

No. 5177

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  
MINISTRY OF SETTLEMENT AND REGIONAL DEVELOPMENT  
THE REPUBLIC OF INDONESIA

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

FINAL REPORT

COMPONENT No. A:  
WATER BYPASSWAY / CANALS AND WATER IMPROVEMENT

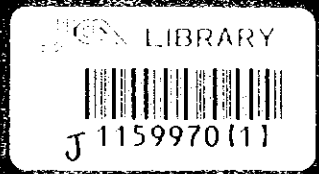
Final Report DOCUMENTS

BACKGROUND  
FOR THE PREPARATION OF SEMARANG WATER

VOLUME 13  
DRAWINGS

AUGUST 2000

CTI ENGINEERING CO INTERNATIONAL, LTD.  
IN ASSOCIATION WITH  
PACIFIC CONSULTANTS INTERNATIONAL  
AND  
PASCO INTERNATIONAL INC.



SSS  
JR  
00-105

MINISTRY OF SETTLEMENT AND REGIONAL DEVELOPMENT  
THE REPUBLIC OF INDONESIA

FLOOD CONTROL, URBAN DRAINAGE AND  
WATER RESOURCES DEVELOPMENT IN SEMARANG

COMPONENT A: WEST FLOODWAY / GARANG RIVER IMPROVEMENT

BIDDING DOCUMENTS

PACKAGE 2:

RECONSTRUCTION OF SIMONGAN WEIR

VOLUME 3

DRAWINGS

AUGUST 2000



1159970 (1)

PACKAGE - 2 : RECONSTRUCTION OF SIMONGAN WEIR

LIST OF DRAWINGS (1/3)

SHEET No	DRAWING No	TITLE OF DRAWING	SHEET No	DRAWING No	TITLE OF DRAWING
<b>GENERAL DRAWING (GE)</b>					
1	WG-P2-GE-PI-1	GENERAL PLAN FOR PACKAGING	52	WG P2-WE-Re-37	REINFORCING BAR ARRANGEMENT FOR GATE FLOOR SLAB (2/3)
2	WG-P2-GE-St-1	GENERAL NOTES, LEGEND AND ABBREVIATIONS	53	WG P2-WE-Re-38	REINFORCING BAR ARRANGEMENT FOR GATE FLOOR SLAB (3/3)
3	WG-P2-GE-PI-2	PLAN OF RIVER CHANNEL	54	WG P2-WE-St-39	DOWNSTREAM CONCRETE APRON 1 (1/2)
4	WG-P2-GE-Lo-1	LONGITUDINAL PROFILE OF RIVER CHANNEL	55	WG P2-WE-St-40	DOWNSTREAM CONCRETE APRON-1 (2/2)
5-9	WG-P2-GE-Cr-1-5	CROSS SECTION OF RIVER CHANNEL (1/5)-(5/5)	56	WG P2-WE-St-41	DOWNSTREAM CONCRETE APRON-2
10	WG-P2-GE-PI-3	GENERAL PLAN OF WEIR	57	WG P2-WE-St-42	UPSTREAM CONCRETE APRON
11	WG-P2-GE-Cr-6	UPSTREAM ELEVATION OF WEIR	58	WG P2-WE-Re-43	REINFORCING BAR ARRANGEMENT FOR CONCRETE APRON (1/6)
12	WG-P2-GE-Lo-2	PROFILE OF WEIR (1/2)	59	WG P2-WE-Re-44	REINFORCING BAR ARRANGEMENT FOR CONCRETE APRON (2/6)
13	WG-P2-GE-Lo-3	PROFILE OF WEIR (2/2)	60	WG P2-WE-Re-45	REINFORCING BAR ARRANGEMENT FOR CONCRETE APRON (3/6)
14	WG-P2-GE-Cr-7	CROSS SECTIONS (1/2)	61	WG P2-WE-Re-46	REINFORCING BAR ARRANGEMENT FOR CONCRETE APRON (4/6)
15	WG-P2-GE-Cr-8	CROSS SECTIONS (2/2)	62	WG P2-WE-Re-47	REINFORCING BAR ARRANGEMENT FOR CONCRETE APRON (5/6)
<b>WEIR PIER, GATE FLOOR SLAB AND APRON (WE)</b>			<b>INTAKE STRUCTURES (IS)</b>		
16	WG P2-WE-St-1	CENTER PIER (1/2)	64	WG P2-IS-St-1	RIGHT BANK INTAKE STRUCTURES (1/2)
17	WG P2-WE-St-2	CENTER PIER (2/2)	65	WG P2-IS-St-2	RIGHT BANK INTAKE STRUCTURES (2/2)
18	WG P2-WE-Re-3	REINFORCING BAR ARRANGEMENT FOR CENTER PIER (1/8)	66	WG P2-IS-St-3	BLOCKOUT FOR INTAKE GATE (RIGHT BANK)
19	WG P2-WE-Re-4	REINFORCING BAR ARRANGEMENT FOR CENTER PIER (2/8)	67	WG P2-IS-Re-4	REINFORCING BAR ARRANGEMENT FOR RIGHT INTAKE STRUCTURE (1/5)
20	WG P2-WE-Re-5	REINFORCING BAR ARRANGEMENT FOR CENTER PIER (3/8)	68	WG P2-IS-Re-5	REINFORCING BAR ARRANGEMENT FOR RIGHT INTAKE STRUCTURE (2/5)
21	WG P2-WE-Re-6	REINFORCING BAR ARRANGEMENT FOR CENTER PIER (4/8)	69	WG P2-IS-Re-6	REINFORCING BAR ARRANGEMENT FOR RIGHT INTAKE STRUCTURE (3/5)
22	WG P2-WE-Re-7	REINFORCING BAR ARRANGEMENT FOR CENTER PIER (5/8)	70	WG P2-IS-Re-7	REINFORCING BAR ARRANGEMENT FOR RIGHT INTAKE STRUCTURE (4/5)
23	WG P2-WE-Re-8	REINFORCING BAR ARRANGEMENT FOR CENTER PIER (6/8)	71	WG P2-IS-Re-8	REINFORCING BAR ARRANGEMENT FOR RIGHT INTAKE STRUCTURE (5/5)
24	WG P2-WE-Re-9	REINFORCING BAR ARRANGEMENT FOR CENTER PIER (7/8)	72	WG P2-IS-St-9	LEFT BANK INTAKE STRUCTURE (1/2)
25	WG P2-WE-Re-10	REINFORCING BAR ARRANGEMENT FOR CENTER PIER (8/8)	73	WG P2-IS-St-10	LEFT BANK INTAKE STRUCTURE (2/2)
26	WG P2-WE-St-11	END PIER (1/3)	74	WG P2-IS-St-11	BLOCKOUT FOR INTAKE GATE (LEFT BANK)
27	WG P2-WE-St-12	END PIER (2/3)	75	WG P2-IS-Re-12	REINFORCING BAR ARRANGEMENT FOR LEFT INTAKE STRUCTURE (1/4)
28	WG P2-WE-St-13	END PIER (3/3)	76	WG P2-IS-Re-13	REINFORCING BAR ARRANGEMENT FOR LEFT INTAKE STRUCTURE (2/4)
29	WG P2-WE-Re-14	REINFORCING BAR ARRANGEMENT FOR END PIER (1/15)	77	WG P2-IS-Re-14	REINFORCING BAR ARRANGEMENT FOR LEFT INTAKE STRUCTURE (3/4)
30	WG P2-WE-Re-15	REINFORCING BAR ARRANGEMENT FOR END PIER (2/15)	78	WG P2-IS-Re-15	REINFORCING BAR ARRANGEMENT FOR LEFT INTAKE STRUCTURE (4/4)
31	WG P2-WE-Re-16	REINFORCING BAR ARRANGEMENT FOR END PIER (3/15)	<b>APPROACH WALLS ON RIGHT AND LEFT BANKS (AW)</b>		
32	WG P2-WE-Re-17	REINFORCING BAR ARRANGEMENT FOR END PIER (4/15)	79	WG P2-AW-St-1	DOWNSTREAM APPROACH WALL (RIGHT BANK)
33	WG P2-WE-Re-18	REINFORCING BAR ARRANGEMENT FOR END PIER (5/15)	80	WG P2-AW-St-2	DOWNSTREAM APPROACH WALL (LEFT BANK)
34	WG P2-WE-Re-19	REINFORCING BAR ARRANGEMENT FOR END PIER (6/15)	81	WG P2-AW-St-3	U-SHAPE DRAINAGE CHANNEL ON APPROACH WALL
35	WG P2-WE-Re-20	REINFORCING BAR ARRANGEMENT FOR END PIER (7/15)	82	WG P2-AW-Re-4	REINFORCING BAR ARRANGEMENT FOR DOWNSTREAM APPROACH WALL (1/8)
36	WG P2-WE-Re-21	REINFORCING BAR ARRANGEMENT FOR END PIER (8/15)	83	WG P2-AW-Re-5	REINFORCING BAR ARRANGEMENT FOR DOWNSTREAM APPROACH WALL (2/8)
37	WG P2-WE-Re-22	REINFORCING BAR ARRANGEMENT FOR END PIER (9/15)	84	WG P2-AW-Re-6	REINFORCING BAR ARRANGEMENT FOR DOWNSTREAM APPROACH WALL (3/8)
38	WG P2-WE-Re-23	REINFORCING BAR ARRANGEMENT FOR END PIER (10/15)	85	WG P2-AW-Re-7	REINFORCING BAR ARRANGEMENT FOR DOWNSTREAM APPROACH WALL (4/8)
39	WG P2-WE-Re-24	REINFORCING BAR ARRANGEMENT FOR END PIER (11/15)	86	WG P2-AW-Re-8	REINFORCING BAR ARRANGEMENT FOR DOWNSTREAM APPROACH WALL (5/8)
40	WG P2-WE-Re-25	REINFORCING BAR ARRANGEMENT FOR END PIER (12/15)	87	WG P2-AW-Re-9	REINFORCING BAR ARRANGEMENT FOR DOWNSTREAM APPROACH WALL (6/8)
41	WG P2-WE-Re-26	REINFORCING BAR ARRANGEMENT FOR END PIER (13/15)	88	WG P2-AW-Re-10	REINFORCING BAR ARRANGEMENT FOR DOWNSTREAM APPROACH WALL (7/8)
42	WG P2-WE-Re-27	REINFORCING BAR ARRANGEMENT FOR END PIER (14/15)	89	WG P2-AW-Re-11	REINFORCING BAR ARRANGEMENT FOR DOWNSTREAM APPROACH WALL (8/8)
43	WG P2-WE-Re-28	REINFORCING BAR ARRANGEMENT FOR END PIER (15/15)	90	WG P2-AW-St-12	UPSTREAM APPROACH WALL (RIGHT BANK)
44	WG P2-WE-St-29	MAINTENANCE CONCRETE STEPS AND HANDRAIL	91	WG P2-AW-St-13	UPSTREAM APPROACH WALL (LEFT BANK)
45	WG P2-WE-St-30	GATE FLOOR SLAB (1/2)	92	WG P2-AW-Re-14	REINFORCING BAR ARRANGEMENT FOR UPSTREAM APPROACH WALL (1/7)
46	WG P2-WE-St-31	GATE FLOOR SLAB (2/2)	93	WG P2-AW-Re-15	REINFORCING BAR ARRANGEMENT FOR UPSTREAM APPROACH WALL (2/7)
47	WG P2-WE-St-32	BLOCKOUT FOR FLOOD DISCHARGE GATE	94	WG P2-AW-Re-16	REINFORCING BAR ARRANGEMENT FOR UPSTREAM APPROACH WALL (3/7)
48	WG P2-WE-St-33	BLOCKOUT FOR TEMPORARY GATE	95	WG P2-AW-Re-17	REINFORCING BAR ARRANGEMENT FOR UPSTREAM APPROACH WALL (4/7)
49	WG P2-WE-St-34	BLOCKOUT FOR SEDIMENT FLUSH GATE	96	WG P2-AW-Re-18	REINFORCING BAR ARRANGEMENT FOR UPSTREAM APPROACH WALL (5/7)
50	WG P2-WE-St-35	WATER STOP IN GATE FLOOR SLAB	97	WG P2-AW-Re-19	REINFORCING BAR ARRANGEMENT FOR UPSTREAM APPROACH WALL (6/7)
51	WG P2-WE-Re-36	REINFORCING BAR ARRANGEMENT FOR GATE FLOOR SLAB (1/3)			

