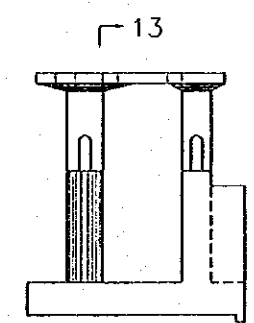
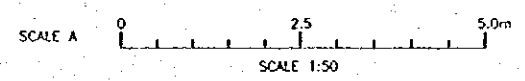


13 - 13



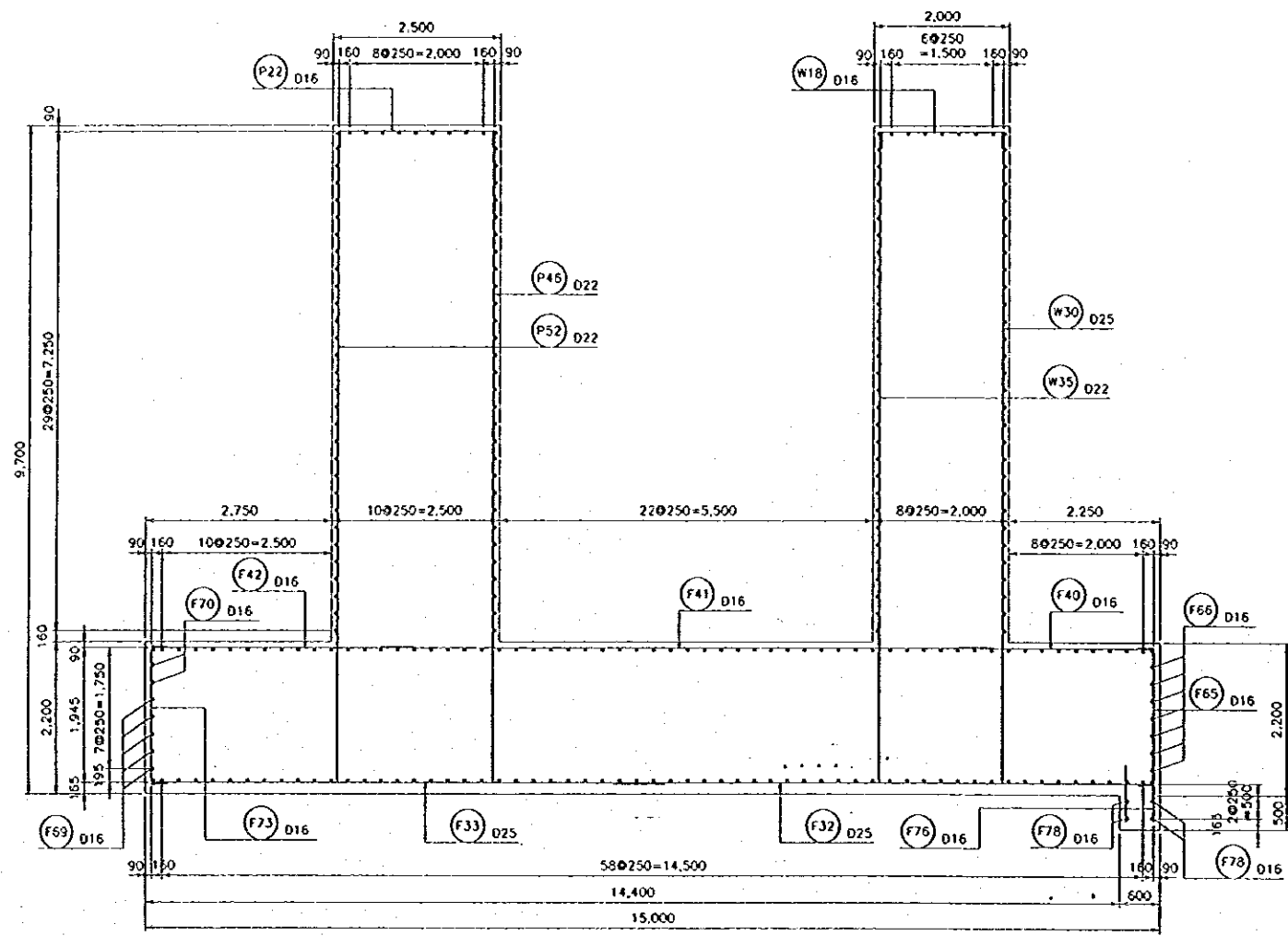
KEY PLAN



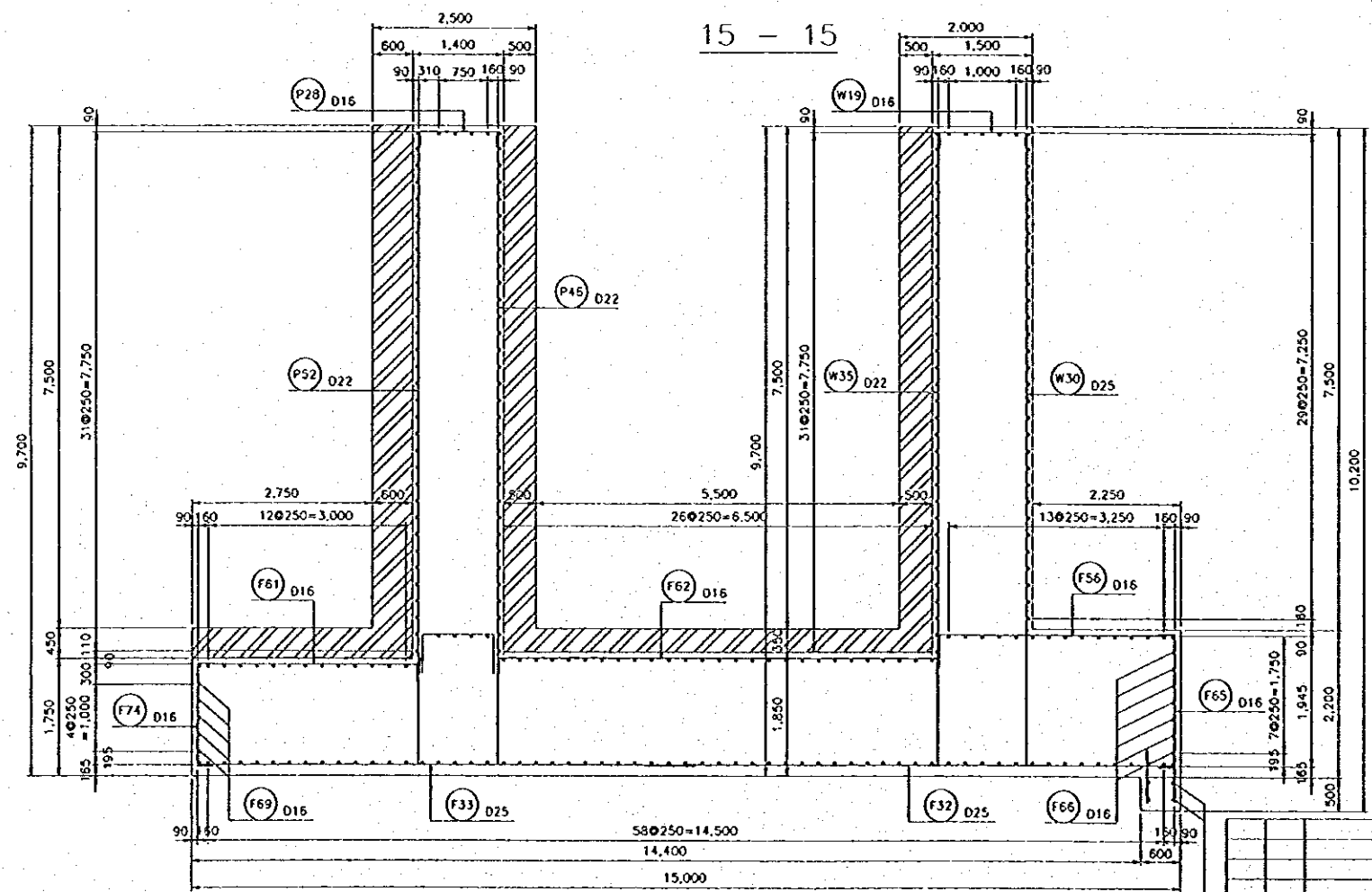
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

	THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
	IRATUNSELUMA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON REINFORCING BAR ARRANGEMENT FOR END PIER (6/15)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG - DI THE REPUBLIC OF INDONESIA
	JAPAN INTERNATIONAL COOPERATION AGENCY JICA ENGINEERING CO. LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PABCO INTERNATIONAL, INC.		DISTRICT SEMARANG CITY
	DESIGNED CHECKED	DATE CONTRACT NO.	DRAWING NO. WS - PE - WE - PE - 19 SHEET NO. 34

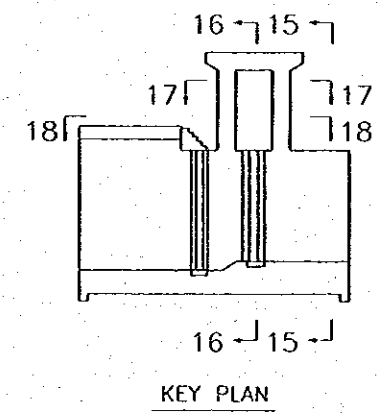




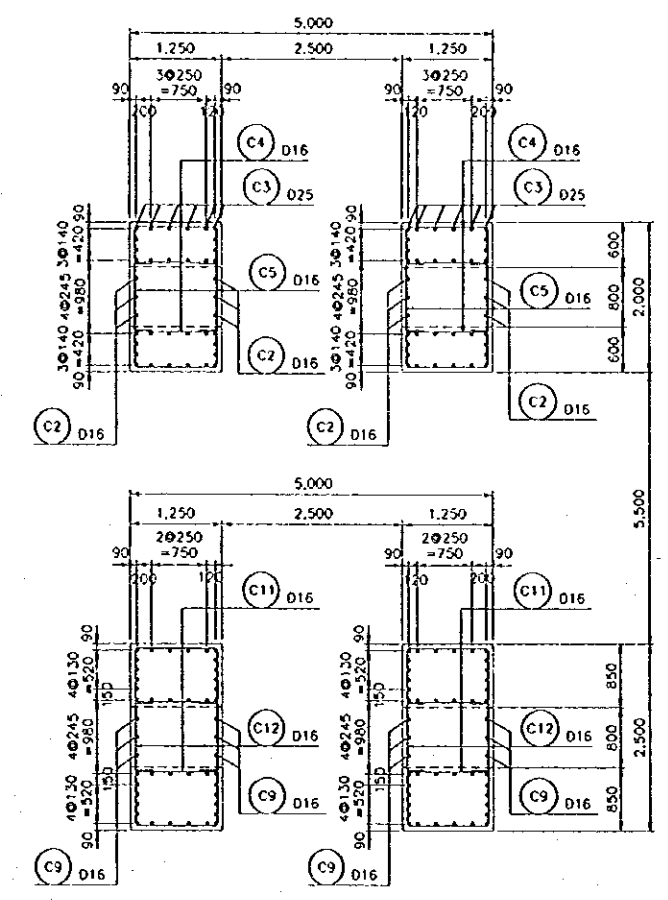
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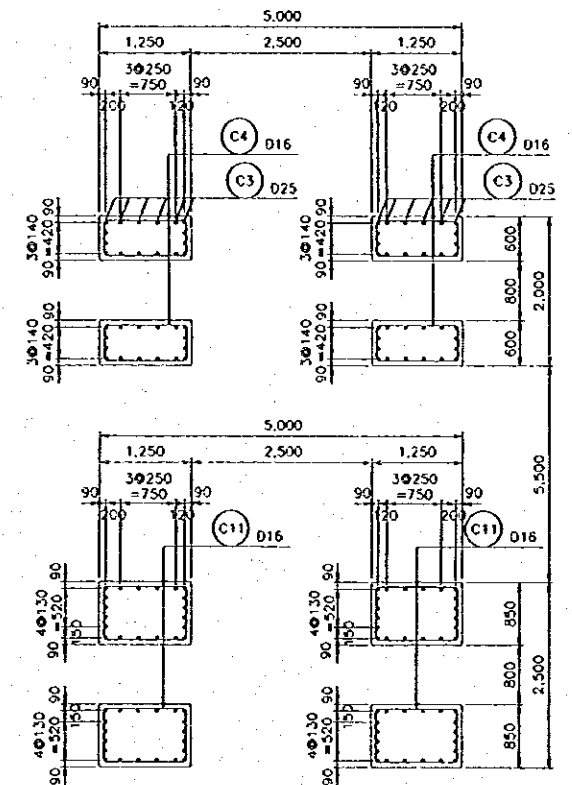
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KEY PLAN

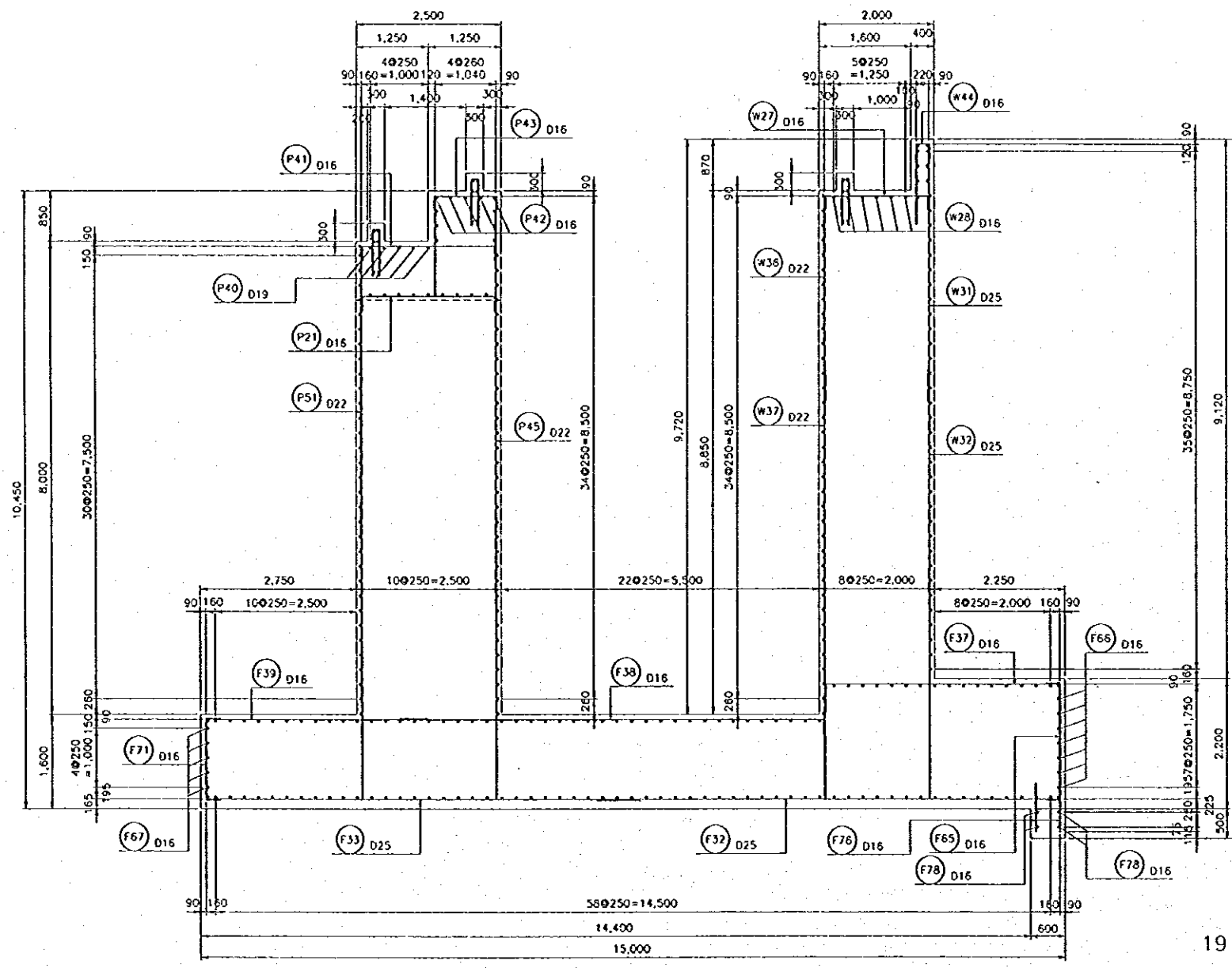


17 - 17

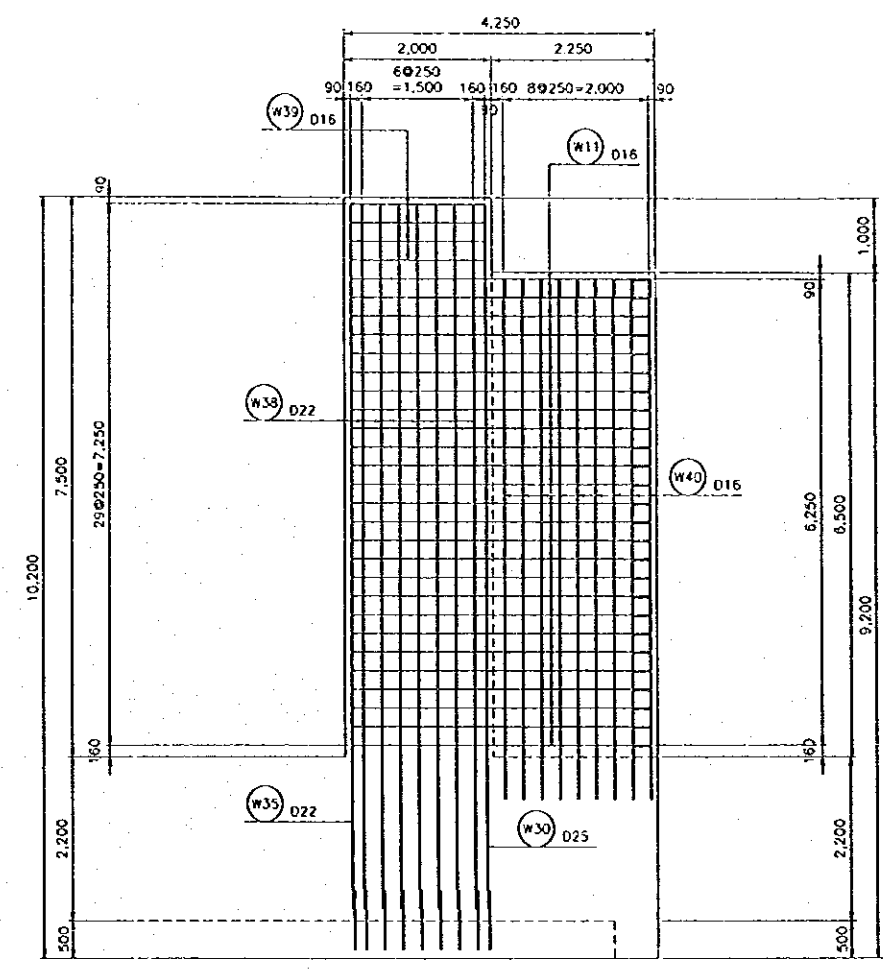


18 - 18

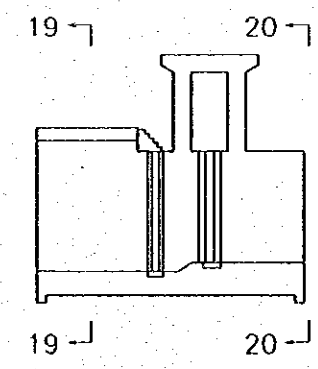
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT					PROVINCE CENTRAL JAVA
PRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON REINFORCING BAR ARRANGEMENT FOR END PIER (16/15)					PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG, IN THE REPUBLIC OF INDONESIA
LAPAN INTERNATIONAL COOPERATION AGENCY CTA ENGINEERING CO. LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL INC. LAPCO INTERNATIONAL INC.					DISTRICT SEMARANG CITY
DESIGNED: [Signature] CHECKED: [Signature]					DRAWING NO. WS - P2 - WE - R6 - 11 SHEET NO. 36
DATE: [Date] PROJECT MANAGER: [Signature]					CONTRACT NO.
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED



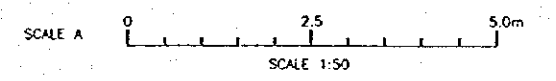
19 - 19



20 - 20

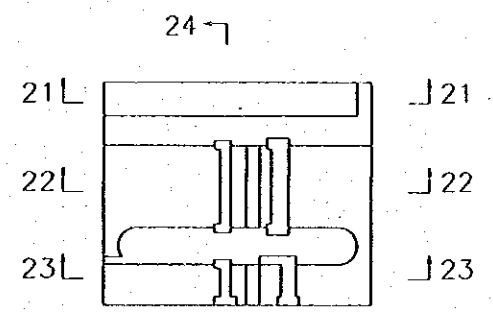
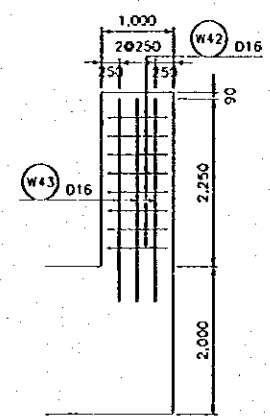
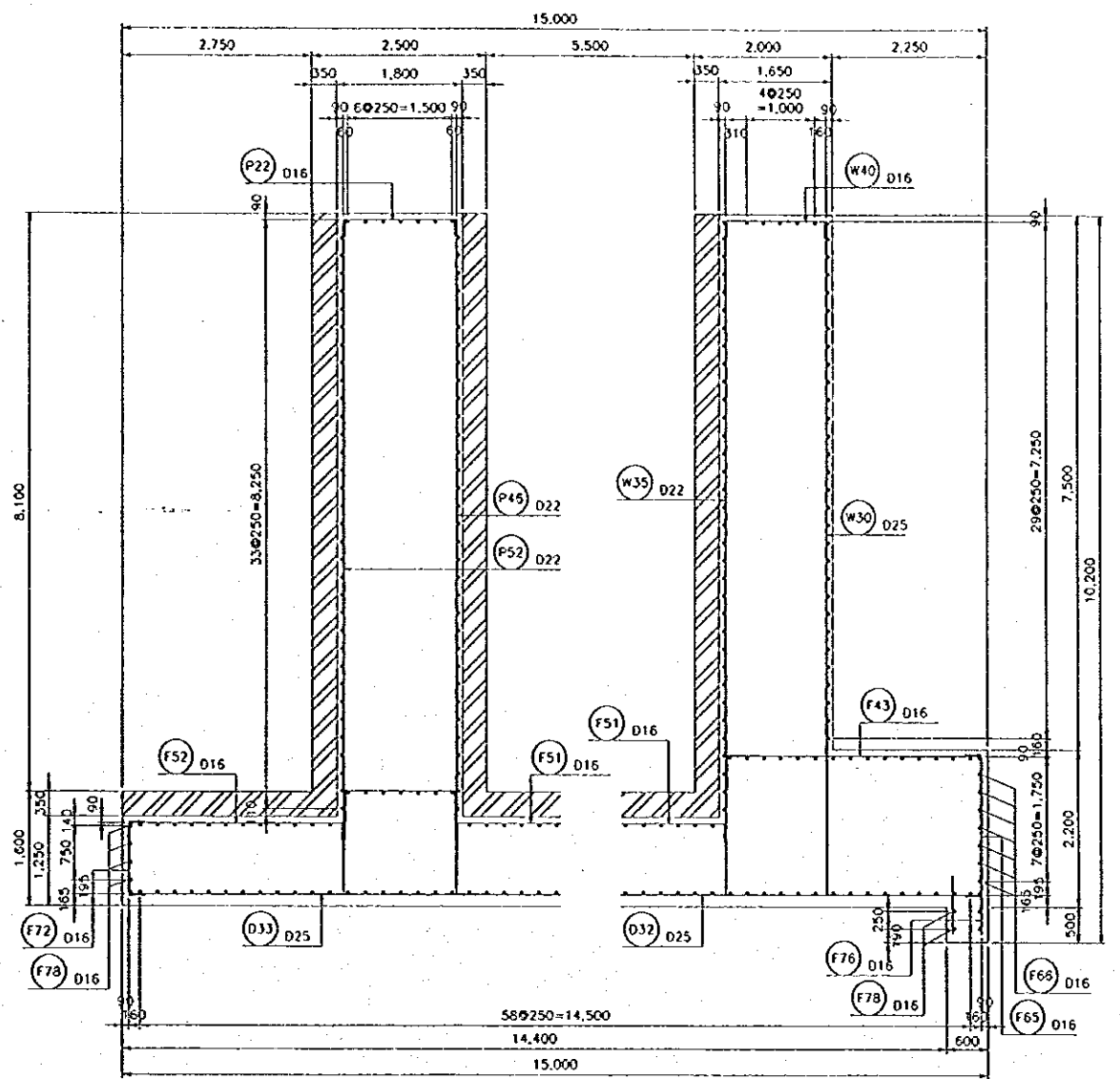
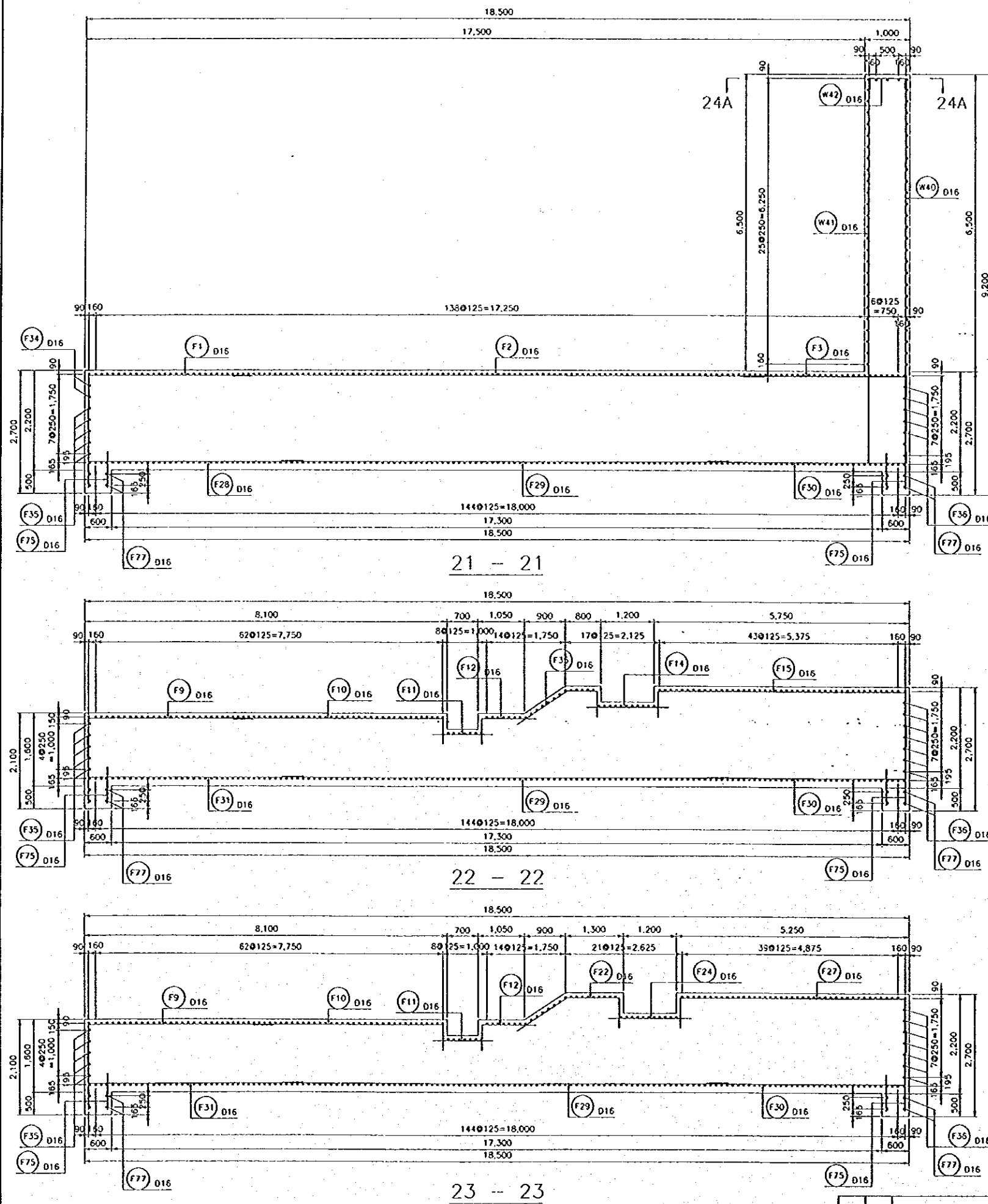


KEY PLAN



NO.	DATE	REVISIONS	DESIGNED	CHECKED	APPROVED

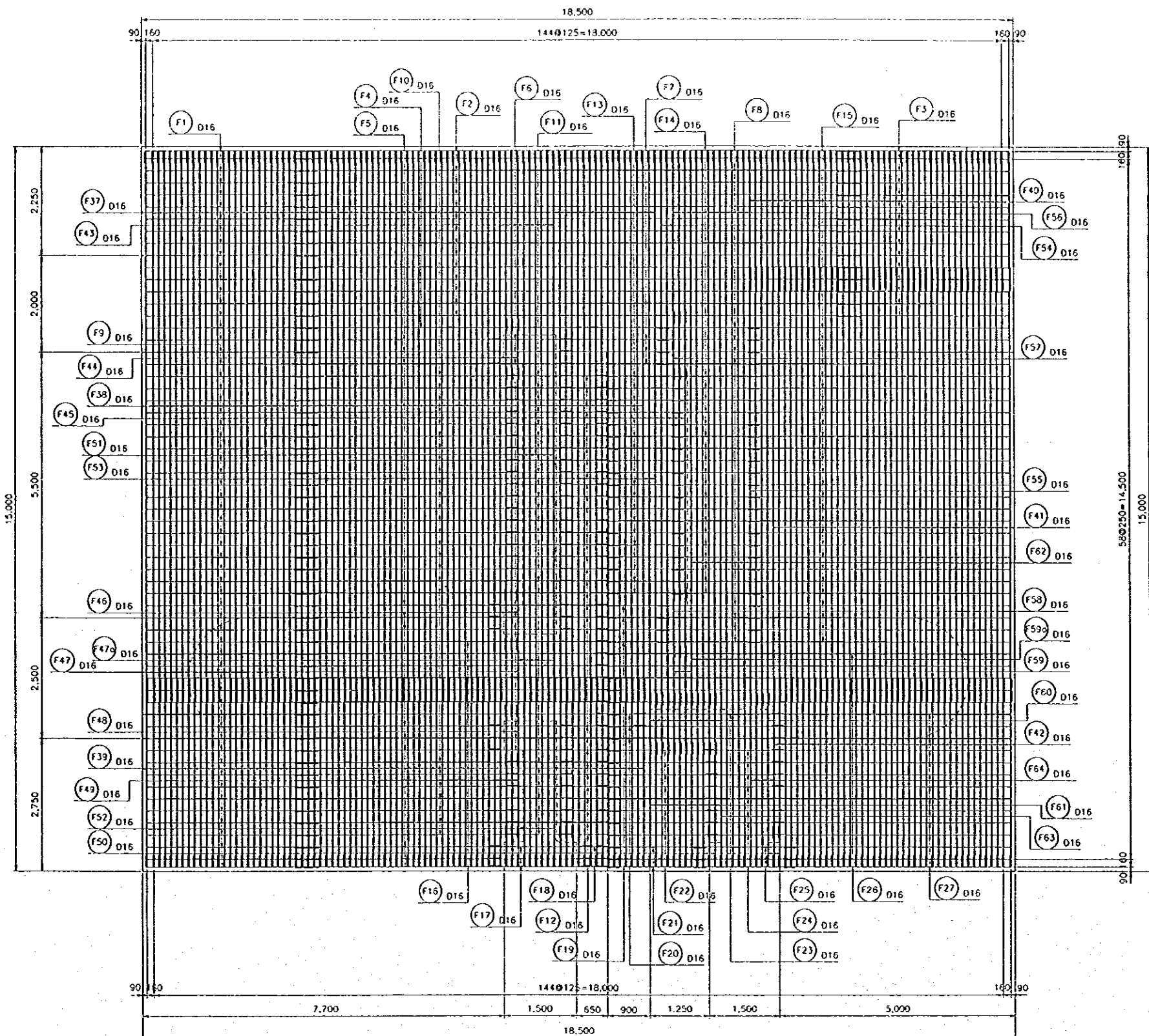
<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON REINFORCING BAR ARRANGEMENT FOR END PIER (9/15)		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 PASCO INTERNATIONAL INC.		DISTRICT SEMARANG CITY
DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		DRAWING NO. WE - PE - WE - PE - 22 SHEET NO. 37 DATE CONTRACT NO.



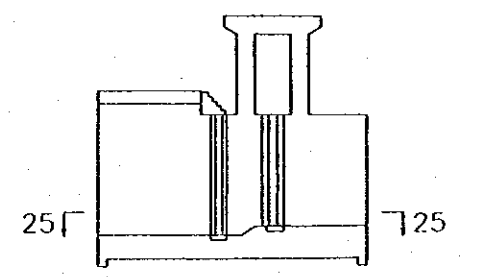
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NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

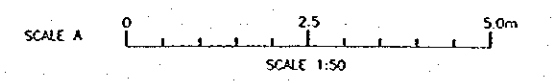
	THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT	PROVINCE CENTRAL JAVA
	JATUNSELLUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON REINFORCING BAR ARRANGEMENT FOR END PIER (10/15)	PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
	JAPAN INTERNATIONAL COOPERATION AGENCY OTE ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND TASECO ENGINEERING INC.	DISTRICT SEMARANG CITY
	DESIGNED CHECKED CROP OF PLANNING AND DESIGN PROJECT MANAGER	DATE CONTRACT NO.



25 - 25



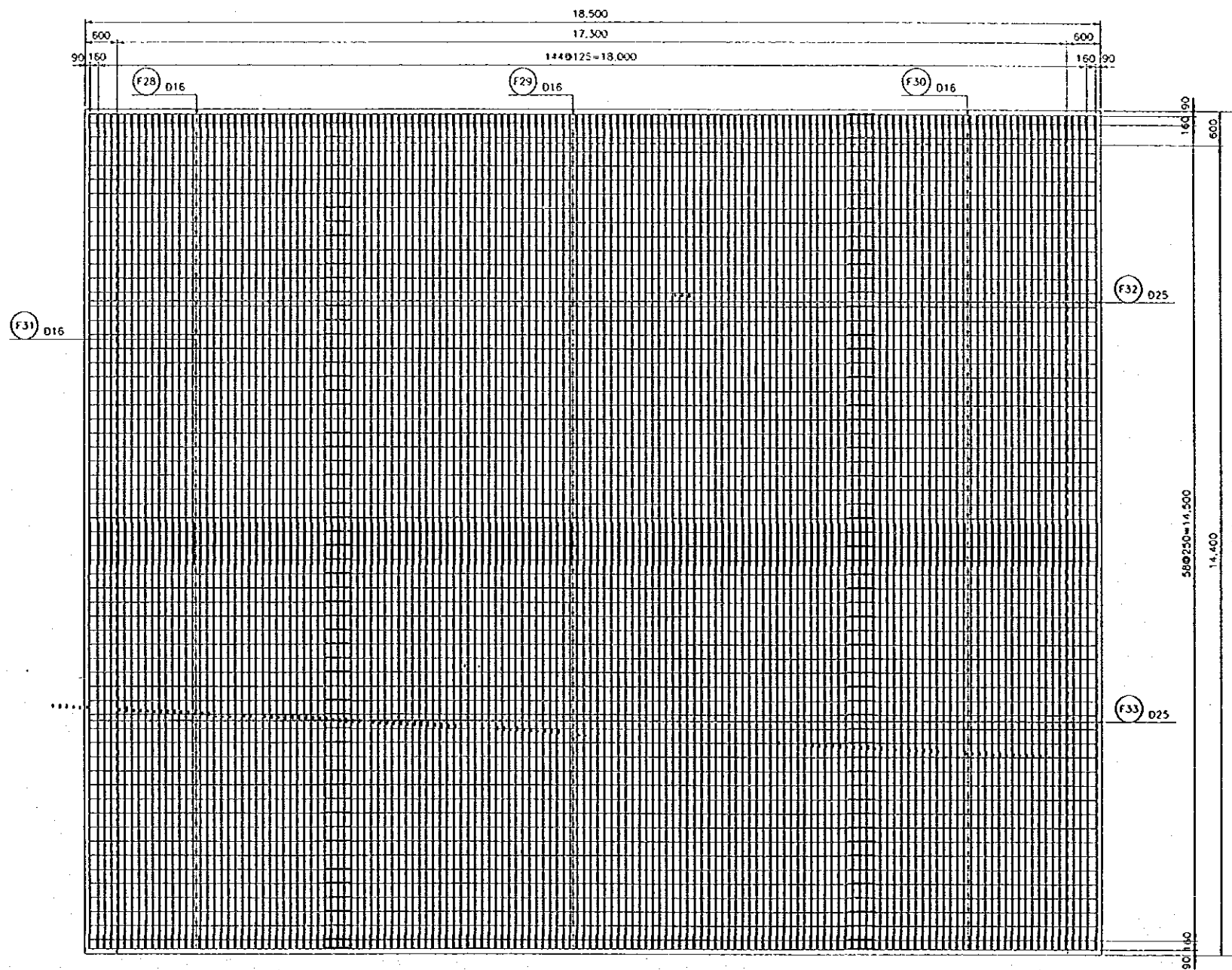
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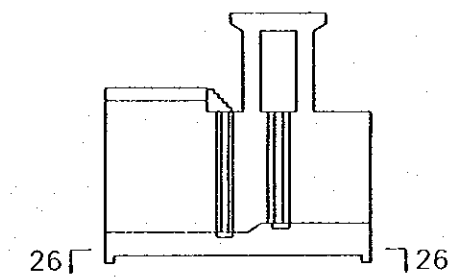
NO.	DATE	REVISIONS	ORIGINATOR	DESIGNED	APPROVED

<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAWA
JATUNSELUMA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY/GARANG RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON REINFORCING BAR ARRANGEMENT FOR END PIER (11/15)		PROJECT NAME FLOOD CONTROL, URAAN DRAINAGE AND WATER INFRASTRUCTURE DEVELOPMENT IN SEMARANG, IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY
JAWA INTERNATIONAL COOPERATION AGENCY PT. INKORINDO CO., LTD. 17 ARJUNAN VILL PACIFIC COMBUSTION INTERNATIONAL 408 JAWA INTERNATIONAL, INC.		DRAWING NO. W9 - P2 - WE - R1 - 21 SHEET NO. 39
DESIGNED CHECKED	DATE	CONTRACT NO.
CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		

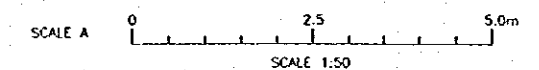




26 - 26

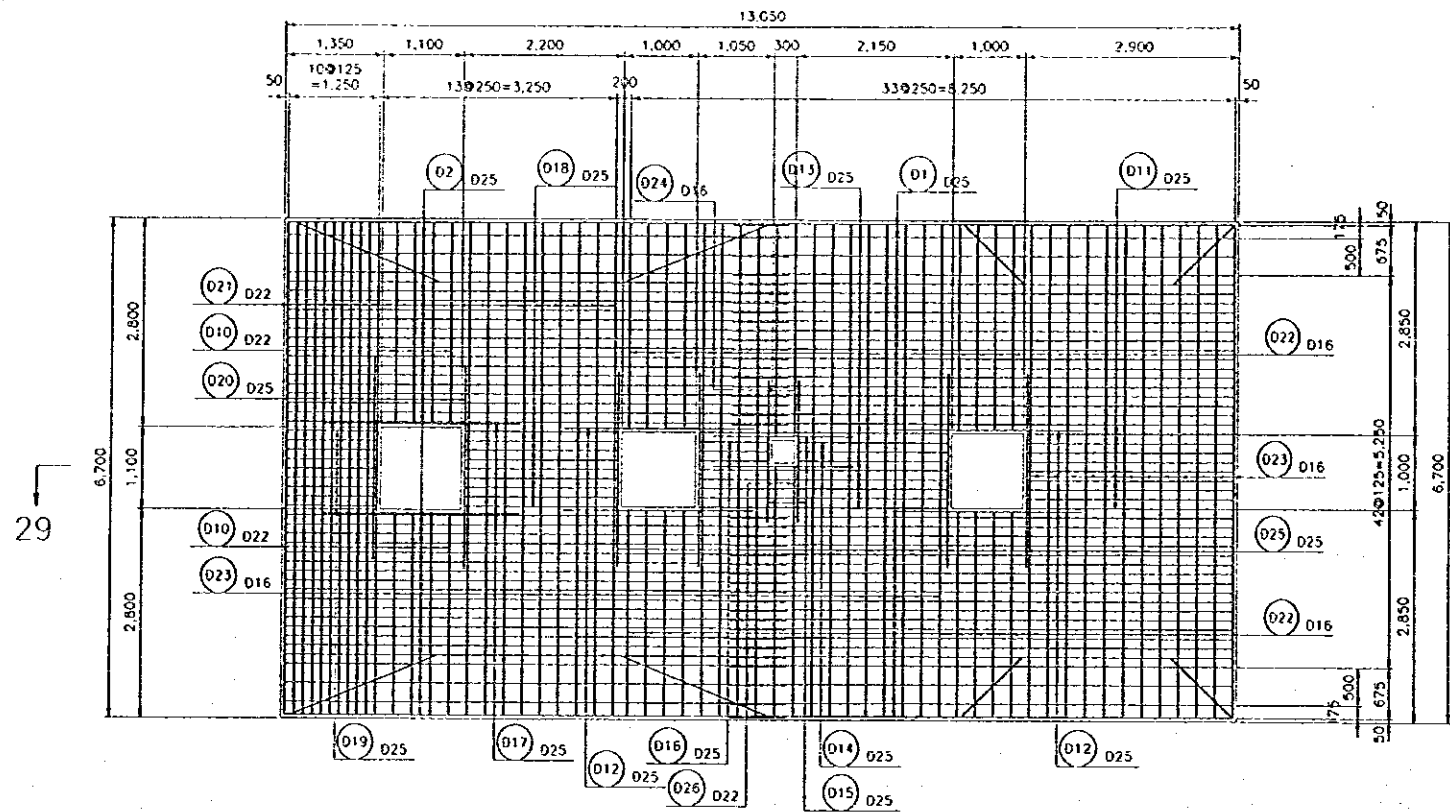


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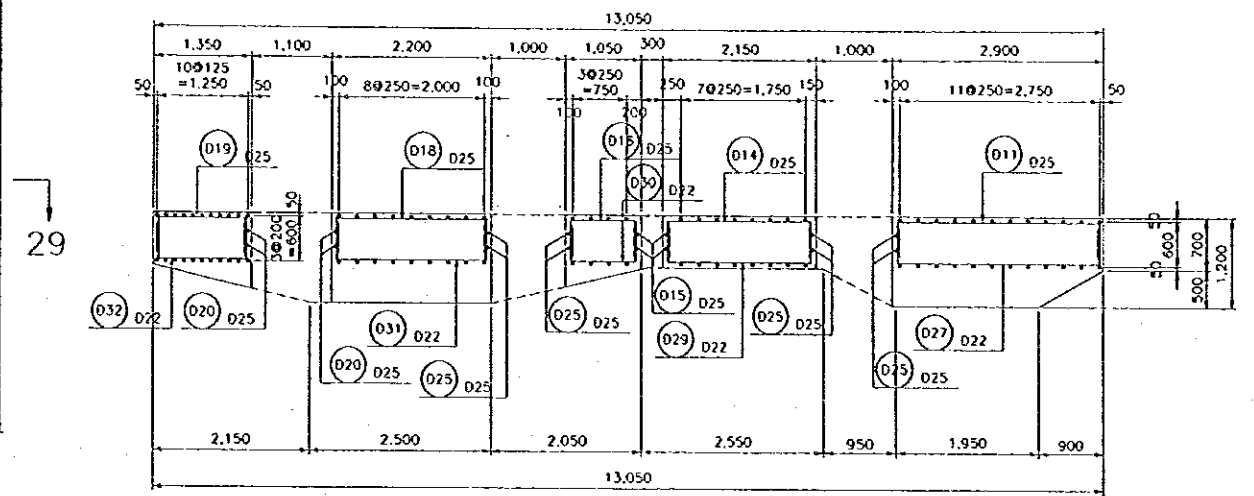


NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

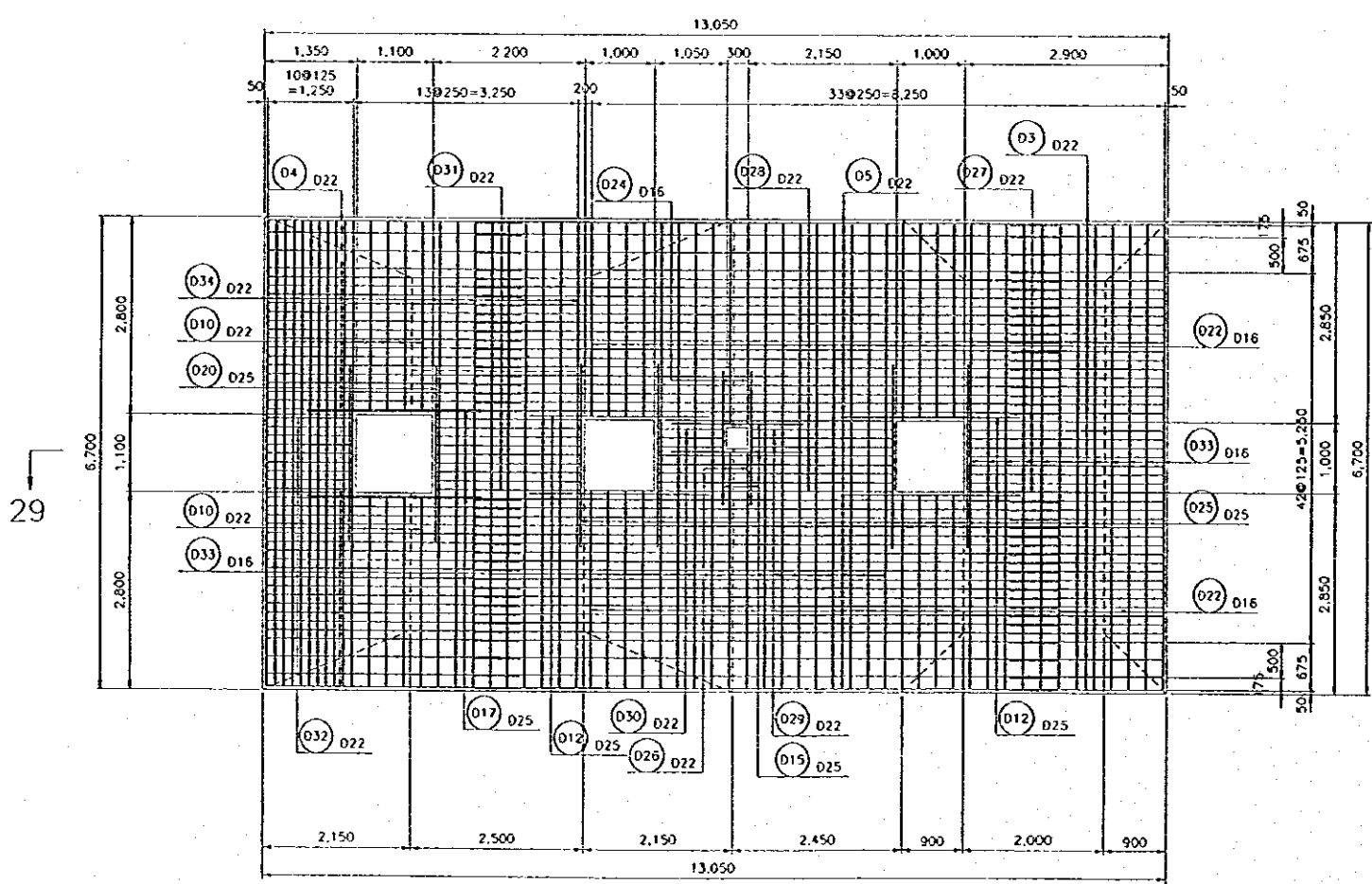
<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAWA
IRATUNSELLUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON REINFORCING BAR ARRANGEMENT FOR END PIER (12/15)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG, IN THE REPUBLIC OF INDONESIA
KEAN INTERREGIONAL COOPERATION AGENCY C/O ENGINEERING CO., LTD. - ARCHITECTURE PACIFIC CONSULTANTS INTERNATIONAL AND TAPCO, RETNESATERAL, INC.		DISTRICT SEMARANG CITY
DESIGNED CHECKED		DRAWING NO. WB - P2 - WE - R2 - 25 SHEET NO. 45
APPROVED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		DATE CONTRACT NO.



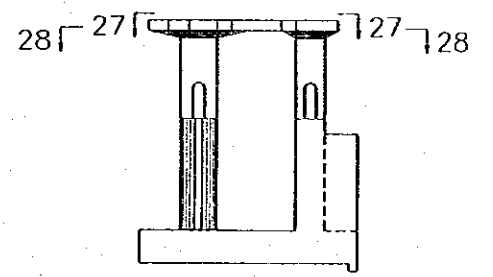
27 - 27



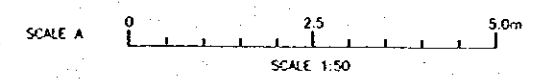
29 - 29



28 - 28



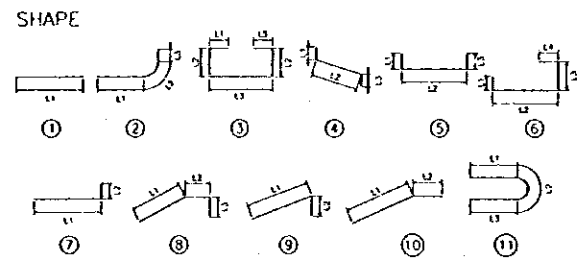
KEY PLAN



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 WEIR PIER, GATE FLOOR SLAB AND APRON REINFORCING BAR ARRANGEMENT FOR END PIER (13/15)			PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA			
DRAWING NO. WB-P2-WE-R-14 SHEET NO. 41			DISTRICT SEMARANG CITY			
DATE CONTRACT NO.			DESIGNED CHECKED			
CREEP OF PLANNING AND DESIGN PROJECT MANAGER			APPROVED			
NO.	DATE	REVISERS	ORIGINATED	DESIGNED	APPROVED	



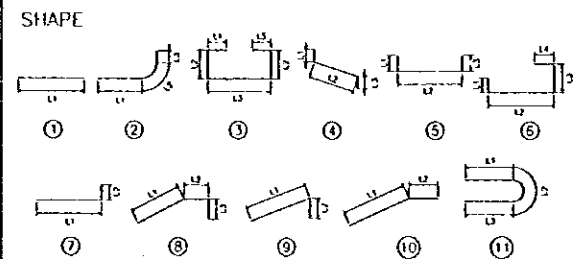
### BAR BENDING SCHEDULE



TYPE	SHAPE	DA	NUMBER	LENGTH	L1	L2	L3	L4	L5	R
		(mm)		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
P1	1	22	68	7250	7245					
P2	1	22	12	7250	7255					
P3	1	22	12	7250	7245					
P4	3	18	30	2510	278	650	1050	650	278	
P5	8	18	80	2280	278	1050	650			
P6	5	18	58	1520	278	900	278			
P7	5	18	12	1520	278	900	278			
P8	10	18	29	8300	2178	3645	2178			1250
P9	7	18	28	4330	3753	580				
P10	1	18	68	1750	1750					
P11	5	18	33	3320	580	2250	730			
P12	5	18	33	3320	580	1750	730			1250
P13	1	18	32	2190	2190					
P14	1	18	32	3180	3180					
P15	7	18	30	3440	730	2713				
P16	10	18	30	5920	1458	3525	1358			1250
P17	7	18	30	3390	2275	1730				
P18	5	18	1	1820	518	510	580			
P19	5	18	1	2820	278	2300	278			
P20	1	18	9	1820	1820					
P21	5	18	9	2820	278	2300	278			
P22	5	18	13	2820	278	2300	278			
P23	5	18	4	1820	278	800	278			
P24	5	18	3	2220	278	1950	278			
P25	1	18	3	1500	1500					
P26	5	18	5	2190	278	1820	278			
P27	5	18	4	2300	278	1820	278			
P28	5	18	6	1820	278	1300	278			
P29	5	18	3	8250	518	5950	278			
P30	7	18	6	3190	278	710	278			
P31	5	18	3	1270	278	710	278			
P32	7	18	4	3170	518	2750				
P33	7	18	2	1270	278	570				
P34	5	18	2	1270	518	450	278			
P35	5	18	8	1300	278	800	278			
P36	5	18	5	2240	278	1650	278			
P37	5	18	3	2300	278	2300	278			
P38	5	18	1	1820	278	1290	278			
P39	5	18	4	1530	278	1020	278			
P40	1	18	5	7340	7340					
P41	5	18	20	2820	278	2300	278			
P42	1	18	4	7220	7220					
P43	5	18	20	2920	278	1020	1690			
P44	8	18	8	4370	278	1850	1020	1450		
P45	1	22	20	10220	10220					
P46	1	22	30	8450	8445					
P47	7	18	4	7220	7210	278				
P48	7	18	6	7240	8280	278				
P49	7	18	2	2820	2150	470				
P50	5	18	8	3320	2330	580	278			
P51	1	22	20	8350	8345					
P51a	1	22	14	8350	8345					
P52	1	22	30	8450	8445					
P52a	1	22	14	8450	8445					
P53	7	18	3	8300	7310	580				
P54	1	18	1	7320	7320					
P55	1	18	3	1840	1840					
P56	1	18	3	2180	2180					
P57	5	18	3	820	278	300	278			
P58	1	18	2	1950	1945					
P59	1	18	12	1950	1945					
F1	7	18	17	4300	1200	3720				
F2	1	18	15	12300	12300					
F3	7	18	15	4300	3720	1200				
F4	7	18	1	8300	7810	580				
F5	7	18	12	4300	4280	580				
F6	1	18	9	1290	1290					
F7	5	18	3	3410	580	2250	580			
F8	1	18	4	2180	2180					
F9	7	18	44	4280	980	3720				
F10	7	18	28	5240	4390	580				

### BAR BENDING DETAIL

DA	a	b	L1-a-b	R
013	96	156	159	42
018	75	195	205.5	48
018	94	236	263	60
022	104	272	324	66
028	122	306	367	78
028	141	348	425.5	90
032	151	385	485.5	96

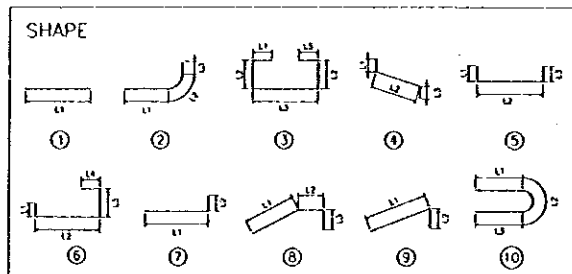


TYPE	SHAPE	DA	NUMBER	LENGTH	L1	L2	L3	L4	L5	R
		(mm)		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
F11	1	18	25	1300	1300					
F12	7	18	32	1775	580	1390				
F13	8	18	19	2590	1320	890	580			
F14	1	18	16	1300	1300					
F15	5	18	27	7300	580	5590	1200			
F16	1	18	7	10300	10300					
F17	1	18	3	2180	2180					
F18	7	18	3	1500	580	700				
F20	9	18	3	1520	1172	652				
F21	8	18	3	3140	1320	1140	580			
F22	8	18	8	3390	1300	1300	580			
F23	1	18	1	1340	1340					
F24	1	18	8	1890	1890					
F25	1	18	3	2180	2180					
F26	8	18	5	10170	1320	7650	1200			
F27	5	18	14	7220	580	6140	1200			
F28	7	18	17	5840	1225	4830				
F29	1	18	81	10200	10200					
F30	7	18	41	8540	1225	4530				
F31	7	18	14	8540	905	4530				
F32	1	25	147	7890	7875					
F33	1	25	147	7890	7875					
F34	5	18	2	1610	278	450	278			
F35	7	18	10	8210	278	7730				
F36	7	18	14	8010	278	7730				
F37	7	18	81	4530	470	4280				
F38	7	18	98	7220	7220	278				
F39	1	18	59	4000	4000					
F40	1	18	45	2880	2880					
F41	1	18	41	6000	6000					
F42	1	18	41	3900	3900					
F43	7	18	9	4200	3710	580				
F44	1	18	3	1280	1280					
F45	5	18	3	1590	580	1430	580			
F46	1	18	3	1280	1280					
F47	5	18	3	2750	580	1900	580			
F47a	5	18	8	2180	278	1900	278			
F48	1	18	3	1280	1280					
F49	5	18	3	2850	580	1700	580			
F50	7	18	10	840	840					
F51	5	18	8	8300	278	8390	278			
F52	7	18	8	3020	2740	278				
F53	5	18	2	4530	470	7380	680			
F54	1	18	2	11470	11470					
F55	7	18	4	8740	8380	680				
F56	7	18	13	1410	3580	580				
F57	1	18	3	1410	1410					
F58	1	18	3	1410	1410					
F59	5	18	3	2490	580	1200	680			
F59a	5	18	10	2590	580	1200	680			
F60	1	18	12	1280	1280					
F61	7	18	12	2840	2580	278				
F62	7	18	10	7300	378	6860	278			
F63	7	18	5	3360	3340	518				
F64	1	18	4	3580	3580					
F65	5	18	147	2430	278	1825	278			
F66	7	18	14	9570	8380	278				
F67	1	18	5	7520	7520					
F68	1	18	4	2180	2180					
F69	1	18	5	10220	10220					
F70	1	18	2	4520	4520					
F70a	5	18	2	2110	278	1500	278			
F71	5	18	33	1890	278	1325	278			
F71a	5	18	3	2140	278	1590	278			
F72	5	18	4	1820	278	1095	278			
F73	5	18	25	2430	278	1825	278			
F74	5	18	6	2030	278	1475	278			
F75	1	18	244	740	740					
F76	1	18	148	740	740					
F77	7	18	32	7570	7560	330				
F78	7	18	18	8300	8300					

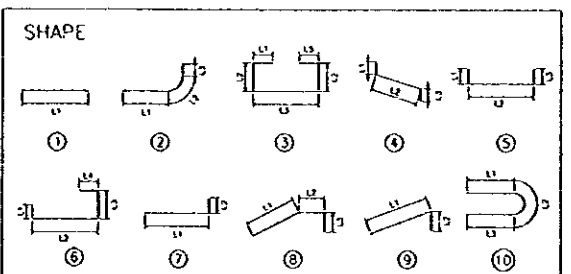
### BAR WEIGHT

TYPE	DA	LENGTH	NUMBER	WEIGHT PER M	WEIGHT PER BAR	WEIGHT	SHAPE
	(mm)	(mm)		(kg)	(kg)	(kg)	
P1	22	7250	68	3.54	23.56	1822.08	
P2	22	7250	12	1.56	11.81	141.71	
P3	22	7250	12	3.54	23.56	292.72	
P4	18	2510	30	1.56	4.54	272.38	
P5	18	2280	80	1.56	3.53	211.54	
P6	18	1520	58	1.56	2.57	137.53	
P7	18	1520	12	1.56	2.57	28.45	
P8	18	8300	29	1.56	12.43	361.92	
P9	18	4330	28	1.56	6.75	207.78	

# BAR BENDING SCHEDULE



TYPE	SHAPE	DA	NUMBER	LENGTH	L1	L2	L3	L4	L5	R
		(mm)		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
C1	1	22	52	8,300	9,300					
C2	1	18	12	4,000	4,000					
C3	2	25	12	8,875	8,875	813	750			300
C4	3	18	100	3,140	1,202	400	1,250	400	278	
C5	5	18	80	1,520	278	900	278			
C6	1	18	4	900	900					
C7	4	18	4	1,350	278	1,308	278			
C8	1	22	88	8,200	8,200					
C9	1	18	12	4,250	4,250					
C10	2	22	12	9,380	8,875	813	850			300
C11	3	18	100	3,240	1,212	850	1,250	850	278	
C12	5	18	80	1,520	278	900	278			
C13	1	18	4	900	900					
D1	7	25	40	7,300	8,333	471				
D2	7	25	40	7,300	8,333	471				
D3	7	25	40	2,500	2,198	451				
D4	7	22	40	4,120	3,898	451				
D5	1	22	40	8,470	8,470					
D6	1	18	2	2,800	2,800					
D7	8	18	2	3,250	2,154	588	518			
D8	1	18	2	3,870	3,888					
D9	8	18	2	4,850	3,388	588	518			
D10	3	22	8	8,770	471	2,847	572	2,607	451	
D11	5	25	8	3,950	471	2,716	471			
D12	1	25	8	2,800	2,800					
D13	5	25	8	4,270	471	3,298	471			
D14	5	25	3	2,800	471	1,818	471			
D15	1	25	8	2,700	2,700					
D16	5	25	3	1,800	471	818	471			
D17	1	25	4	2,700	2,700					
D18	5	25	8	2,770	471	1,808	471			
D19	5	25	8	2,180	471	1,216	471			
D20	1	25	4	2,700	2,700					
D21	5	22	30	7,400	471	6,572	451			
D22	3	18	32	6,880	471	2,730	580	2,730	471	
D23	5	18	12	7,400	471	6,500	471			
D24	3	18	4	7,080	471	2,870	580	2,870	471	
D25	1	25	8	2,800	2,800					
D26	3	22	4	7,120	471	2,822	572	2,822	451	
D27	5	22	8	3,500	471	2,722	451			
D28	5	22	8	4,270	471	3,298	471			
D29	5	22	3	2,800	471	1,818	471			
D30	5	22	3	1,780	471	818	471			
D31	5	22	8	2,870	451	1,872	451			
D32	5	22	8	2,180	471	1,218	471			



