

LIST OF COORDINATES FOR DIVERSION FACILITIES

No.	COORDINATES	
	X (m)	Y (m)
NO.0	428,109.619	9,222,166.182
DAM AXIS	428,175.509	9,222,268.639
BC1	428,290.674	9,222,448.323
IP1	428,313.384	9,222,483.632
EC1	428,354.351	9,222,474.453
NO.22+1	428,386.016	9,222,467.323
NO.22+7	428,391.870	9,222,486.005

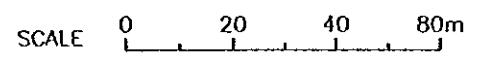
LAYOUT PLAN OF DIVERSION FACILITIES

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

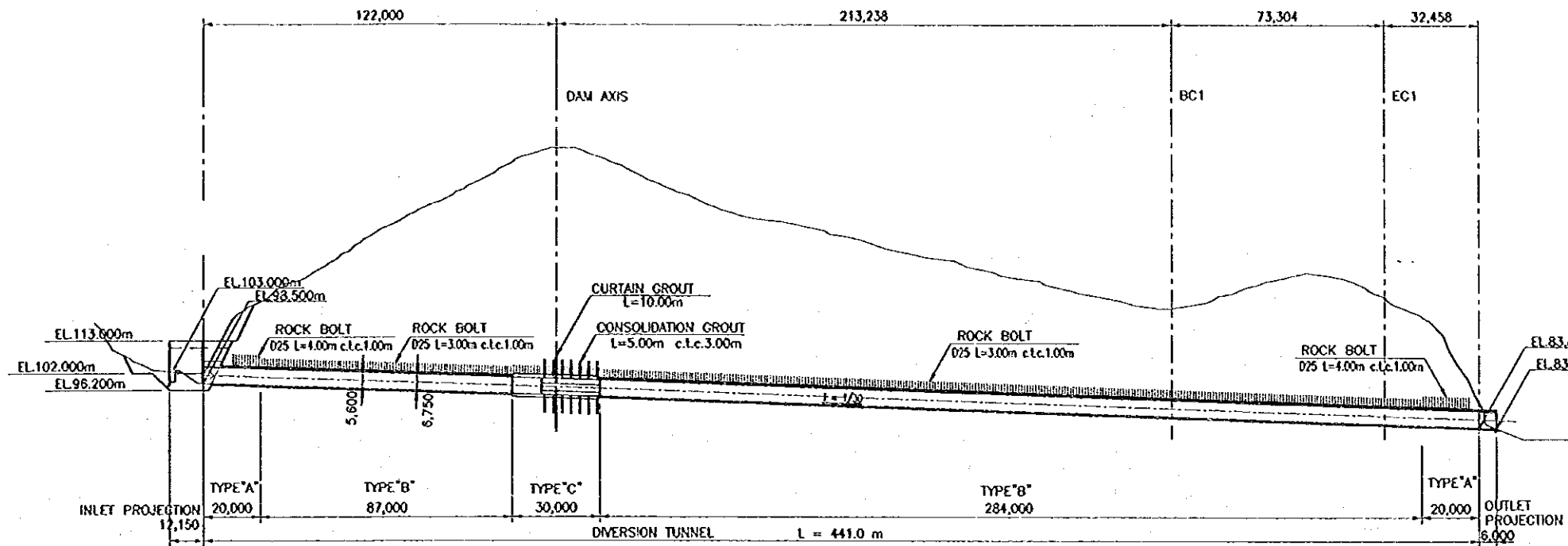
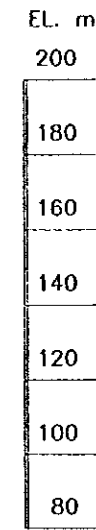
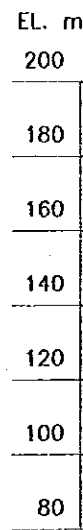
REFERENCE DRAWINGS

- JD-P1-DF-Tu-1 TUNNEL - PROFILE AND TYPICAL CROSS SECTIONS
- JD-P1-DF-Up-1 UPSTREAM PORTAL - LAYOUT PLAN
- JD-P1-DF-Pg-1 PLUG WORKS IN DIVERSION TUNNEL - CONCRETE PLUG DETAILS

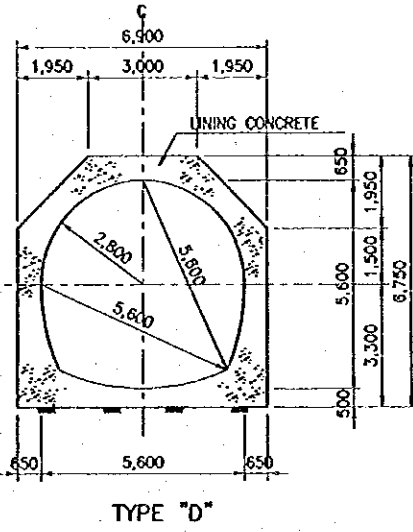


NO.	DATE	REVISIONS	CREATED	DESIGNED	APPROVED

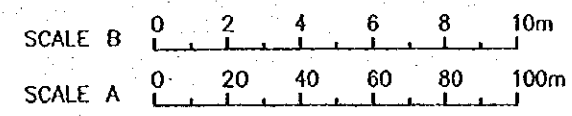
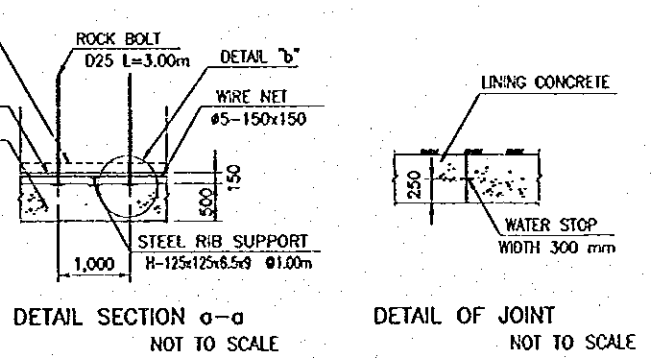
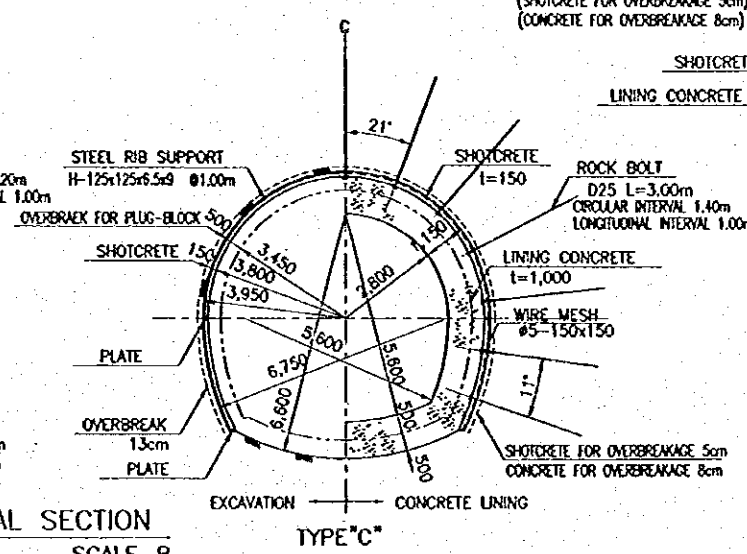
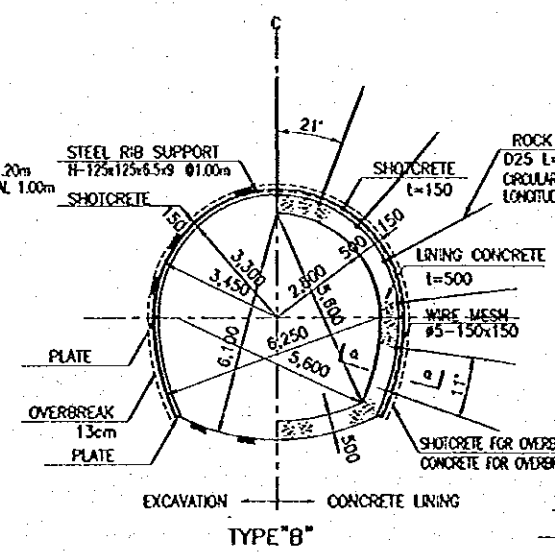
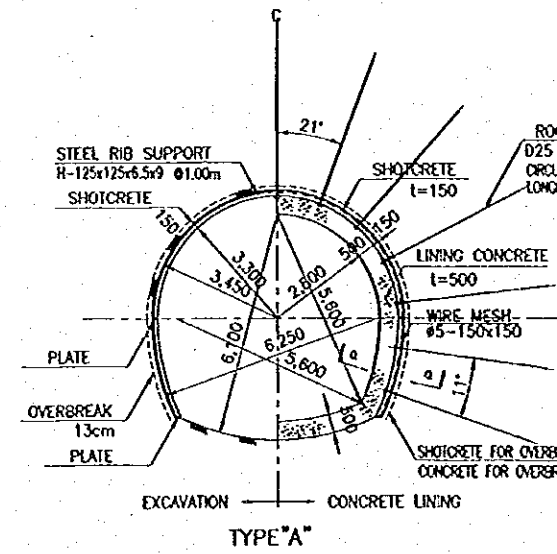
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROJECT NAME FLOOD CONTROL, EARTH MOVEMENT AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA	
TRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: JATIBARANG DAM CONSTRUCTION		DISTRICT SEMARANG CITY	
DIVERSION FACILITIES LAYOUT PLAN		DRAWING NO. JD-P1-DF-P1-1 SHEET NO. 17	
LAPAN INTERNATIONAL COOPERATION AGENCY LTD. (INDONESIA) CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL (PACIFIC INTERNATIONAL) INC.		DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER	DATE CONTRACT NO.



CURVE BAND	SURVEY POINT	DISTANCE	INCREASE THE DISTANCE	FINISHING HEIGHT
	-2.000	2.000	2.000	98.567
	NO.0	2.000	0.000	98.500
	NO.1	20.000	20.000	97.833
	NO.2	20.000	40.000	97.167
	NO.3	20.000	60.000	96.500
	NO.4	20.000	80.000	95.833
	NO.5	20.000	100.000	95.167
	NO.6	7.000	107.000	94.500
	NO.7	13.000	120.000	94.500
	NO.8	2.000	122.000	94.433
	NO.9	17.000	139.000	93.833
	NO.10	3.000	142.000	93.833
	NO.11	20.000	162.000	93.167
	NO.12	20.000	182.000	92.500
	NO.13	20.000	202.000	91.833
	NO.14	20.000	222.000	91.167
	NO.15	20.000	242.000	90.500
	NO.16	20.000	262.000	89.833
	NO.17	15.238	277.238	89.325
	NO.18	4.762	282.000	89.167
	NO.19	20.000	302.000	88.500
	NO.20	20.000	322.000	87.833
	NO.21	8.542	330.542	87.325
	NO.22	11.458	342.000	87.325
	NO.23	1.000	343.000	87.167
	NO.24	19.000	362.000	86.500
	NO.25	20.000	382.000	85.833
	NO.26	20.000	402.000	85.167
	NO.27	8.542	410.542	84.882
	NO.28	11.458	422.000	84.500
	NO.29	1.000	423.000	84.467
	NO.30	19.000	442.000	83.833
	NO.31	20.000	462.000	83.167
	NO.32	20.000	482.000	82.500



PROFILE
SCALE A

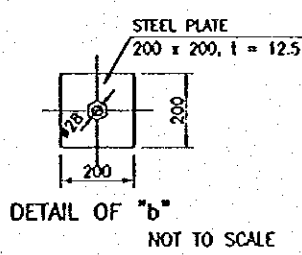


NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
2. LINING CONCRETE OF DIVERSION TUNNEL SHALL BE OF TYPE A AS PER SPECIFICATION.

REFERENCE DRAWINGS

- JD-P1-DF-PI-1 DIVERSION FACILITIES - LAYOUT PLAN
- JD-P1-DF-Tu-2 TUNNEL - REINFORCEMENT DETAILS AND STEEL RIB SUPPORT



NO.	DATE	REVISIONS	ORIGINATED	DRAWN	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: JATIBARANG DAM CONSTRUCTION
DIVERSION FACILITIES
TUNNEL
PROFILE AND TYPICAL CROSS SECTIONS

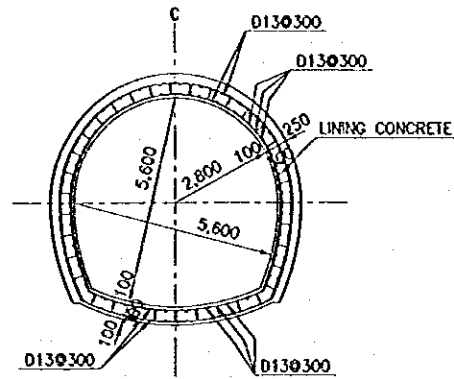
SAFAR INTERNATIONAL COOPERATION AGENCY
CIJENARANG CO., LTD. IN ASSOCIATION WITH
PACIFIC CONSULTANTS INTERNATIONAL
PACIFIC INTERNATIONAL INC.

