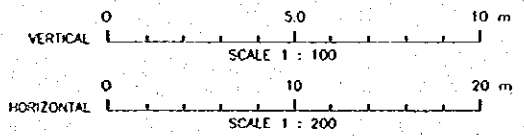
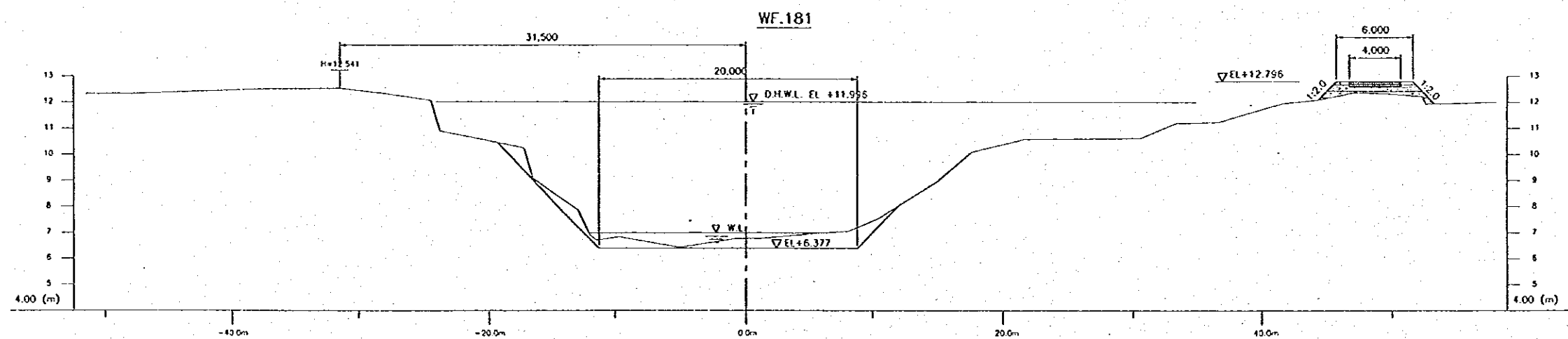
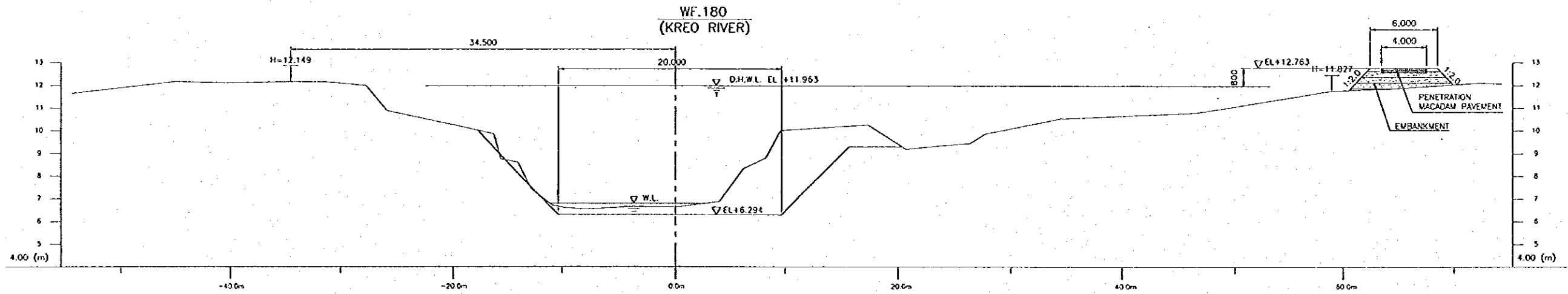
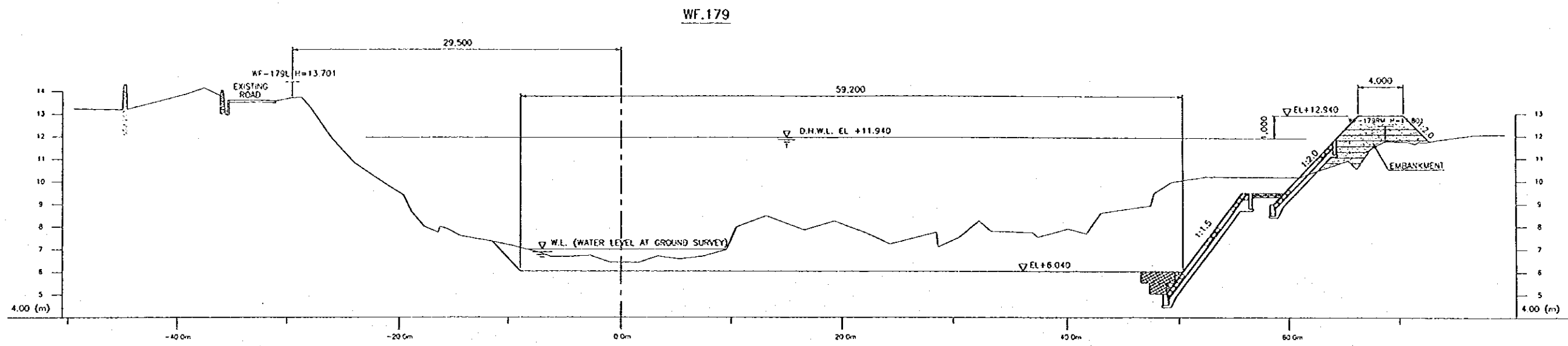


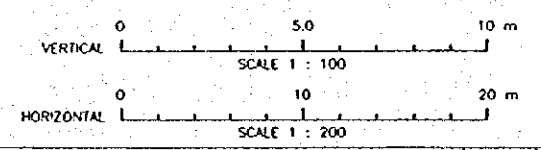
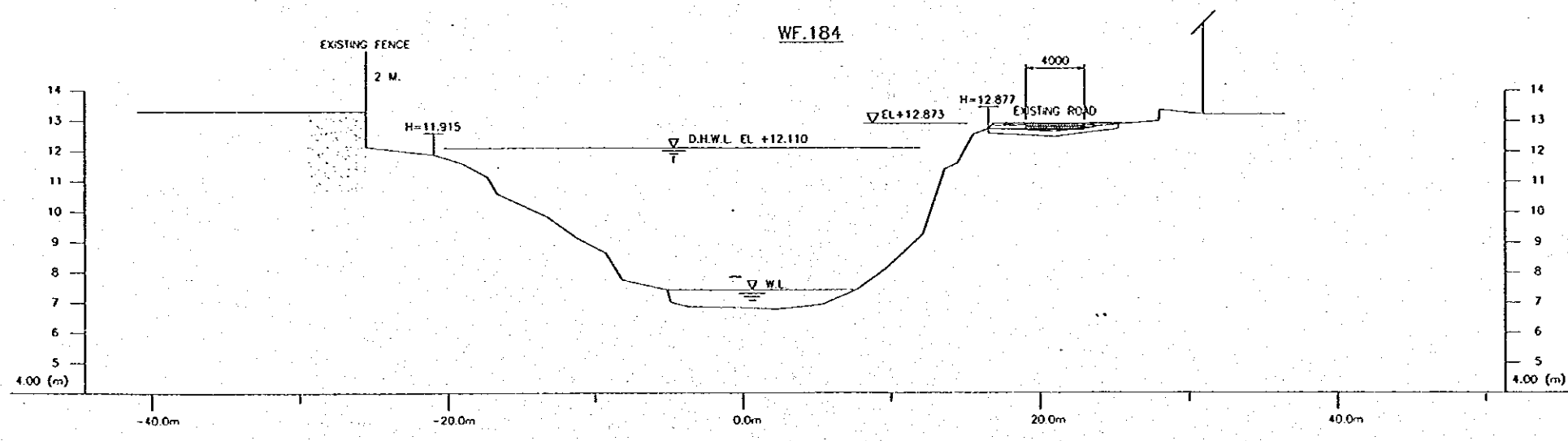
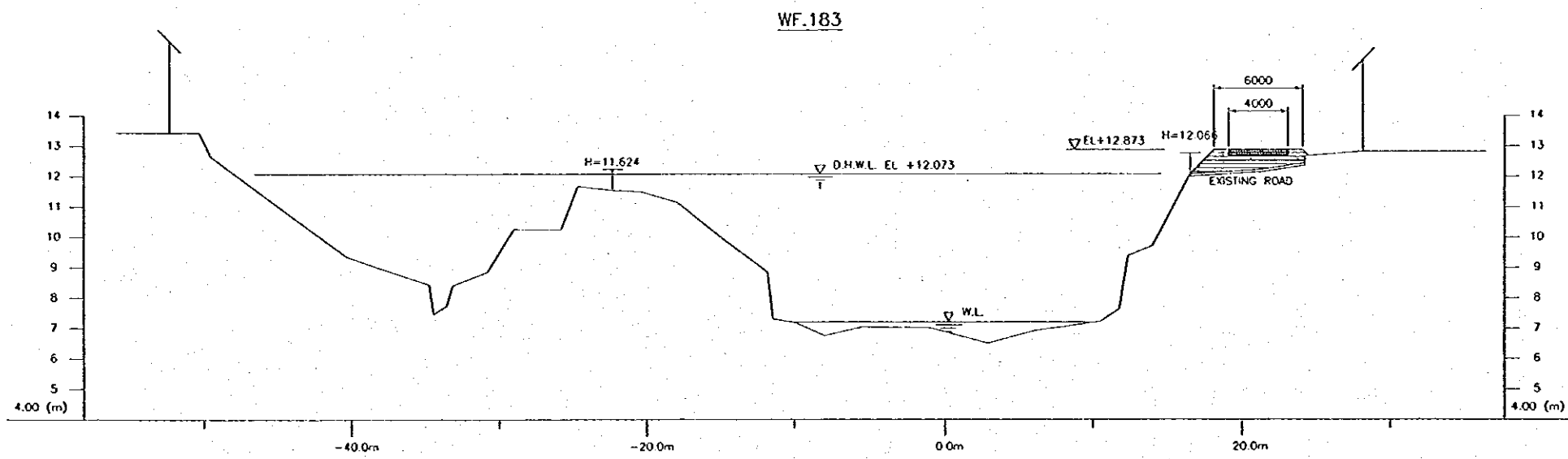
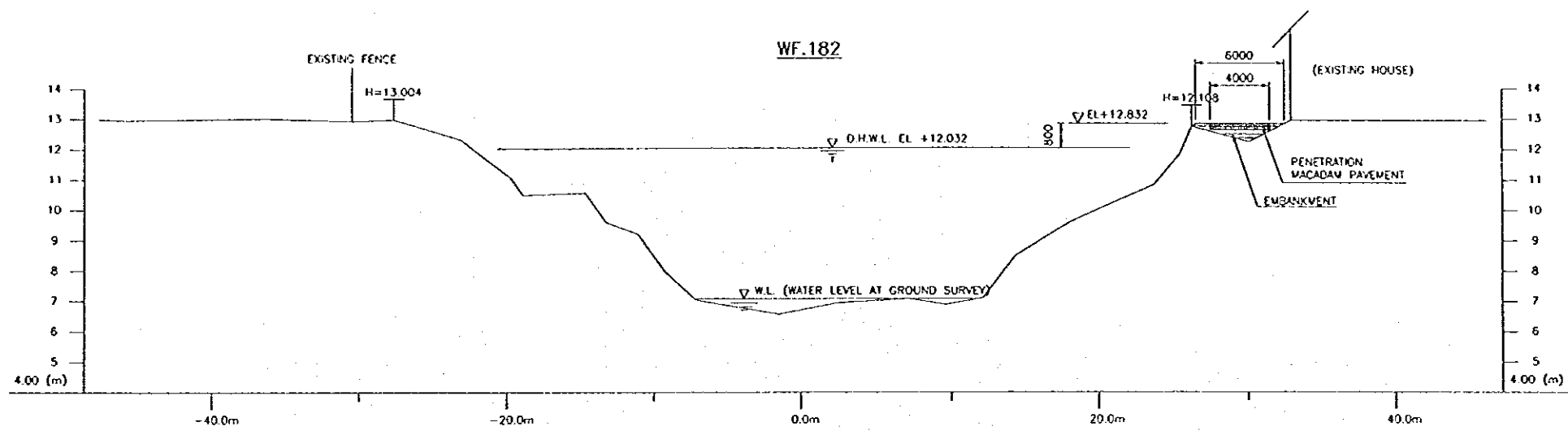
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAWA
JRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT CHANNEL AND DIKE WORKS GARANG RIVER CROSS SECTIONS (28/31)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY
SAFAM INTERNATIONAL CONSULTING FIRM C/O ENGINEERS CO. LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND FARO INTERNATIONAL P.C.		DRAWING NO. W-8-P4-CH-CR-82 SHEET NO. 84
DESIGNED CHECKED APPROVED	DATE CONTRACT NO.	CHIEF OF PLANNING AND DESIGN PROJECT MANAGER



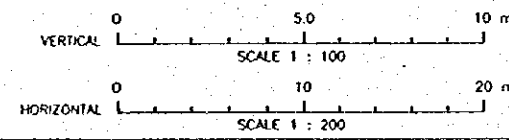
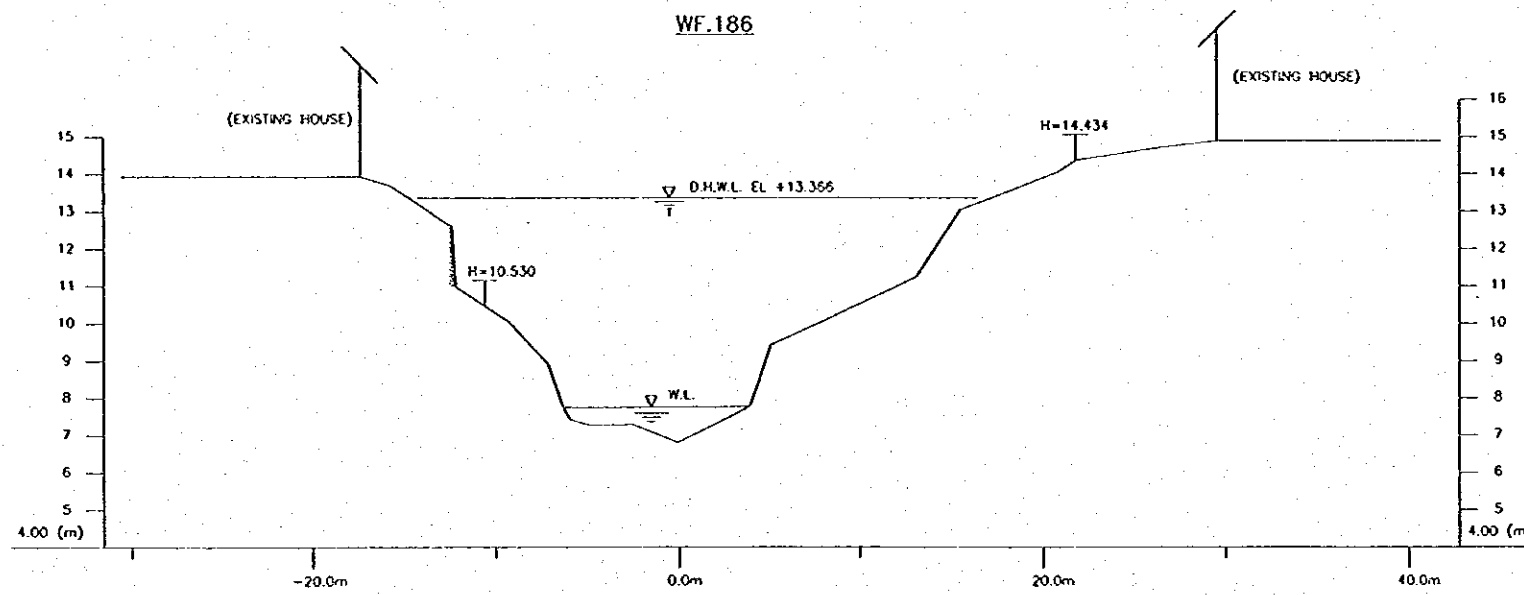
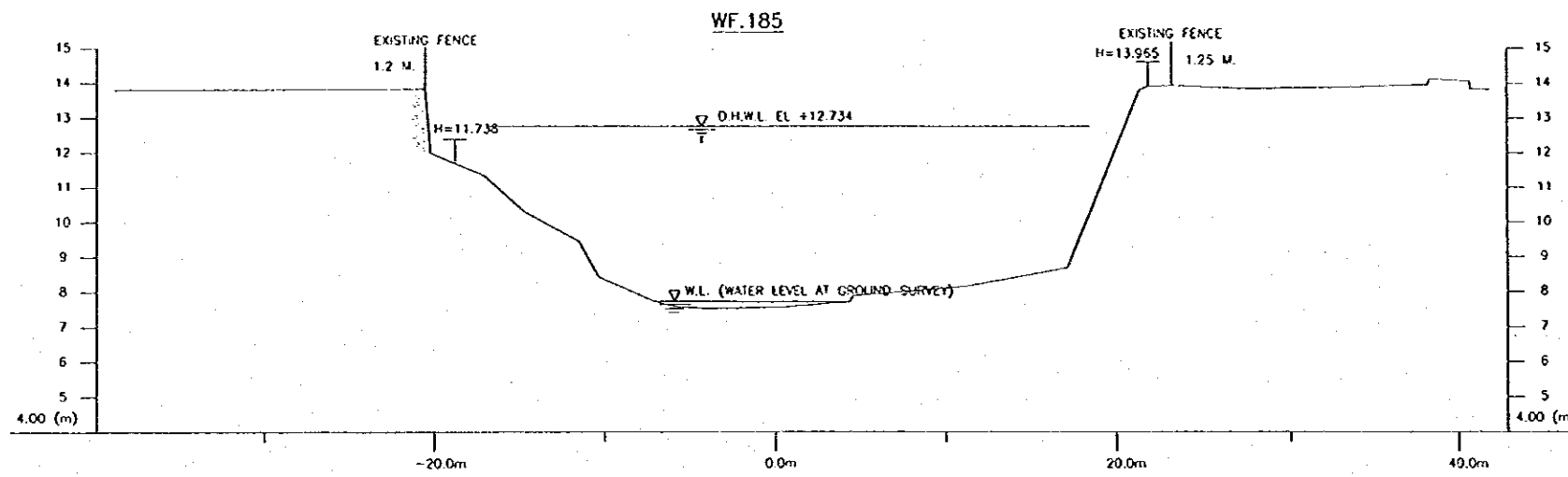
NO.	DATE	REVISIONS	ORIGINATED	DISBURSED	APPROVED

<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAWA
IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT CHANNEL AND DIKE WORKS GARANG RIVER CROSS SECTIONS ( 29/31 )		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY CTE ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND TAIKO ENGINEERING INC.		DISTRICT SEMARANG CITY
CHIEF OF PLANNING AND DESIGN		URAWORD NO. WS-P1-CH-CY.83 SHEET NO. 85
PROJECT MANAGER		DATE _____ CONTRACT NO. _____



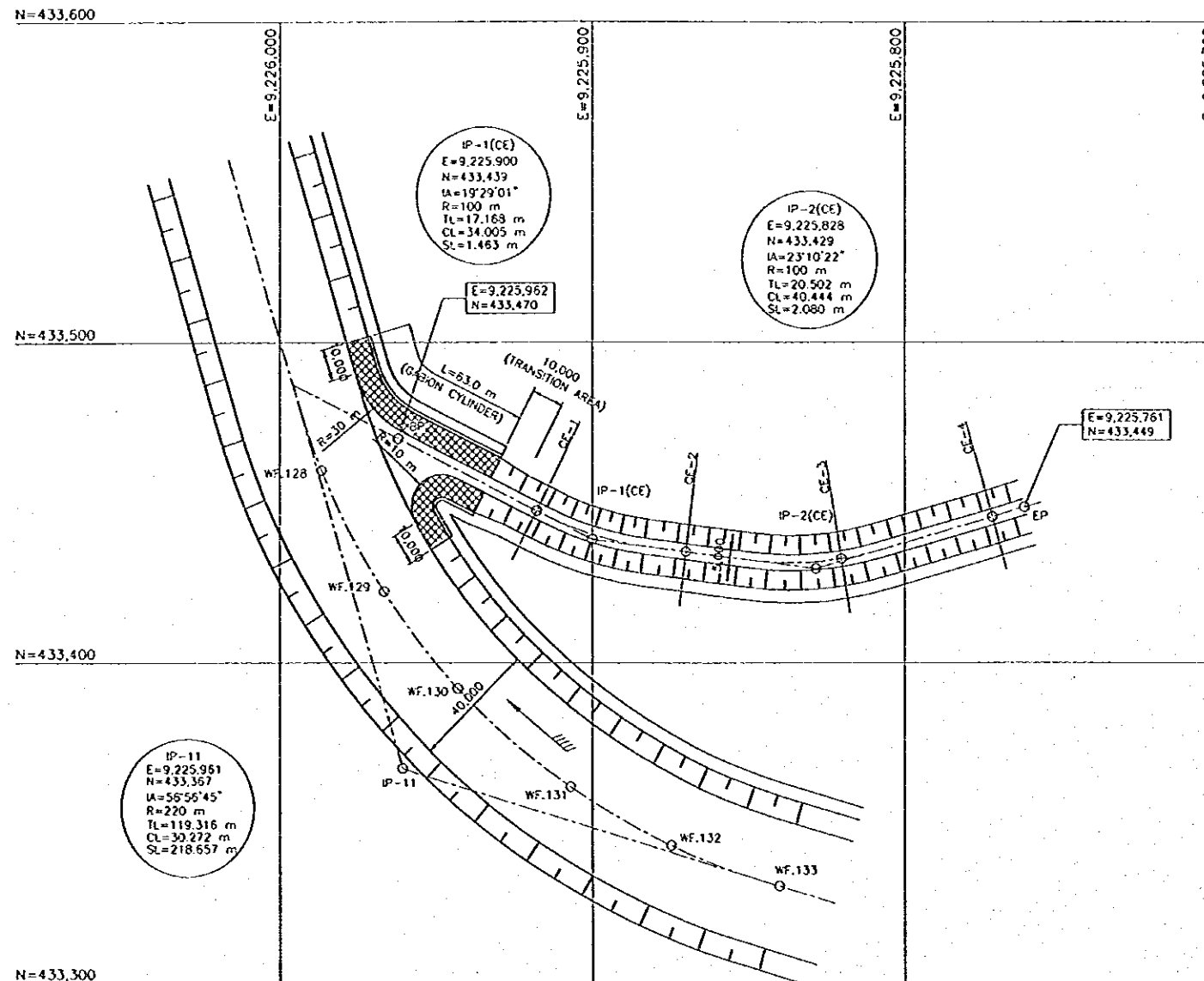
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE: CENTRAL JAVA PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND FLOOD MITIGATION DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT: SEMARANG CITY DRAWING NO. WS-P1-CH-CY-84 SHEET NO. 84
JRATUNSELLINA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT CHANNEL AND DIKE WORKS GARANG RIVER CROSS SECTIONS (30/31)		DATE: _____ CONTRACT NO.: _____
JAPAN INTERNATIONAL COOPERATION AGENCY OJI ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PARELO INTERNATIONAL INC.	DESIGNED: _____ CHECKED: _____	APPROVED: _____ CHIEF OF PLANNING AND DESIGN PROJECT MANAGER

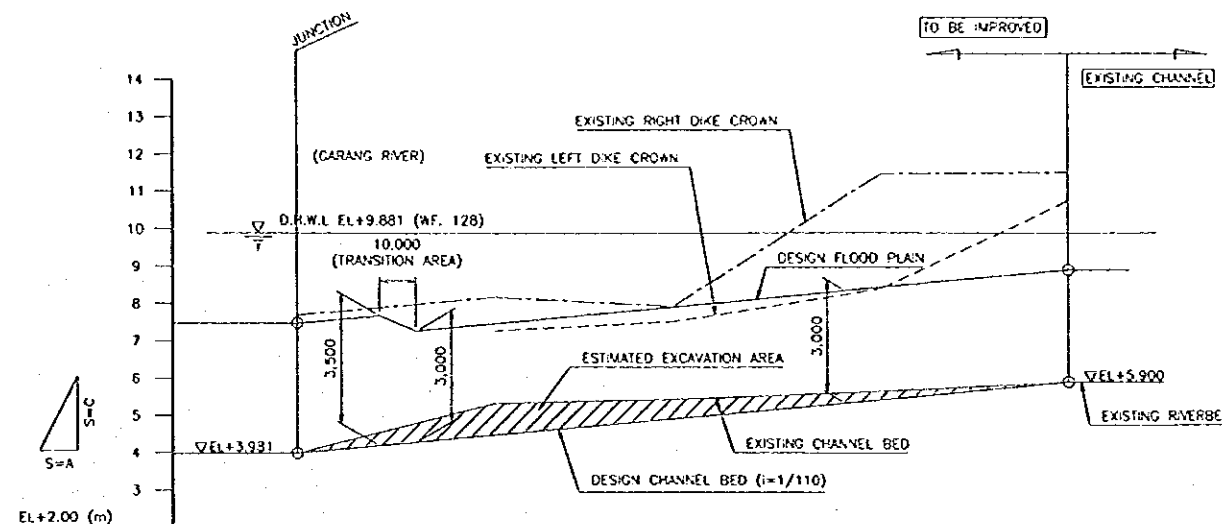


NO.	DATE	REVISIONS	ORIGINATOR	DESIGNED	APPROVED

<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
PT. SUNGAILINA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT <b>CHANNEL AND DIKE WORKS</b> <b>GARANG RIVER</b> <b>CROSS SECTIONS (31/31)</b>		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
DEPT. OF TECHNICAL COORDINATION CITI SINDHARINDO CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL INC. PART OF THE CONSULTANTS		DISTRICT SEMARANG CITY
DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN		DRAWING NO. W6-P1-CH-C1.88 SHEET NO. 87
APPROVED PROJECT MANAGER		DATE CONTRACT NO.

