

持出禁止

社会開発協力部

PORT MUHAMMAD - BIN - QASIM PROJECT

DETAILED DESIGN DRAWINGS

VOL. I IRON ORE & COAL BERTH

OCTOBER 1975

JAPAN INTERNATIONAL COOPERATION AGENCY

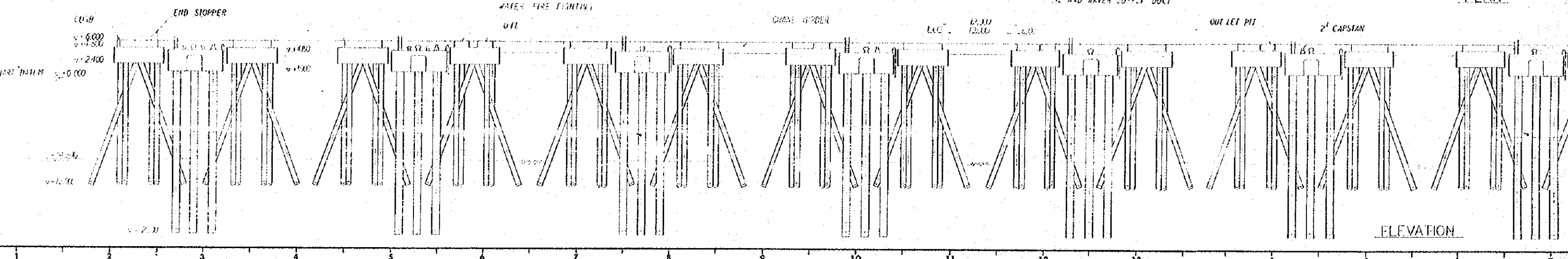
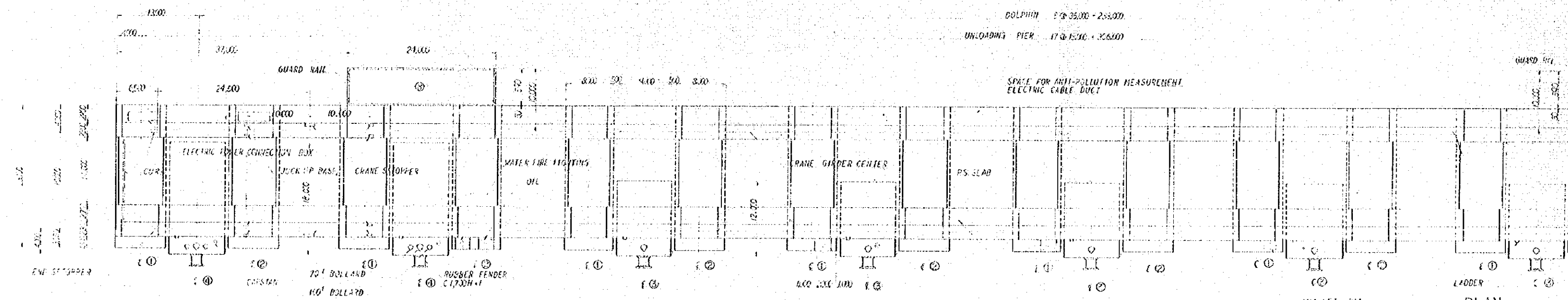
S	D
J	R

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17



SHIP UNLOADING PIER

TOTAL LENGTH 34.00
 DOLPHIN 17 @ 35.00 = 285.00
 UNLOADING PIER 17 @ 15.16 = 257.72



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

1 2 3 4 5 6 7 8 9 10 11 12

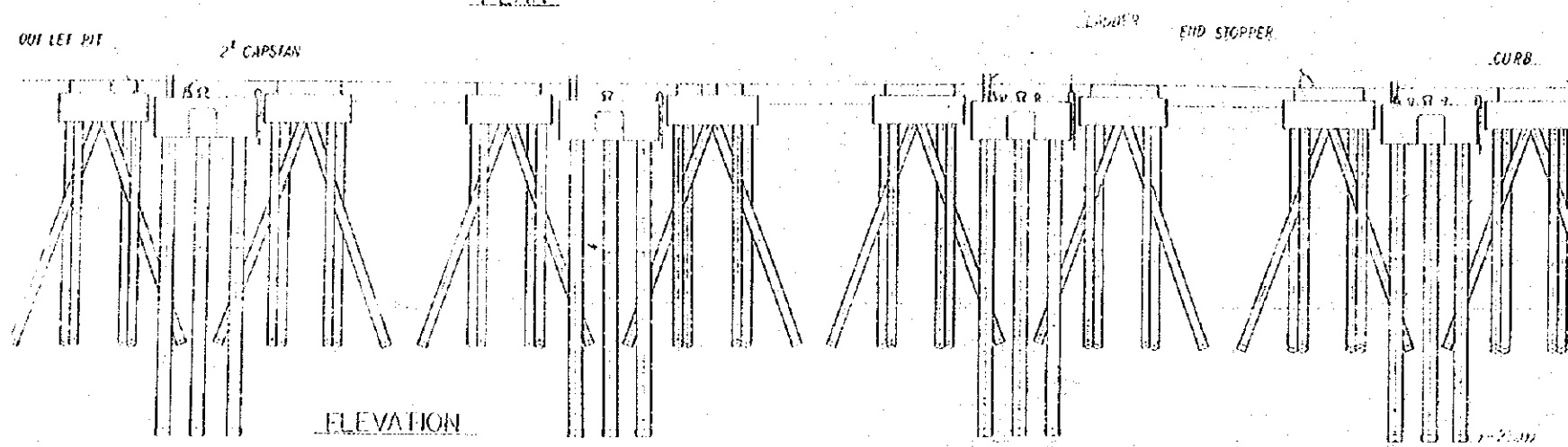
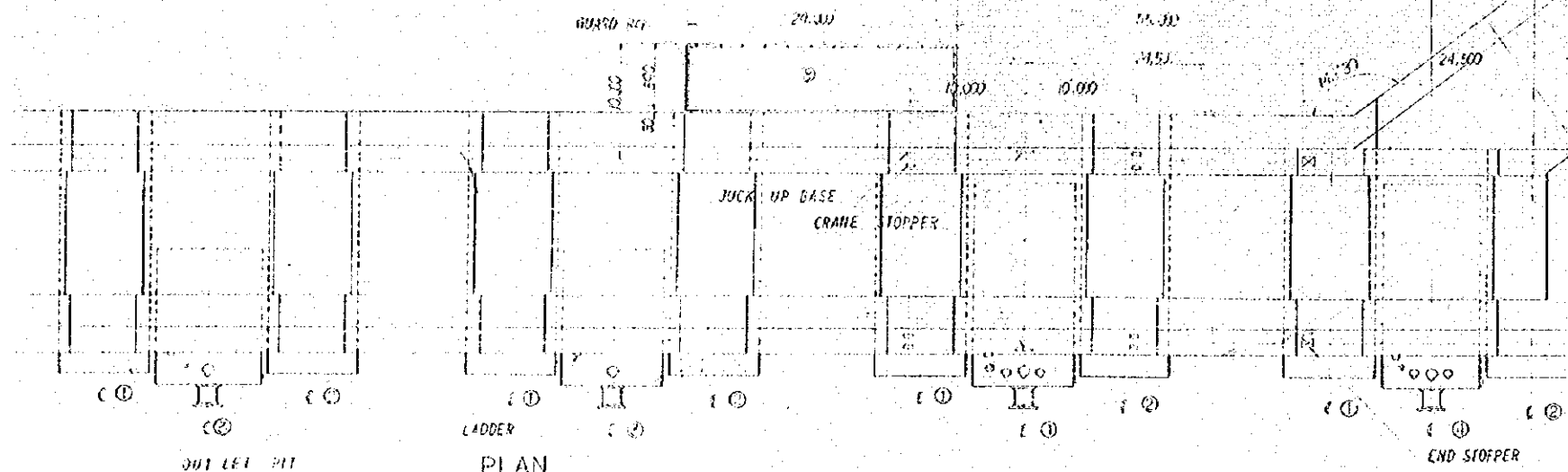
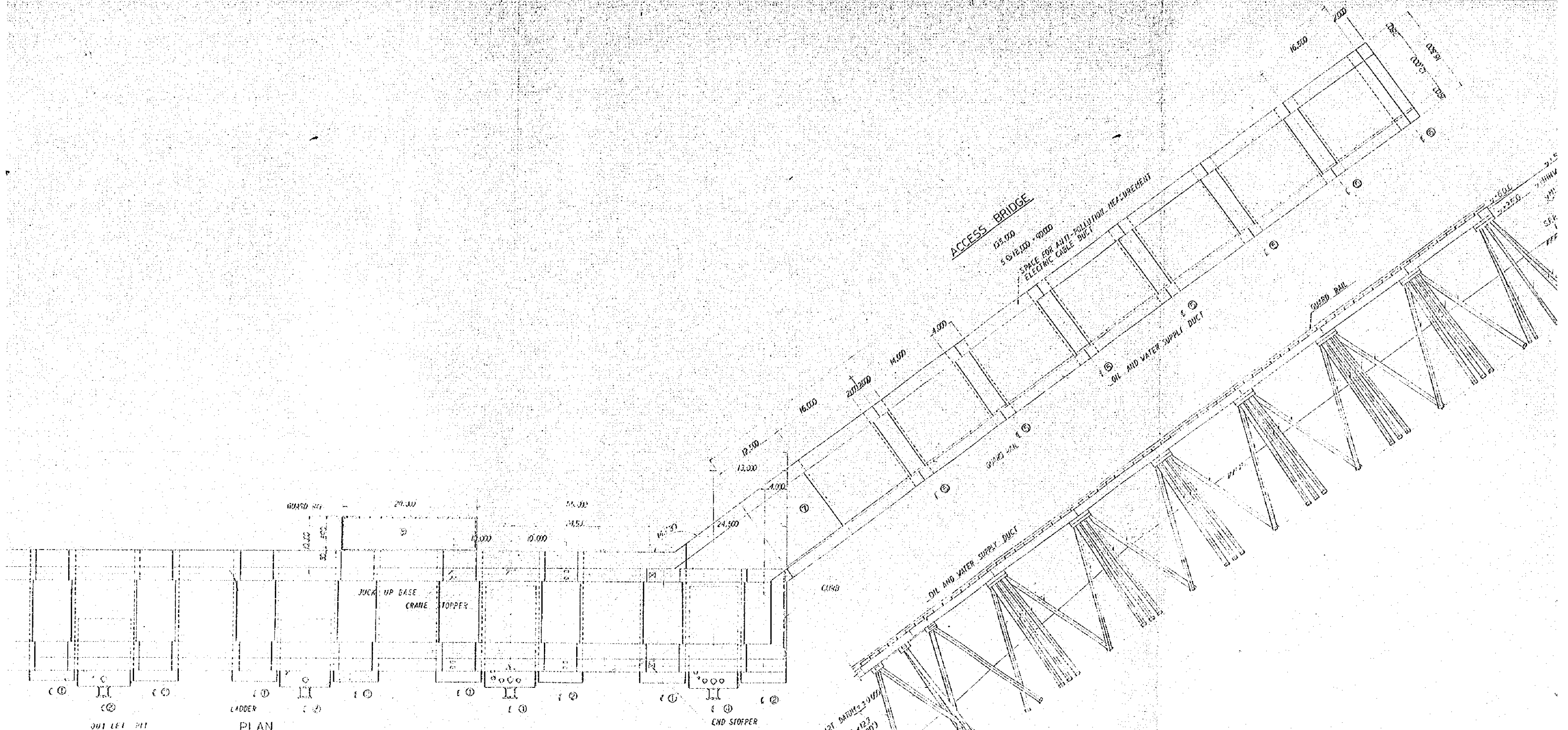
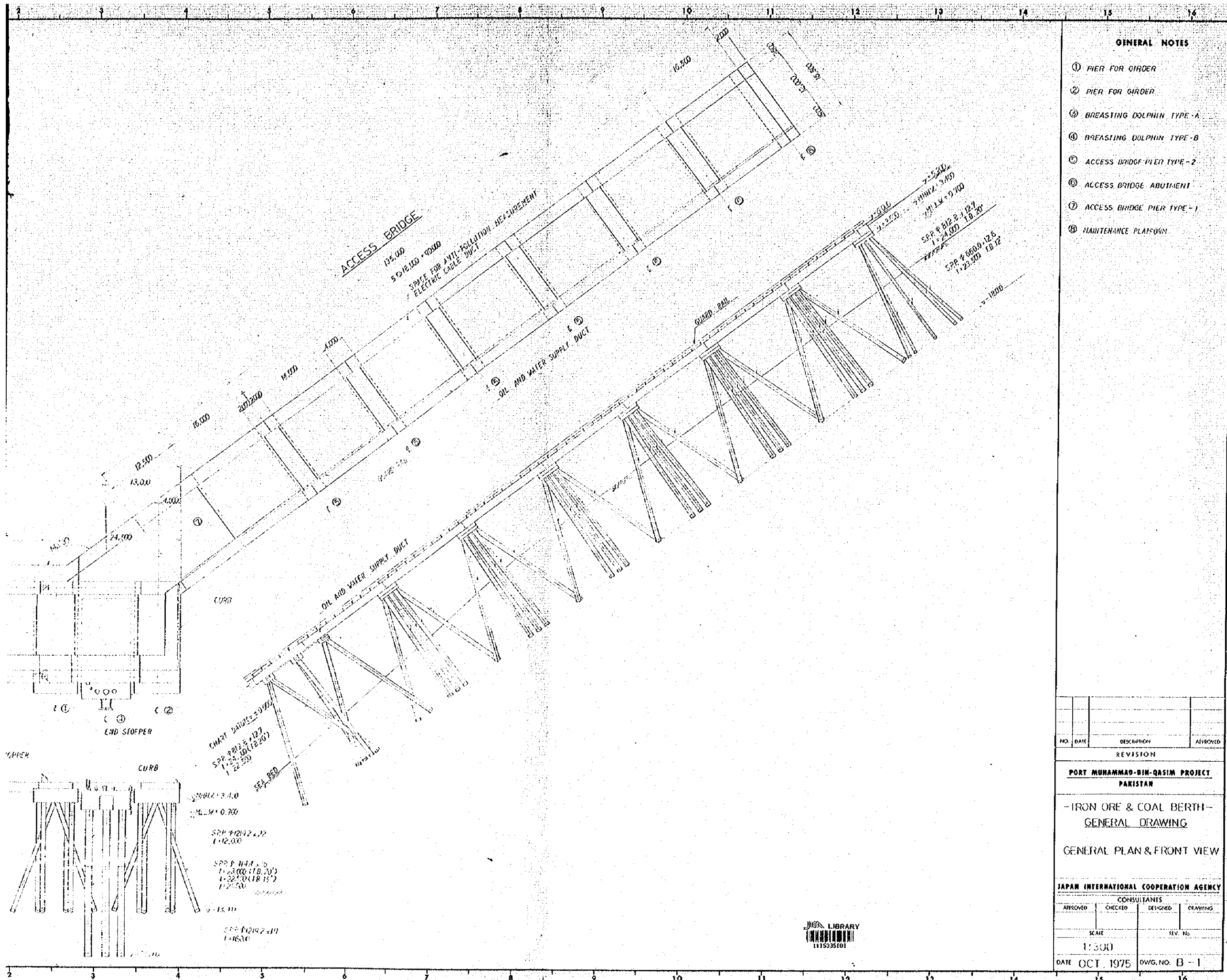