TYPE	SHAPE	DA	NUMBER	LENGTH	L1	L2	L3	L4	L5	R
		(mm)		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
D33	5	18	12	7,400	471	6,580	471			
D34	5	22	20	7,470	451	6,572	451			
W1	1	22	52	7,750	7,745					
W2	1	18	12	7,570	7,565					
W3	1	25	12	7,840	7,836					
W4	3	18	120	2,470	278	400	1,250	400	278	
W5	5	18	116	1,520	278	900	278			
W6	5	18	12	1,520	278	900	278			
W7	1	18	30	8,300	8,300					
W8	1	18	30	10,000	10,000					
W9	1	18	30	2,800	2,800					
W10	5	18	26	3,100	2,720	800	278			
W11	7	18	28	4,340	4,080	278				
W12	7	18	30	8,300	5,950	730				
W13	1	18	22	2,180	2,180					
W14	5	18	25	3,970	580	2,250	730			
W15	1	18	34	1,730	1,730					
W16	7	18	33	8,300	7,570	580				
W17	5	18	26	2,800	278	1,870	278			
W18	5	18	6	1,800	278	1,300	278			
W19	5	18	5	2,240	278	1,420	278			
W20	1	18	2	8,110	278	5,280	278			
W21	7	18	5	8,820	278	8,540				
W22	1	18	5	5,520	5,520					
W23	7	18	1	4,270	278	4,530				
W24	5	18	1	1,870	278	2,250	278			
W25	7	18	1	1,300	278	1,680				
W26	5	18	27	2,380	278	1,820	278			
W27	7	18	6	7,300	278	8,810				
W28	1	18	12	6,820	8,820					
W29	1	25	20	4,300	4,300					
W30	1	25	28	7,520	7,515					
W31	1	25	88	4,970	4,970					
W32	1	18	3	8,620	8,620					
W33	1	22	38	8,450	8,445					
W34	1	22	28	7,200	7,200					
W35	1	22	28	3,500	3,500					
W36	1	22	28	7,200	7,200					
W37	1	22	7	8,400	8,400					
W38	1	22	7	8,400	8,400					
W39	5	18	4	2,380	278	1,820	278			
W40	1	18	8	8,200	8,200					
W41	1	18	12	8,400	8,400					
W42	5	18	8	1,300	278	800	278			
W43	7	18	3	2,750	2,600	278				
W44	4	18	29	1,580	1,580	200	278			

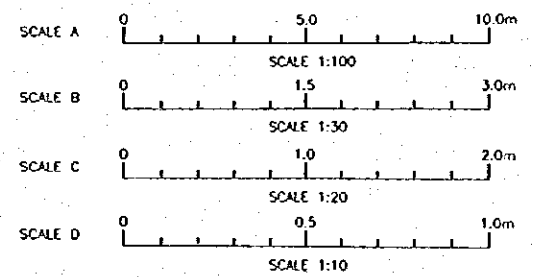
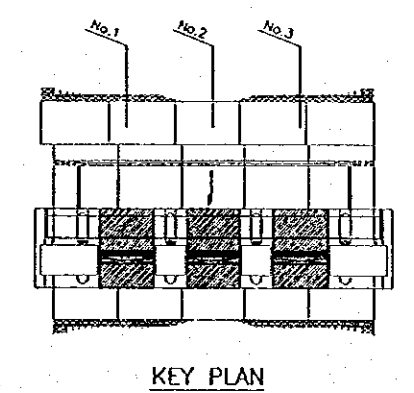
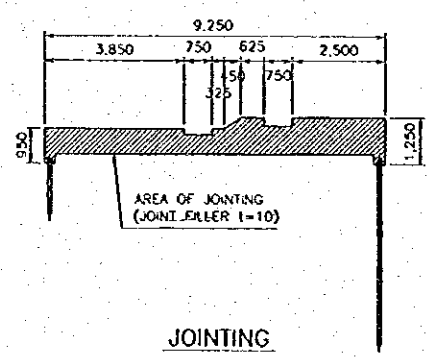
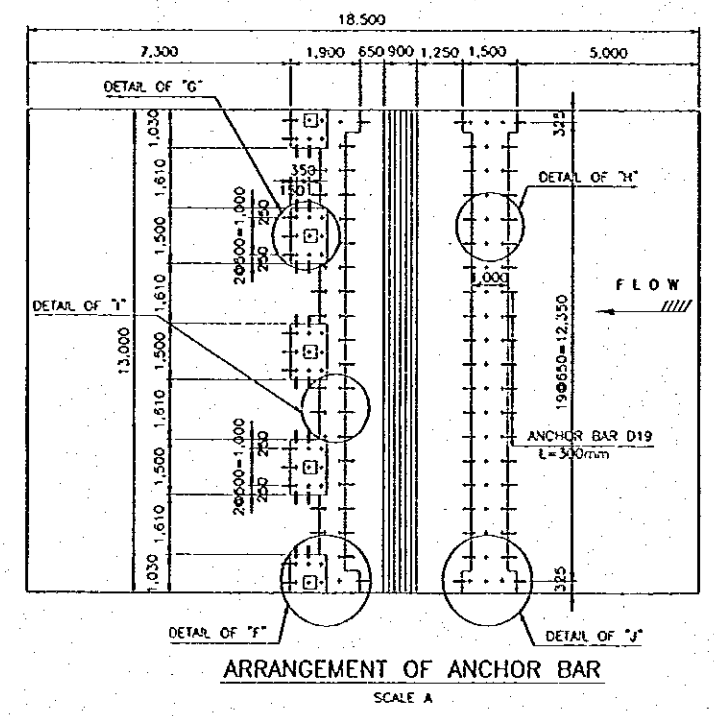
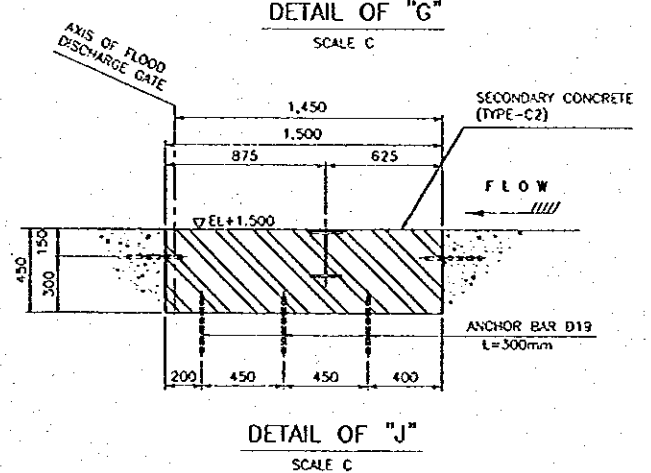
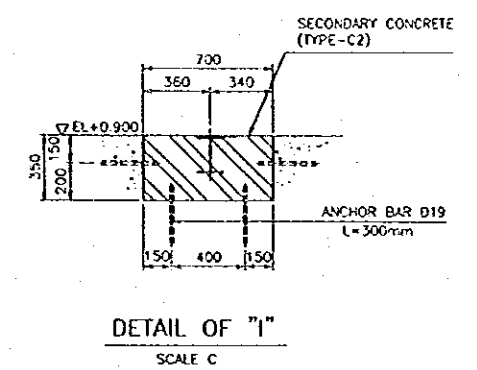
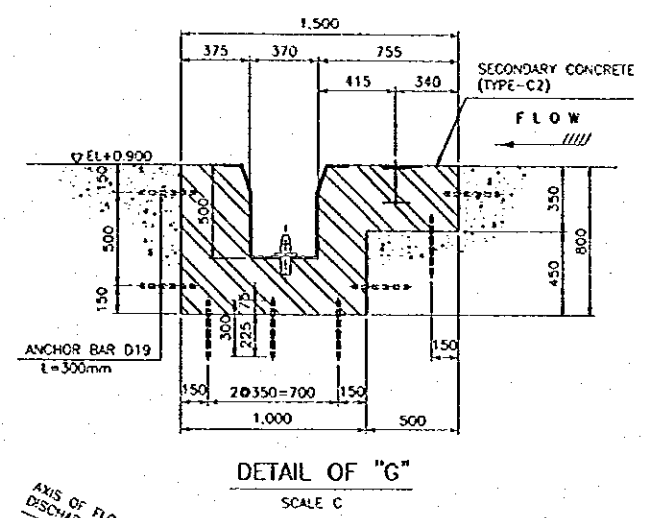
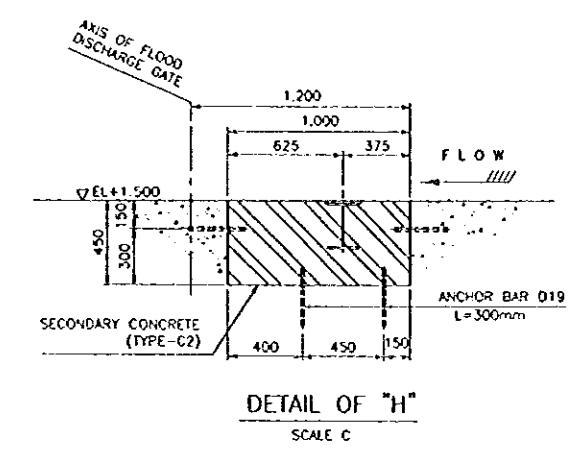
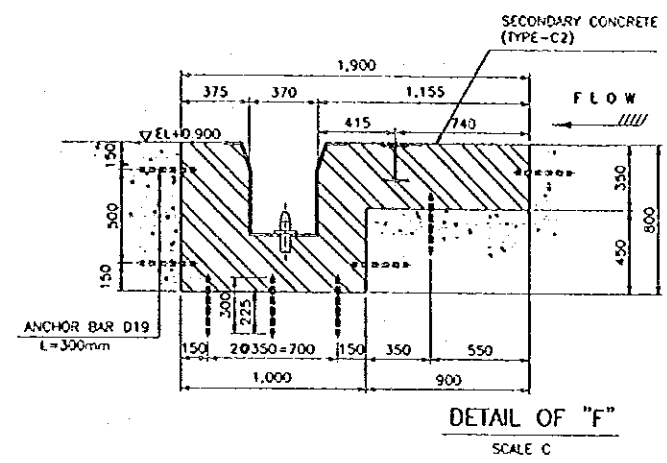
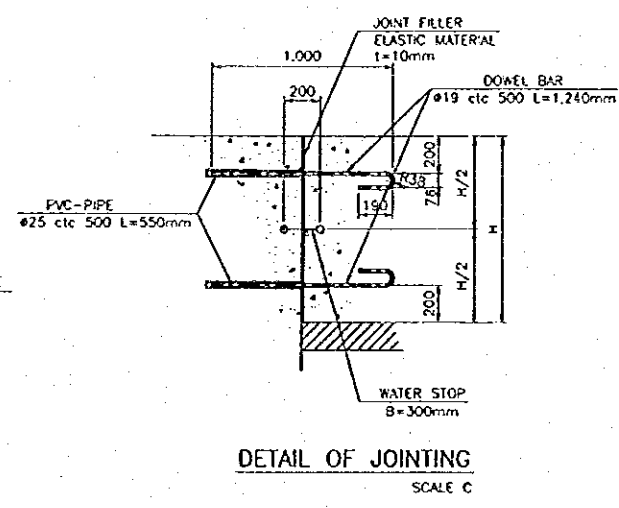
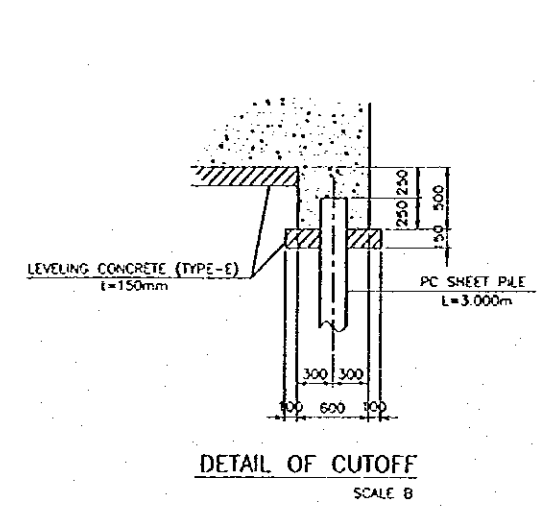
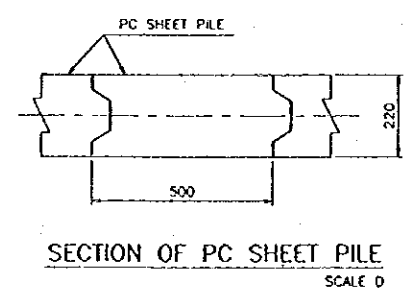
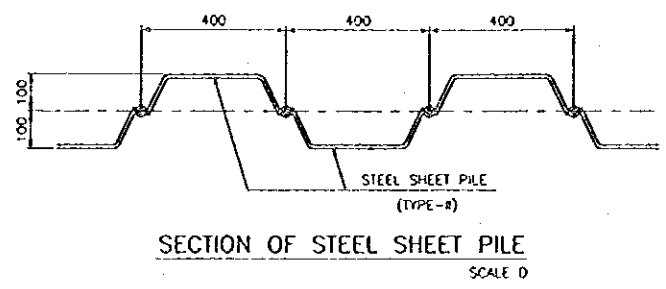
# BAR WEIGHT

TYPE	DA	LENGTH	NUMBER	WEIGHT	WEIGHT	WEIGHT	SHAPE
	(mm)	(mm)		PER M <sup>2</sup>	PER BAR	kg	
C1	22	9,300	52	3.24	27.36	1422.72	
C2	18	4,000	12	1.56	6.30	76.20	
C3	25	9,375	12	3.88	36.98	478.17	
C4	18	3,140	100	1.56	4.30	493.34	
C5	18	1,520	80	1.56	2.37	142.27	
C6	18	900	4	1.56	1.53	6.12	
C7	18	1,350	4	1.56	3.04	12.17	
C8	22	9,200	88	3.24	27.36	1390.88	
C9	18	4,250	12	1.56	6.32	75.82	
C10	22	9,380	12	3.24	30.04	360.42	
C11	18	3,540	100	1.56	5.98	597.84	
C12	18	1,520	80	1.56	2.37	142.27	
C13	18	900	4	1.56	1.53	6.12	
D1	25	7,300	40	3.38	29.05	1162.16	
D2	25	7,300	40	3.38	29.05	1162.16	
D3	25	2,500	40	3.38	10.43	417.80	
D4	22	4,120	40	3.04	12.52	500.99	
D5	22	8,470	40	3.04	25.57	1022.68	
D6	18	2,800	2	1.56	4.15	8.30	
D7	18	3,250	2	1.56	5.13	10.26	
D8	18	3,570	2	1.56	6.04	12.07	
D9	18	4,850	2	1.56	7.92	14.24	
D10	22	8,770	8	3.24	26.08	164.95	
D11	25	3,880	9	3.38	14.57	131.10	
D12	25	2,800	8	3.38	10.35	82.78	
D13	25	4,270	6	3.38	18.76	102.53	
D14	25	2,800	3	3.38	11.38	34.15	
D15	25	2,700	8	3.38	10.75	85.97	
D16	25	1,800	3	3.38	7.40	22.21	
D17	25	2,700	4	3.38	10.75	42.98	
D18	25	2,370	9	3.38	11.58	104.24	
D19	25	2,180	9	3.38	8.60	77.37	
D20	25	2,700	4	3.38	10.75	42.98	
D21	25	7,400	4	3.38	10.75	42.98	
D22	22	7,470	20	3.04	22.71	454.18	
D23	18	6,880	32	1.56	13.70	342.45	
D24	18	7,400	12	1.56	11.54	138.53	
D25	18	7,080	4	1.56	11.01	44.35	
D26	22	2,870	5	3.38	10.35	82.78	
D27	22	7,120	4	3.04	21.64	86.56	
D28	22	3,520	9	3.04	11.00	99.04	
D29	22	4,270	6	3.04	12.30	75.79	
D30	22	2,870	3	3.04	8.59	25.08	
D31	22	1,780	3	3.04	5.35	15.05	
D32	22	2,180	9	3.04	8.72	78.52	
D33	22	2,180	9	3.04	6.57	58.10	
SUB-TOTAL						12341.11	

TYPE	DA	LENGTH	NUMBER	WEIGHT	WEIGHT	WEIGHT	SHAPE
	(mm)	(mm)		PER M <sup>2</sup>	PER BAR	kg	
D33	18	7,400	12	1.56	11.54	138.53	
D34	22	7,400	20	3.04	22.71	454.18	
W1	22	7,750	52	3.24	27.36	1225.12	
W2	18	7,570	12	1.56	11.81	141.71	
W3	25	7,840	12	3.88	31.20	374.44	
W4	18	2,470	120	1.56	3.76	451.15	
W5	18	1,520	116	1.56	2.37	275.05	
W6	18	1,520	12	1.56	2.37	28.45	
W7	18	8,300	30	1.56	6.87	288.25	
W8	18	10,000	30	1.56	15.80	488.20	
W9	18	2,800	30	1.56	4.54	135.25	
W10	18	3,100	26	1.56	5.53	154.13	
W11	18	4,340	28	1.56	6.77	175.03	
W12	18	8,300	30	1.56	9.81	254.37	
W13	18	2,180	32	1.56	3.57	107.83	
W14	18	3,870	33	1.56	5.55	163.27	
W15	18	1,730	34	1.56	2.75	93.35	
W16	18	8,300					