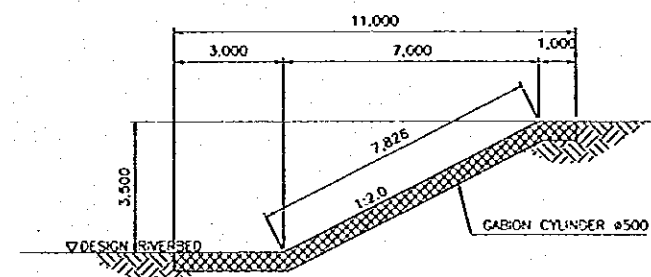


PLAN OF CENGKEK CHANNEL  
SCALE A

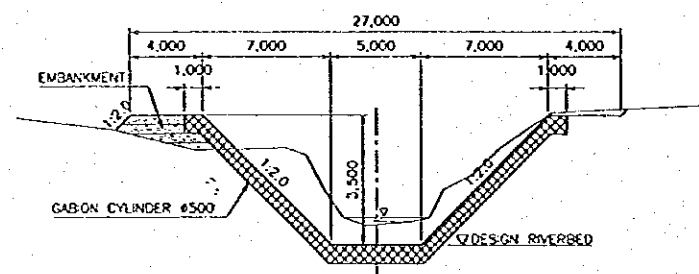


DESIGN ELEVATION	FLOOD PLAN	7.481	7.884	7.275	7.436	7.890	8.344	8.799	8.900
CHANNEL BED		3.981	4.184	4.275	4.436	4.890	5.344	5.799	5.900
DISTANCE (m)	ACCUMULATED	0.00	22.38	32.38	50.00	100.00	150.00	200.00	211.00
	PARTIAL	0.00	22.38	10.00	17.62	50.00	50.00	50.00	11.09
STATION NO.		WF.128 (BP)	CE-1	CE-1	CE-1	CE-2	CE-3	CE-4	EP

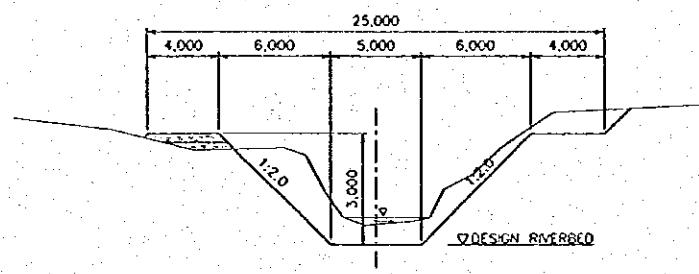
LONGITUDINAL PROFILE OF CENGKEK CHANNEL  
SCALE H=A / V=C



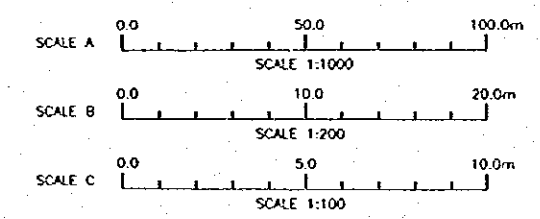
GABION CYLINDER  
SCALE C



SECTION OF JUNCTION  
SCALE H=B / V=C



STANDARD SECTION  
SCALE H=B / V=C



NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

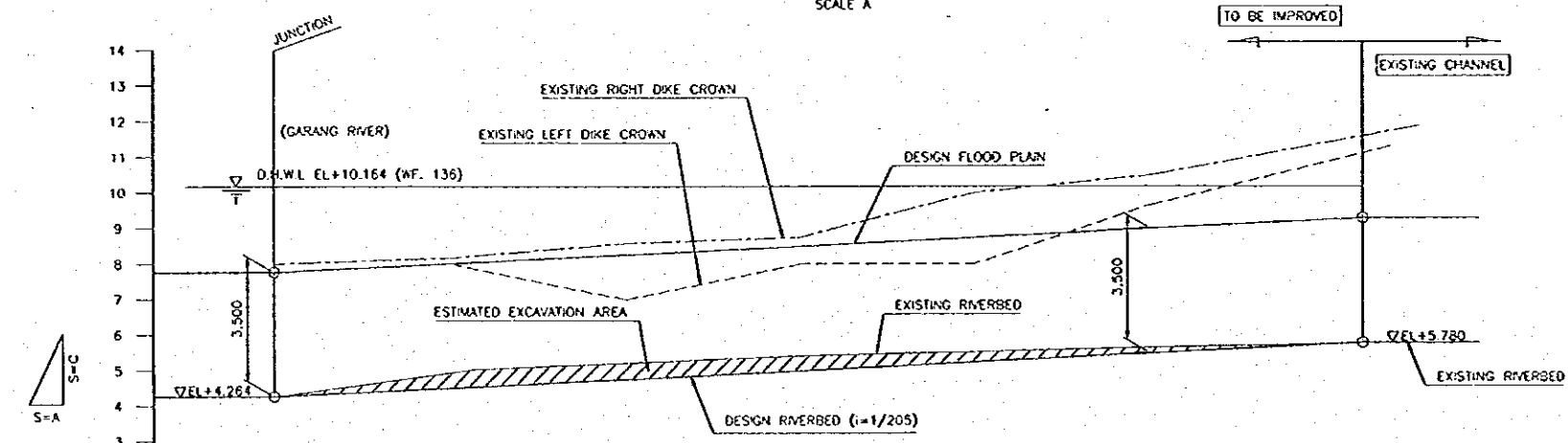
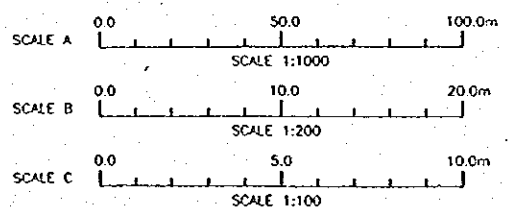
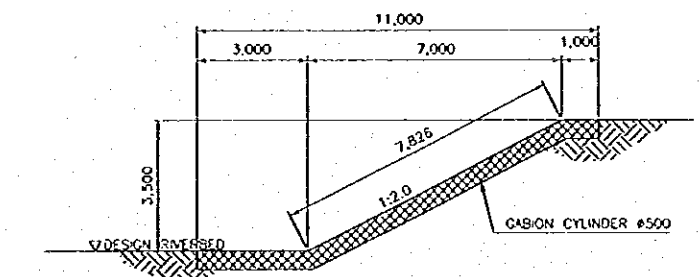
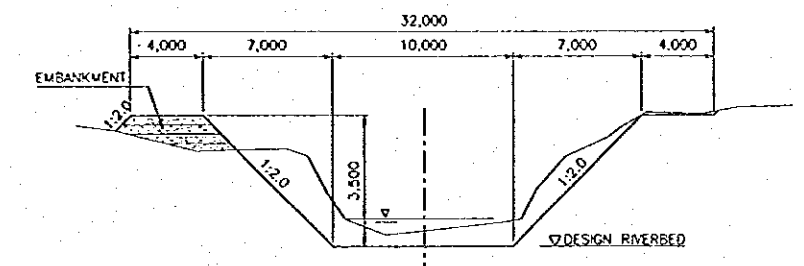
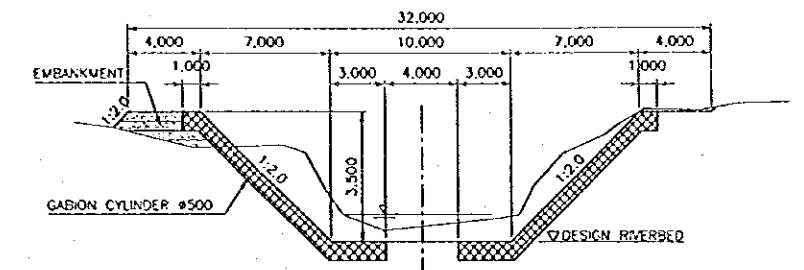
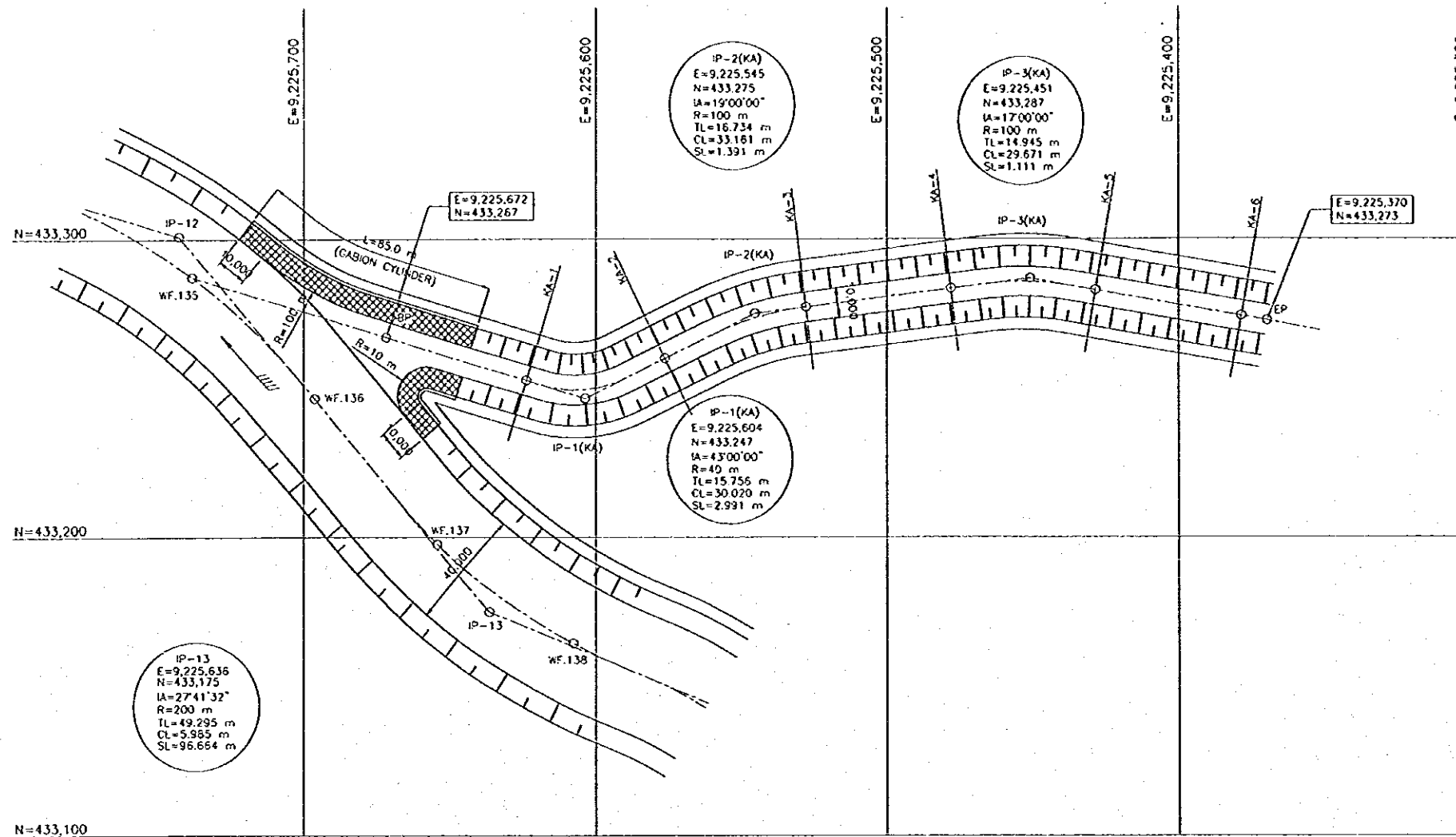
THE REPUBLIC OF INDONESIA  
MINISTRY OF PUBLIC WORKS  
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

JRATUNSELUNA FLOOD CONTROL PROJECT  
COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT  
STANDARD CROSS SECTION OF TRIBUTARY PLAN, PROFILE AND STANDARD CROSS SECTION OF CENGKEK CHANNEL

JAPAN INTERNATIONAL COOPERATION AGENCY  
CIE ENGINEERING CO., LTD. IN ASSOCIATION WITH  
PACIFIC CONSULTANTS INTERNATIONAL  
PACIFIC INTERNATIONAL INC.

CENTRE OF PLANNING AND DESIGN  
PROJECT MANAGER

PROVIDER: CENTRAL JAWA  
PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA  
DISTRICT: SEMARANG CITY  
DRAWING NO. WS - PI - CH - CA - 664  
SHEET NO. 88  
DATE:      CONTRACT NO.



STATION NO.	DISTANCE (m)	DESIGN ELEVATION (m)	
		FLOOD PLAN	CHANNEL BED
WF. 136 (BP)	0.00	7.764	4.264
KA-1	50.00	8.008	4.508
KA-2	100.00	8.252	4.752
KA-3	150.00	8.496	4.996
KA-4	200.00	8.740	5.240
KA-5	250.00	8.984	5.484
KA-6	300.00	9.227	5.727
EP	310.78	9.280	5.780

THE REPUBLIC OF INDONESIA  
MINISTRY OF PUBLIC WORKS  
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

JRATUNSELUNA FLOOD CONTROL PROJECT  
COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT  
STANDARD CROSS SECTION OF TRIBUTARY  
PLAN, PROFILE AND STANDARD CROSS SECTION OF KALITO RIVER

PROVINCE: CENTRAL JAVA  
PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA  
CITY: SEMARANG CITY  
DRAWING NO. WS - P1 - CH - CA - 044  
SHEET NO. 89

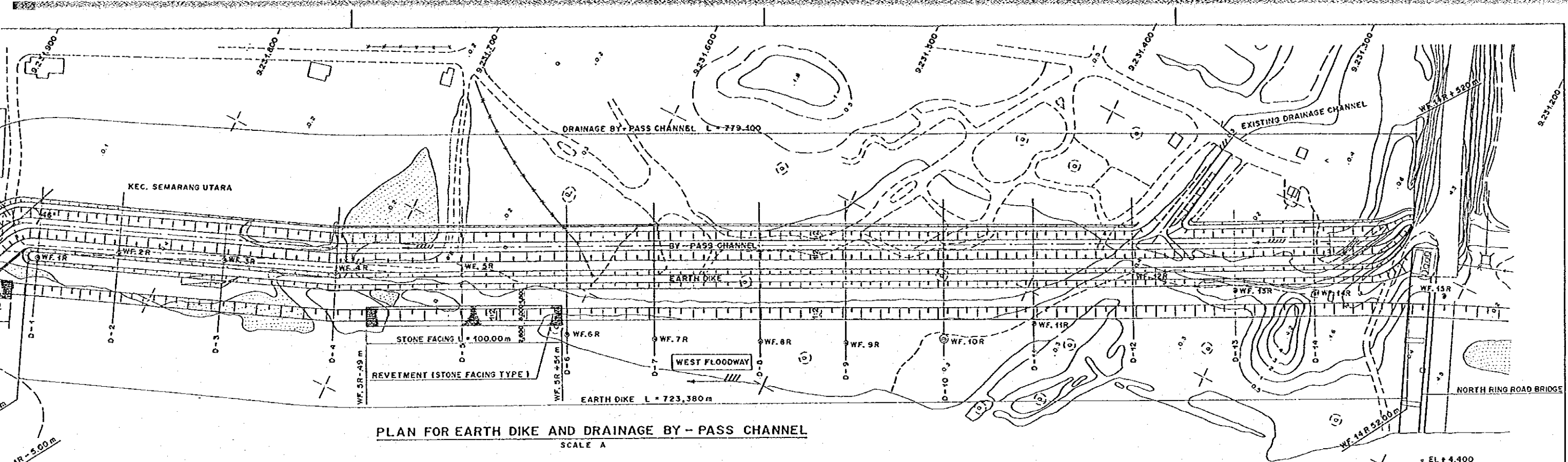
JAPAN INTERNATIONAL COOPERATION AGENCY  
CIE ENGINEERING CO., LTD. IN ASSOCIATION WITH  
PACIFIC CONSULTANTS INTERNATIONAL  
PACIFIC INTERNATIONAL INC.

DESIGNED: [Signature]  
CHECKED: [Signature]  
DATE: [Signature]

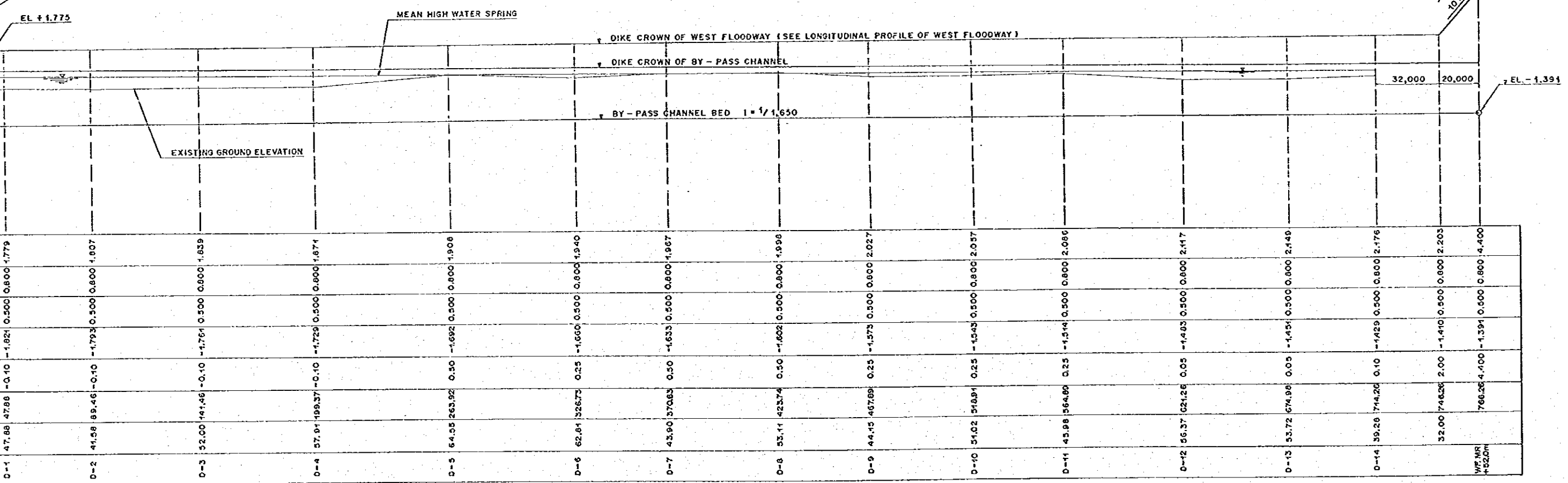
CONTRACT NO. [Signature]

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED	APPROVED

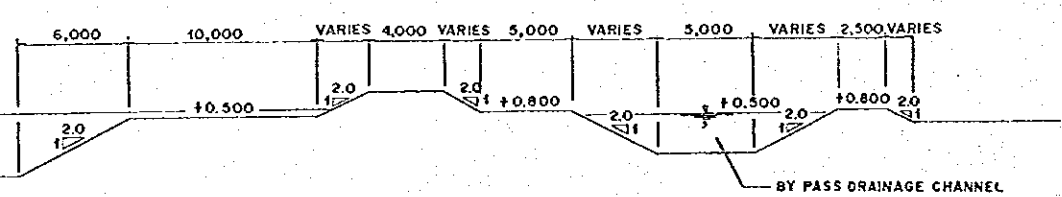
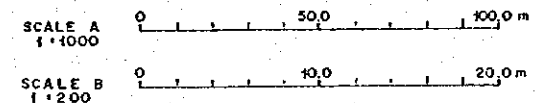




PLAN FOR EARTH DIKE AND DRAINAGE BY - PASS CHANNEL  
SCALE A



LONGITUDINAL PROFILE OF EARTH DIKE AND DRAINAGE BY PASS CHANNEL  
SCALE VERTICAL 1:400  
HORIZONTAL 1:1000

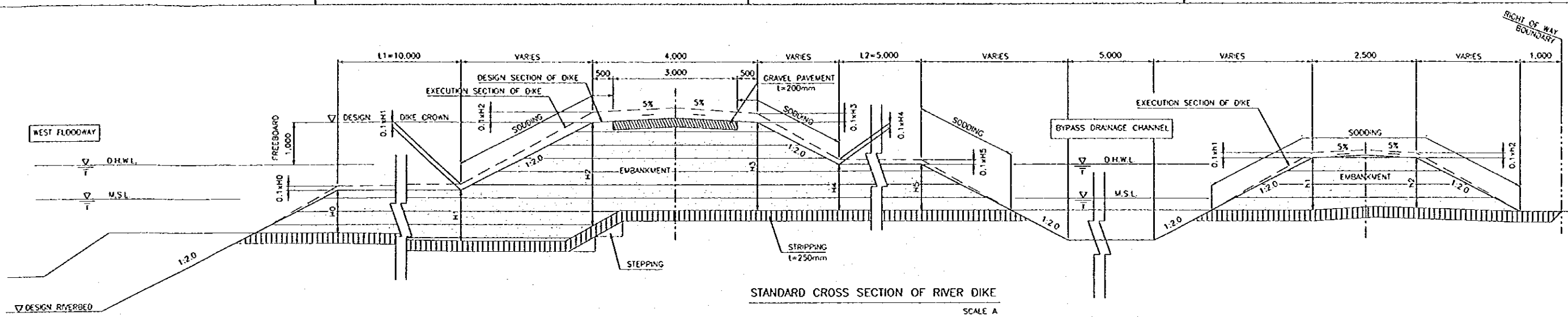


STANDARD CROSS SECTION  
SCALE B

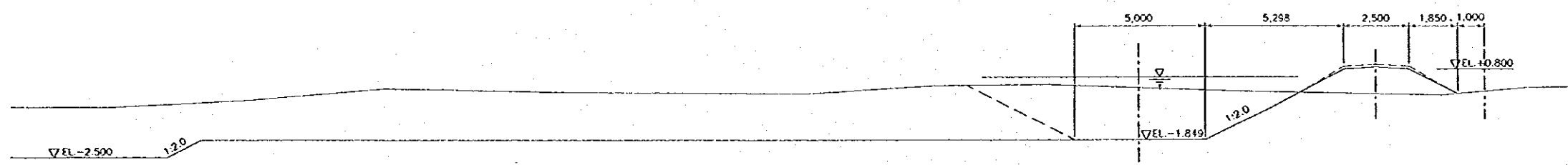
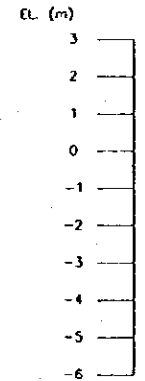
No.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
PRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT CHANNEL AND DIKE WORKS EARTH DIKE AND DRAINAGE BY PASS CHANNEL PLAN AND LONGITUDINAL PROFILE		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY
SAPAN INTERNATIONAL COOPERATION AGENCY CIL ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PACIFIC INTERNATIONAL INC.		DRAWING NO. WS-P1-CH-P1-07 SHEET NO. 08
DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER	DATE CONTRACT NO.	

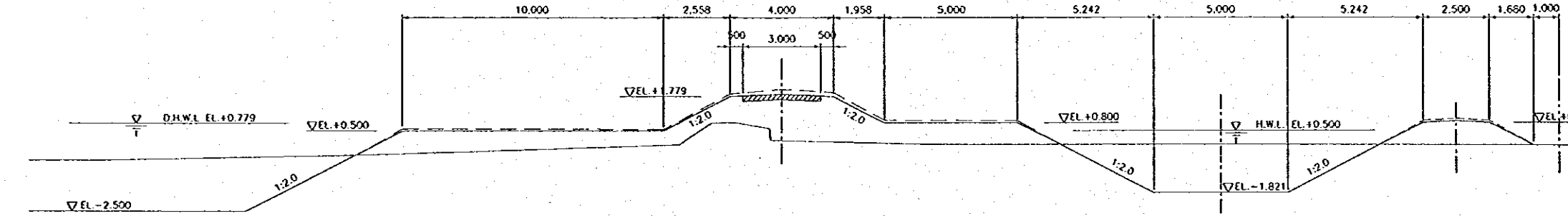
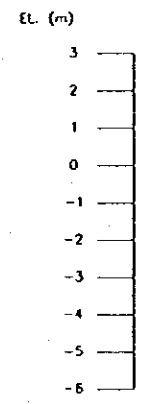
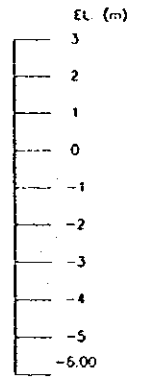




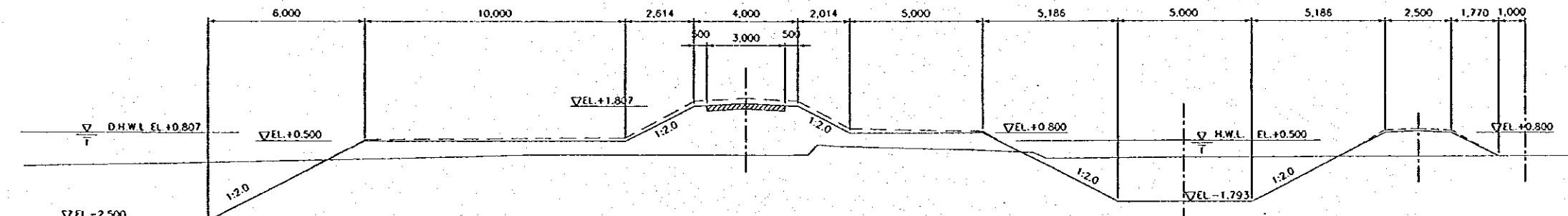
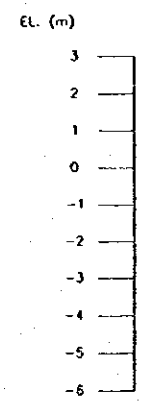
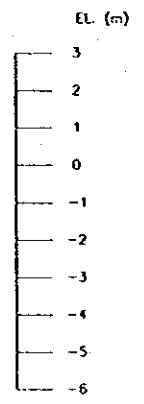
STANDARD CROSS SECTION OF RIVER DIKE  
SCALE A



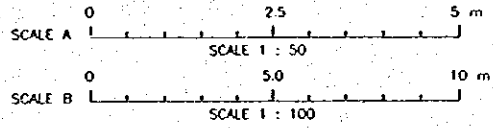
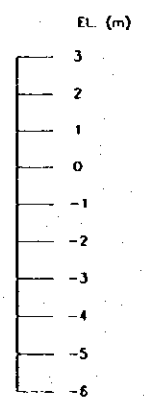
SECTION WF OR  
SCALE B