DESIGNED: [Signature]
CHECKED: [Signature]

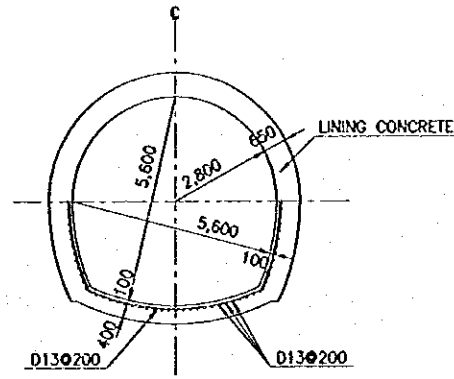
CITY OF PLANNING AND DESIGN
PROJECT MANAGER

PROVIDER: CENTRAL JAWA
PROJECT NAME: JATIBARANG DAM
DRAWING NO.: JD-P1-DF-Tu-1
SHEET NO.: 18

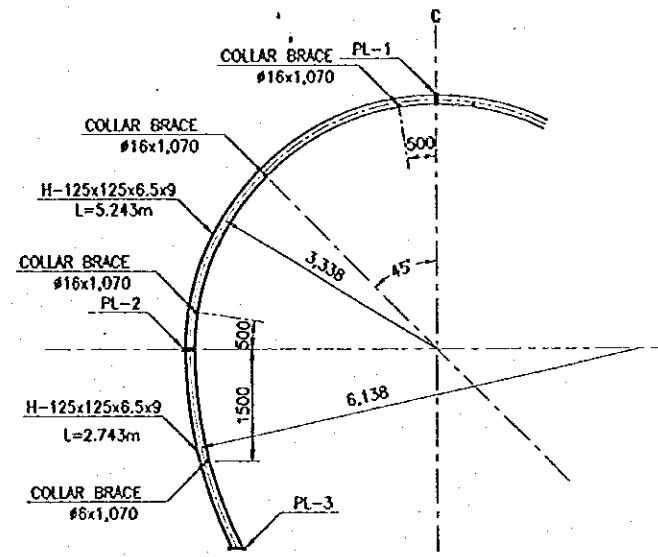
DATE: []/ []/ []
CONTRACT NO.: []



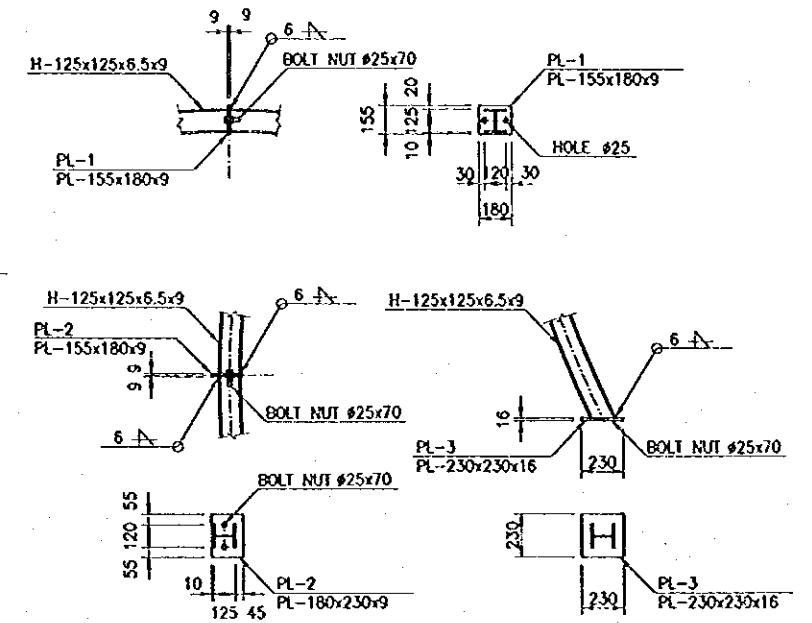
TYPE "A"
(INLET & OUTLET SECTION)



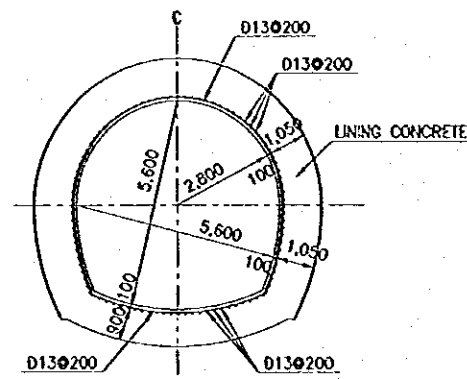
TYPE "B"
(TYPICAL SECTION)



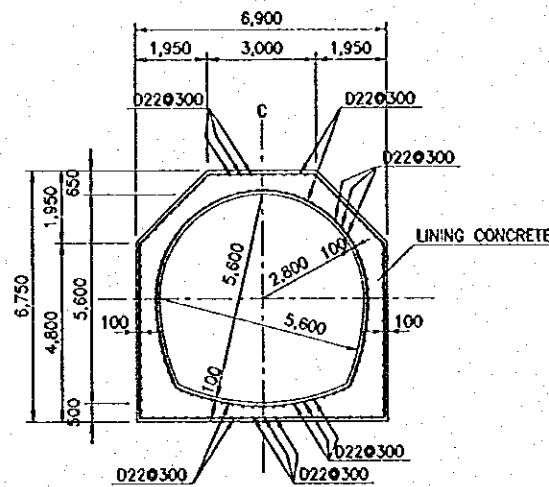
FRONT ELEVATION
SCALE B



DETAIL OF PLATE
SCALE C

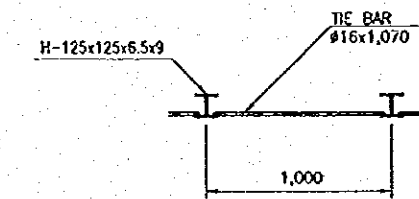
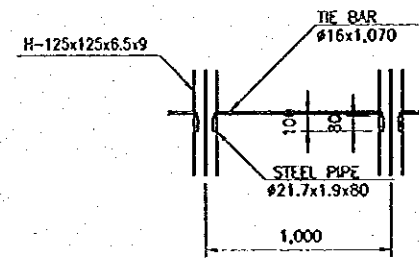


TYPE "C"
(PLUG-BLOCK SECTION)



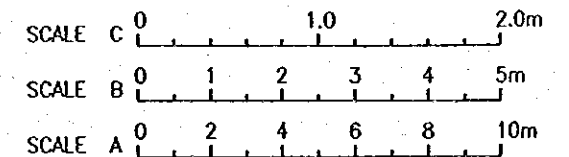
TYPE "D"
(OUTLET PROJECTION)

REINFORCING TYPICAL SECTION
SCALE A



COLLAR BRACE
SCALE C

STEEL RIB SUPPORT



NOTES

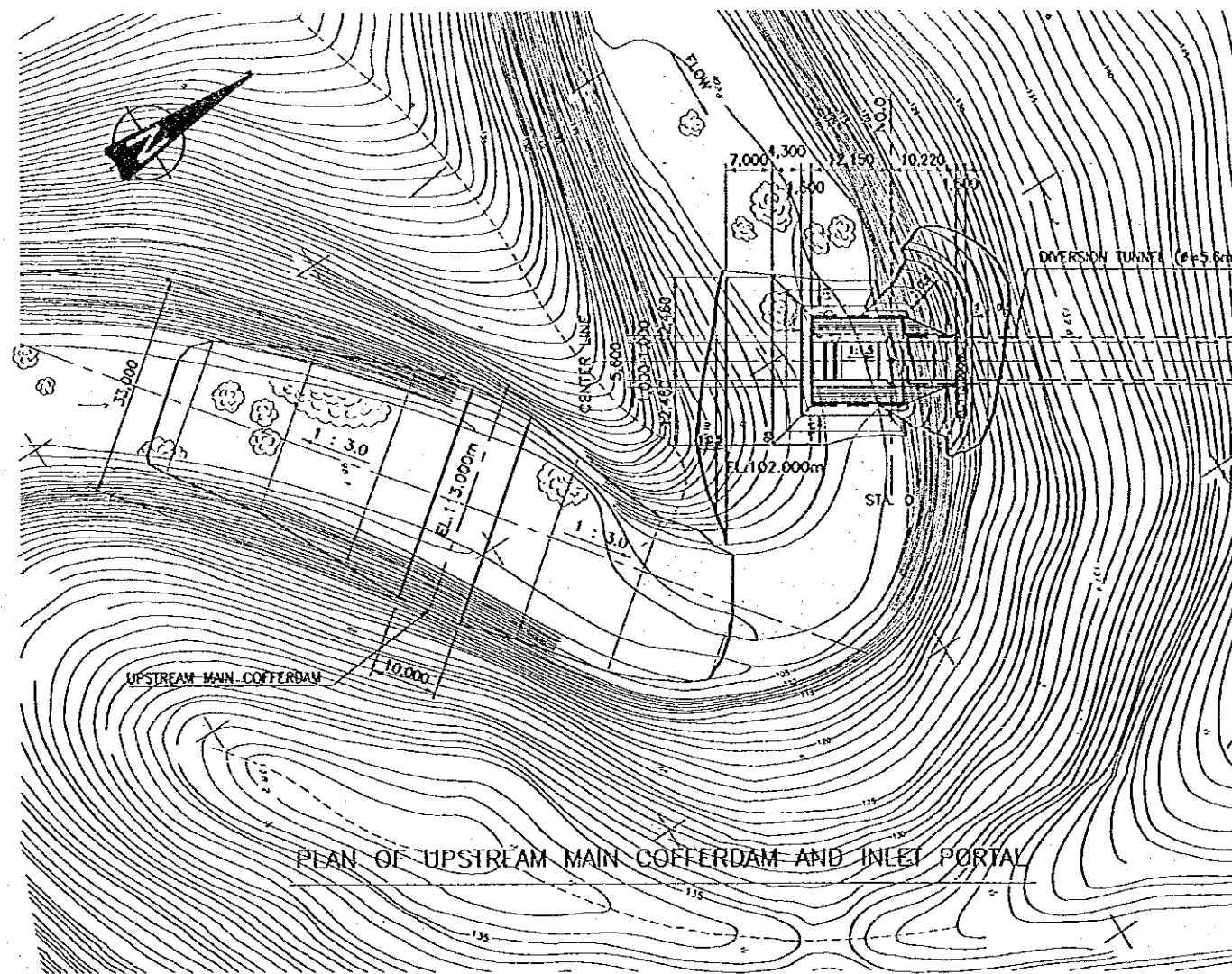
1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
2. LINING CONCRETE OF DIVERSION TUNNEL SHALL BE OF TYPE A AS PER SPECIFICATION.

REFERENCE DRAWINGS

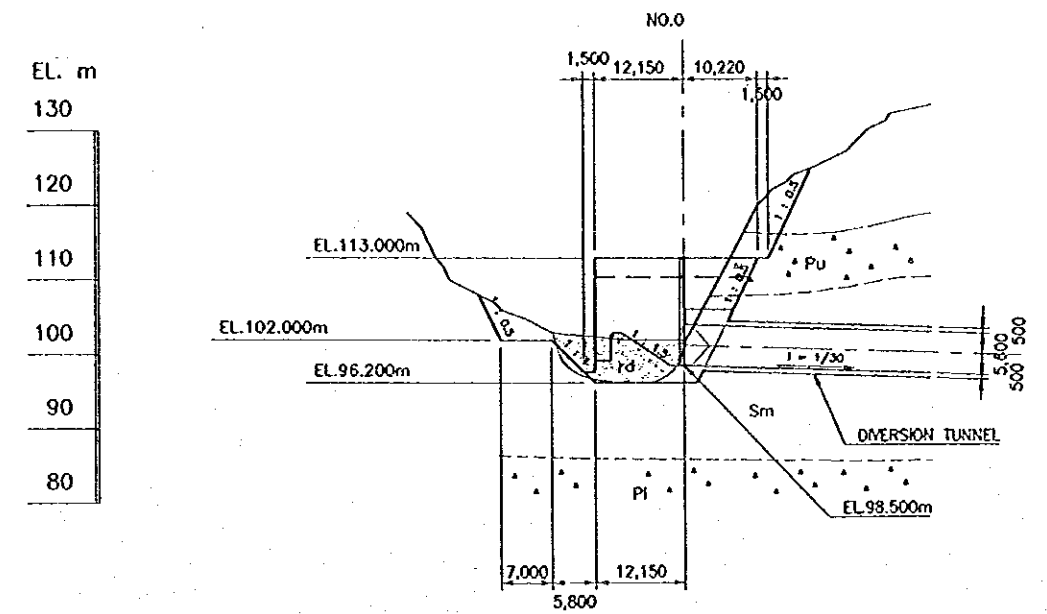
- JD-P1-DF-PI-1 DIVERSION FACILITIES - LAYOUT PLAN
- JD-P1-DF-Tu-1 TUNNEL - PROFILE AND TYPICAL CROSS SECTIONS

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

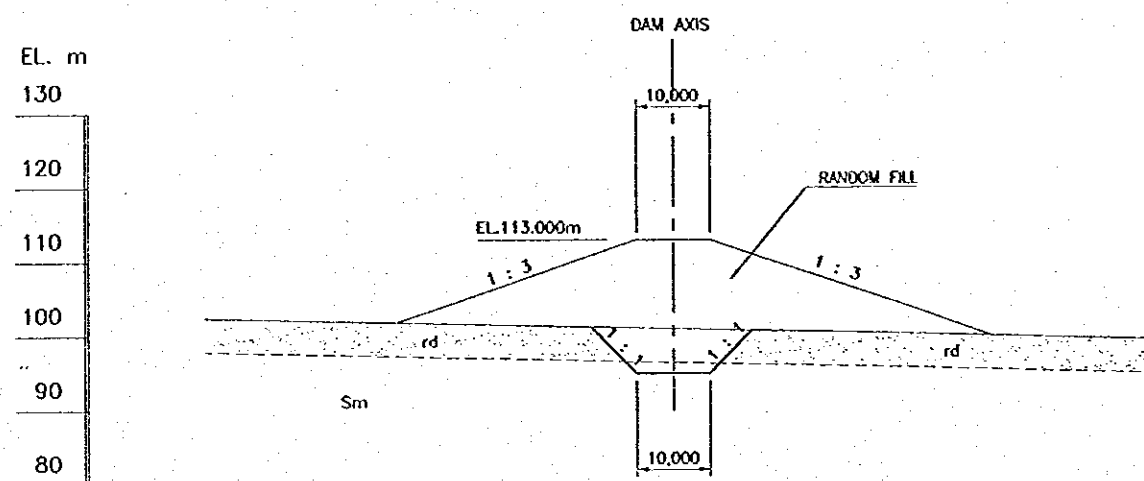
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
JATISSELUNA FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION DIVERSION FACILITIES TUNNEL REINFORCEMENT DETAILS AND STEEL RIB SUPPORT		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
SAFARI INTERNATIONAL CONSULTING AGENCY CIVIL ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTING ENGINEERS SARCO INTERNATIONAL, INC.		DISTRICT SEMARANG CITY
CENTRAL PLANNING AND DESIGN PROJECT MANAGER		DRAWING NO. JD-P1-DF-Tu-2 SHEET NO. 19 DATE CONTRACT NO.



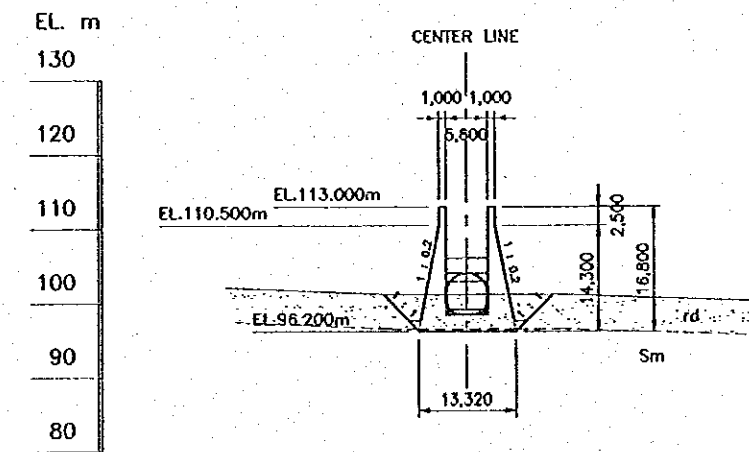
PLAN OF UPSTREAM MAIN COFFERDAM AND INLET PORTAL



LONGITUDINAL SECTION OF UPSTREAM PORTAL



TYPICAL CROSS SECTION OF UPSTREAM MAIN COFFERDAM



TYPICAL SECTION OF UPSTREAM PORTAL

NOTES

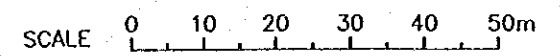
1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
2. CONCRETE FOR UPSTREAM PORTAL SHALL BE OF TYPE 0 AS PER SPECIFICATION.
3. UPSTREAM MAIN COFFERDAM SHALL BE FOUNDED ON THE IMPERVIOUS ROCK UNIT SO AS TO MINIMIZE WATER LEAKAGE THROUGH THE FOUNDATION.
4. THE GEOLOGICAL INFORMATION IS ONLY FOR REFERENCE.