PACKAGE - 2 : RECONSTRUCTION OF SIMONGAN WEIR

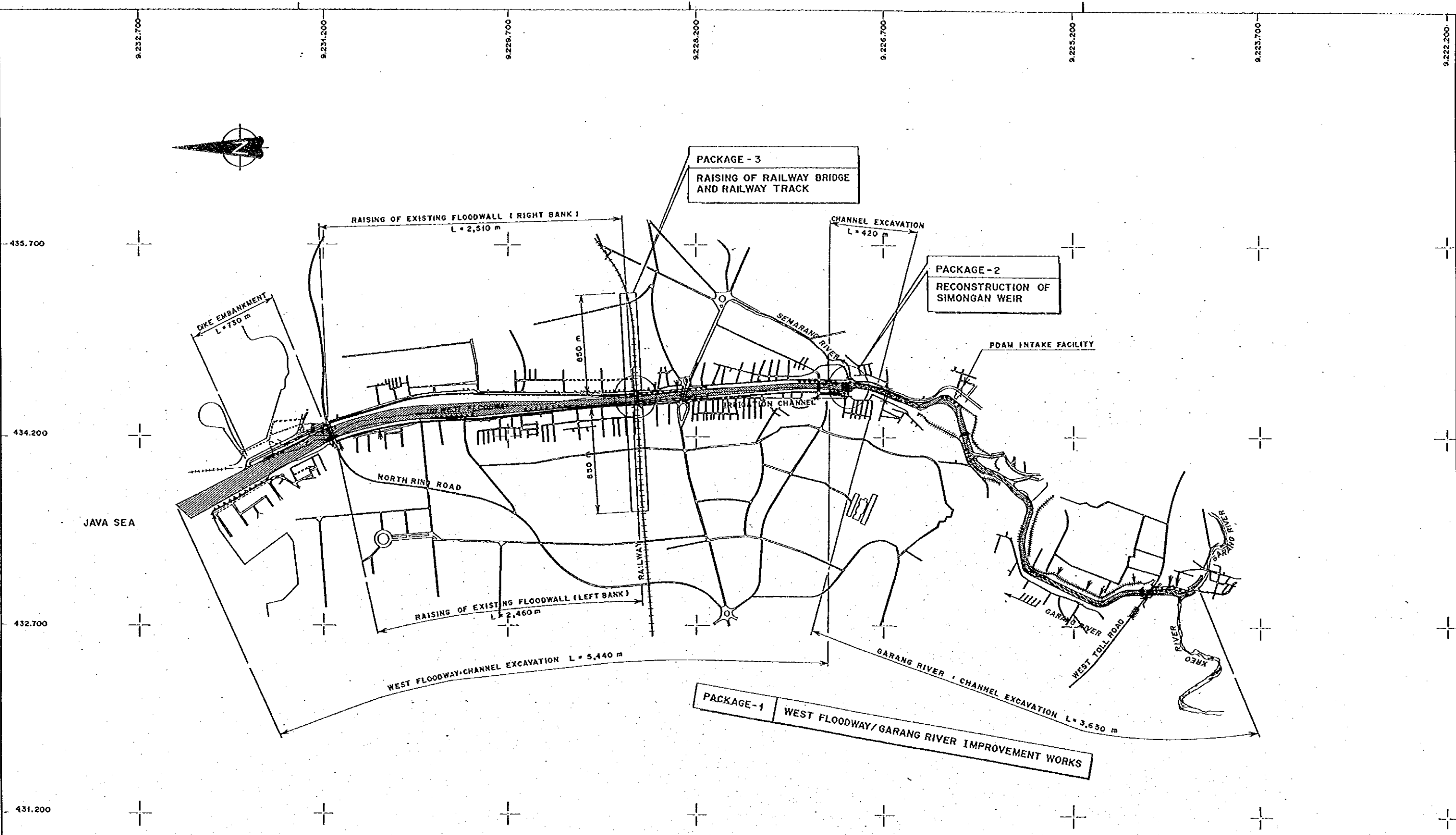
LIST OF DRAWINGS (2/3)

SHEET No	DRAWING No	TITLE OF DRAWING	SHEET No	DRAWING No	TITLE OF DRAWING
<b>APPROACH WALLS ON RIGHT AND LEFT BANKS (AW)</b>			139	WG P2-MB Re-5	SUBSTRUCTURE
98	WG P2-AW-Re-20	REINFORCING BAR ARRANGEMENT FOR UPSTREAM APPROACH WALL (7/7)	140	WG P2-MB Re-6	SUBSTRUCTURE
<b>FOUNDATION PILES (FP)</b>			141	WG P2-MB-St-7	SUBSTRUCTURE
99	WG P2-FP-St-1	PILE ARRANGEMENT AND DETAILS FOR WEIR PIER & GATE FLOOR SLAB	142	WG P2-MB-St-8	SUBSTRUCTURE
100	WG P2-FP-St-2	PILE ARRANGEMENT AND DETAILS FOR CONCRETE APRON (1/2)	143	WG P2-MB Re-9	SUBSTRUCTURE
101	WG P2-FP-St-3	PILE ARRANGEMENT AND DETAILS FOR CONCRETE APRON (2/2)	144	WG P2-MB Re-10	SUBSTRUCTURE
102	WG P2-FP-St-4	PILE ARRANGEMENT AND DETAILS FOR APPROACH WALL (1/3)	145	WG P2-MB-St-11	SUBSTRUCTURE
103	WG P2-FP-St-5	PILE ARRANGEMENT AND DETAILS FOR APPROACH WALL (2/3)	146	WG P2-MB-St-12	SUBSTRUCTURE
104	WG P2-FP-St-6	PILE ARRANGEMENT AND DETAILS FOR APPROACH WALL (3/3)	147	WG P2-MB Re-13	SUBSTRUCTURE
105	WG P2-FP-St-7	DIMENSION OF FOUNDATION PILES (1/2)	148	WG P2-MB Re-14	SUBSTRUCTURE
106	WG P2-FP-St-8	DIMENSION OF FOUNDATION PILES (2/2)	149	WG P2-MB-St-15	MAINTENANCE BRIDGE NO. 2,3 AND 4
<b>GATE, GUIDE FRAME AND HOIST (GA)</b>			150	WG P2-MB-St-16	MAINTENANCE BRIDGE NO. 2,3 AND 4
107	WG P2-GA-Me-1	GENERAL PLAN, PROFILE & UPSTREAM ELEVATION OF GATE	151	WG P2-MB Re-17	MAINTENANCE BRIDGE NO. 2,3 AND 4
108	WG P2-GA-Me-2	PLAN AND ELEVATION OF FLOOD DISCHARGE GATE	152	WG P2-MB Re-18	MAINTENANCE BRIDGE NO. 2,3 AND 4
109	WG P2-GA-Me-3	DETAILS OF FLOOD DISCHARGE GATE	153	WG P2-MB Re-19	MAINTENANCE BRIDGE NO. 2,3 AND 4
110	WG P2-GA-Me-4	PLAN AND ELEVATION OF SEDIMENT FLUSH GATE	154	WG P2-MB-St-20	MAINTENANCE BRIDGE NO. 2,3 AND 4
111	WG P2-GA-Me-5	DETAILS OF SEDIMENT FLUSH GATE	155	WG P2-MB-St-21	MAINTENANCE BRIDGE NO. 1 AND 5
112	WG P2-GA-Me-6	DETAILS OF SLIDE GATE ( RIGHT BANK)	156	WG P2-MB Re-22	MAINTENANCE BRIDGE NO. 1 AND 5
113	WG P2-GA-Me-7	DETAILS OF SLIDE GATE ( LEFT BANK)	157	WG P2-MB Re-23	MAINTENANCE BRIDGE NO. 1 AND 5
114	WG P2-GA-Me-8	DETAILS OF TEMPORARY GATE	158	WG P2-MB-St-24	APPROACH BRIDGE NO.2
115	WG P2-GA-EI-1	DIAGRAM OF OVERALL GATE CONTROL SYSTEM	159	WG P2-MB Re-25	APPROACH BRIDGE NO.2
116	WG P2-GA-EI-2	SINGLE LINE DIAGRAM OF WEIR ELECTRICAL EQUIPMENT	160	WG P2-MB Re-26	APPROACH BRIDGE NO.2
117	WG P2-GA-EI-3	DIAGRAM OF REMOTE GATE CONTROL SYSTEM	161	WG P2-MB-St-27	APPROACH BRIDGE NO.1
118	WG P2-GA-EI-4	DIAGRAM OF LOCAL GATE CONTROL SYSTEM (1/3)	162	WG P2-MB Re-28	APPROACH BRIDGE NO.1
119	WG P2-GA-EI-5	DIAGRAM OF LOCAL GATE CONTROL SYSTEM (2/3)	163	WG P2-MB Re-29	APPROACH BRIDGE NO.1
120	WG P2-GA-EI-6	DIAGRAM OF LOCAL GATE CONTROL SYSTEM (3/3)	164	WG P2-MB-St-30	MAINTENANCE BRIDGE APPROACH ROAD
121	WG P2-GA-EI-7	ELECTRICAL EQUIPMENT IN ELECTRICAL BUILDING AND OPERATION/MANAGEMENT BUILDING	165	WG P2-MB Re-31	MAINTENANCE BRIDGE APPROACH ROAD
122	WG P2-GA-Me-9	GATE MATERIAL LIST (1/2)	166	WG P2-MB Re-32	MAINTENANCE BRIDGE APPROACH ROAD
123	WG P2-GA-Me-10	GATE MATERIAL LIST (2/2)	167	WG P2-MB Re-33	MAINTENANCE BRIDGE APPROACH ROAD
<b>PROTECTION WORKS FOR RIVERBANK AND RIVERBED (PR)</b>			<b>SIMONGAN WEIR MANAGEMENT COMPLEX (SM)</b>		
124	WG P2-PR-St-1	PLAN OF DOWNSTREAM SIDE REVETMENT	168	WG P2-SM-BI-1	OPERATION/MANAGEMENT BUILDING
125	WG P2-PR-St-2	PROFILE OF DOWNSTREAM SIDE REVETMENT	169	WG P2-SM-BI-2	OPERATION/MANAGEMENT BUILDING
126	WG P2-PR-St-3	RIGHT BANK RETAINING WALL IN UPSTREAM	170	WG P2-SM-BI-3	OPERATION/MANAGEMENT BUILDING
127	WG P2-PR-St-4	LEFT BANK RETAINING WALL IN UPSTREAM	171	WG P2-SM-BI-4	OPERATION/MANAGEMENT BUILDING
128	WG P2-PR-Pi-1	RIVER SECTION: WF.100 TO WF.104 (RIGHT & LEFT BANK)	172	WG P2-SM-BI-5	OPERATION/MANAGEMENT BUILDING
129	WG P2-PR-St-5	RIVER SECTION: WF.100 TO WF.104 (RIGHT & LEFT BANK)	173	WG P2-SM-BI-6	OPERATION/MANAGEMENT BUILDING
130	WG P2-PR-St-6	DETAILS OF CONCRETE BLOCK AND GABION MATTRESS	174	WG P2-SM-BI-7	OPERATION/MANAGEMENT BUILDING
131	WG P2-PR-St-7	REVETMENT FOR OUTLET RIVERBANK OF RIGHT INTAKE GATE	175	WG P2-SM-BI-8	OPERATION/MANAGEMENT BUILDING
132	WG P2-PR-St-8	REVETMENT FOR OUTLET RIVERBANK OF LEFT INTAKE GATE	176	WG P2-SM-BI-9	OPERATION/MANAGEMENT BUILDING
133	WG P2-PR-St-9	REVETMENT FOR DOWNSTREAM END OF WEIR (LEFT BANK)	177	WG P2-SM-BI-10a	OPERATION/MANAGEMENT BUILDING
134	WG P2-PR-St-10	DETAILS OF GABION MATTRESS & CYLINDER	178	WG P2-SM-BI-10b	OPERATION/MANAGEMENT BUILDING
<b>MAINTENANCE BRIDGE (MB)</b>			179	WG P2-SM-BI-11	OPERATION/MANAGEMENT BUILDING
135	WG P2-MB Pi-1	GENERAL PLAN, PROFILE AND UPSTREAM ELEVATION	180	WG P2-SM-BI-12	OPERATION/MANAGEMENT BUILDING
136	WG P2-MB-St-2	SUBSTRUCTURE	181	WG P2-SM-BI-13	OPERATION/MANAGEMENT BUILDING
137	WG P2-MB Re-3	SUBSTRUCTURE	182	WG P2-SM-BI-14	OPERATION/MANAGEMENT BUILDING
138	WG P2-MB Re-4	SUBSTRUCTURE	183	WG P2-SM-BI-15	OPERATION/MANAGEMENT BUILDING
		PLAN AND PROFILE OF ABUTMENT 1	184	WG P2-SM-BI-16	OPERATION/MANAGEMENT BUILDING
		REINFORCING BAR ARRANGEMENT OF ABUTMENT 1 (1/4)	185	WG P2-SM-BI-17	OPERATION/MANAGEMENT BUILDING
		REINFORCING BAR ARRANGEMENT OF ABUTMENT 1 (2/4)	186	WG P2-SM-BI-18	OPERATION/MANAGEMENT BUILDING
					GENERAL ABBREVIATION AND SYMBOL
					EXTERIOR FINISH SCHEDULE
					INTERIOR FINISH SCHEDULE
					FLOOR AREA TABLE
					SITE PLAN (PORT PLAN)
					FLOOR PLAN, ROOF PLAN & CEILING PLAN
					ELEVATION
					SECTION
					INTERIOR ELEVATION, DETAIL PLAN & DETAIL
					KEY PLAN, DOOR WINDOW SCHEDULE
					KEY PLAN, DOOR WINDOW SCHEDULE
					DRAINAGE PLAN & DETAIL
					FOUNDATION PLAN & DETAIL
					COLUMN, TIE BEAM & FRAMING ELEVATION
					FRAMING ELEVATION, STAIR SECTION & DETAIL
					ROOF PLAN, TYPICAL TRUSS & DETAIL
					DETAIL TRUSS
					LIGHTNING PLAN & ONE LINE ELECTRICAL DIAGRAM
					LIGHTNING PLAN & ONE LINE ELECTRICAL DIAGRAM

PACKAGE - 2 : RECONSTRUCTION OF SIMONGAN WEIR

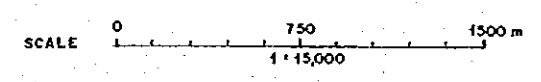
LIST OF DRAWINGS (3/3)