SECTION WF 1R  
SCALE B



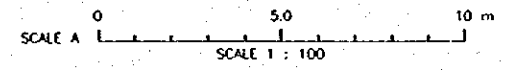
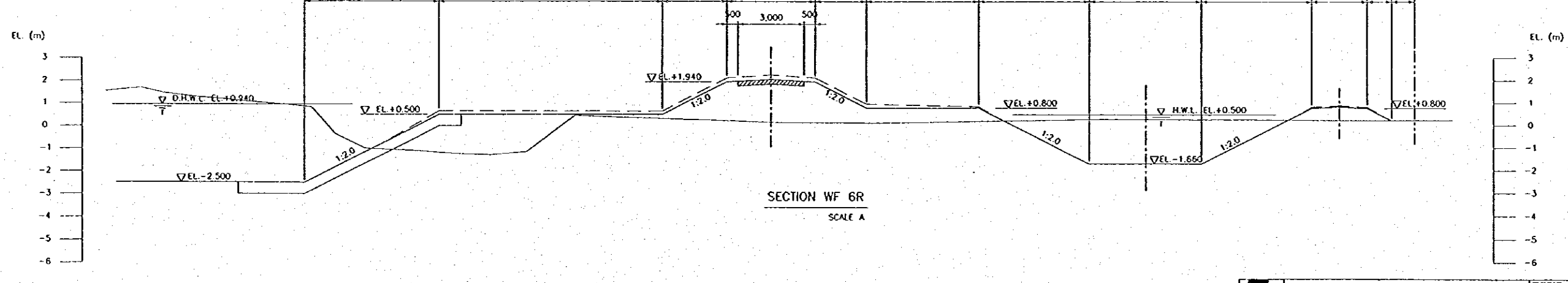
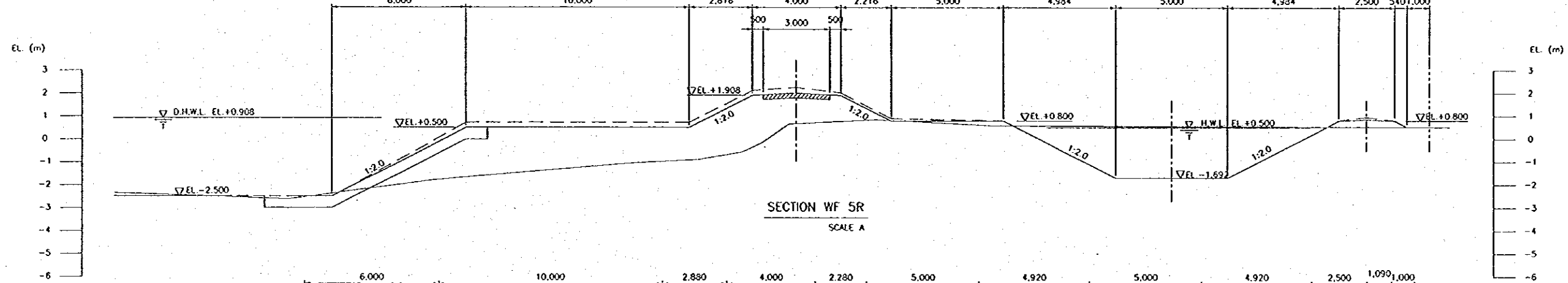
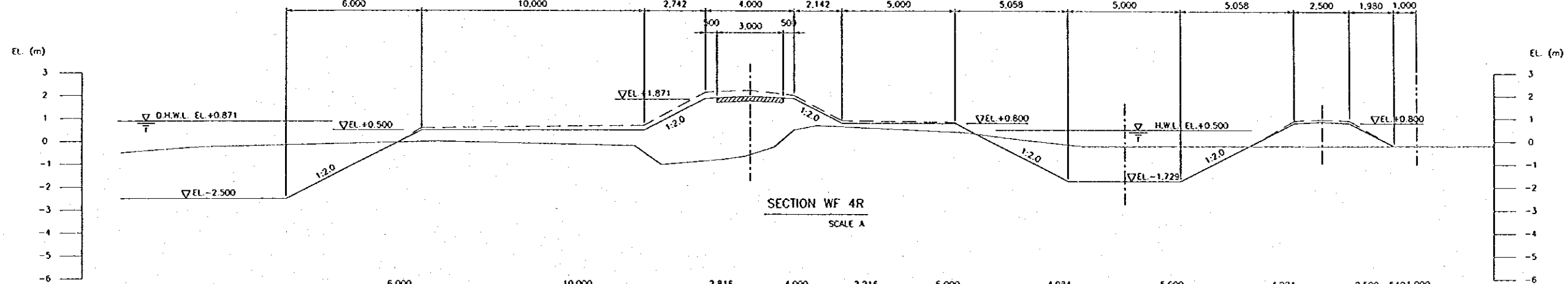
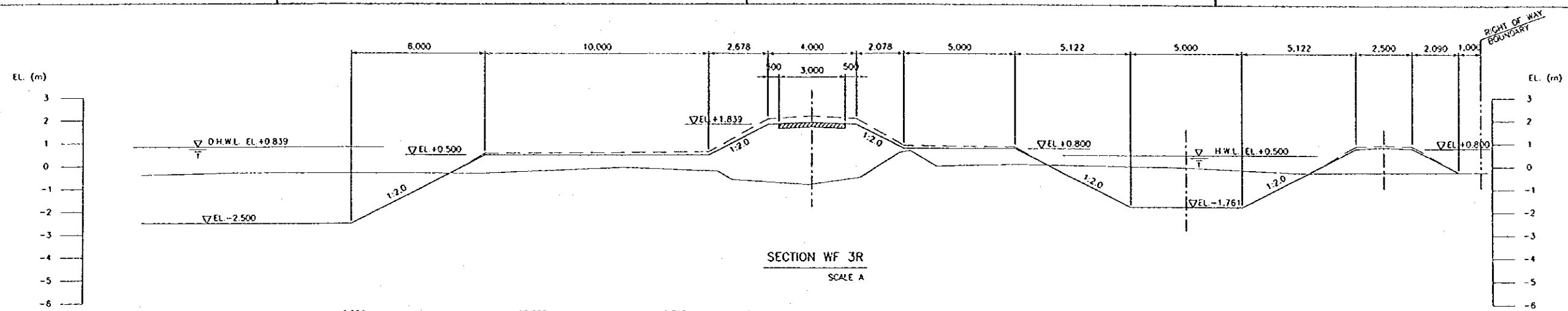
SECTION WF 2R  
SCALE B



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(HEIGHT OF DESIGN EMBANKMENT) X 10%

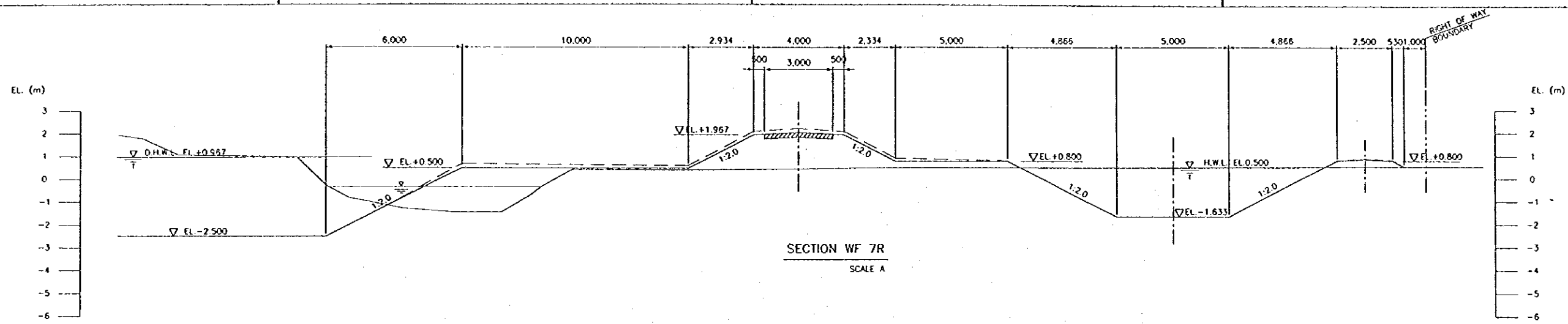
NO.	DATE	REVISIONS	QUOTED	DESIGNED	APPROVED

<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAWA
PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA		DISTRICT SEMARANG CITY
COMPONENT: WEST FLOODWAY / GARAHU RIVER IMPROVEMENT CHANNEL AND DIKE WORKS EARTH DIKE AND DRAINAGE BY-PASS CHANNEL CROSS SECTIONS OF DIKE AND CHANNEL (1/4)		DRAWING NO. WS-P1-GK-01-88 SHEET NO. 51
DESIGNED CITI ENGINEERING CO. LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL INC. TOKYO INTERNATIONAL INC.	CHECKED <i>[Signature]</i>	DATE CONTRACT NO.
APPROVED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		

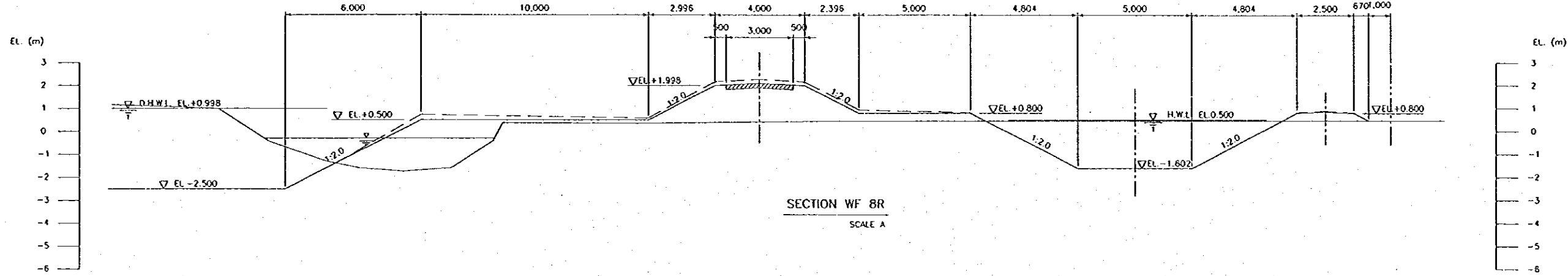


NO.	DATE	REVISIONS	ORIGINATED	DRAWN	APPROVED

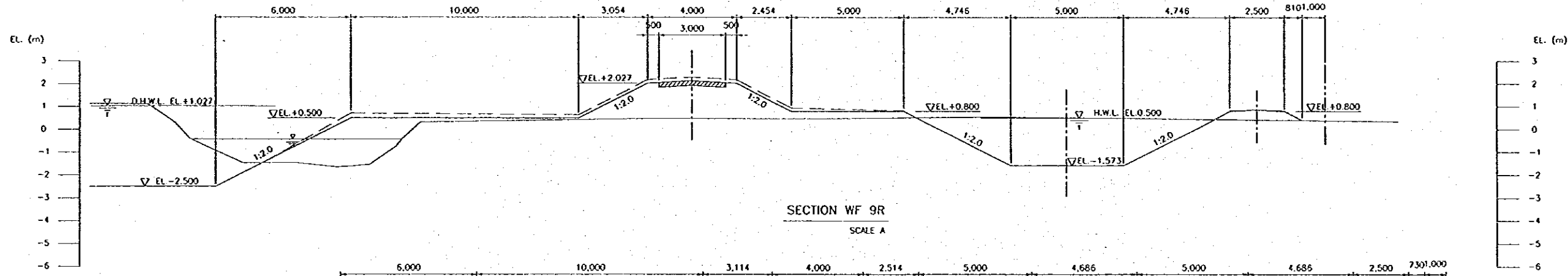
<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
PROJECT CENTRAL JAYA		DISTRICT SEMARANG CITY
DRAWING NO. WS - P1 - CR - CA - 15		SHEET NO. 93
DATE		CONTRACT NO.
DESIGNED CHECKED		APPROVED PROJECT MANAGER



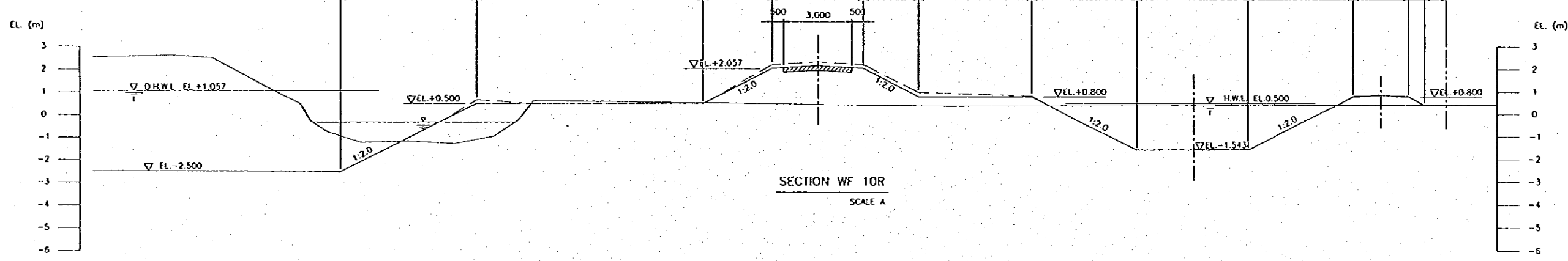
SECTION WF 7R  
SCALE A



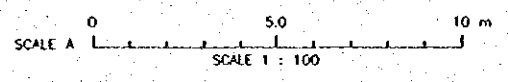
SECTION WF 8R  
SCALE A



SECTION WF 9R  
SCALE A



SECTION WF 10R  
SCALE A



NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA  
 MINISTRY OF PUBLIC WORKS  
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT  
 AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

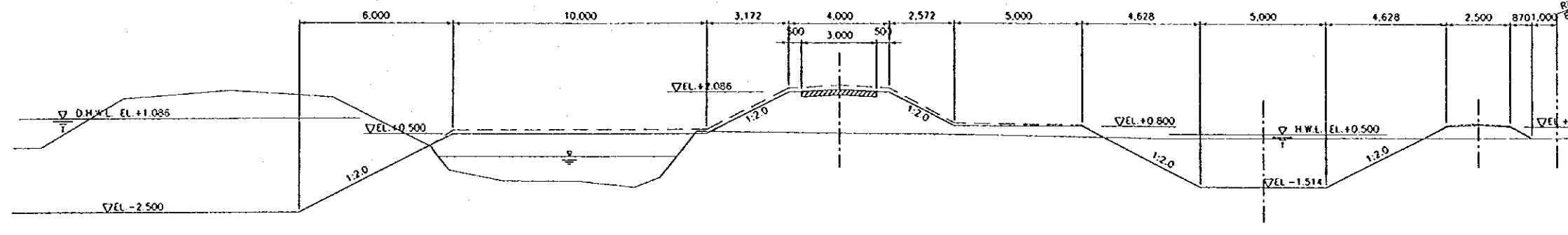
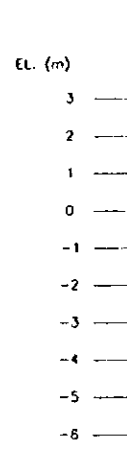
BRATUNSELUNA FLOOD CONTROL PROJECT  
 COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT  
 CHANNEL AND DIKE WORKS  
 EARTH DIKE AND DRAINAGE BY-PASS CHANNEL  
 CROSS SECTIONS OF DIKE AND CHANNEL (3/4)

JAPAN INTERNATIONAL COOPERATION AGENCY  
 JICA ENGINEERING CO., LTD. IN ASSOCIATION WITH  
 PACIFIC CONSULTANTS INTERNATIONAL AND  
 TANGSI INTERNATIONAL PTE. LTD.

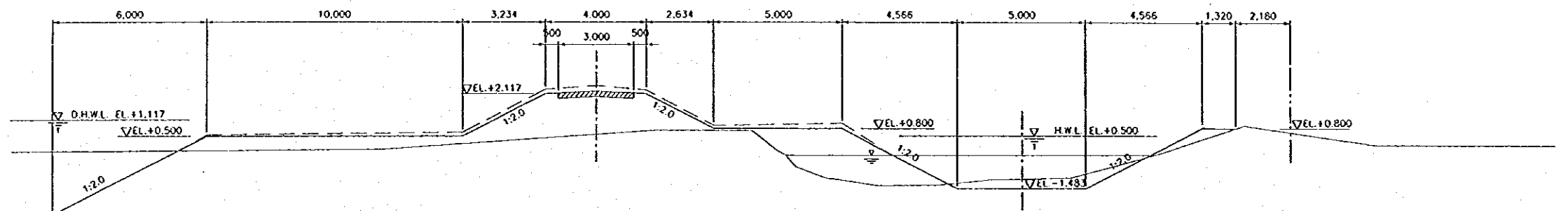
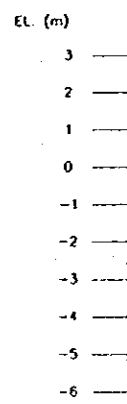
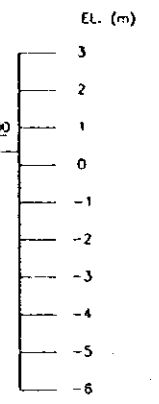
CHECKED: [Signature]  
 APPROVED: [Signature]

GROUP OF PLANNING AND DESIGN  
 PROJECT MANAGER

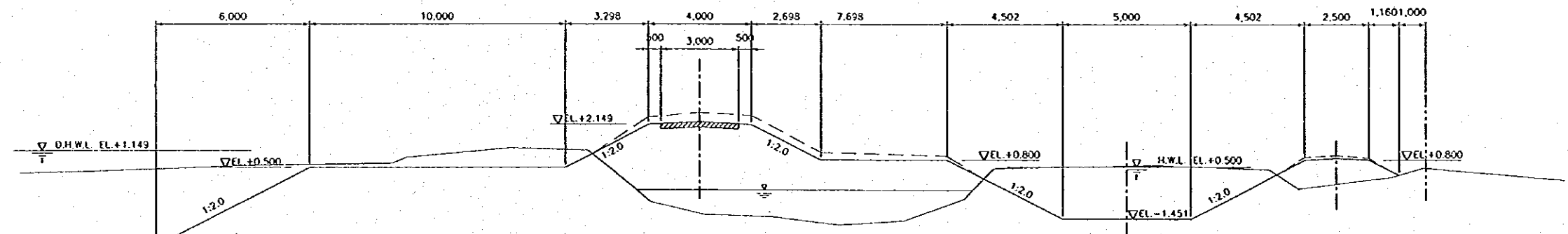
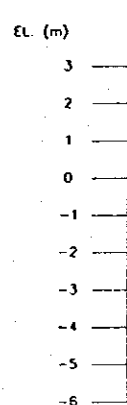
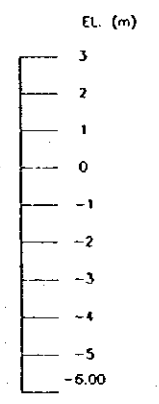
PROVINCE	CENTRAL JAWA
PROJECT NAME	FLOOD CONTROL, URBAN DRAINAGE AND WATER SUPPLY PROJECT DEVELOPMENT BY SEMARANG IN THE REPUBLIC OF INDONESIA
DISTRICT	SEMARANG CITY
PARAWHO NO.	WS - PI - CH - 92
SECRET NO.	93
DATE	
CONTRACT NO.	



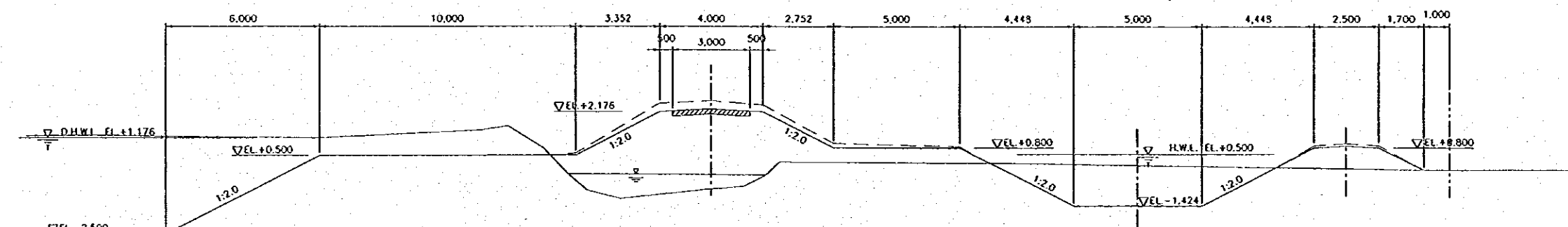
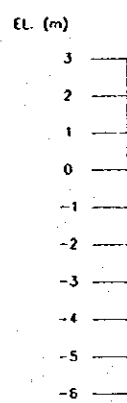
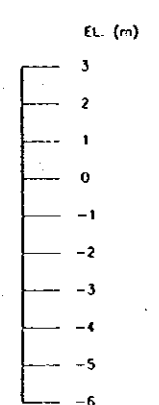
SECTION WF 11R  
SCALE A



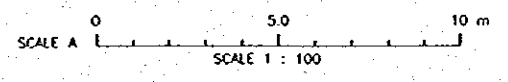
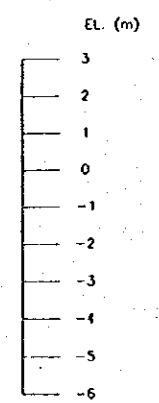
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SECTION WF 13R  
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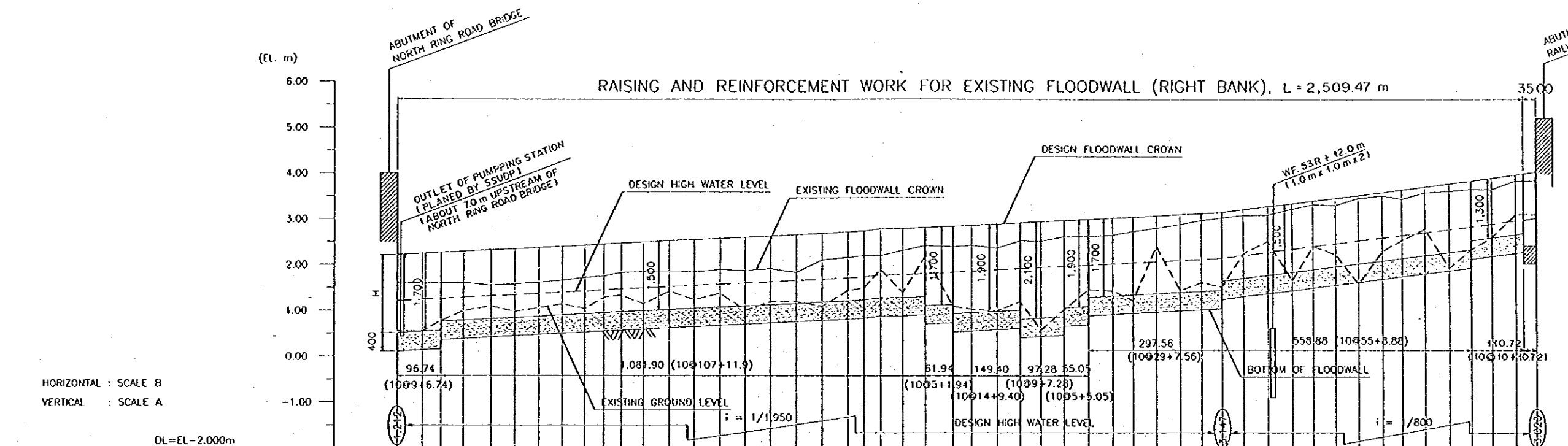


SECTION WF 14R  
SCALE A



NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

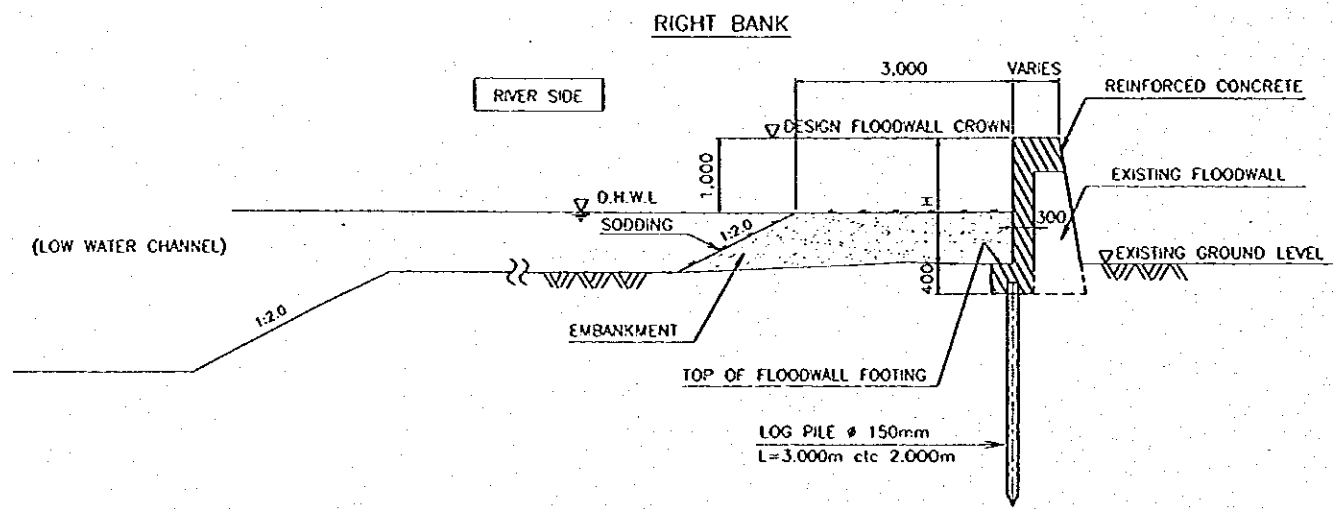
<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
PRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT CHANNEL AND DIKE WORKS EARTH DIKE AND DRAINAGE BY-PASS CHANNEL CROSS SECTIONS OF DIKE AND CHANNEL (4/4)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER SERVICE DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
SAFARI INTERNATIONAL COOPERATION AGENCY CIL ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PARCO INTERNATIONAL, INC.		DISTRICT SEMARANG CITY
DESIGNED <i>[Signature]</i>	CHECKED <i>[Signature]</i>	DRAWING NO. RG - P1 - CH - 01 SHEET NO. 94
OFFICE OF PLANNING AND DESIGN PROJECT MANAGER		DATE CONTRACT NO.