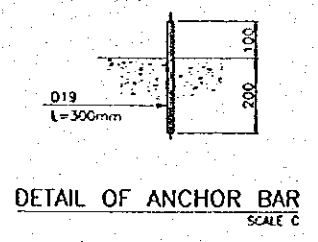
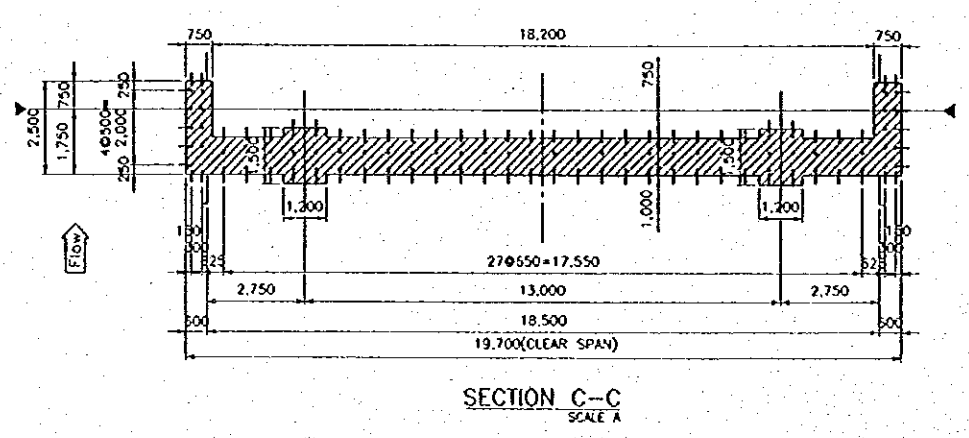
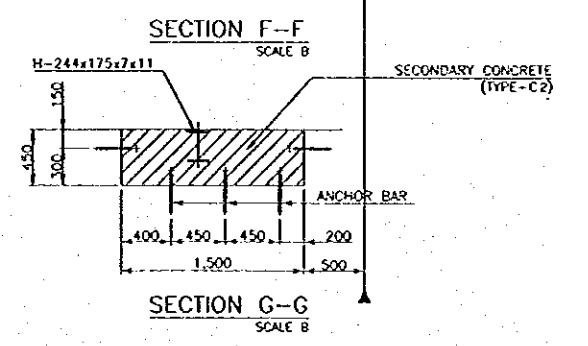
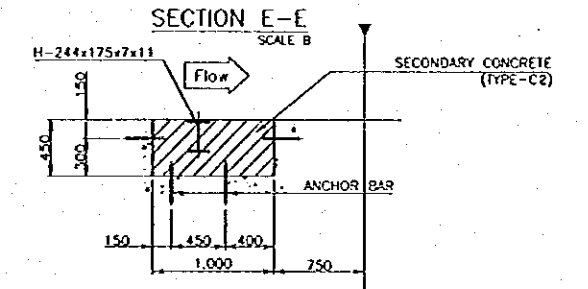
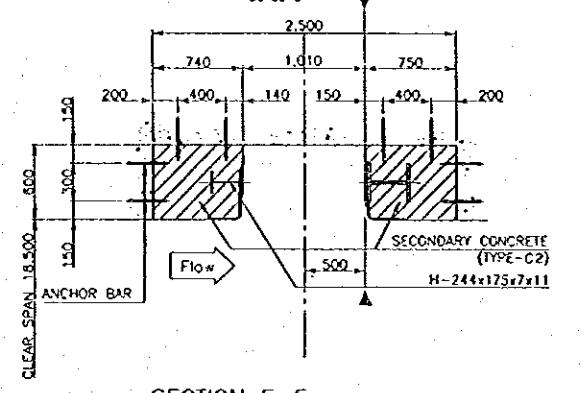
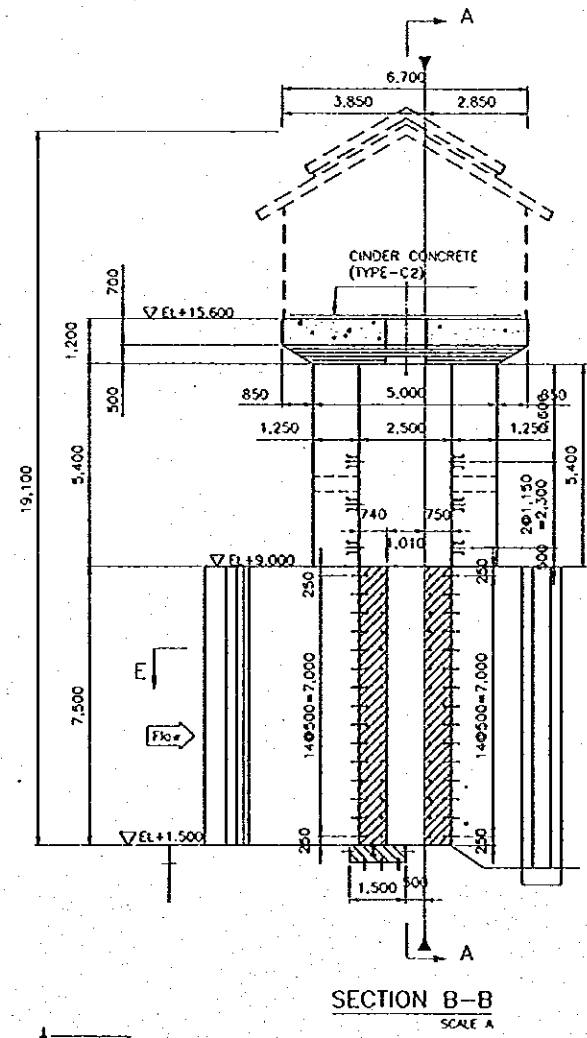
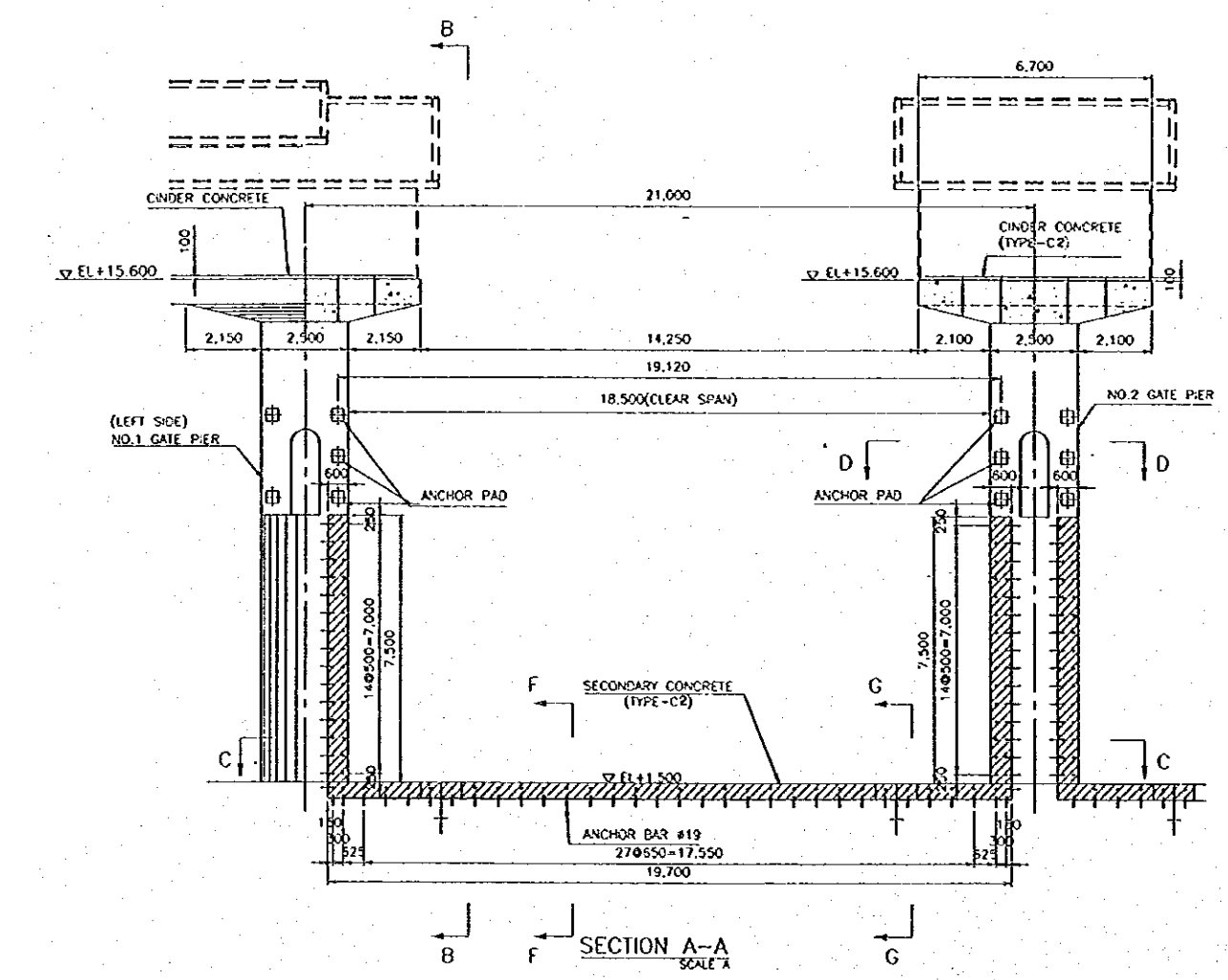
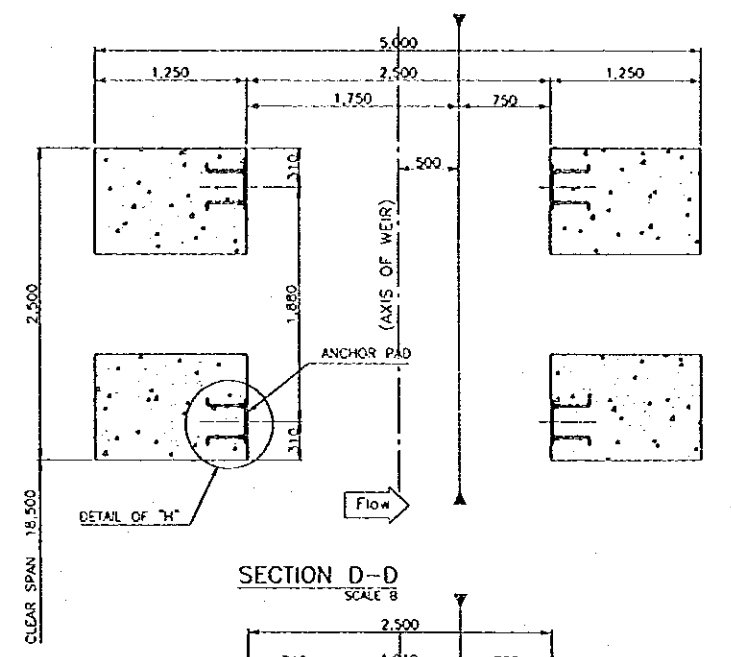
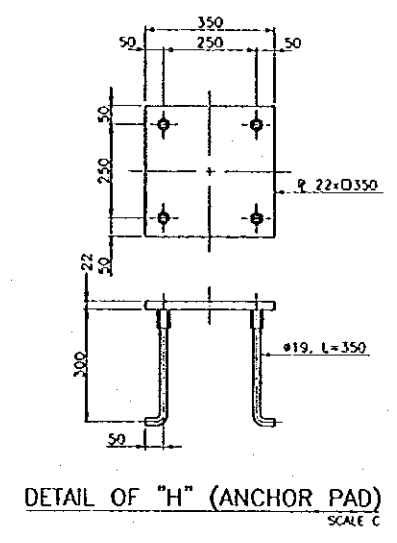
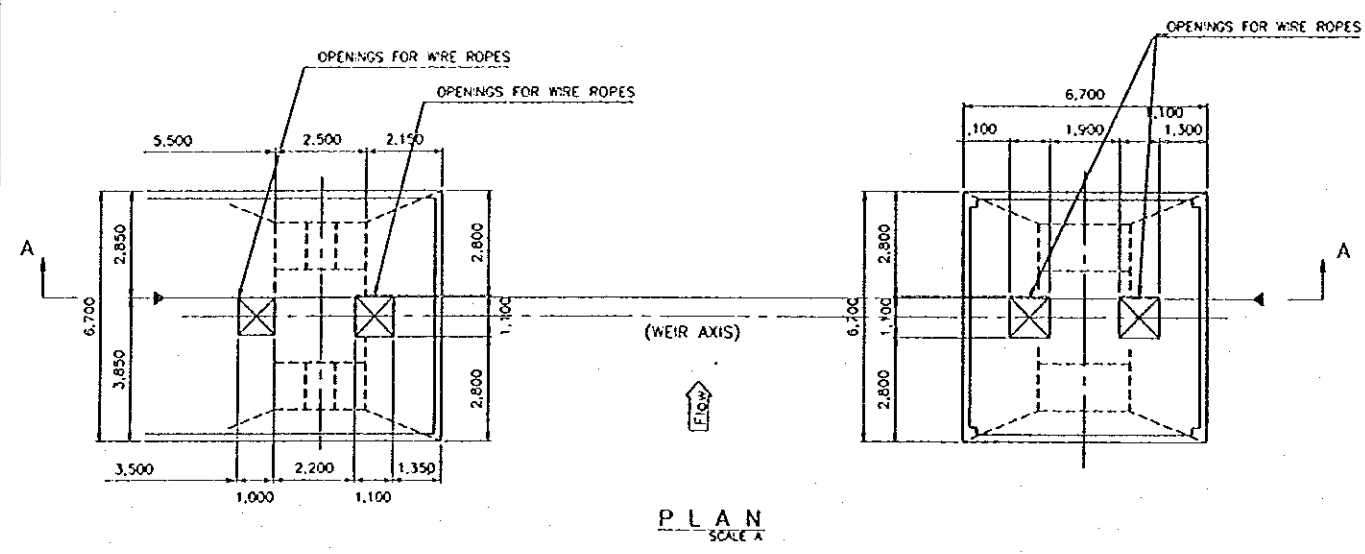




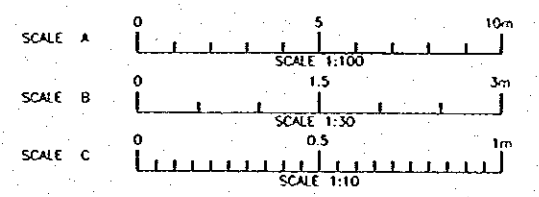
NO	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
JRATUNSELLUNA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANO RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON GATE FLOOR SLAB (2/2)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT OF SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY DRAWING NO. WG - F2 - WE - ST - 31 SHEET NO. 46
PAPAN INTERNATIONAL OPERATIONS PTI ENGINEERING CO. LTD. 18 ANDHAR STREET PACIFIC CONSULTANTS INTERNATIONAL LLP PASCOR INTERNATIONAL INC.	DESIGNED CHECKED	DATE CONTRACT NO.
CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		DATE CONTRACT NO.





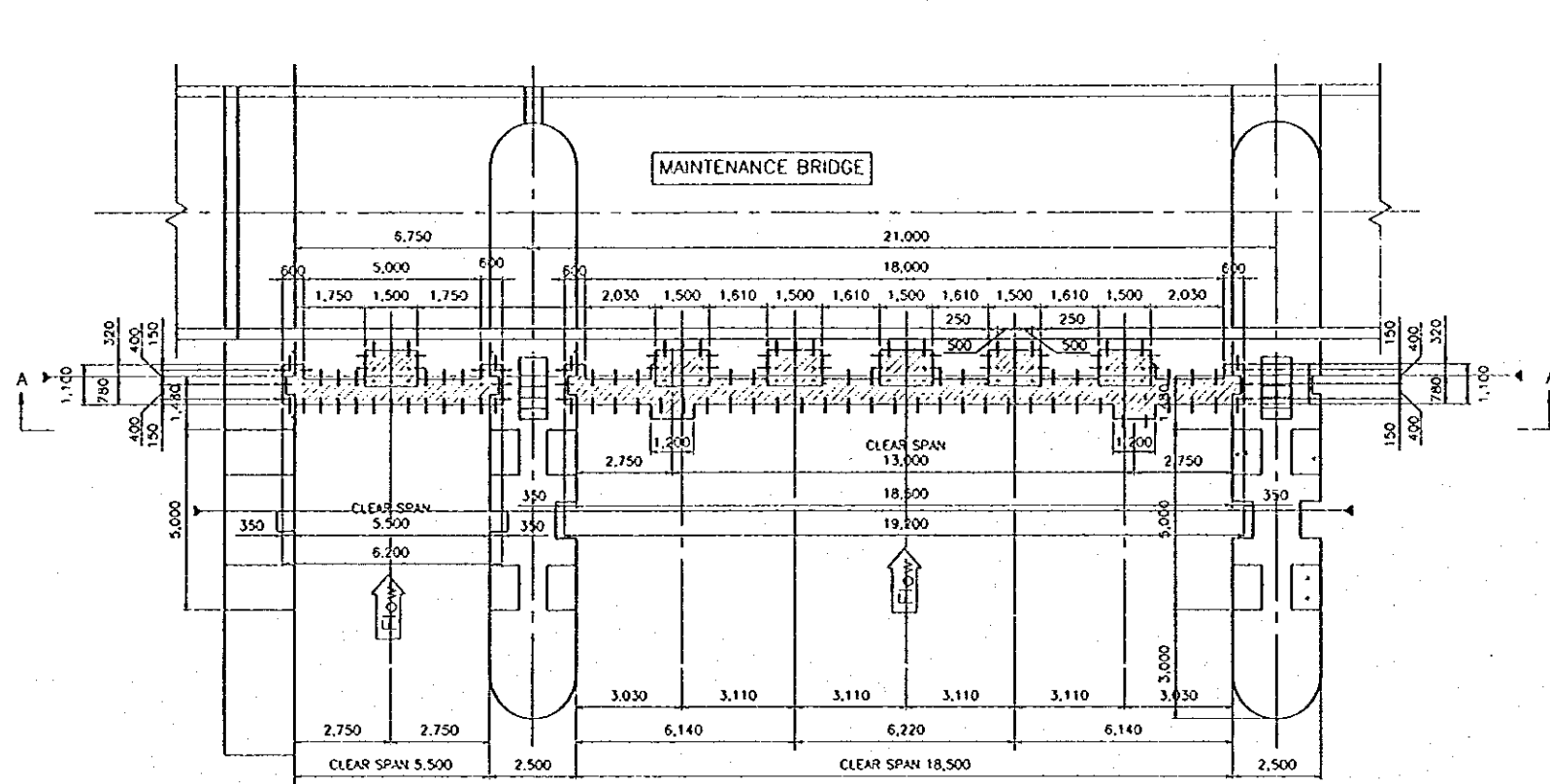
REMARKS  
MARK "→" SHOWS STANDARD LINE FOR INSTALLATION



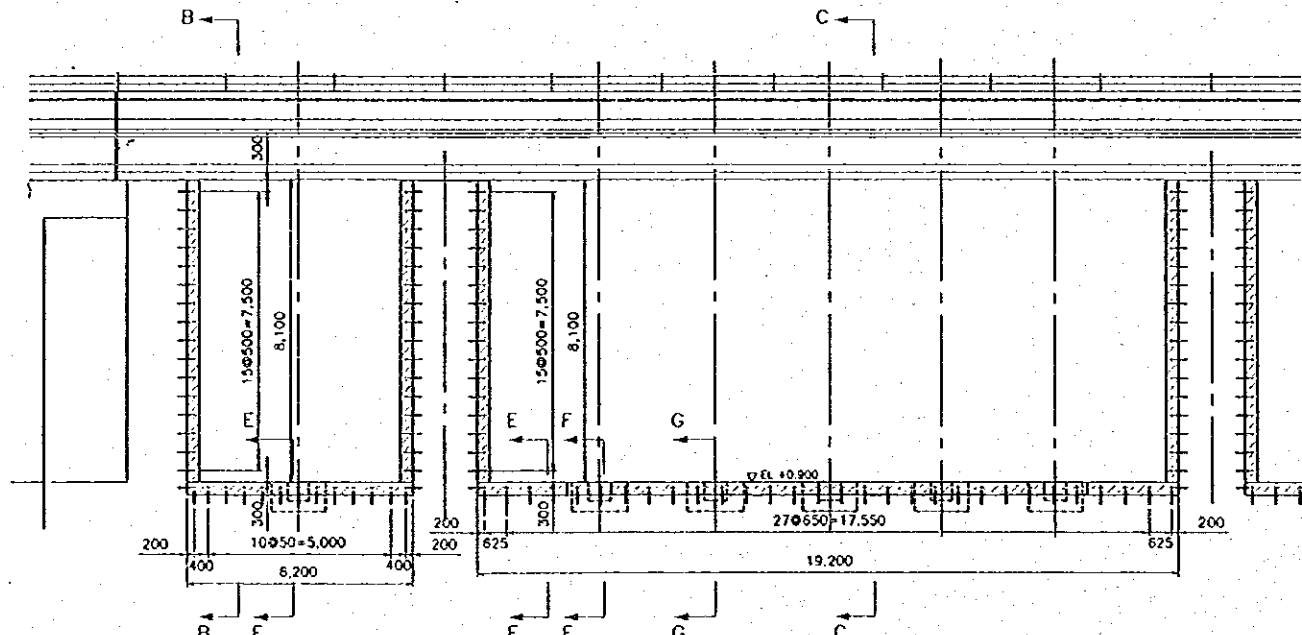
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
PRATUNJELANA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON BLOCKOUT FOR FLOOD DISCHARGE GATE		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, INC. ARCHITECTURAL DESIGN		CONTRACT NO. SEMARANG CITY DRAWING NO. W8-P2-WE-51-32 SHEET NO. 47
DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN	DATE PROJECT MANAGER	DATE CONTRACT NO.

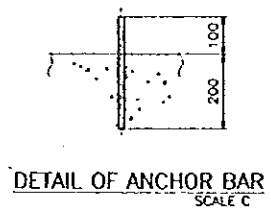




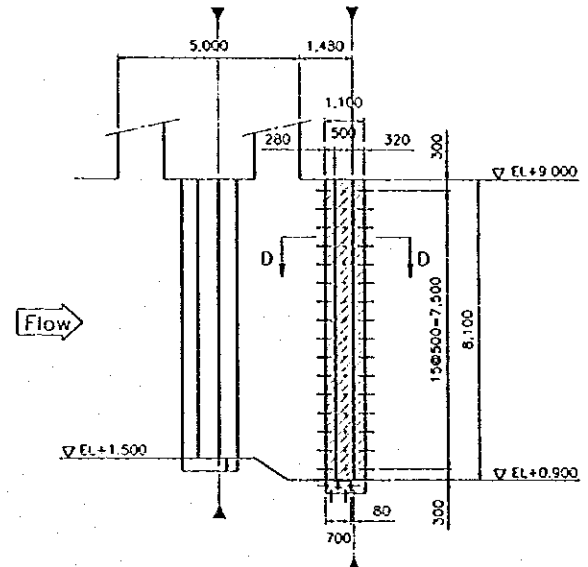
PLAN OF STEEL GUIDE FRAME FOR TEMPORARY GATE  
SCALE A



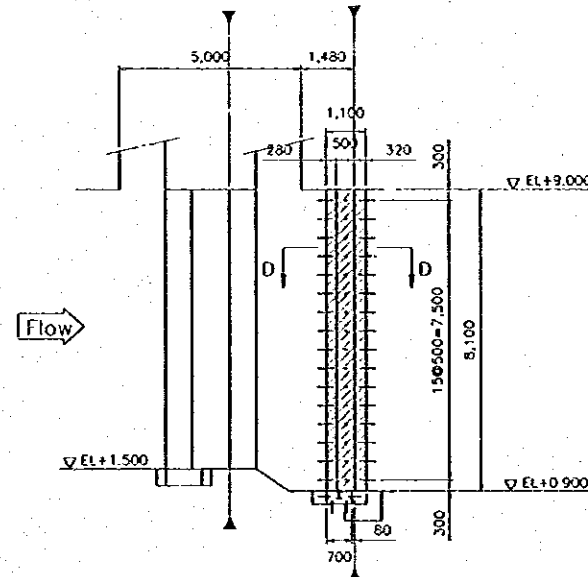
SECTION A-A  
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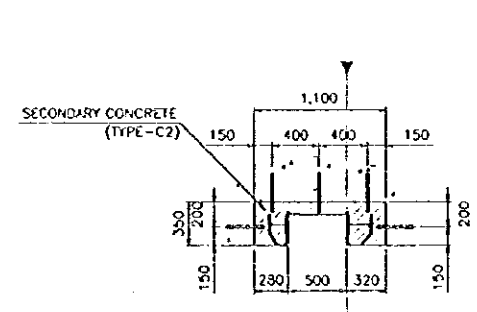
DETAIL OF ANCHOR BAR  
SCALE C