SHEET No	DRAWING No	TITLE OF DRAWING	SHEET No	DRAWING No	TITLE OF DRAWING
<b>SIMONGAN WEIR MANAGEMENT COMPLEX (SM)</b>			234	WG-P2-PE-St-4	STRUCTURAL DETAILS (2/2)
187	WG-P2-SM-BI-19	OPERATION/MANAGEMENT BUILDING	<b>MISCELLANEOUS OF EXISTING SIMONGAN (MI)</b>		
188	WG-P2-SM-BI-20	OPERATION/MANAGEMENT BUILDING	235	WG-P2-MI-St-1	DETAILS OF CAR STOP
189	WG-P2-SM-BI-21	OPERATION/MANAGEMENT BUILDING	236	WG-P2-MI-St-2	DETAILS OF STORAGE FACILITY FOR GATE, STEEL LADDER AND WATER LEVEL GAUGE
190	WG-P2-SM-BI-22	STORAGE HOUSE I	237	WG-P2-MI-St-3	DETAILS OF OUTDOOR LIGHTING
191	WG-P2-SM-BI-23	STORAGE HOUSE I	238	WG-P2-MI-St-4	DETAIL OF INFORMATION BOARD
192	WG-P2-SM-BI-24	STORAGE HOUSE I	239	WG-P2-MI-St-5	DETAILS OF WATER LEVELING GAUGE, RAIN GAUGE AND SIREN
193	WG-P2-SM-BI-25	STORAGE HOUSE I			
194	WG-P2-SM-BI-26	STORAGE HOUSE I			
195	WG-P2-SM-BI-27	STORAGE HOUSE I			
196	WG-P2-SM-BI-28	ELECTRICAL BUILDING			
197	WG-P2-SM-BI-29	ELECTRICAL BUILDING			
198	WG-P2-SM-BI-30	ELECTRICAL BUILDING			
199	WG-P2-SM-BI-31	ELECTRICAL BUILDING			
200	WG-P2-SM-BI-32	ELECTRICAL BUILDING			
201	WG-P2-SM-BI-33	ELECTRICAL BUILDING			
202	WG-P2-SM-BI-34	STORAGE HOUSE II			
203	WG-P2-SM-BI-35	STORAGE HOUSE II			
204	WG-P2-SM-BI-36	STORAGE HOUSE II			
205	WG-P2-SM-BI-37	STORAGE HOUSE II			
206	WG-P2-SM-BI-38	STORAGE HOUSE II			
207	WG-P2-SM-BI-39	STORAGE HOUSE II			
208	WG-P2-SM-BI-40	STORAGE HOUSE II			
209	WG-P2-SM-BI-41	STORAGE HOUSE II			
210	WG-P2-SM-BI-42	GUARD HOUSE			
211	WG-P2-SM-BI-43	GUARD HOUSE			
212	WG-P2-SM-BI-44	GUARD HOUSE			
213	WG-P2-SM-BI-45	GATE CONTROL HOUSE I (2 & 3)			
214	WG-P2-SM-BI-46	GATE CONTROL HOUSE I (2 & 3)			
215	WG-P2-SM-BI-47	GATE CONTROL HOUSE I (2 & 3)			
216	WG-P2-SM-BI-48	GATE CONTROL HOUSE I (2 & 3)			
217	WG-P2-SM-BI-49	GATE CONTROL HOUSE I (2 & 3)			
218	WG-P2-SM-St-50	GATE CONTROL HOUSE I (1 & 4)			
219	WG-P2-SM-St-51	GATE CONTROL HOUSE I (1 & 4)			
220	WG-P2-SM-St-52	GATE CONTROL HOUSE I (1 & 4)			
221	WG-P2-SM-Re-53	GATE CONTROL HOUSE I (1 & 4)			
222	WG-P2-SM-Re-54	GATE CONTROL HOUSE I (1 & 4)			
223	WG-P2-SM-Re-55	GATE CONTROL HOUSE I (1 & 4)			
224	WG-P2-SM-Re-56	GATE CONTROL HOUSE I (1 & 4)			
225	WG-P2-SM-Re-57	INTAKE GATE SHED ON RIGHT BANK			
226	WG-P2-SM-Re-58	INTAKE GATE SHED ON RIGHT BANK			
227	WG-P2-SM-Re-59	INTAKE GATE SHED ON LEFT BANK			
228	WG-P2-SM-Re-60	INTAKE GATE SHED ON LEFT BANK			
229	WG-P2-SM-St-61	ENTRANCE BRIDGE			
230	WG-P2-SM-St-62	ENTRANCE BRIDGE			
<b>PRESERVATION OF EXISTING SIMONGAN WEIR (PE)</b>					
231	WG-P2-PE-St-1	CUTTING AREA OF WEIR			
232	WG-P2-PE-St-2	PLAN AND PROFILE OF RECONSTRUCTION OF PART OF WEIR			
233	WG-P2-PE-St-3	STRUCTURAL DETAILS (1/2)			



**LEGEND**

- CHANNEL EXCAVATION
- DIKE EMBANKMENT
- RAISING OF EXISTING FLOODWALL
- GROUND SILL
- REVETMENT
- GROIN
- DRAINAGE SLUICeway/OUTLET WITH GATE



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
BRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY/GARANG RIVER IMPROVEMENT <b>GENERAL DRAWING</b> <b>GENERAL PLAN FOR PACKAGING</b>		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
LAYAN INTERNATIONAL CONSULTING AGENCY C/O BRATUNSELUNA CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND JAWA POS CONSULTING INC.		DISTRICT SEMARANG CITY
DESIGNED CHECKED		DRAWING NO. WFG-P2-08-01-1 SHEET NO. 1
APPROVED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		DATE CONTRACT NO.

## GENERAL NOTES

### 1. GENERAL

- 1.1. THESE NOTES SHALL APPLY UNLESS SPECIFICATION OTHERWISE INDICATED IN THE RESPECTIVE DRAWINGS.
- 1.2. ALL THE BOUND PLANS HEREIN SHALL BE AVAILABLE FOR TENDERING PURPOSE ONLY, NOT FOR CONSTRUCTION. IN CASE OF CONFLICT BETWEEN THE DRAWINGS AND THE TECHNICAL SPECIFICATIONS, THE LATTER SHALL GOVERN.
- 1.3. RIGHT OF WAY FOR THE PERMANENT STRUCTURES IS NOT SHOWN ON THE DRAWINGS, WHICH SHALL BE AS DIRECTED BY THE ENGINEER.
- 1.4. UNLESS OTHERWISE SPECIFIED, ALL DIMENSION SHOWN ON THE DRAWINGS ARE IN MILLIMETERS.
- 1.5. ALL DIMENSIONS RELATING TO THE EXISTING STRUCTURES AND FACILITIES SHALL BE VERIFIED BY THE CONTRACTOR BEFORE COMMENCEMENT OF THE WORKS.
- 1.6. ALL ELEVATION ARE REFERRED TO THE NATIONAL BENCH MARKS (ITG) OBTAINED FROM THE MEAN SEA LEVEL OF JAKARTA PORT, INDONESIA.
- 1.7. FIGURE SHALL GOVERN OVER SCALED DIMENSION IN CASE OF DISCREPANCY.

### 2. EARTHWORK

- 2.1. AREAS FOR PERMANENT STRUCTURES AND ALL BORROW PITS, QUARRY AND STOCKPILE SITES SHALL BE CLEARED AND GRUBBED TOP SOIL SHALL BE STRIPPED BEFORE COMMENCEMENT OF CONSTRUCTION.
- 2.2. UNLESS OTHERWISE SPECIFIED, REQUIRED OPEN CUT EXCAVATION SHALL BE MADE WITH THE SLOPES SHOWN BELOW :

	SLOPE GRADIENT	
	PERMANENTLY EXPOSED	TEMPORARILY EXPOSED
DILUVIAL MEDIUM	1:1.0	1:0.5
COMMON MATERIALS	1:1.5	1:1.0
RIVERBED MATERIALS	1:1.5	1:1.0

WHERE, 1:N SHALL MEAN 1 VERTICAL TO N HORIZONTAL

- 2.3. BACKFILL SHALL BE PLACES IN HORIZONTAL LAYERS NOT MORE THAN 30 cm THICK AND BE THOROUGHLY COMPACTED MAXIMUM SIZE OF ROCK IN THE BACKFILL SHALL BE 150mm.

### 3. CONCRETE WORK

- 3.1. CLASSIFICATION OF CONCRETE IS AS SHOWN BELOW:

CLASS OF CONCRETE	COMPRESSIVE STRENGTH AT 28 DAYS (σ <sub>28</sub> )		MAX. SIZE OF AGGREGATE (mm)	APPLICABLE STRUCTURES
	MPa	(kgf/cm <sup>2</sup> )		
A-1 (K-500)	49.02	500	—	PRESTRESSED CONCRETE PILE (READY MADE PRODUCT)
A-2 (K-400)	39.20	400	25	PRESTRESSED CONCRETE FOR BRIDGE GIRDER, PRESTRESSED CONCRETE PILE
A-3 (K-350)	34.30	350	25	PRESTRESSED CONCRETE FOR SLAB DECK OF BRIDGE, PRECAST CONCRETE PILE
B (K-250)	24.51	250	25	REINFORCED CONCRETE FOR BRIDGE GIRDER, WEIR AND WATER GATE
C1 (K-225)	22.05	225	25	GENERAL USE, REINFORCED CONCRETE MEMBERS WITH THICKNESS MORE THAN 20 cm
C2 (K-225)	22.05	225	15	SECONDARY CONCRETE
D (K-175)	17.15	175	40	PLAIN CONCRETE FOR STRUCTURE
E (K-125)	12.25	125	25	PLAIN CONCRETE FOR LEVELING

NOTE: 1 MPa = 10.2 kgf/cm<sup>2</sup>, (MPa: MEGA PASCAL)  
1 kgf/cm<sup>2</sup> = 0.098 MPa

TYPE OF CONCRETE SHALL BE AS SHOWN ON THE DRAWING AND DIRECTED BY THE ENGINEER

- 3.2. PROTECTIVE COVER FOR STEEL REINFORCEMENT SHALL NOT BE LESS THAN THE FOLLOWS:

-IMPORTANT CONCRETE FOOTING AND SLAB EXPOSED TO SOIL	100 mm
(LOWER SIDE OF FOOTING SUPPORTED BY PILE FOUNDATION)	150 mm
-COMMON CONCRETE FOOTING AND SLAB EXPOSED TO SOIL	75 mm
-STRUCTURES EXPOSED TO WEATHER OR BACKFILLED SOIL OR FLOWING WATER	50 mm
-NOT EXPOSED TO EARTH OR WEATHER	
BEAM	50 mm
SLAB	30 mm
COLUMN	30 mm

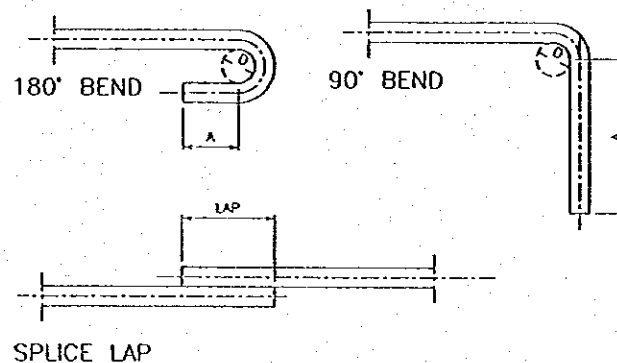
- 3.3. CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THE PLANS SHALL HAVE THE ENGINEER'S PRIOR APPROVAL.

- 3.4. ALL REINFORCING STEEL SHALL BE DEFORMED BAR CONFORMING TO U30 OF SII 0292-80, S030 OF JIS G3112, AASHTO M31M (ASTM A615) OR EQUIVALENT.

- 3.5. CLEAR DISTANCE BETWEEN PARALLEL BARS EXCEPT IN COLUMNS AND BETWEEN MULTIPLE LAYERS, SHALL BE NOT LESS THAN 4/3 TIMES MAXIMUM SIZE OF COARSE AGGREGATE.

- 3.6. ALL BAR SPLICE LAPS AND BENDS SHALL CONFORM TO THE MINIMUM REQUIREMENT AS FOLLOWS:

BAR SIZE	MINIMUM REINFORCING LAP SPLICE AND BEND			
	LAP	D	A	
			180°	90°
D10	35 cm	50 mm	6 cm	12 cm
D13	46 cm	65 mm	6 cm	16 cm
D16	56 cm	80 mm	7 cm	20 cm
D19	67 cm	95 mm	8 cm	23 cm
D25	88 cm	125 mm	10 cm	30 cm
D29	102 cm	145 mm	12 cm	35 cm
D32	112 cm	160 mm	13 cm	48 cm



### 4. OTHER WORKS

- 4.1. UNLESS OTHERWISE SPECIFIED, ALL STRUCTURAL STEELS SHALL BE ROLLED STEEL CONFORMING TO ASTM A36, JIS G3101, JIS G 3106 OR EQUIVALENT.
- 4.2. UNLESS OTHERWISE SPECIFIED, CEMENT MORTAR AND PLASTER FOR STRUCTURES SHALL BE PROPORTIONED BY VOLUME OF ONE (1) PART OF CEMENT TO THREE (3) PARTS OF SAND AND FOR REVETMENT.
- 4.3. LOCATIONS OF EXISTING DRAINAGE STRUCTURES INDICATED ON THE PLANS SHALL BE VERIFIED IN THE FIELD AND THE LOCATIONS OF PROPOSED DRAINAGE DITCHES AND OUTLETS SHALL BE ADJUSTED TO SUIT FIELD CONDITIONS.