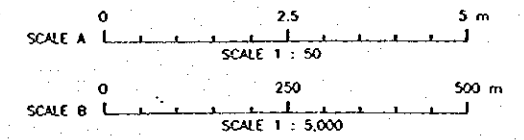
DL=EL-2.000m

DESIGN ELEVATION (EL. m)	FLOODWALL CROWN		HIGH WATER	EXISTING ELEVATION (EL. m)	GROUND		DISTANCE (m)	STATION NO.
	ACCUMULATED	PARTIAL			ACCUMULATED	PARTIAL		
2.212	0.512	0.00	1.212	1.610	0.550	0.00	WF15R+7	
2.241	0.541	54.60	1.241	1.610	0.550	54.60	WF16R	
2.264	0.564	42.14	1.264	1.610	0.780	42.14	WF17R	
2.290	0.791	50.52	1.290	1.610	1.000	50.52	WF18R	
2.322	0.822	62.32	1.322	1.550	1.100	62.32	WF19R	
2.345	0.845	52.92	1.345	1.590	0.980	52.92	WF20R	
2.372	0.872	54.37	1.372	1.620	1.060	54.37	WF21R	
2.398	0.898	52.50	1.398	1.660	1.140	52.50	WF22R	
2.424	0.924	51.56	1.424	1.720	1.040	51.56	WF23R	
2.448	0.948	42.78	1.448	1.750	1.290	42.78	WF24R	
2.471	0.971	39.11	1.471	1.830	1.330	39.11	WF25R	
2.497	0.997	49.39	1.497	1.850	1.150	49.39	WF26R	
2.524	1.024	58.23	1.524	1.840	1.420	58.23	WF27R	
2.551	1.051	55.02	1.551	1.850	1.240	55.02	WF28R	
2.578	1.078	55.52	1.578	1.900	1.380	55.52	WF29R	
2.605	1.105	55.27	1.605	1.880	1.010	55.27	WF30R	
2.633	1.133	56.15	1.633	1.920	1.200	56.15	WF31R	
2.660	1.160	59.13	1.660	1.840	1.200	59.13	WF32R	
2.688	1.188	56.92	1.688	1.100	1.100	56.92	WF33R	
2.715	1.215	58.83	1.715	1.440	1.440	58.83	WF34R	
2.738	1.238	37.48	1.738	1.500	1.500	37.48	WF35R	
2.781	1.281	37.42	1.781	1.900	1.900	37.42	WF36R	
2.786	1.286	48.53	1.786	1.400	1.400	48.53	WF37R	
2.811	1.311	47.93	1.811	2.190	2.190	47.93	WF38R	
2.839	1.339	61.94	1.839	1.100	1.100	61.94	WF39R	
2.862	1.362	40.67	1.862	2.420	2.420	40.67	WF40R	
2.890	1.390	56.29	1.890	1.000	1.000	56.29	WF41R	
2.916	1.416	52.44	1.916	1.200	1.200	52.44	WF42R	
2.941	1.441	45.99	1.941	0.580	0.580	45.99	WF43R	
2.966	1.466	51.29	1.966	1.020	1.020	51.29	WF44R	
2.993	1.493	55.05	1.993	1.460	1.460	55.05	WF45R	
3.020	1.520	52.82	2.020	1.430	1.430	52.82	WF46R	
3.044	1.544	44.07	2.044	1.220	1.220	44.07	WF47R	
3.070	1.570	53.33	2.070	2.400	2.400	53.33	WF48R	
3.097	1.597	53.62	2.097	1.440	1.440	53.62	WF49R	
3.122	1.622	47.44	2.122	1.610	1.610	47.44	WF50R	
3.147	1.647	46.28	2.147	1.520	1.520	46.28	WF51R	
3.209	1.709	48.88	2.209	2.240	2.240	48.88	WF52R	
3.274	1.774	54.21	2.274	2.510	2.510	54.21	WF53R	
3.339	1.839	55.08	2.339	1.660	1.660	55.08	WF54R	
3.400	1.900	46.64	2.400	2.400	2.400	46.64	WF55R	
3.462	1.962	50.57	2.462	2.230	2.230	50.57	WF56R	
3.525	2.025	50.52	2.525	1.590	1.590	50.52	WF57R	
3.590	2.090	53.78	2.590	2.300	2.300	53.78	WF58R	
3.649	2.149	44.52	2.649	2.540	2.540	44.52	WF59R	
3.712	2.212	51.52	2.712	2.790	2.790	51.52	WF60R	
3.779	2.279	55.15	2.779	1.940	1.940	55.15	WF61R	
3.840	2.340	48.01	2.840	2.340	2.340	48.01	WF62R	
3.899	2.399	45.00	2.899	2.610	2.610	45.00	WF63R	
3.964	2.464	53.72	2.964	3.100	3.100	53.72	WF64R	
4.023	2.523	47.00	3.023	3.100	3.100	47.00	WF64R+47	

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

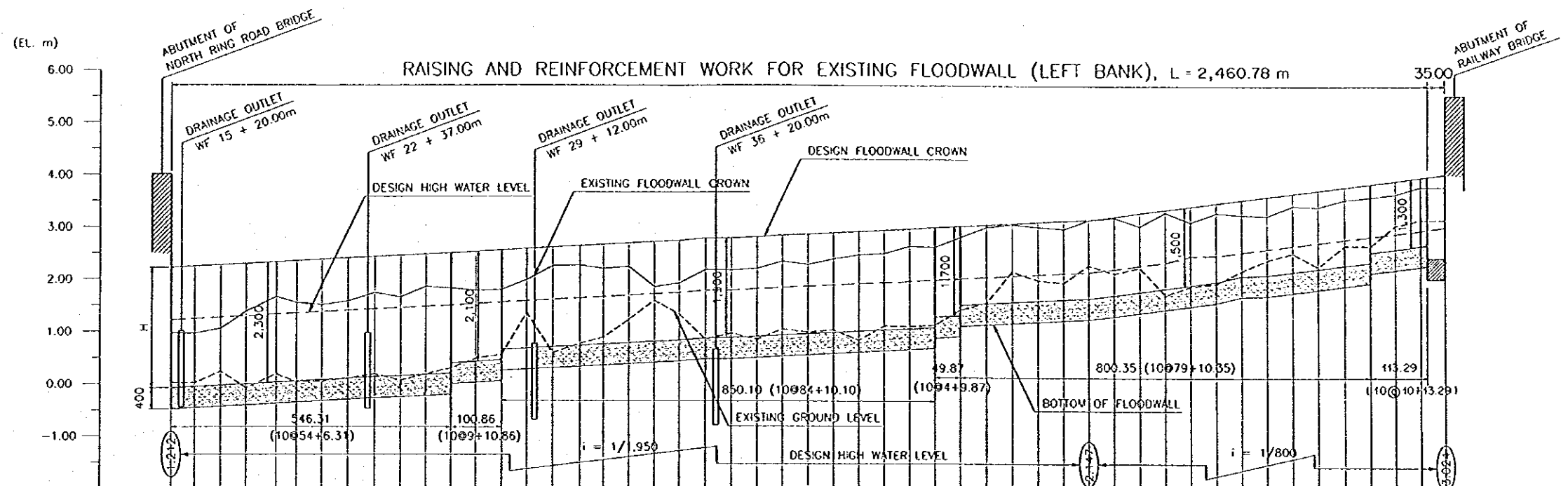


TYPICAL CROSS SECTION OF FLOODWALL AND COUNTERWEIGHT FILL  
UNIT : mm SCALE A



THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROJECT CENTRAL JAVA
BRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT RAISING OF EXISTING FLOODWALL LONGITUDINAL PROFILE FLOODWALL (RIGHT BANK)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY
DRAWING NO. WS-P1-FL-L6-1 SHEET NO. 95		DATE CONTRACT NO.
LIAISON INTERNATIONAL CONSULTING ENGINEERS CIE ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL INC. (INDONESIA) PT. CIE-PCI	DESIGNED CHECKED CIEP OF PLANNING AND DESIGN PROJECT MANAGER	DATE CONTRACT NO.

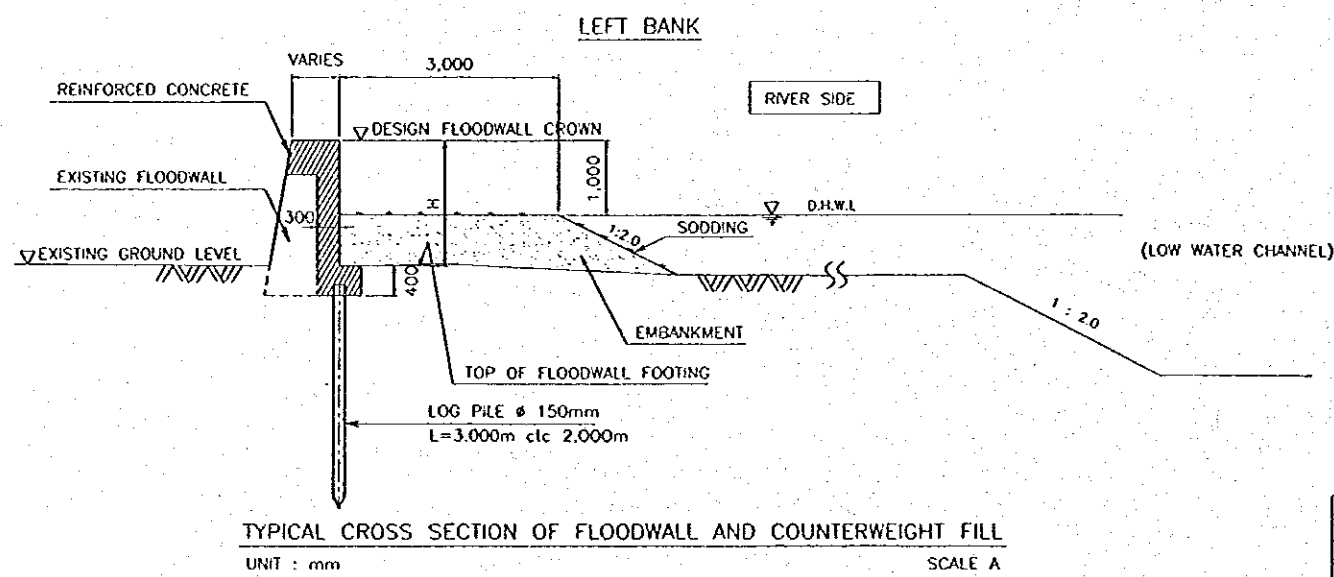
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED



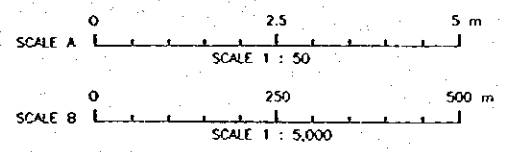
HORIZONTAL : SCALE B  
 VERTICAL : SCALE A  
 DL=EL-2.000m

DESIGN ELEVATION (EL. m)	FLOODWALL CROWN		TOP OF FLOODWALL FOOTING		HIGH WATER	
	ACCUMULATED	PARTIAL	ACCUMULATED	PARTIAL	ACCUMULATED	PARTIAL
	0.00	0.00	0.00	0.00	0.00	0.00
	46.02	46.02	0.010	0.010	1.212	1.212
	49.96	49.96	0.010	0.010	1.241	1.241
	49.99	49.99	0.230	0.230	1.264	1.264
	60.05	60.05	-0.080	-0.080	1.290	1.290
	40.55	40.55	0.180	0.180	1.322	1.322
	49.67	49.67	0.030	0.030	1.345	1.345
	50.03	50.03	0.040	0.040	1.372	1.372
	50.14	50.14	0.100	0.100	1.398	1.398
	49.96	49.96	0.180	0.180	1.424	1.424
	50.15	50.15	0.060	0.060	1.448	1.448
	49.89	49.89	0.180	0.180	1.471	1.471
	49.05	49.05	0.300	0.300	1.497	1.497
	51.81	51.81	0.480	0.480	1.524	1.524
	49.63	49.63	0.550	0.550	1.551	1.551
	50.06	50.06	1.350	1.350	1.578	1.578
	53.94	53.94	0.590	0.590	1.605	1.605
	46.26	46.26	0.770	0.770	1.633	1.633
	49.98	49.98	0.890	0.890	1.660	1.660
	50.10	50.10	1.230	1.230	1.688	1.688
	50.10	50.10	1.590	1.590	1.715	1.715
	50.27	50.27	1.330	1.330	1.738	1.738
	49.85	49.85	0.860	0.860	1.781	1.781
	49.99	49.99	0.970	0.970	1.786	1.786
	49.93	49.93	0.860	0.860	1.811	1.811
	50.15	50.15	1.050	1.050	1.839	1.839
	49.81	49.81	0.990	0.990	1.862	1.862
	50.03	50.03	1.040	1.040	1.890	1.890
	50.10	50.10	0.840	0.840	1.916	1.916
	49.84	49.84	1.120	1.120	1.941	1.941
	50.06	50.06	1.110	1.110	1.966	1.966
	49.87	49.87	1.140	1.140	1.993	1.993
	50.28	50.28	1.430	1.430	2.020	2.020
	49.92	49.92	1.560	1.560	2.044	2.044
	49.96	49.96	2.150	2.150	2.070	2.070
	49.91	49.91	1.990	1.990	2.097	2.097
	50.21	50.21	1.940	1.940	2.122	2.122
	49.88	49.88	2.280	2.280	2.147	2.147
	50.04	50.04	2.130	2.130	2.209	2.209
	49.97	49.97	2.240	2.240	2.274	2.274
	49.98	49.98	1.720	1.720	2.339	2.339
	50.09	50.09	1.880	1.880	2.460	2.460
	50.04	50.04	1.930	1.930	2.462	2.462
	50.02	50.02	2.170	2.170	2.525	2.525
	50.09	50.09	2.380	2.380	2.590	2.590
	49.06	49.06	2.510	2.510	2.649	2.649
	50.94	50.94	2.250	2.250	2.712	2.712
	49.96	49.96	2.660	2.660	2.779	2.779
	50.30	50.30	2.660	2.660	2.840	2.840
	49.99	49.99	3.060	3.060	2.899	2.899
	48.00	48.00	3.160	3.160	2.964	2.964
			3.160	3.160	3.024	3.024

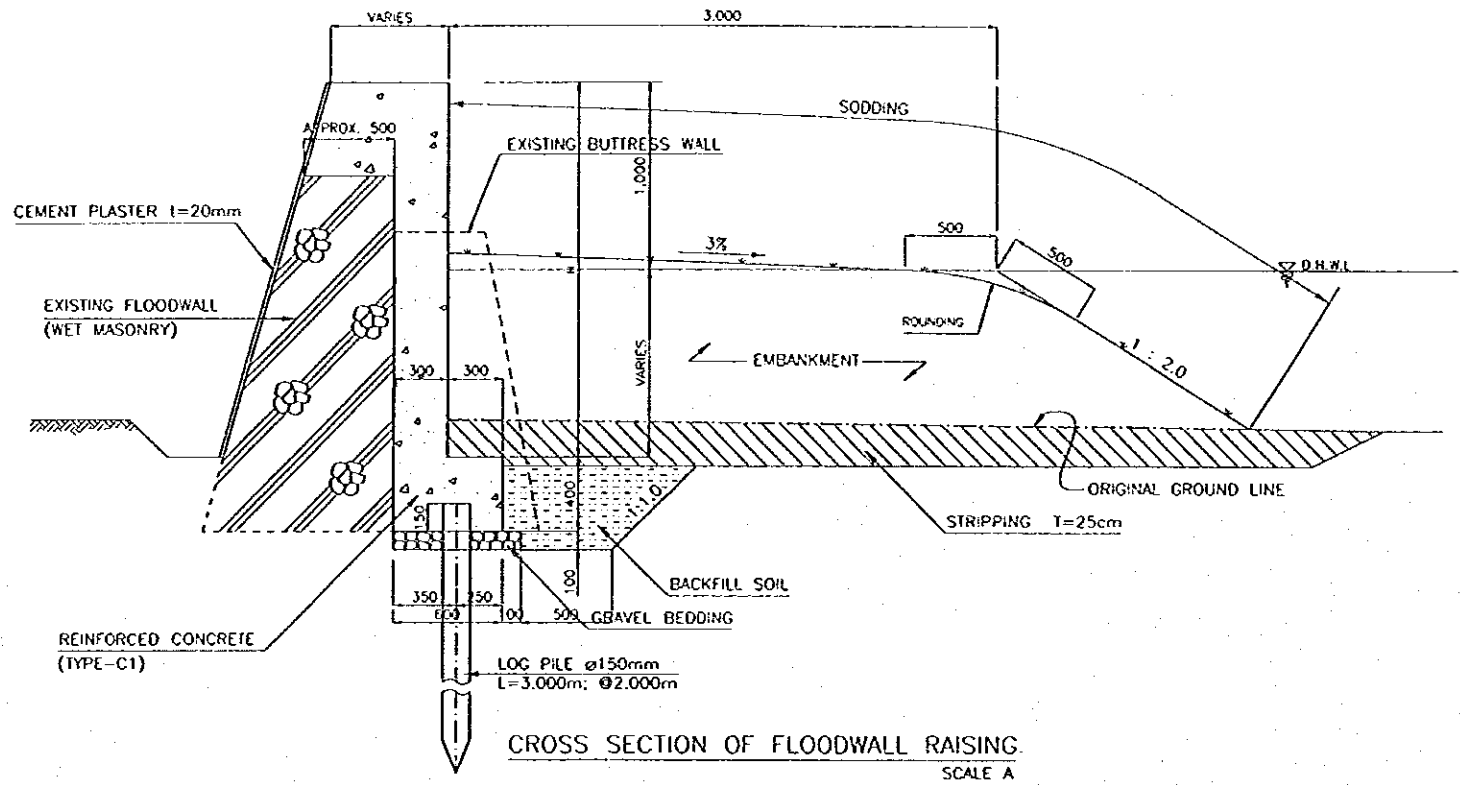
LONGITUDINAL PROFILE OF FLOODWALL (LEFT BANK)  
 UNIT : m SCALE A AND B



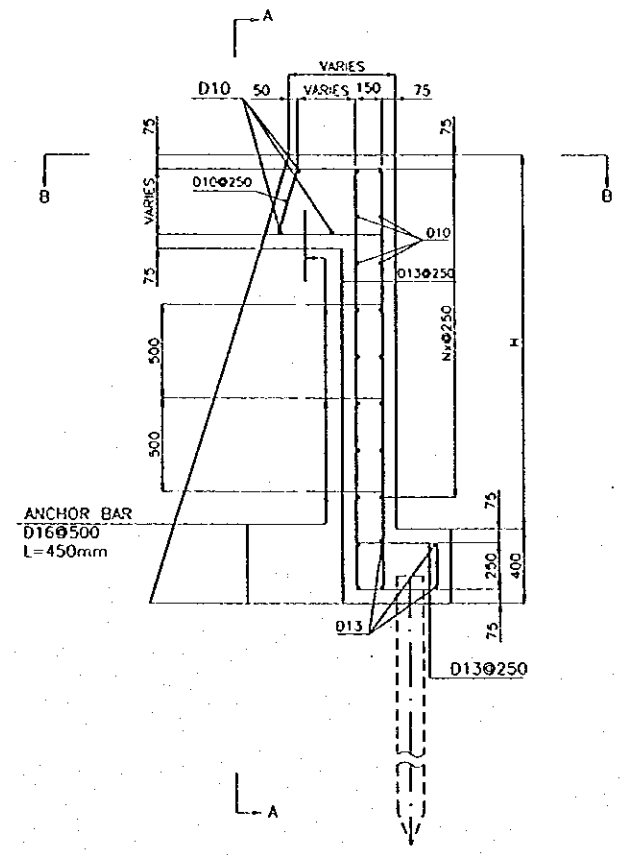
TYPICAL CROSS SECTION OF FLOODWALL AND COUNTERWEIGHT FILL  
 UNIT : mm SCALE A



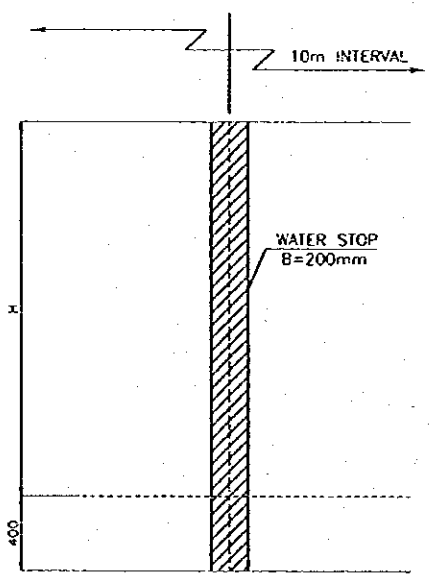
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT			PROVINCE CENTRAL JAVA		
IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT RAISING OF EXISTING FLOODWALL LONGITUDINAL PROFILE FLOODWALL (LEFT BANK)			PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA		
JAPAN INTERNATIONAL COOPERATION AGENCY CITY ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PARCO INTERNATIONAL INC.			DISTRICT SEMARANG CITY		
DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER			DRAWING NO. W0-F1-PL-L4-2 SHEET NO. 95 DATE CONTRACT NO.		
NO.	DATE	REVISIONS	ORDINATED	DESIGNED	APPROVED



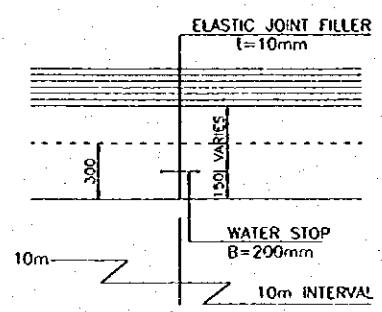
CROSS SECTION OF FLOODWALL RAISING  
SCALE A



ARRANGEMENT OF REINFORCING BARS  
SCALE A

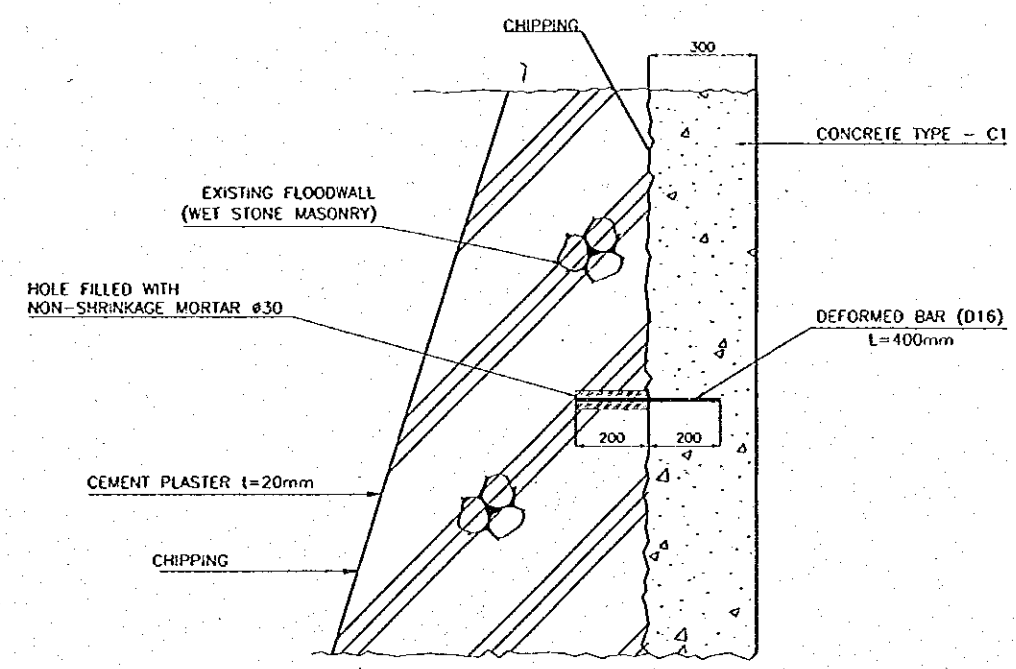


SECTION A-A

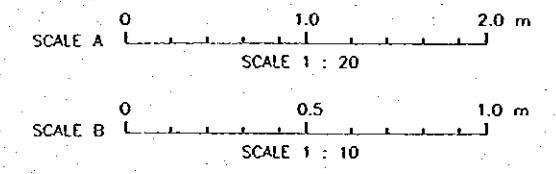


SECTION B-B

DETAIL OF JOINT  
SCALE A



DETAIL OF JOINT AND ANCHOR  
SCALE B

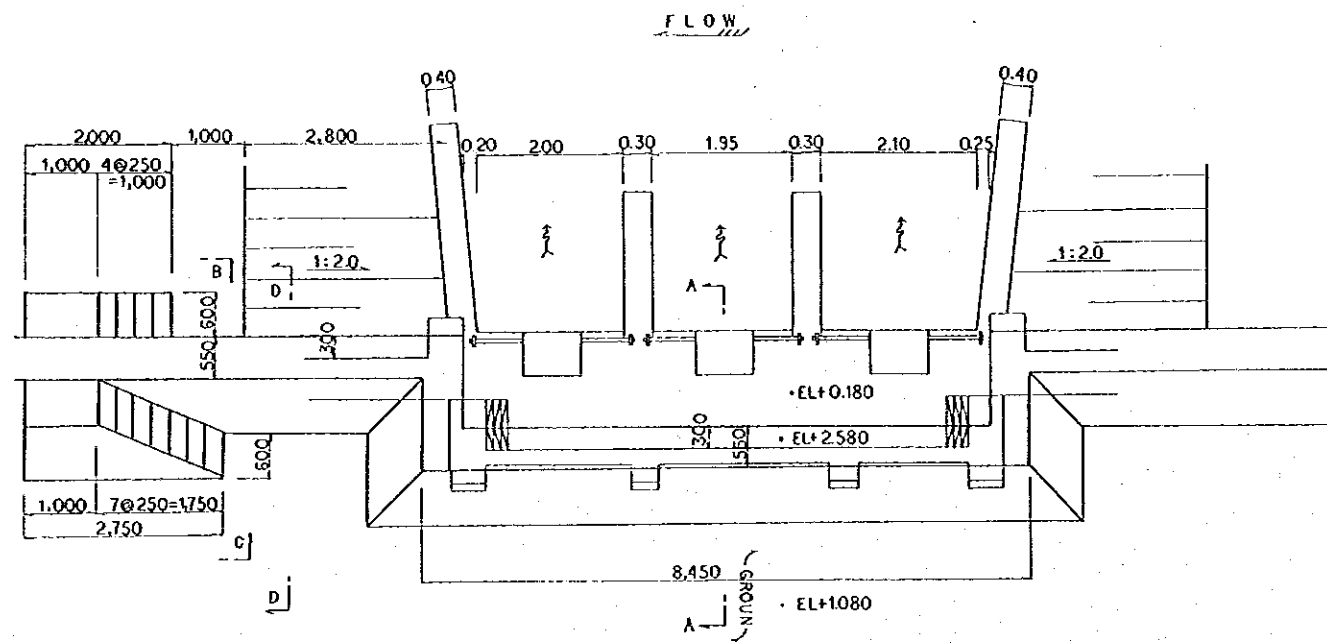


- NOTE =
1. THE EXISTING BUTRESS WALL SHOWN ON THE DRAWING SHALL BE DEMOLISHED AND REMOVED BEFORE THE RAISING WORK
  2. CRACKS AND HOLES ON THE EXISTING FLOODWALL BODY, AND OPENING AT THE JOINT SHALL BE REPAIRED BY MORTAR FILLING BEFORE CONCRETE COVERING
  3. COVERING CONCRETE ON THE VERTICAL WALL SURFACE SHALL BE PLACED PERPENDICULARLY WITH A MINIMUM WALL THICKNESS OF 30cm

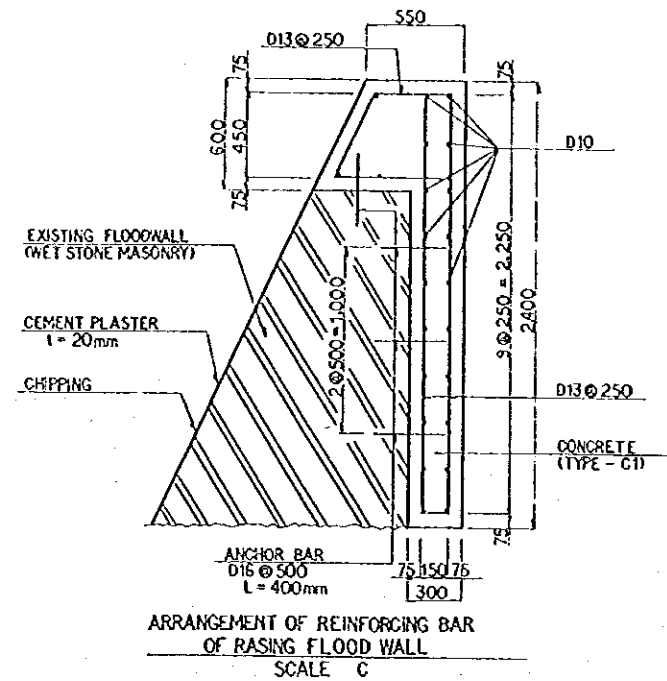
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED	APPROVED