CHART DATE 12/3/00
 SPP 8212 2 127
 1-24.00 (18.20)
 1-22.50
 SEA BED
 1-13.00
 1-12.00
 SPP 8212 2 22
 1-12.00
 SPP 1144 3
 1-3.00 (18.20)
 1-22.00 (18.20)
 1-21.50
 SPP 8212 2 41
 1-16.00



4 5 6 7 8 9 10 11 12 13



GENERAL NOTES

- ① PIER FOR GIRDER
- ② PIER FOR GIRDER
- ③ BREASTING DOLPHIN TYPE - A
- ④ BREASTING DOLPHIN TYPE - B
- ⑤ ACCESS BRIDGE PIER TYPE - 2
- ⑥ ACCESS BRIDGE ABUTMENT
- ⑦ ACCESS BRIDGE PIER TYPE - 1
- ⑧ MAINTENANCE PLATFORM

NO.	DATE	DESCRIPTION	APPROVED

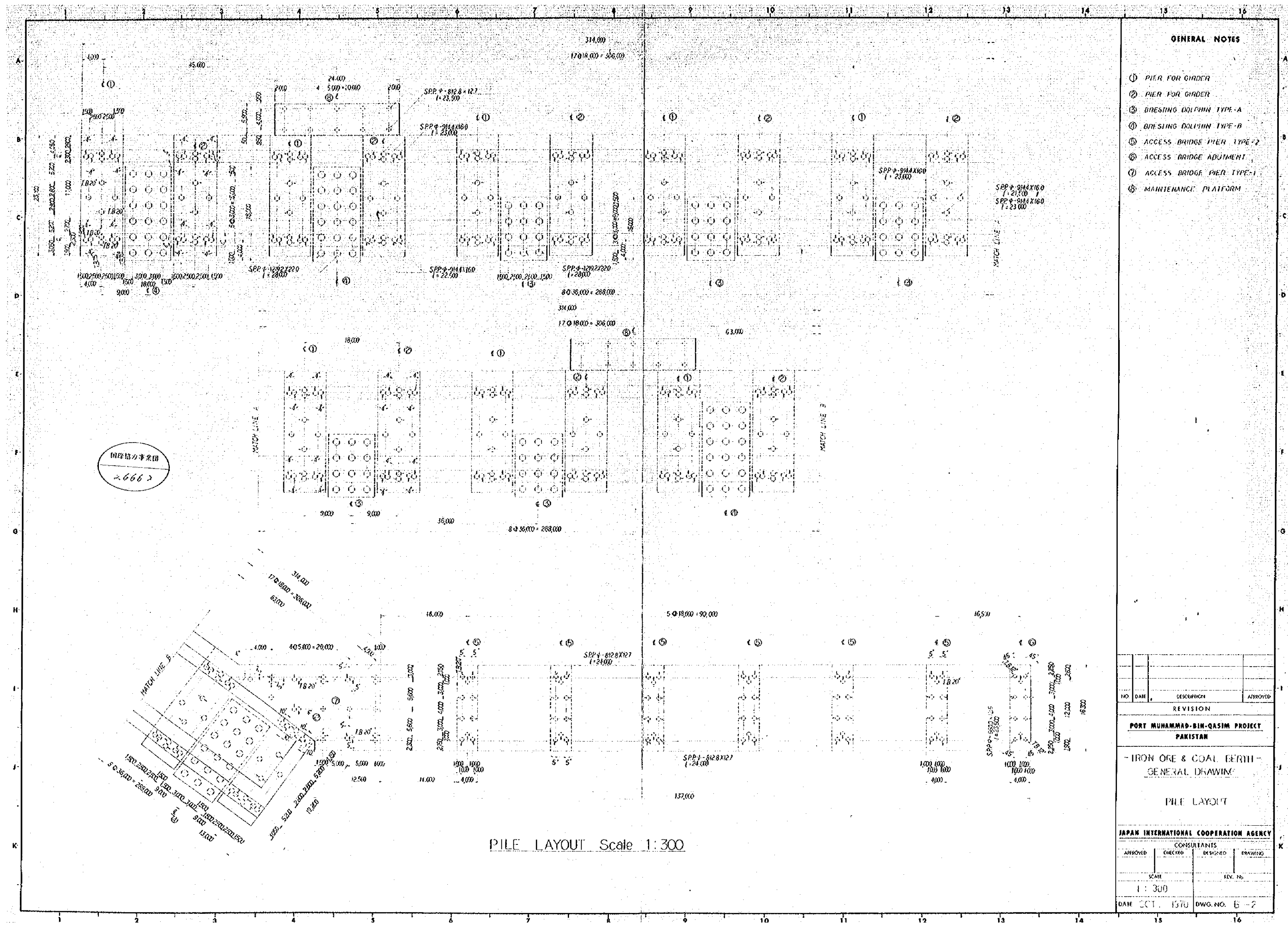
REVISION

PORT MUHAMMAD-BIN-QASIM PROJECT
PAKISTAN
 -IRON ORE & COAL BERTH-
GENERAL DRAWING
 GENERAL PLAN & FRONT VIEW

JAPAN INTERNATIONAL COOPERATION AGENCY

CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
1:3000			
DATE OCT. 1975		DWG. NO. B-1	