## ABBREVIATIONS AND LEGEND

### ABBREVIATIONS

APPROX.	APPROXIMATELY	LLWL	LOWEST LOW WATER LEVEL
B	WIDTH	LWL	LOW WATER LEVEL
BP	BEGINNING POINT	MAX	MAXIMUM
BC	BEGINNING POINT OF CURVE	MIN	MINIMUM
CL	CURVE LENGTH	MSL	MEAN SEA LEVEL
L	CENTER LINE	MHWL	MEAN HIGH WATER LEVEL
CTC	CENTER TO CENTER	MLWL	MEAN LOW WATER LEVEL
D	DIAMETER OF DEFORMED BAR	'N	NORTH LATITUDE
DFWL	DESIGN FLOOD WATER LEVEL	No.	NUMBER
DHWL	DESIGN HIGH WATER LEVEL	NWL	NORMAL WATER LEVEL
DWL	DESIGN WATER LEVEL	PC	PRESTRESSED CONCRETE
EL	ELEVATION	PL	PLATE
EC	ENDING POINT OF CURVE	PVC	POLYVINYL CHLORIDE
EP	ENDING POINT	R	RADIUS
'E	EAST LONGITUDE	RC	REINFORCED CONCRETE
EL	ELEVATION	SL	SECANT LENGTH
FIG	FIGURE	T, THK	THICKNESS
HWL	HIGH WATER LEVEL	TL	TANGENT LENGTH
HHWL	HIGHEST HIGH WATER LEVEL	VCL	VERTICAL CURVE LENGTH
I	I-BEAM	⊙	SPACING OF REINFORCEMENT BAR
IA	INTERSECTION ANGLE	⊙	DIAMETER OF ROUND BAR
IP	INTERSECTION POINT	° ' "	ANGLE (DEGREE, MINUTE, SECOND)
i	GRADE		
L	LENGTH		

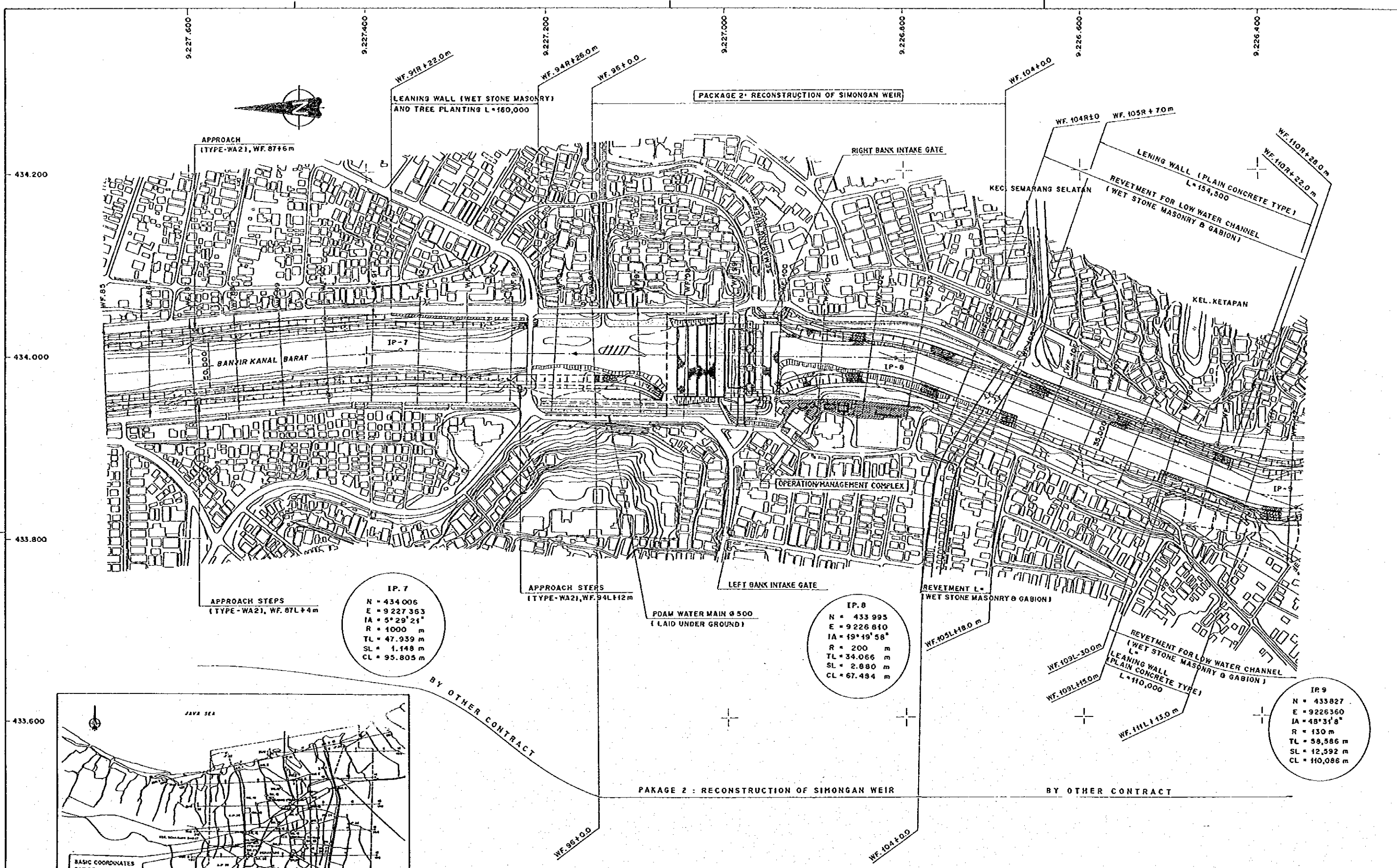
### LEGEND

	EARTH		WET STONE MASONRY
	ROCK		COBBLE STONE OR GRAVEL
	EMBANKMENT / CUT SLOPE		CONCRETE
	SLOPE WITH REVETMENT		BLOCK OR CONCRETE BLOCK
	FLOW DIRECTION		WATER SURFACE

NO.	DATE	REVISIONS	DATE	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 WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT: SEMARANG CITY DRAWING NO. WS-P2-GE-S1-1 SHEET NO. 3
JRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANO RIVER IMPROVEMENT <b>GENERAL DRAWING</b> GENERAL NOTES, LEGEND AND ABBREVIATIONS	DATE: _____ CONTRACT NO.: _____
JAPAN INTERNATIONAL COOPERATION AGENCY CII ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND FLECO INTERNATIONAL INC.	DESIGNED: _____ CHECKED: _____ CROPPED OF PLANNING AND DESIGN PROJECT MANAGER

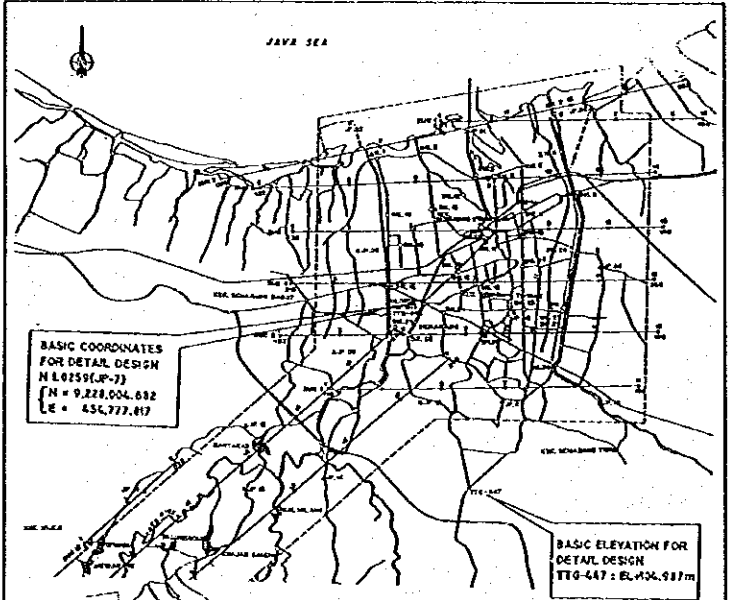




IP. 7  
 N = 434 006  
 E = 9227 353  
 IA = 5° 29' 21"  
 R = 1000 m  
 TL = 47.939 m  
 SL = 1.148 m  
 CL = 95.805 m

IP. 8  
 N = 433 993  
 E = 9226 810  
 IA = 19° 19' 58"  
 R = 200 m  
 TL = 34.066 m  
 SL = 2.880 m  
 CL = 67.494 m

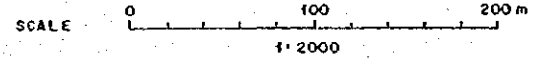
IP. 9  
 N = 433 827  
 E = 9226 360  
 IA = 48° 31' 8"  
 R = 130 m  
 TL = 58.586 m  
 SL = 12.592 m  
 CL = 110.086 m



- NOTE:
1. ALL LEVELING WORKS SHALL BE BASED ON THE NATIONAL BENCH MARK IIG-447 SHOWN ON THE LOCATION MAP.
  2. ALL CALCULATIONS FOR COORDINATES SHALL BE BASED ON THE BENCH MARK N.1.0259 (JP-7) SHOWN ON THE LOCATION MAP.
  3. COORDINATES AND ELEVATIONS SHOWN IN THE TABLE 'LIST OF BENCHMARK' ARE ONLY FOR REFERENCE.

LIST OF BENCH MARK

BENCH MARK	NORTHING	EASTING	ELEVATION
WF. 90R	9.227.447.129	434.039.912	5.024
WF. 90L	9.227.443.775	433.956.295	5.707
WF. 100R	9.226.939.702	434.036.468	8.602
WF. 100L	9.226.945.269	433.949.563	8.634
WF. 110R	9.226.445.572	433.895.695	12.604
WF. 110L	9.226.465.004	433.839.899	14.000



NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

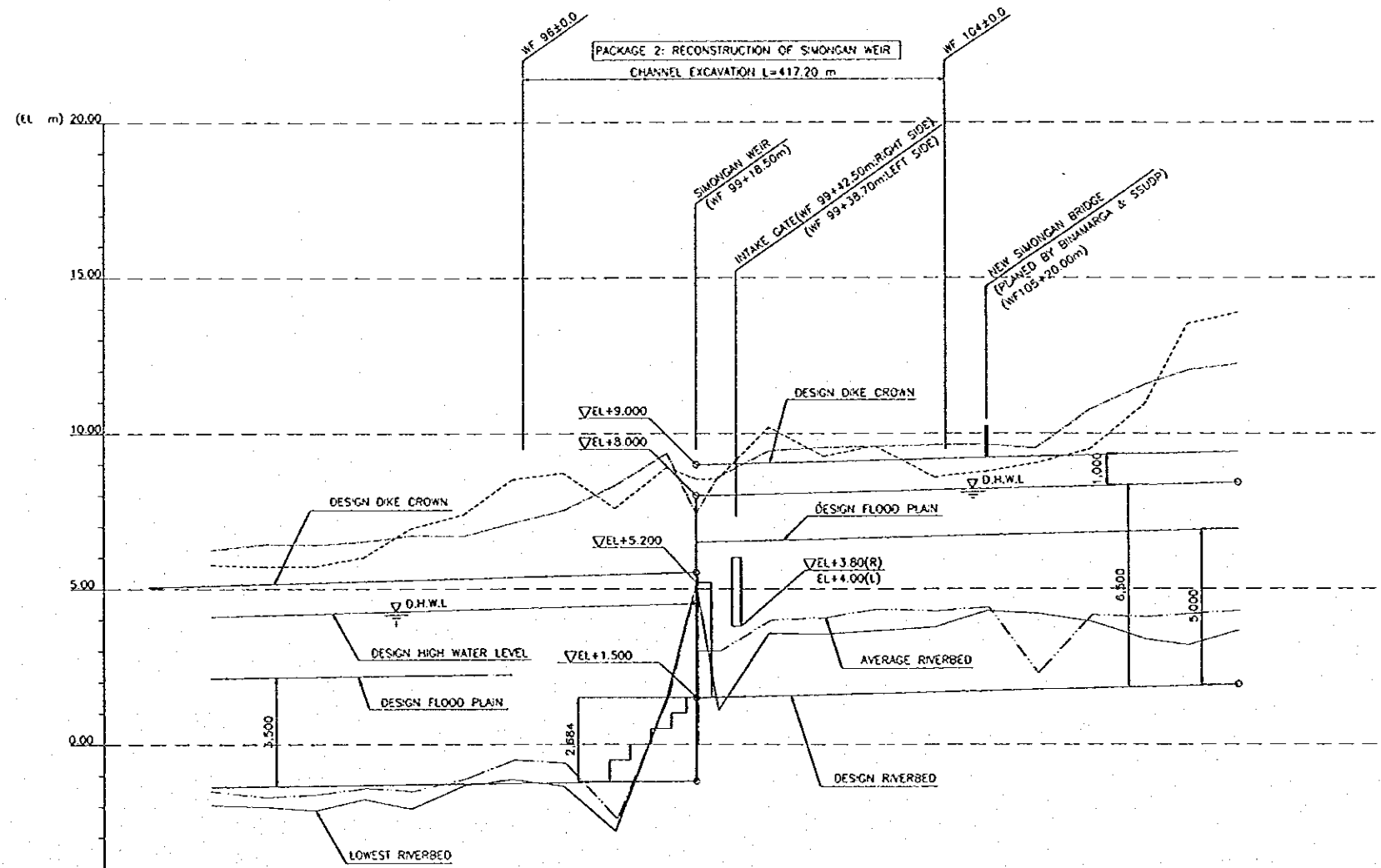
THE REPUBLIC OF INDONESIA  
 MINISTRY OF PUBLIC WORKS  
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT  
 AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

PRATUNSELUNA FLOOD CONTROL PROJECT  
 COMPONENT: WEST FLOODWAY / GARANO RIVER IMPROVEMENT  
 GENERAL DRAWING  
 PLAN OF RIVER CHANNEL

INDONESIA INTERNATIONAL COOPERATION AGENCY  
 CIL (ENGINEERING) CO. LTD. IN ASSOCIATION WITH  
 PACIFIC CONSULTANTS INTERNATIONAL AND  
 FARCO INTERNATIONAL INC.