<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
JATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT <b>RAISING OF EXISTING FLOODWALL</b> TYPICAL CROSS SECTION AND STRUCTURAL DETAILS		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY
JAPAN INTERNATIONAL COOPERATION AGENCY CIL ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PARCO INTERNATIONAL INC.		DRAWING NO. W-2-PL-LL-3 SHEET NO. 37
DESIGNED CHECKED	DATE CONTRACT NO.	PROJECT MANAGER

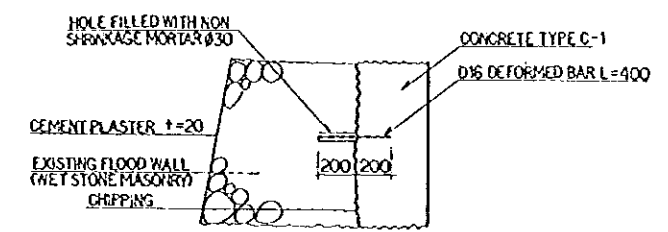




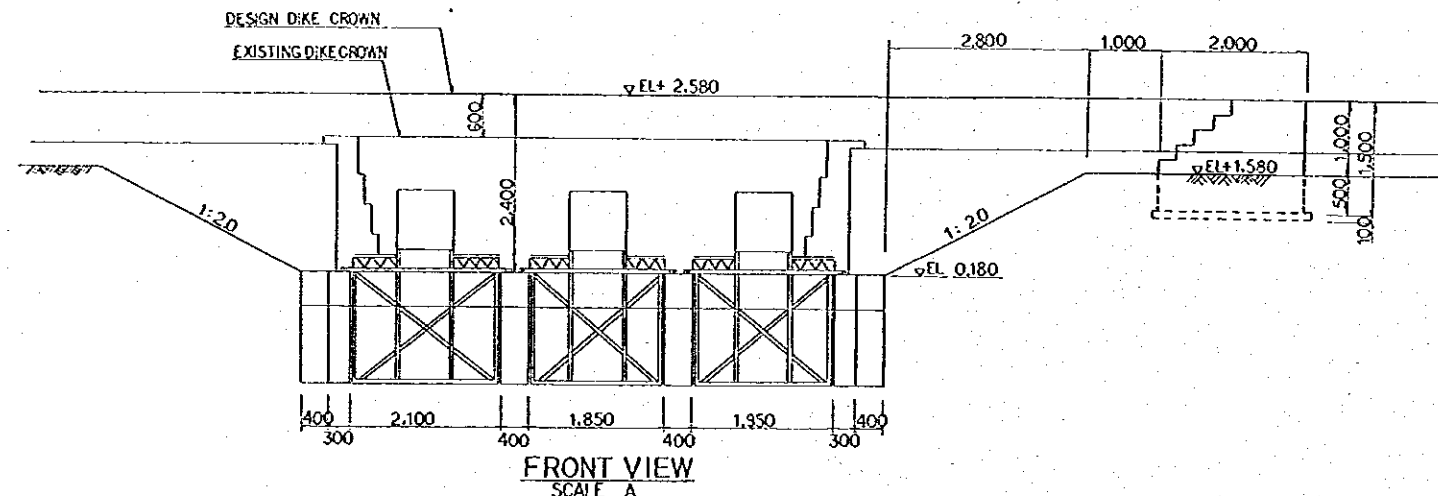
PLAN  
SCALE A



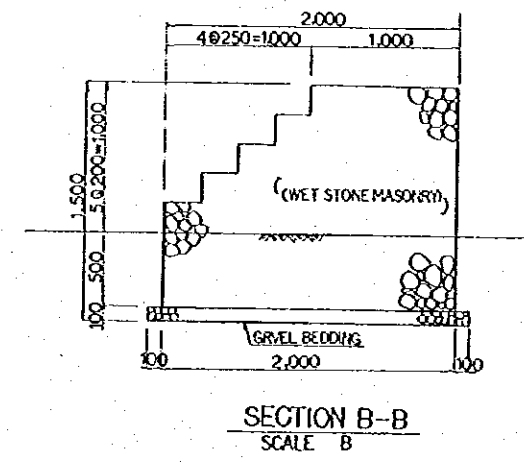
ARRANGEMENT OF REINFORCING BAR  
OF RAISING FLOOD WALL  
SCALE C



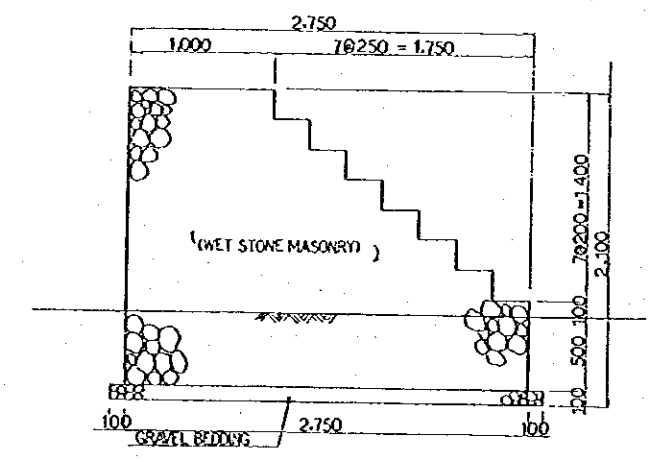
DETAIL OF JOINT AND ANCHOR  
SCALE C



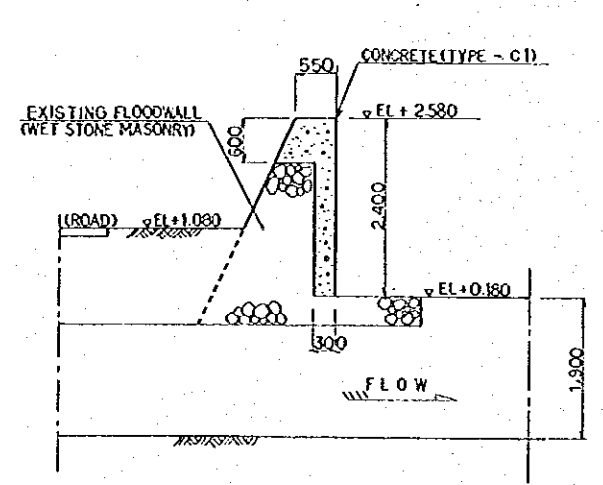
FRONT VIEW  
SCALE A



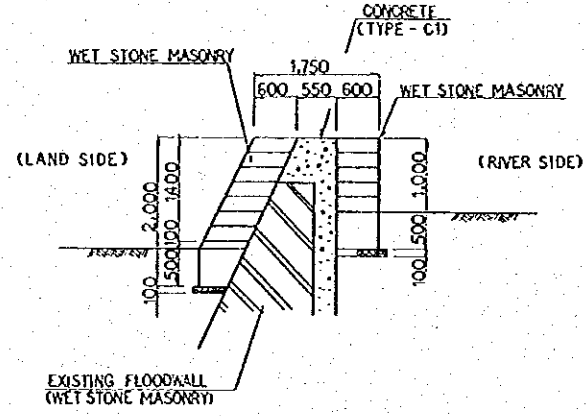
SECTION B-B  
SCALE B



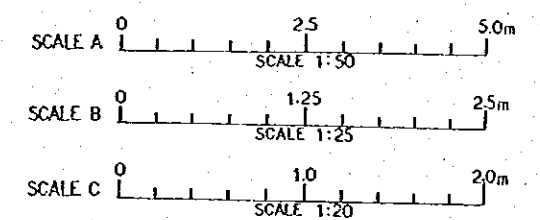
SECTION C-C  
SCALE B



SECTION A-A  
SCALE A

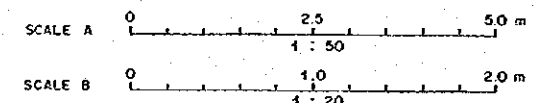
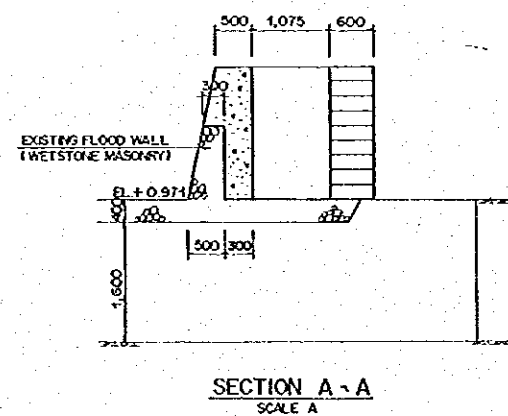
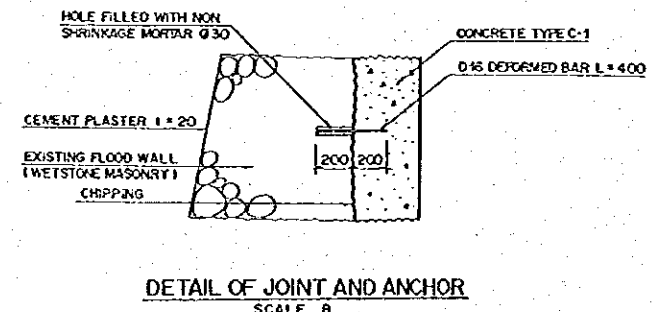
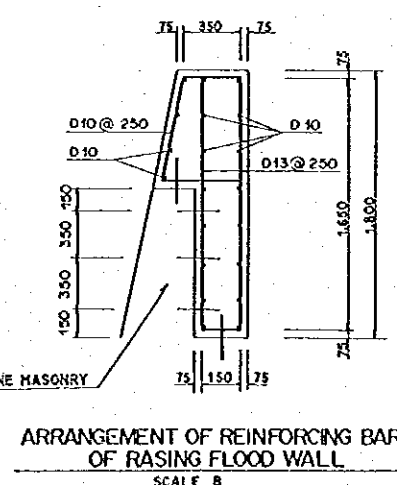
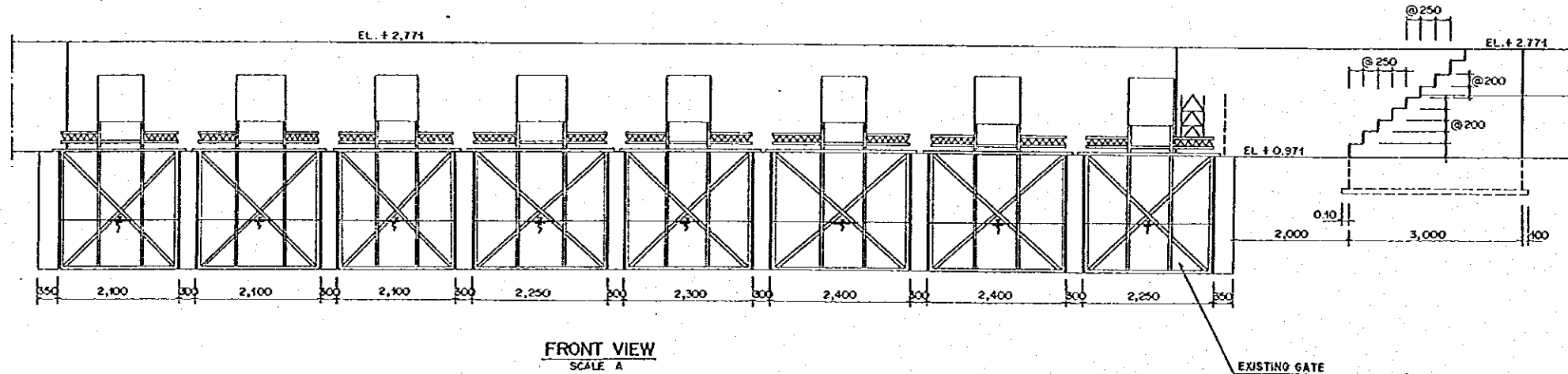
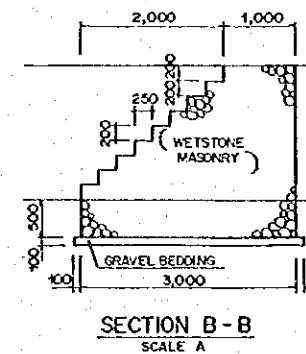
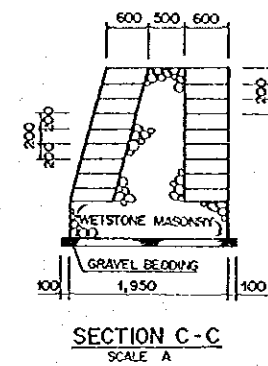
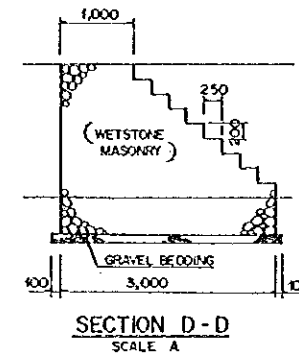
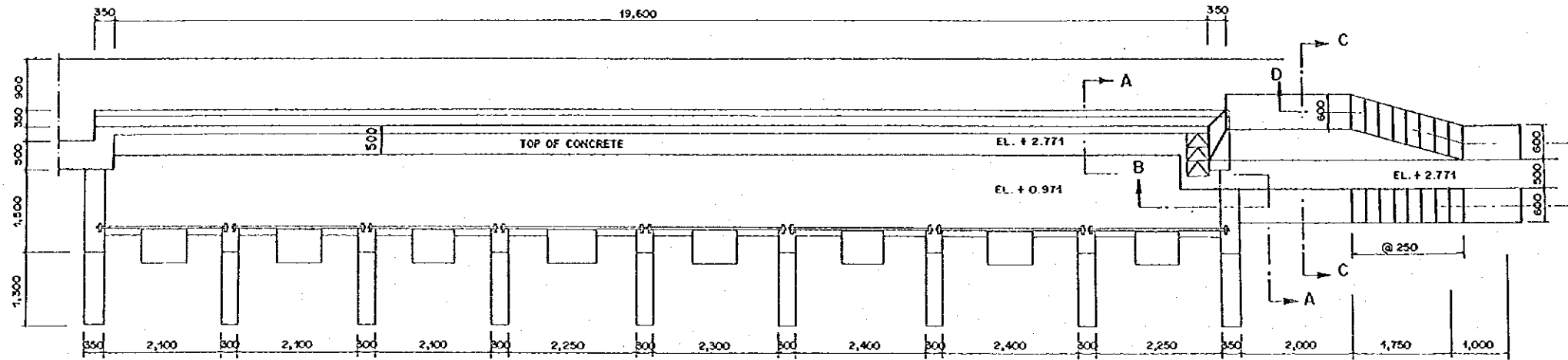


SECTION D-D  
SCALE A



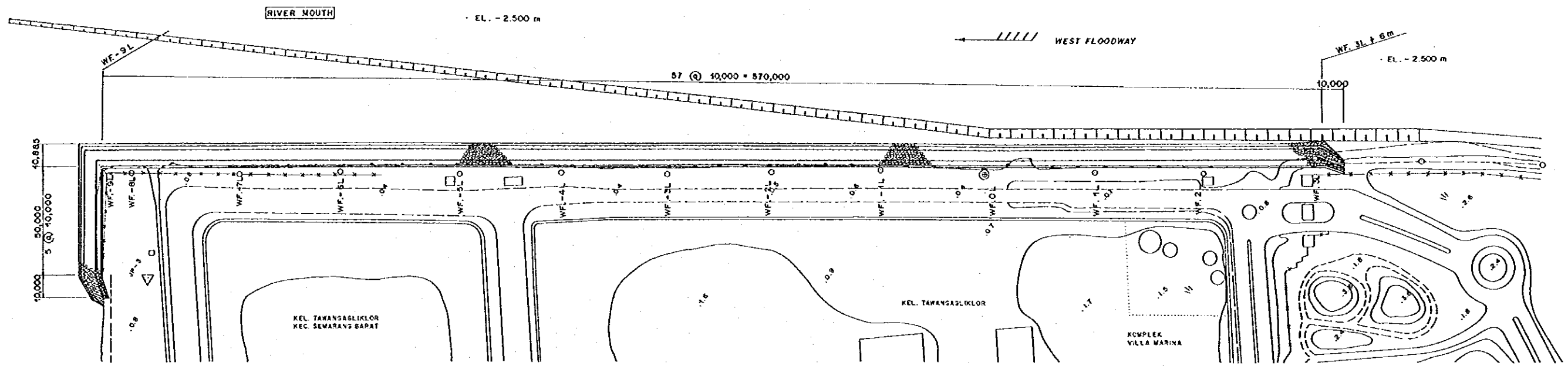
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT JAWA INTERNATIONAL COOPERATION AGENCY CTE ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND JAWA INTERNATIONAL			PROVINCE CENTRAL JAVA PROJECT NAME FLOOD CONTROL, URBAN CLEANUP AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY DRAWING NO. WO - P1 - PL - 11 - 1 SHEET NO. 91		
COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT RAISING OF EXISTING FLOODWALL STRUCTURAL DETAILS OF RAISING WALL (WF29L+10)			DATE CONTRACT NO.		
DESIGNED CHECKED CDR OF PLANNING AND DESIGN PROJECT MANAGER			APPROVED		
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED



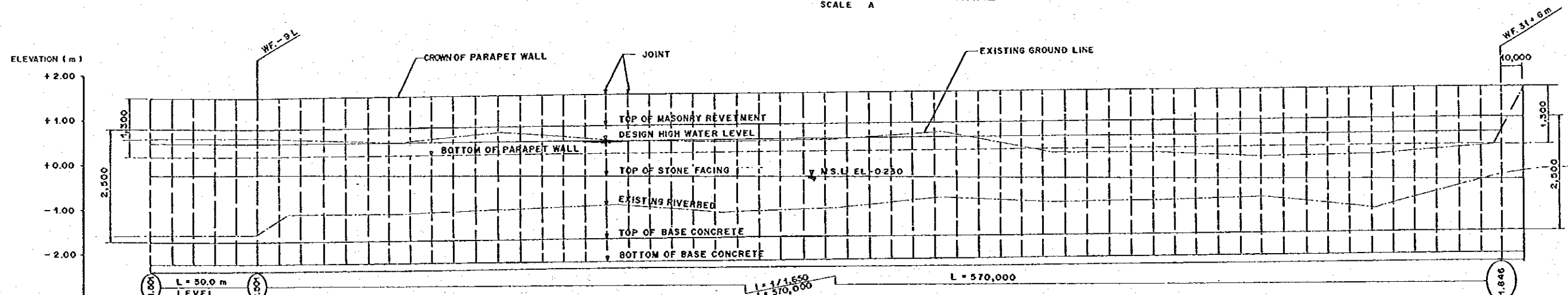


THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE: CENTRAL JAVA
IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT		PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER EFFICIENCY DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
<b>RAISING OF EXISTING FLOODWALL          STRUCTURAL DETAILS OF RAISING WALL (WF36L+15)</b>		DETAIL: SEMARANG CITY
LAPAN INTERNATIONAL COOPERATION AGENCY CIL ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND LAPAN INTERNATIONAL INC.		DRAWING NO. WG-PI-FL-81-2 SHEET NO. 99
DESIGNED: [Signature] CHECKED: [Signature]		DATE: [Blank] CONTRACT NO.: [Blank]
CREDIT OF PLANNING AND DESIGN PROJECT MANAGER: [Signature]		

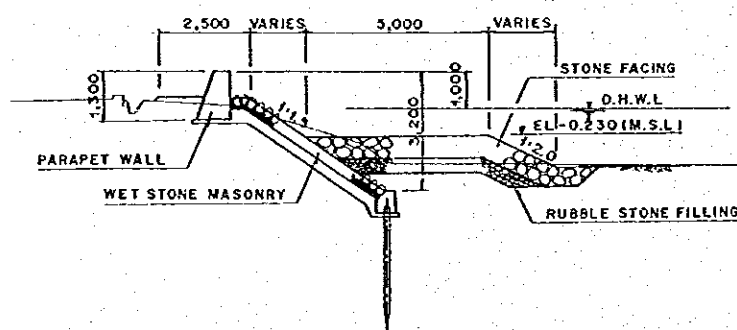
NO.	DATE	APPROVED	ORIGINATED	DESIGNED	APPROVED



PLAN OF RIVER BANK PROTECTION  
SCALE A



STATION NO.	PARTIAL DISTANCE (m)	ACCUMULATED DISTANCE (m)	DESIGN HIGH WATER LEVEL EL. (m)	TOP OF BASE CONCRETE (REVENMENT) EL. (m)	CROWN ELEVATION OF PARAPET WALL EL. (m)
WF-9L	10.00	50.00	0.501	-1.699	1.501
WF-8L	10.00	60.00	0.501	-1.699	1.501
WF-7L	10.00	70.00	0.513	-1.687	1.513
WF-6L	10.00	80.00	0.519	-1.681	1.519
WF-5L	10.00	90.00	0.525	-1.675	1.525
WF-4L	10.00	100.00	0.531	-1.669	1.531
WF-3L	10.00	110.00	0.537	-1.663	1.537
WF-2L	10.00	120.00	0.543	-1.657	1.543
WF-1L	10.00	130.00	0.550	-1.650	1.550
WF-0L	10.00	140.00	0.556	-1.644	1.556
WF-9L	10.00	150.00	0.562	-1.638	1.562
WF-8L	10.00	160.00	0.568	-1.632	1.568
WF-7L	10.00	170.00	0.574	-1.626	1.574
WF-6L	10.00	180.00	0.580	-1.620	1.580
WF-5L	10.00	190.00	0.586	-1.614	1.586
WF-4L	10.00	200.00	0.592	-1.608	1.592
WF-3L	10.00	210.00	0.598	-1.602	1.598
WF-2L	10.00	220.00	0.604	-1.596	1.604
WF-1L	10.00	230.00	0.610	-1.590	1.610
WF-0L	10.00	240.00	0.616	-1.584	1.616
WF-9L	10.00	250.00	0.622	-1.578	1.622
WF-8L	10.00	260.00	0.628	-1.572	1.628
WF-7L	10.00	270.00	0.634	-1.566	1.634
WF-6L	10.00	280.00	0.640	-1.560	1.640
WF-5L	10.00	290.00	0.646	-1.554	1.646
WF-4L	10.00	300.00	0.653	-1.547	1.653
WF-3L	10.00	310.00	0.659	-1.541	1.659
WF-2L	10.00	320.00	0.665	-1.535	1.665
WF-1L	10.00	330.00	0.671	-1.529	1.671
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WF-9L	10.00	350.00	0.683	-1.517	1.683
WF-8L	10.00	360.00	0.689	-1.511	1.689
WF-7L	10.00	370.00	0.695	-1.505	1.695
WF-6L	10.00	380.00	0.701	-1.499	1.701
WF-5L	10.00	390.00	0.707	-1.493	1.707
WF-4L	10.00	400.00	0.713	-1.487	1.713
WF-3L	10.00	410.00	0.719	-1.481	1.719
WF-2L	10.00	420.00	0.725	-1.475	1.725
WF-1L	10.00	430.00	0.731	-1.469	1.731
WF-0L	10.00	440.00	0.737	-1.463	1.737
WF-9L	10.00	450.00	0.743	-1.457	1.743
WF-8L	10.00	460.00	0.750	-1.450	1.750
WF-7L	10.00	470.00	0.756	-1.444	1.756
WF-6L	10.00	480.00	0.762	-1.439	1.762
WF-5L	10.00	490.00	0.768	-1.432	1.768
WF-4L	10.00	500.00	0.774	-1.426	1.774
WF-3L	10.00	510.00	0.780	-1.420	1.780
WF-2L	10.00	520.00	0.786	-1.414	1.786
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WF-9L	10.00	550.00	0.804	-1.396	1.804
WF-8L	10.00	560.00	0.810	-1.390	1.810
WF-7L	10.00	570.00	0.816	-1.384	1.816
WF-6L	10.00	580.00	0.822	-1.378	1.822
WF-5L	10.00	590.00	0.828	-1.372	1.828
WF-4L	10.00	600.00	0.834	-1.366	1.834
WF-3L	10.00	610.00	0.840	-1.360	1.840
WF-2L	10.00	620.00	0.846	-1.354	1.846



STANDARD CROSS SECTION OF RIVER BANK PROTECTION  
SCALE A

LONGITUDINAL PROFILE OF RIVER BANK PROTECTION

SCALE H = 1:1000  
V = 1:50

SCALE VERTICAL 0 2.5 5 m  
SCALE HORIZONTAL 0 50 100 m  
SCALE A 0 5 10 m

NO.	DATE	REVISIONS	ORIGINATOR	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA  
MINISTRY OF PUBLIC WORKS  
DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT  
AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

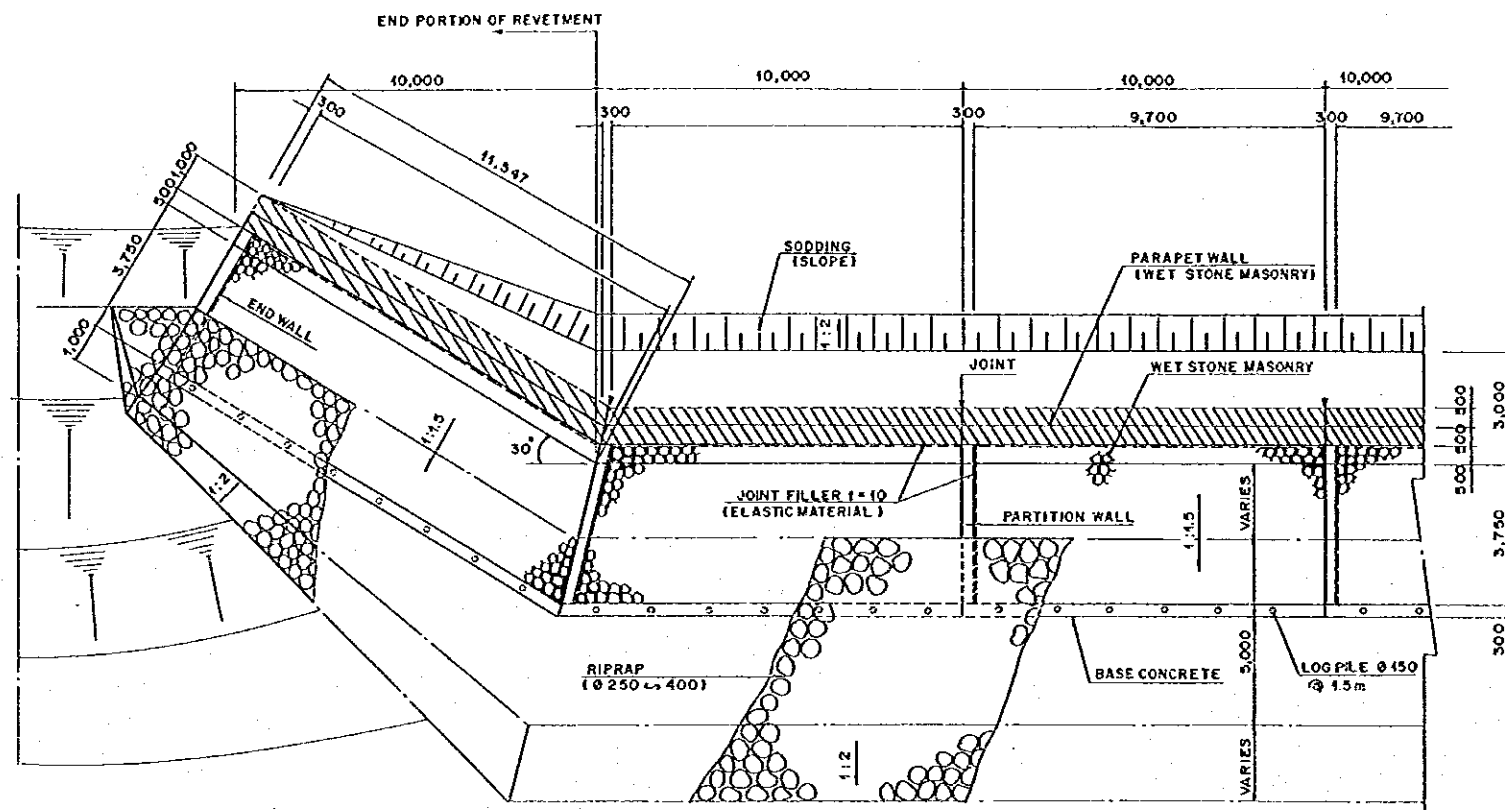
IRATUNSELUNA FLOOD CONTROL PROJECT  
COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT  
PROTECTION WORKS FOR RIVERBANK & RIVERBED  
RIVER SECTION : WF-9L TO WF-3L (LEFT BANK)  
PLAN AND LONGITUDINAL PROFILE

JAPAN INTERNATIONAL COOPERATION AGENCY  
CII ENGINEERING CO., LTD. IN ASSOCIATION WITH  
PACIFIC CONSULTANTS INTERNATIONAL AND  
PACIFIC INTERNATIONAL INC.

