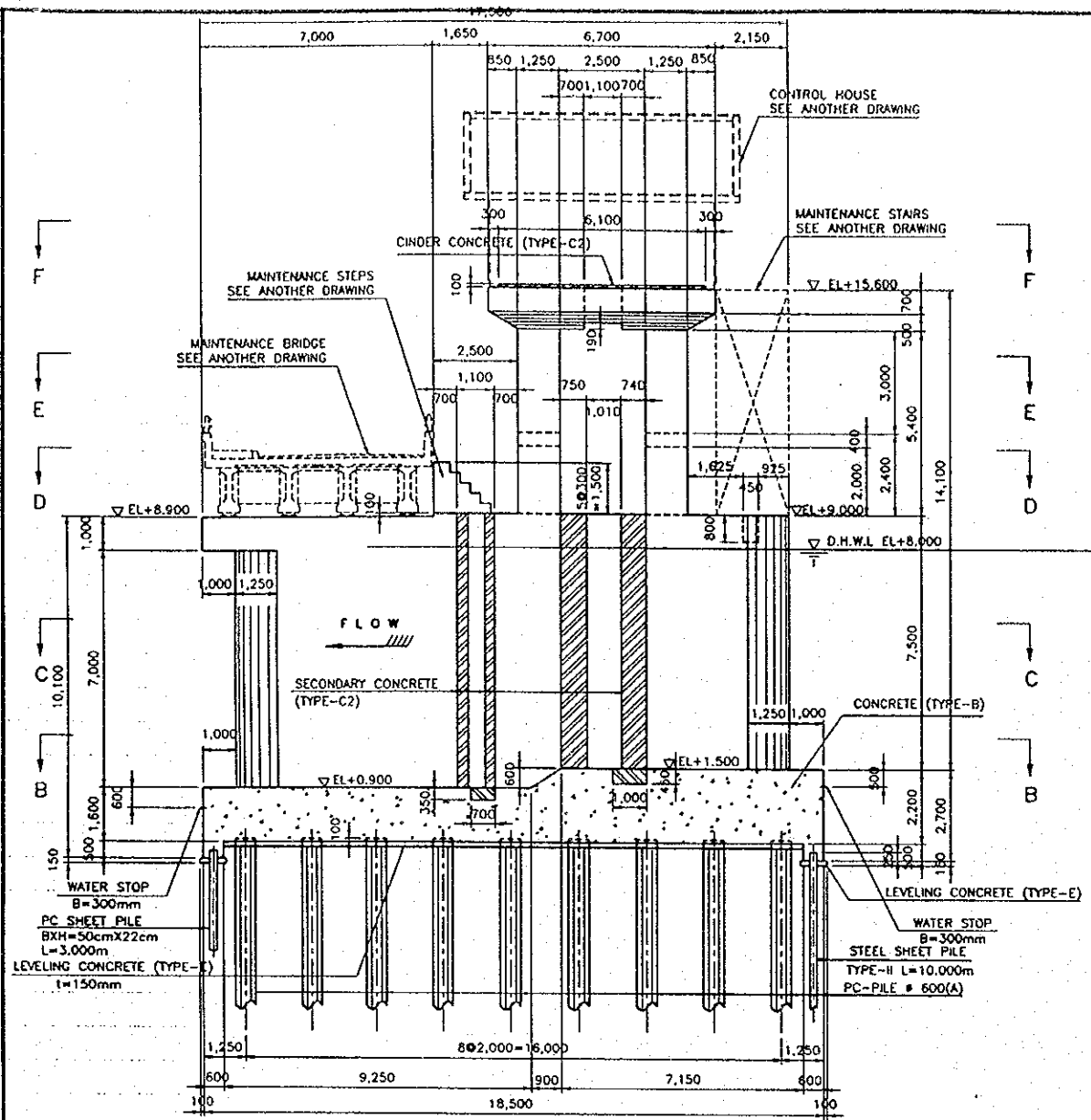


THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

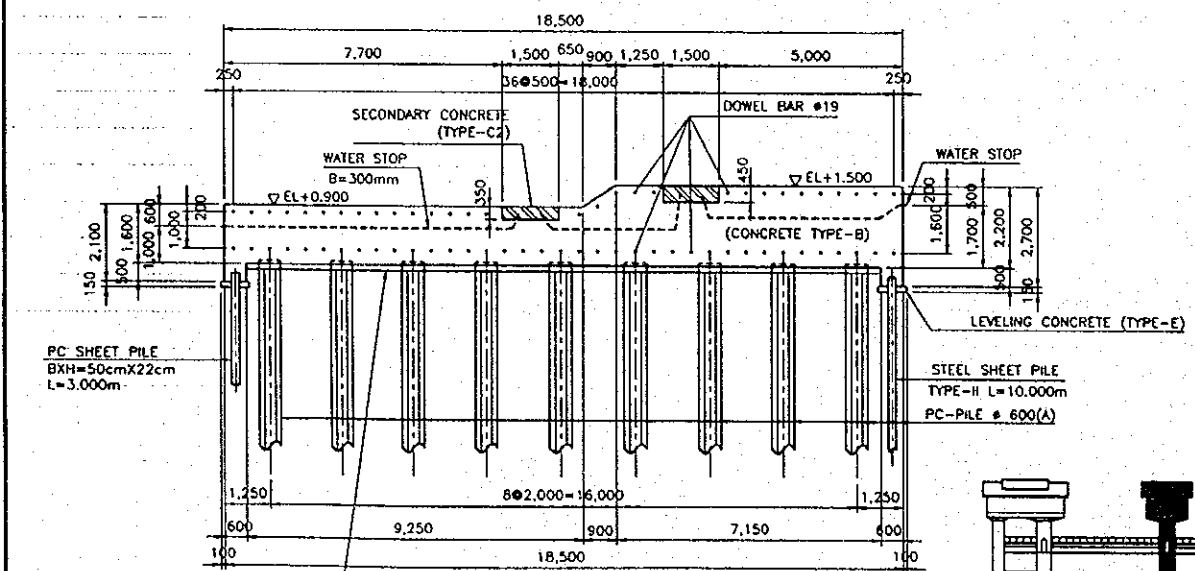
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG. 6.4.3 (2/2)
 PROFILE OF SIMONGAN WEIR

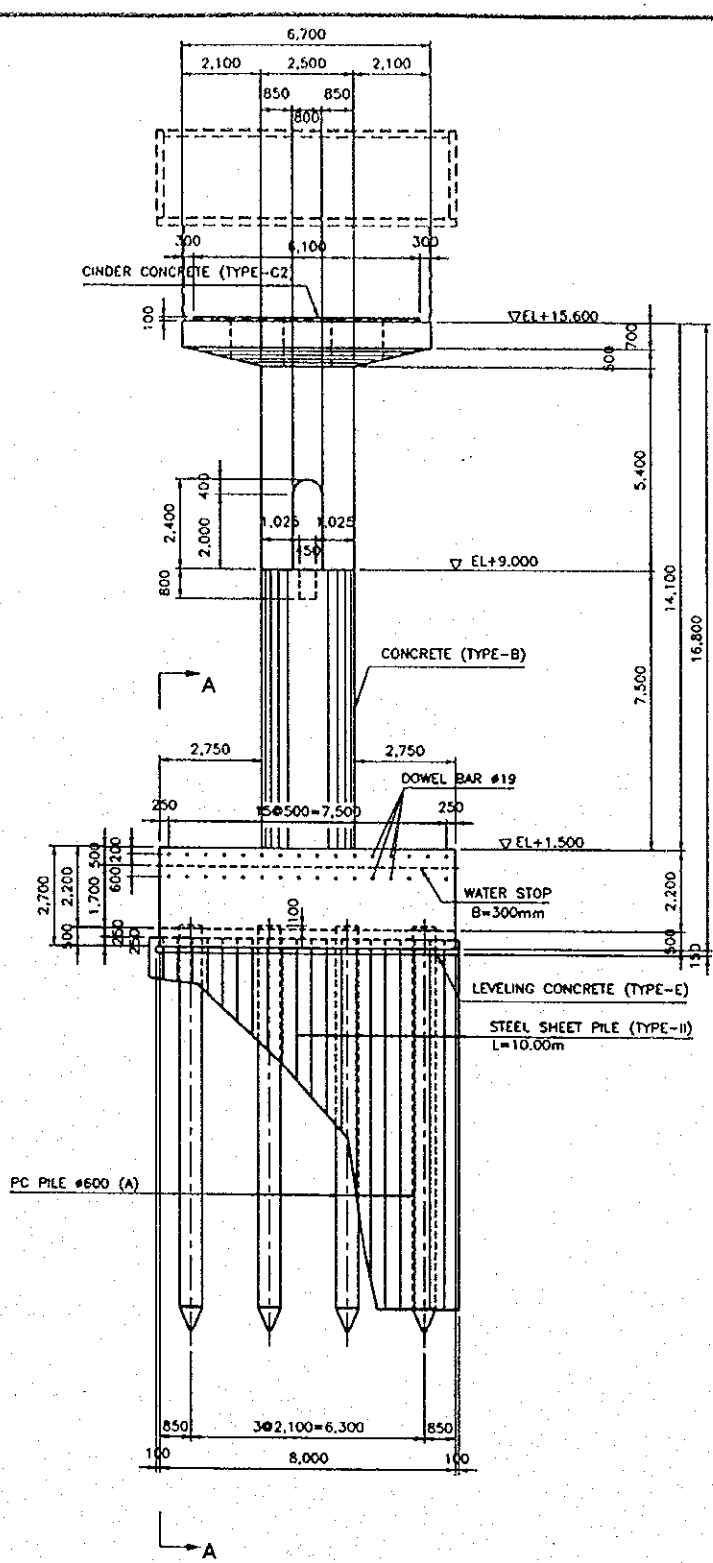
NOTE:
 PILE LENGTH SHOWN ON THIS DRAWING IS TENTATIVE.
 THE CONTRACTOR SHALL DETERMINE THE LENGTH OF PILE BY TEST PILING.



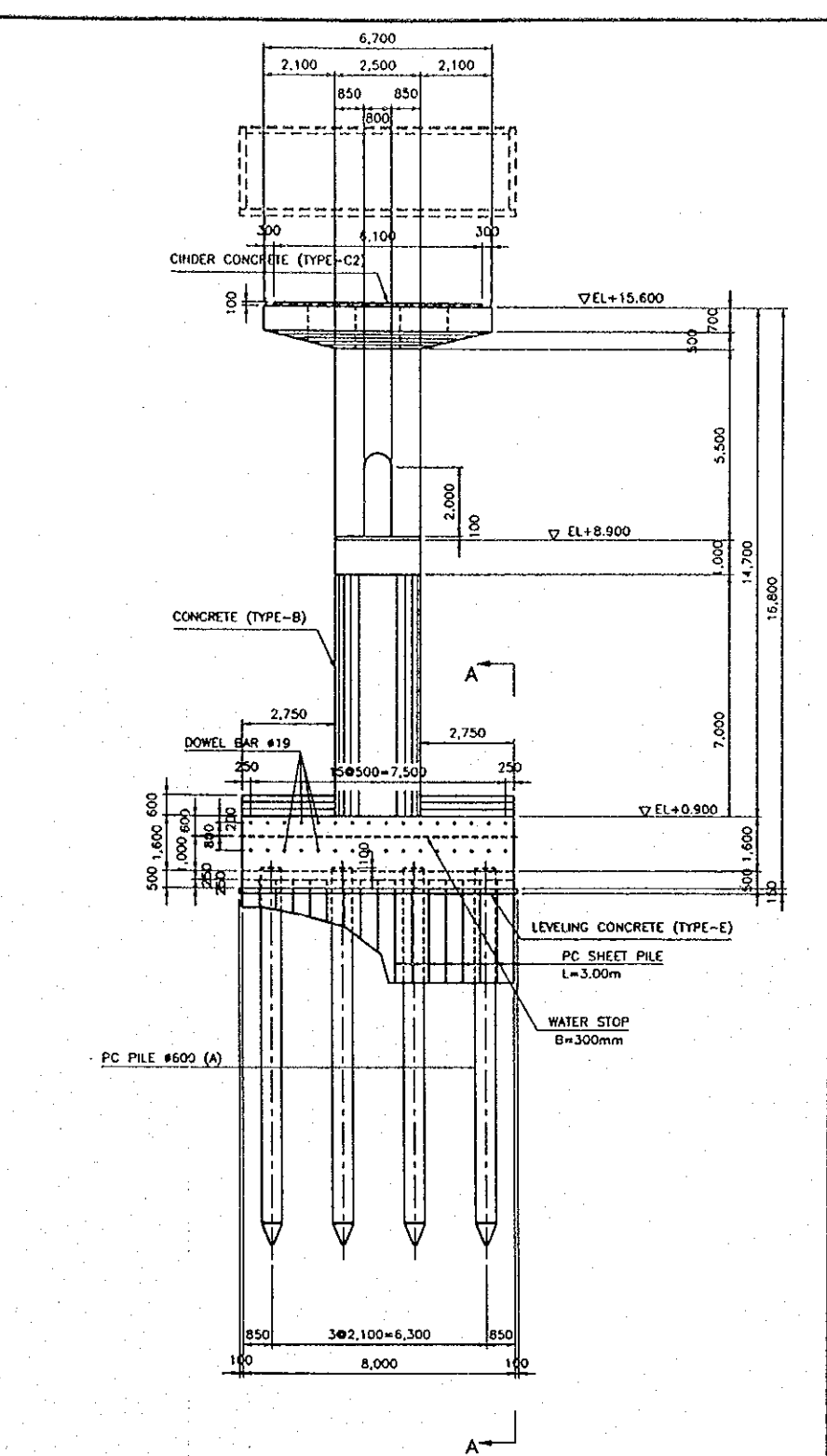
PROFILE OF CENTER PIER
SCALE A



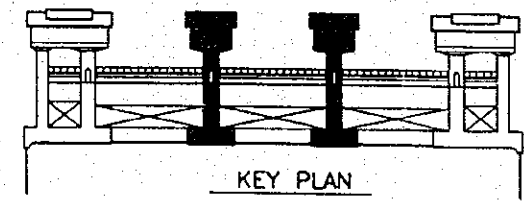
SECTION A-A
SCALE A



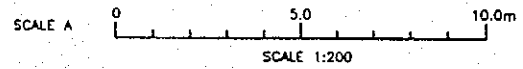
UPSTREAM ELEVATION OF CENTER PIER
SCALE A



DOWNSTREAM ELEVATION OF CENTER PIER
SCALE A



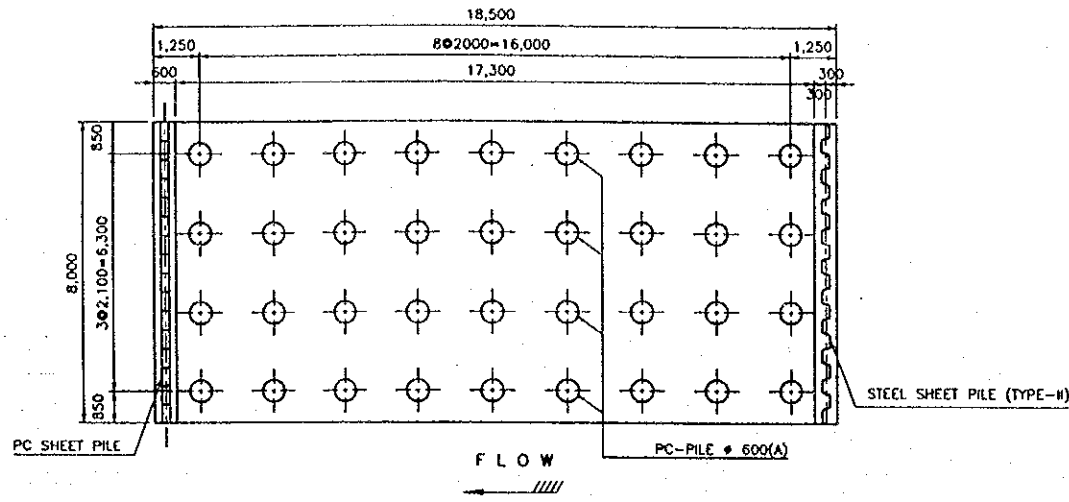
KEY PLAN



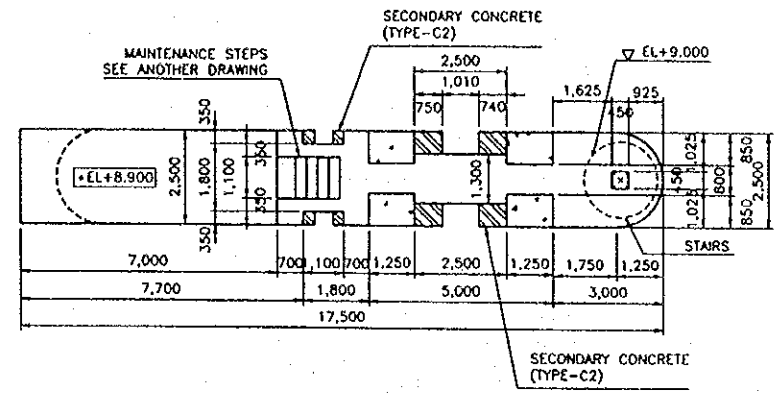
NOTE : PILE LENGTH SHOWN ON THE DRAWING IS TENTATIVE. THE CONTRACTOR SHOULD DETERMINE THE LENGTH OF PILE BY TEST PILING.