CHEF OF PLANNING AND DESIGN  
 PROJECT MANAGER

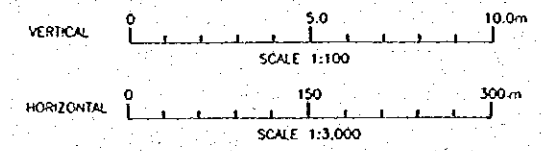
CENTRAL JAWA  
 PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA  
 DISTRICT: SEMARANG CITY  
 DRAWING NO.: WFD - P2 - 08 - P1 - 2  
 SHEET NO.: 3  
 DATE: \_\_\_\_\_  
 CONTRACT NO.: \_\_\_\_\_



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

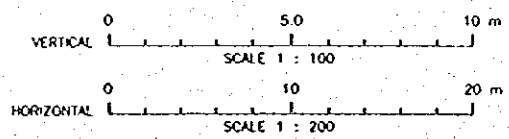
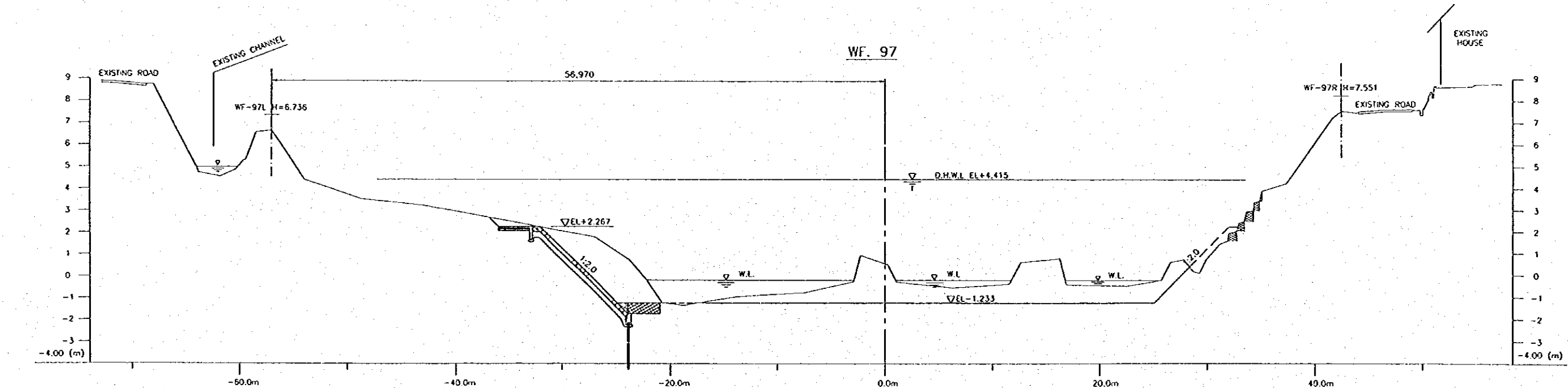
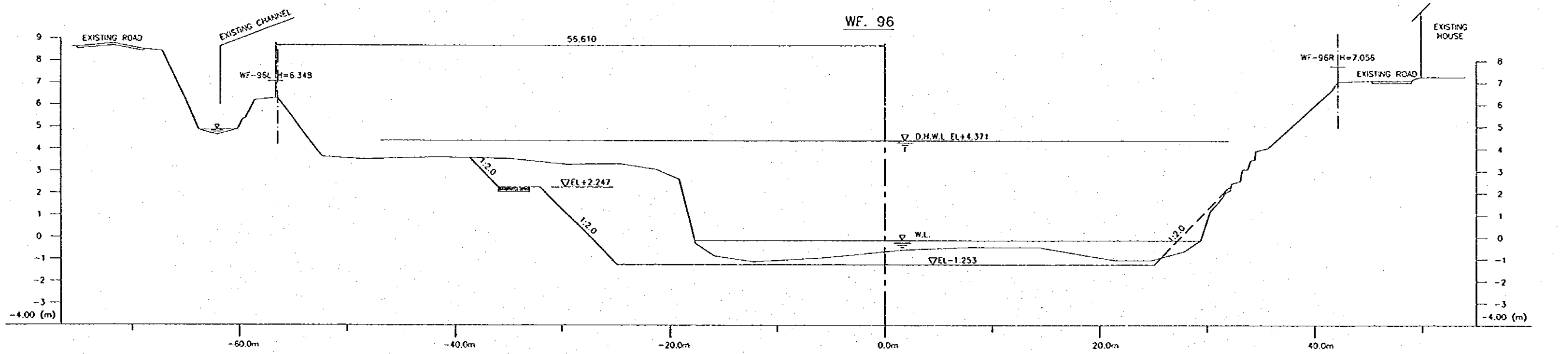
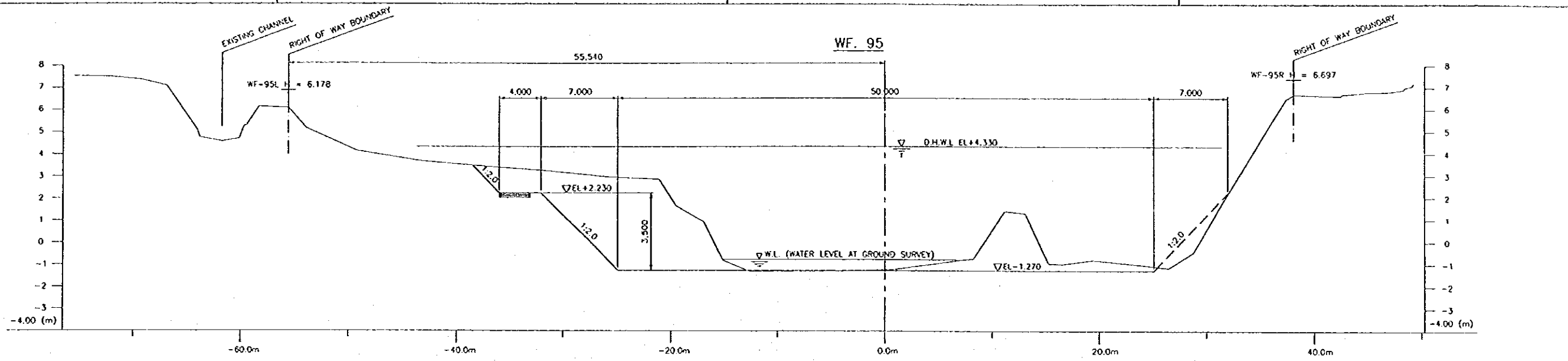
DL = -5.000m

STATION NO.	DISTANCE		EXISTING ELEVATION			DESIGN ELEVATION			GRADIENT OF DESIGN RIVERBED	GRADIENT OF DESIGN H.W.L.
	ACCUMULATED (m)	PARTIAL (m)	RIGHT GROUND	LEFT GROUND	LOWEST RIVERBED	DIKE CROWN	HIGH WATER LEVEL	RIVERBED		
WF 90	4,533.30	50.27	6.25	5.78	-1.94	5.10	4.110	-1.266	4.110	
WF 91	4,586.77	53.47	6.43	5.71	-2.00	5.157	4.157	-1.343	4.157	
WF 92	4,637.12	50.35	6.41	5.73	-2.11	5.200	4.200	-1.320	4.200	
WF 93	4,685.66	48.54	6.52	6.01	-1.76	5.243	4.243	-1.308	4.243	
WF 94	4,733.69	48.03	6.71	6.94	-2.06	5.284	4.284	-1.290	4.284	
WF 95	4,786.14	52.45	6.70	7.39	-1.32	5.330	4.330	-1.270	4.330	
WF 96	4,832.83	46.89	7.11	6.51	-1.12	5.371	4.371	-1.253	4.371	
WF 97	4,883.42	50.59	7.52	6.72	-1.24	5.415	4.415	-1.233	4.415	
WF 98	4,935.34	51.92	8.33	7.38	-2.80	5.460	4.460	-1.214	4.460	
WF 99	4,985.74	50.40	8.36	8.91	-1.54	5.504	4.504	-1.195	4.504	
WF 99+29	5,014.59	28.85	8.53	8.53	-1.86	5.522	4.522	-1.186	4.522	
WF 100	5,036.76	22.17	8.54	8.54	-1.10	5.522	4.522	-1.500	4.522	
WF 101	5,086.58	49.82	9.45	10.20	-3.57	5.558	4.558	-1.518	4.558	
WF 102	5,140.63	54.05	9.53	9.26	-3.54	5.601	4.601	-1.501	4.601	
WF 103	5,191.70	51.07	9.59	9.59	-3.65	5.642	4.642	-1.542	4.642	
WF 104	5,250.06	58.36	9.63	8.59	-3.77	5.686	4.686	-1.686	4.686	
WF 105	5,300.60	50.54	9.95	8.78	-4.30	5.729	4.729	-1.729	4.729	
WF 106	5,348.02	47.42	9.53	9.04	-4.21	5.767	4.767	-1.767	4.767	
WF 107	5,400.04	52.02	10.78	9.50	-3.96	5.808	4.808	-1.808	4.808	
WF 108	5,453.99	53.95	11.58	10.95	-3.38	5.852	4.852	-1.852	4.852	
WF 109	5,497.22	43.23	12.04	13.52	-3.20	5.896	4.896	-1.896	4.896	
WF 110	5,546.70	49.48	12.23	13.88	-3.66	5.926	4.926	-1.926	4.926	



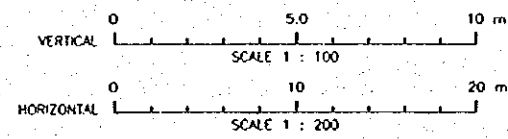
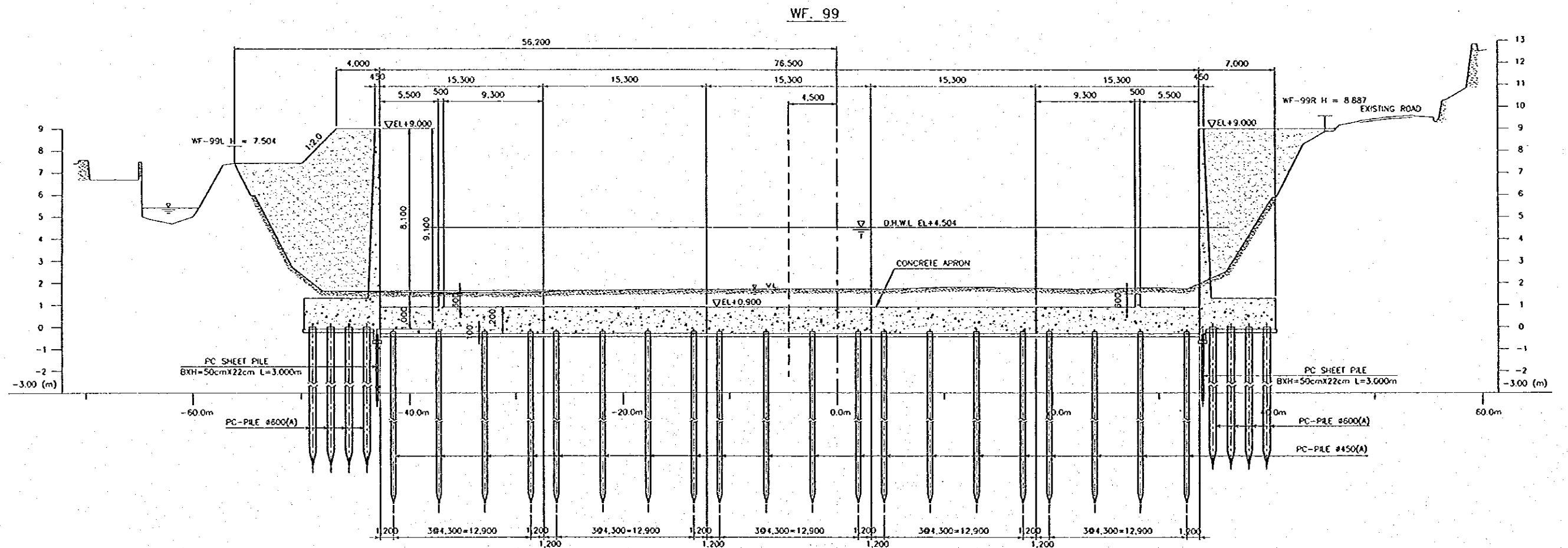
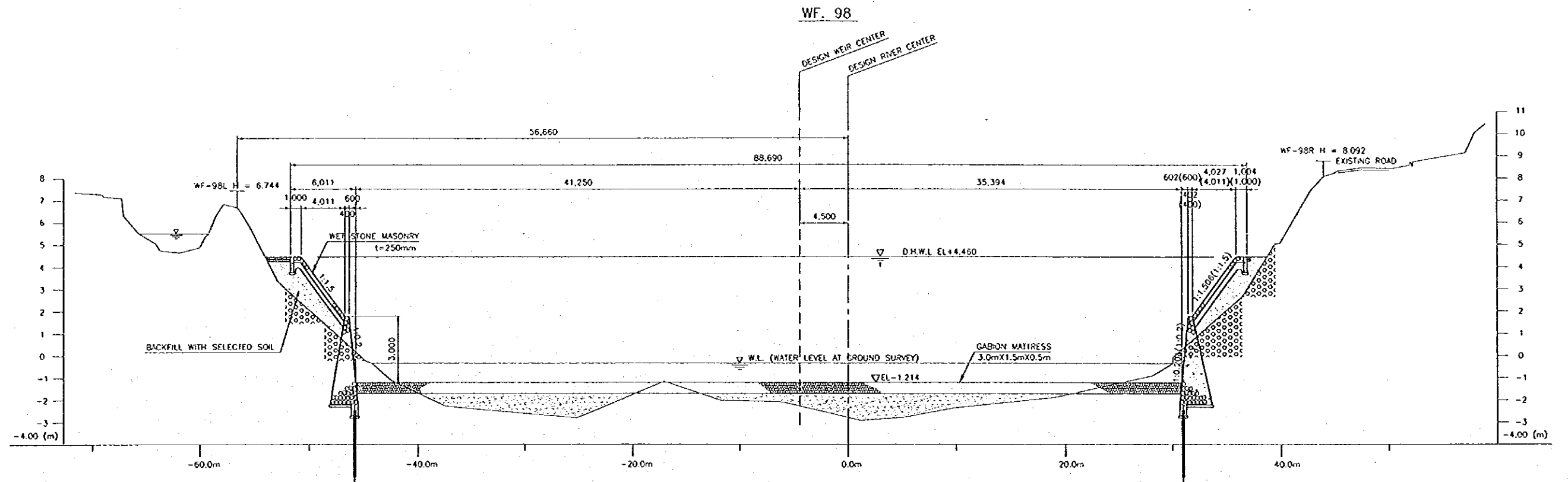
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
JATUNGSULARA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT GENERAL DRAWING LONGITUDINAL PROFILE OF RIVER CHANNEL		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE PROVINCE OF INDONESIA
JAWA INTERNATIONAL COOPERATION AGENCY CIE ENGINEERING CO. LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND PARCO INTERNATIONAL INC.		DISTRICT SEMARANG CITY
DESIGNED: [Signature] CHECKED: [Signature]		DRAWING NO. W - P2 - H - U - 1 SHEET NO. 4
CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		DATE CONTRACT NO.