GENERAL NOTES

- ① PIER FOR GIRDER
- ② PIER FOR GIRDER
- ③ BREASTING DOLPHIN TYPE-A
- ④ BREASTING DOLPHIN TYPE-B
- ⑤ ACCESS BRIDGE PIER TYPE-2
- ⑥ ACCESS BRIDGE ABUTMENT
- ⑦ ACCESS BRIDGE PIER TYPE-1
- ⑧ MAINTENANCE PLATFORM

NO.	DATE	DESCRIPTION	APPROVED

REVISION

PORT MUHAMMAD-BIN-QASIM PROJECT
PAKISTAN

IRON ORE & COAL BERTH
GENERAL DRAWING

PILE LAYOUT

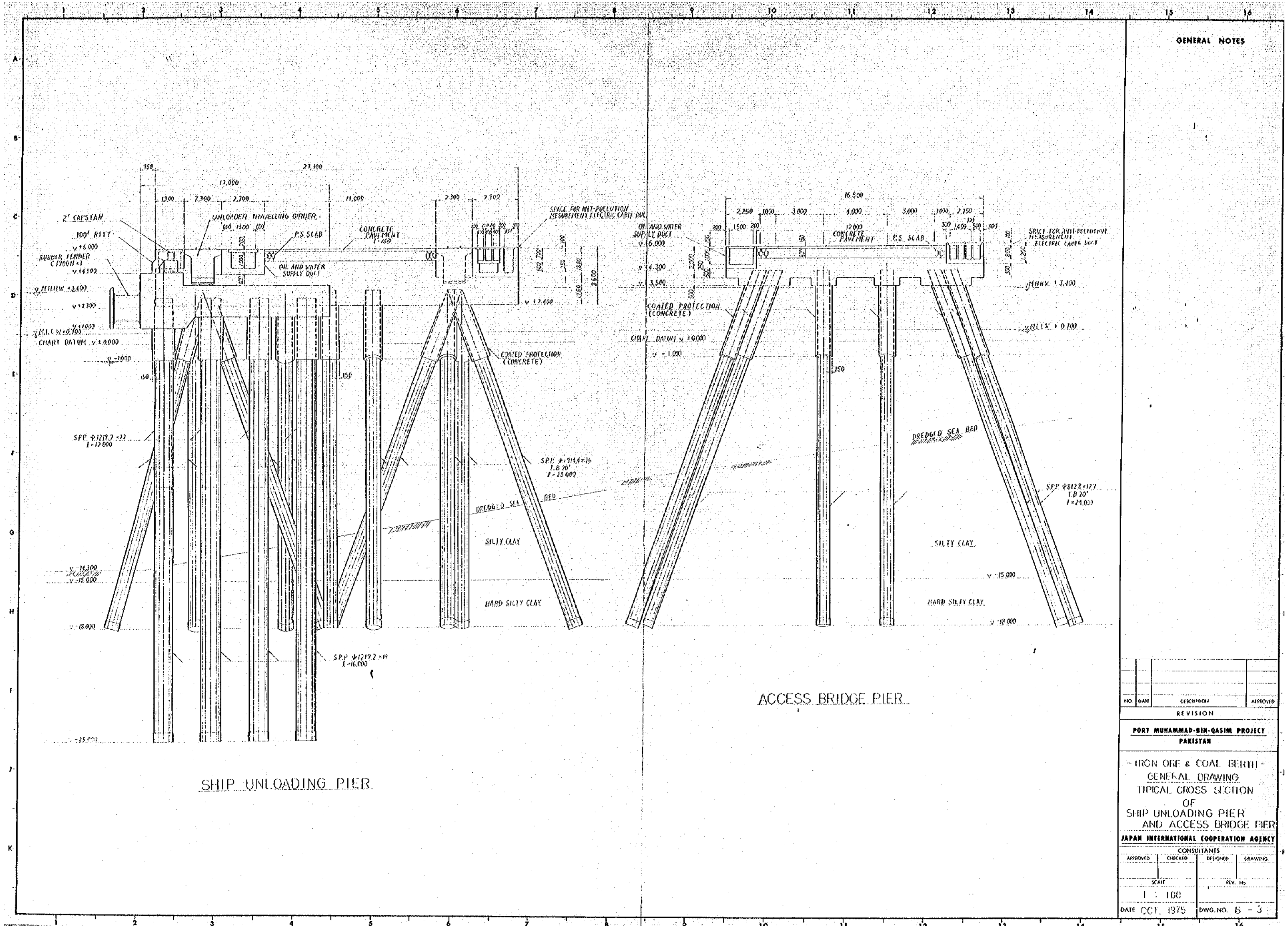
JAPAN INTERNATIONAL COOPERATION AGENCY

CONSULTANTS

APPROVED	CHECKED	DESIGNED	DRAWING

SCALE: 1:300
DATE: OCT. 1970
DWG. NO. 6-2

PILE LAYOUT Scale 1:300



GENERAL NOTES

NO.	DATE	DESCRIPTION	APPROVED

REVISION

PORT MUHAMMAD-BIN-QASIM PROJECT
PAKISTAN

IRON ORE & COAL BERTH -
GENERAL DRAWING
TYPICAL CROSS SECTION
OF
SHIP UNLOADING PIER
AND ACCESS BRIDGE PIER

JAPAN INTERNATIONAL COOPERATION AGENCY

CONSULTANTS

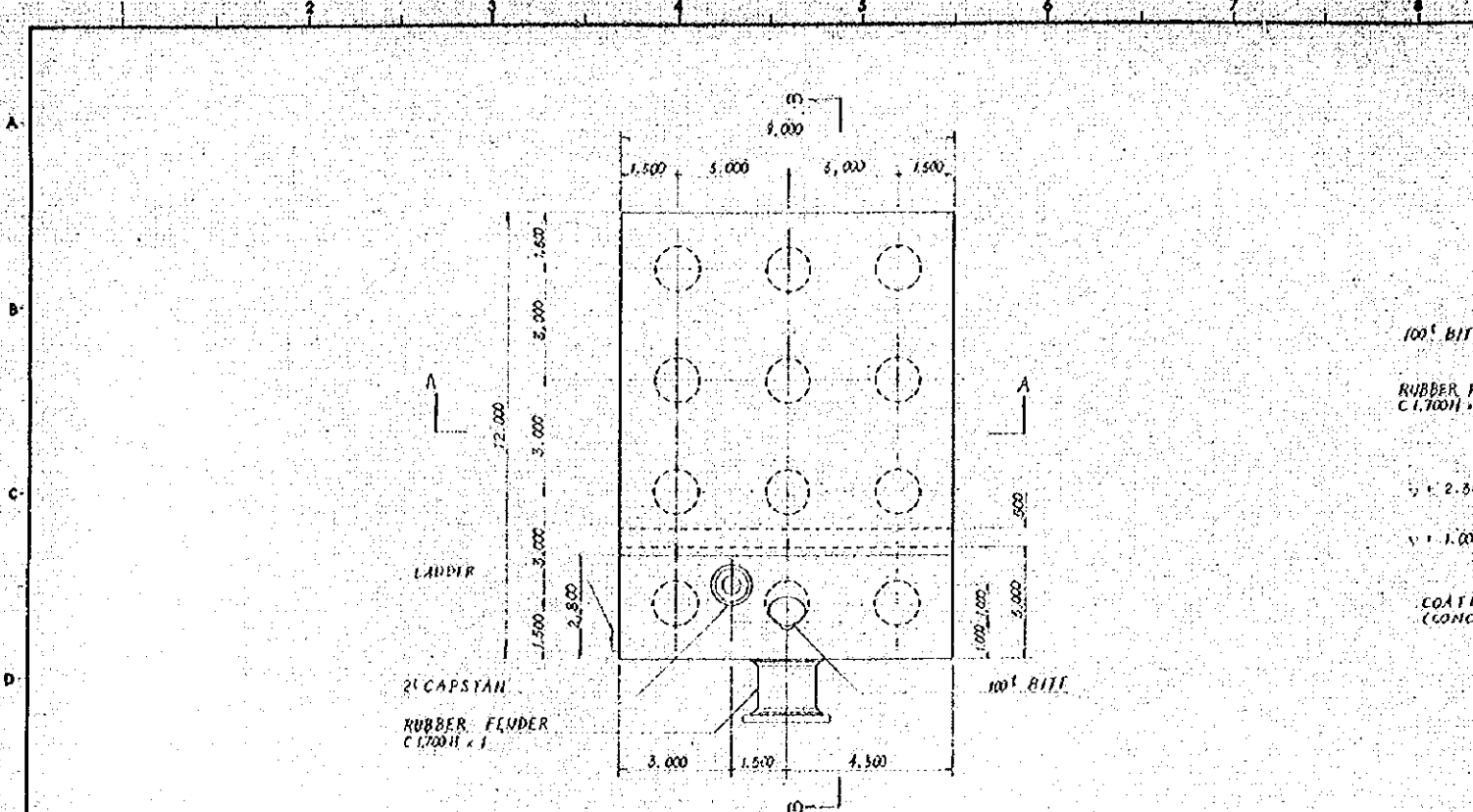
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SCALE: 1 : 100