REFERENCE DRAWINGS

- JD-P1-DF-PI-1 DIVERSION FACILITIES - LAYOUT PLAN
- JD-P1-DF-Up-2 UPSTREAM PORTAL - CONCRETE OUTLINE

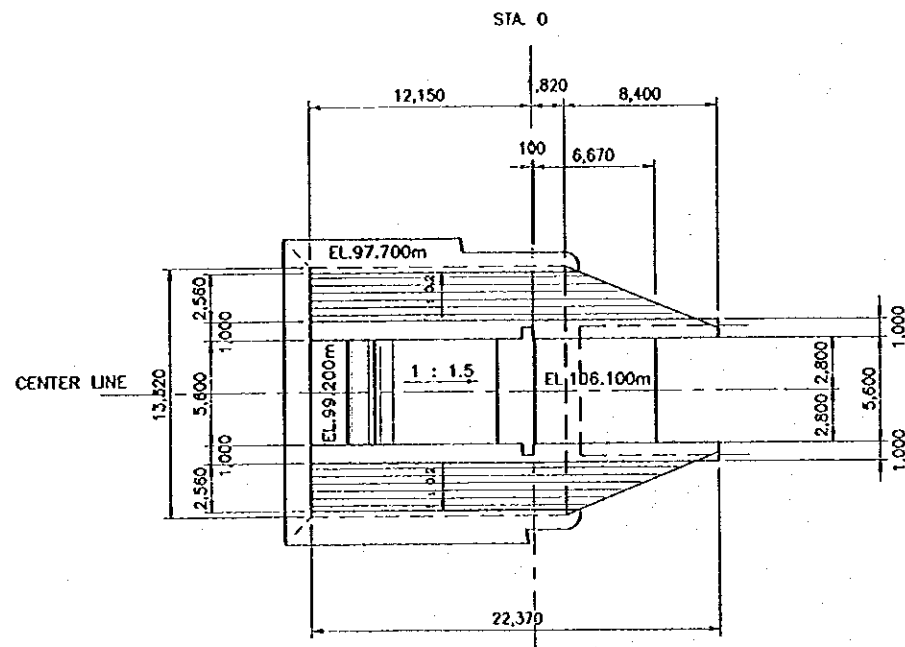
LEGEND

- rd : RIVER DEPOSIT
- ld : TALUS DEPOSIT
- Pu : UPPER PYROCLASTIC ROCK UNIT
- Sm : MIDDLE SEDIMENTARY ROCK UNIT
- PI : LOWER PYROCLASTIC ROCK UNIT

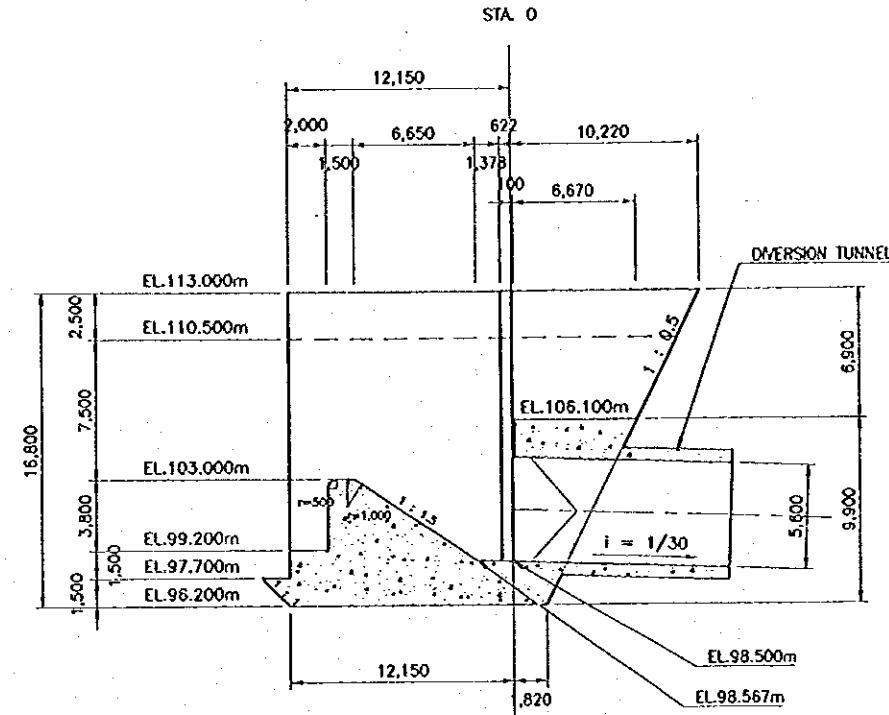


NO.	DATE	REVISIONS	DESIGNED	CHECKED	APPROVED

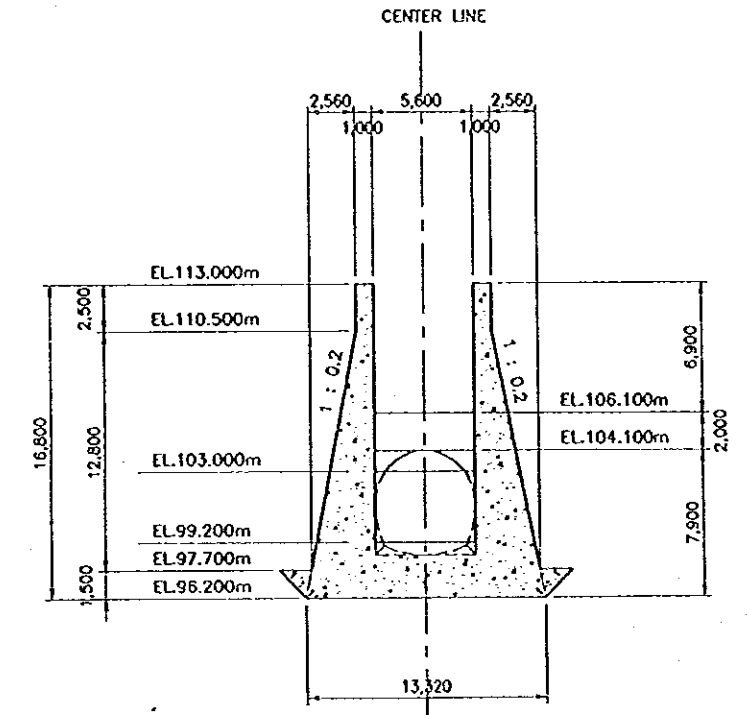
	THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT
	JATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION DIVERSION FACILITIES UPSTREAM PORTAL LAYOUT PLAN		PROJECT NO. SEMARANG CITY DRAWING NO. JD-P1-DF-Up-1 SHEET NO. 20
	JAPAN INTERNATIONAL COOPERATION AGENCY ICE ENGINEERING CO. LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL TAIPEI INTERNATIONAL INC.		DATE CONTRACT NO.
	APPROVED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		DESIGNED CHECKED DATE



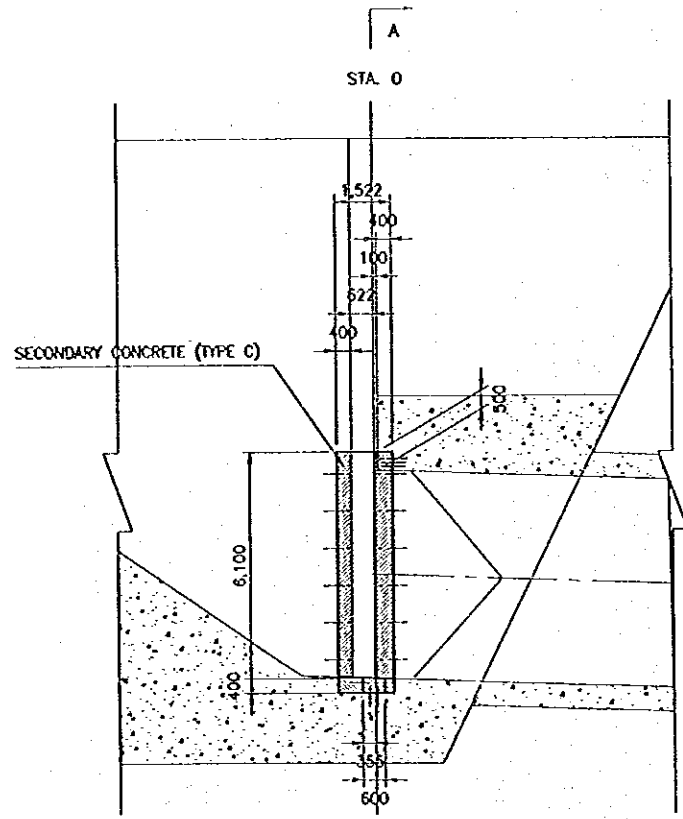
PLAN
SCALE A



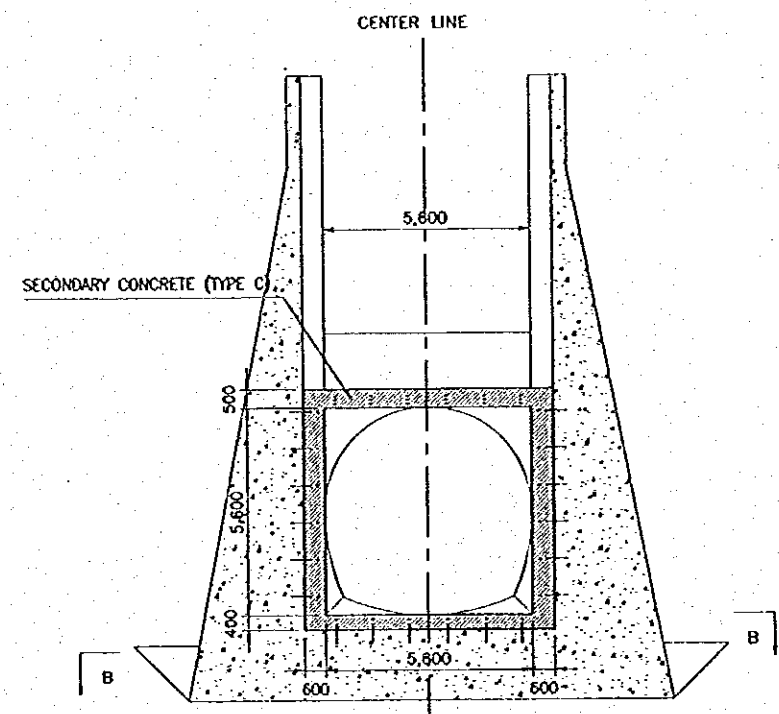
LONGITUDINAL SECTION
SCALE A



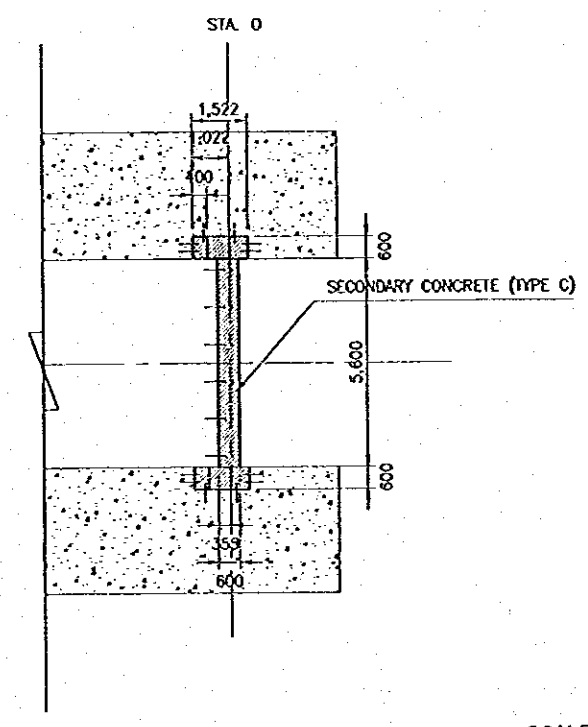
TYPICAL CROSS SECTION
SCALE A



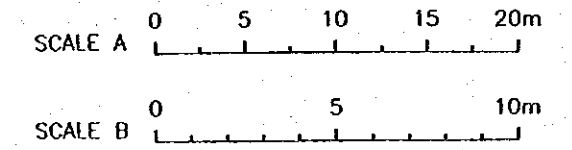
LONGITUDINAL SECTION



BLOCKOUT FOR CLOSURE GATE
SCALE B



B - B



NOTES

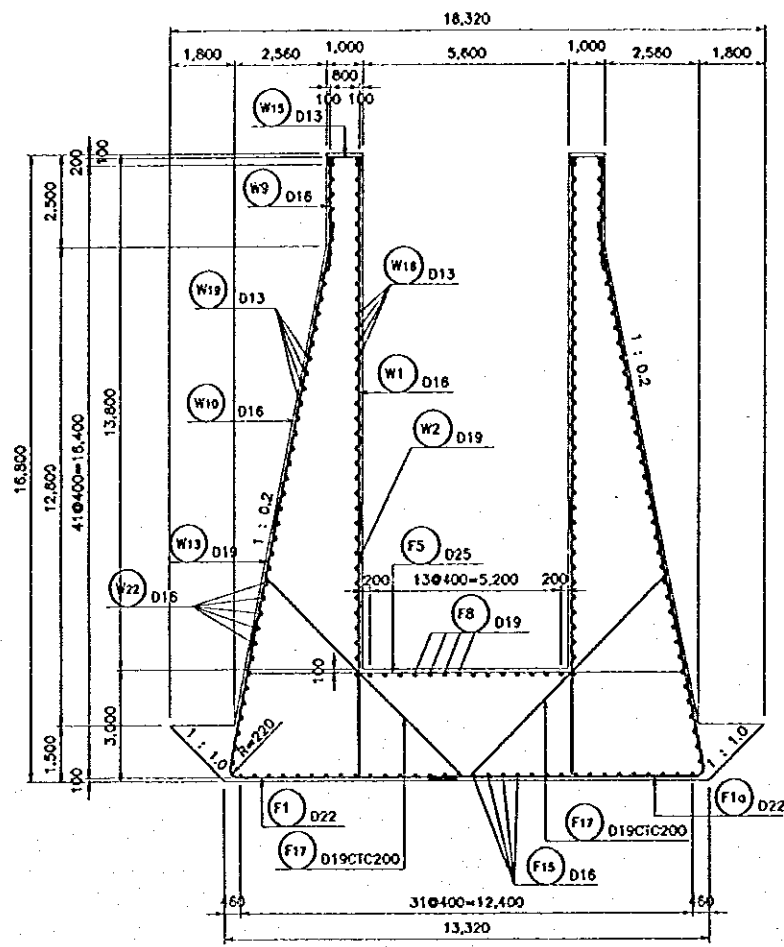
1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
2. CONCRETE FOR UPSTREAM PORTAL SHALL BE OF TYPE D AS PER SPECIFICATION.
3. SECONDARY CONCRETE FOR BLOCKOUT SHALL BE OF TYPE C AS PER SPECIFICATION.