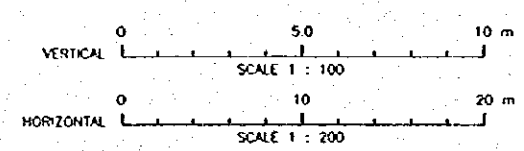
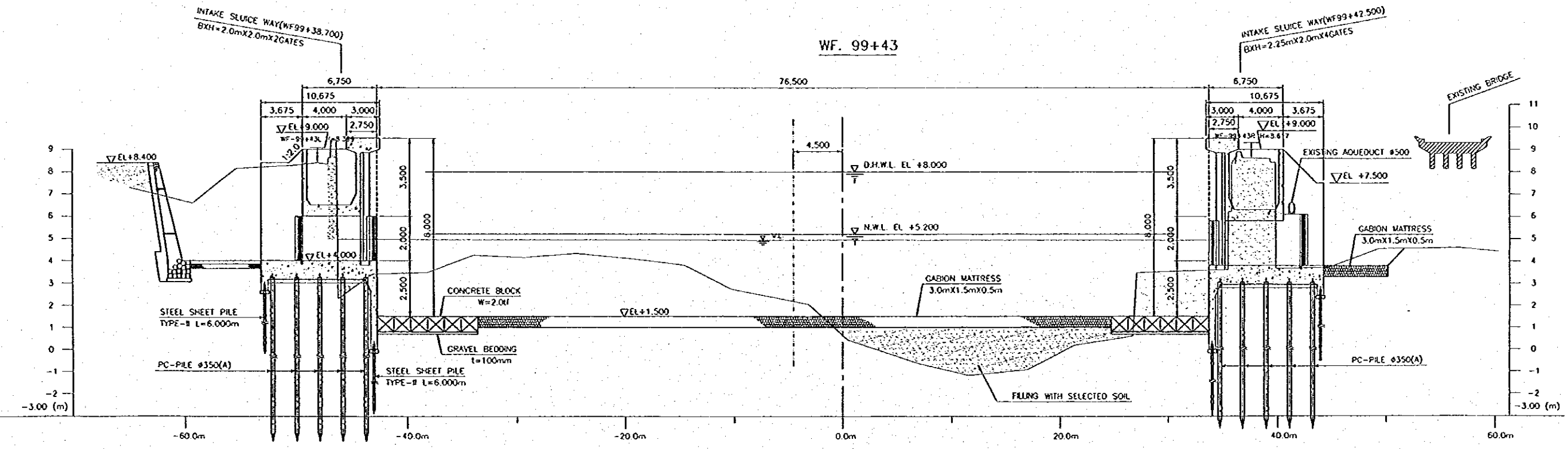
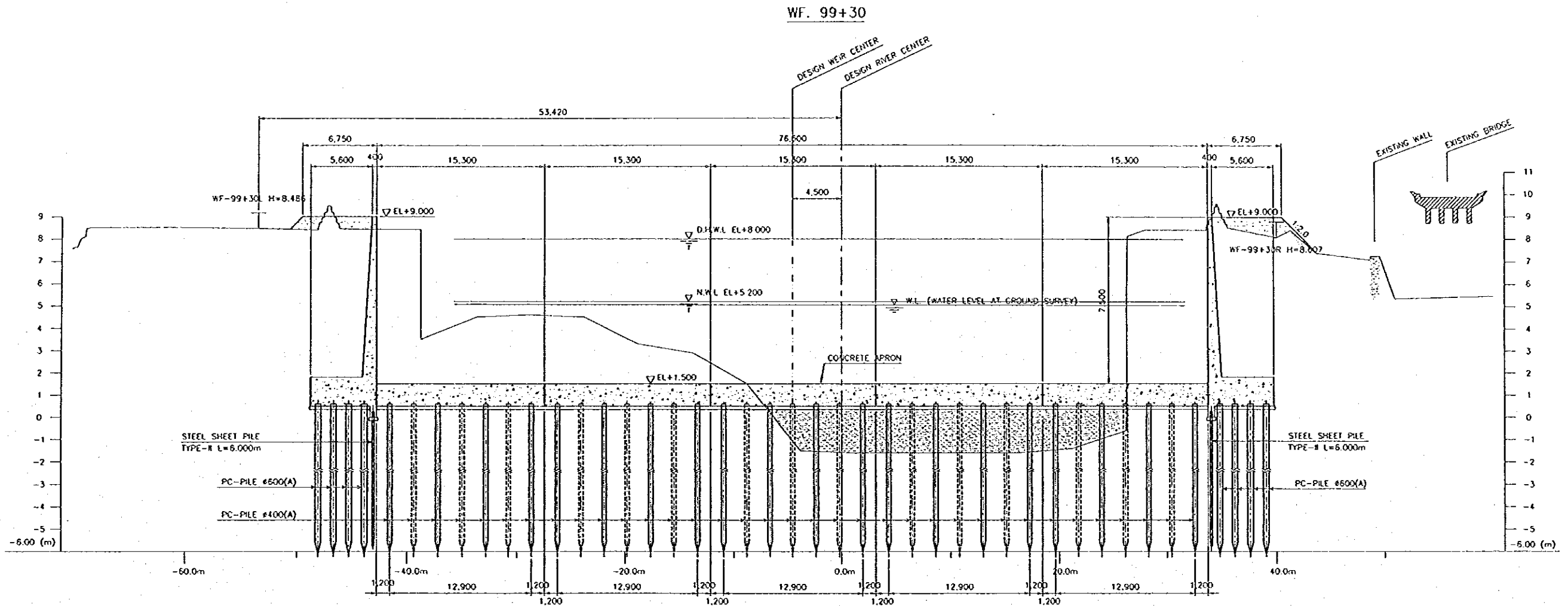
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

<b>THE REPUBLIC OF INDONESIA</b> MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVIDER CENTRAL JAVA
DRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT <b>GENERAL DRAWING</b> <b>CROSS SECTION (1/5)</b>		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 PACIFIC INTERNATIONAL, INC.		DISTRICT SEMARANG CITY
DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		DRAWING NO. WG-P2-08-Cr-1 SHEET NO. 5 DATE CONTRACT NO.



NO.	DATE	REVISIONS	ORDINATED	DRAWN	APPROVED	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 RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
GENERAL DRAWING CROSS SECTION (2/5)		DISTRICT SEMARANG CITY
SAFARI INTERNATIONAL COOPERATION AGENCY C/O ENGINEERING CO., LTD. in association with PACIFIC CONSULTANTS INTERNATIONAL and FARCO INTERNATIONAL INC.		DRAWING NO. WO-P2-01-Cr-2 SHEET NO. 6
DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		DATE CONTRACT NO.



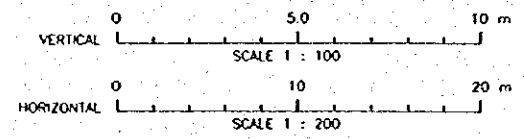
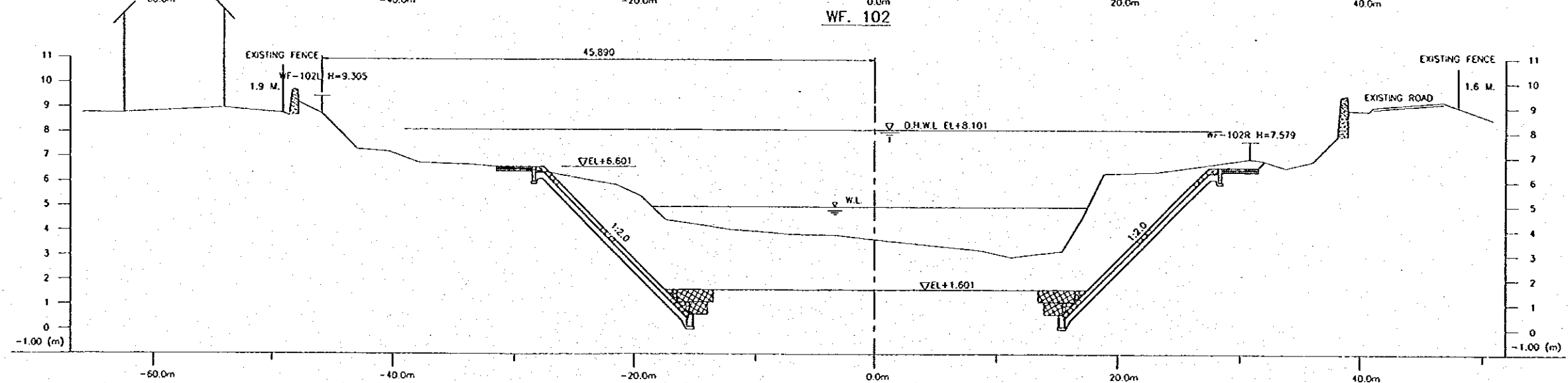
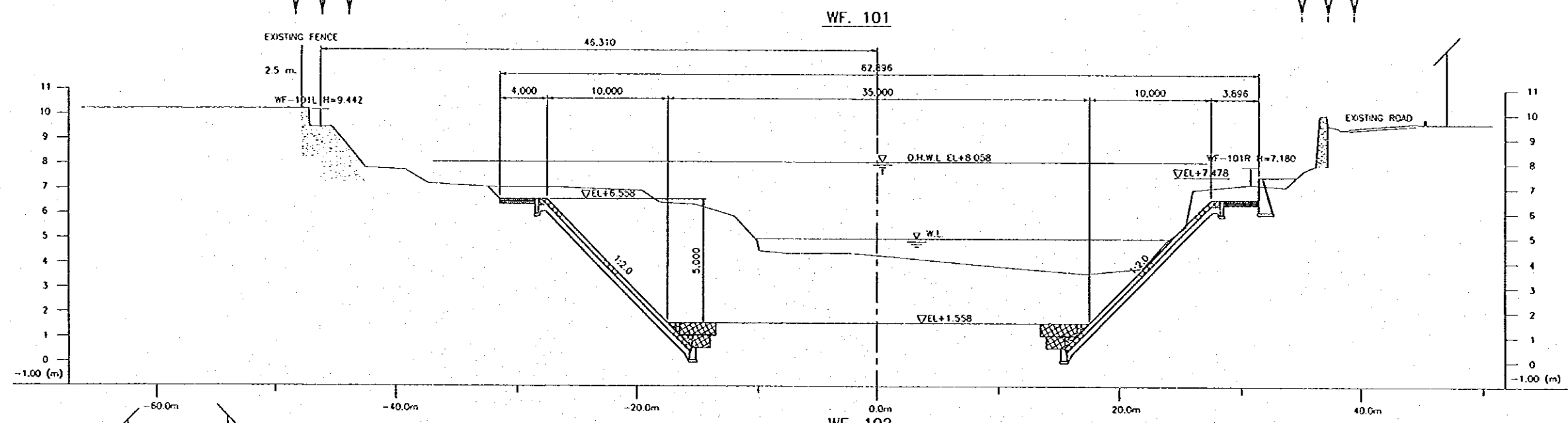
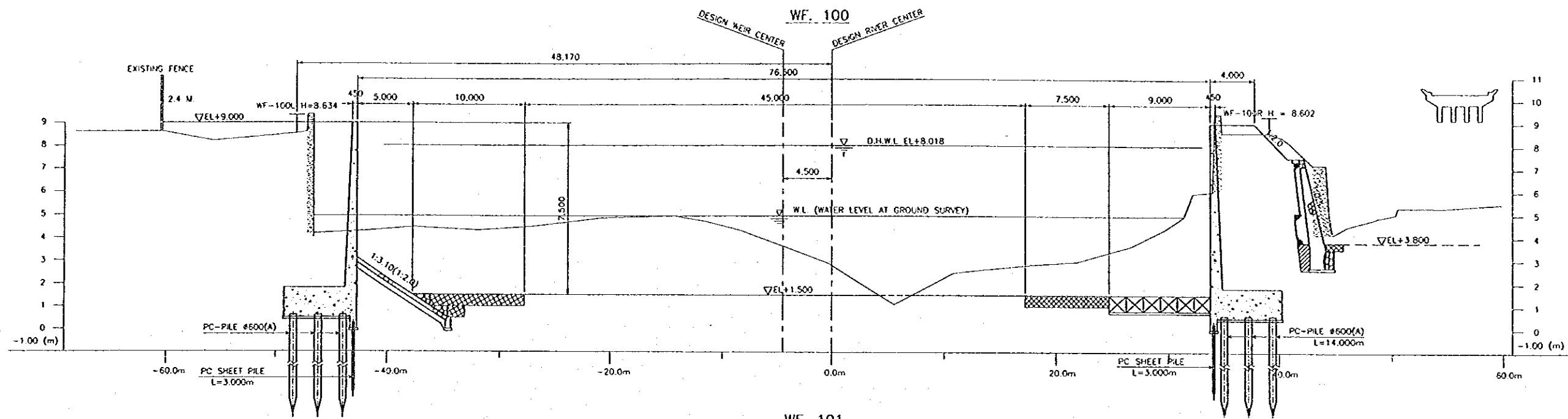
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