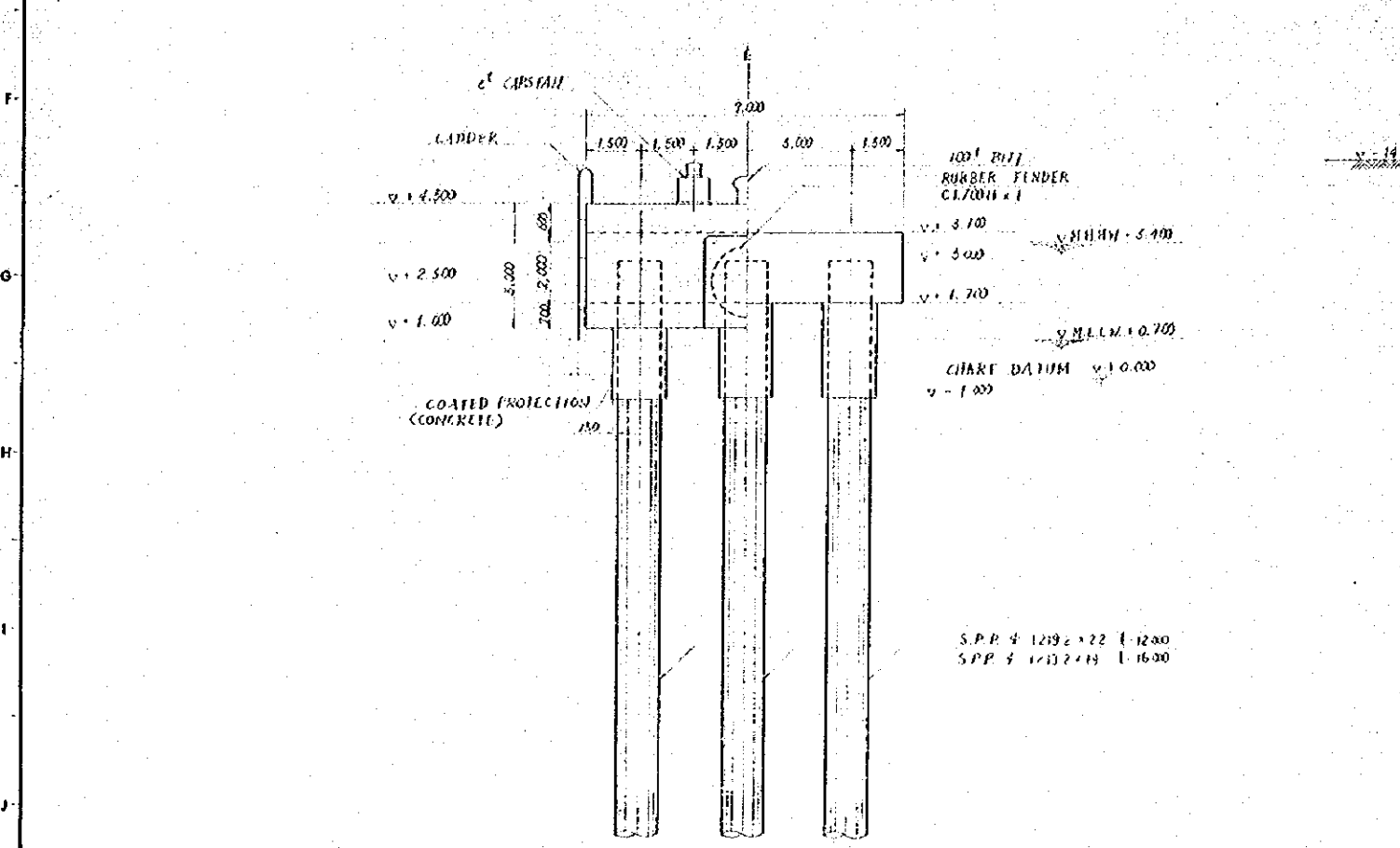
DATE: OCT. 1975

REV. NO.:

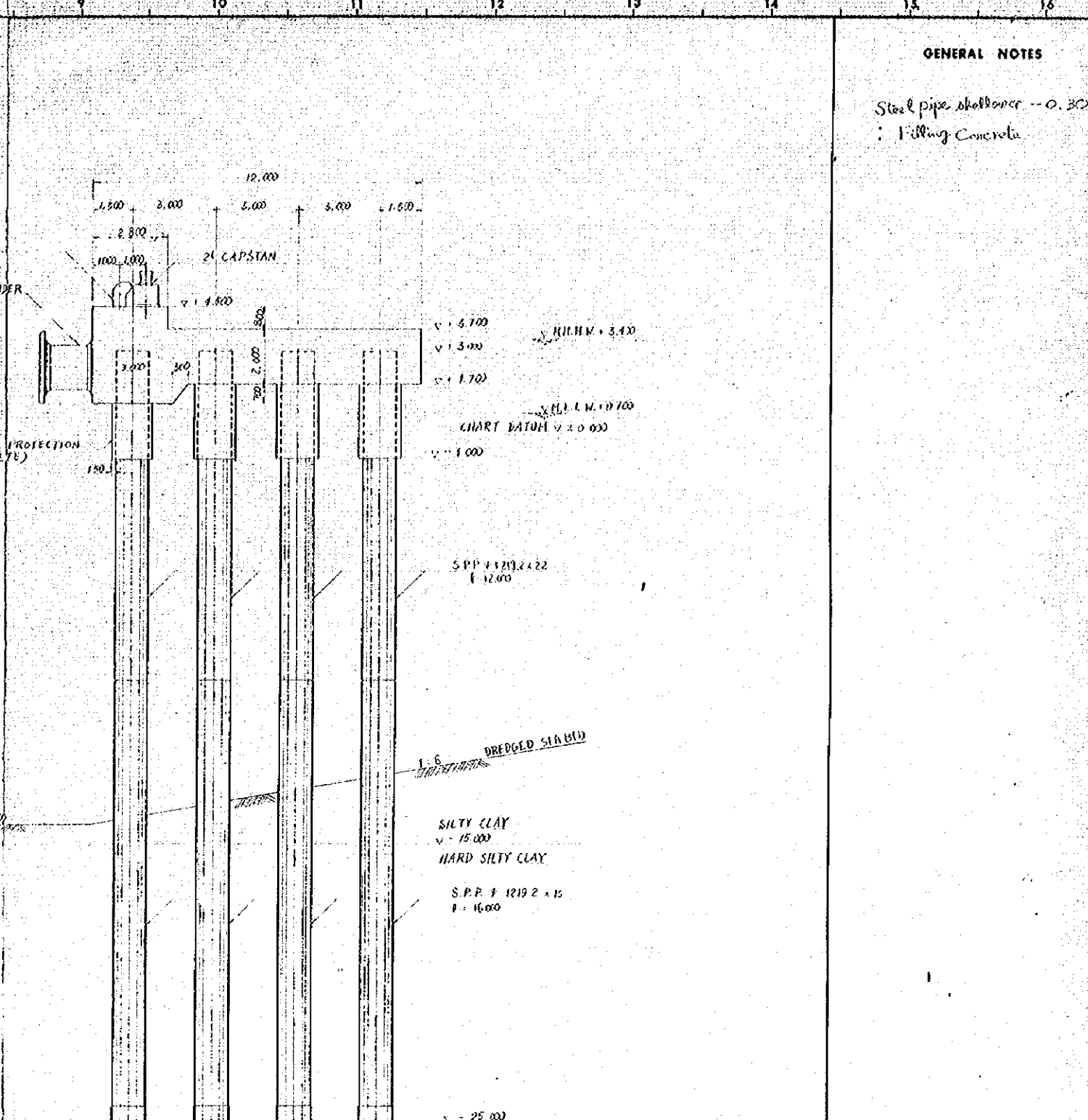
DWG. NO. B - 3



PLAN



FRONT VIEW SECTION A-A



SECTION B-B

GENERAL NOTES

Steel pipe, hollow -- O. 30
 Filling Concrete

NO.	DATE	DESCRIPTION	APPROVED
REVISION			

PORT MUHAMMAD-BIN-QASIM PROJECT
 PAKISTAN

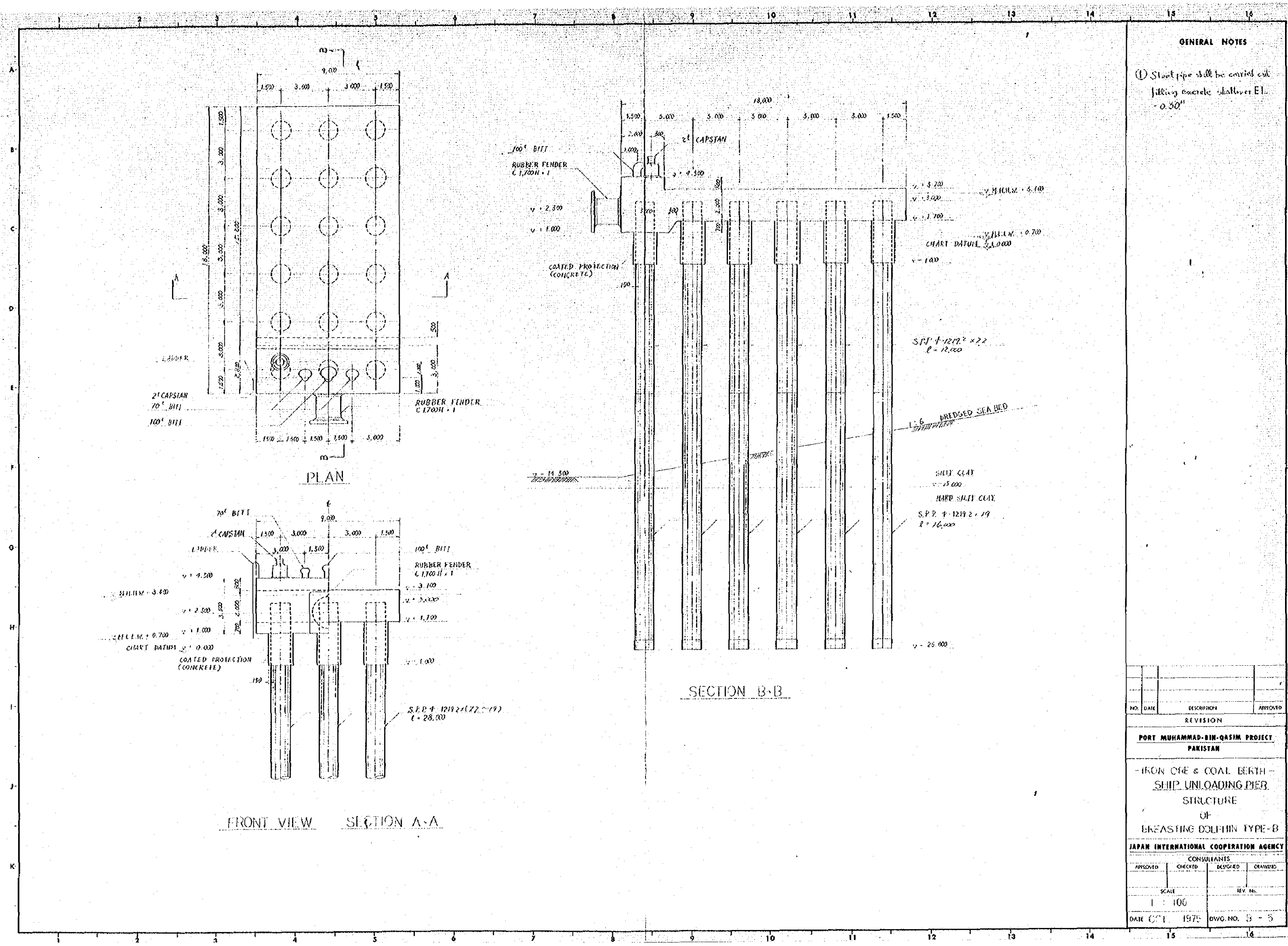
IRON ORE & COAL BERTH -
 SHIP UNLOADING PIER
 STRUCTURE
 OF
 BREASTING DOLPHIN TYPE-A

JAPAN INTERNATIONAL COOPERATION AGENCY

CONSULTANTS			
ASSIGNED	CHECKED	DESIGNED	DRAWING

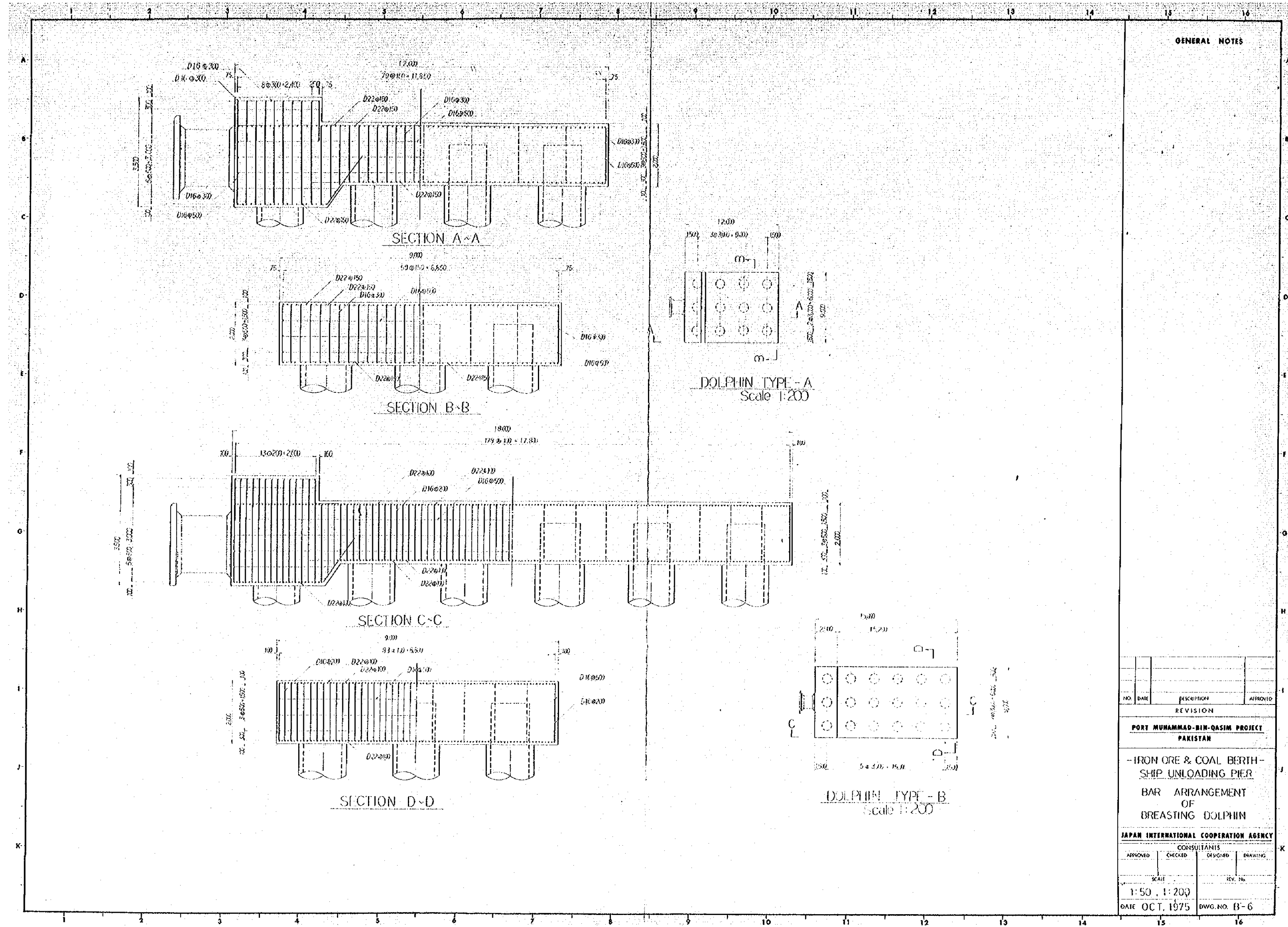
SCALE
 1:100

DATE OCT. 1975 DWG. NO. B-4



GENERAL NOTES
 (1) Sheet pile shall be carried out filling concrete shallower EL. -0.50m

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT			
PAKISTAN			
-IRON ORE & COAL BERTH-			
SHIP UNLOADING PIER			
STRUCTURE			
OF			
BREASTING DOLFIN TYPE-B			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
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1 : 100			
DATE OCT. 1975		DWG. NO. B - 5	