REFERENCE DRAWINGS

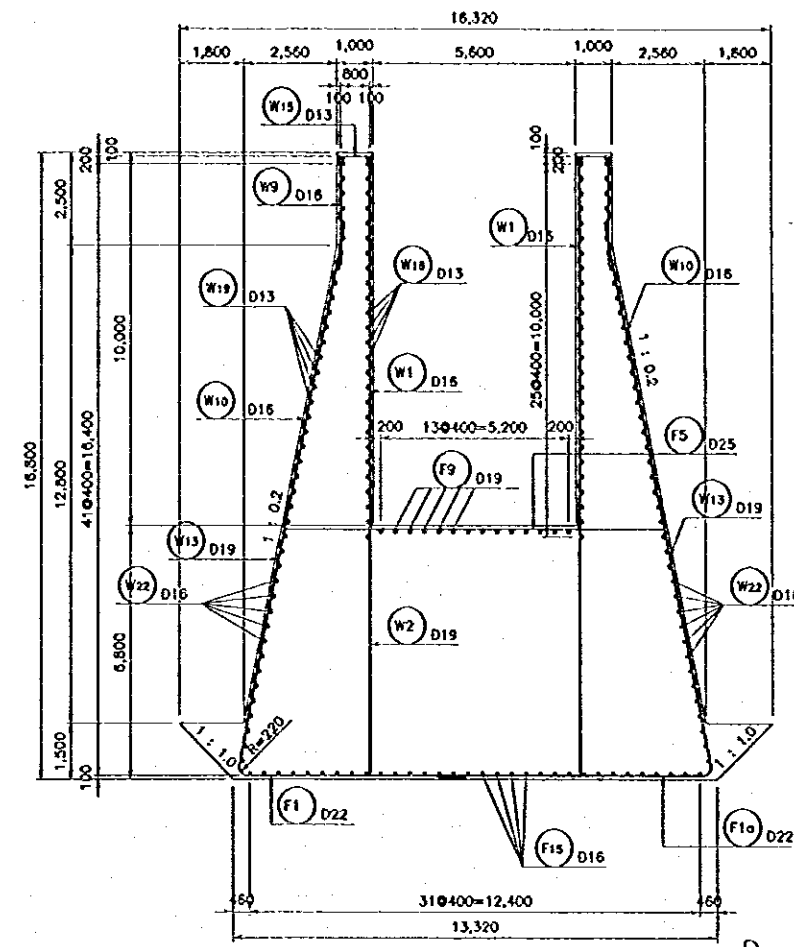
- JD-P1-DF-P1-1 DIVERSION FACILITIES - LAYOUT PLAN
- JD-P1-DF-Up-1 UPSTREAM PORTAL - LAYOUT PLAN

NO.	DATE	REVISIONS	ORDERED	DESIGNED	APPROVED

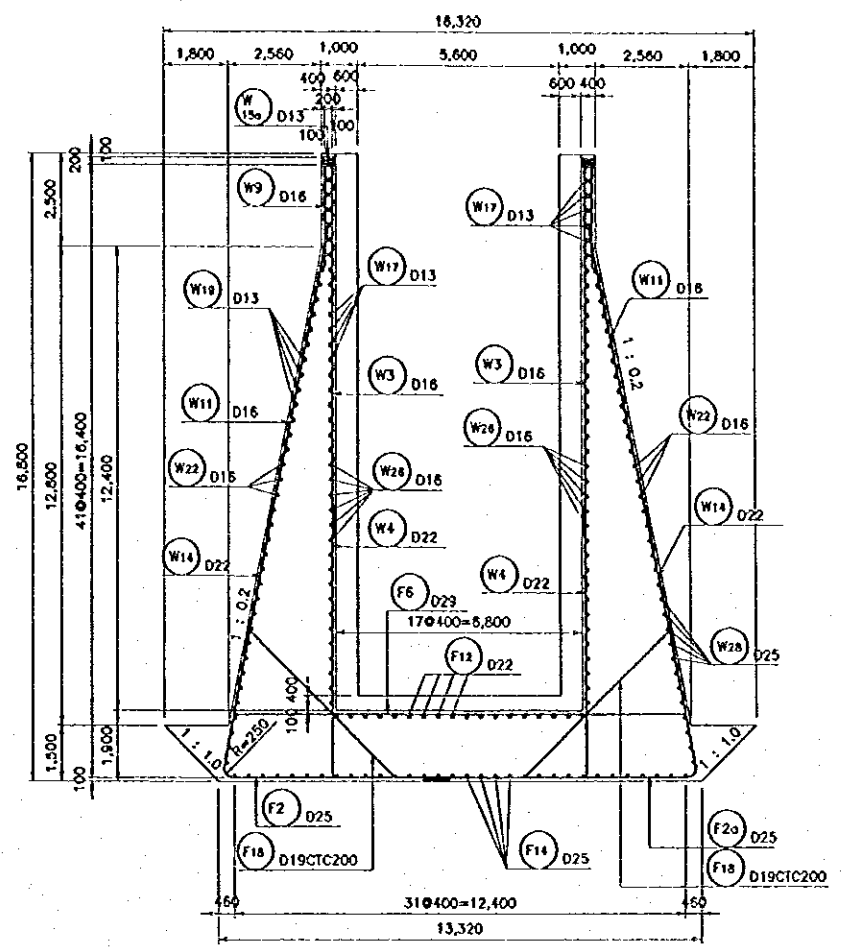
THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION DIVERSION FACILITIES UPSTREAM PORTAL CONCRETE OUTLINE		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
DISTRICT SEMARANG CITY		DRAWING NO. JD-P1-DF-Up-2 SHEET NO. 21
JAPAN INTERNATIONAL COOPERATION AGENCY CO. ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL PAKCO INTERNATIONAL INC.		DATE CONTRACT NO.
DESIGNED CHECKED APPROVED	PROJECT MANAGER	DATE CONTRACT NO.



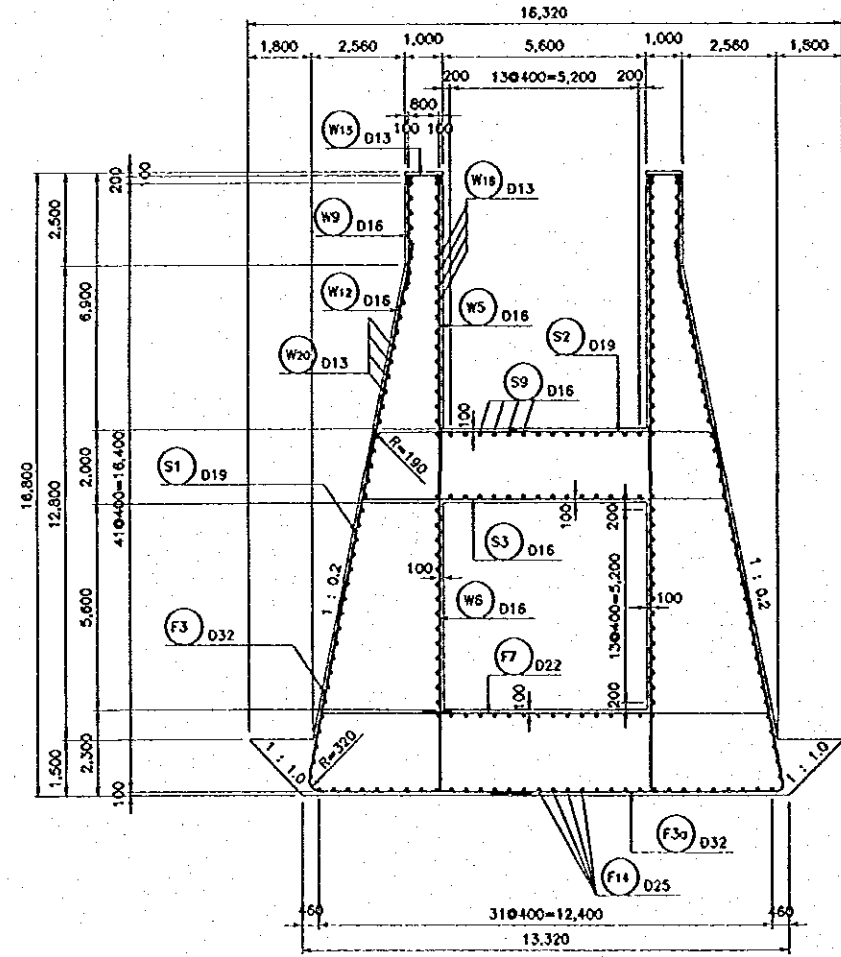
A - A



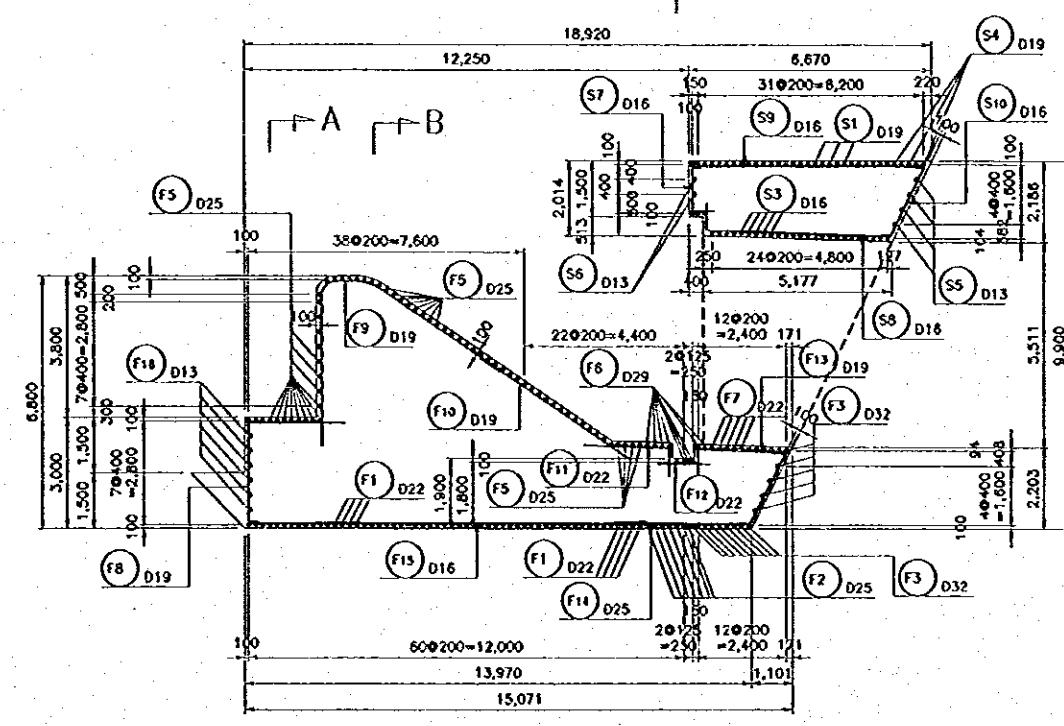
B - B



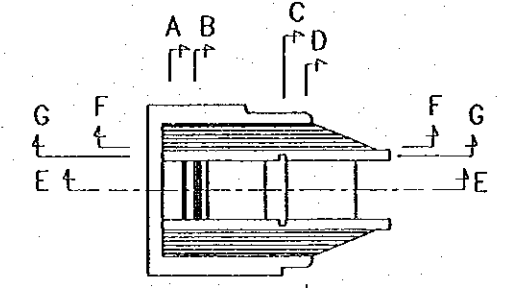
C - C



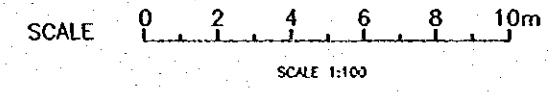
D - D



E - E



KEY PLAN
NON SCALE



NOTES

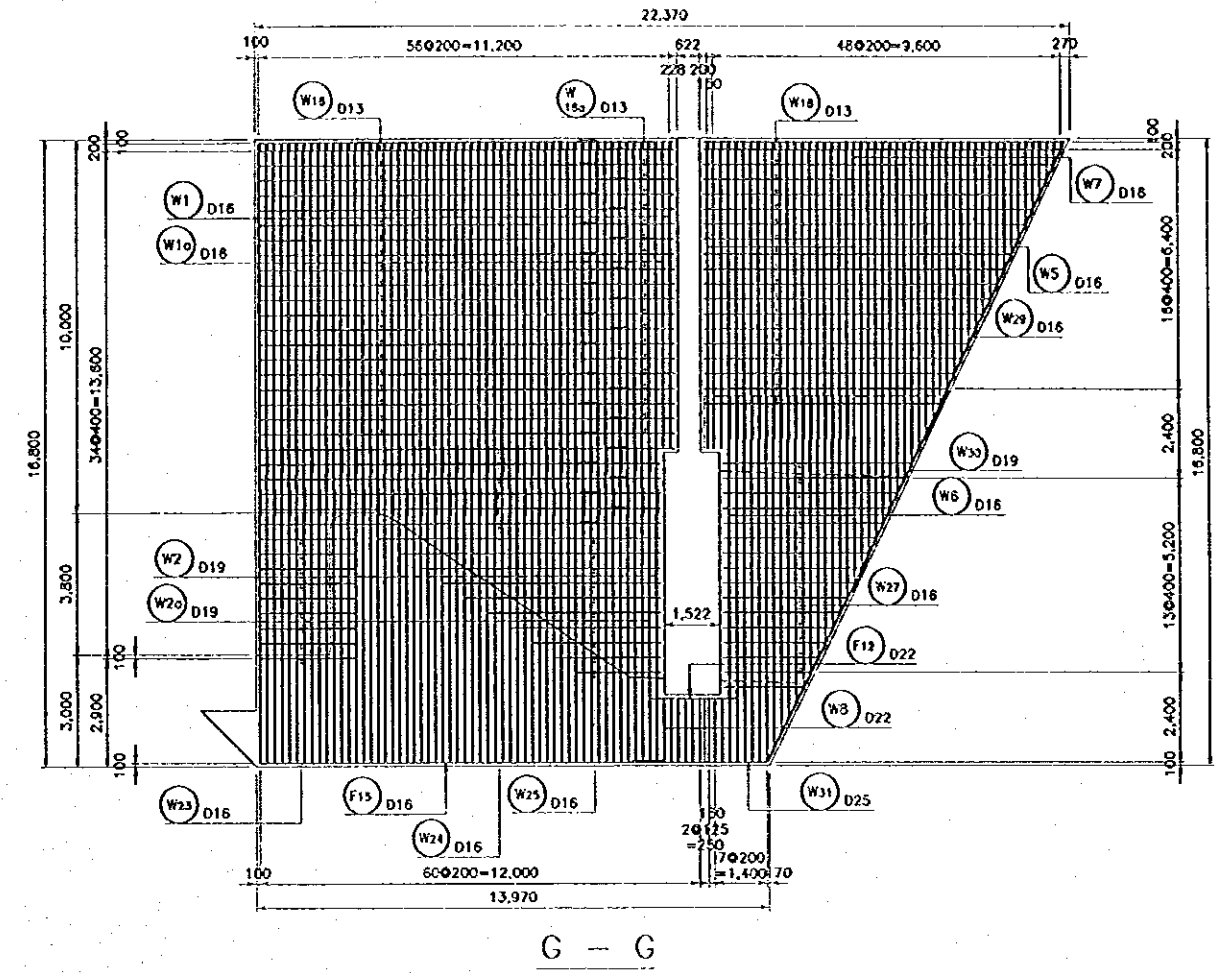
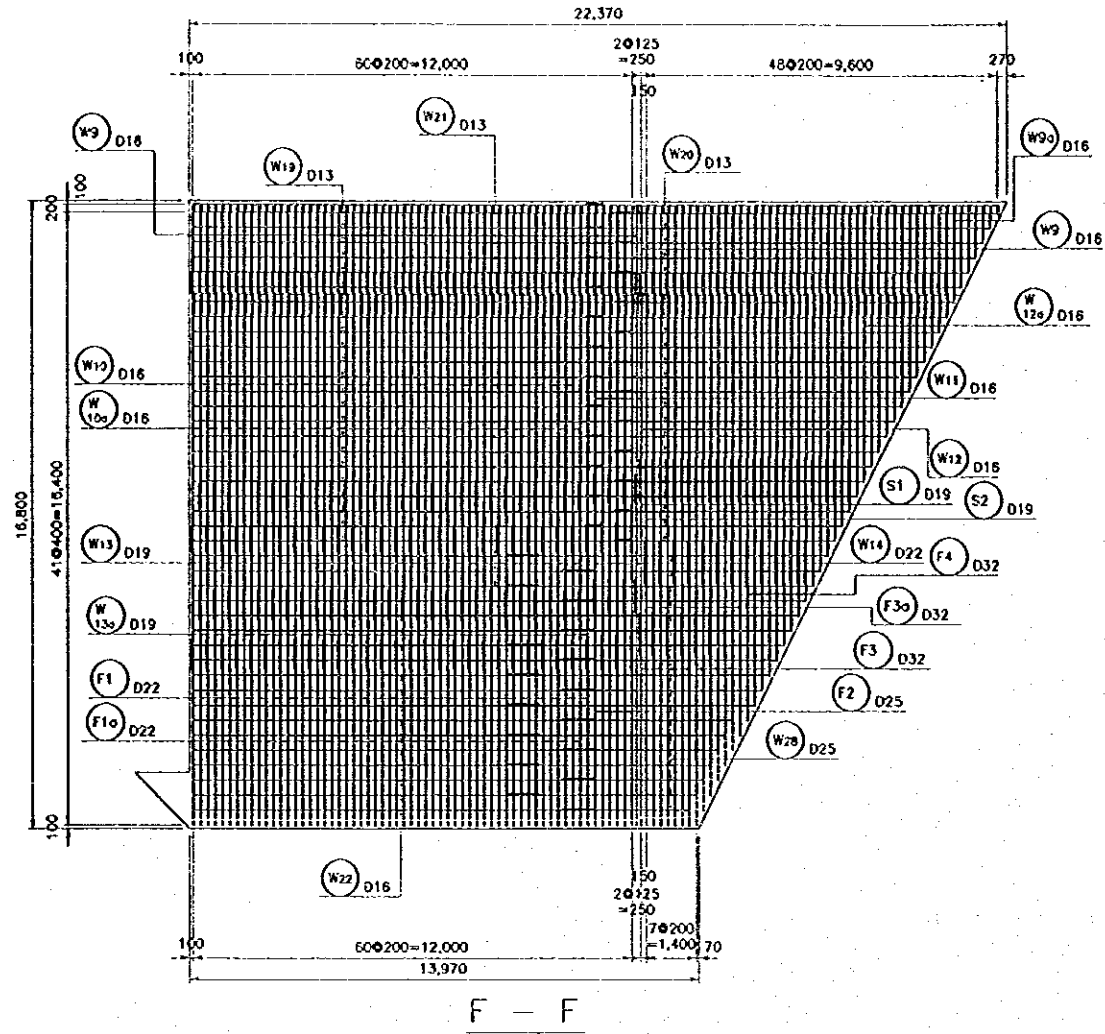
1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.