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY

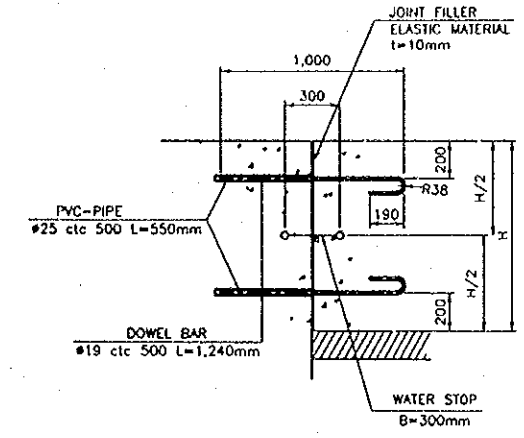
DWG. 6.4.4 (1/2)
CENTER PIER



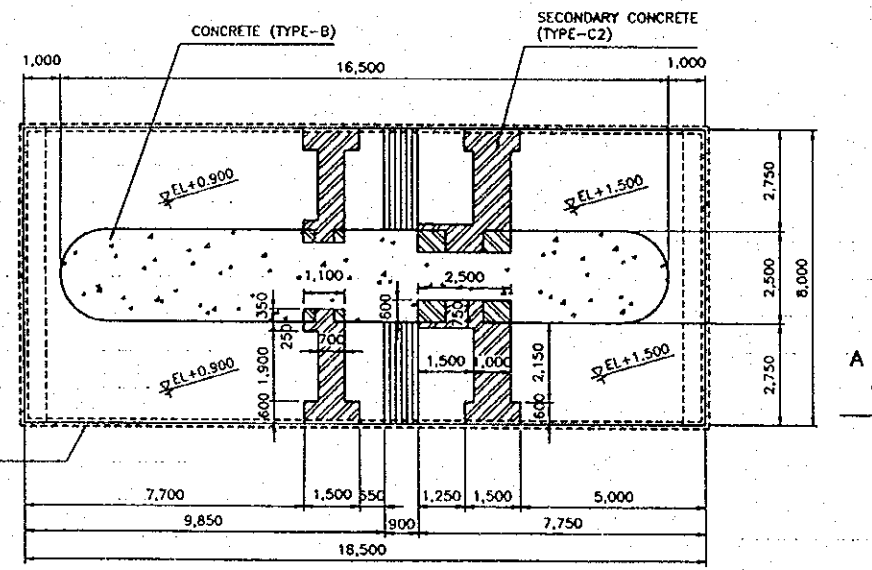
PILE ARRANGEMENT OF CENTER PIER
SCALE A



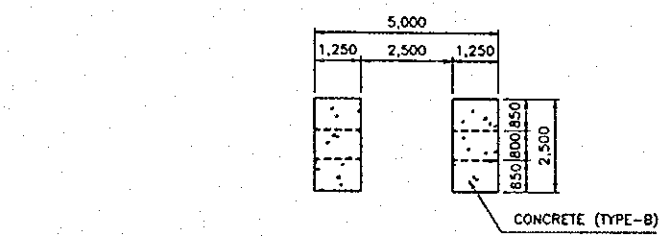
SECTION D-D
SCALE A



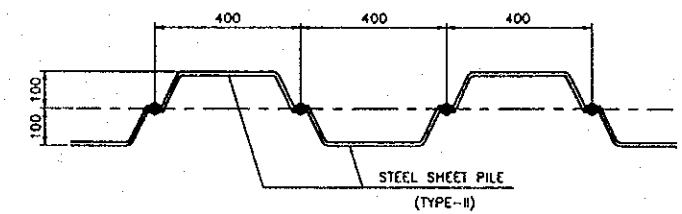
DETAIL OF JOINTING
SCALE B



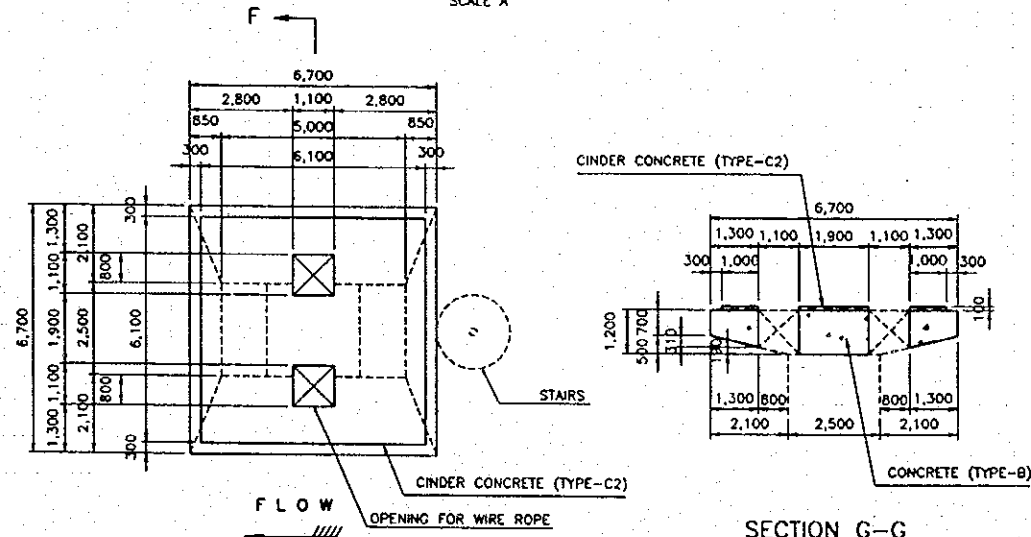
SECTION B-B
SCALE A



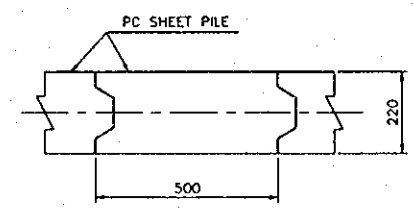
SECTION E-E
SCALE A



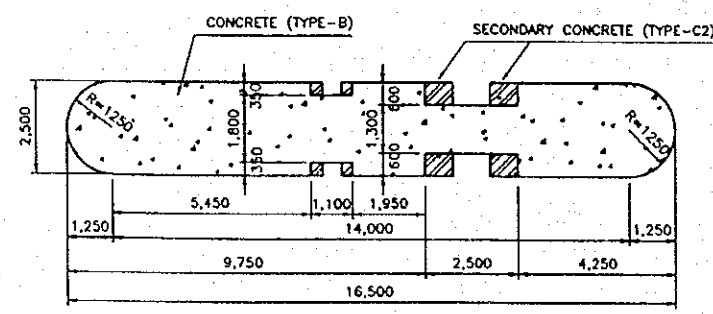
SECTION OF STEEL SHEET PILE
SCALE C



SECTION G-G
SCALE A

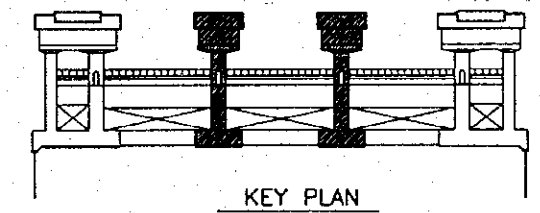
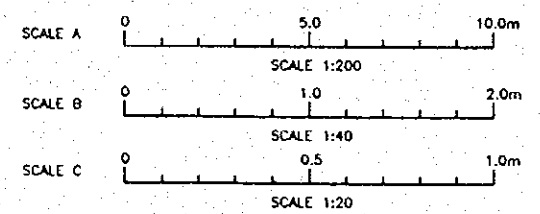


SECTION OF PC SHEET PILE
SCALE C



SECTION C-C
SCALE A

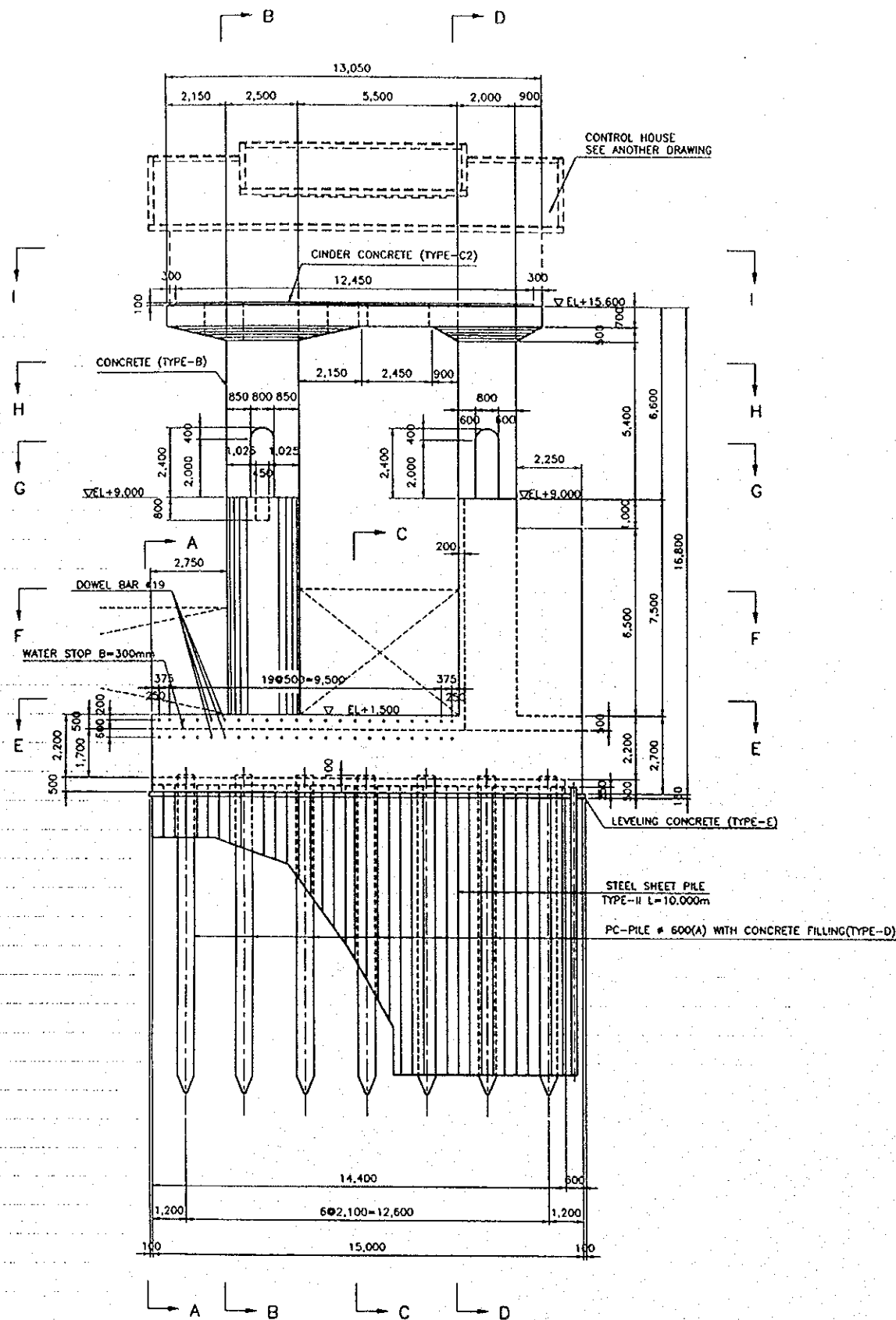
SECTION F-F
SCALE A



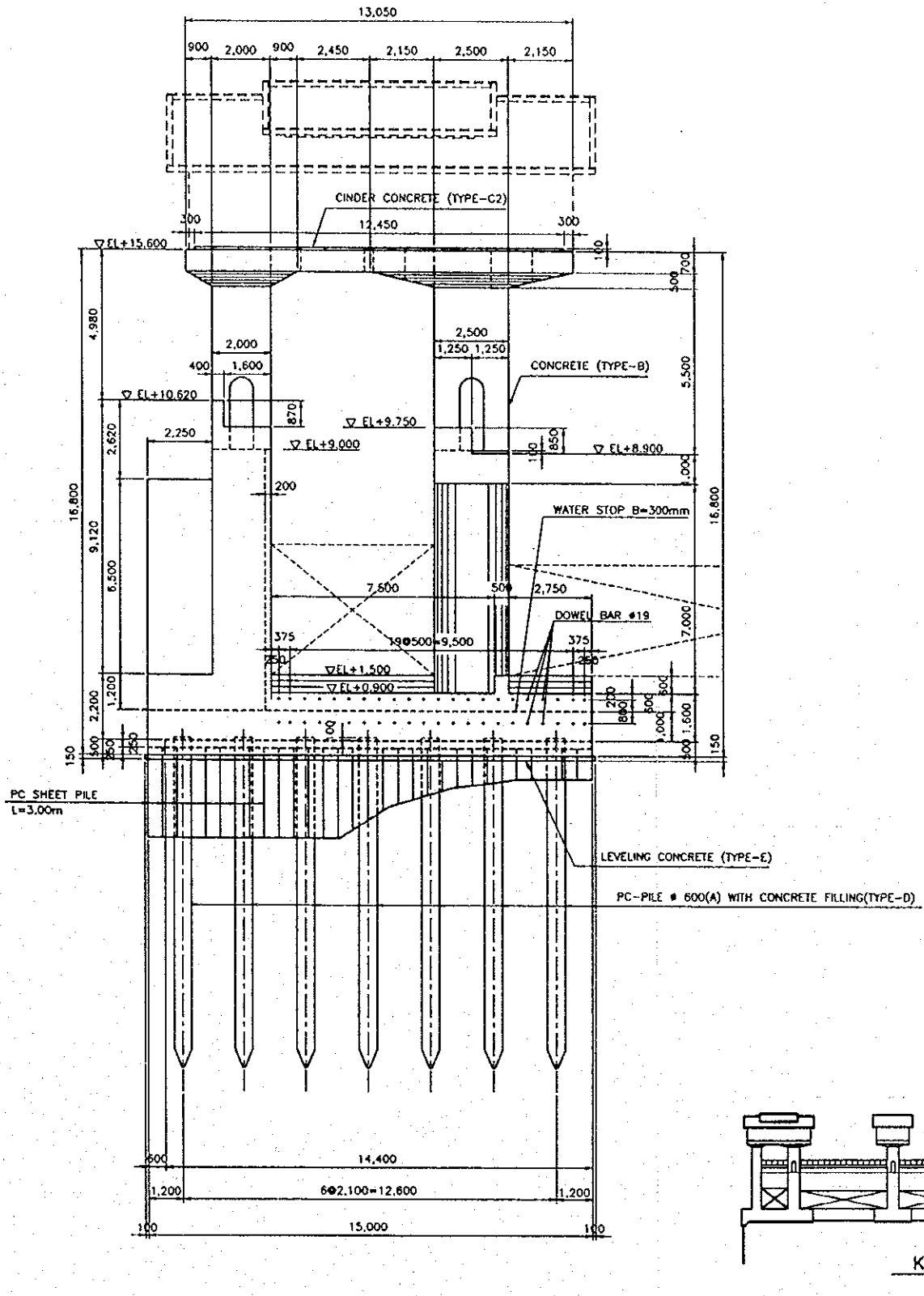
KEY PLAN

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY

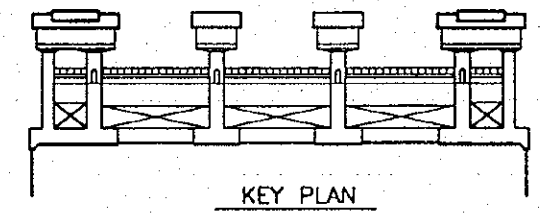
DWG. 6.4.4 (2/2)
CENTER PIER



UPSTREAM ELEVATION OF END PIER
SCALE A



DOWNSTREAM ELEVATION OF END PIER
SCALE A

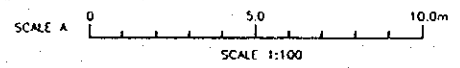
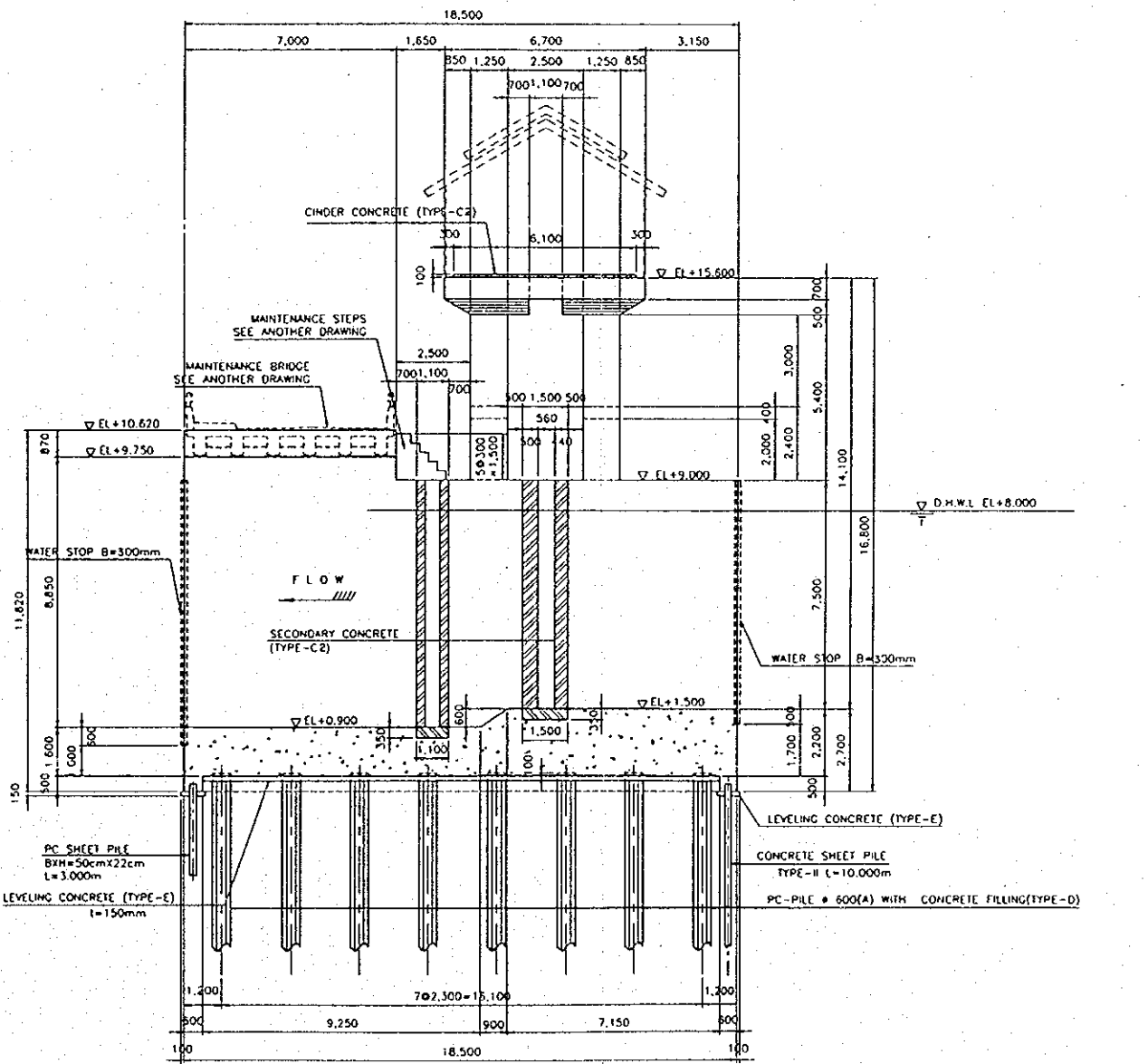
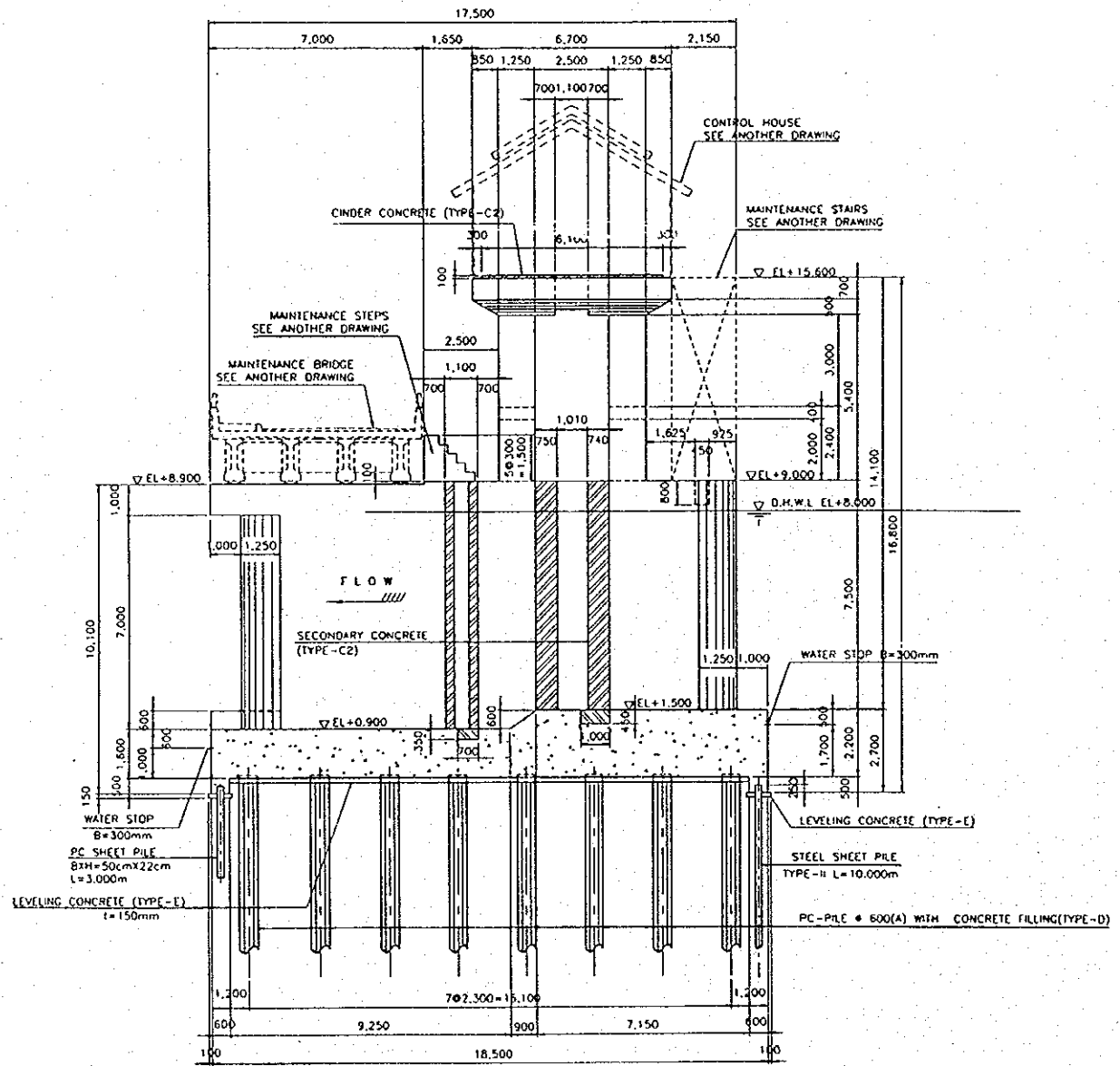
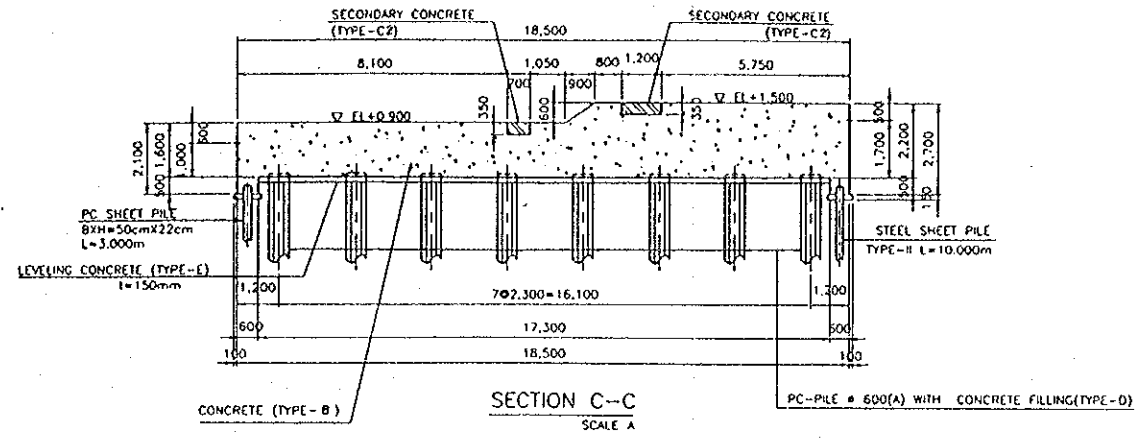
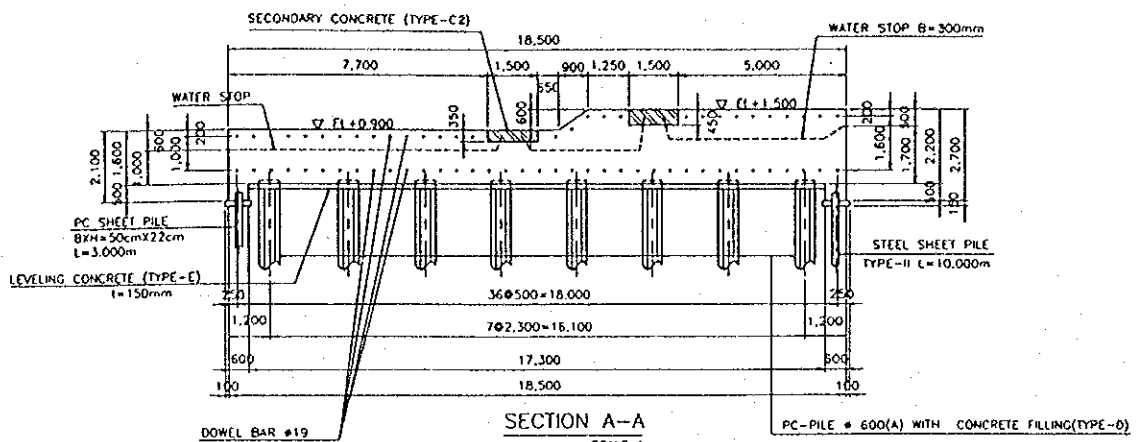


SCALE A 0 5.0 10.0m
SCALE 1:200

NOTE :
PILE LENGTH SHOWN ON THE DRAWING IS TENTATIVE.
THE CONTRACTOR SHALL DETERMINE THE LENGTH OF PILE BY TEST PILING.