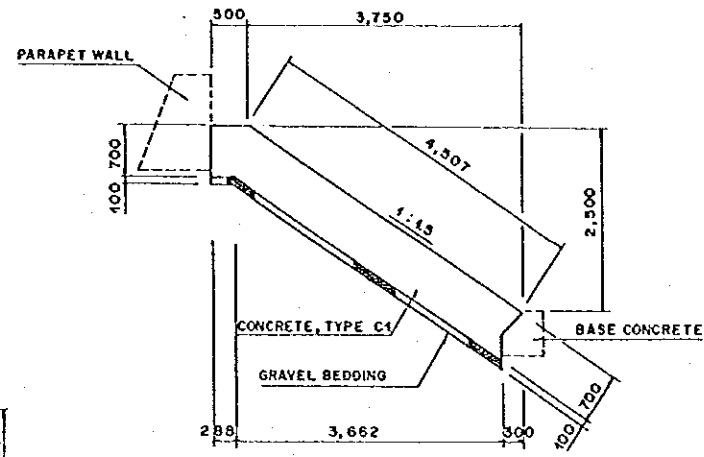
DESIGNED: [Signature]  
CHECKED: [Signature]  
DATE: [Date]  
CONTRACT NO. [Number]

PROVINCE: CENTRAL JAVA  
PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA  
DISTRICT: SEMARANG CITY  
DRAWING NO. WS-P1-PR-P1-1  
SHEET NO. 106

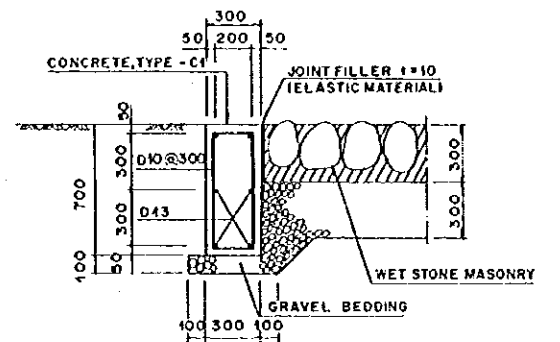
APPROVED: [Signature]  
PROJECT MANAGER



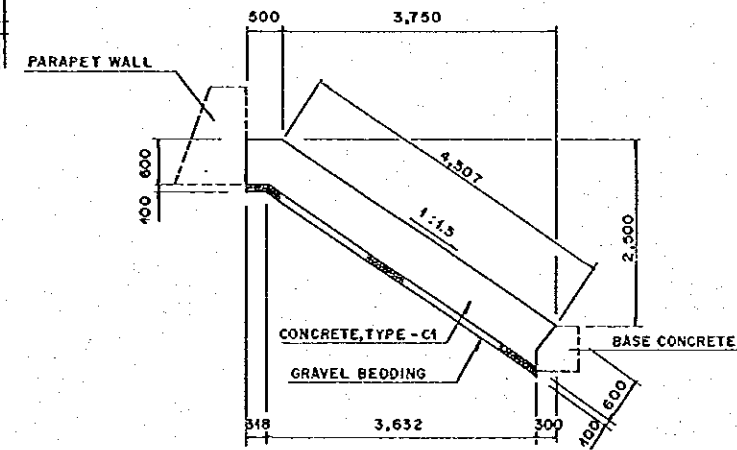
**PLAN OF REVETMENT**  
SCALE A



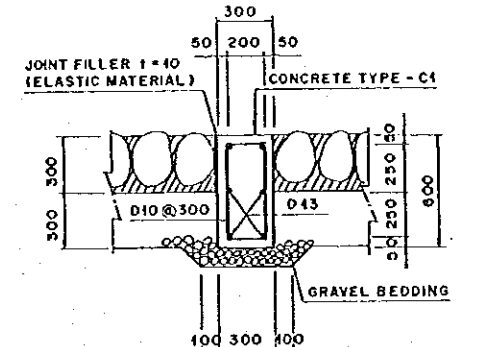
**PROFILE OF END WALL**  
SCALE B



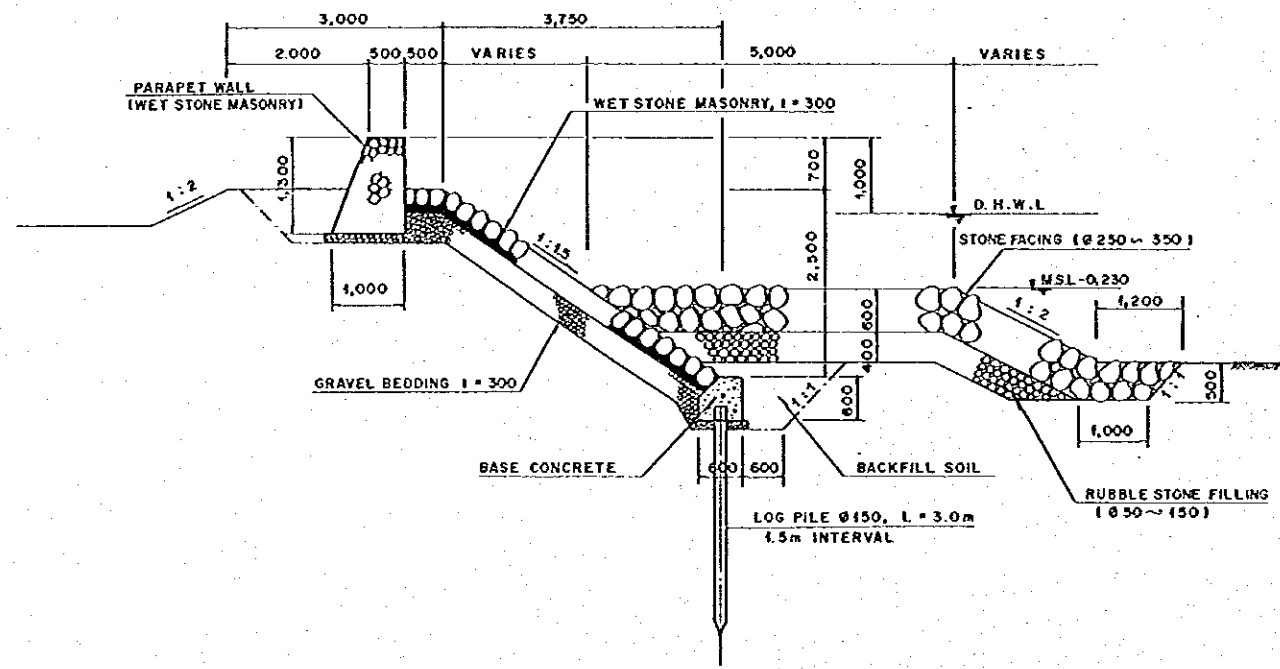
**END WALL**  
SCALE C



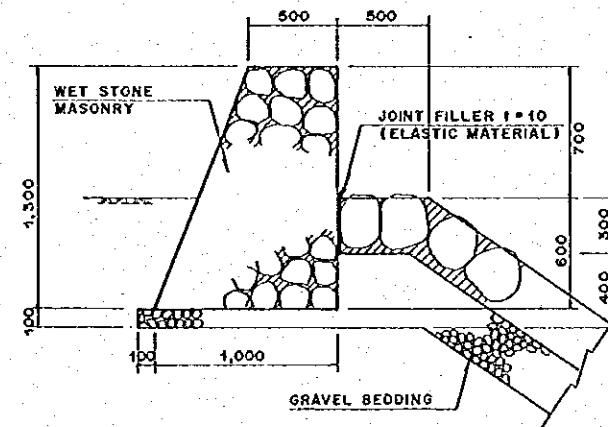
**PROFILE OF PARTITION WALL**  
SCALE B



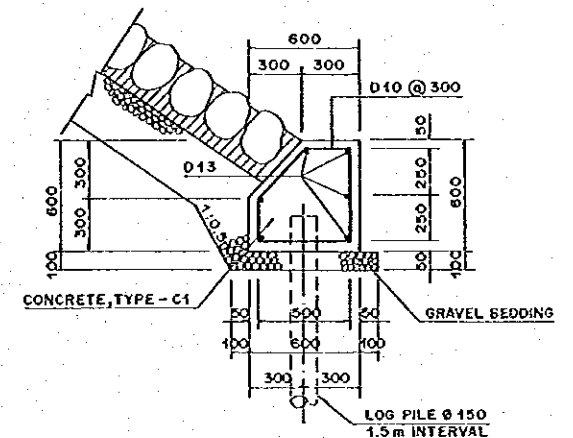
**PARTITION WALL**  
SCALE C



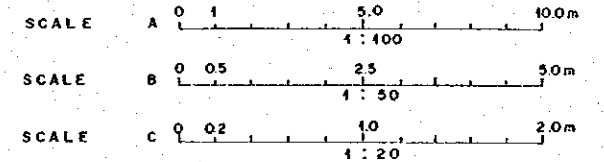
**STANDARD CROSS SECTION OF RIVER MOUTH REVETMENT**  
SCALE B



**PARAPET WALL**  
SCALE C

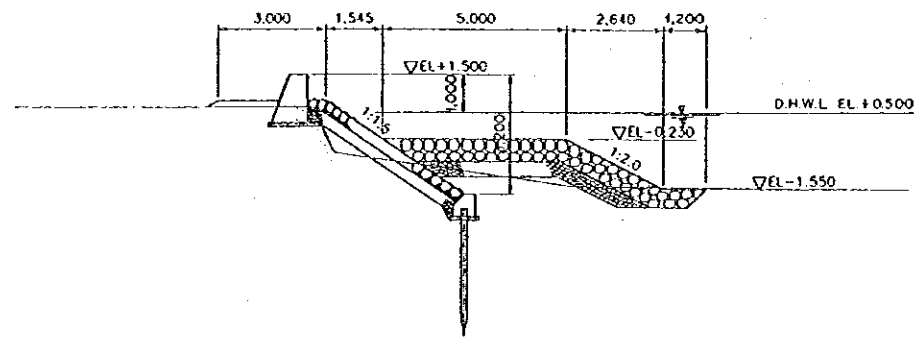
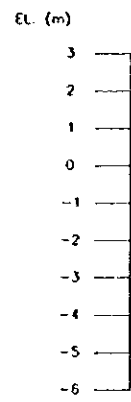


**BASE CONCRETE**  
SCALE C

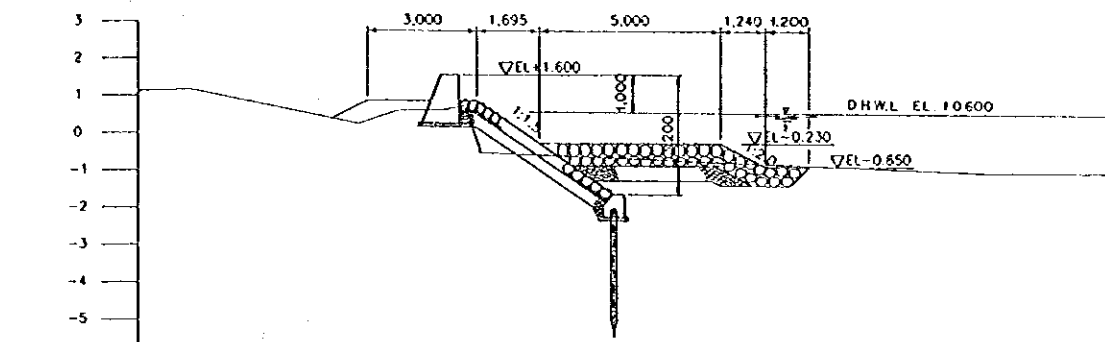
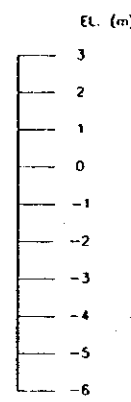


NO.	DATE	KEYWORDS	ORIGINATED	DESIGNED	APPROVED

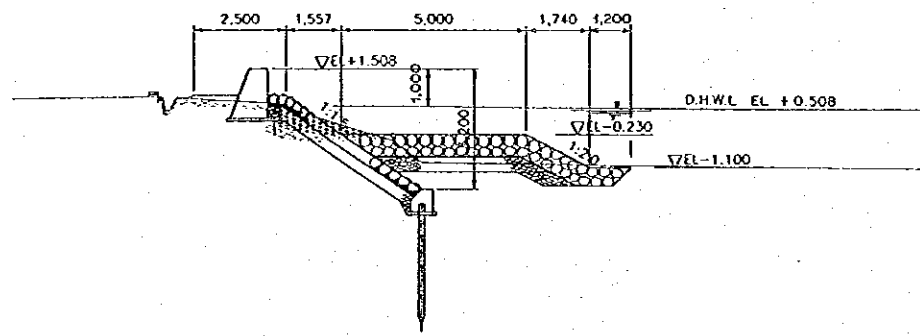
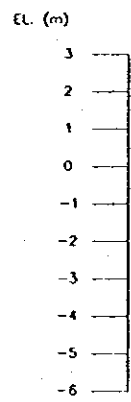
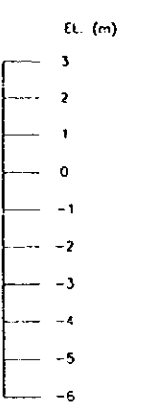
<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROJECT CENTRAL JAVA
PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA		CONTRACT SEMARANG CITY
COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT PROTECTION WORKS FOR RIVERBANK & RIVERBED RIVER SECTION : WF-9L TO WF-3L (LEFT BANK) TYPICAL CROSS SECTION AND DETAILS		DRAWING NO. WB - P1 - PR - S1 - 2 SHEET NO. 101
JIAP INTERNATIONAL COOPERATION AGENCY CIE ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND JIAPCO INTERNATIONAL INC.	DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER	DATE CONTRACT NO.



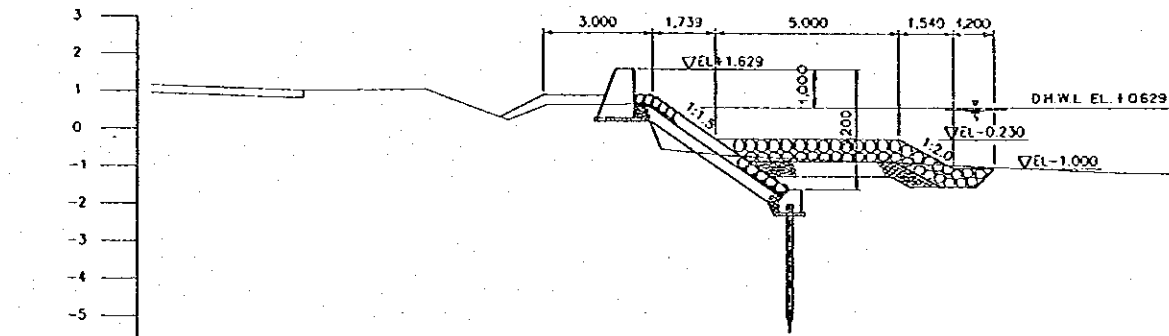
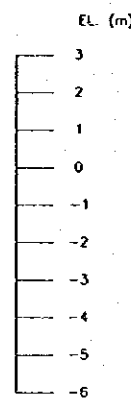
SECTION WF.-9L



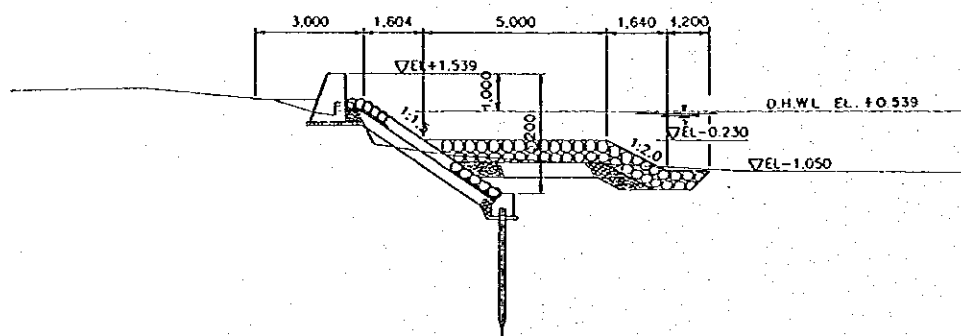
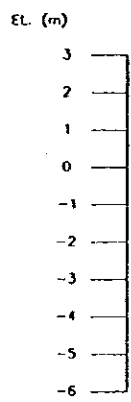
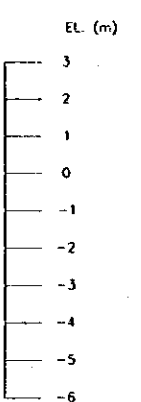
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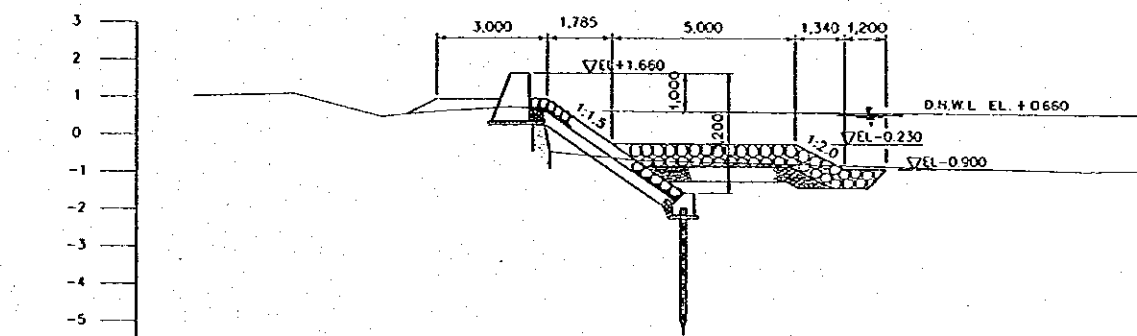
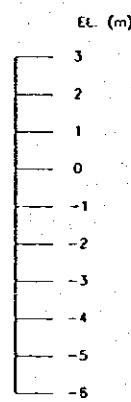
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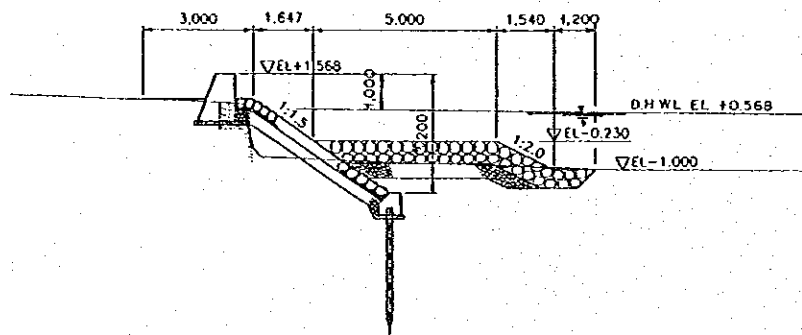
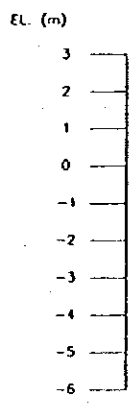
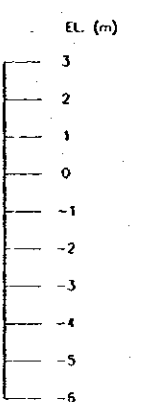
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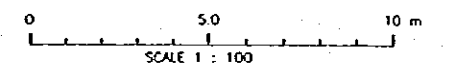
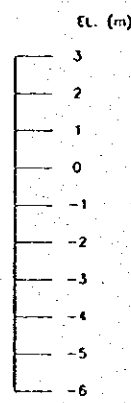
SECTION WF.-7L



SECTION WF.-3L

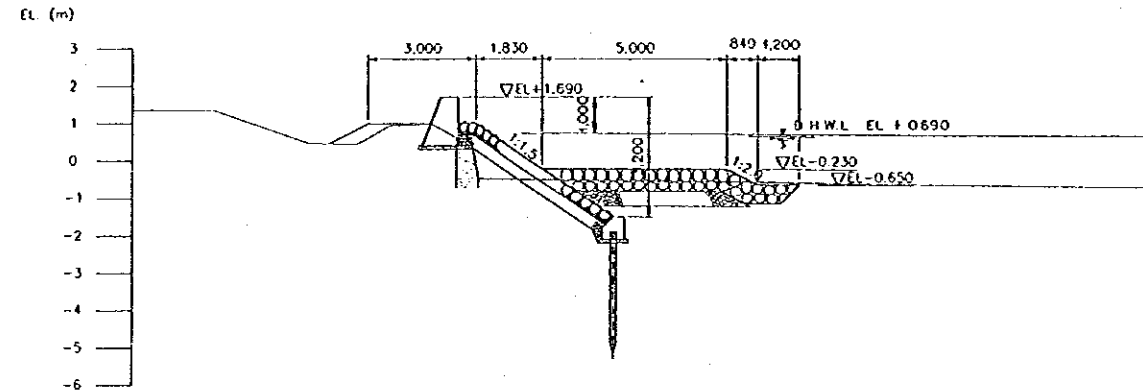


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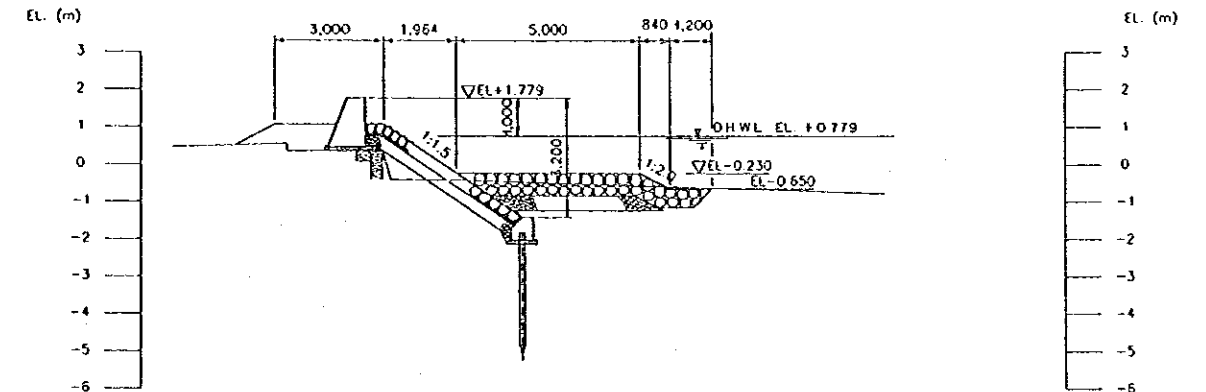


NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

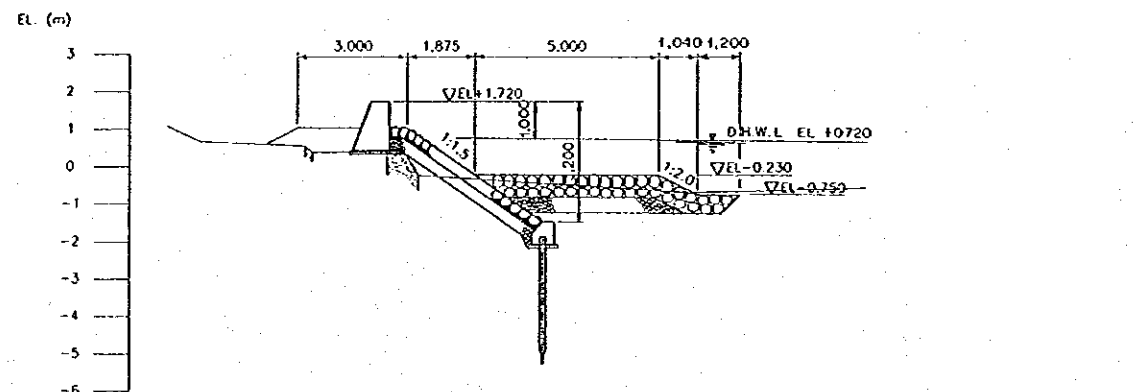
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
JATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY/GARANG RIVER IMPROVEMENT PROTECTION WORKS FOR RIVERBANK & RIVERBED RIVER SECTION : WF-9L TO WF-3L (LEFT BANK) CROSS SECTIONS (1/2)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
LIAISON INTERNATIONAL COOPERATION AGENCY CEI ENGINEERING CO. LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND FARCO INTERNATIONAL, INC.		DISTRICT SEMARANG CITY
DESIGNED <i>[Signature]</i>	CHECKED <i>[Signature]</i>	DATE CONTRACT NO.
CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		