REFERENCE DRAWINGS

- JD-P1-DF-Up-2 UPSTREAM PORTAL - CONCRETE OUTLINE
- JD-P1-DF-Up-4 UPSTREAM PORTAL - REINFORCEMENT DETAILS (2/3)
- JD-P1-DF-Up-5 UPSTREAM PORTAL - REINFORCEMENT DETAILS (3/3)

NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT		PROVINCE CENTRAL JAVA
JATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION DIVERSION FACILITIES UPSTREAM PORTAL REINFORCEMENT DETAILS (1/3)		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER POLLUTION DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
JAPAN INTERNATIONAL COOPERATION AGENCY CITY OF PLANNING AND DESIGN		DISTRICT SEMARANG CITY
DESIGNED CHECKED PROJECT MANAGER		DRAWING NO. JD-P1-DF-Up-3 SHEET NO. 22 DATE CONTRACT NO.

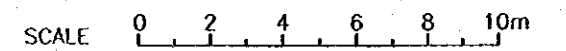


NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.

REFERENCE DRAWINGS

- JD-P1-DF-UP-2 UPSTREAM PORTAL - CONCRETE OUTLINE
- JD-P1-DF-UP-3 UPSTREAM PORTAL - REINFORCEMENT DETAILS (1/3)
- JD-P1-DF-UP-5 UPSTREAM PORTAL - REINFORCEMENT DETAILS (3/3)



THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF URBAN SETTLEMENT IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT: IATIBARANG DAM CONSTRUCTION DIVERSION FACILITIES UPSTREAM PORTAL REINFORCEMENT DETAILS (2/3)					DESIGNED		DRAWN			
					CHECKED		CHECKED			
JAPAN INTERNATIONAL COOPERATION AGENCY CITY ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL JIANG INTERNATIONAL INC.					DATE: _____ CONTRACT NO.: _____		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. JD-P1-DF-Up-4 SHEET NO. 23			
APPROVED: _____ CHIEF OF PLANNING AND DESIGN PROJECT MANAGER										
NO.	DATE	REVISIONS	ORIGINATED	DESIGNED	APPROVED					

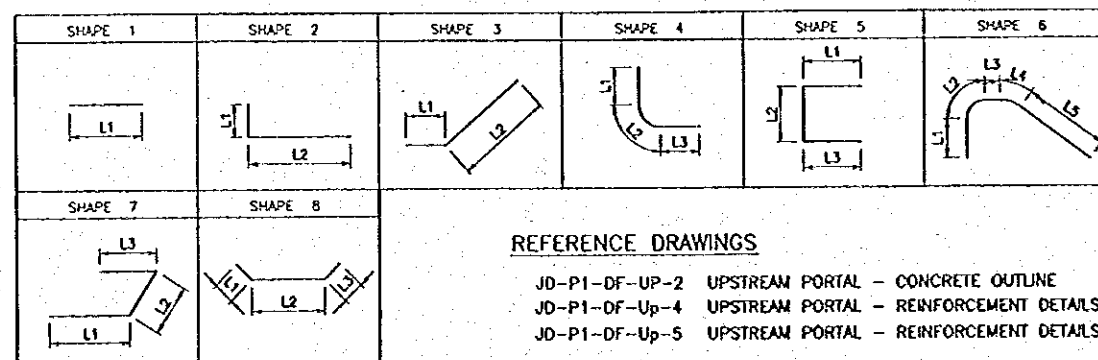
BAR WEIGHT

BAR NO.	DIA	NUMBER	LENGTH (mm)							WEIGHT PER "m" (kg)	WEIGHT PER BAR (kg)	WEIGHT (kg)	SHAPE
			TOTAL	L1	L2	L3	L4	L5	R				
W1	16	58	9,960	9,960					1.580	15,737	913	1	
W1a	16	56	8,810	8,810					1.580	13,920	780	1	
W2	19	56	7,310	7,310					2.230	16,301	913	1	
W2a	19	54	8,460	8,460					2.230	18,866	1,019	1	
W3	16	10	10,060	10,060					1.580	15,895	159	1	
W4	22	20	7,310	7,310					2.980	21,784	436	1	
W5	16	40	7,940	7,940					1.580	12,545	502	1	
W6	16	34	9,800	9,800					1.580	15,484	576	1	
W7	16	56	6,220	6,220*					1.580	9,828	550	1	
W8	22	20	2,540	1,700	840				2.980	7,569	151	2	
W9	16	210	2,920	2,920					1.580	4,614	969	1	
W9a	16	12	1,620	1,620*					1.580	2,560	31	1	
W10	16	54	8,300	8,300					1.580	13,114	708	1	
W10a	16	54	9,470	9,470					1.580	14,963	808	1	
W11	16	12	8,400	8,400					1.580	13,272	159	1	
W12	16	60	6,250	6,250					1.580	9,875	593	1	
W12a	16	22	3,880	3,880*					1.580	6,130	135	1	
W13	19	54	3,750	3,750					2.230	8,363	452	1	
W13a	19	56	3,880	3,880					2.230	8,652	485	1	
W14	22	12	3,960	3,960					2.980	11,801	142	1	
W15	13	214	1,000	200	600	200			1.040	1,040	223	1	
W15a	13	12	600	200	200	200			1.040	0,624	7	1	
W16	13	42	9,590	9,590*					1.040	9,974	419	1	
W16a	13	42	2,190	2,190*					1.040	2,278	96	1	
W17	13	42	1,230	1,230					1.040	1,279	54	1	
W18	13	38	8,210	8,210*					1.040	8,538	324	1	
W19	13	48	11,610	11,610*					1.040	12,074	580	1	
W20	13	48	8,660	8,660*					1.040	9,006	432	1	
W21	13	6	10,250	10,250*					1.040	10,660	64	1	
W22	16	30	10,250	10,250*					1.580	16,195	456	1	
W23	16	18	2,560	2,560					1.580	4,045	73	1	
W24	16	12	11,890	11,890					1.580	18,785	225	1	
W25	16	10	4,970	4,970*					1.580	7,853	79	1	
W26	16	32	2,210	2,210					1.580	3,492	112	1	
W27	16	32	3,660	3,660*					1.580	5,783	185	1	
W28	25	36	6,150	6,150*					3.850	23,678	852	1	
W29	16	4	8,880	8,880					1.580	14,030	56	1	
W30	19	4	5,870	5,870					2.230	13,090	52	1	
W31	25	4	9,770	3,690	6,080				3.850	37,615	150	3	
F1	22	56	12,000	4,290	390	7,320		220	2.980	35,760	2,003	4	
F1a	22	54	12,000	5,610	390	6,000		220	2.980	35,760	1,931	4	
F2	25	6	12,000	4,260	450	7,290		250	3.850	46,200	277	4	
F2a	25	6	12,000	5,580	450	5,970		250	3.850	46,200	277	4	
F3	32	14	12,000	3,600	570	7,830		320	6.310	75,720	1,060	4	
F3a	32	14	12,000	5,680	570	5,750		320	6.310	75,720	1,060	4	
F4	32	18	3,210	3,210*					6.310	20,255	365	1	
F5	25	64	11,220	11,220*					3.850	43,197	2,765	1	
F6	29	10	12,200	12,200*					5.190	63,318	633	1	
F7	22	11	12,240	12,240					2.980	36,475	401	1	
F8	19	14	5,670	2,670	2,700	300			2.230	12,644	177	5	

BAR NO.	DIA	NUMBER	LENGTH (mm)							WEIGHT PER "m" (kg)	WEIGHT PER BAR (kg)	WEIGHT (kg)	SHAPE	
			TOTAL	L1	L2	L3	L4	L5	R					
F9	19	14	9,880	4,070	550	550	800	3,910	350(1,350)	2.230	22,032	308	6	
F10	19	14	5,000	5,000						2.230	11,150	156	1	
F11	22	14	3,110	2,350	760					2.980	9,268	130	2	
F12	22	16	1,460	1,460						2.980	4,351	70	1	
F13	19	14	3,090	2,400	690					2.230	6,891	96	2	
F14	25	32	6,250	3,720	2,150	380				3.850	24,063	770	7	
F15	16	32	11,000	11,000						1.580	17,380	556	1	
F16	13	6	12,000	12,000						1.040	12,450	75	1	
F17	19	24	8,200	300	7,600	300				2.230	18,286	439	8	
F18	19	4	6,200	300	5,600	300				2.230	13,826	55	1	
S1	19	28	9,650	5,170	260	4,210		190		2.230	21,497	602	4	
S2	19	28	8,830	3,210	260	5,360		190		2.230	19,691	551	4	
S3	16	28	9,920	9,920						1.580	15,674	439	1	
S4	19	5	9,920	9,920						2.230	22,122	111	1	
S5	13	4	9,920	9,920						1.040	10,317	41	1	
S6	13	2	9,920	9,920						1.040	10,317	21	1	
S7	16	14	1,800	250	1,300	250				1.580	2,844	40	5	
S8	16	14	5,770	720	5050					1.580	9,117	128	2	
S9	16	14	6,390	6,390						1.580	10,096	141	1	
S10	16	14	2,610	250	2,110	250				1.580	4,124	58	5	
TOTAL												30,636		

NOTE: NUMBER HAVING SIGN*** IS AVERAGE.

BAR BENDING SCHEDULE



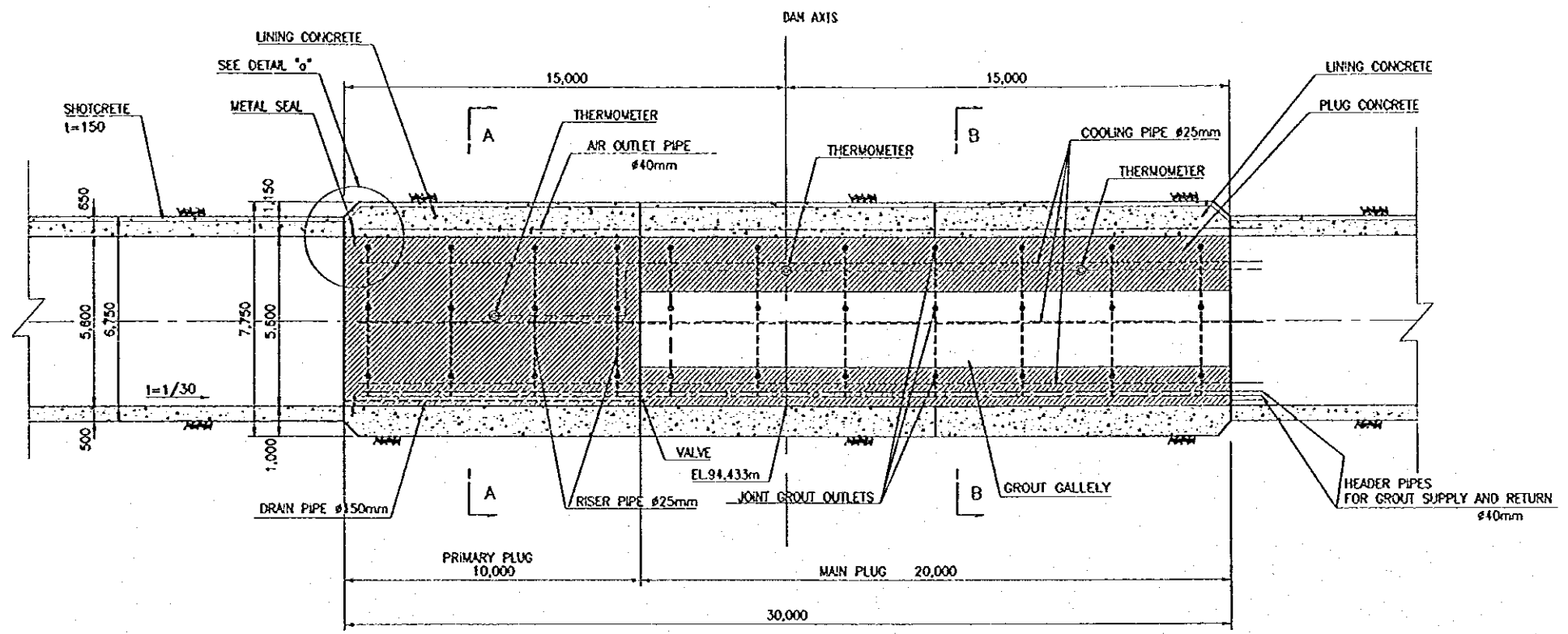
THE REPUBLIC OF INDONESIA
 MINISTRY OF PUBLIC WORKS
 DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT

JRATUNSELUNA FLOOD CONTROL PROJECT
 COMPONENT : JATIBARANG DAM CONSTRUCTION
 DIVERSION FACILITIES
 UPSTREAM PORTAL
 REINFORCEMENT DETAILS (3/3)