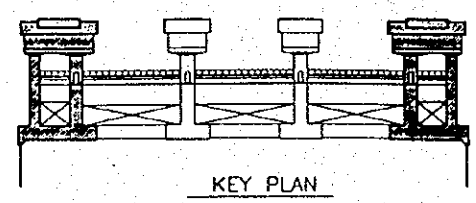
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN
DRAINAGE AND WATER RESOURCES DEVELOPMENT
IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG. 6.4.5 (1/3)
END PIER



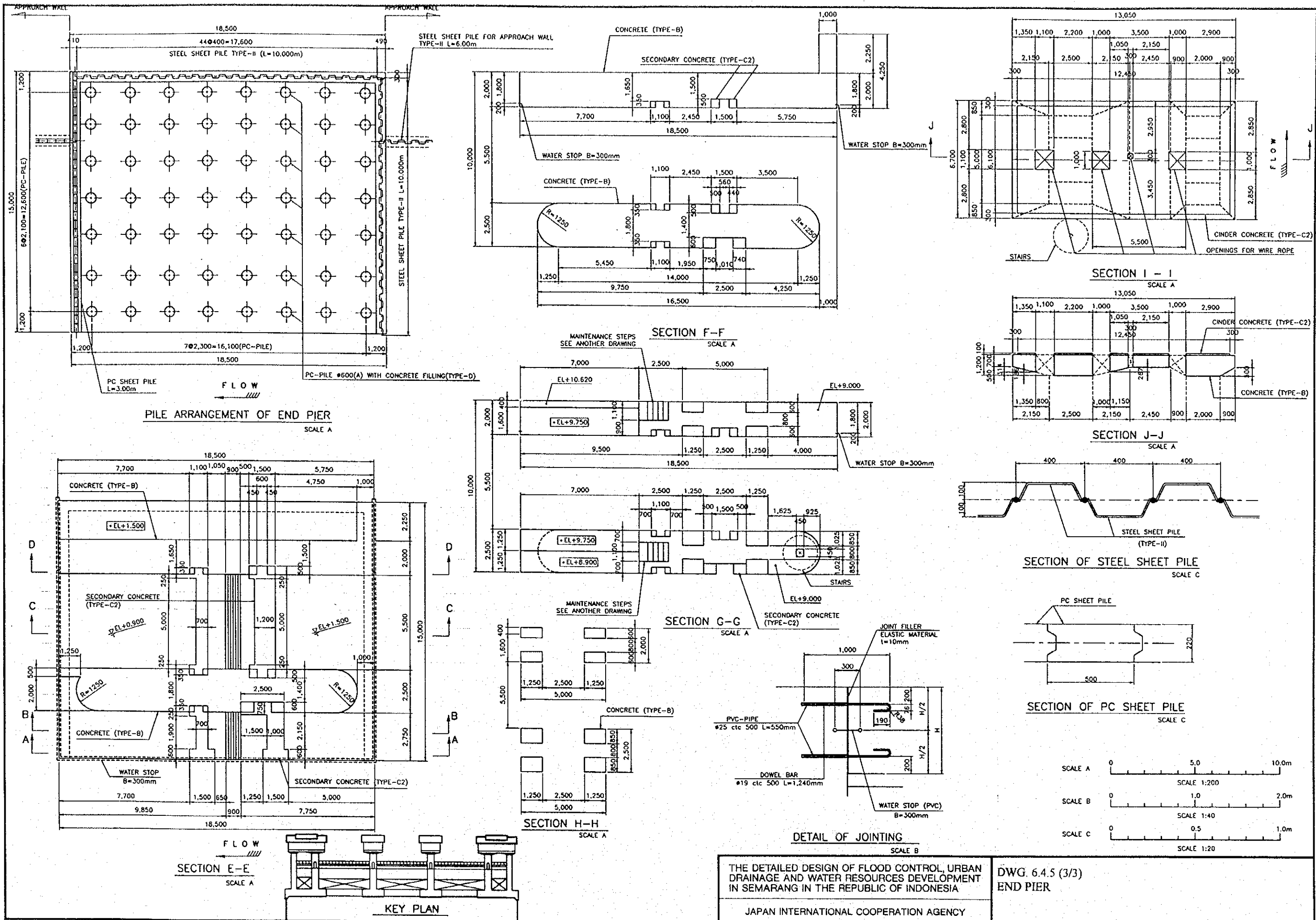
SECTION B-B
SCALE A

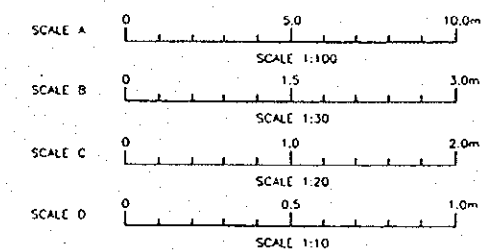
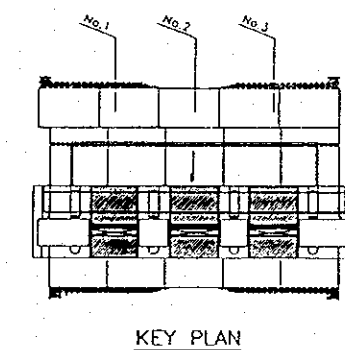
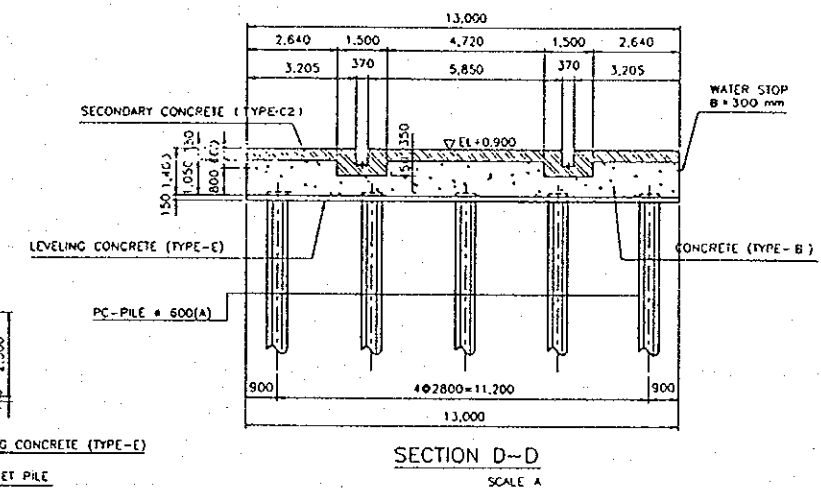
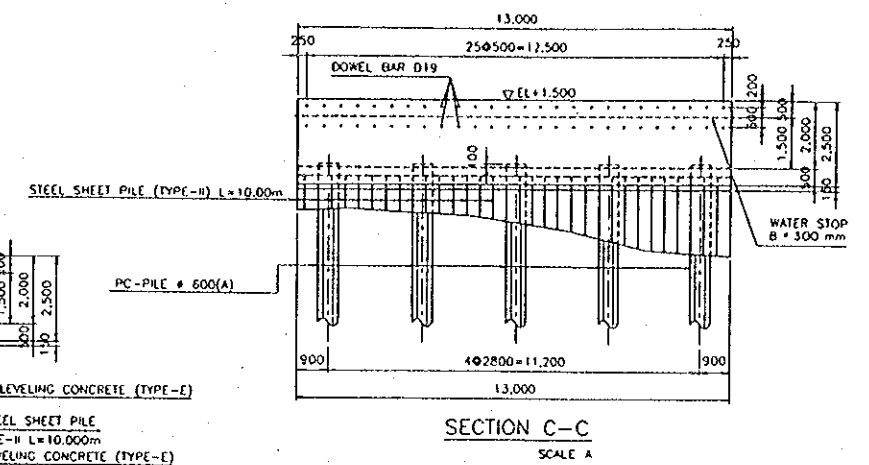
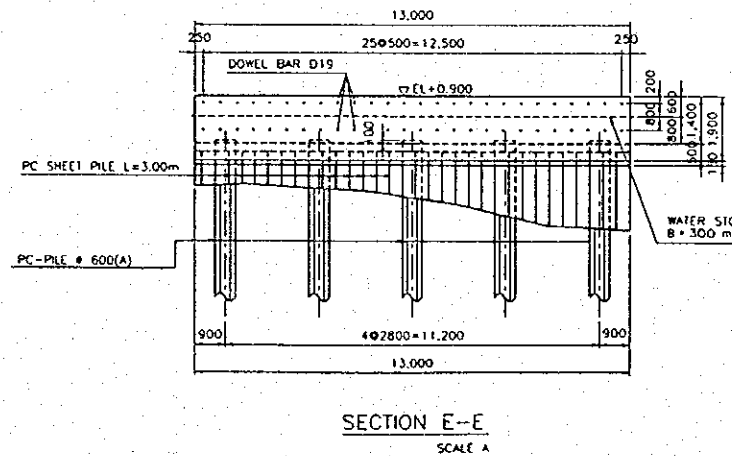
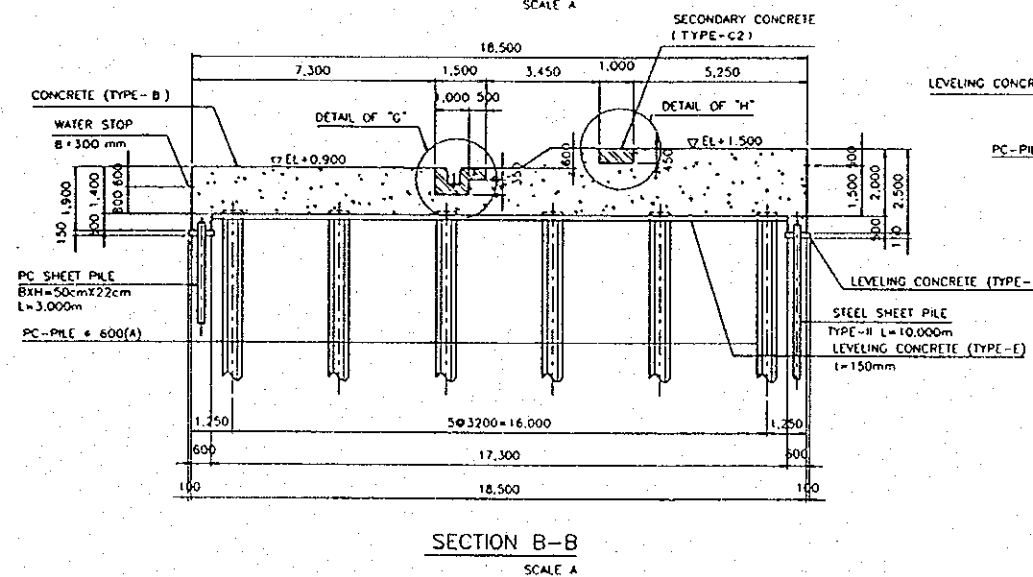
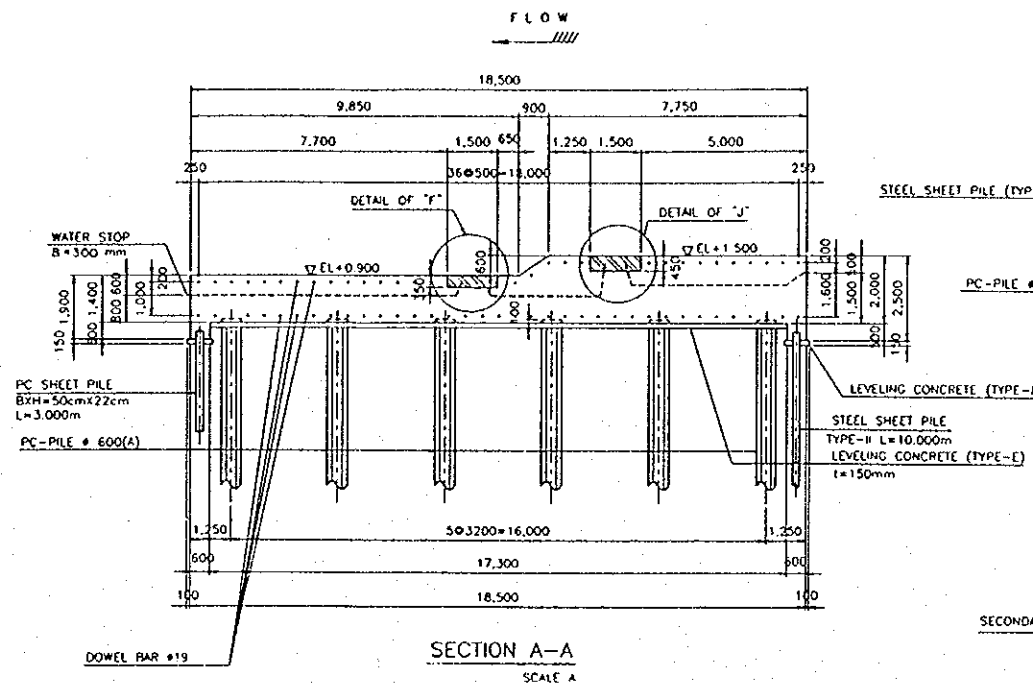
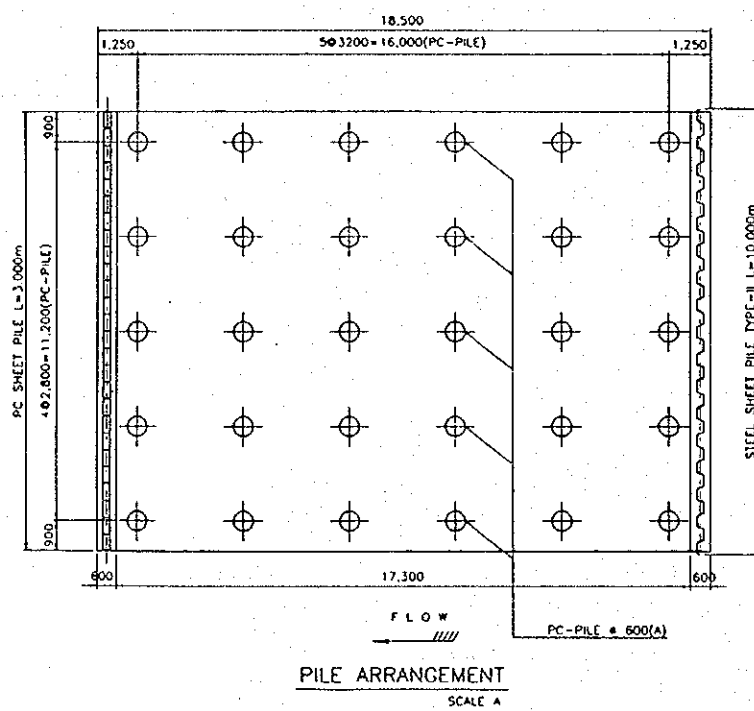
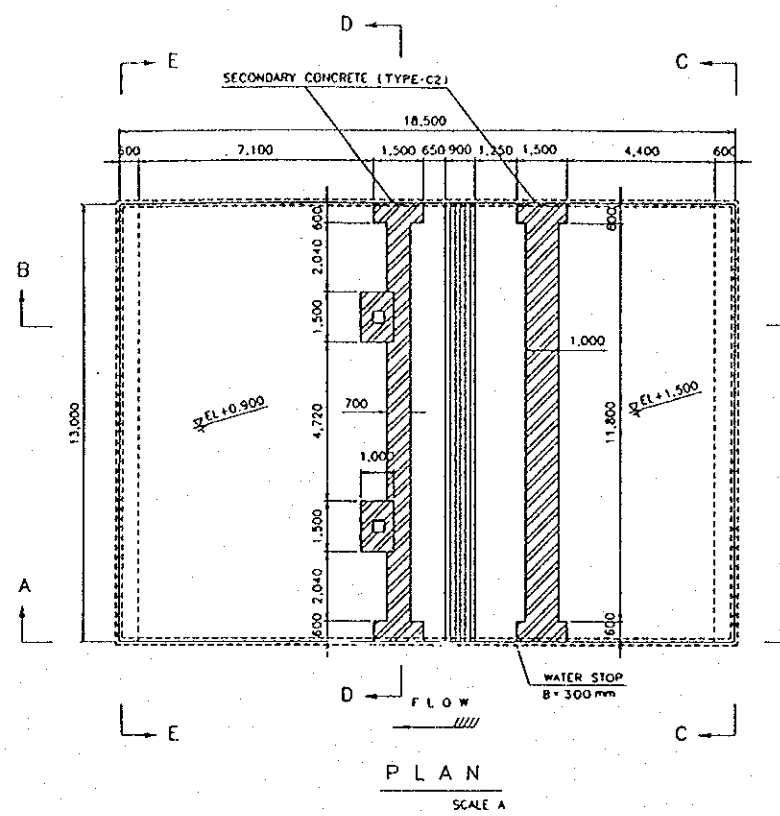
SECTION D-D
SCALE A