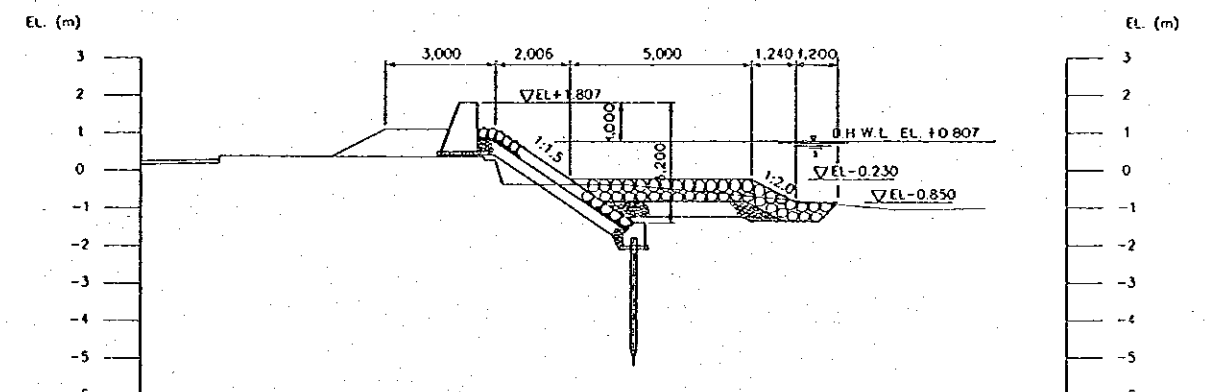
SECTION WF.-2L



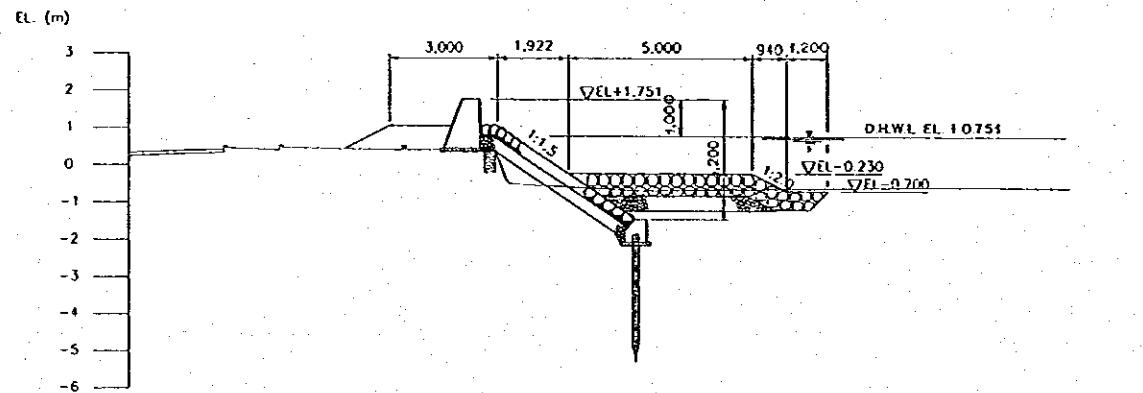
SECTION WF. 1L



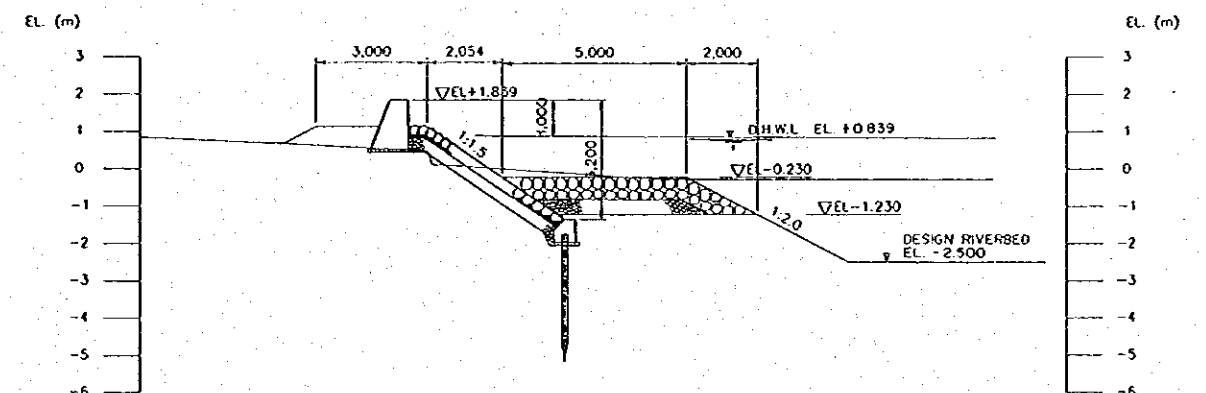
SECTION WF.-1L



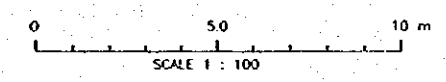
SECTION WF. 2L



SECTION WF. 0L

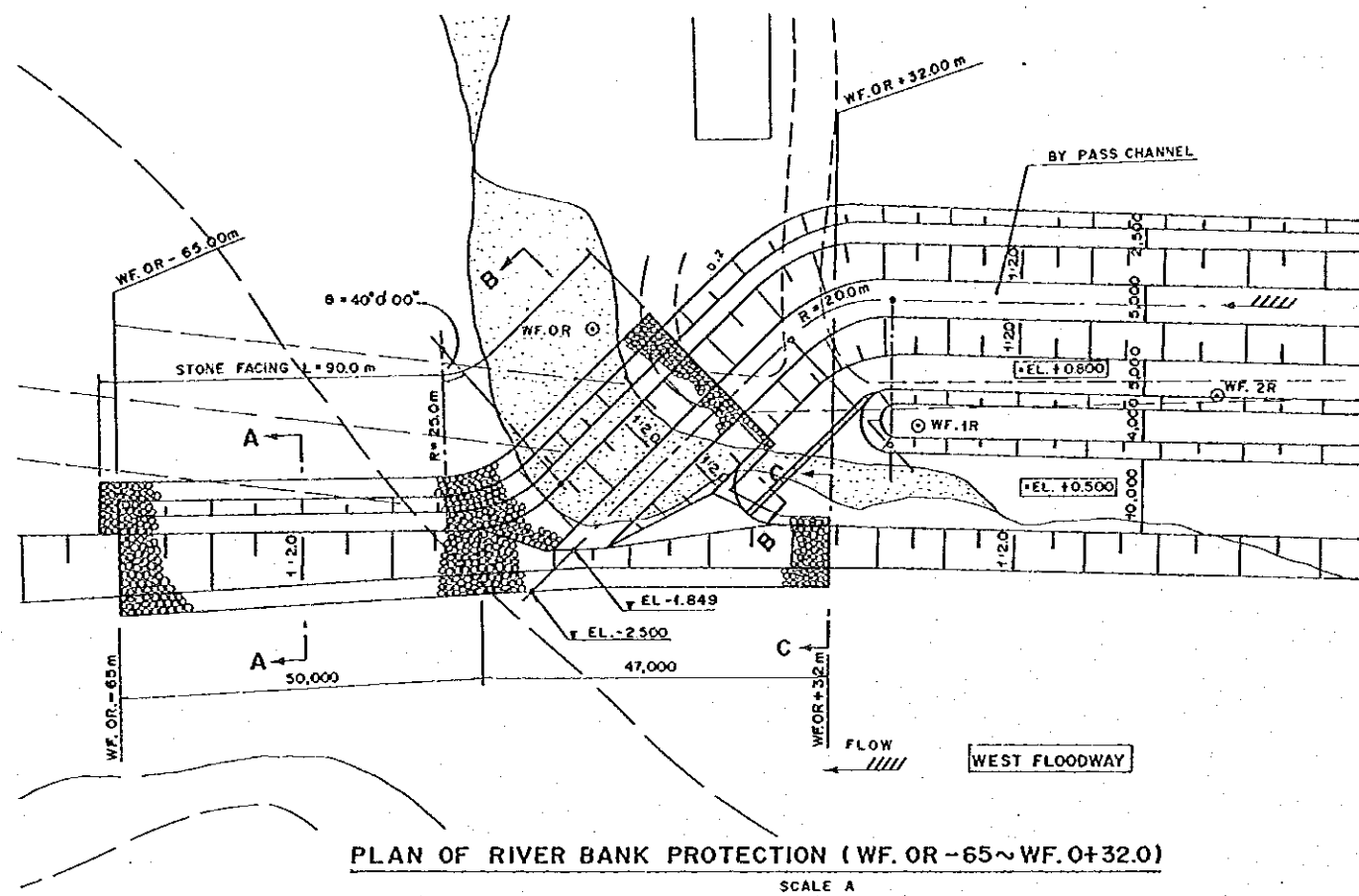


SECTION WF. 3L

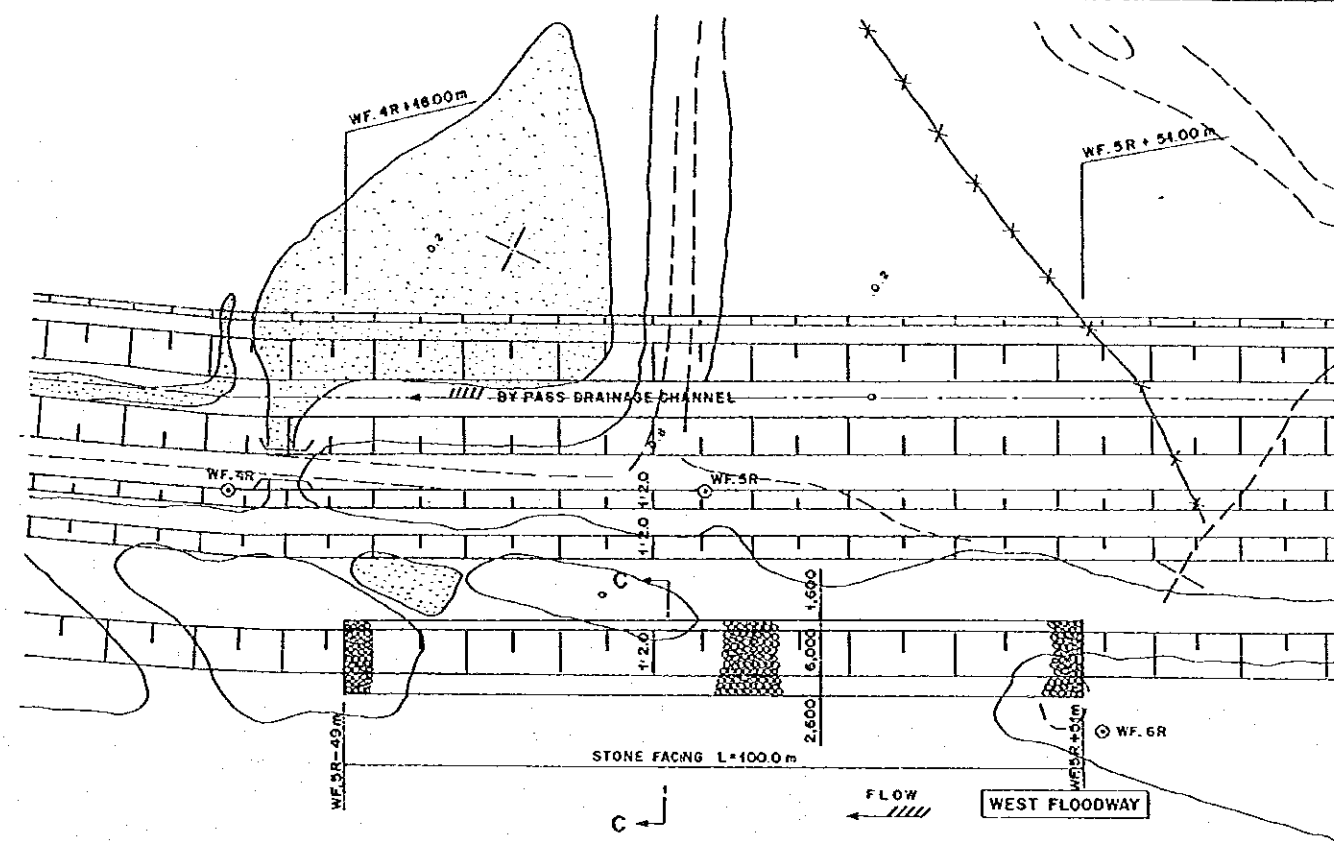


NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

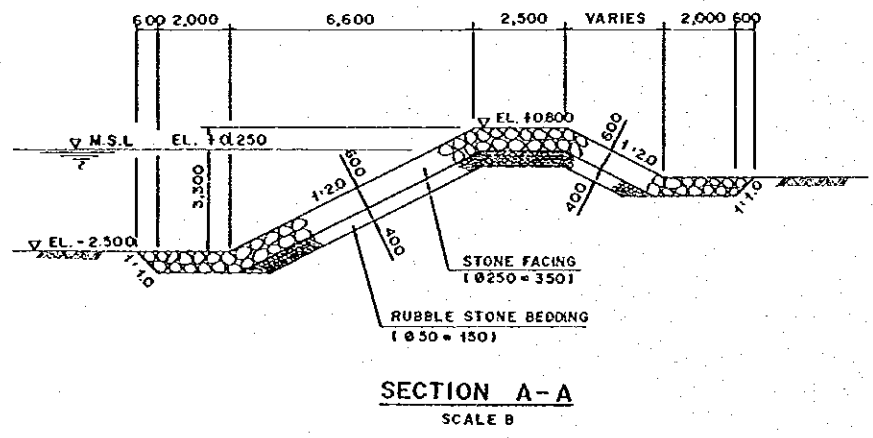
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROJECT CENTRAL JAWA
IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY/GARANG RIVER IMPROVEMENT PROTECTION WORKS FOR RIVERBANK & RIVERBED RIVER SECTION : WF-9L TO WF-3L (LEFT BANK) CROSS SECTIONS (2/2)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER PROVISION DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY DRAWING NO. WF-P1-PR-Cr-4 SHEET NO. 103
UJIAN INTERNASIONAL COOPERATION AGENCY UJI ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL and PAKCO INTERNATIONAL INC.	DESIGNED CHECKED	DATE CONTRACT NO.
CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		APPROVED



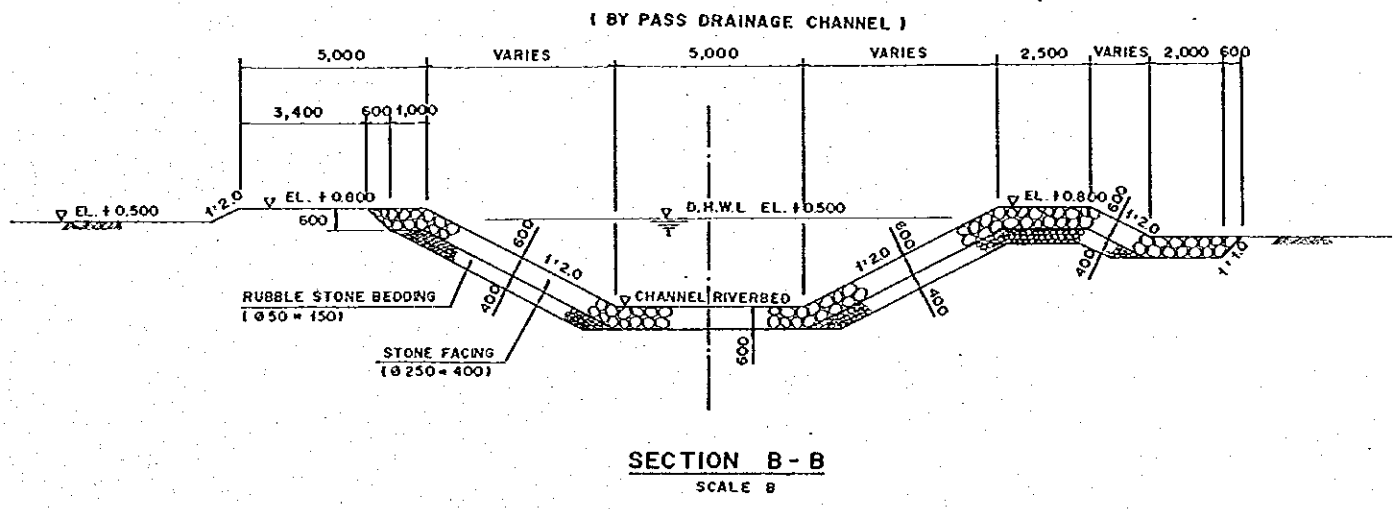
PLAN OF RIVER BANK PROTECTION (WF.0R-65.0~WF.0+32.0)  
SCALE A



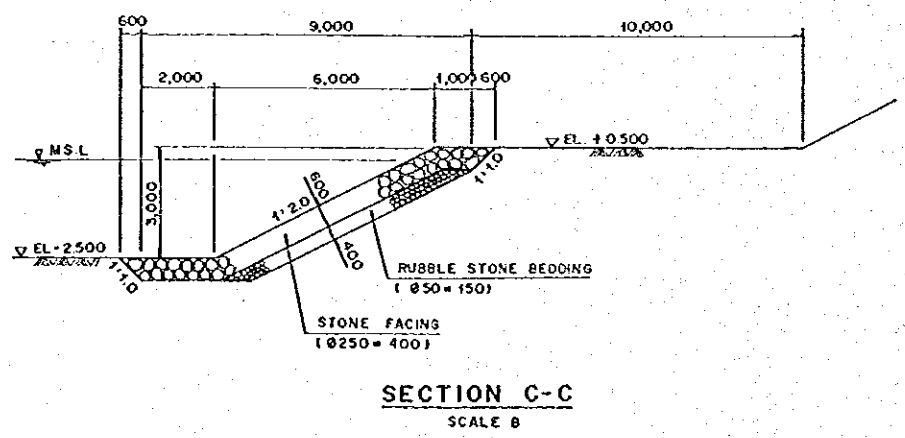
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SCALE A



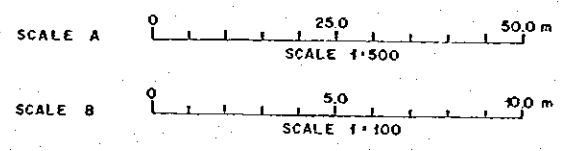
SECTION A-A  
SCALE B



SECTION B-B  
SCALE B

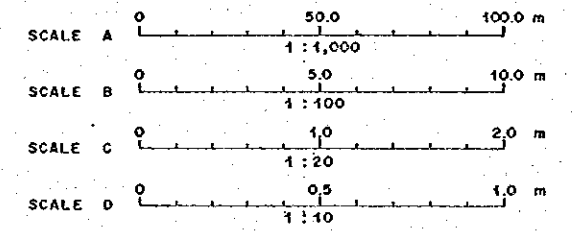
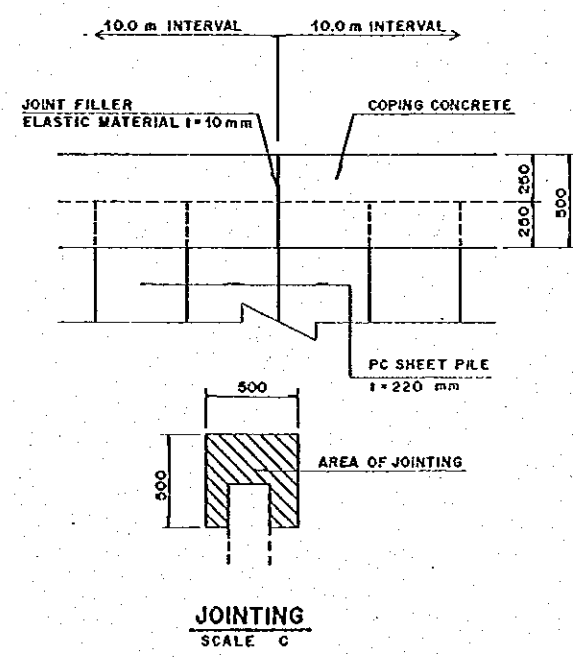
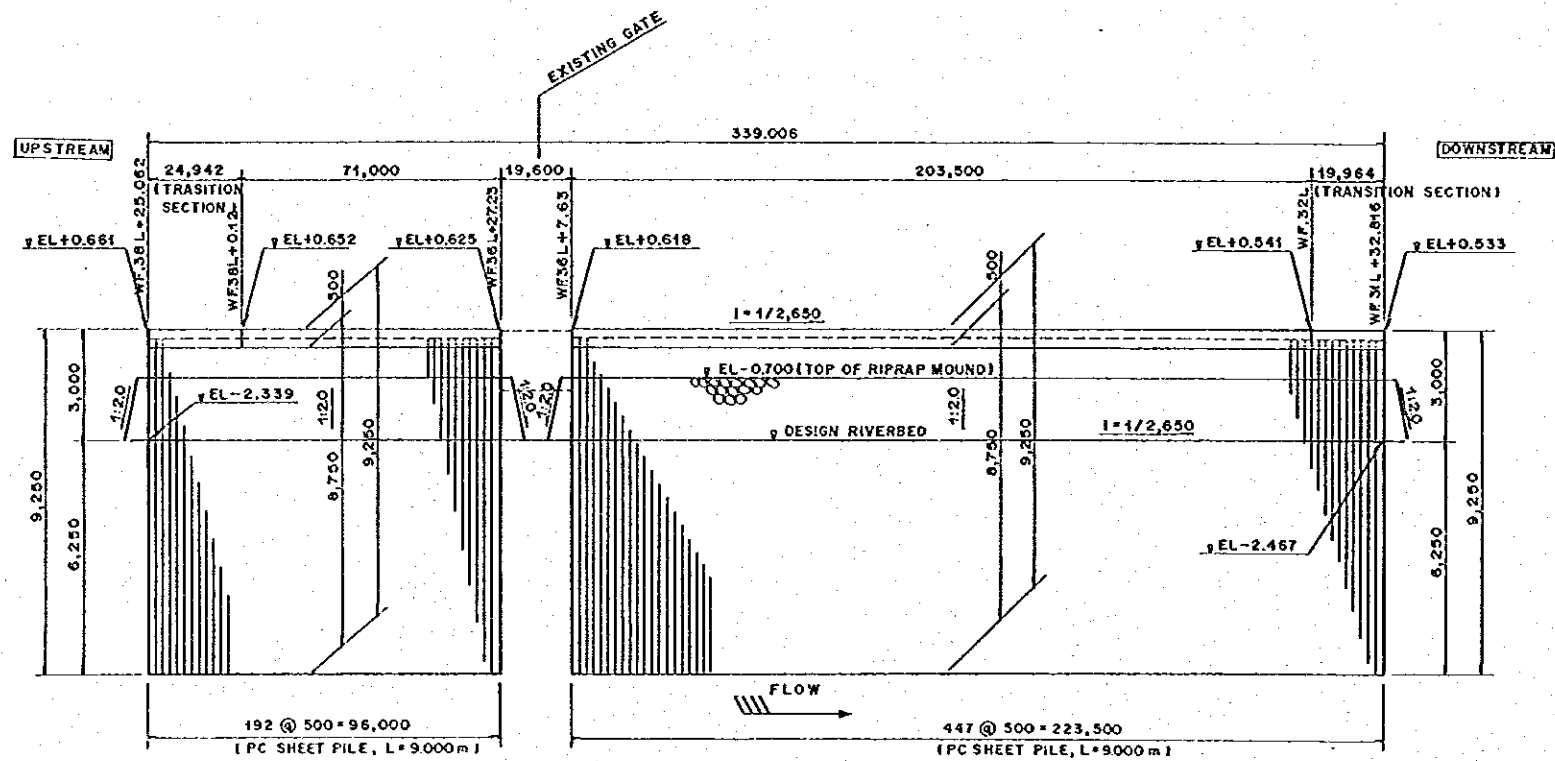
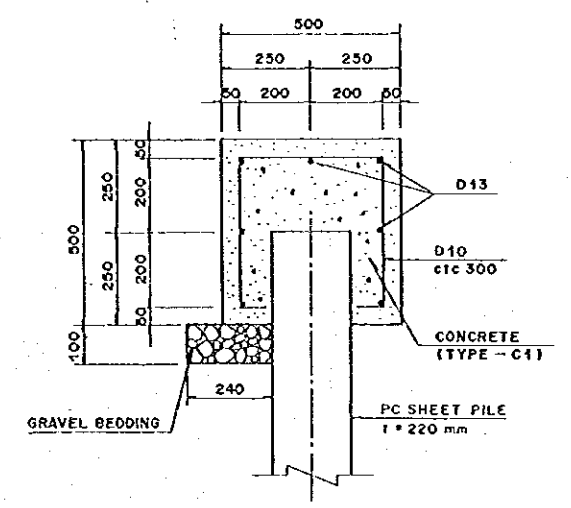
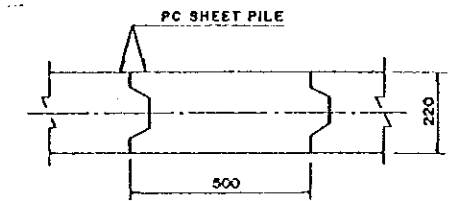
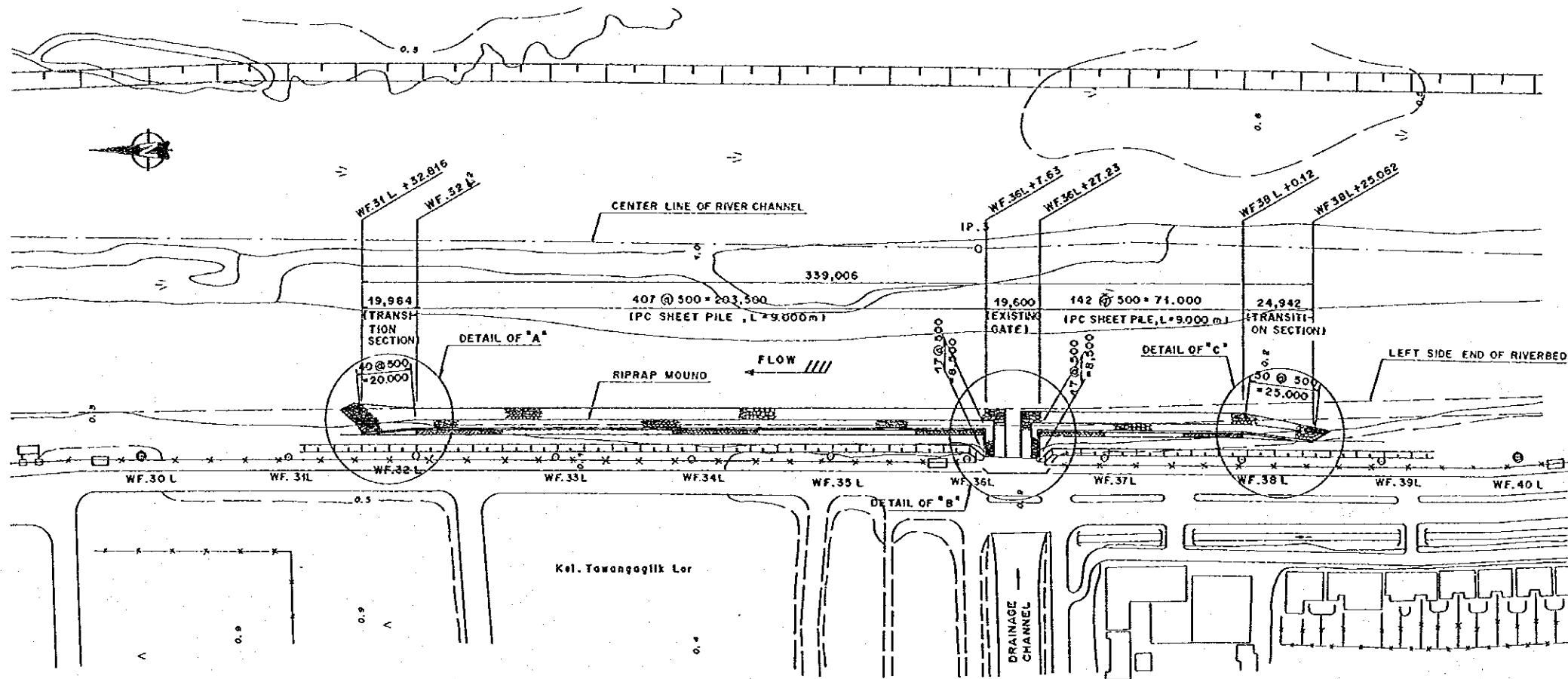