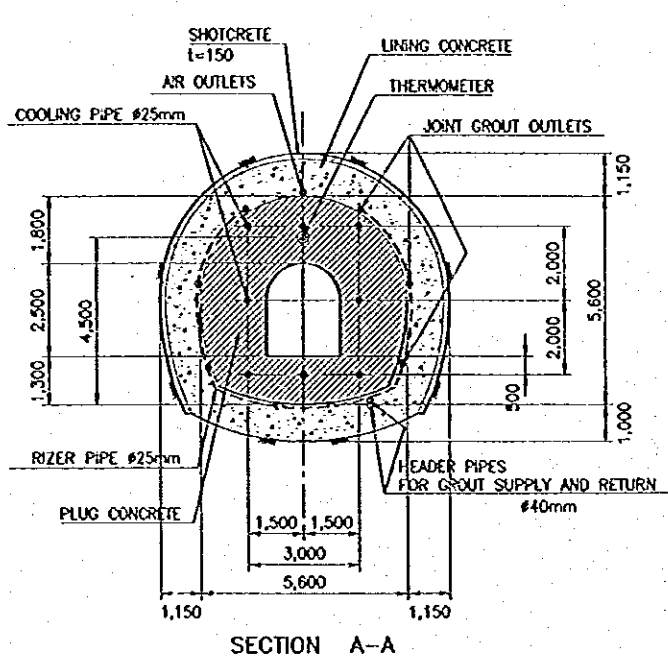
DESIGNED: [Signature]
 CHECKED: [Signature]
 APPROVED: [Signature]

DATE: [Date] CONTRACT NO. [Number]

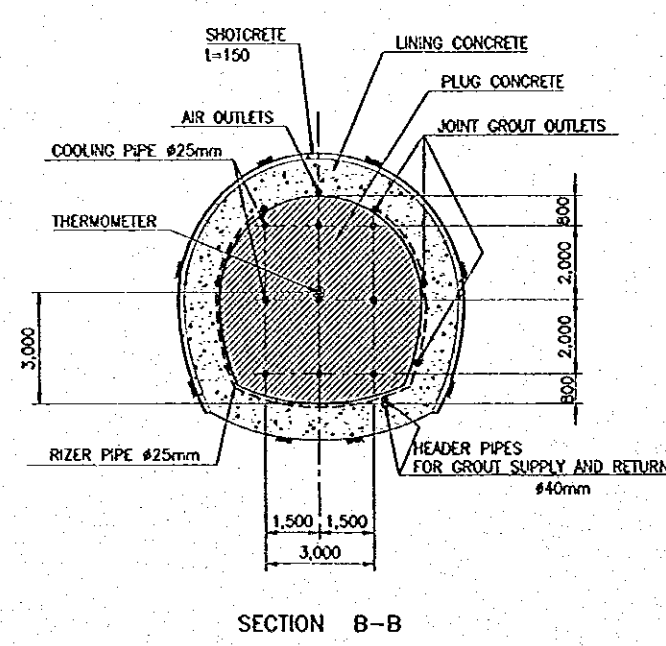
NO.	DATE	REVISIONS	DESIGNED	CHECKED	APPROVED



PROFILE
SCALE A

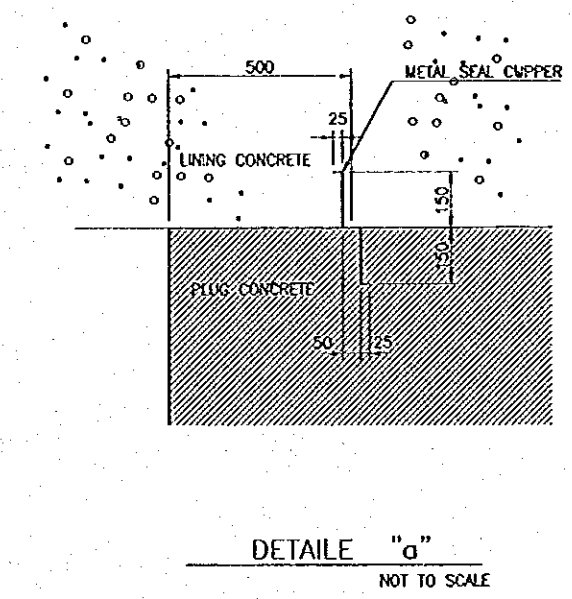


SECTION A-A

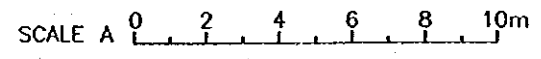


SECTION B-B

TYPICAL SECTION
SCALE A



DETAIL "d"
NOT TO SCALE



NOTES

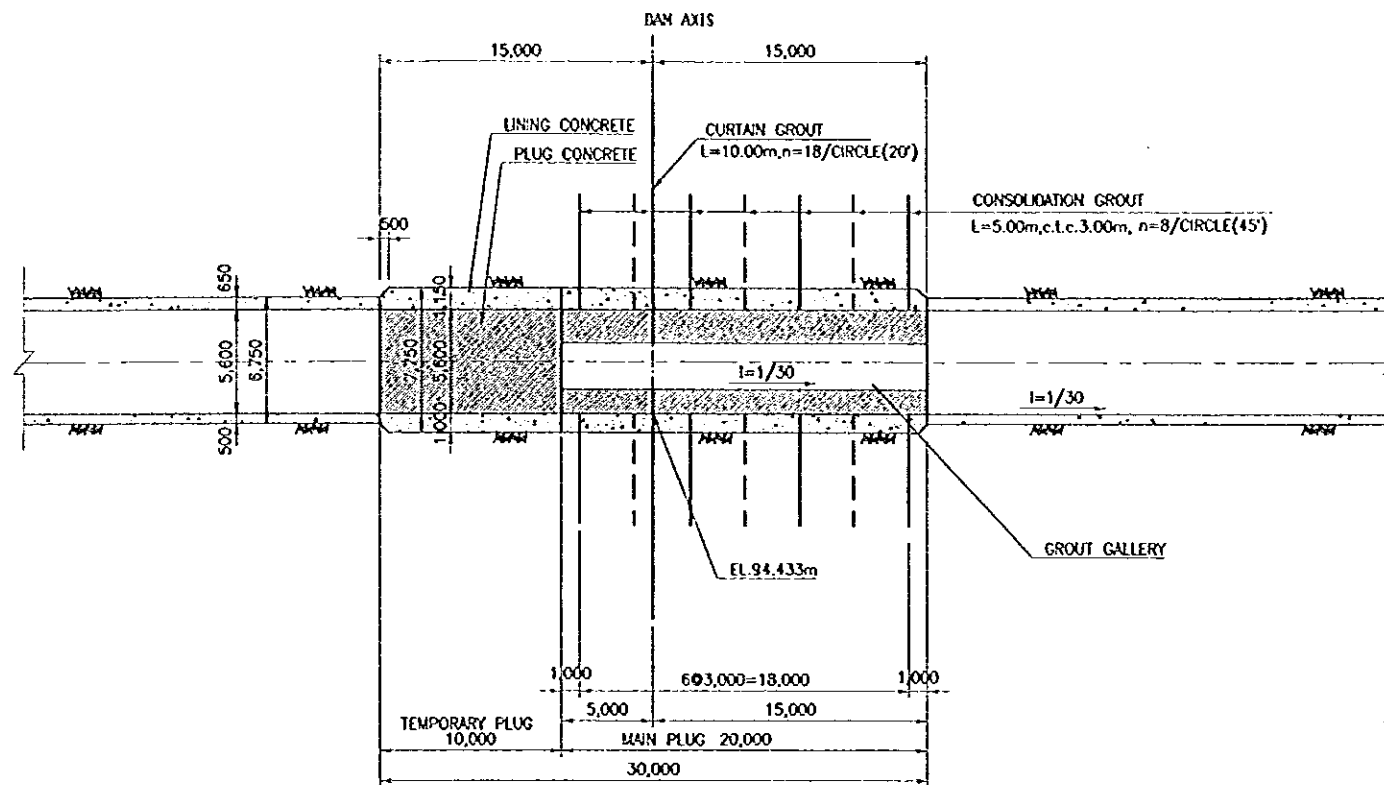
1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
2. LINING CONCRETE SHALL BE OF TYPE A AS PER SPECIFICATION.
3. PLUG CONCRETE SHALL BE OF TYPE D AS PER SPECIFICATION.

REFERENCE DRAWINGS

- JD-P1-DF-P1-1 DIVERSION FACILITIES - LAYOUT PLAN
- JD-P1-DF-Pg-2 PLUG WORKS IN DIVERSION TUNNEL - GROUT PLAN

NO.	DATE	REVISIONS	DESIGNED	CHECKED	APPROVED

	THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENTS		PROVINCE CENTRAL JAVA
	PROJECT NAME JATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION DIVERSION FACILITIES PLUG WORKS IN DIVERSION TUNNEL CONCRETE PLUG DETAILS		PROJECT NO. SEMARANG CITY
	DRAWING NO. JD-P1-DF-Pg-1 SHEET NO. 25		DATE CONTRACT NO.
	JAPAN INTERNATIONAL COOPERATION AGENCY ODA ENGINEERING CO., LTD. PACIFIC CONSULTANTS INTERNATIONAL PAKO INTERNATIONAL INC.	DESIGNED CHECKED APPROVED	PROJECT MANAGER



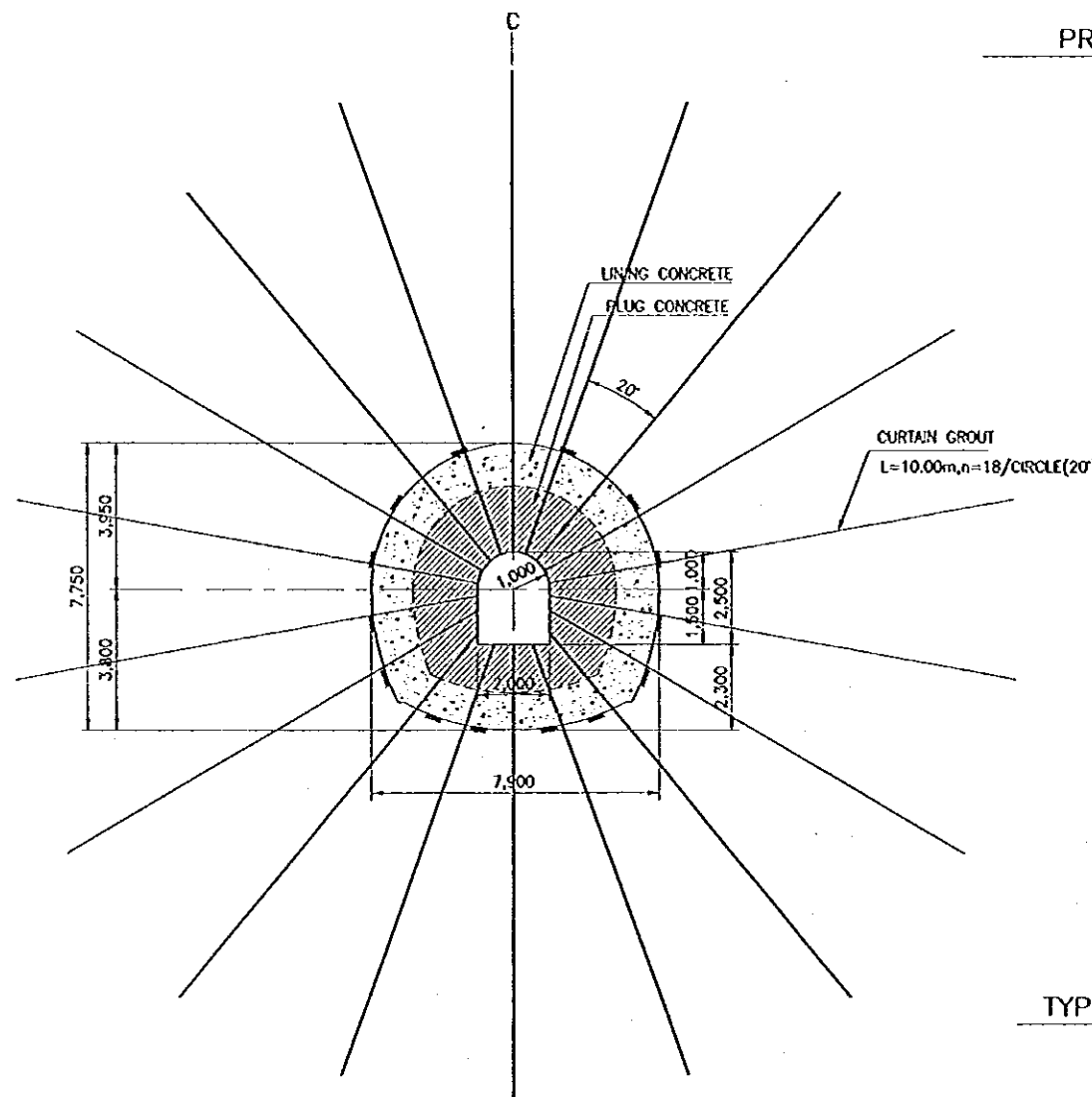
PROFILE
SCALE A

NOTES

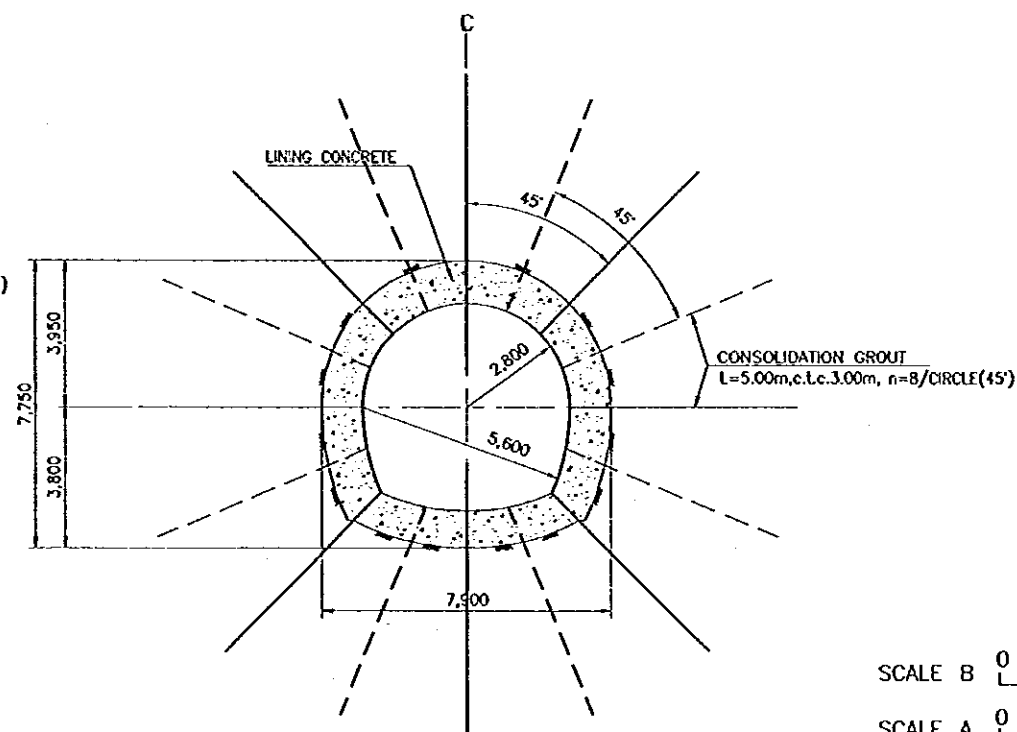
1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
2. LINING CONCRETE SHALL BE OF TYPE A AS PER SPECIFICATION.
3. PLUG CONCRETE SHALL BE OF TYPE D AS PER SPECIFICATION.