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG. 6.4.5 (2/3)
END PIER

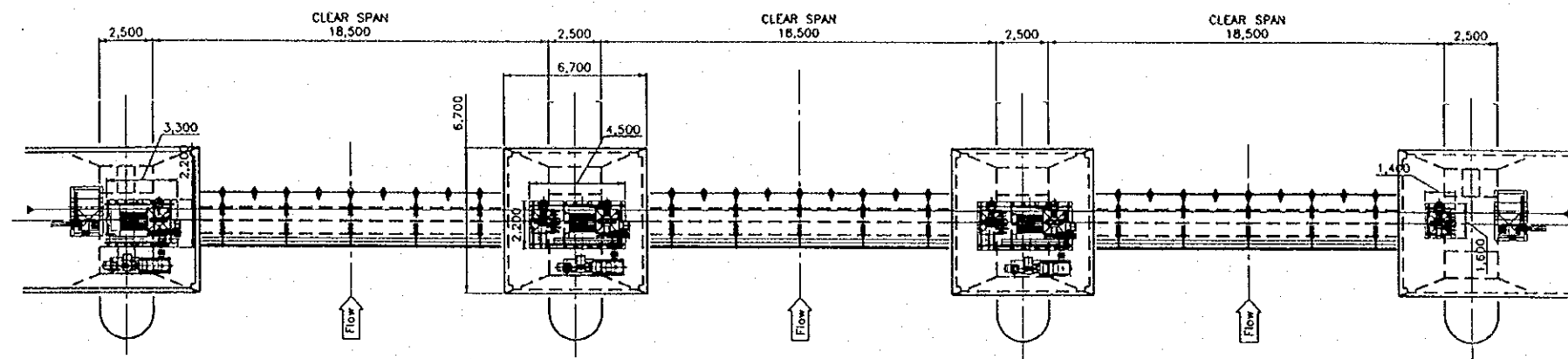




THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

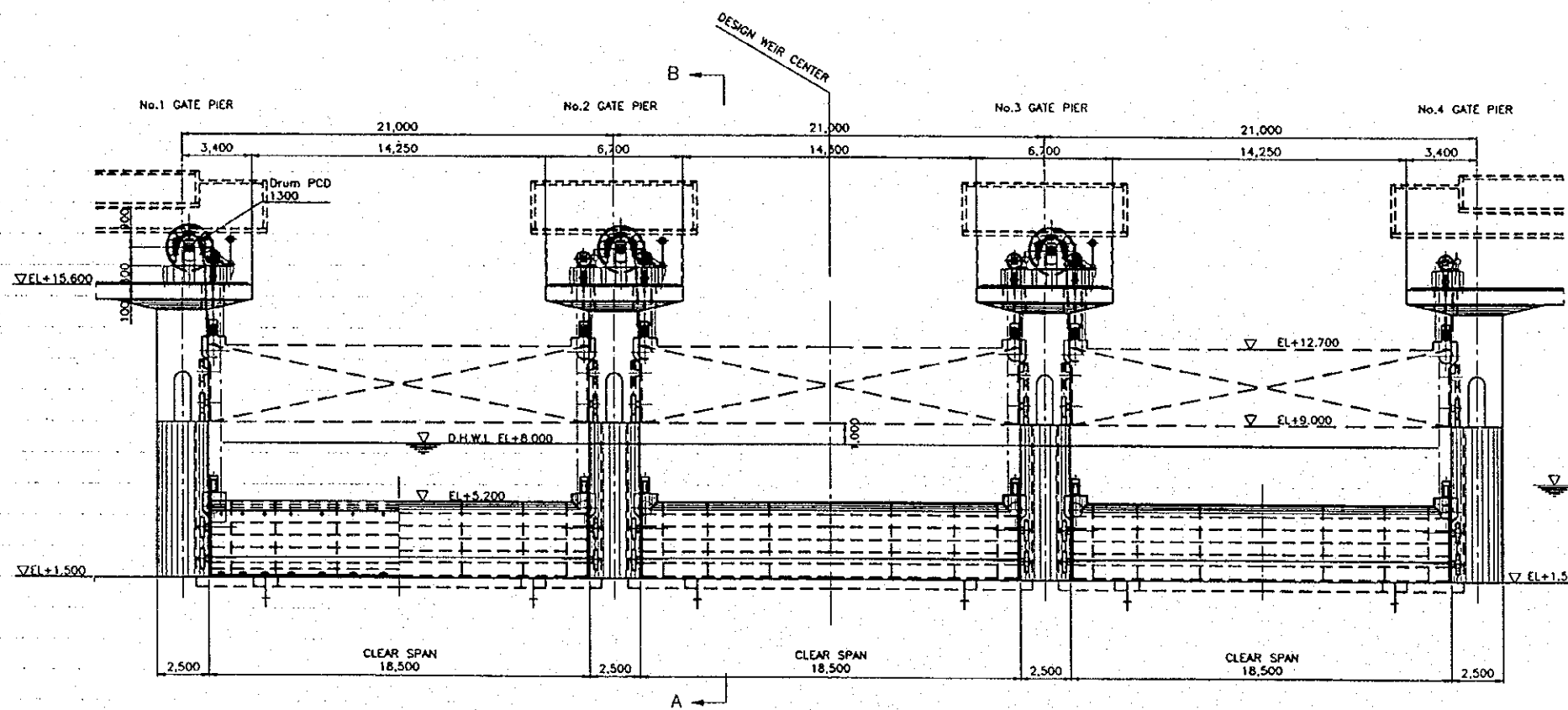
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG. 6.4.6
GATE FLOOR SLAB

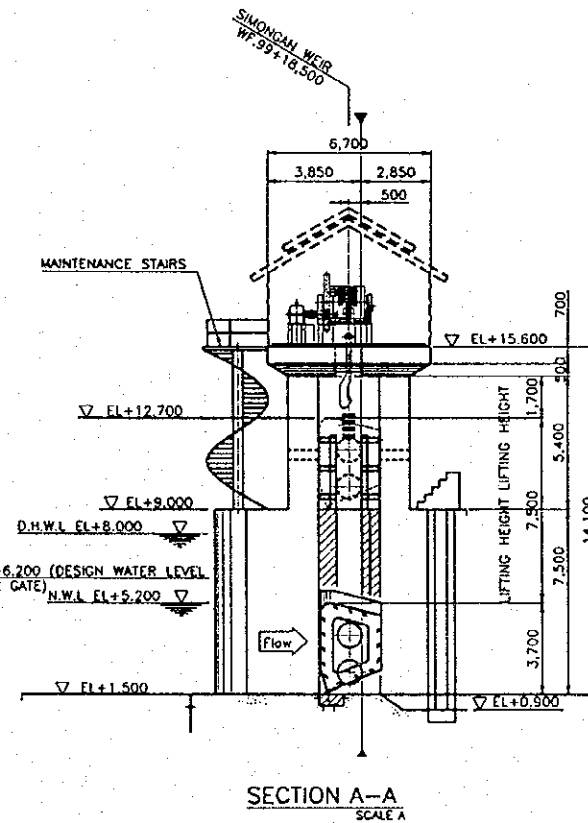


PLAN OF FLOOD DISCHARGE GATE
SCALE A

DESIGN CONDITIONS OF GATE	
TYPE OF GATE	STEEL SHELL TYPE ROLLER GATE
NUMBER OF GATE	3 GATES
CLEAR SPAN	18,500 m
GATE LEAF HEIGHT	3,700 m
DESIGN WATER LEVEL OF RIVER CHANNEL	UPSTREAM EL.+8,000
	DOWNSTREAM EL.+4,520
OPERATING WATER LEVEL (DESIGN WATER LEVEL FOR GATE)	OPENING UPSTREAM EL.+6,200
	OPENING DOWNSTREAM EL.+1,500
	CLOSING UPSTREAM EL.+2,500
	CLOSING DOWNSTREAM EL.+1,500
SEAL SYSTEM	BOTTOM AND BOTH SIDES OF GATE
OPERATING SYSTEM	ONE MOTOR ONE DRUM TYPE

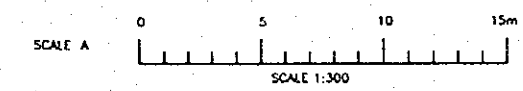


ELEVATION OF FLOOD DISCHARGE GATE
SCALE A



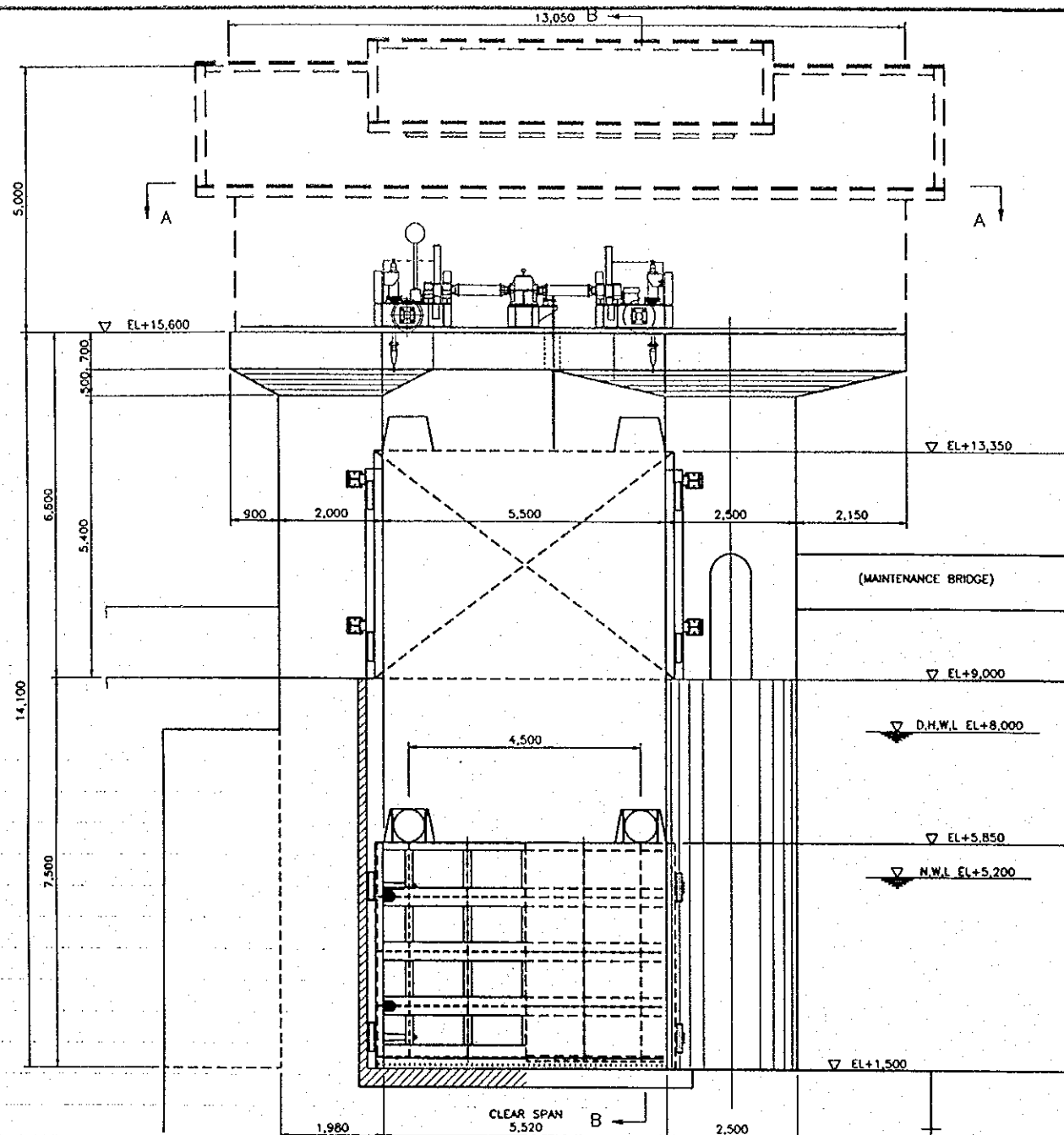
SECTION A-A
SCALE A

REMARKS
MARK "▲" SHOWS STANDARD LINE FOR INSTALLATION

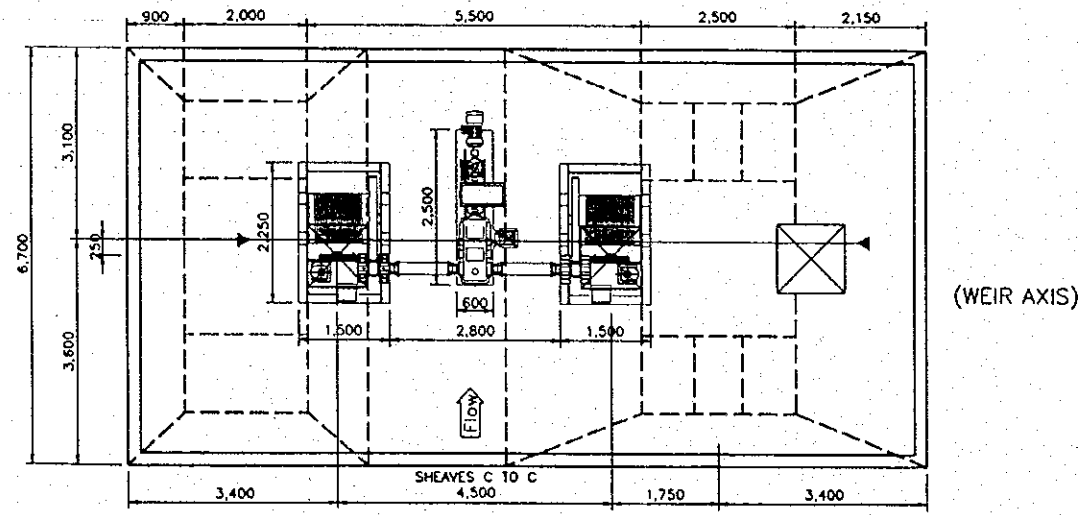


THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY

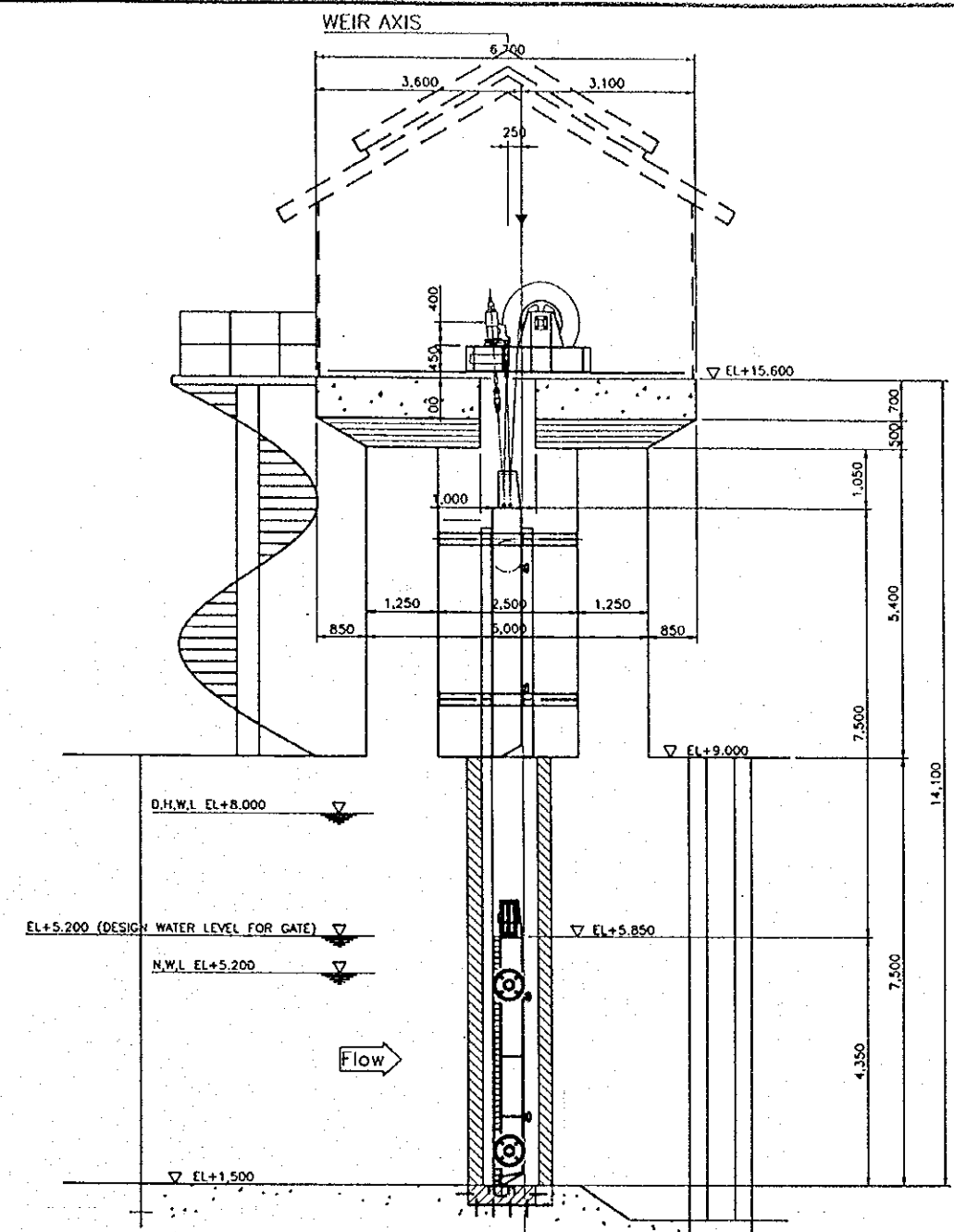
DWG. 6.4.7
FLOOD DISCHARGE GATES



ELEVATION OF END PIER
SCALE A



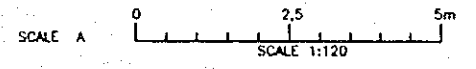
SECTION A-A
SCALE A



SECTION B-B
SCALE A

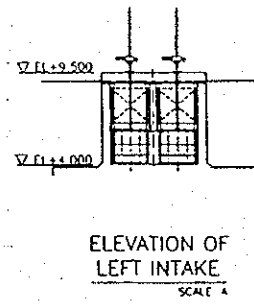
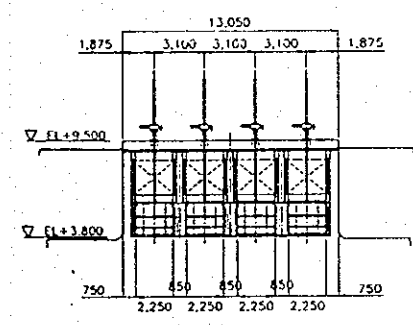
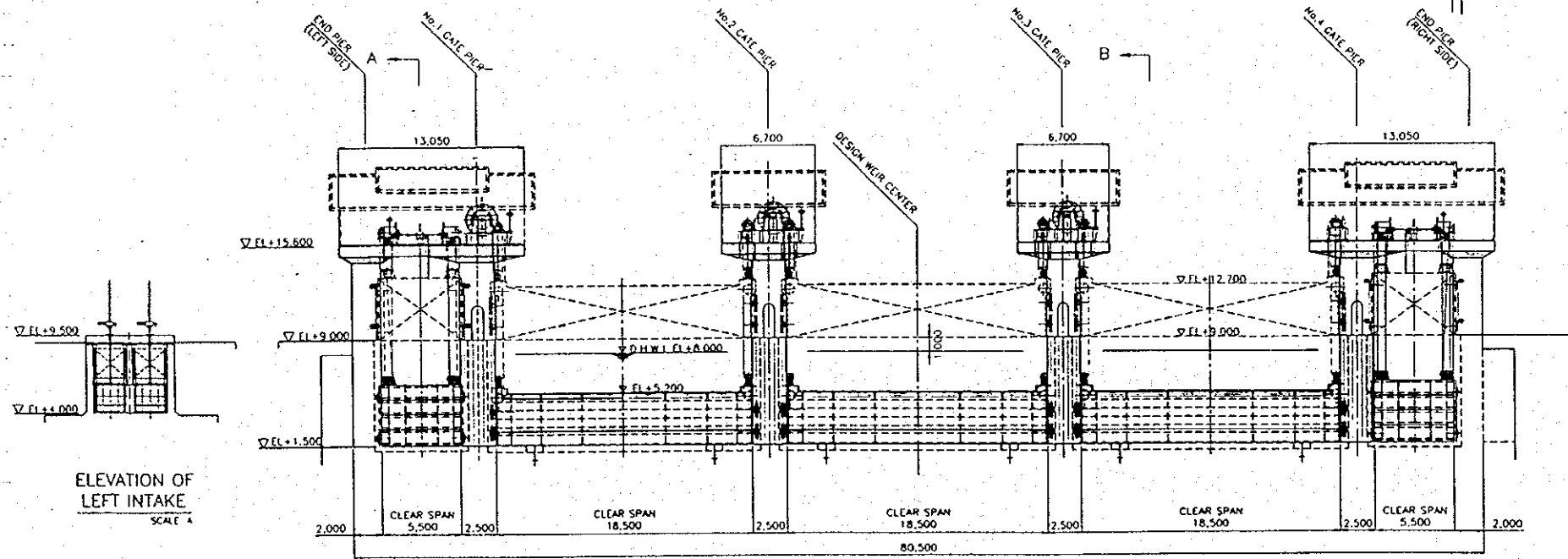
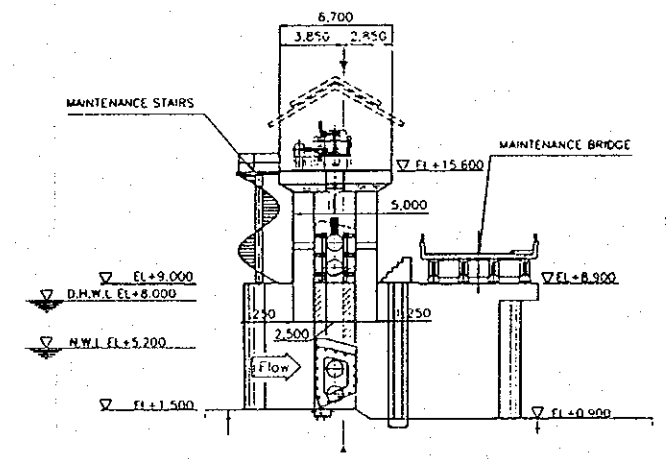
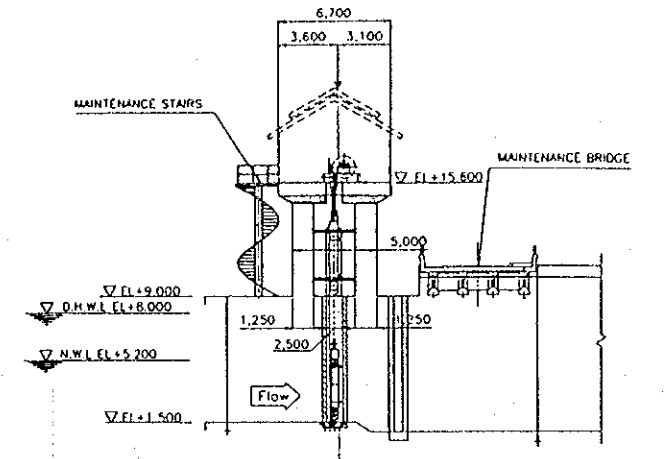
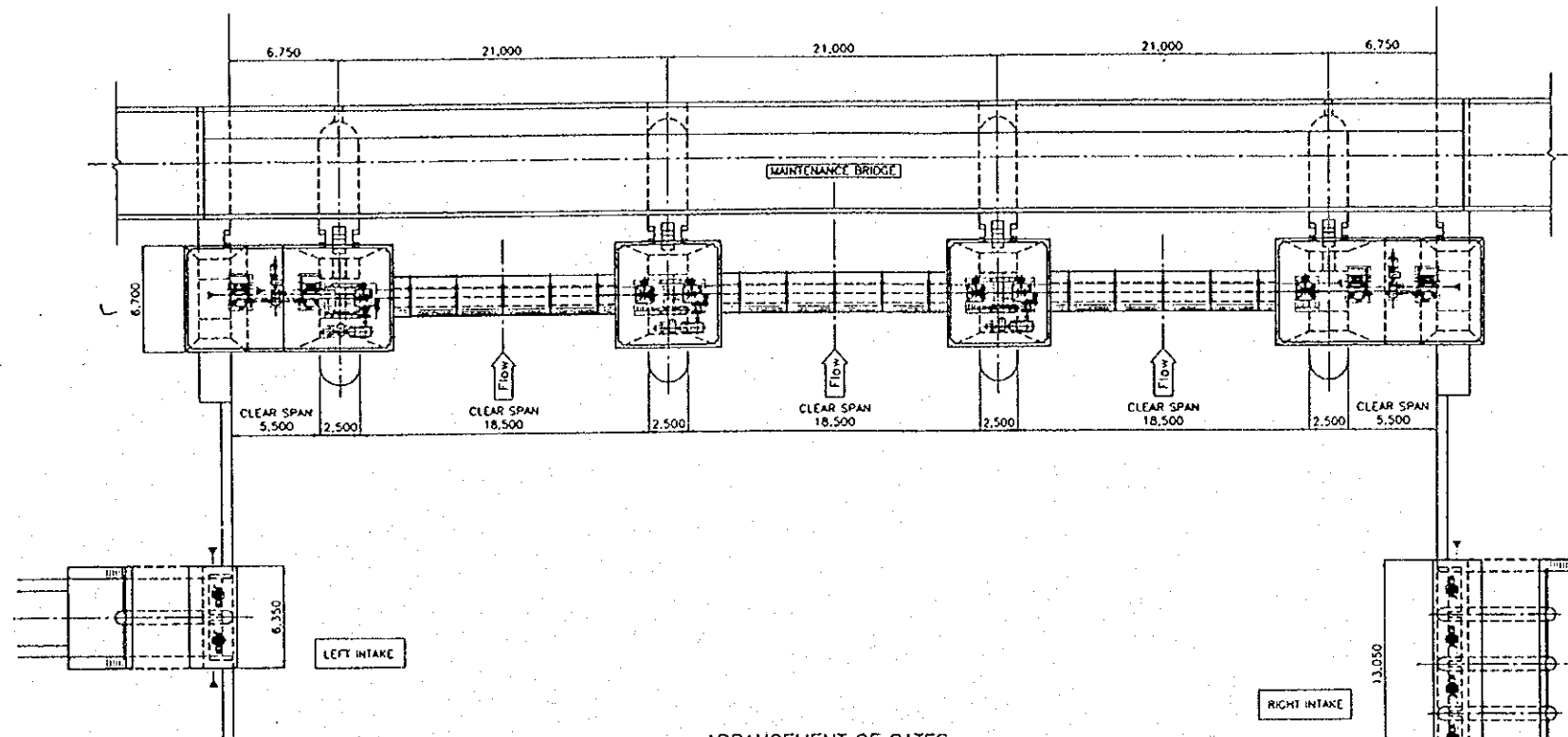
DESIGN CONDITIONS OF GATE	
TYPE OF GATE	STEEL GIRDER TYPE ROLLER GATE
NUMBER OF GATE	2 GATES
CLEAR SPAN	5.500 m
GATE LEAF HEIGHT	4.350 m
DESIGN WATER LEVEL OF RIVER CHANNEL	UPSTREAM EL.+8.000
	DOWNSTREAM EL.+4.520
OPERATING WATER LEVEL (DESIGN WATER LEVEL FOR GATE)	UPSTREAM EL.+5.850
	DOWNSTREAM EL.+1.500
	UPSTREAM EL.+2.500
	DOWNSTREAM EL.+1.500
SEAL SYSTEM	BOTTOM AND BOTH SIDES OF GATE
OPERATING SYSTEM	ONE MOTOR TWO DRUMS TYPE