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

PROVINCE: CENTRAL JAVA  
PROJECT NAME: FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG BY THE REPUBLIC OF INDONESIA  
CITY: SEMARANG CITY  
DRAWING NO.: WP-P2-08-Cr-3  
SHEET NO.: 7  
DATE: [Signature]  
CONTRACT NO.: [Signature]

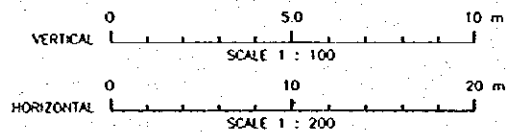
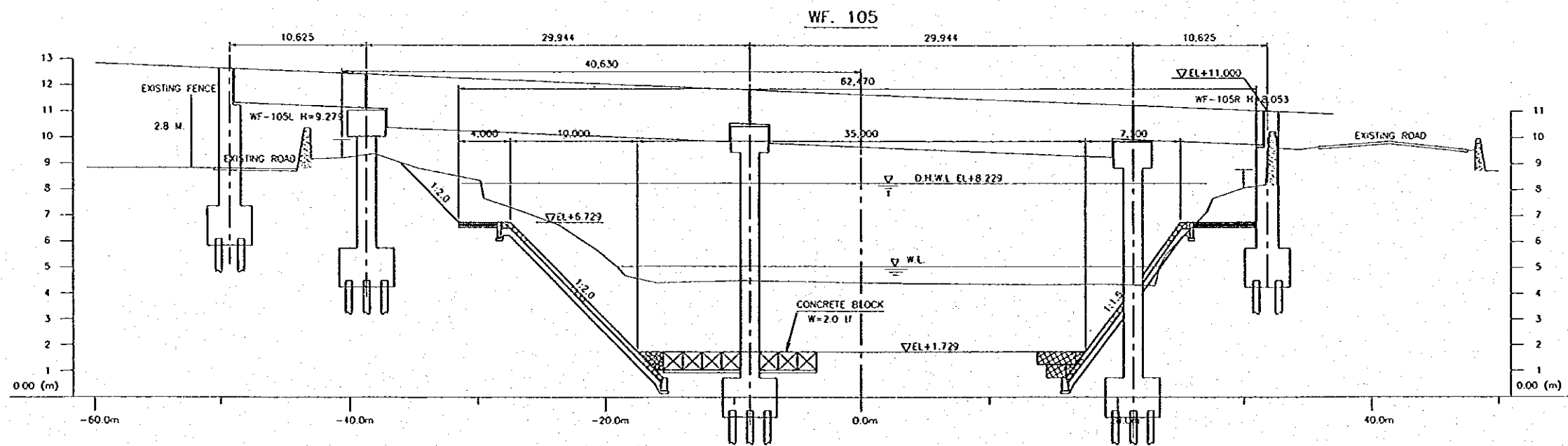
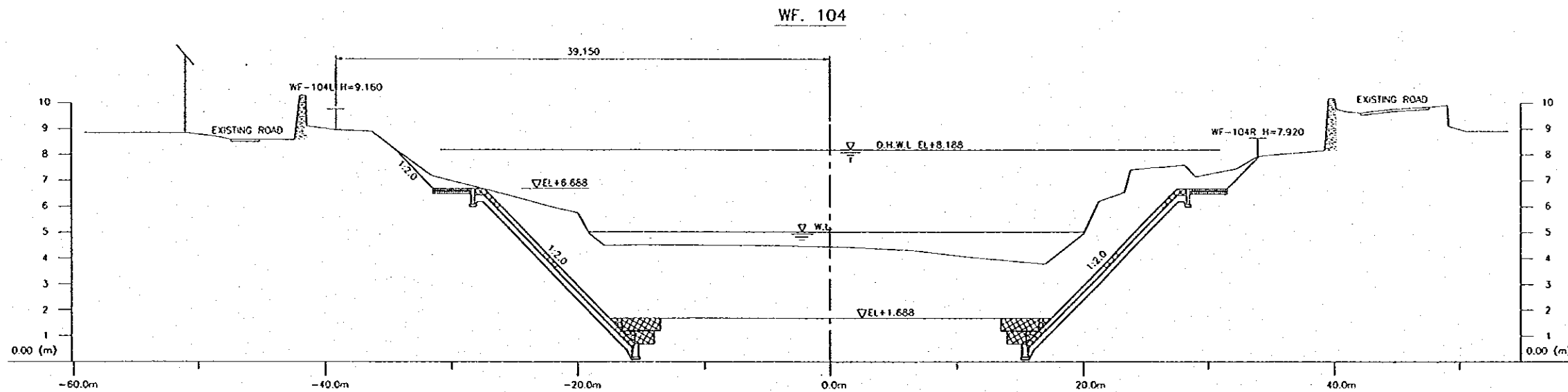
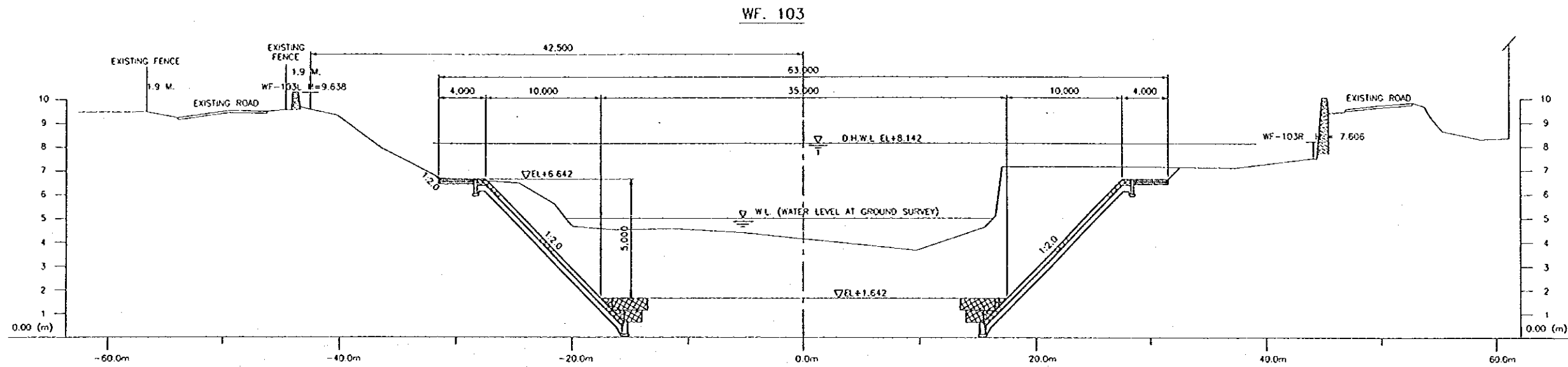
JAPAN INTERNATIONAL COOPERATION AGENCY  
OCE ENGINEERING CO., LTD. IN ASSOCIATION WITH  
PACIFIC CONSULTANTS INTERNATIONAL AND  
TAKEDA INTERNATIONAL INC.

DESIGNED: [Signature]  
CHECKED: [Signature]  
CENTRE OF PLANNING AND DESIGN  
PROJECT MANAGER: [Signature]



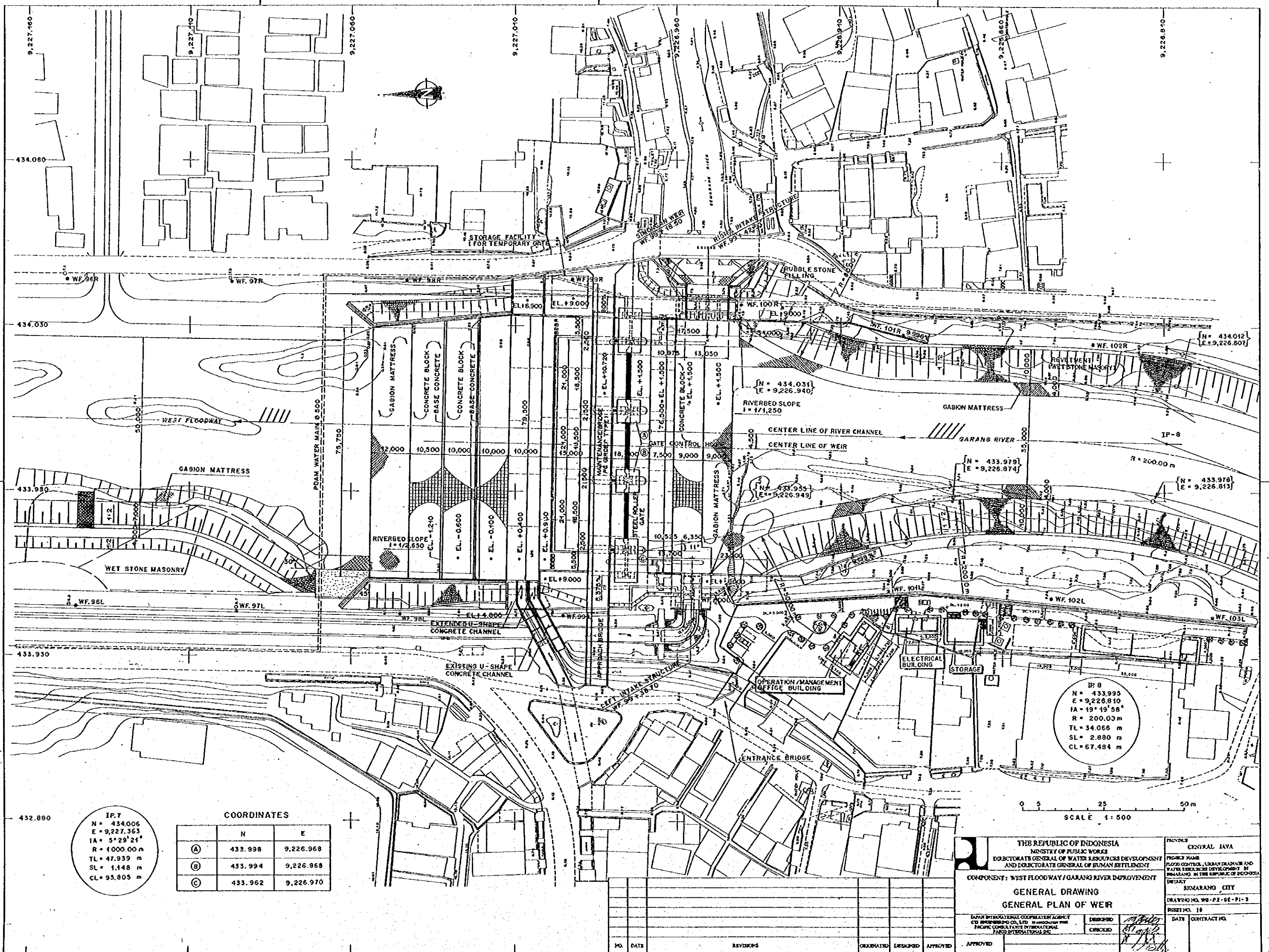
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED	APPROVED

<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
IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: WEST FLOODWAY / GARANO RIVER IMPROVEMENT		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SENARANG IN THE REPUBLIC OF INDONESIA
<b>GENERAL DRAWING</b> <b>CROSS SECTION (4/5)</b>		DISTRICT SENARANG CITY
DRAWING NO. W3-P2-08-Cr-6		SHEET NO. 8
DATE		CONTRACT NO.
DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN		PROJECT MANAGER