GENERAL NOTES

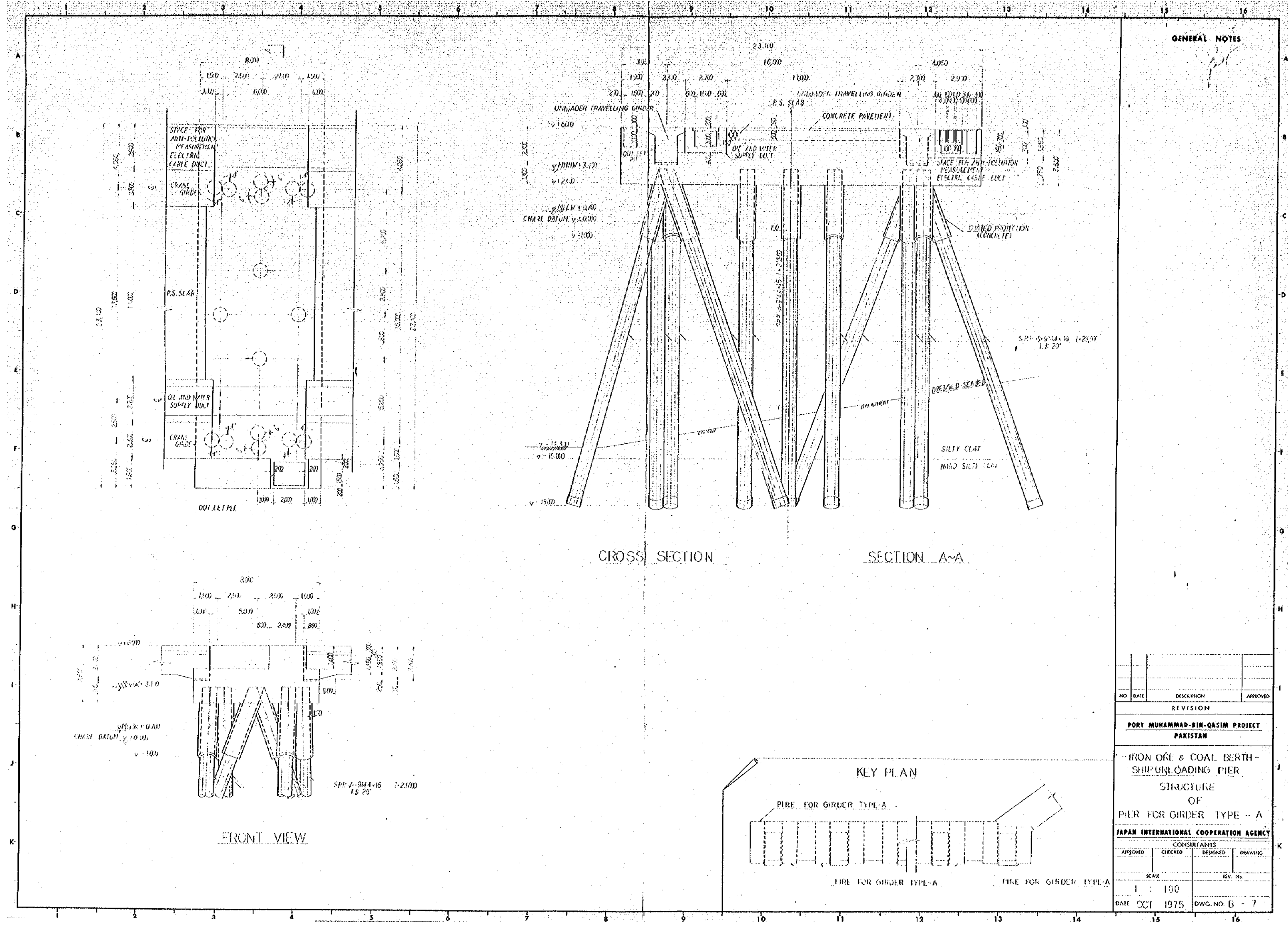
NO.	DATE	REVISION	APPROVED

PORT MUHAMMAD-BIN-QASIM PROJECT
PAKISTAN

IRON ORE & COAL BERTH-SHIP UNLOADING PIER
BAR ARRANGEMENT OF BREASTING DOLPHIN

JAPAN INTERNATIONAL COOPERATION AGENCY

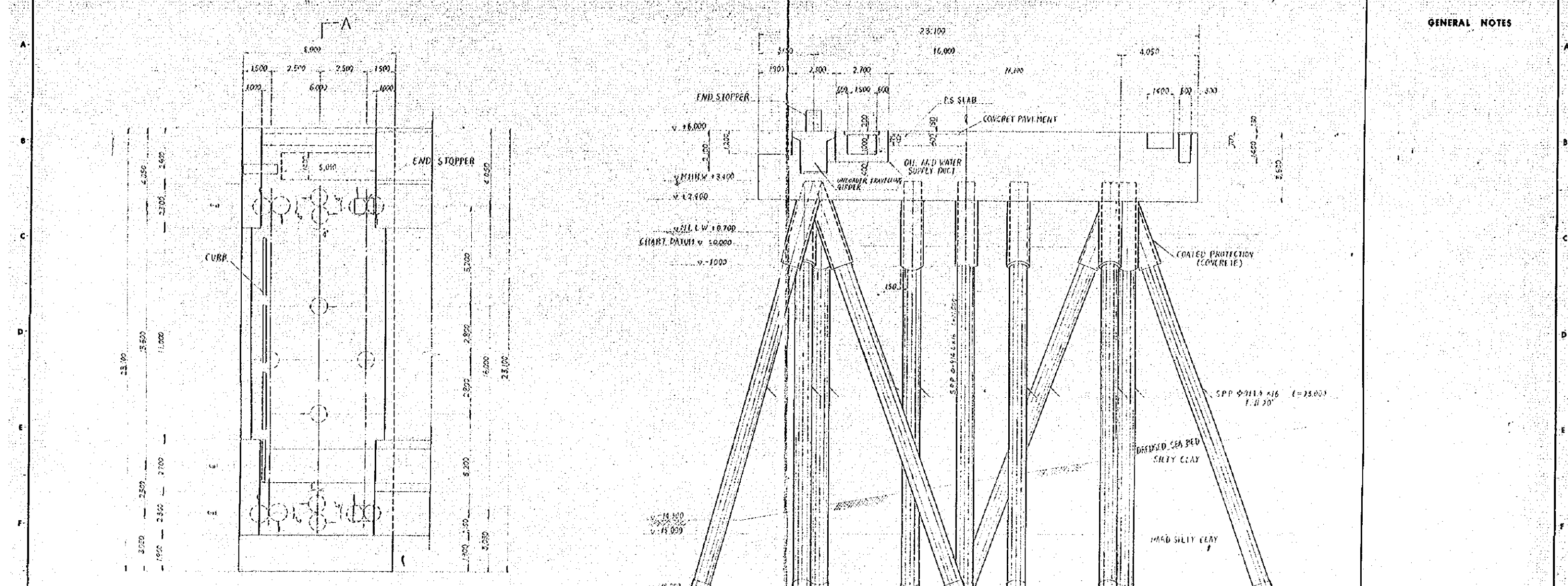
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APPROVED	CHECKED	DESIGNED	DRAWING
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1:50, 1:200			
DATE OCT, 1975		DWG. NO. B-6	



GENERAL NOTES

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
IRON ORE & COAL BERTH - SHIP UNLOADING PIER STRUCTURE OF PIER FOR GIRDER TYPE - A			
JAPAN INTERNATIONAL COOPERATION AGENCY CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
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DATE	DWG. NO. 6 - 7		
OCT 1975			

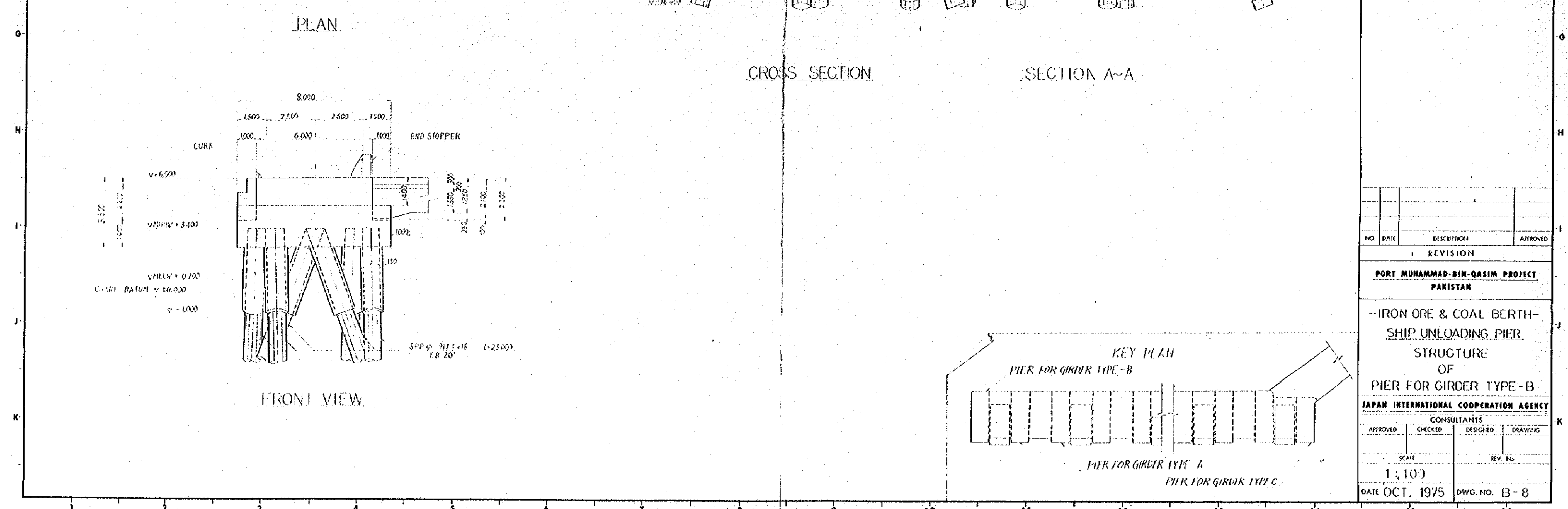
10 11 12 13 14 15 16



PLAN

CROSS SECTION

SECTION A-A



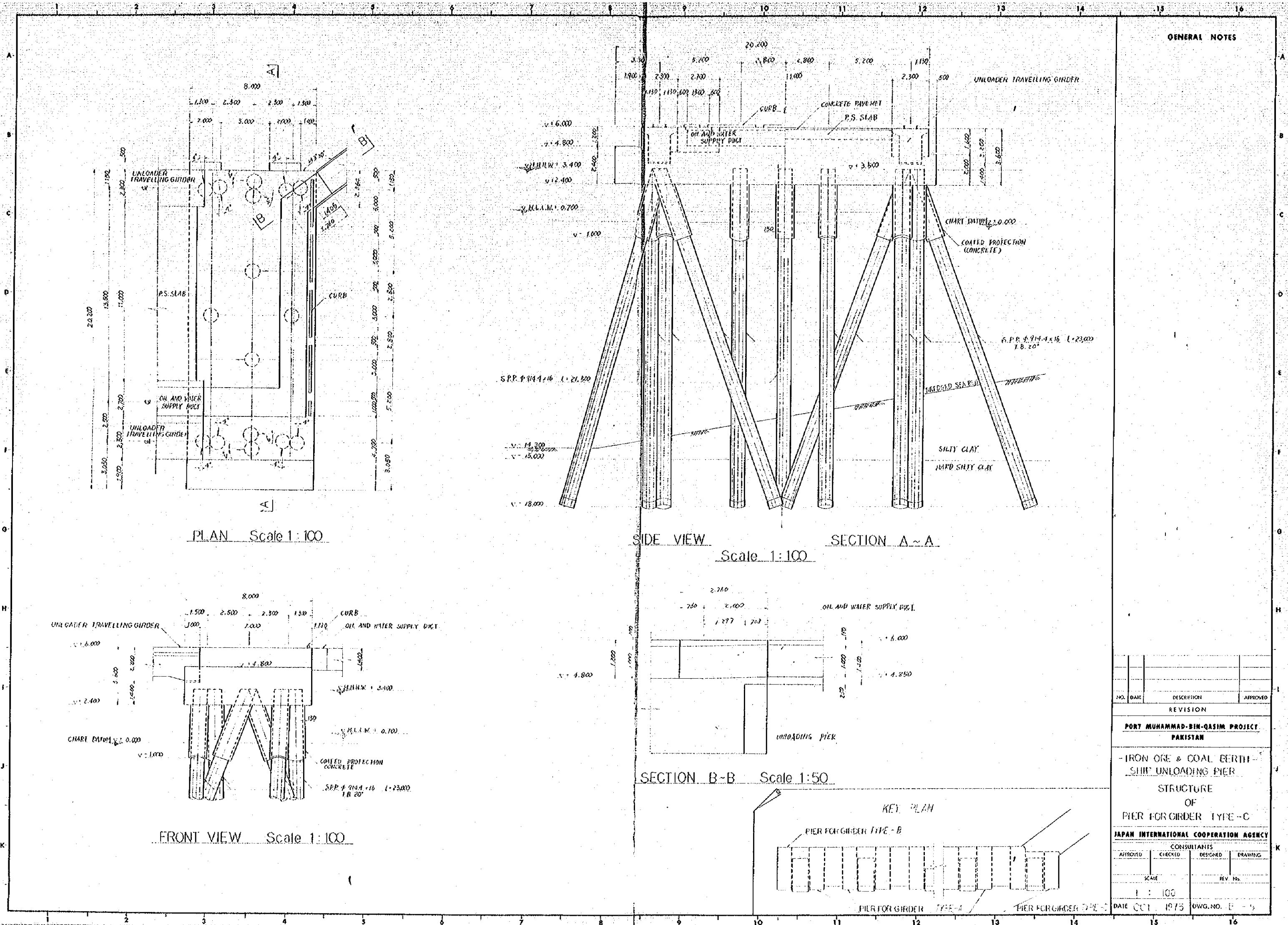
FRONT VIEW

KEY PLAN

GENERAL NOTES

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
-- IRON ORE & COAL BERTH- SHIP UNLOADING PIER STRUCTURE OF PIER FOR GIRDER TYPE-B			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
1:100			
DATE OCT. 1975		DWG. NO. B-8	