REMARKS
MARK "←" SHOWS STANDARD LINE FOR INSTALLATION THIS DRAWING SHOWS LEFT SIDE OF RIVER OPPOSITE SIDE IS SYMMETRY.

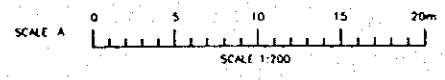


THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG. 6.4.8
SEDIMENT FLUSH GATE



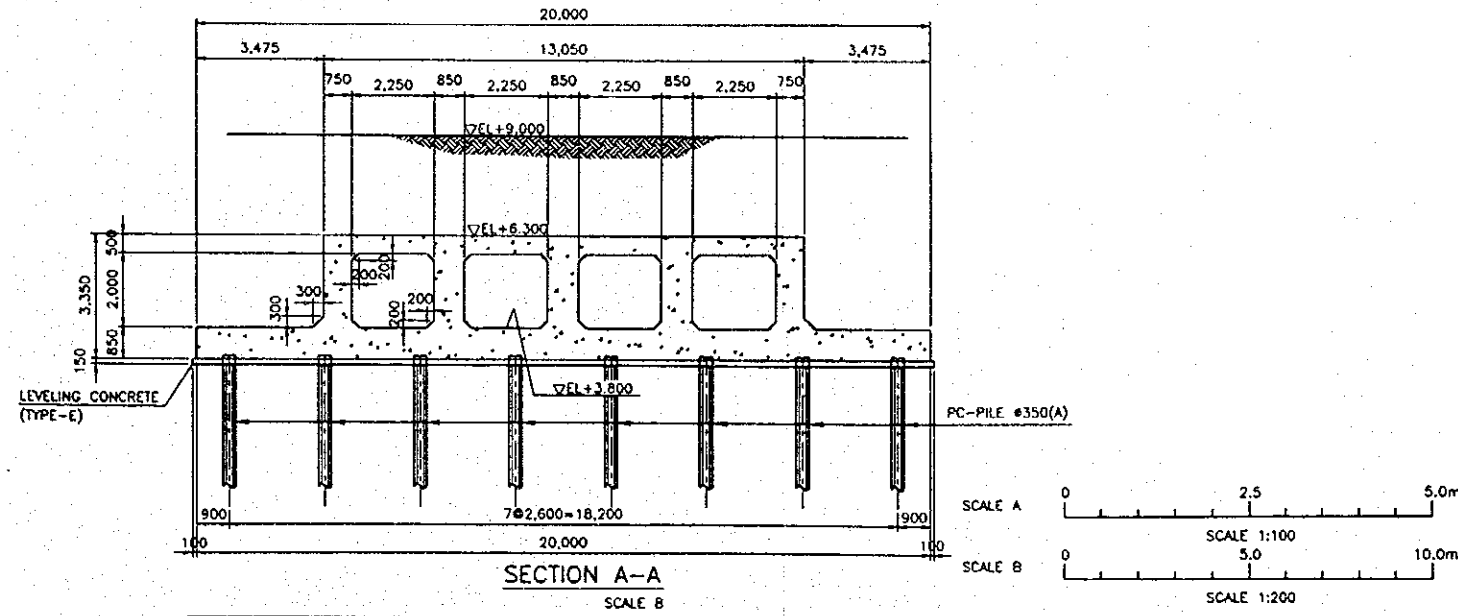
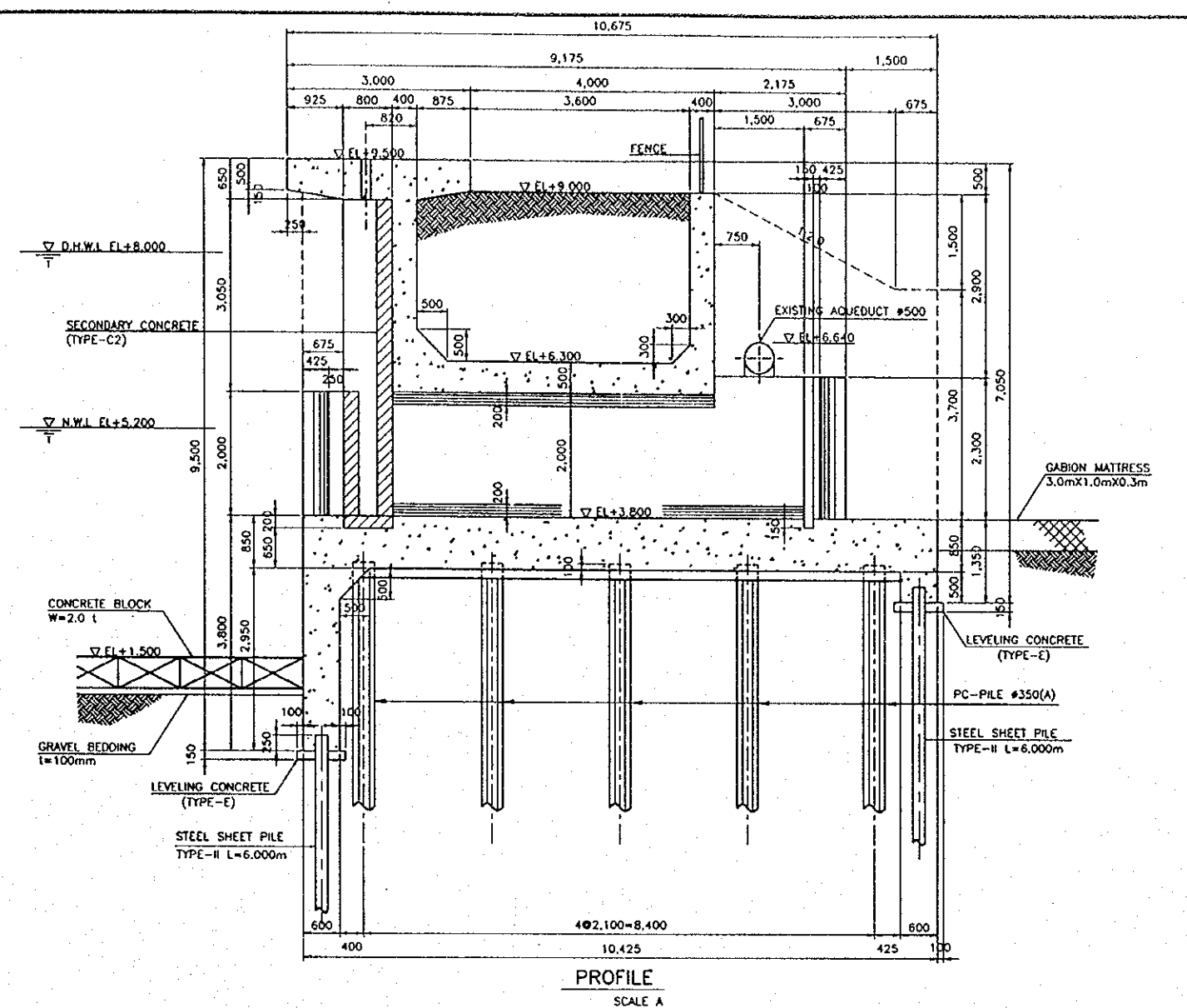
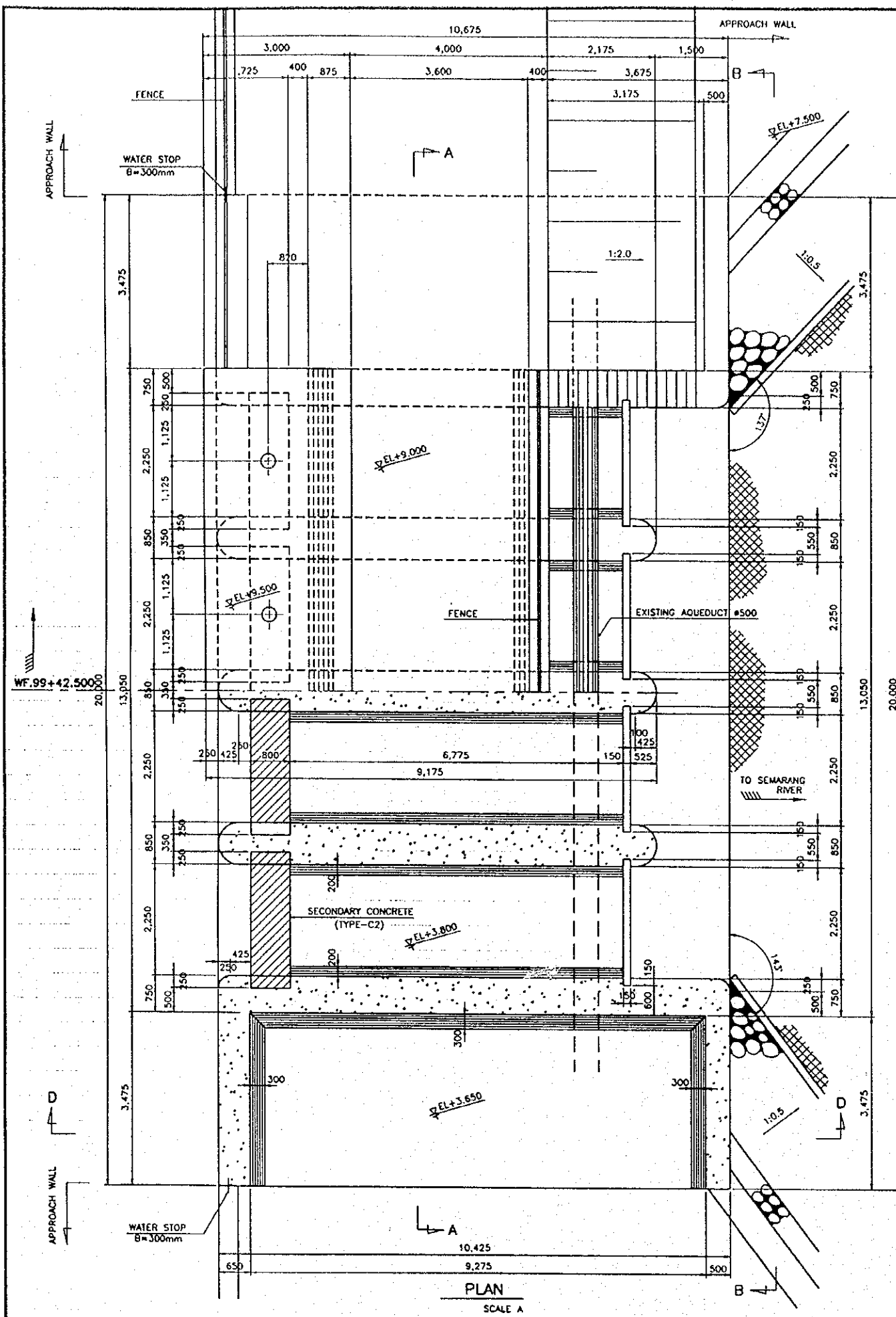
REMARKS
 MARK "P" SHOWS STANDARD LINE
 FOR INSTALLATION



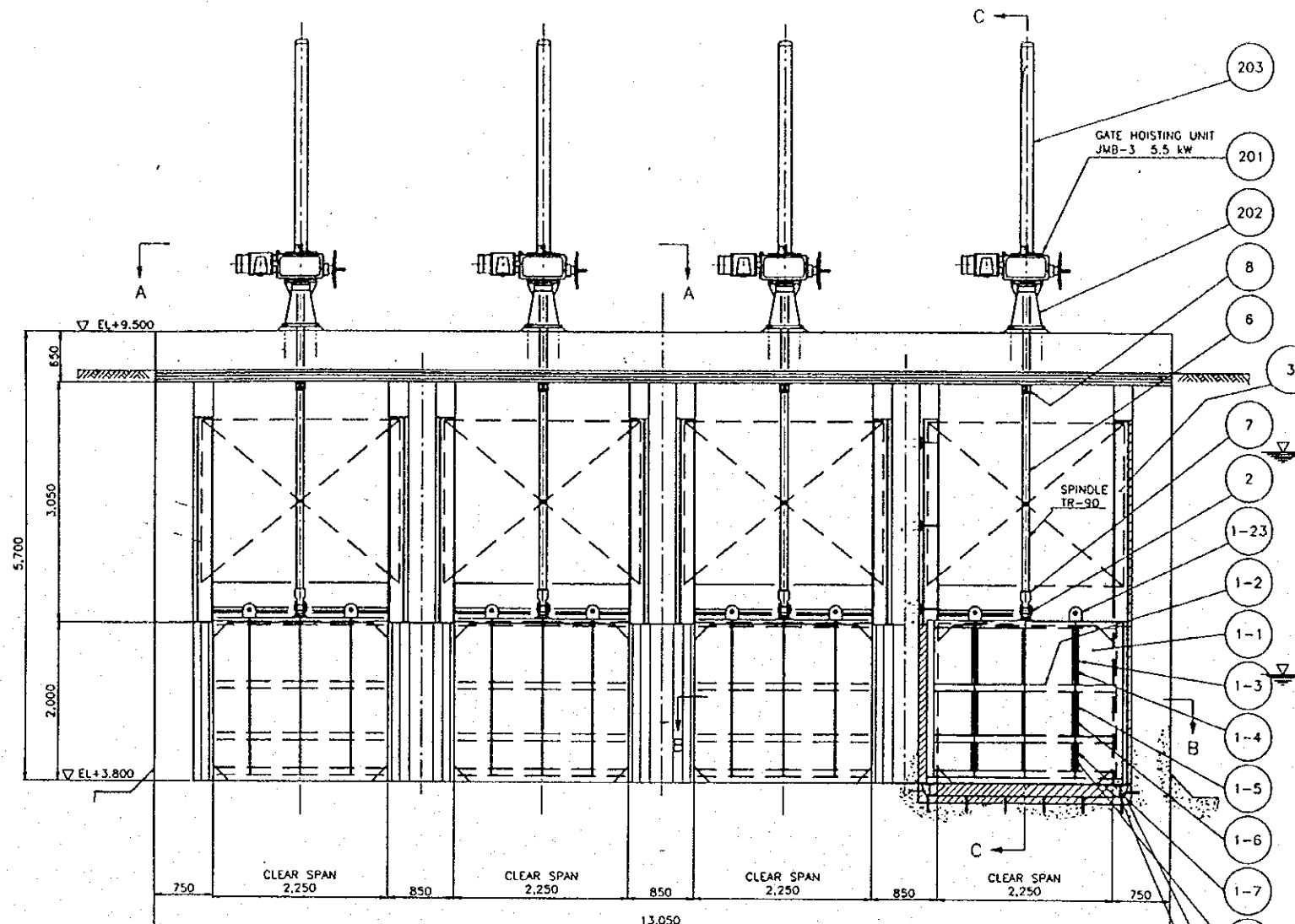
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN
 DRAINAGE AND WATER RESOURCES DEVELOPMENT
 IN SEMARANG IN THE REPUBLIC OF INDONESIA

JAPAN INTERNATIONAL COOPERATION AGENCY

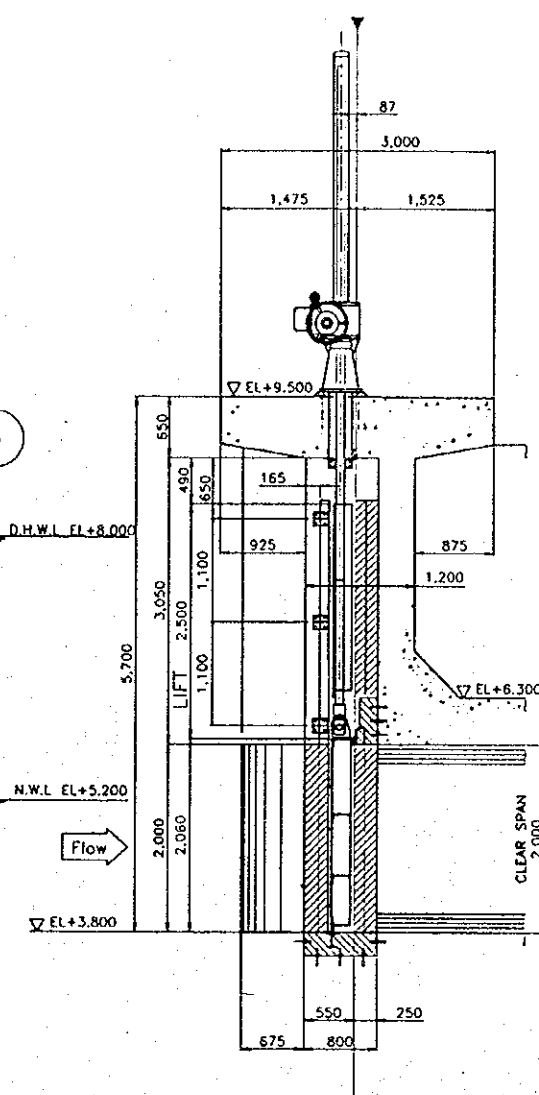
DWG. 6.4.9
 LAYOUT PLAN OF SIMONGAN WEIR AND
 INTAKE STRUCTURES