NO.	DATE	REVISIONS	OPERATED	DESIGNED	APPROVED

<p>THE REPUBLIC OF INDONESIA          MINISTRY OF PUBLIC WORKS          DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT          AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT</p>		PROVINCE	CENTRAL JAVA
		PROJECT NAME	FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT OF SEMARANG IN THE REPUBLIC OF INDONESIA
<p>IRATUNGSILUNA FLOOD CONTROL PROJECT          COMPONENT: WEST FLOODWAY / GARANGI RIVER IMPROVEMENT</p>		DISTRICT	SEMARANG CITY
<p><b>GENERAL DRAWING</b>  <b>CROSS SECTION (5/5)</b></p>		DRAWING NO.	WS-P2-08-Cr-5
<p>JAPAN INTERNATIONAL COOPERATION AGENCY          CSE ENGINEERING CO., LTD. IN ASSOCIATION WITH          PACIFIC CONSULTANTS INTERNATIONAL AND          PARCO INTERNATIONAL INC.</p>		SHEET NO.	9
<p>CHEF OF PLANNING AND DESIGN</p>		DATE	CONTRACT NO.
<p>PROJECT MANAGER</p>		DESIGNED	
<p> </p>		CHECKED	



IP.7  
 N = 434006  
 E = 9227.363  
 IA = 5°29'21"  
 R = 1000.00 m  
 TL = 47.939 m  
 SL = 1.148 m  
 CL = 95.805 m

COORDINATES

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

IP.8  
 N = 433995  
 E = 9226.810  
 IA = 19°19'58"  
 R = 200.00 m  
 TL = 34.066 m  
 SL = 2.880 m  
 CL = 67.484 m

SCALE 1:500

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

COMPONENT: WEST FLOODWAY / GARANG RIVER IMPROVEMENT

**GENERAL DRAWING**  
**GENERAL PLAN OF WEIR**

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. W-PE-06-PI-3  
 SHEET NO. 10

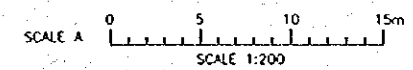
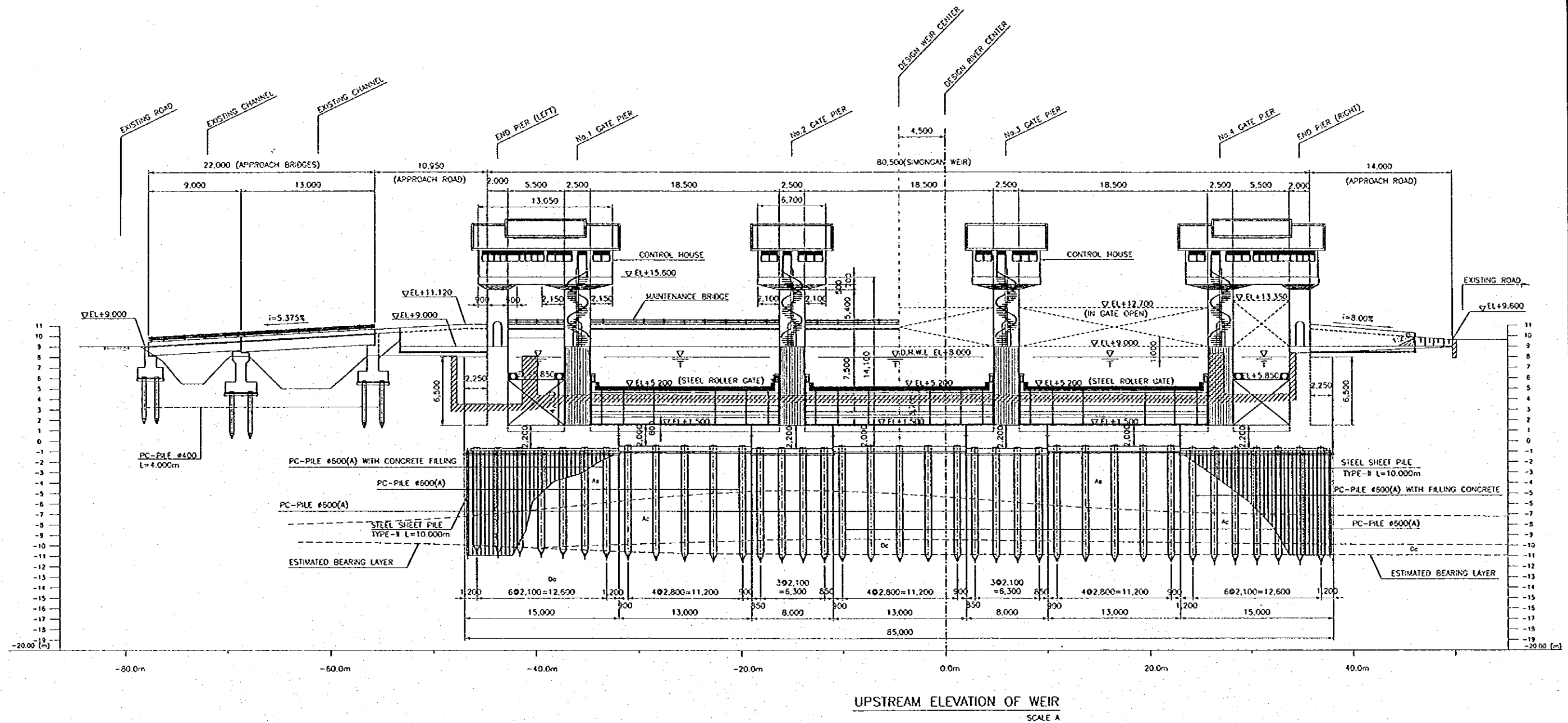
DATE: \_\_\_\_\_ CONTRACT NO. \_\_\_\_\_

DESIGNED: \_\_\_\_\_ CHECKED: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED: \_\_\_\_\_

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED	APPROVED

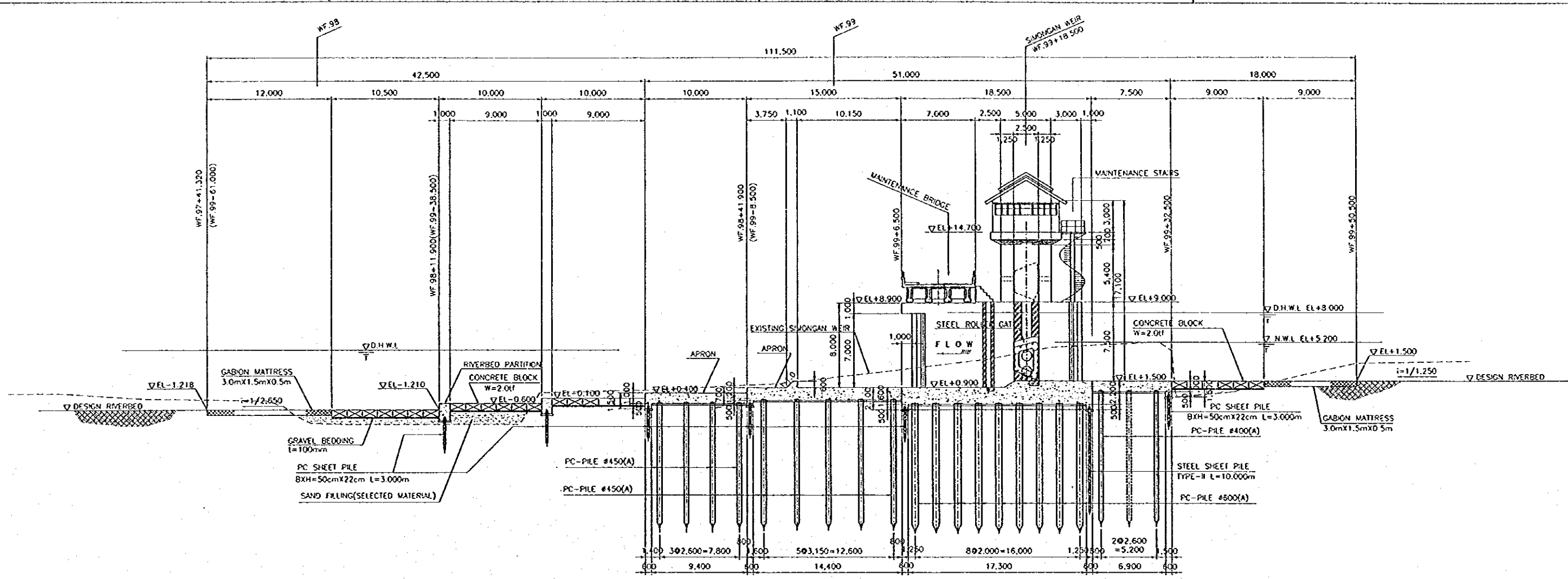




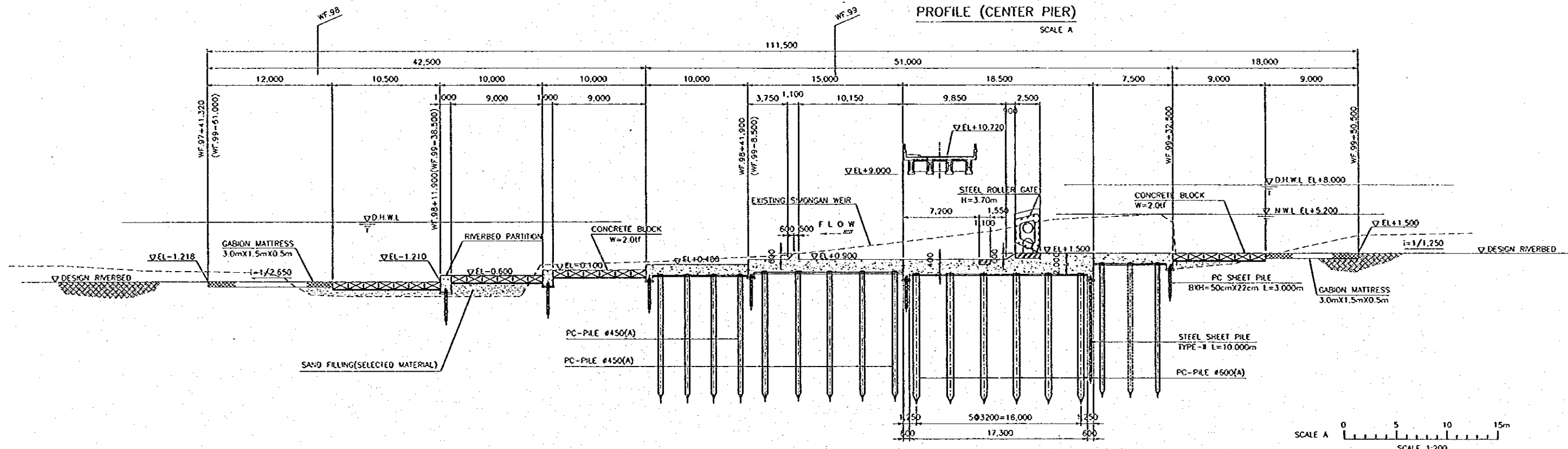
NOTE:  
 1. PILE LENGTH SHOWN ON THIS DRAWING IS TENTATIVE.  
 2. THE CONTRACTOR SHALL DETERMINE THE LENGTH OF PILE BY TEST PILING.  
 3. THE ESTIMATED FORMATION OF GEOLOGICAL LAYER IS SHOWN ON THE DRAWING FOR REFERENCE.  
 AS, AC, DC AND D<sub>0</sub> SHOWN ON THE DRAWING INDICATE LAYER'S NAME AND ARE DESCRIBED AS FOLLOWS:  
 AS : ALLUVIUM SOIL CONSISTING OF FINE GRAIN TO MIDDLE GRAIN SAND, CONTAINING THE INTERCALATED CLAY AND SILT PARTIALLY.  
 N-VALUE OF 15 ~ 30  
 AC : SOFT ALLUVIUM SOIL CONSISTING OF CLAY AND SANDY CLAY.  
 N-VALUE OF 10 ~ 20  
 DC : DILUVIUM SOIL CONSISTING OF HARD CLAY, PARTLY CONTAINING CORAL LIMESTONE.  
 N-VALUE OF 20 ~ 35  
 D<sub>0</sub> : DAMAR FORMATION (SEDIMENTARY ROCK UNIT) WITH N-VALUE OF MORE THAN 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		PROVIDER CENTRAL JAVA
	BRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT <b>GENERAL DRAWING</b> <b>UPSTREAM ELEVATION OF WEIR</b>		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) PT ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND JACOBS INTERNATIONAL INC.		DISTRICT SEMARANG CITY
	DESIGNED: [Signature] CHECKED: [Signature] CEER OF PLANNING AND DESIGN PROJECT MANAGER		DRAWING NO. W8-P2-02-CR-0 SHEET NO. 11
DATE: [ ] [ ] [ ] CONTRACT NO.			APPROVED: [Signature]

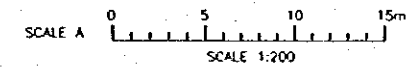


PROFILE (CENTER PIER)  
SCALE A



PROFILE (GATE FLOOR SLAB)  
SCALE A

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



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
	BRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : WEST FLOODWAY / GARANG RIVER IMPROVEMENT		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
	GENERAL DRAWING PROFILE OF WEIR (1/2)		DISTRICT SEMARANG CITY
	JAPAN INTERNATIONAL COOPERATION AGENCY JICA ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL AND FALCO INTERNATIONAL INC.		DRAWING NO. WS-P2-GE-L0-2 SHEET NO. 11
DESIGNED 	CHECKED 	DATE 	CONTRACT NO.
CHIEF OF PLANNING AND DESIGN PROJECT MANAGER			