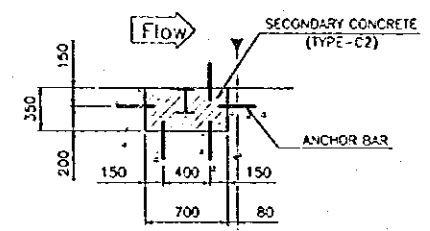
SECTION B-B  
SCALE A



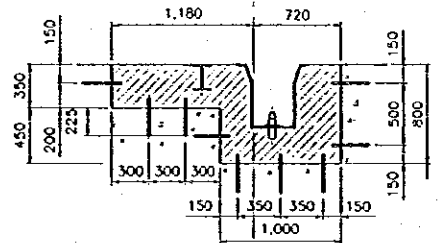
SECTION C-C  
SCALE A



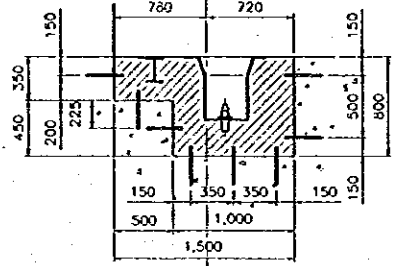
SECTION D-D  
SCALE B



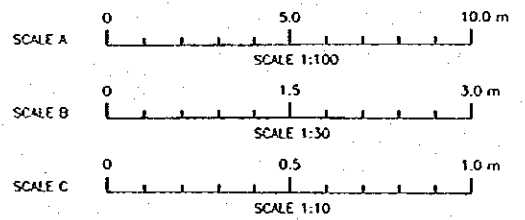
SECTION E-E  
SCALE B



SECTION F-F  
SCALE B



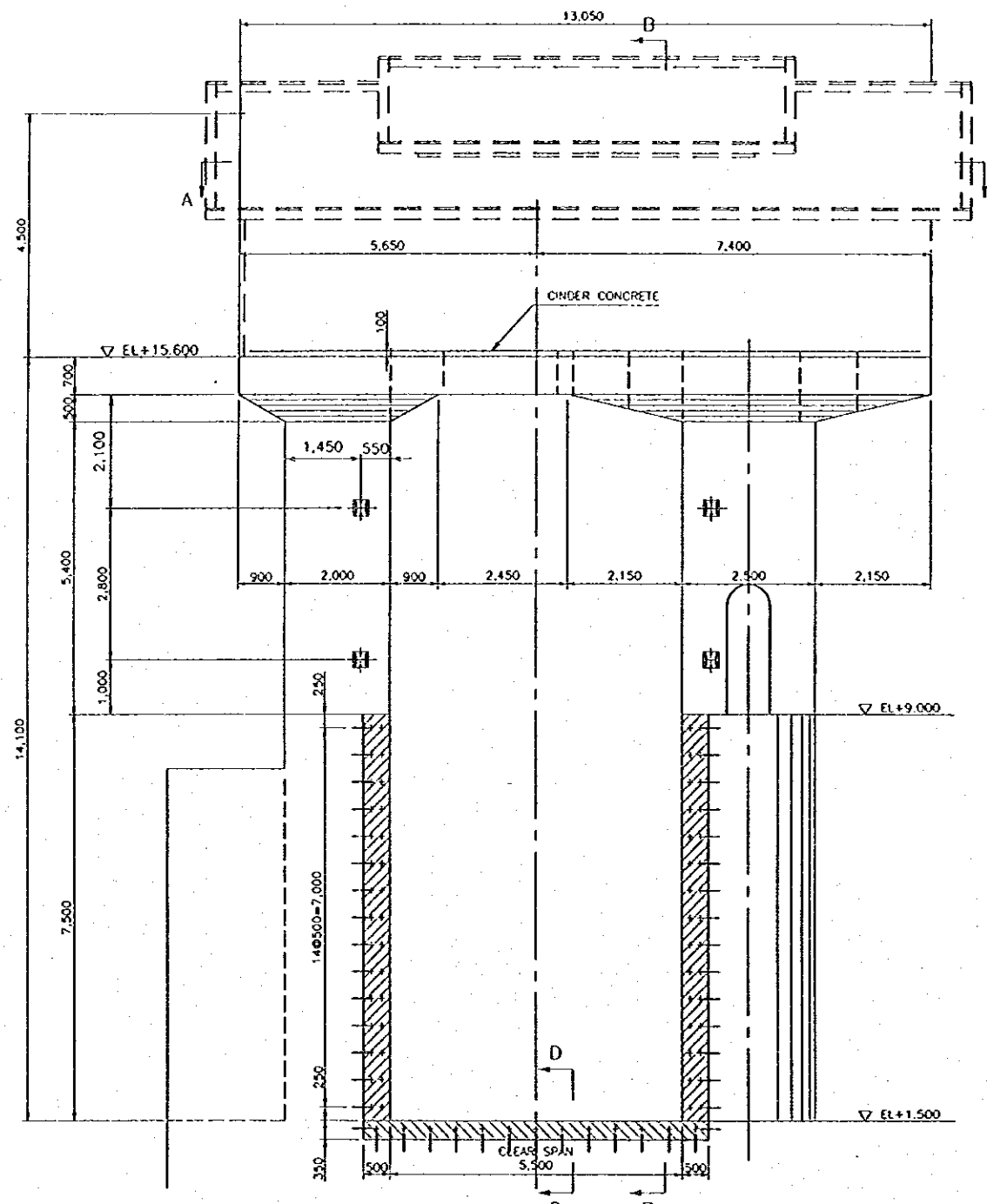
SECTION G-G  
SCALE B



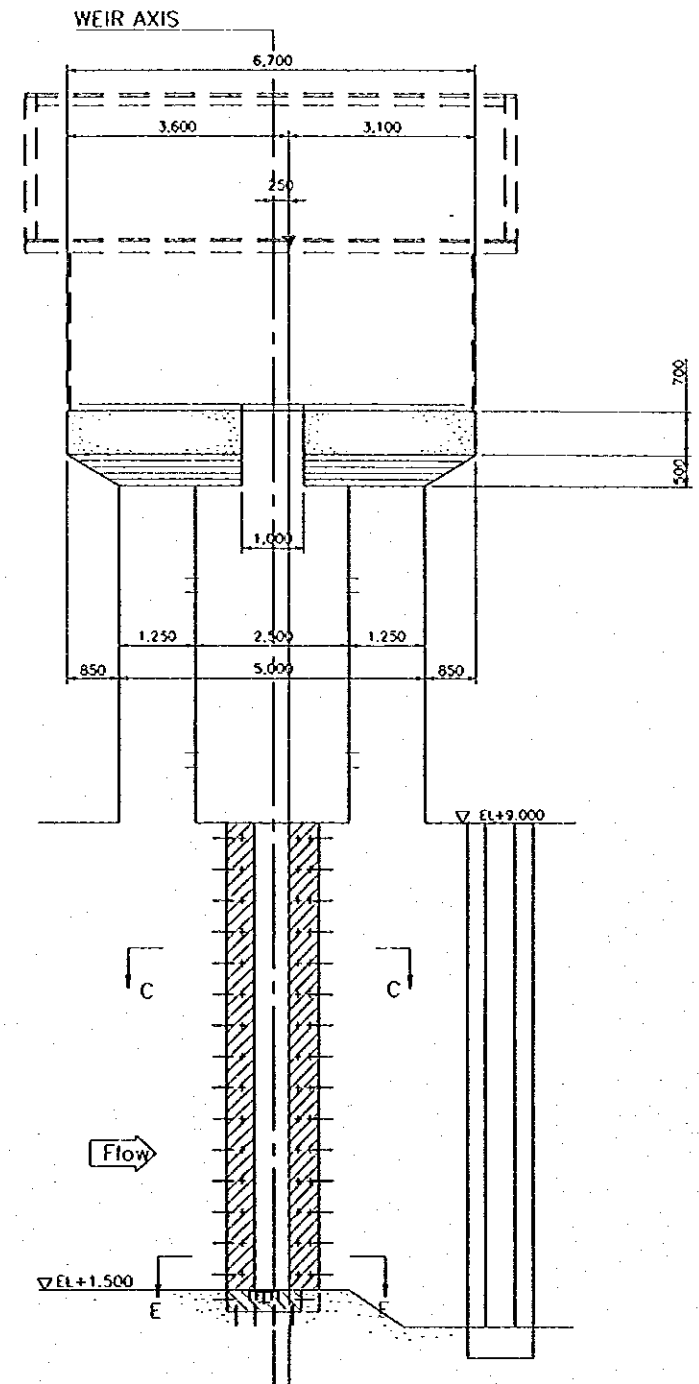
REMARKS  
MARK "b-a" SHOWS STANDARD LINE FOR  
INSTALLATION THIS DRAWING SHOWS LEFT SIDE  
OF RIVER OPPOSITE SIDE IS SYMMETRY.

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

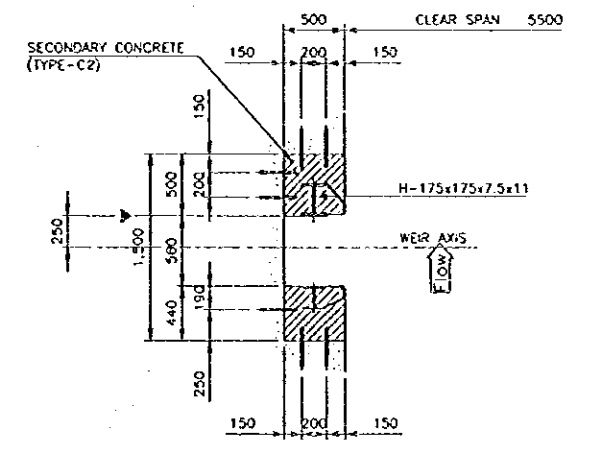
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
RATUSNELUNA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANO RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON BLOCKOUT FOR TEMPORARY GATE		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
TUPAK INTERNATIONAL COOPERATION AGENCY CBI ENGINEERING CO. LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PASCODATANSTRALING		DISTRICT SEMARANG CITY
DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN		DRAWING NO. WS - PE - WE - ST - 33 SHEET NO. 48
APPROVED PROJECT MANAGER		DATE



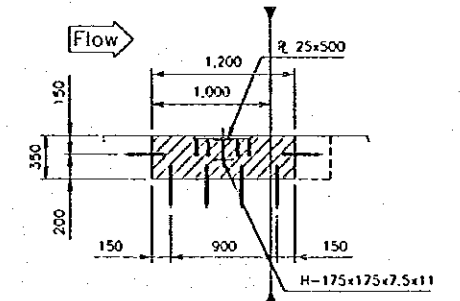
ELEVATION OF END PIER  
SCALE A



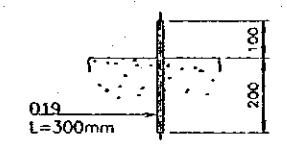
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SCALE A



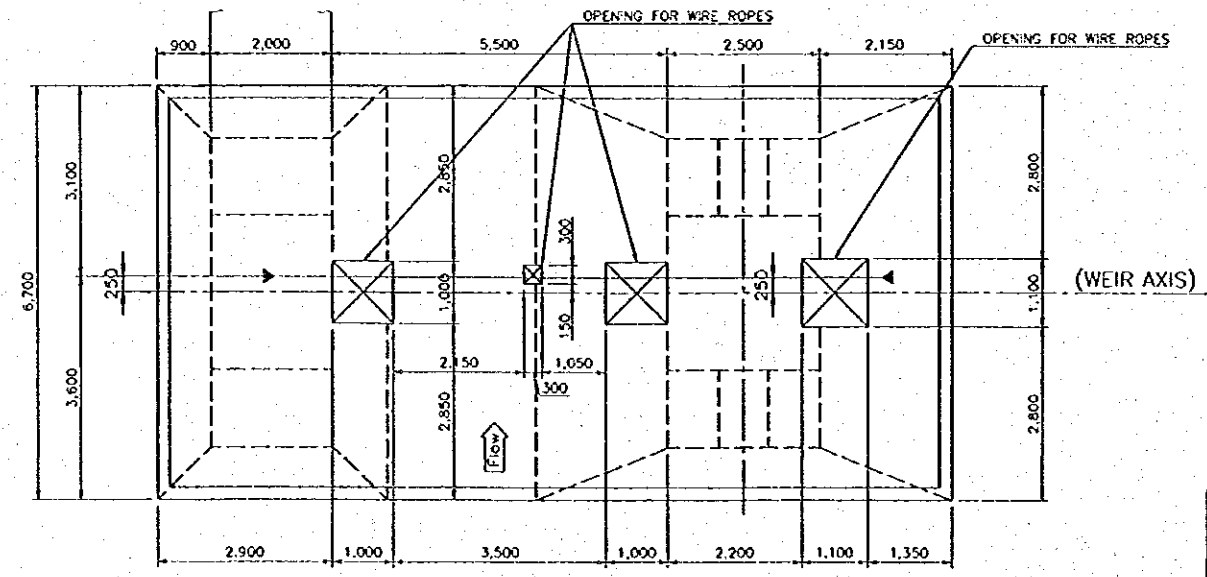
SECTION C-C  
SCALE B



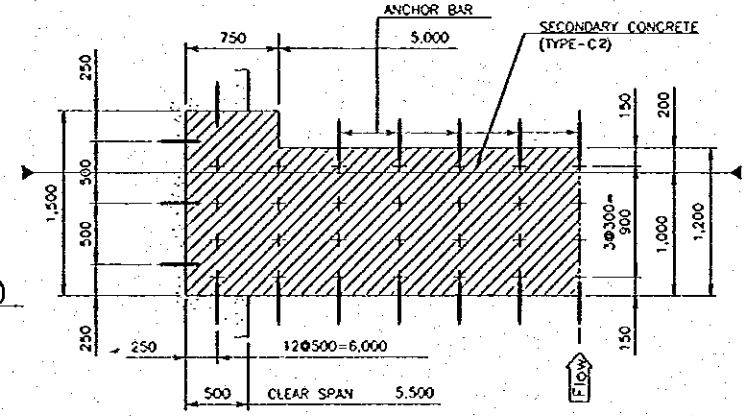
SECTION D-D  
SCALE B



DETAIL OF ANCHOR BAR  
SCALE C

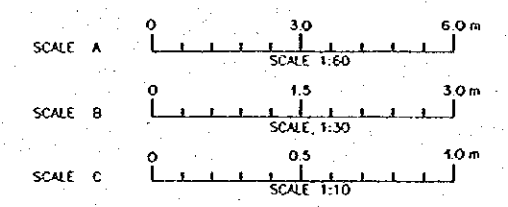


SECTION A-A  
SCALE A



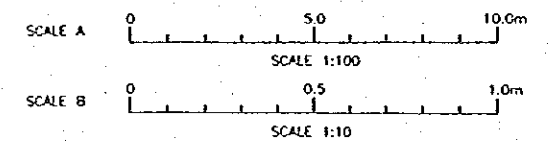
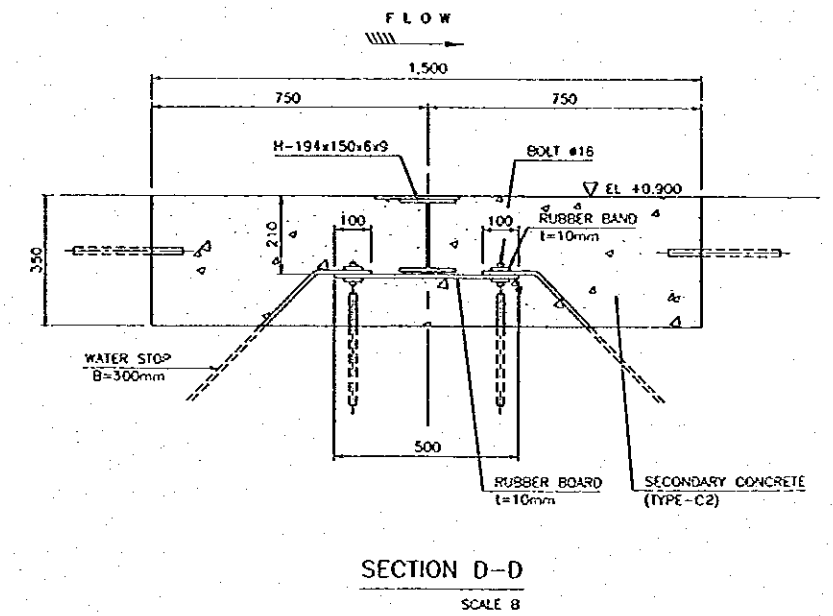
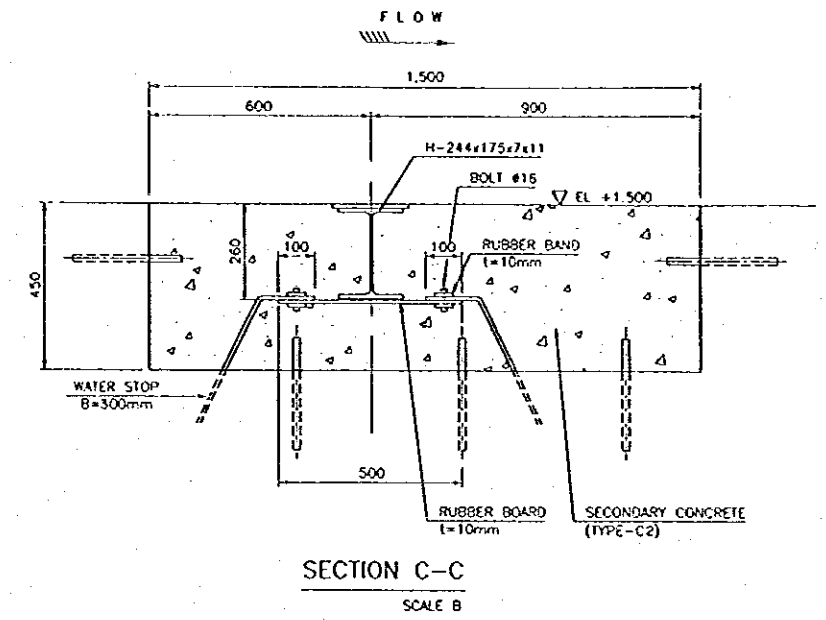
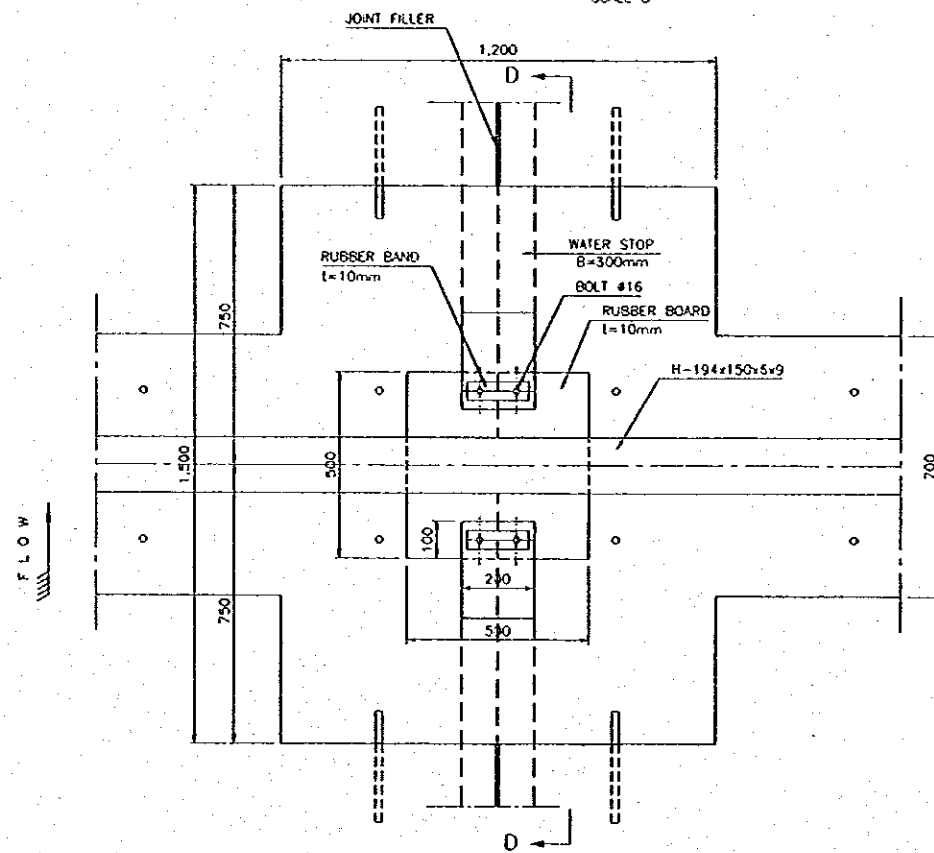
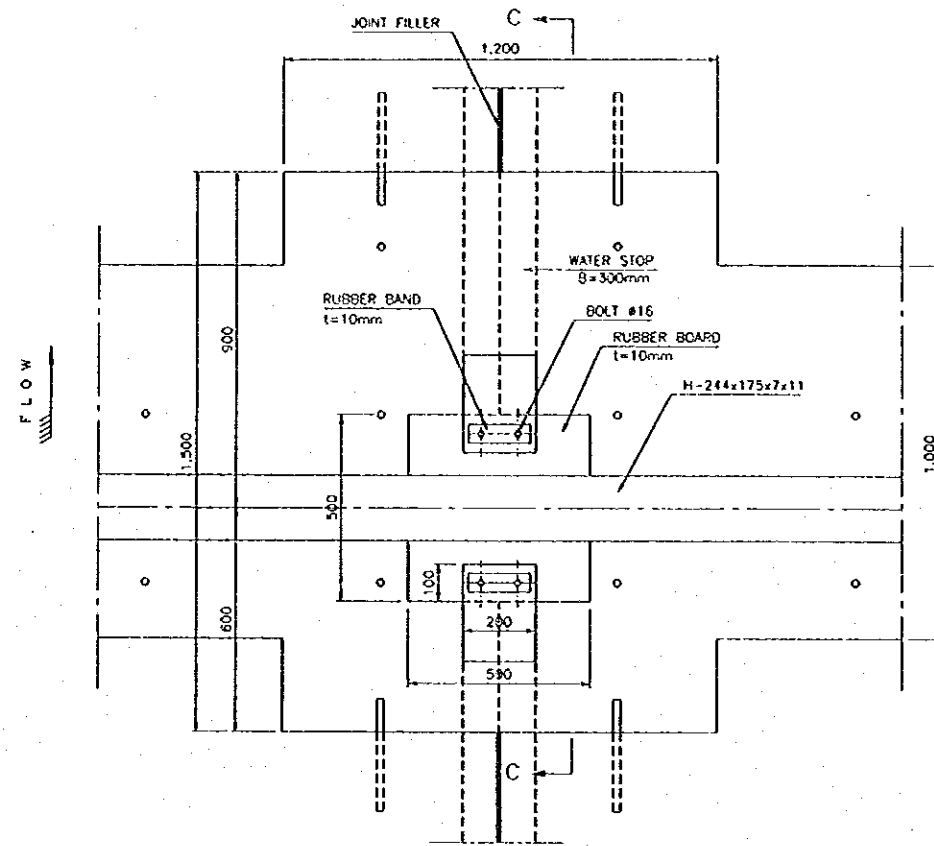
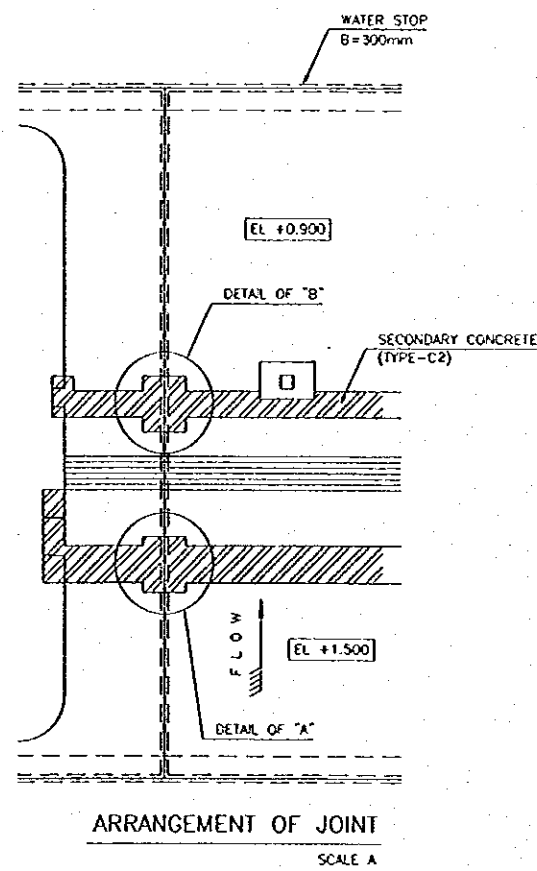
SECTION E-E  
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REMARKS  
MARK "←" SHOWS STANDARD LINE FOR INSTALLATION THIS DRAWING SHOWS LEFT SIDE OF RIVER OPPOSITE SIDE IS SYMMETRY.