REFERENCE DRAWINGS

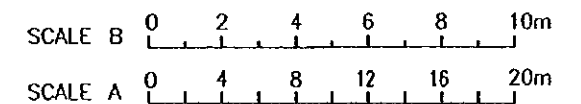
- JD-P1-DF-P1-1 DIVERSION FACILITIES - LAYOUT PLAN
- JD-P1-DF-Pg-1 PLUG WORKS IN DIVERSION TUNNEL -- CONCRETE PLUG DETAILS



TYPICAL ARRANGEMENT OF CURTAIN GROUT



TYPICAL ARRANGEMENT OF CONSOLIDATION GROUT



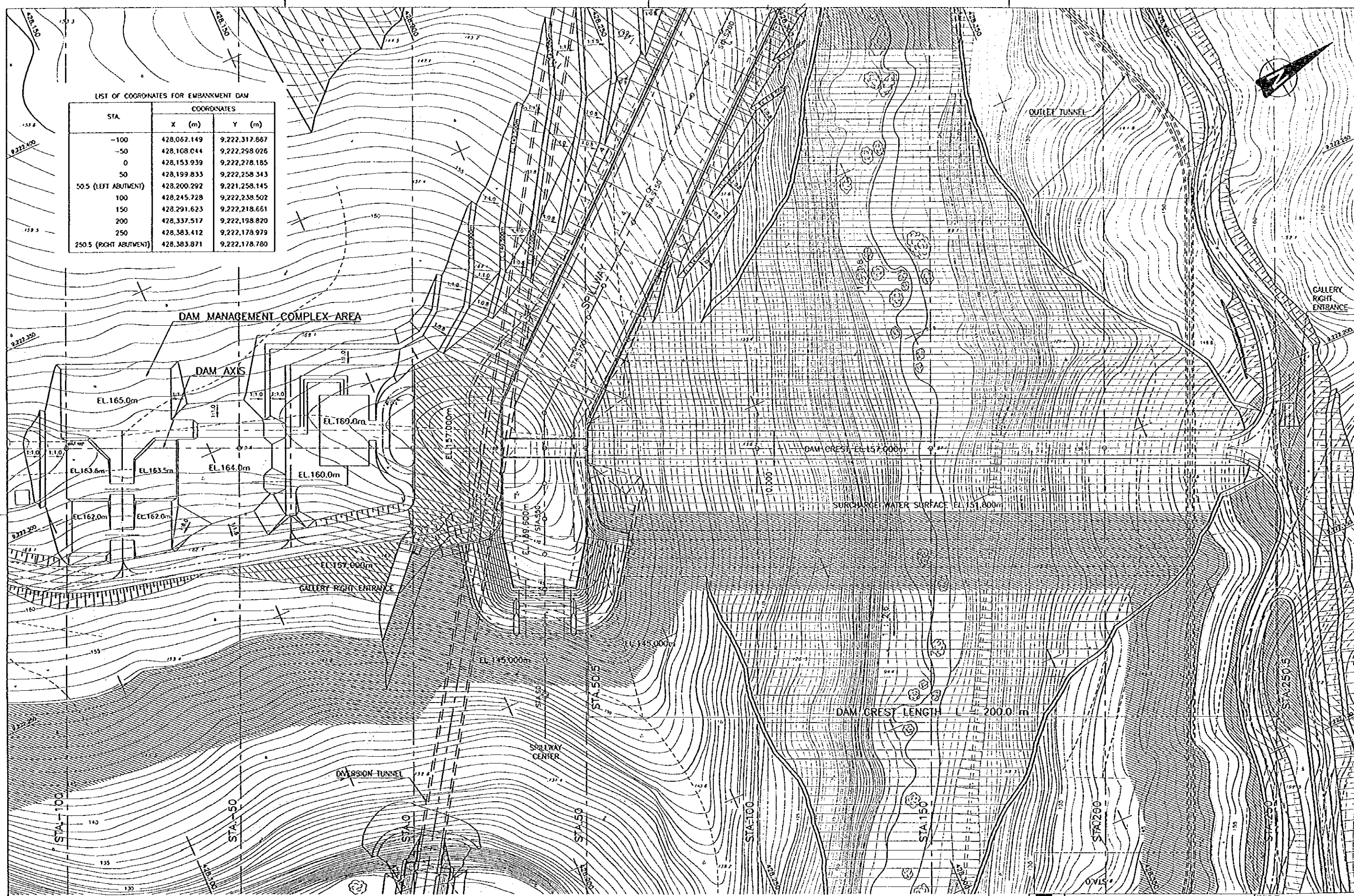
TYPICAL SECTION
SCALE B

NO.	DATE	REVISIONS	ORIGINATED	DISSEMINATED	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 : JATIBARANG DAM CONSTRUCTION DIVERSION FACILITIES PLUG WORKS IN DIVERSION TUNNEL GROUT PLAN		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA
	JAWA INTERNATIONAL COOPERATIVE KIRBY CUI INCORPORATED CO. LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL PAKO INTERNATIONAL PTE. LTD.		REGION SEMARANG CITY
	CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		DRAWING NO. JD-P1-DF-Pg-2 SHEET NO. 26 DATE CONTRACT NO.

LIST OF COORDINATES FOR EMBANKMENT DAM

STA	COORDINATES	
	X (m)	Y (m)
-100	428,062.149	9,222,317.887
-50	428,108.044	9,222,298.026
0	428,153.939	9,222,278.185
50	428,199.833	9,222,258.343
50.5 (LEFT ABUTMENT)	428,200.292	9,221,258.145
100	428,245.728	9,222,238.502
150	428,291.623	9,222,218.661
200	428,337.517	9,222,198.820
250	428,383.412	9,222,178.979
250.5 (RIGHT ABUTMENT)	428,383.871	9,222,178.780

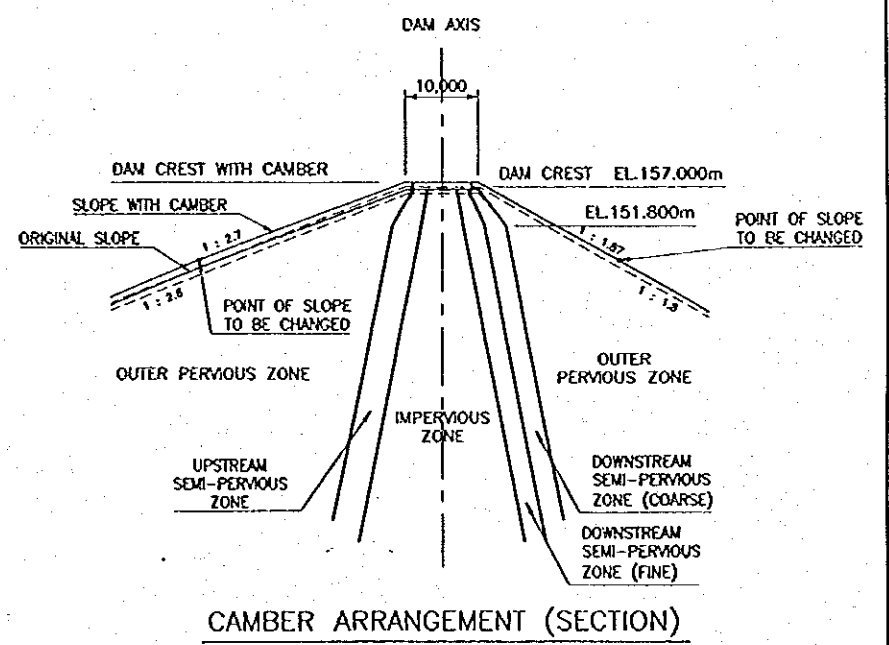
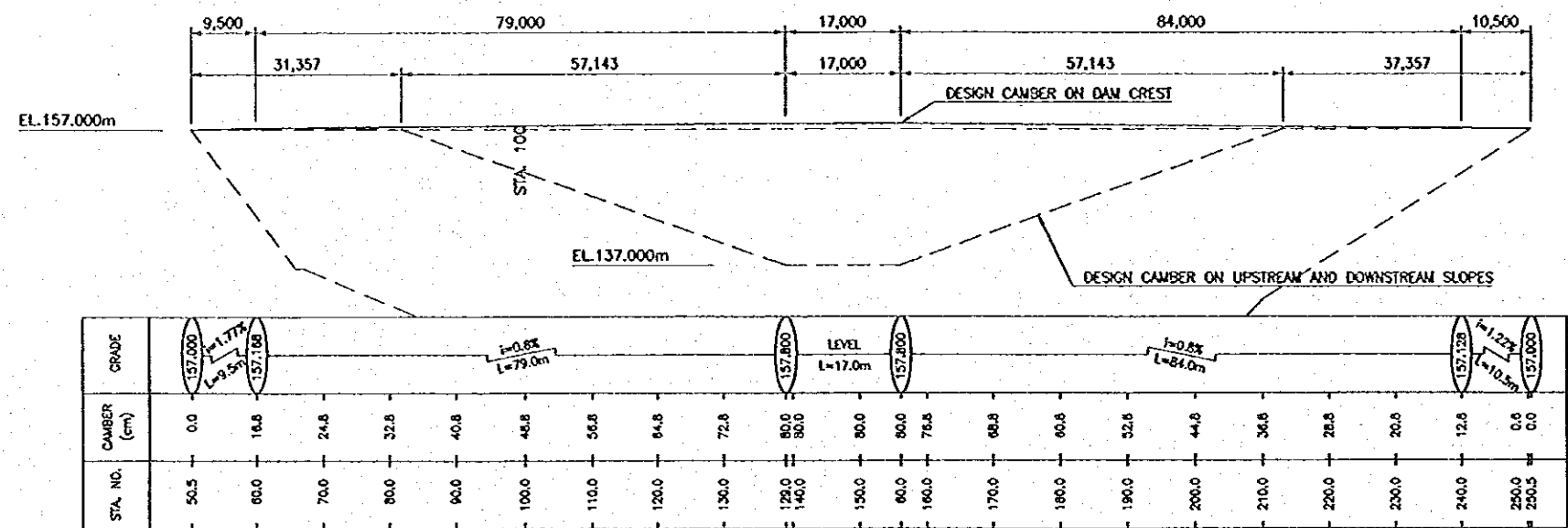
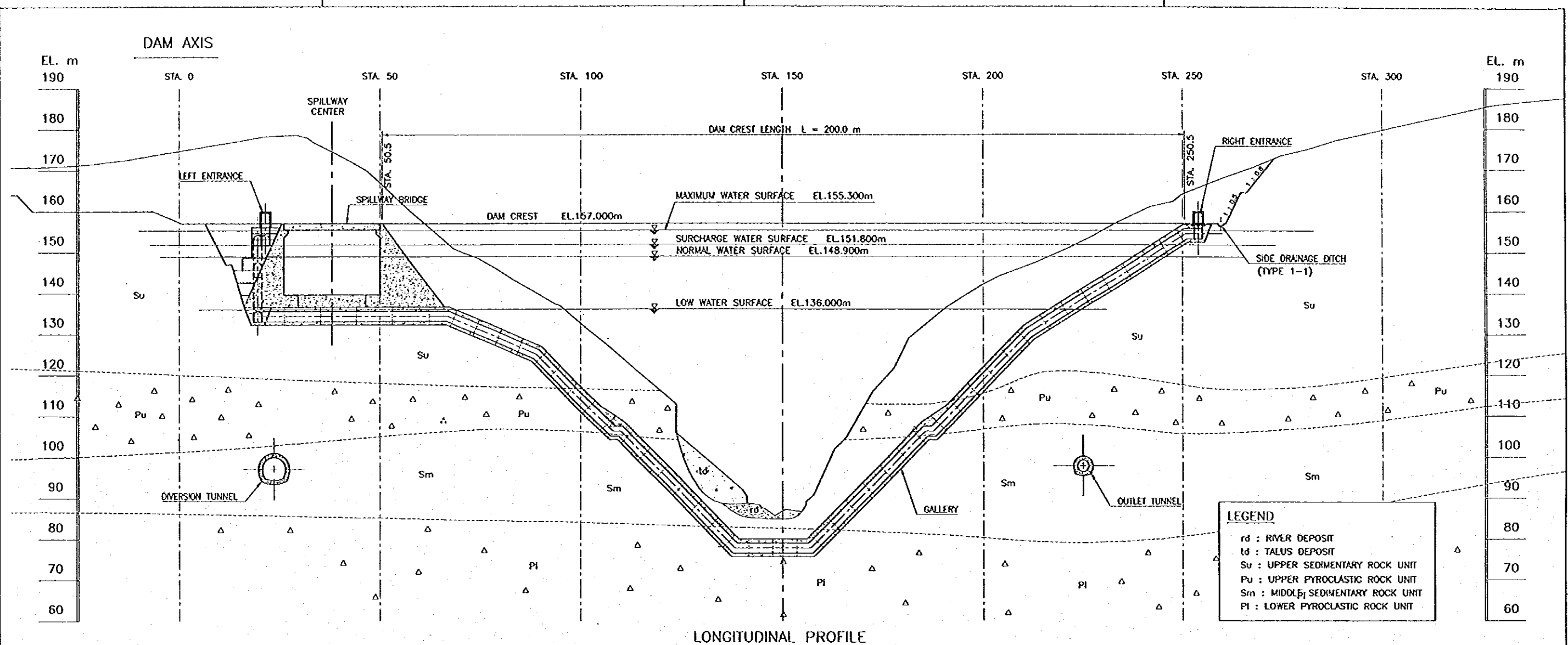


NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.

NO.	DATE	REVISIONS	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT JRA TUNJUNG FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION EMBANKMENT DAM LAYOUT PLAN		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY DRAWING NO. JO-P1-ED-Cc-1 SHEET NO. 27 DATE CONTRACT NO.
DESIGNED CHECKED APPROVED PROJECT MANAGER	DRAWN CHECKED APPROVED PROJECT MANAGER	[Signature] [Signature] [Signature]



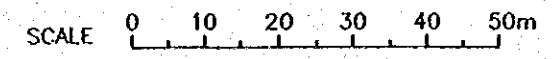
NOTES

- ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
- THE GEOLOGICAL INFORMATION IS ONLY FOR REFERENCE.