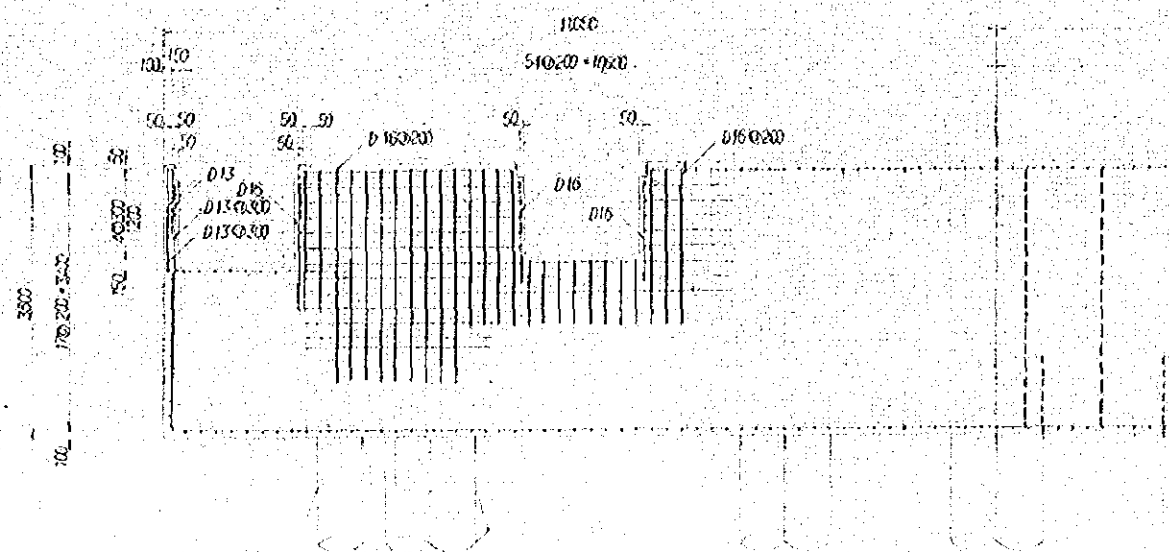
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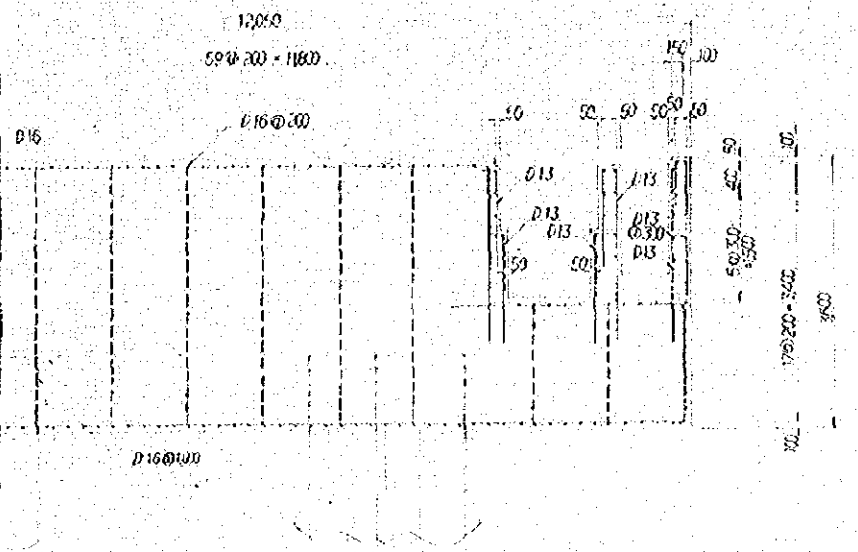
GENERAL NOTES

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT			
PAKISTAN			
- IRON ORE & COAL BERTH -			
SHIP UNLOADING PIER			
STRUCTURE			
OF			
PIER FOR GIRDER TYPE - C			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
1 : 100			
DATE OCT. 1975	DWG. NO. E - 5		