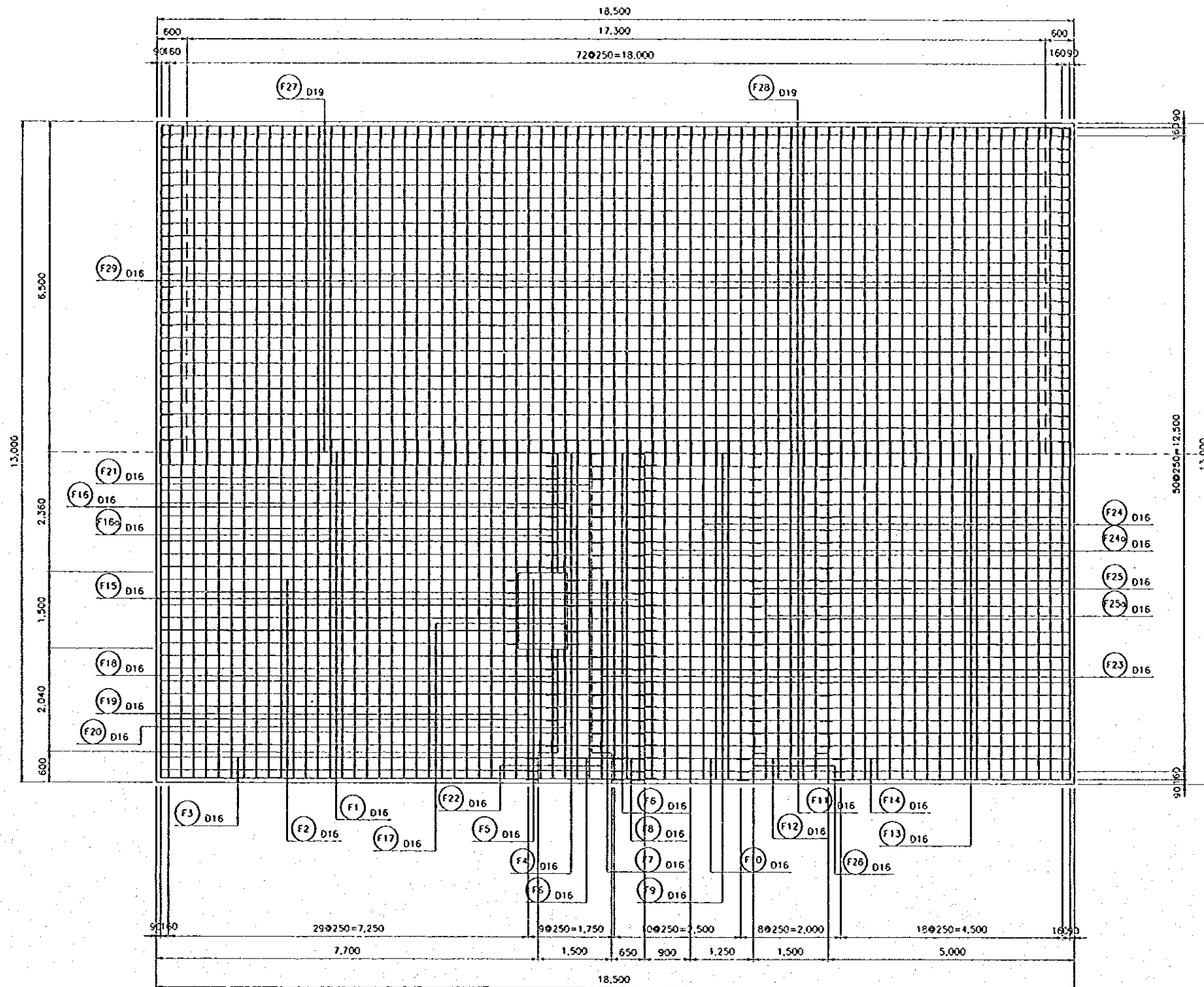
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DRAINAGE AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
PRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON BLOCKOUT FOR SEDIMENT FLUSH GATE		PROJECT NAME FLOOD CONTROL, LEAKY DRAINAGE AND WATER RESOURCES DEVELOPMENT IN PRATUNSELUNA IN THE REPUBLIC OF INDONESIA
INDIAN INTERNATIONAL COOPERATION AGENCY CII ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL, INC. PACIFIC INTERNATIONAL, INC.		DISTRICT SEMARANG CITY
DESIGNED CHECKED CREDIT OF PLANNING AND DESIGN PROJECT MANAGER		DRAWING NO. WS-P2-WE-51-34 SHEET NO. 49 DATE CONTRACT NO.

NO.	DATE	REVISION	ORIGINATED	DESIGNED	APPROVED

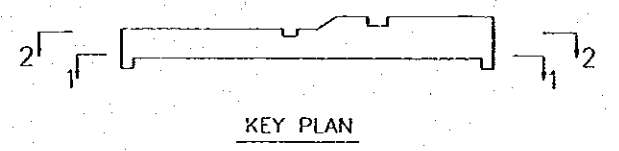


NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
JRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON WATER STOP IN GATE FLOOR SLAB		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY OTE ENGINEERING CO., LTD. IN JOINT VENTURE WITH PACIFIC CONSULTANTS INTERNATIONAL AND ENCO INTERNATIONAL INC. OFFICE OF PLANNING AND DESIGN		CONTRACT SEMARANG CITY DRAWING NO. WB-P2-WE-S1-35 SHEET NO. 50
DESIGNED <i>[Signature]</i>	CHECKED <i>[Signature]</i>	DATE CONTRACT NO.
APPROVED <i>[Signature]</i>	PROJECT MANAGER	



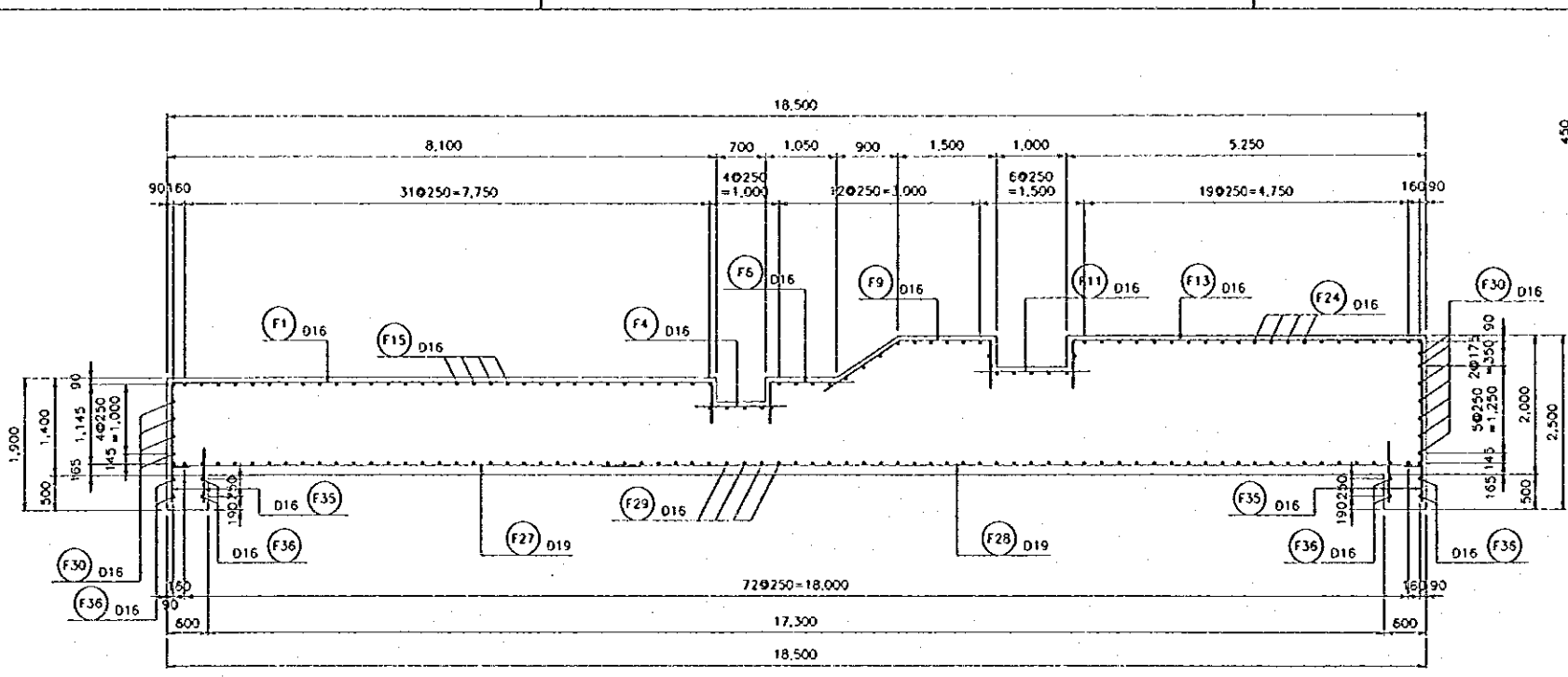
1 - 1  
UPPER LOWER  
2 - 2



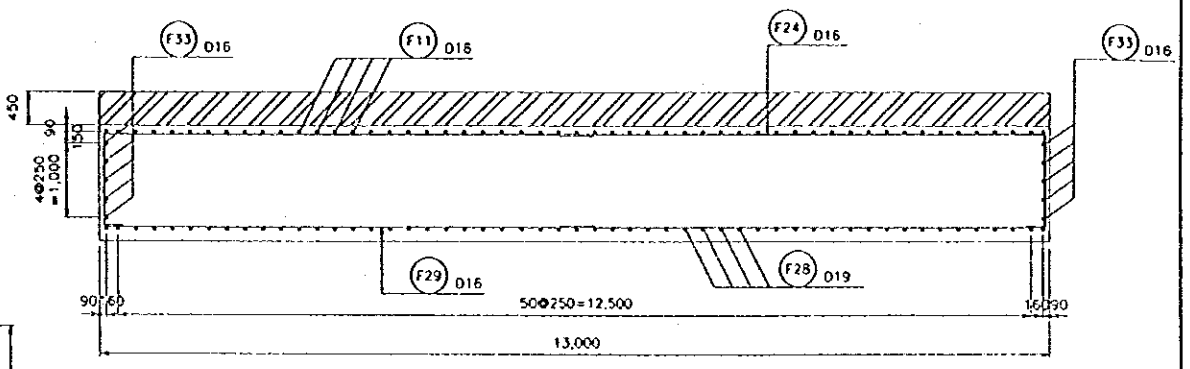
SCALE A 0 2.5 5.0m  
SCALE 1:50

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

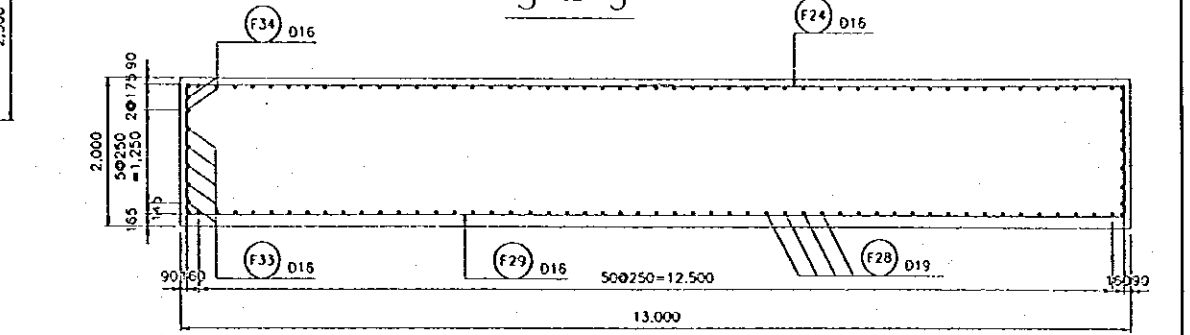
<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
JATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON REINFORCING BAR ARRANGEMENT FOR GATE FLOOR SLAB (1/3)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY
LAPAN INTERNATIONAL CONSULTING AGENCY CIE INTERNATIONAL CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PASO INTERNATIONAL INC. CHIEF OF PLANNING AND DESIGN		DRAWING NO. WS-P2-WE-R4-35 SHEET NO. 51 DATE CONTRACT NO.
DESIGNED	CHECKED	DATE
APPROVED	CHECKED	DATE
PROJECT MANAGER		



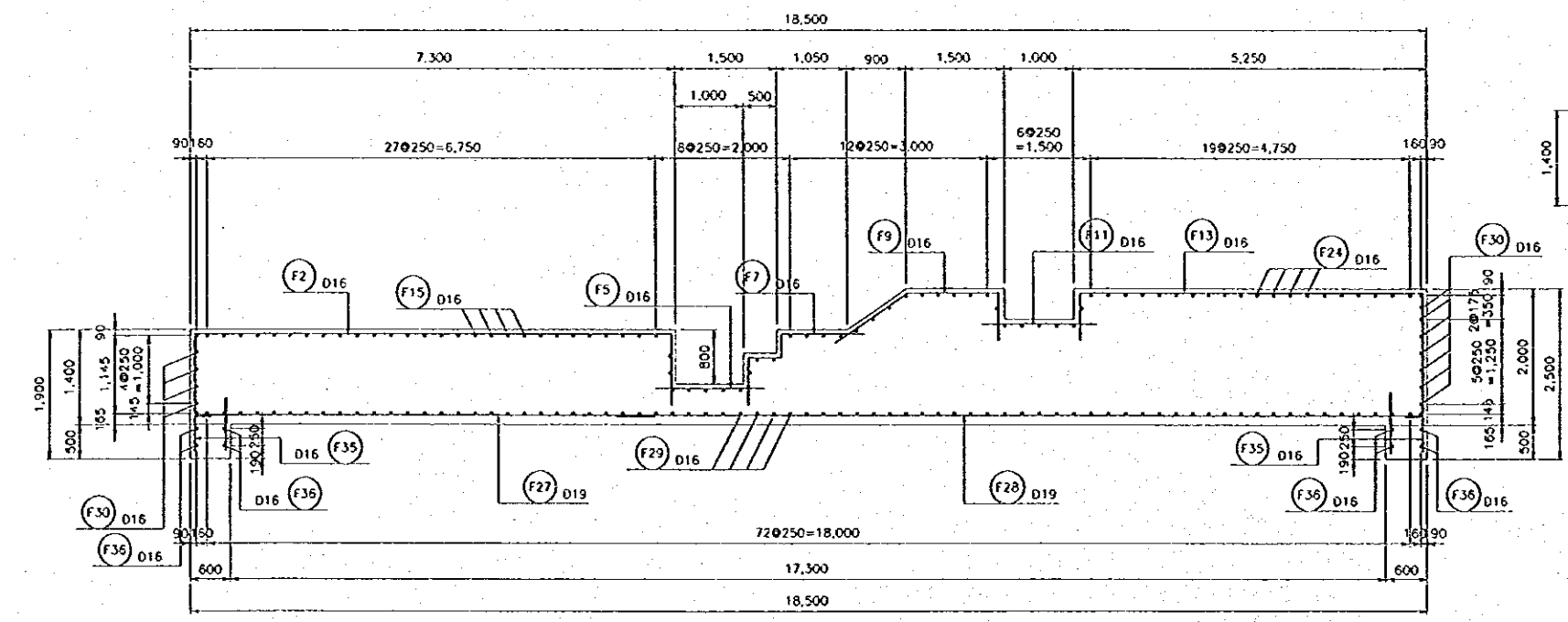
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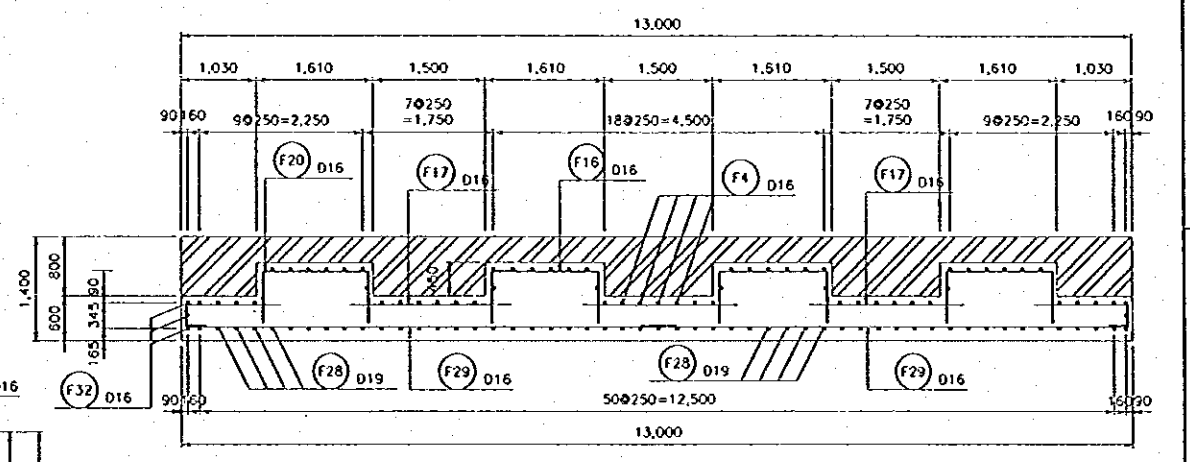
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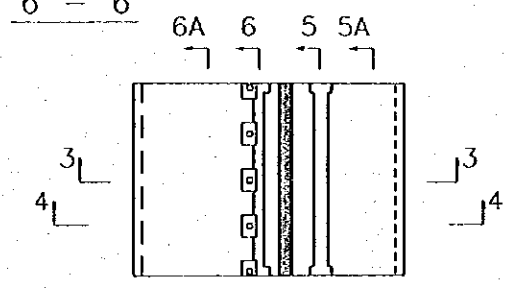
5A - 5A