REFERENCE DRAWINGS

JD-P1-GE-PI-2 GEOLOGICAL MAP AT DAMSITE

JD-P1-GE-Pr-1 GEOLOGICAL PROFILE ALONG DAM AXIS

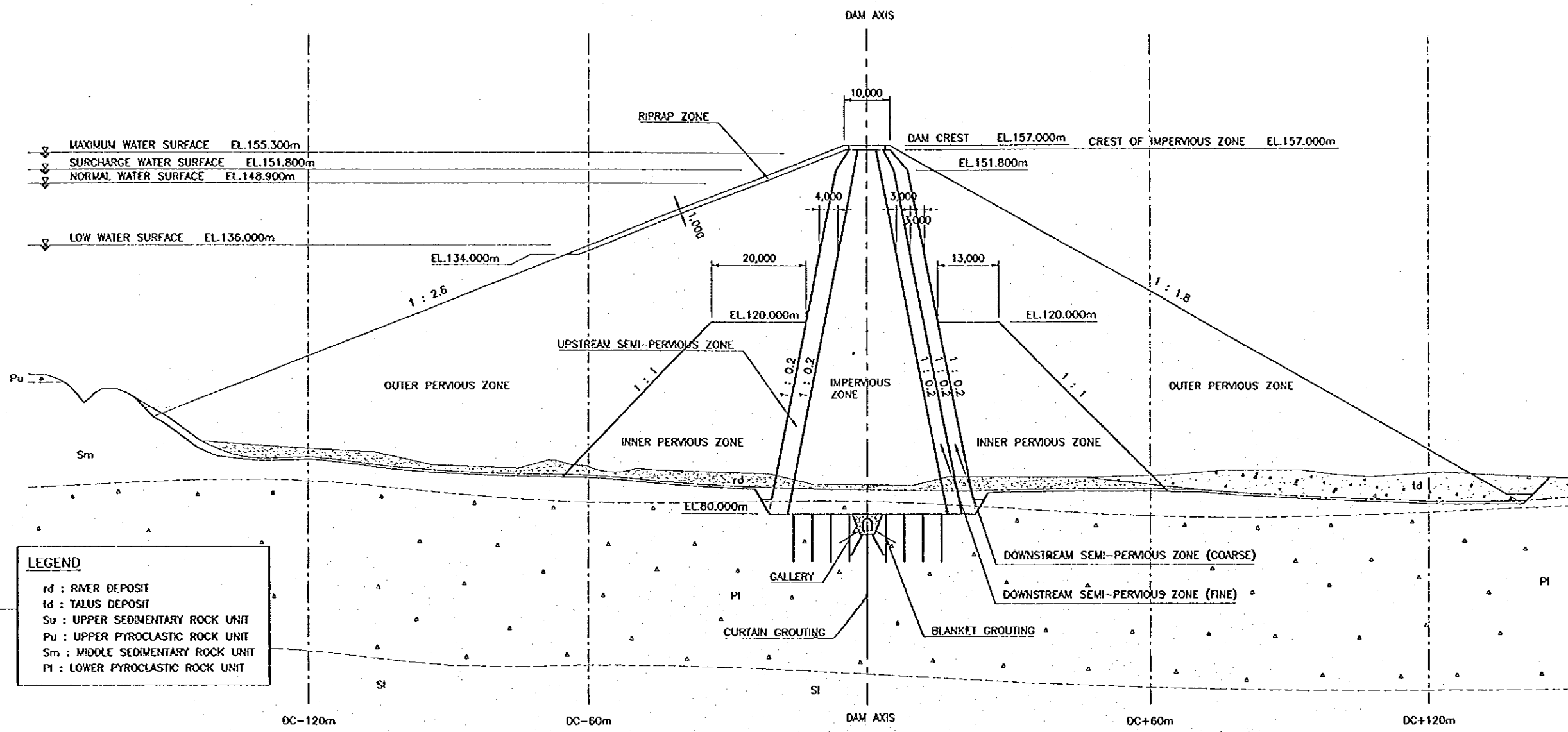


NO.	DATE	KEYWORDS	ORIGINATED	DESIGNED	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF HUMAN SETTLEMENT JERATUNSELUNA FLOOD CONTROL PROJECT COMPONENT : MATIBALANG DAM CONSTRUCTION EMBANKMENT DAM PROFILE ALONG DAM AXIS		PROVINCE CENTRAL JAWA PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY DRAWING NO. JD-P1-ED-Ce-2 SHEET NO. 28 DATE CONTRACT NO.
SAFAR INTERNATIONAL CONSULTING AGENCY CE ENGINEERING CO., LTD. in association with PACIFIC CONSULTANTS INTERNATIONAL PACIFIC INTERNATIONAL P.C.	DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER	APPROVED

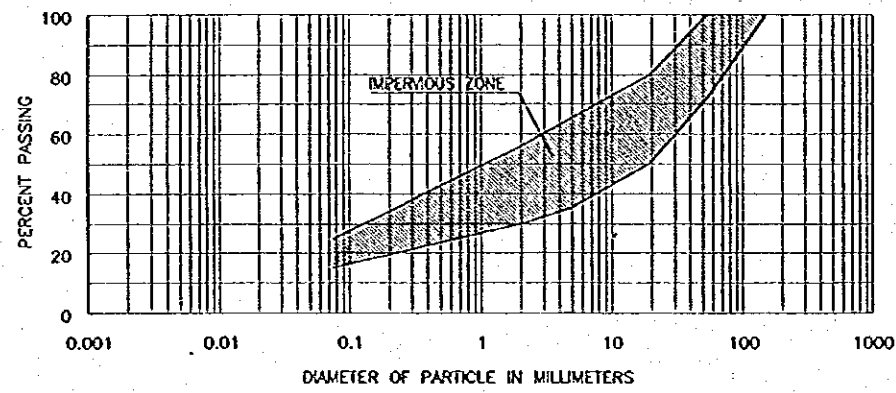
EL. m
180
170
160
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EL. m
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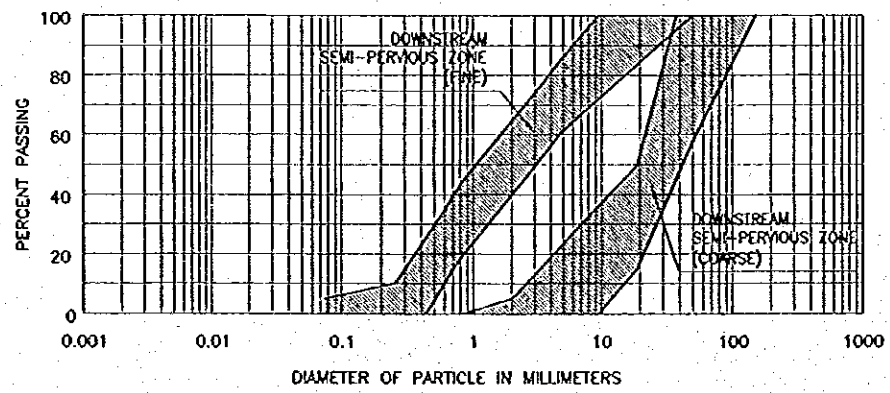


LEGEND
 rd : RIVER DEPOSIT
 td : TALUS DEPOSIT
 Su : UPPER SEDIMENTARY ROCK UNIT
 Pu : UPPER PYROCLASTIC ROCK UNIT
 Sm : MIDDLE SEDIMENTARY ROCK UNIT
 Pi : LOWER PYROCLASTIC ROCK UNIT

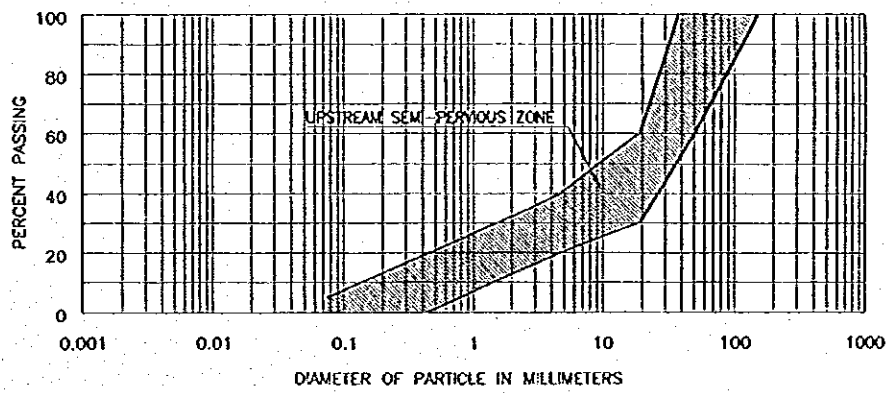
TYPICAL CROSS SECTION



GRADATION LIMIT FOR IMPERVIOUS ZONE



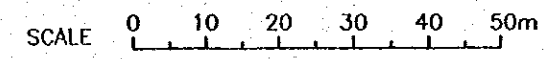
GRADATION LIMIT FOR DOWNSTREAM SEMI-PERVIOUS ZONE



GRADATION LIMIT FOR UPSTREAM SEMI-PERVIOUS ZONE

- NOTES**
1. INNER AND OUTER PERVIOUS ZONES AND RIP RAP ARE GRADATION AS PER SPECIFICATION.
 2. THE CAMBER IS NOT SHOWN IN THIS DRAWING.
 3. THE GEOLOGICAL INFORMATION IS ONLY FOR REFERENCE.

- REFERENCE DRAWINGS**
- JD-P1-ED-Ce-1 EMBANKMENT DAM - LAYOUT PLAN
 - JD-P1-ED-Ce-2 EMBANKMENT DAM - PROFILE ALONG DAM AXIS

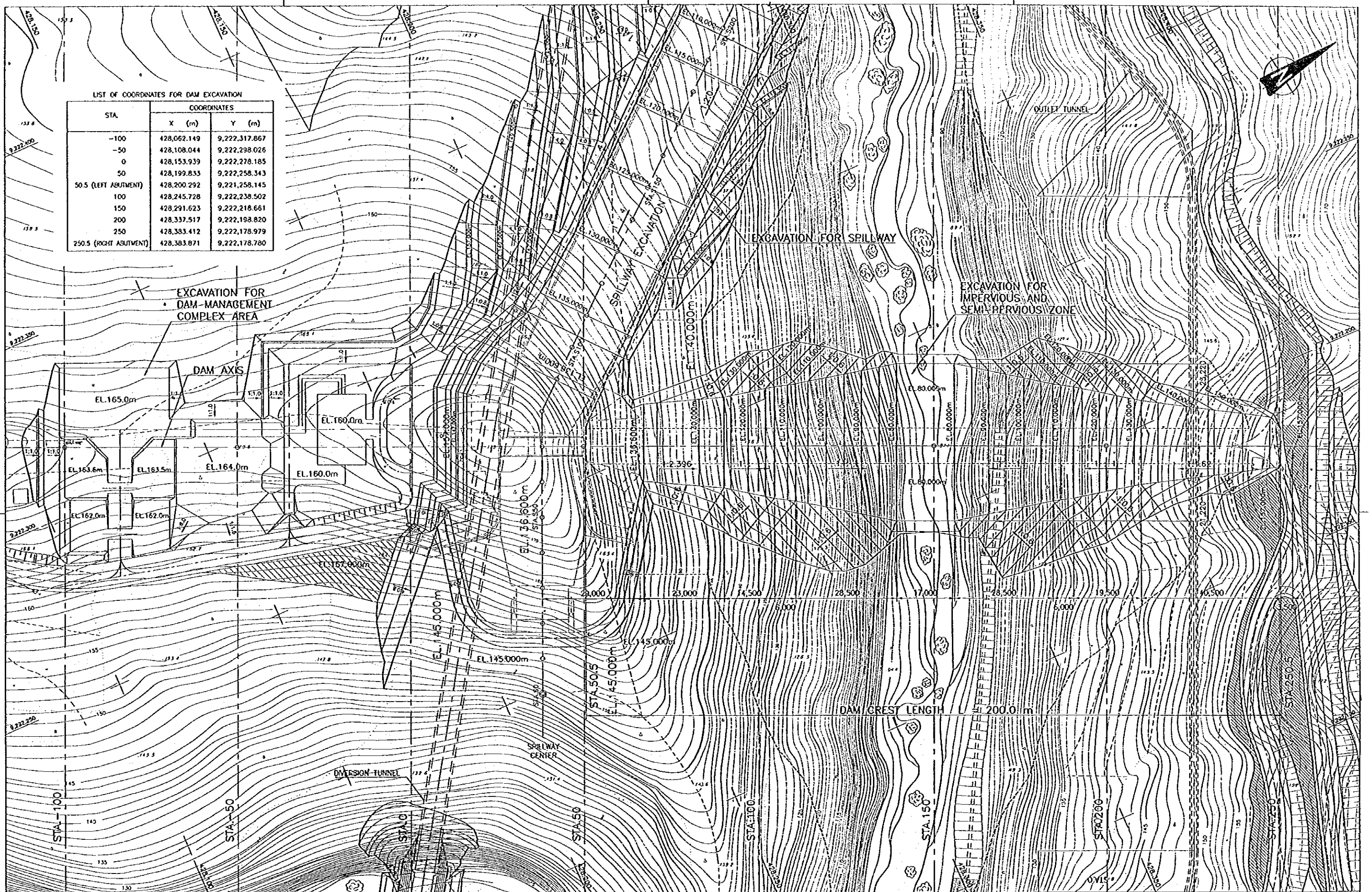


NO.	DATE	REVISIONS	ORGANIZED	DRAWING	APPROVED

THE REPUBLIC OF INDONESIA MINISTRY OF PUBLIC WORKS DIRECTORATE GENERAL OF WATER RESOURCES DEVELOPMENT AND DIRECTORATE GENERAL OF RURAL SETTLEMENT		PROVIDER CENTRAL IAVA
IRATUNSELUNA FLOOD CONTROL PROJECT COMPONENT - IATIBARANG DAM CONSTRUCTION EMBANKMENT DAM TYPICAL CROSS SECTION		PROJECT NAME FLOOD CONTROL, URBAN DRAINAGE AND WATER RESOURCES DEVELOPMENT IN SEMARANG IN THE REPUBLIC OF INDONESIA DISTRICT SEMARANG CITY
JAPAN INTERNATIONAL COOPERATION AGENCY CITY ENGINEERING CO., LTD. IN ASSOCIATION WITH PACIFIC CONSULTANTS INTERNATIONAL JACO INTERNATIONAL P.C.		DRAWING NO. JD-P1-ED-Ce-3 SHEET NO. 29
CHIEF OF PLANNING AND DESIGN PROJECT MANAGER		DATE CONTRACT NO.

LIST OF COORDINATES FOR DAM EXCAVATION

STA.	COORDINATES	
	X (m)	Y (m)
-100	428,062.149	9,222,317.867
-50	428,108.044	9,222,298.026
0	428,153.939	9,222,278.185
50	428,199.833	9,222,258.343
50.5 (LEFT ABUTMENT)	428,200.292	9,221,258.145
100	428,245.728	9,222,238.502
150	428,291.623	9,222,218.661
200	428,337.517	9,222,198.820
250	428,383.412	9,222,178.979
250.5 (RIGHT ABUTMENT)	428,383.871	9,222,178.780



NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE NOTED.
2. EXCAVATION PLAN FOR SPILLWAY IS SHOWN IN DRAWING NO. JD-P1-SP-Ge-4.
3. EXCAVATION PLAN FOR DAM MANAGEMENT COMPLEX IS SHOWN IN DRAWING NO. JD-P1-OT-Dc-1.

REFERENCE DRAWINGS

- JD-P1-SP-Ge-4 SPILLWAY - EXCAVATION PLAN
- JD-P1-OT-Dc-1 EXCAVATION PLAN FOR DAM MANAGEMENT COMPLEX

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 JATIBARANG FLOOD CONTROL PROJECT COMPONENT : JATIBARANG DAM CONSTRUCTION EMBANKMENT DAM EXCAVATION PLAN		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. JD-P1-ED-Ge-4 SHEET NO. 30 DATE CONTRACT NO.
JAPAN INTERNATIONAL COOPERATION AGENCY CH. ENGINEERING CO., LTD. PACIFIC CONSULTANTS INTERNATIONAL JAWA INTERNATIONAL INC.	DESIGNED CHECKED CHIEF OF PLANNING AND DESIGN PROJECT MANAGER	DATE