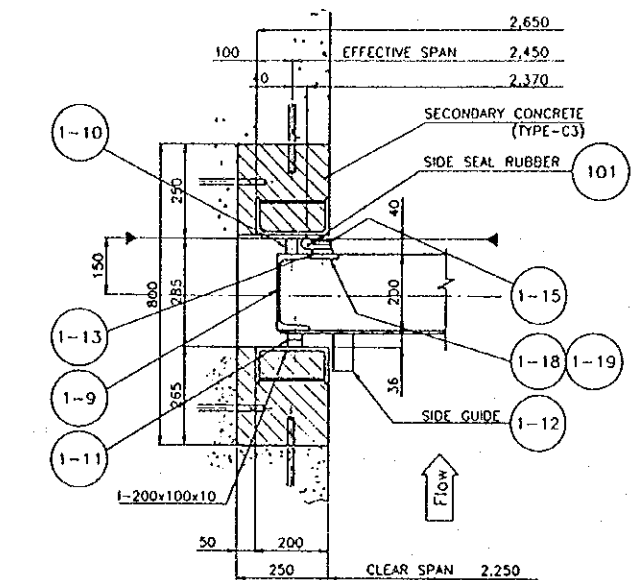
<p>THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA</p> <p>JAPAN INTERNATIONAL COOPERATION AGENCY</p>	<p>DWG. 6.4.10 RIGHT BANK INTAKE STRUCTURE</p>
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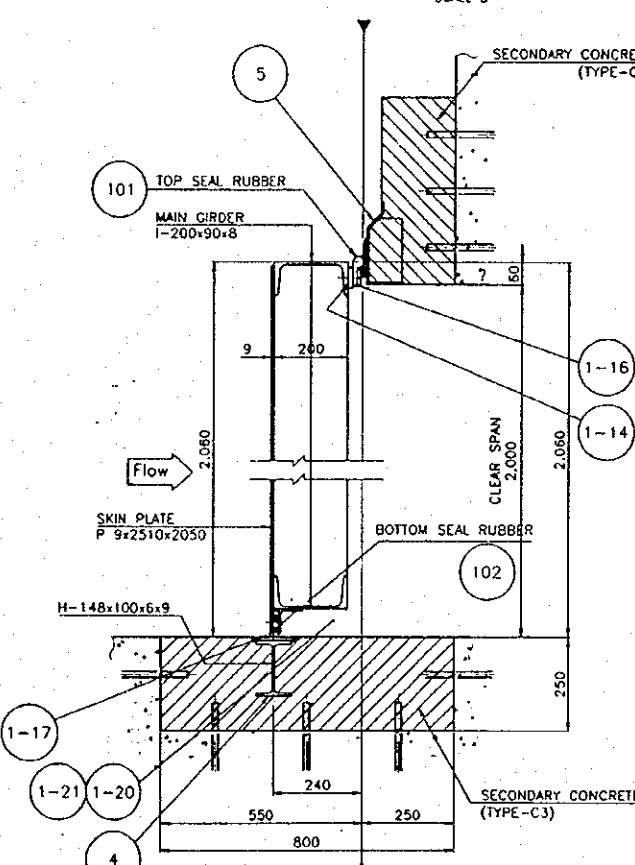
ELEVATION OF INTAKE STRUCTURE
SCALE A



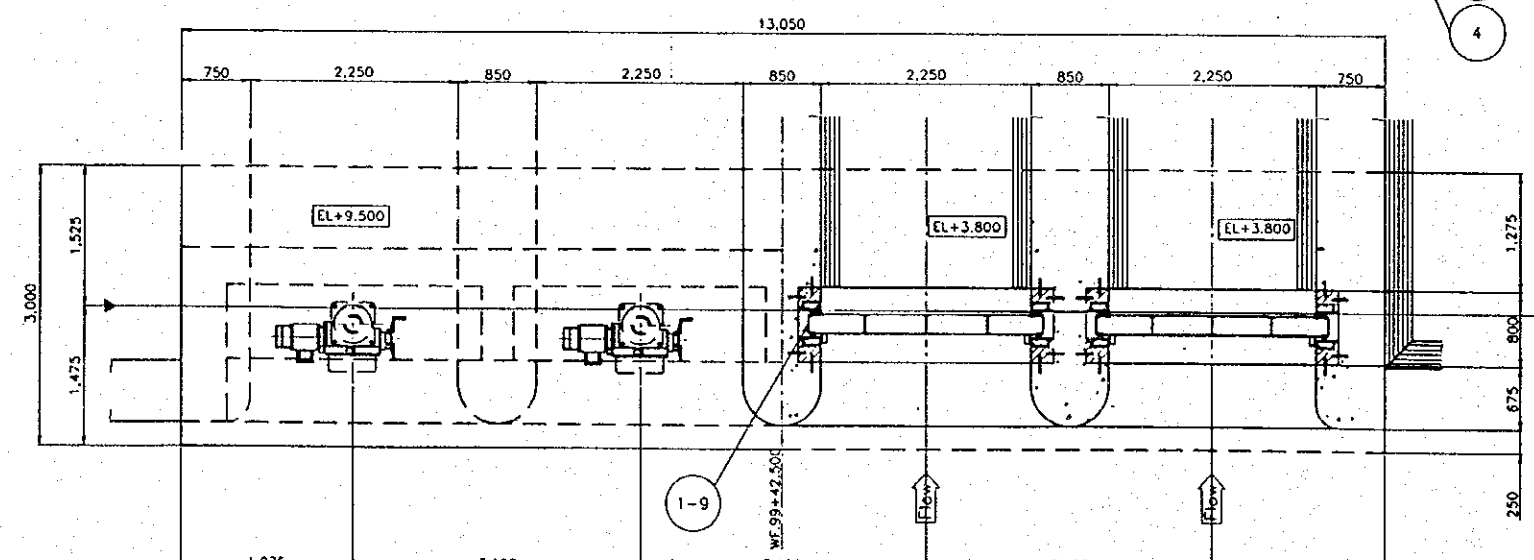
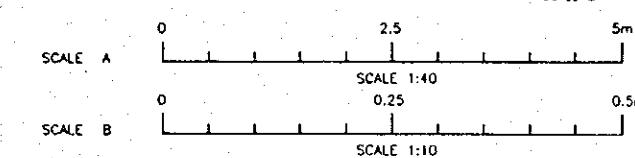
SECTION C-C
SCALE A



DETAIL OF SIDE SEAL
SCALE B



DETAIL OF TOP & BOTTOM SEAL
SCALE B



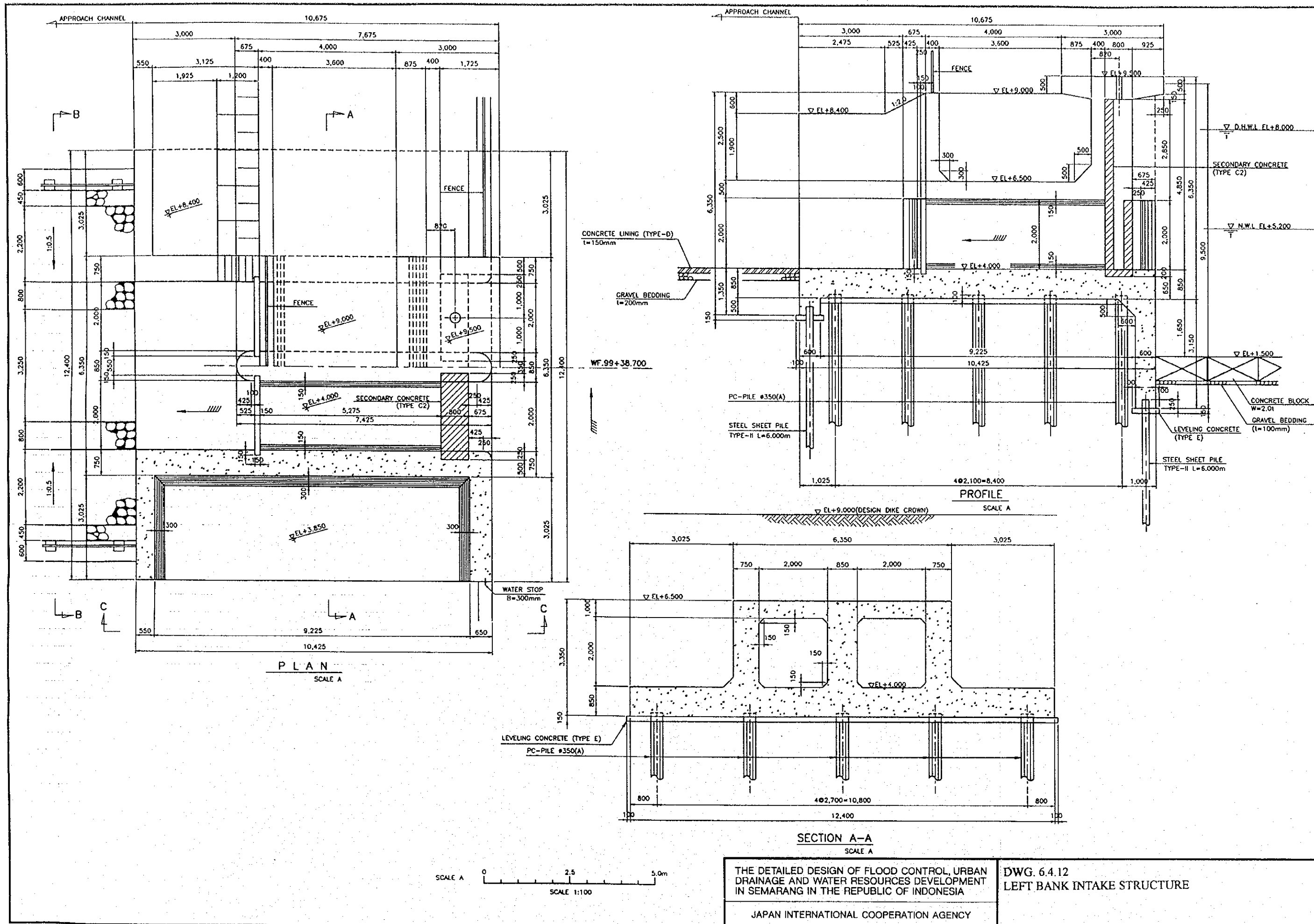
SECTION A-A
SCALE A

SECTION B-B
SCALE A

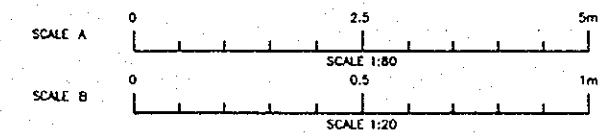
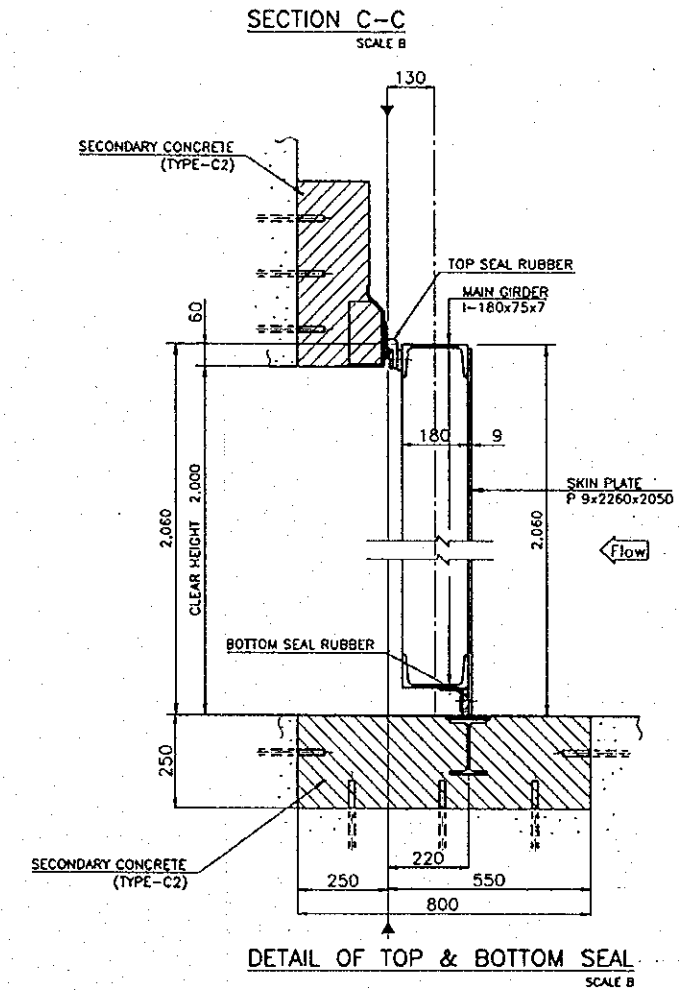
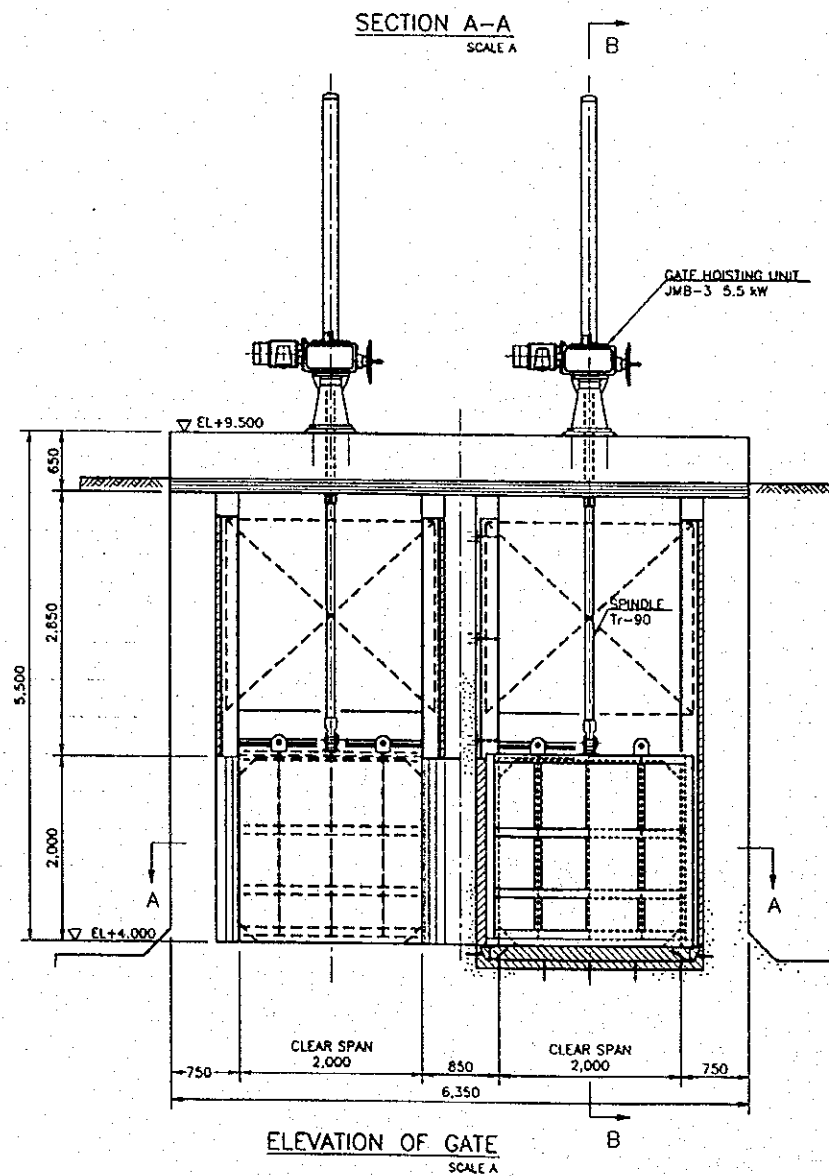
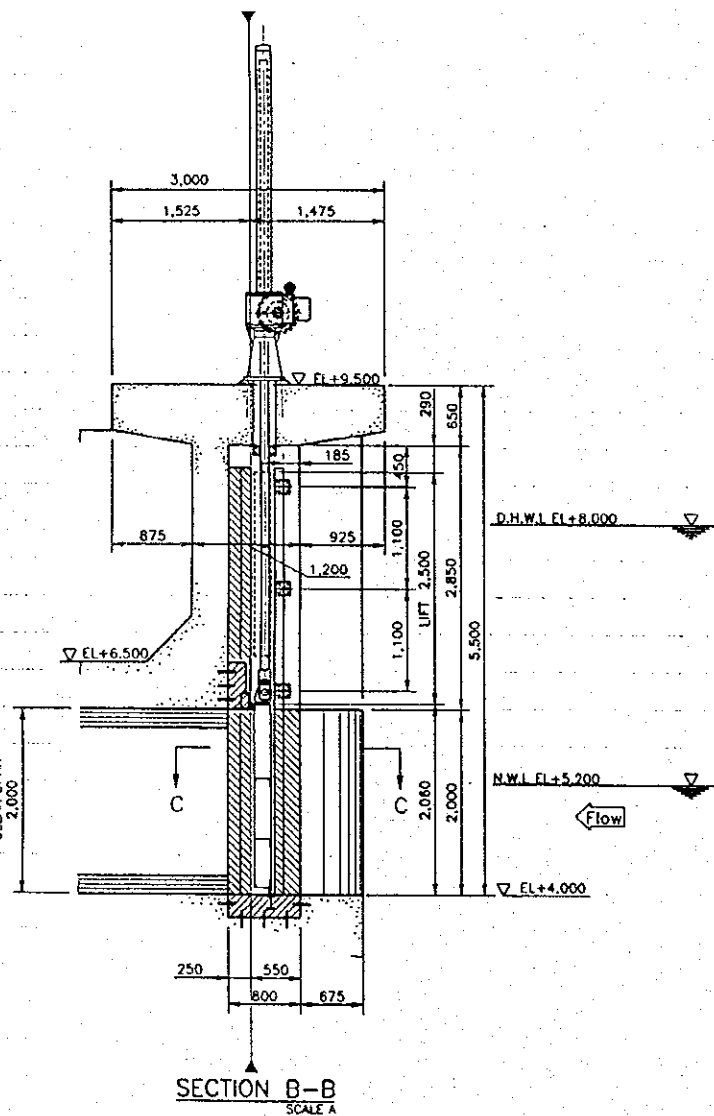
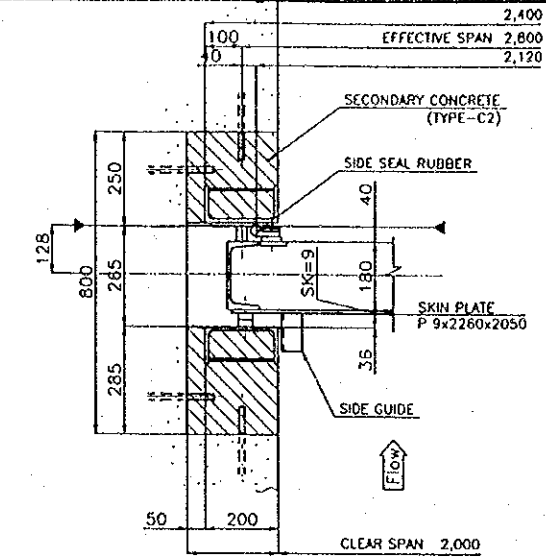
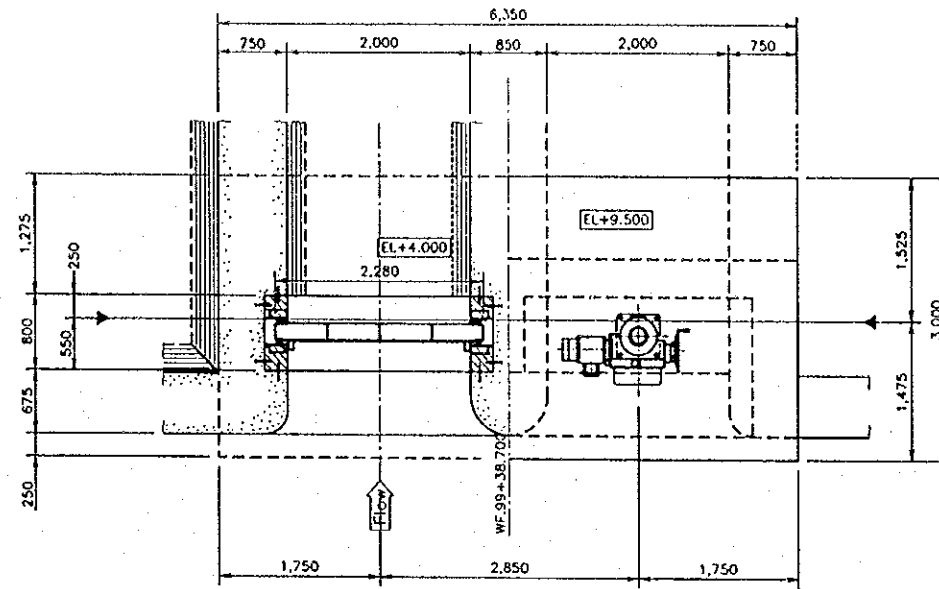
DESIGN CONDITIONS OF GATE	
TYPE OF GATE	STEEL SLIDE GATE
NUMBER OF GATE	4 GATES
CLEAR SPAN	2,250 m
CLEAR HEIGHT	2,000 m
DESIGN WATER LEVEL	UPSTREAM EL.+8.000 DOWNSTREAM EL.+6.200
OPERATING WATER LEVEL	WATER LEVEL AT GATE OPENING EL.+6.200 WATER LEVEL AT GATE OPENING EL.+5.840
SEAL SYSTEM	BOTTOM AND BOTH SIDES OF GATE
OPERATING SYSTEM	ONE MOTOR ONE DRUM TYPE