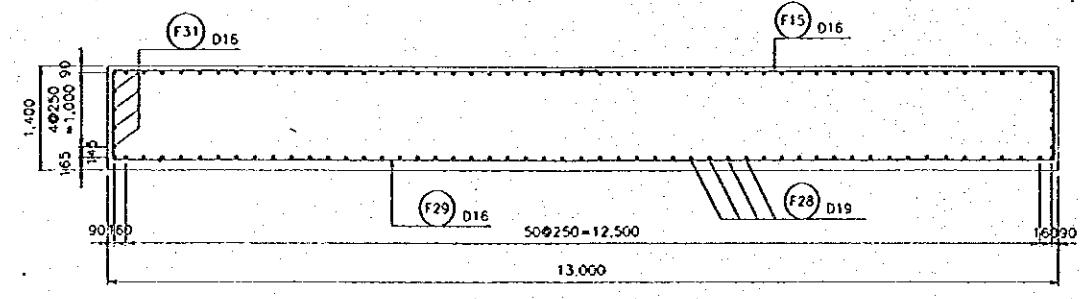
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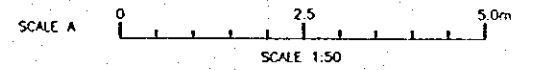
6 - 6



KEY PLAN



6A - 6A



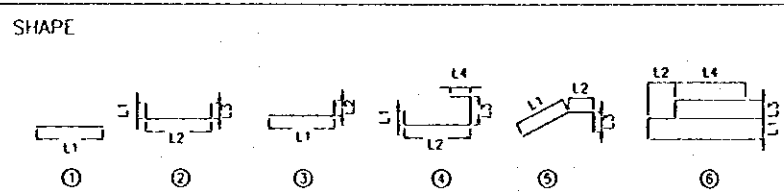
NO	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

**THE REPUBLIC OF INDONESIA**  
 MINISTRY OF PUBLIC WORKS  
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT  
 JATUNSELUNA FLOOD CONTROL PROJECT  
 COMPONENT : WEST FLOOD WAY / GARANG RIVER IMPROVEMENT  
 WEIR PIER, GATE FLOOR SLAB AND APRON  
 REINFORCING BAR ARRANGEMENT FOR GATE FLOOR SLAB (2/3)

DESIGNED <i>[Signature]</i> CHECKED <i>[Signature]</i> CHIEF OF PLANNING AND DESIGN	DATE CONTRACT NO.
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PROVIDENCE: CENTRAL JAVA  
 PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA  
 DISTRICT: SEMARANG CITY  
 DRAWING NO. W2 - P2 - WC - S1 - 37  
 SHEET NO. 52

### BAR BENDING SCHEDULE



TYPE	SHAPE	DIA	NUMBER	LENGTH	L1	L2	L3	L4	L5	R
				(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
F1	4	16	35	9,880	278	1,125	7,900	580		
F2	4	16	12	9,530	278	1,125	7,100	1,000		
F3	4	16	12	9,480	278	1,125	7,500	580		
F4	1	16	35	1,360	1,360					
F5	1	16	12	1,660	1,660					
F5	1	16	4	1,660	1,660					
F6	3	16	35	1,770	580	1,190				
F7	6	16	12	2,690	680	480	300	1,190		
F8	3	16	6	1,370	580	790				
F9	5	16	47	3,400	1,322	1,400	680			
F10	5	16	6	3,150	1,322	1,150	680			
F11	1	16	47	1,660	1,660					
F12	1	16	6	2,160	2,160					
F13	4	16	47	7,730	680	5,060	1,725	278		
F14	4	16	6	7,730	680	5,060	1,725	278		
F15	2	16	66	8,240	278	1,325	6,640			
F16	2	16	1	5,840	680	4,430	680			
F16a	2	16	3	6,540	1,000	4,430	1,000			
F17	1	16	8	2,160	2,160					
F17	1	16	6	2,160	2,160					
F18	2	16	4	3,450	1,000	1,840	580			
F19	4	16	2	4,970	1,000	2,440	1,225	278		
F20	4	16	2	4,170	680	2,440	775	278		
F21	2	16	4	7,680	278	775	6,640			
F22	2	16	6	1,980	278	775	930			
F23	3	16	2	6,620	6,040	580				
F24	2	16	43	8,640	278	1,725	6,640			
F24a	2	16	8	8,540	278	avg 1,625	6,640			
F25	3	16	8	6,720	6,040	680				
F25	1	16	4	6,050	6,050					
F25a	2	16	10	8,190	6,640	1,275	278			
F26	2	16	4	2,480	930	1,275	278			
F27	1	16	4	940	940					
F27	1	16	53	6,800	6,800					
F28	1	16	53	12,000	12,000					
F29	1	16	150	6,650	6,650					
F30	3	16	22	6,920	278	6,640				
F31	1	16	8	7,520	7,520					
F32	1	16	6	2,640	2,640					
F33	1	16	10	9,120	9,120					
F33	1	16	4	1,520	avg 1,520					
F34	1	16	4	4,820	4,820					
F35	1	16	424	740	740					
F36	3	16	16	6,900	6,640	320				

### BAR WEIGHT

TYPE	DIA (mm)	LENGTH (mm)	NUMBER	WEIGHT PER 'M'	WEIGHT PER 'BAR'	WEIGHT (kg)	SHAPE
F1	16	9,880	35	1.56	15.41	539.45	[Diagram]
F2	16	9,530	12	1.56	14.87	178.40	[Diagram]
F3	16	9,480	12	1.56	14.79	177.47	[Diagram]
F4	16	1,360	35	1.56	2.12	74.26	[Diagram]
F5	16	1,660	12	1.56	2.59	31.08	[Diagram]
F5	16	1,660	4	1.56	2.59	10.36	[Diagram]
F6	16	1,770	35	1.56	2.76	96.64	[Diagram]
F7	16	2,690	12	1.56	4.18	50.17	[Diagram]
F8	16	1,370	6	1.56	2.14	12.82	[Diagram]
F9	16	3,400	47	1.56	5.30	249.29	[Diagram]
F10	16	3,150	6	1.56	4.91	29.48	[Diagram]
F11	16	1,660	47	1.56	2.59	121.71	[Diagram]
F12	16	2,160	6	1.56	3.37	20.22	[Diagram]
F13	16	7,730	47	1.56	12.06	569.76	[Diagram]
F14	16	7,730	6	1.56	12.06	72.36	[Diagram]
F15	16	8,240	66	1.56	12.65	648.39	[Diagram]
F16	16	5,840	1	1.56	9.11	9.11	[Diagram]
F16a	16	6,540	3	1.56	10.20	30.61	[Diagram]
F17	16	2,160	8	1.56	3.37	26.96	[Diagram]
F17	16	2,160	6	1.56	3.37	20.22	[Diagram]
F18	16	3,450	4	1.56	5.98	21.53	[Diagram]
F19	16	4,970	2	1.56	7.75	15.51	[Diagram]
F20	16	4,170	2	1.56	6.51	13.01	[Diagram]
F21	16	7,680	4	1.56	12.00	47.99	[Diagram]
F22	16	1,980	6	1.56	3.09	18.53	[Diagram]
F23	16	6,620	2	1.56	10.33	20.66	[Diagram]
F24	16	8,640	43	1.56	13.48	649.96	[Diagram]
F24a	16	8,540	8	1.56	13.32	106.58	[Diagram]
F25	16	6,720	8	1.56	10.48	83.87	[Diagram]
F25	16	6,050	4	1.56	9.44	37.75	[Diagram]
F25a	16	8,190	10	1.56	12.78	127.76	[Diagram]
F26	16	2,480	4	1.56	3.87	15.48	[Diagram]
F26	16	940	4	1.56	1.47	5.87	[Diagram]
F27	16	6,800	53	1.56	10.61	562.22	[Diagram]
F28	16	12,000	53	1.56	18.72	992.16	[Diagram]
F29	16	6,650	150	1.56	10.37	1556.10	[Diagram]
F30	16	6,920	22	1.56	10.80	237.49	[Diagram]
F31	16	7,520	8	1.56	11.73	93.85	[Diagram]
F32	16	2,640	6	1.56	4.12	24.71	[Diagram]
F33	16	9,120	10	1.56	14.23	142.27	[Diagram]
F33	16	1,520	4	1.56	2.37	9.48	[Diagram]
F34	16	4,820	4	1.56	7.52	30.08	[Diagram]
F35	16	740	424	1.56	1.15	488.47	[Diagram]
F36	16	6,900	16	1.56	10.86	173.72	[Diagram]
TOTAL						8,638.78	

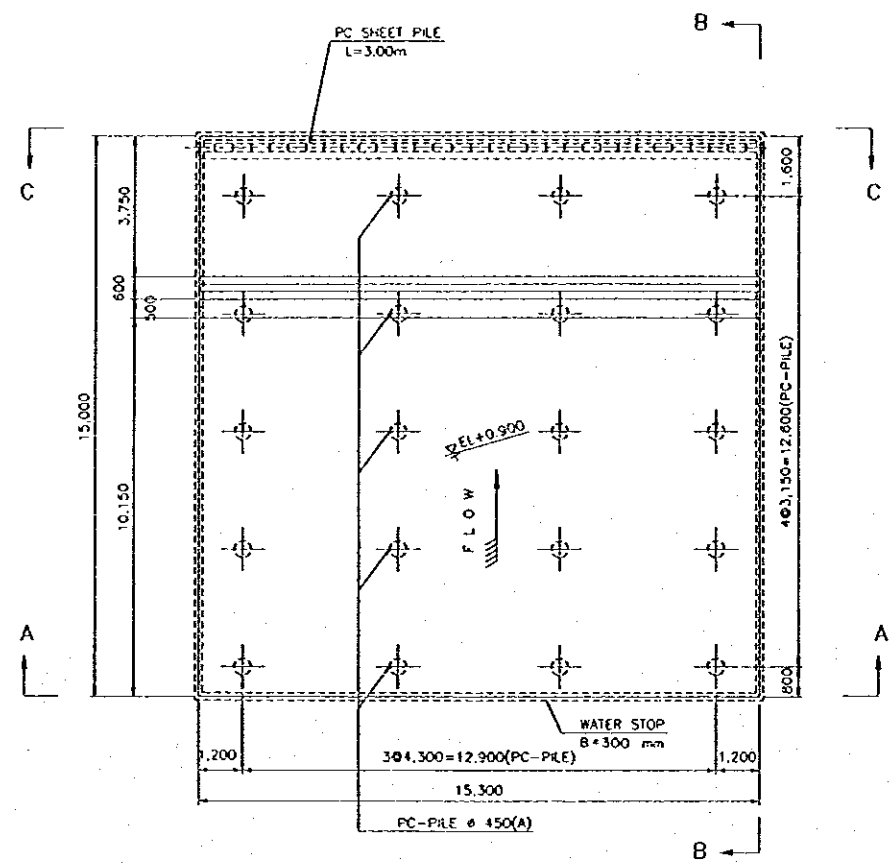
### BAR BENDING DETAIL

DIA	a	b	L1+b/2	R
D13	86	156	156	42
D16	75	123	235.5	46
D19	84	236	283	80
D22	104	272	324	96
D25	122	306	367	78
D29	141	340	413.5	90
D32	151	385	465.5	96

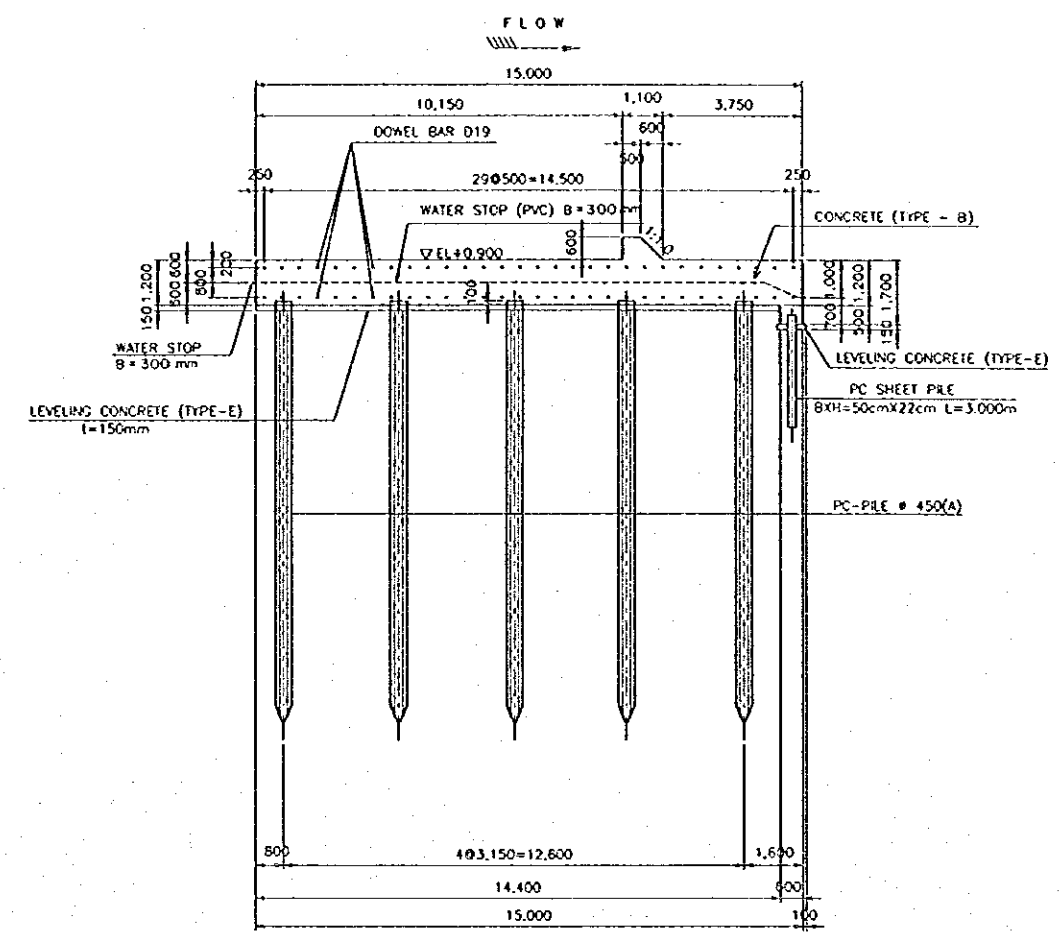
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

<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
IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON REINFORCING BAR ARRANGEMENT FOR GATE FLOOR SLAB(3/3)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
PT. AN INTERNATIONAL COOPERATION AGENCY CIL ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL, INC. AND PAKO INTERNATIONAL, INC.		DISTRICT SEMARANG CITY
DESIGNED CHECKED CEER OF PLANNING AND DESIGN PROJECT MANAGER		DRAWING NO. W- P2 - WE - R 0 - 33 SHEET NO. 53 CONTRACT NO.

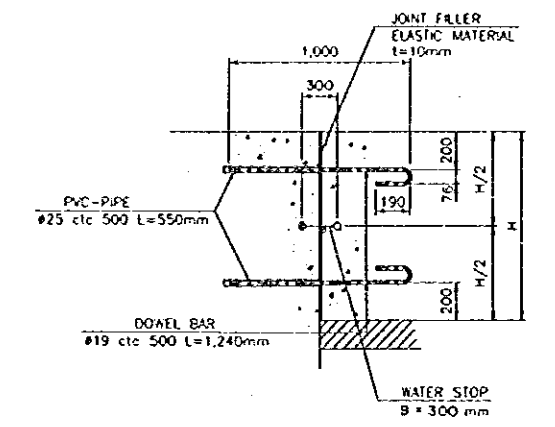




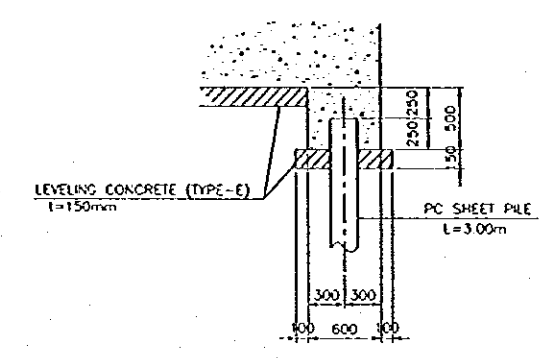
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SCALE A



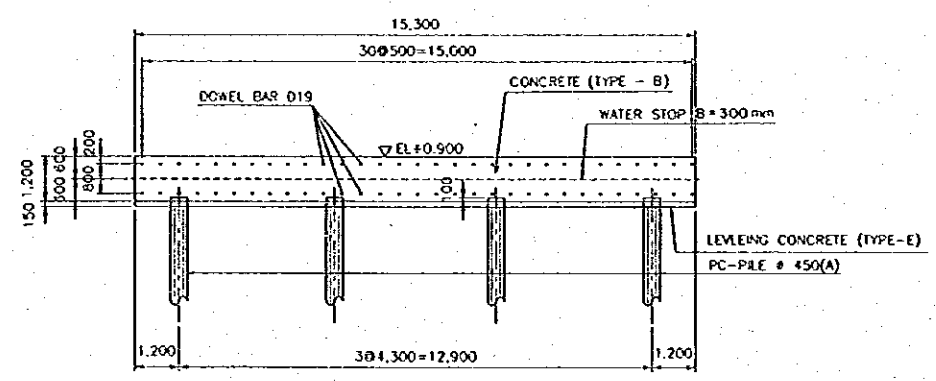
SECTION B-B  
SCALE A



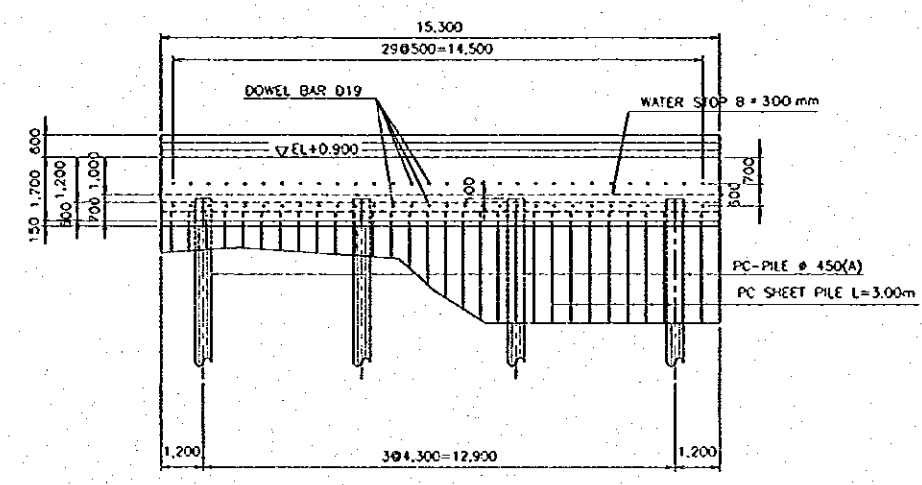
DETAIL OF JOINTING  
SCALE C



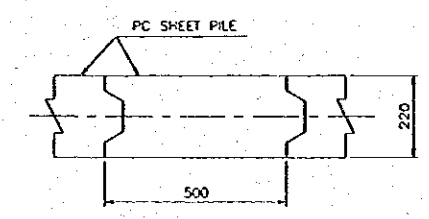
DETAIL OF CUTOFF  
SCALE B



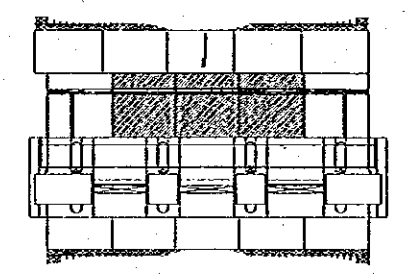
SECTION A-A  
SCALE A



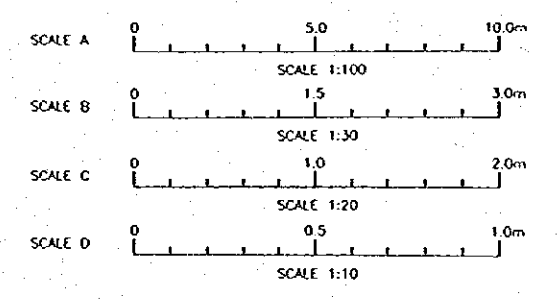
SECTION C-C  
SCALE A



SECTION OF PC SHEET PILE  
SCALE D



KEY PLAN



NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF RUMAN SETTLEMENT		PROVINCE CENTRAL JAVA	
JRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT WEIR PIER, GATE FLOOR SLAB AND APRON DOWNSTREAM CONCRETE APRON-1 (1/2)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	
JAPAN INTERNATIONAL COOPERATION AGENCY CEI ENGINEERING CO. LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND JACOBS INTERNATIONAL INC.		DESIGNER CHECKER CREEP OF PLANNING AND DESIGN PROJECT MANAGER	
DATE NO.		CONTRACT NO. SHEET NO. 54	