SECTION C-C  
SCALE B



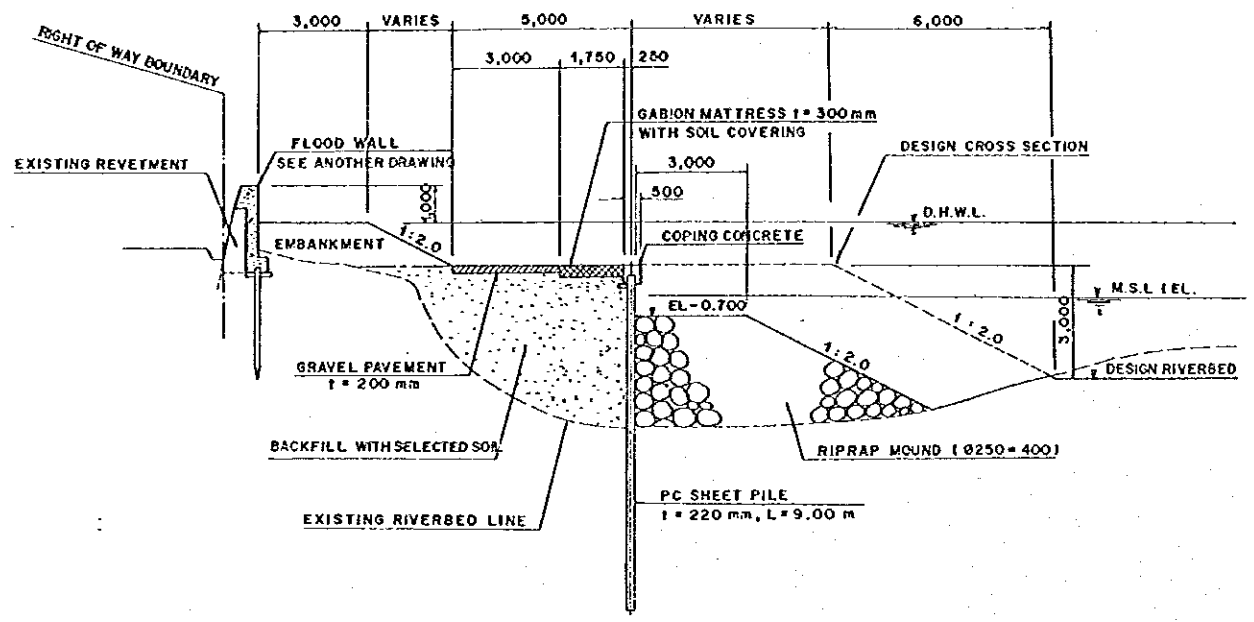
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
BRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT PROTECTION WORKS FOR RIVERBANK & RIVERBED RIVER SECTION: WF.4R TO WF.6R (RIGHT BANK) PLAN AND CROSS SECTIONS		DISTRICT SEMARANG CITY
SATAH INTERNATIONAL COOPERATIVE AGENCY CFI ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND TAYO INTERNATIONAL, INC.		DRAWING NO. WS-P1-PA-P1-5 SHEET NO. 164
CHIEF OF PLANNING AND DESIGN		DATE CONTRACT NO.
APPROVED		PROJECT MANAGER

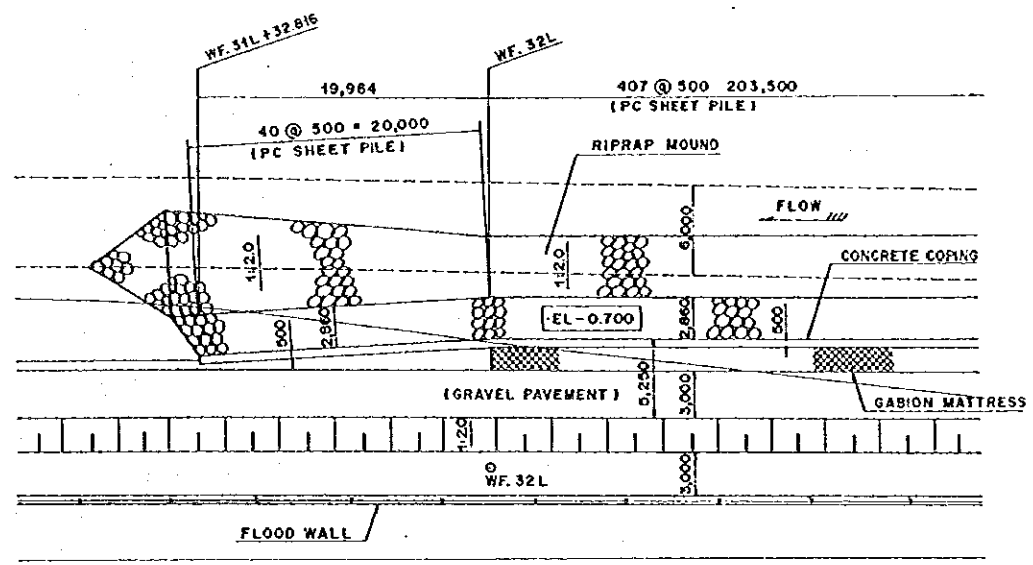


THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT PROTECTION WORKS FOR RIVERBANK & RIVERBED RIVER SECTION : WF.31L TO WF.38L (LEFT BANK) PLAN, CROSS SECTION AND STRUCTURAL DETAILS (1/2)					PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY DRAWING NO. W3-P1-PH-S1-6 SHEET NO. 105	
JAPAN INTERNATIONAL COOPERATION AGENCY CCI ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PARCO INTERNATIONAL, INC.			DESIGNED <i>[Signature]</i> CHECKED <i>[Signature]</i>	DATE CONTRACT NO.		
CHIEF OF PLANNING AND DESIGN			PROJECT MANAGER			
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED	

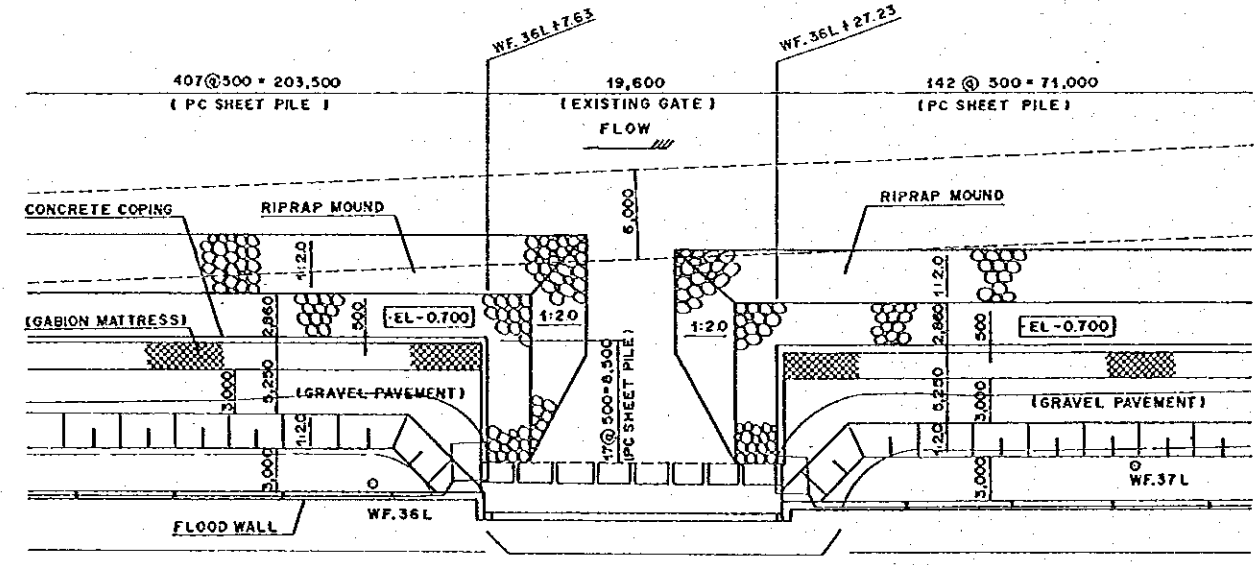




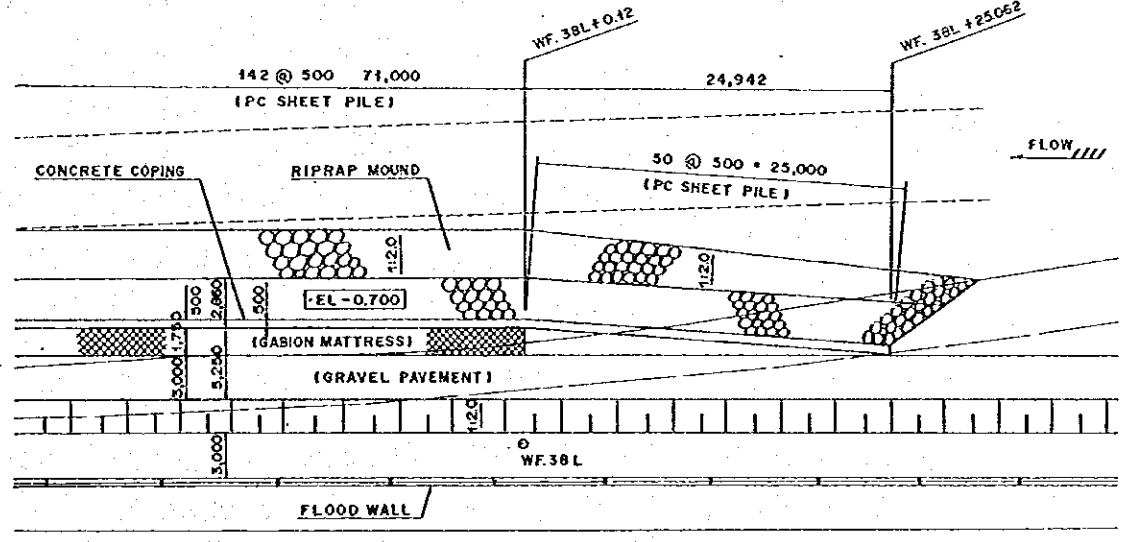
STANDARD CROSS SECTION (WF.32~WF.38)  
SCALE B



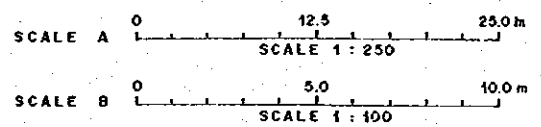
DETAIL OF "A" (DOWNSTREAM TRANSITION SECTION)  
SCALE A



DETAIL OF "B" (TRANSITION SECTION TO EXISTING GATE)  
SCALE A



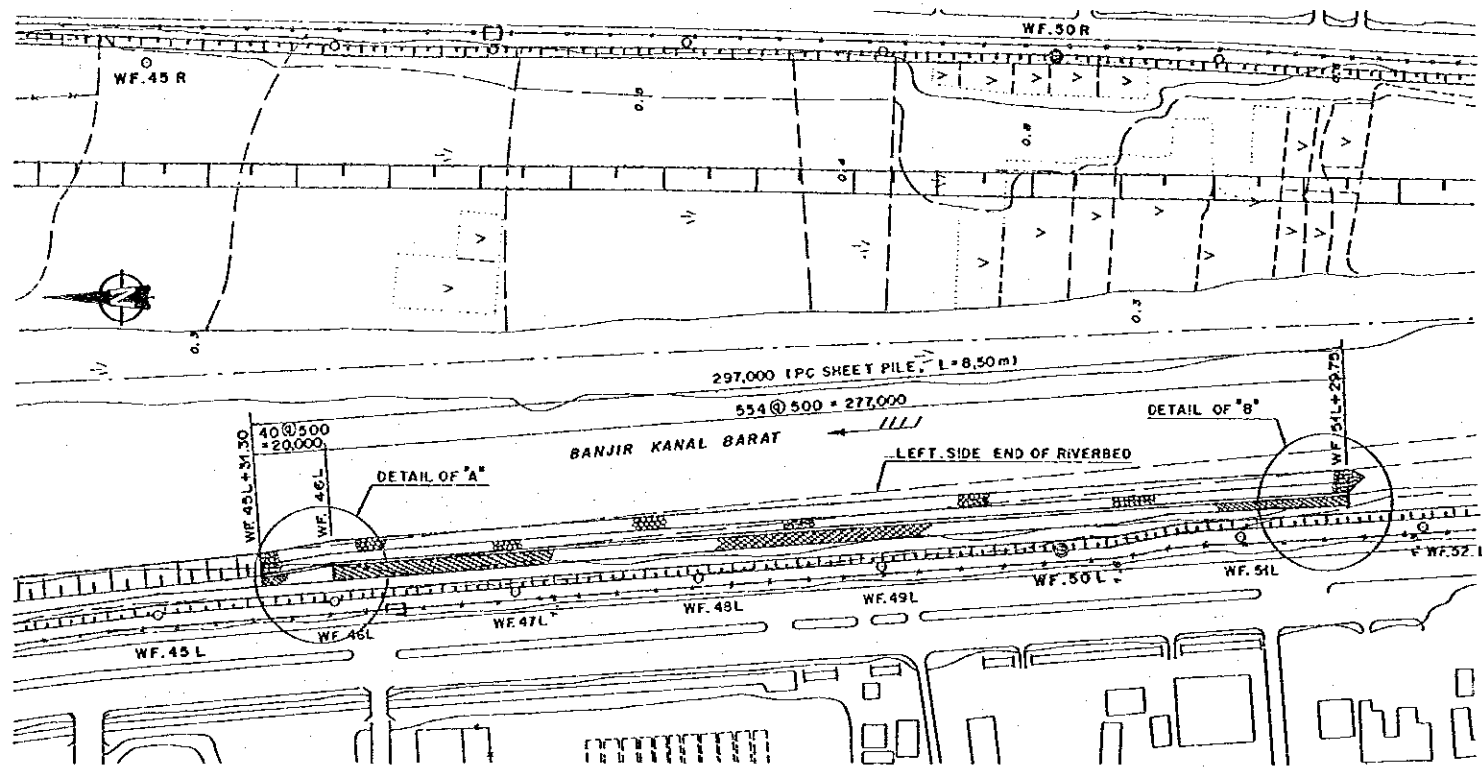
DETAIL OF "C" (UPSTREAM TRANSITION SECTION)  
SCALE A



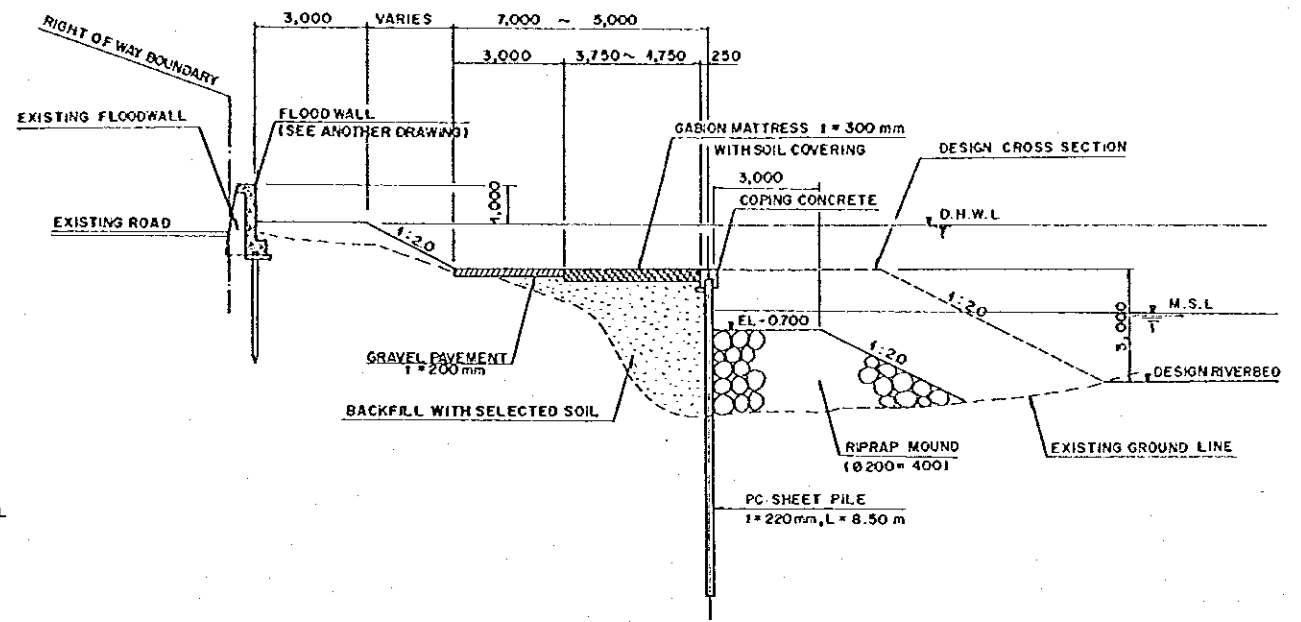
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

	THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT	PROVINCE CENTRAL JAVA
	JRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANO RIVER IMPROVEMENT PROTECTION WORKS FOR RIVERBANK & RIVERBED RIVER SECTION : WF.31L TO WF.38L (LEFT BANK) PLAN, CROSS SECTION AND STRUCTURAL DETAILS (2/2)	PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
	LAPAN INTERNATIONAL COOPERATION AGENCY CCI ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PACIFIC INTERNATIONAL INC.	DISTRIBUSI CHECKED DATE CONTRACT NO.
	CHIEF OF PLANNING AND DESIGN PROJECT MANAGER	DISTRIBUSI CHECKED DATE CONTRACT NO.

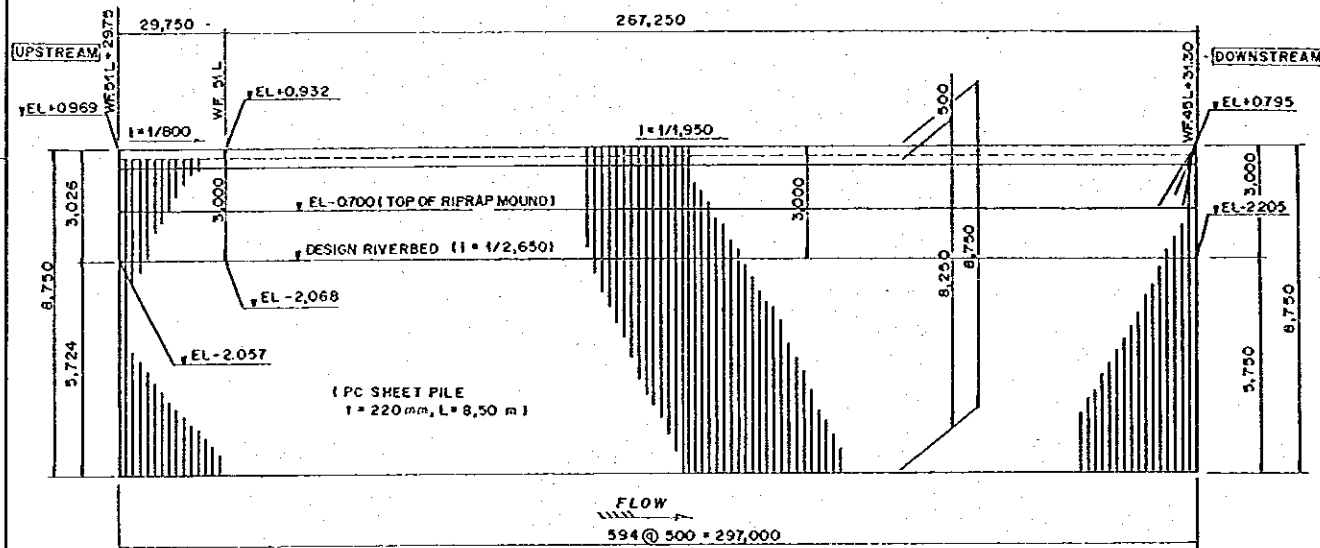




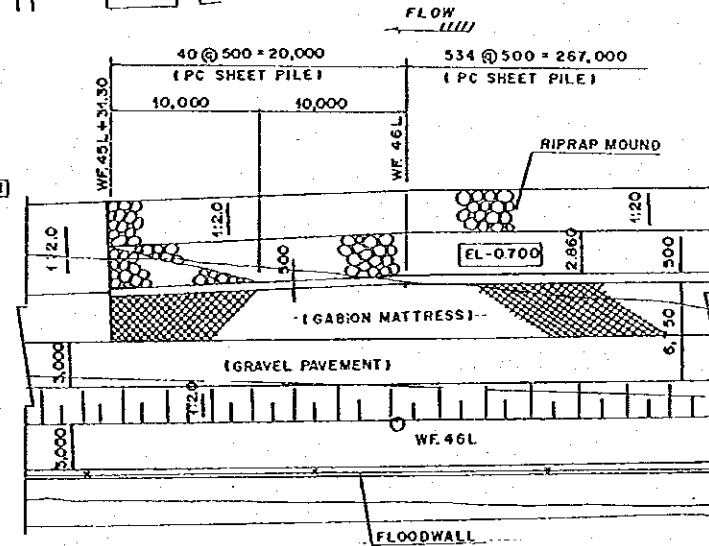
PLAN OF PC SHEET PILE WALL TYPE REVETMENT  
SCALE. A



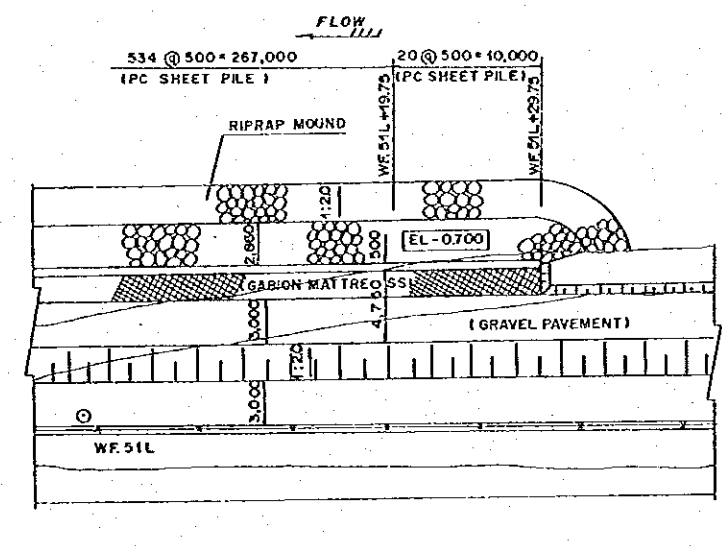
STANDARD CROSS SECTION  
SCALE. C



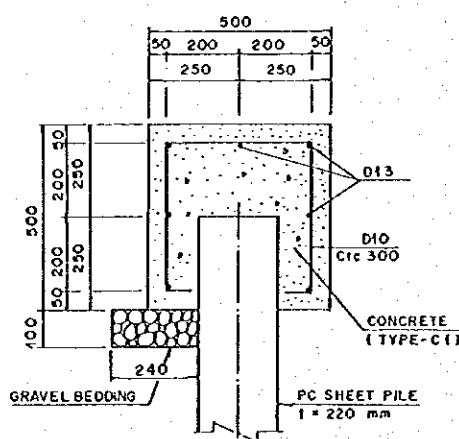
ELEVATION  
SCALE H/V C



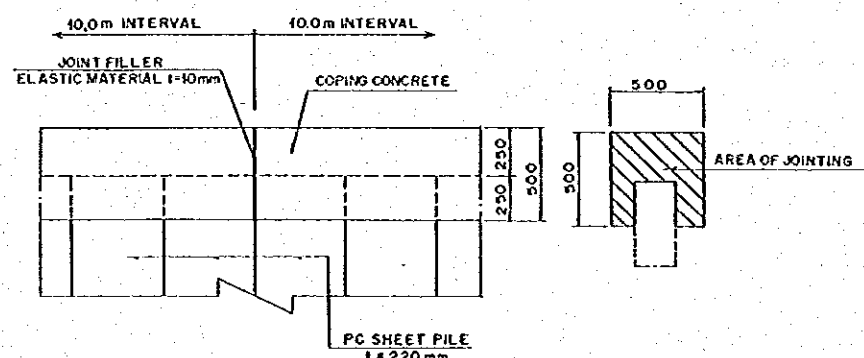
DETAIL OF 'A' (DOWNSTREAM TRANSITION SECTION)  
SCALE. B



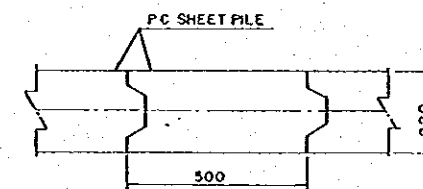
DETAIL OF 'B' (UPSTREAM TRANSITION SECTION)  
SCALE. B



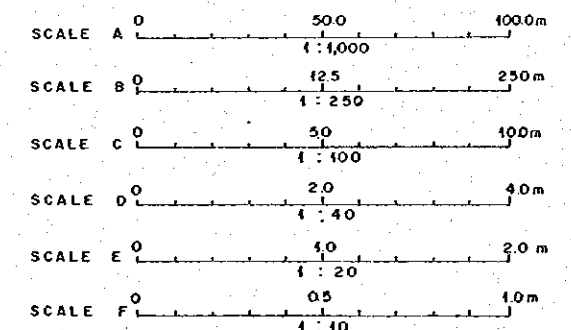
DETAIL OF COPING CONCRETE  
SCALE F



JOINTING  
SCALE. E



SECTION OF PC SHEET PILE  
SCALE. D



NOTE:  
1. THE EXISTING CONCRETE SHEET PILES SHALL BE REMOVED BEFORE THE CONSTRUCTION OF NEW REVETMENT

NO.	DATE	REVISIONS	DESIGNED	CHECKED	APPROVED

<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
COMPONENT : WEST FLOODWAY / GARANO RIVER IMPROVEMENT PROTECTION WORKS FOR RIVERBANK & RIVERBED RIVER SECTION : WF.46L TO WF.51L (LEFT BANK) PLAN, CROSS SECTION AND STRUCTURAL DETAIL S		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
DISTRICT SEMARANG CITY		DRAWING NO. W3-P1-FA-S1-8 SHEET NO. 187
JAPAN INTERNATIONAL COOPERATION AGENCY CII ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PAKSI INTERNATIONAL, INC.		DATE CONTRACT NO.
DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN		PROJECT MANAGER