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY

DWG. 6.4.11
HOISTING SYSTEM OF RIGHT BANK INTAKE STRUCTURE



DESIGN CONDITIONS OF GATE	
TYPE OF GATE	STEEL SLIDE GATE
NUMBER OF GATE	4 GATES
CLEAR SPAN	2,250 m
CLEAR HEIGHT	2,000 m
DESIGN WATER LEVEL OF RIVER CHANNEL	HIGH WATER LEVEL EL.+8,000
OPERATING WATER LEVEL (DESIGN WATER LEVEL FOR GATE)	WATER LEVEL AT GATE OPENING EL.+6,200 WATER LEVEL AT GATE OPENING EL.+5,840
SEAL SYSTEM	BOTTOM AND BOTH SIDES OF GATE
OPERATING SYSTEM	SPINDLE TYPE

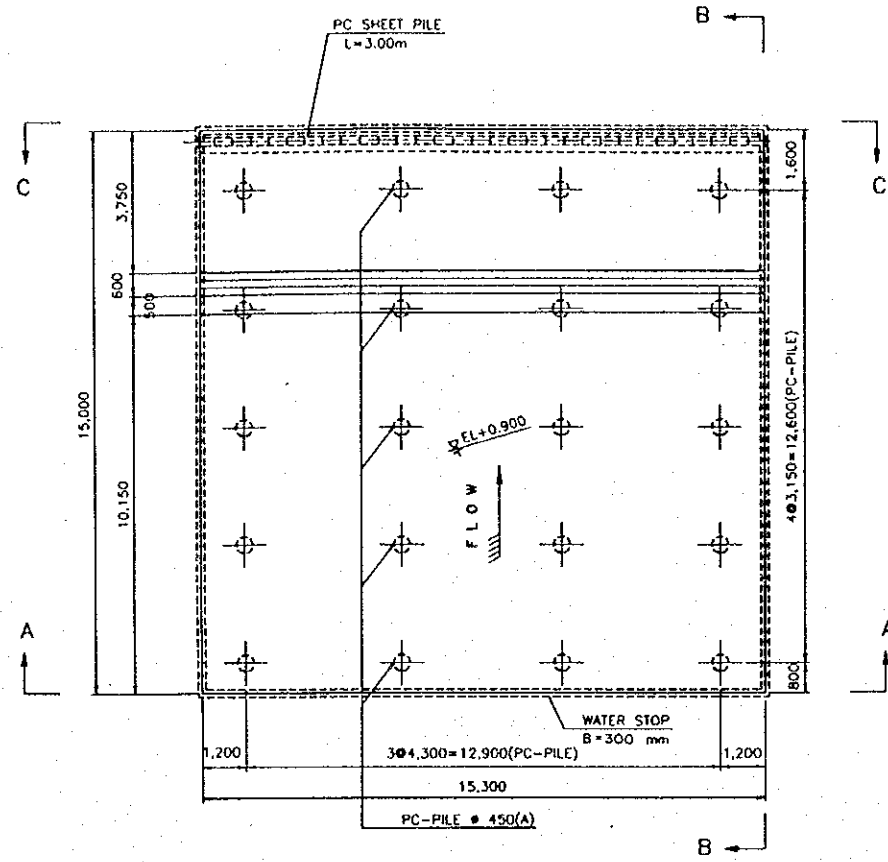


REMARKS
 MARK " " SHOWS STANDARD
 LINE FOR INSTALLATION

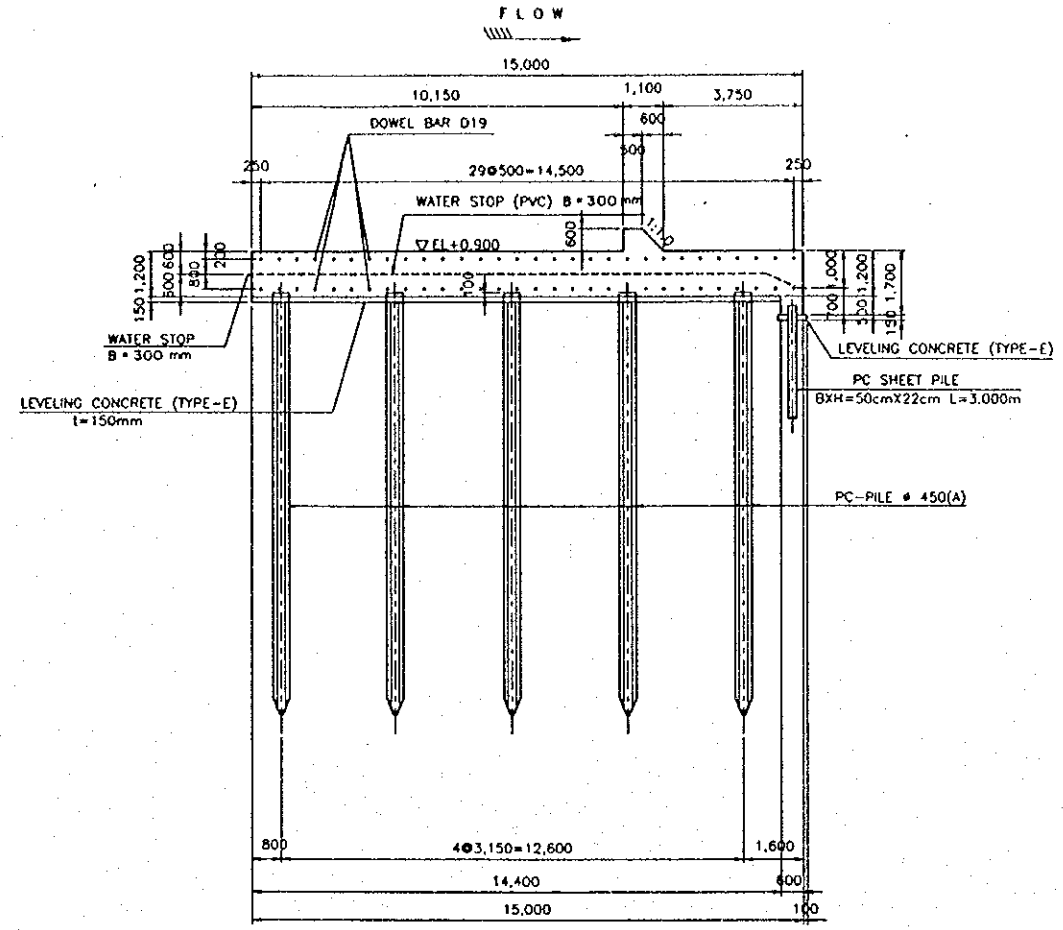
THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA

DWG. 6.4.13
 HOISTING SYSTEM OF LEFT BANK INTAKE STRUCTURE

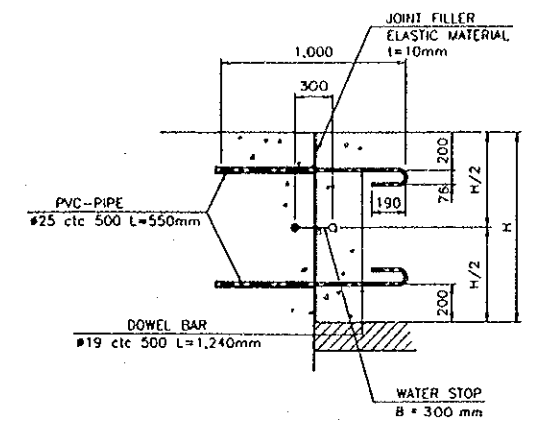
JAPAN INTERNATIONAL COOPERATION AGENCY



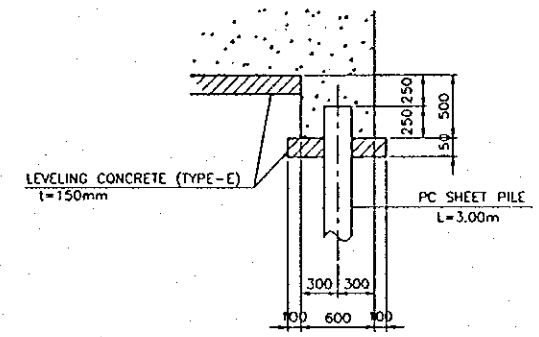
PLAN (MIDDLE SECTION)
SCALE A



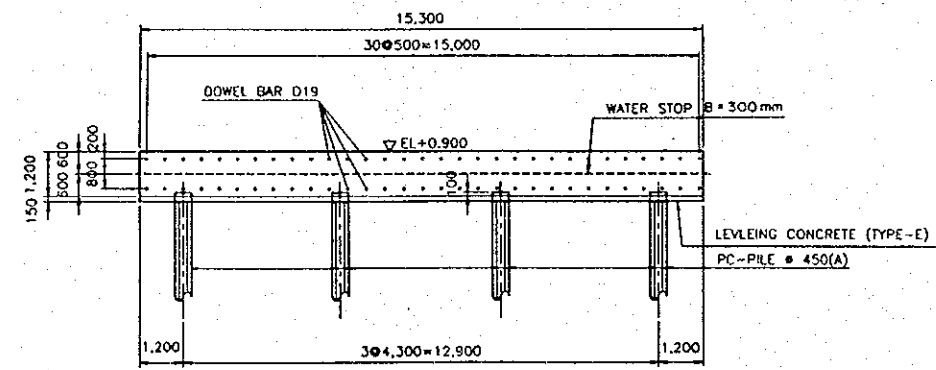
SECTION B-B
SCALE A



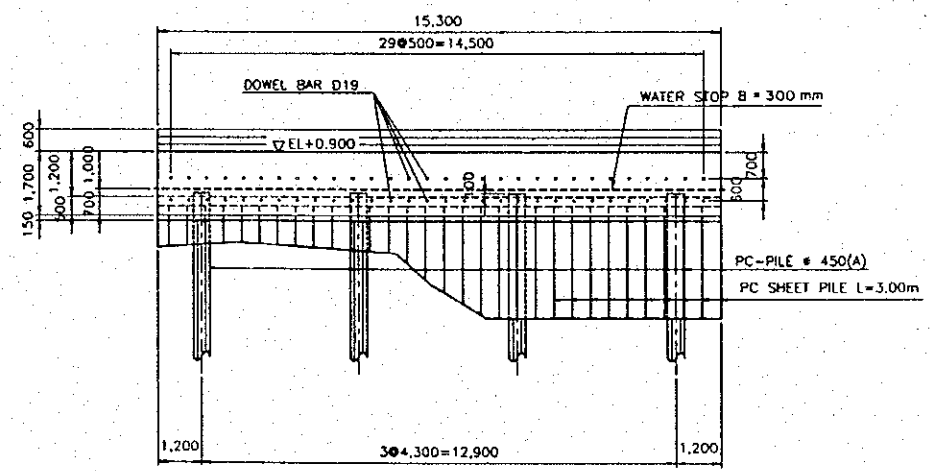
DETAIL OF JOINTING
SCALE C



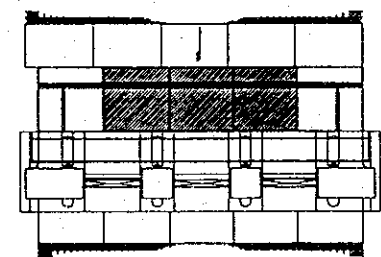
DETAIL OF CUTOFF
SCALE B



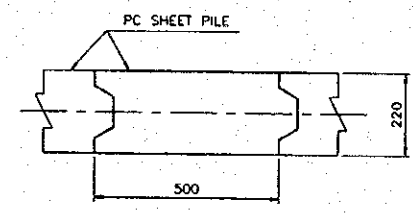
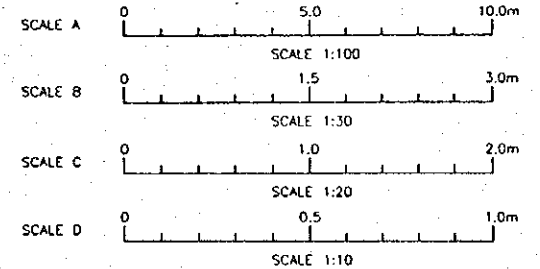
SECTION A-A
SCALE A



SECTION C-C
SCALE A



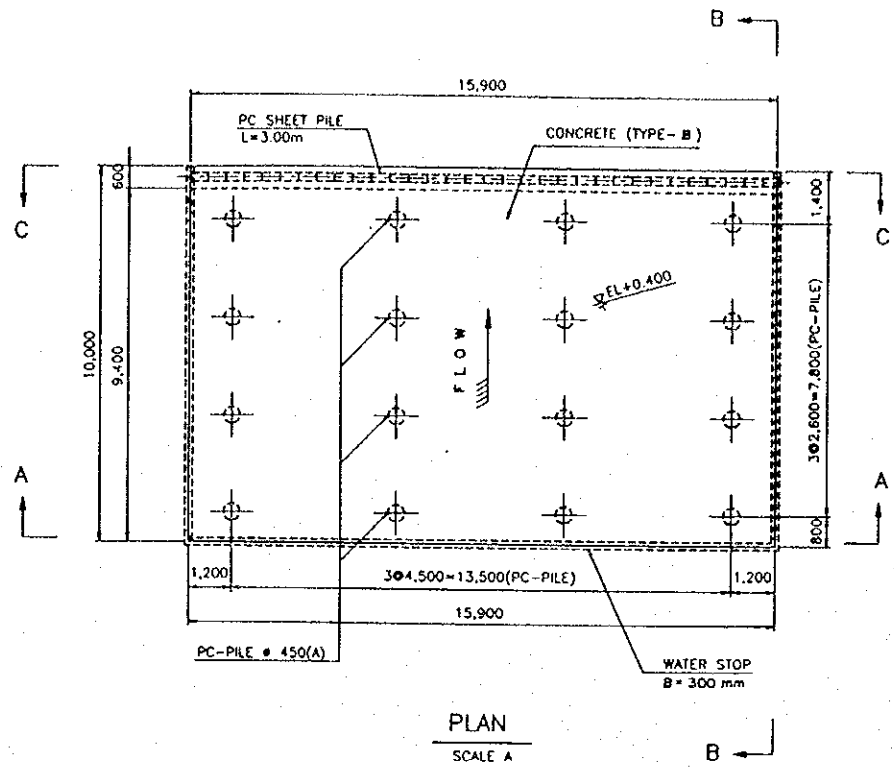
KEY PLAN



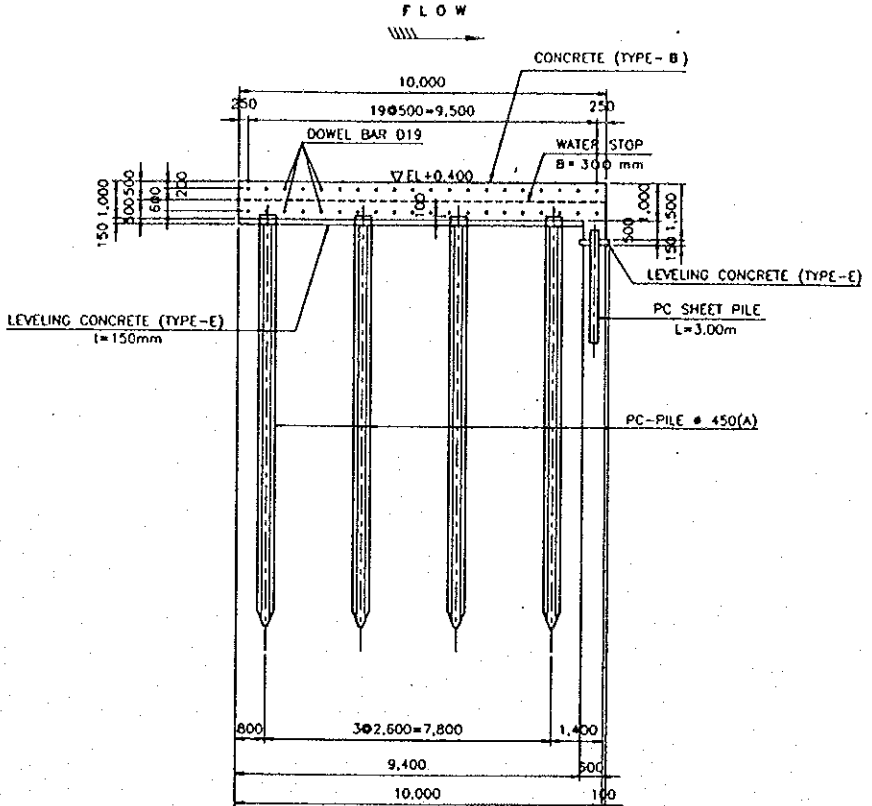
SECTION OF PC SHEET PILE
SCALE D

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY

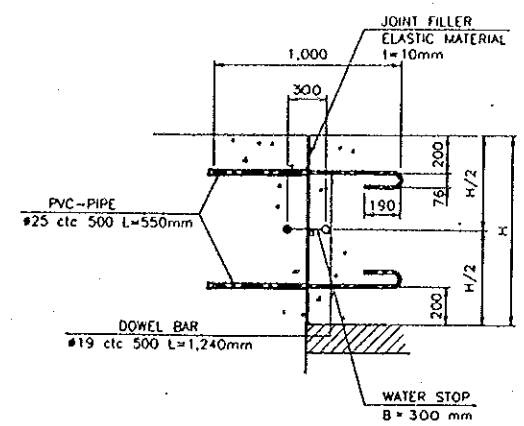
DWG. 6.4.14
DOWNSTREAM CONCRETE APRON - I



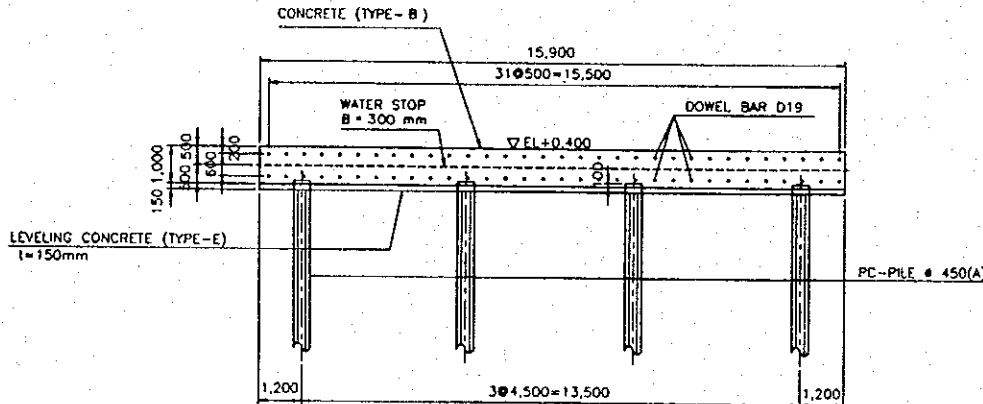
PLAN
SCALE A



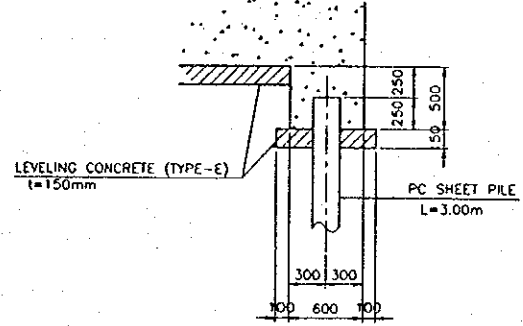
SECTION B-B
SCALE A



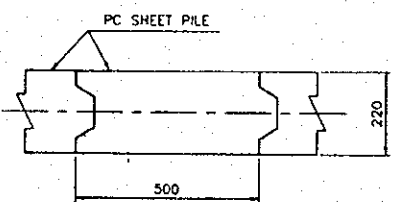
DETAIL OF JOINTING
SCALE C



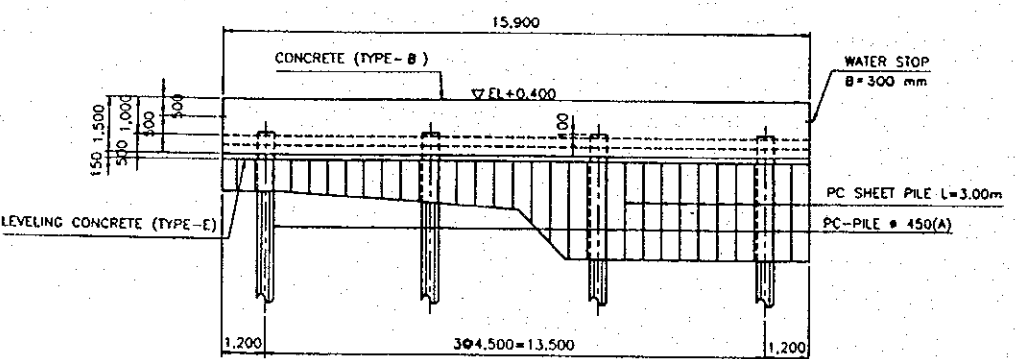
SECTION A-A
SCALE A



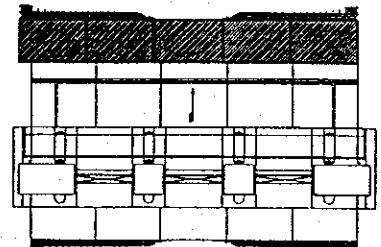
DETAIL OF CUTOFF
SCALE B



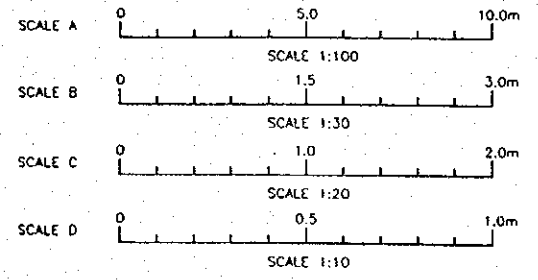
SECTION OF PC SHEET PILE
SCALE D



SECTION C-C
SCALE A



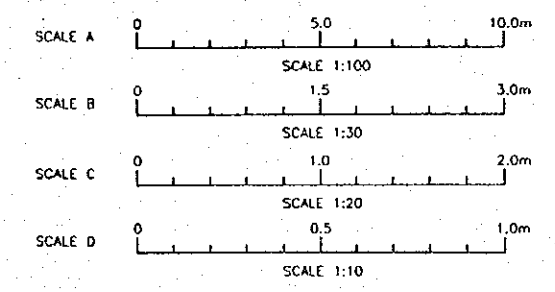
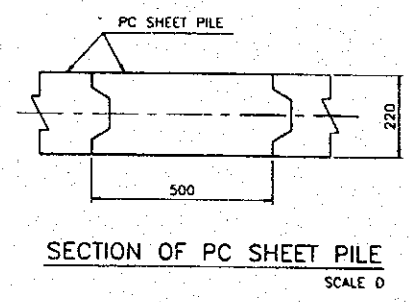
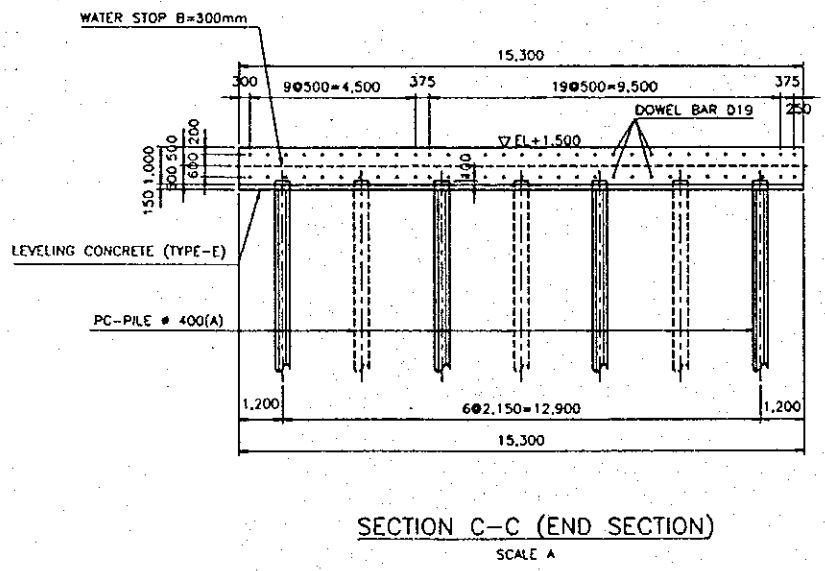
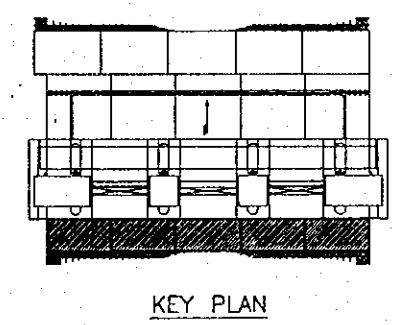
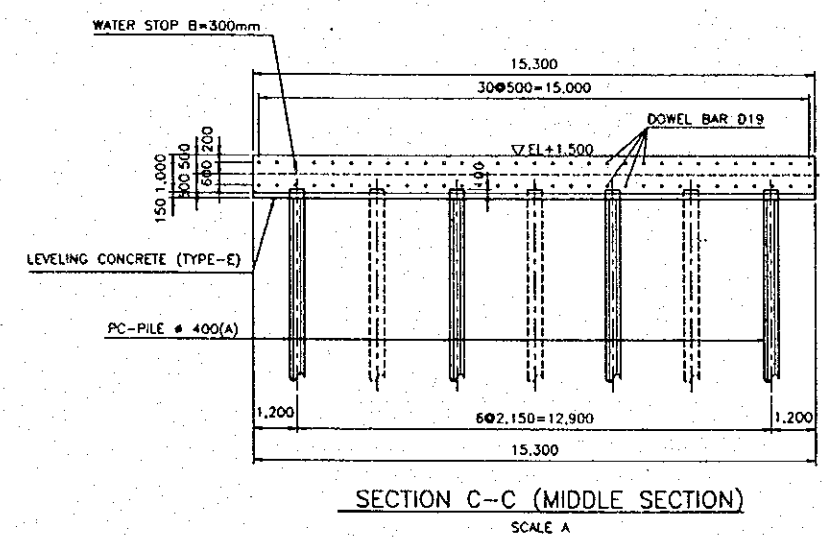
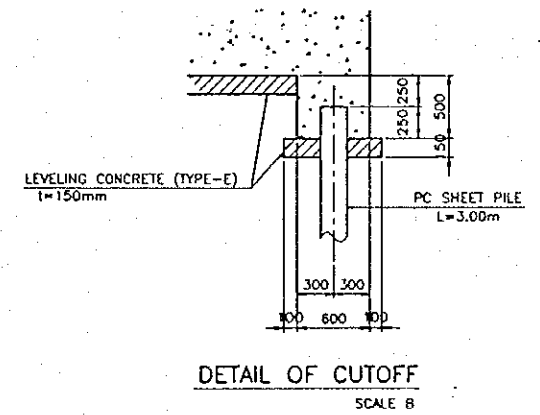
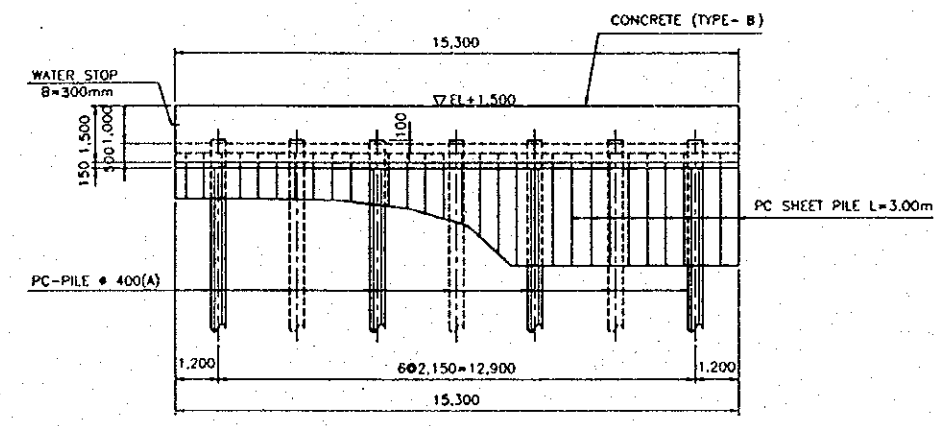
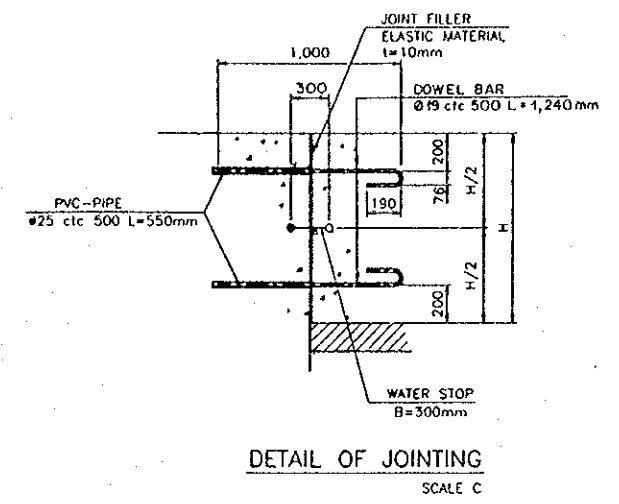
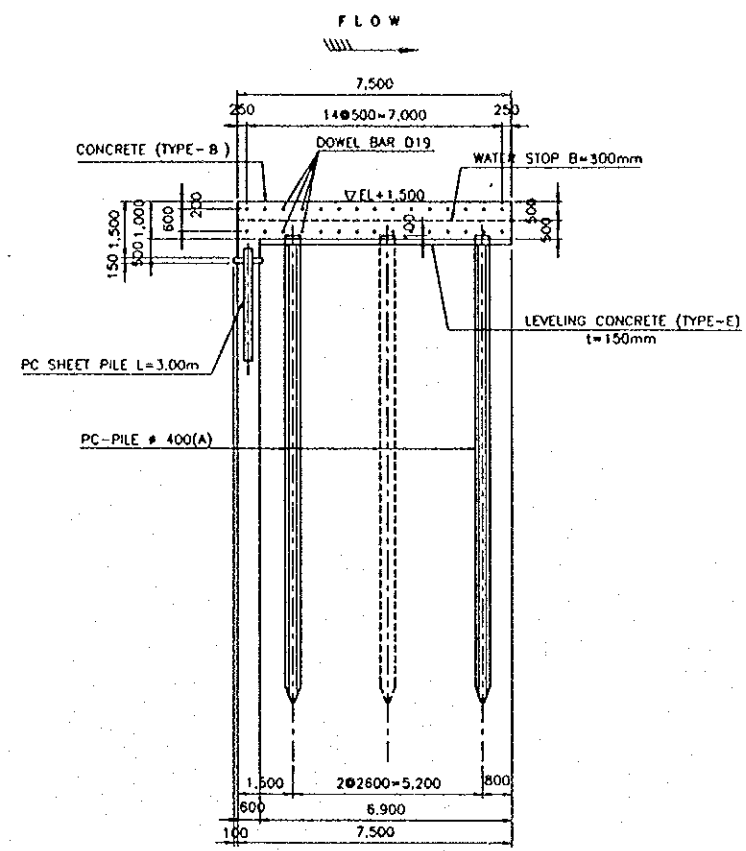
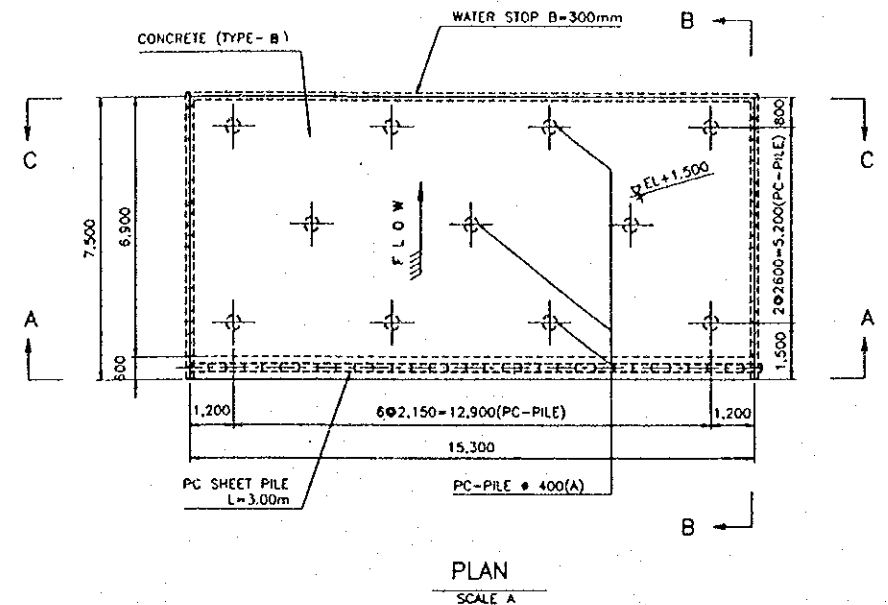
KEY PLAN



NOTE :
PILE LENGTH SHOWN ON THE DRAWING IS TENTATIVE.
THE CONTRACTOR SHALL DETERMINE THE LENGTH OF PILE BY TEST PILING.

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN
DRAINAGE AND WATER RESOURCES DEVELOPMENT
IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY

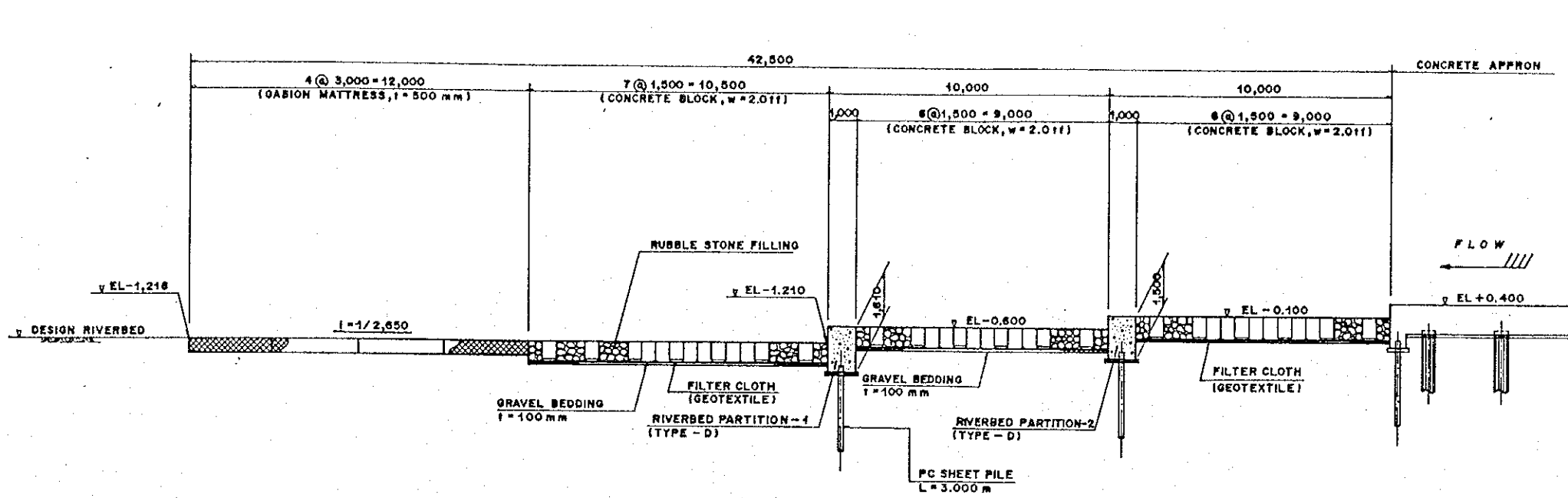
DWG. 6.4.15
DOWNSTREAM CONCRETE APRON - 2



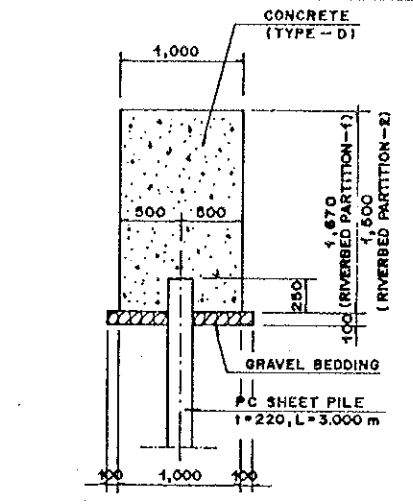
NOTE : PILE LENGTH SHOWN ON THE DRAWING IS TENTATIVE. THE CONTRACTOR SHALL DETERMINE THE LENGTH OF PILE BY TEST PILING.

THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY

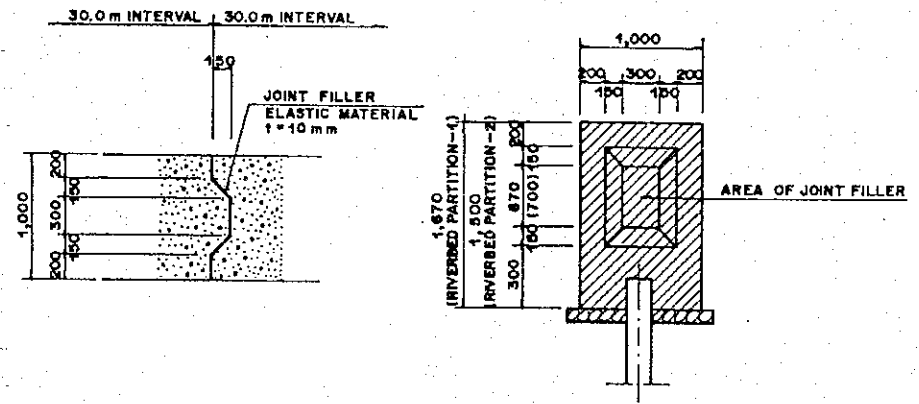
DWG. 6.4.16
UPSTREAM CONCRETE APRON



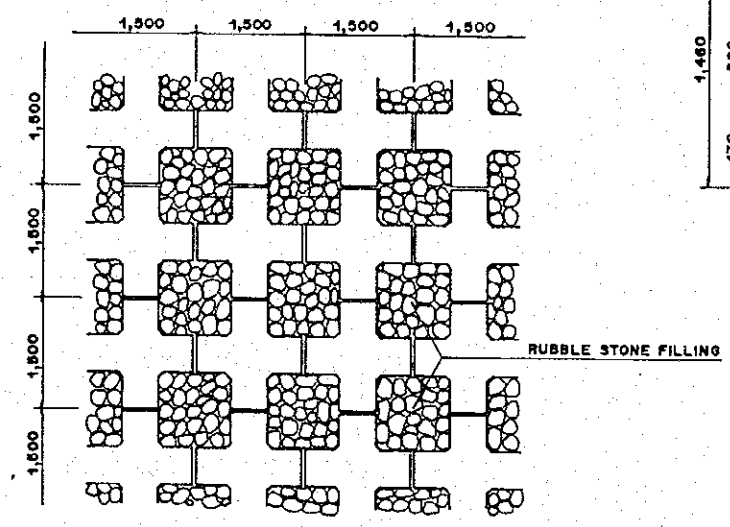
PROFILE OF RIVERBED PROTECTION
SCALE A



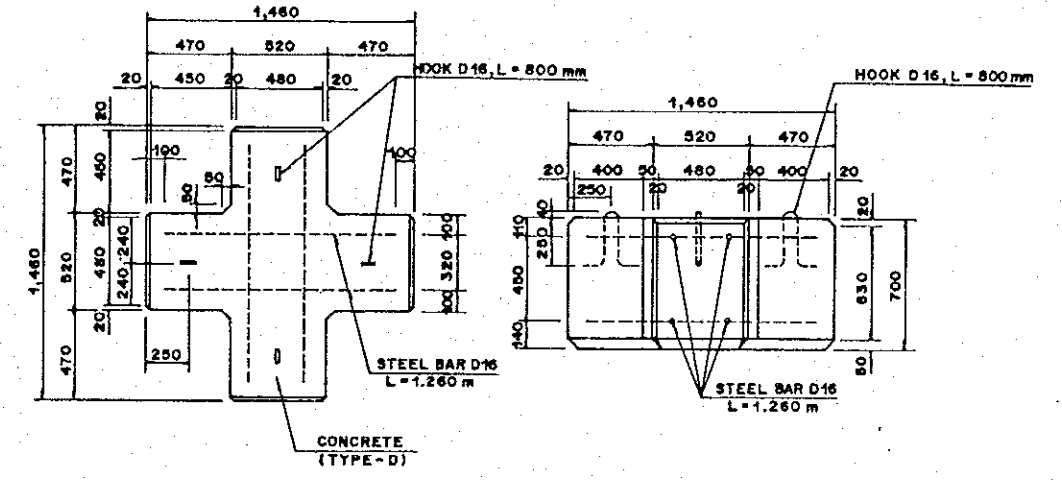
DETAIL OF RIVERBED PARTITION
SCALE C



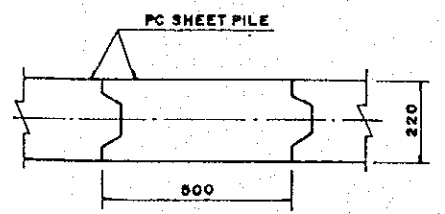
DETAIL OF JOINTING (RIVERBED PARTITION)
SCALE C



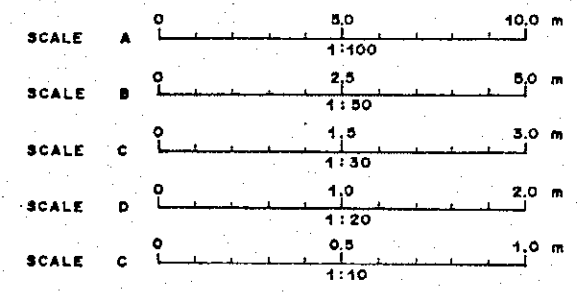
LAYOUT OF CONCRETE BLOCK
SCALE B



DETAIL OF CONCRETE BLOCK (w=2.011)
SCALE D



SECTION OF PC SHEET PILE
SCALE E



THE DETAILED DESIGN OF FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY
DWG. 6.4.17
CONCRETE BLOCK AND GABION MATTRESS