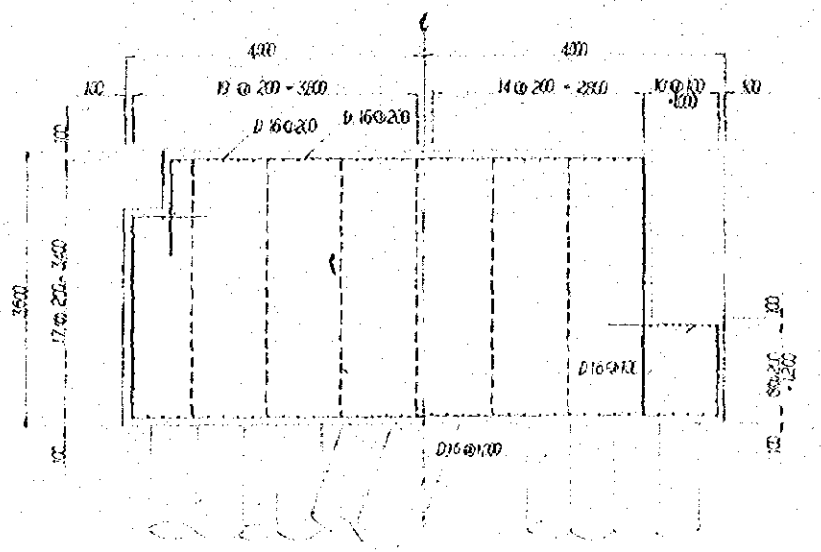
GENERAL NOTES



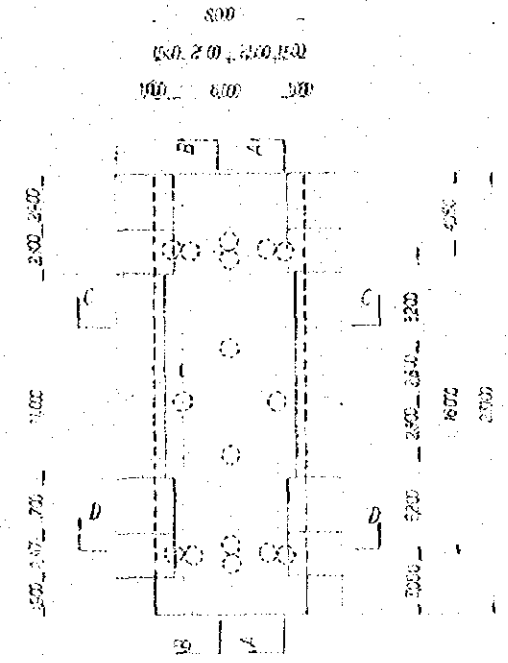
SECTION A-A



SECTION B-B

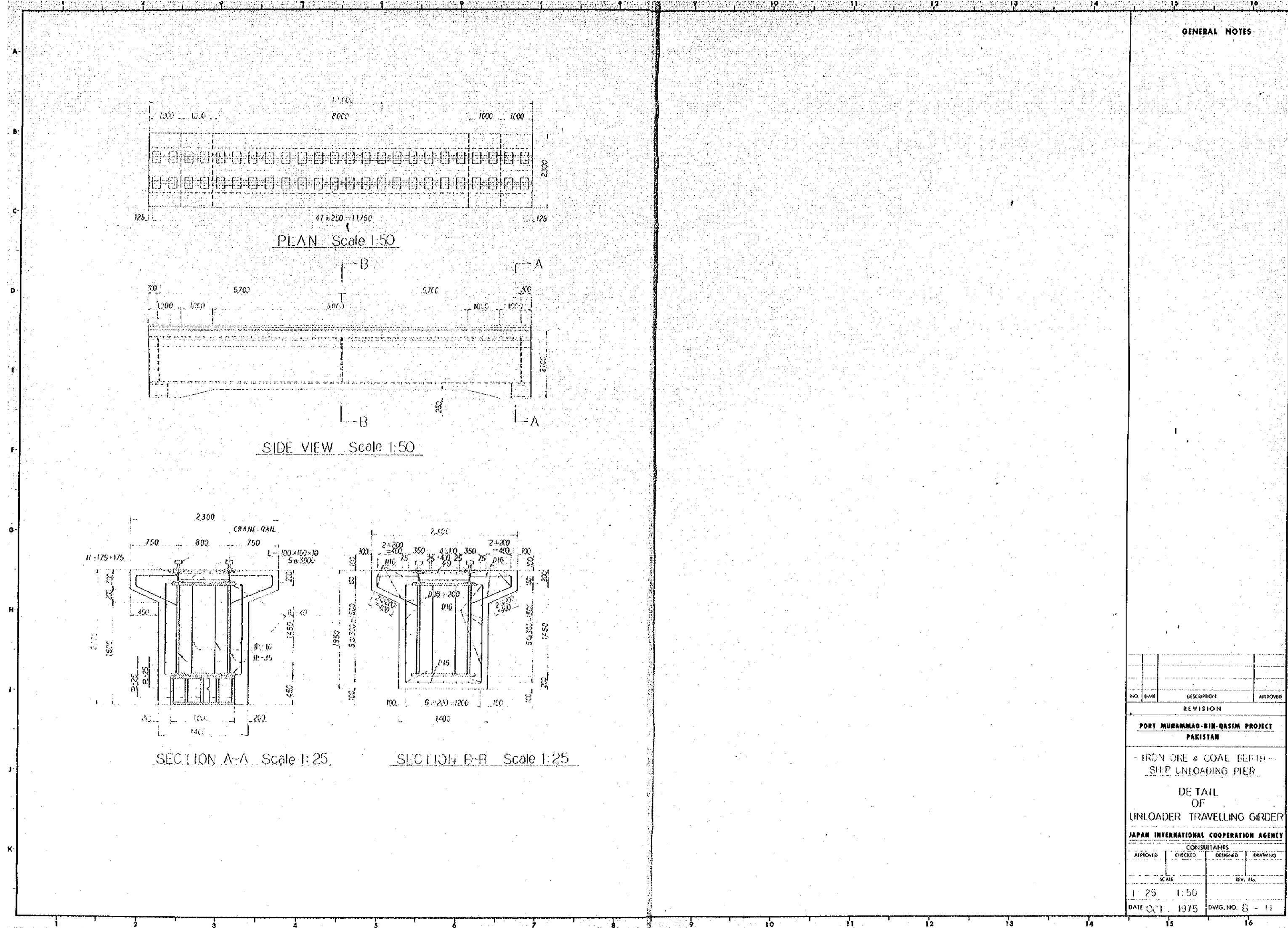


SECTION C-C SECTION D-D



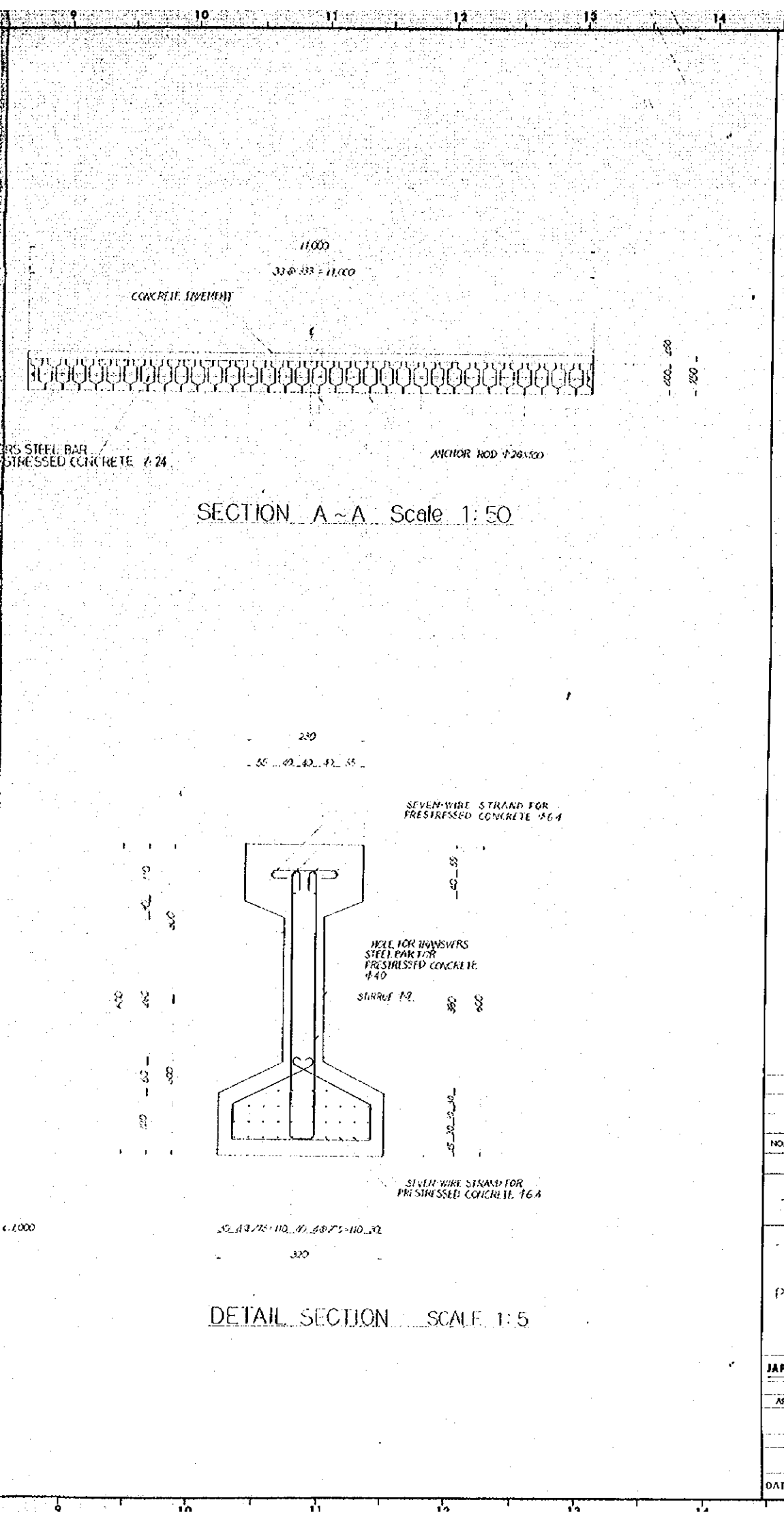
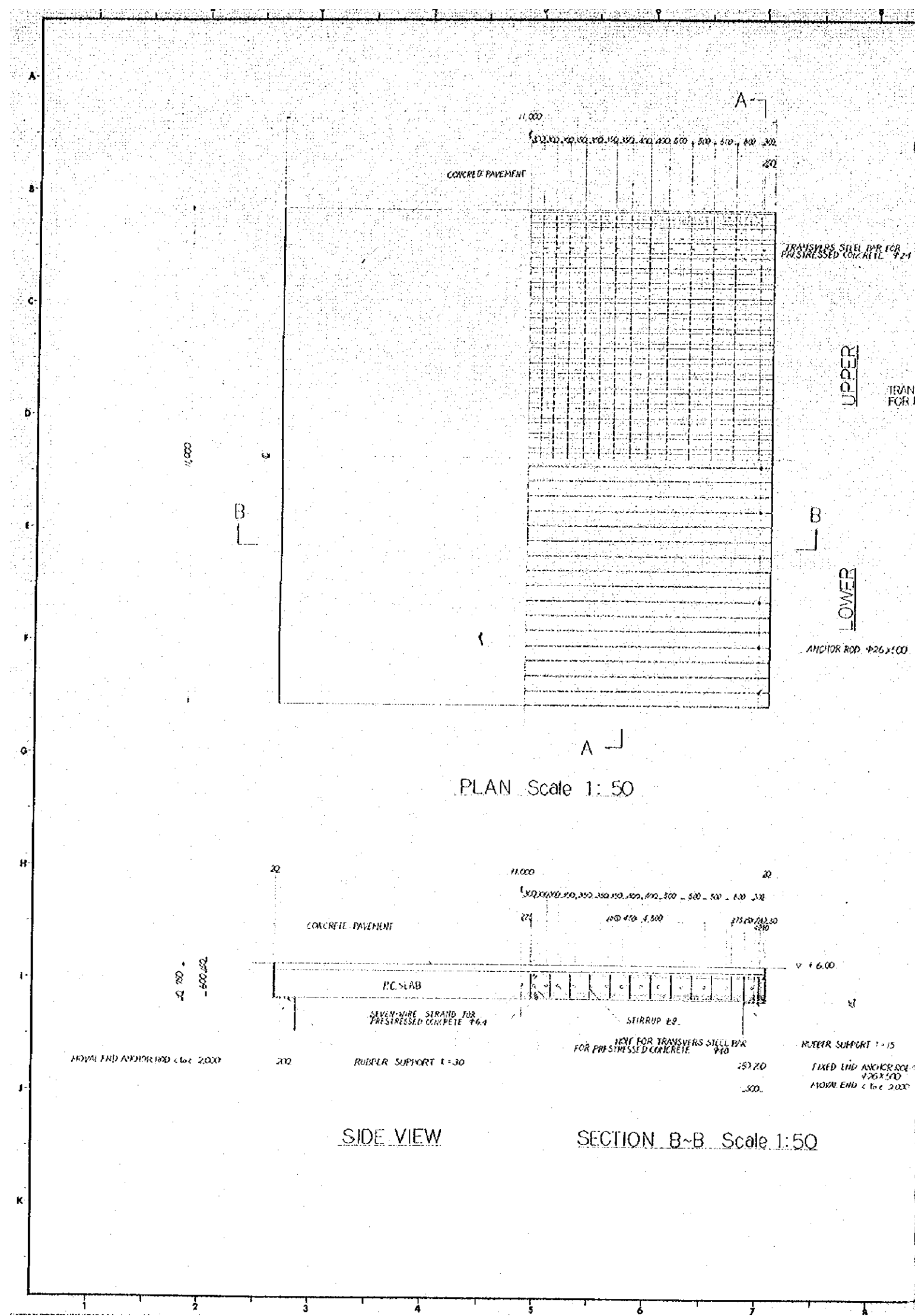
PLAN OF STRUCTURE
SCALE 1:200

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
-- IRON ORE & COAL BERTH -- SHIP UNLOADING PIER BAR ARRANGEMENT OF PIER FOR GIRDER			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
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DATE OCT. 1975		DWG. NO. B-10	



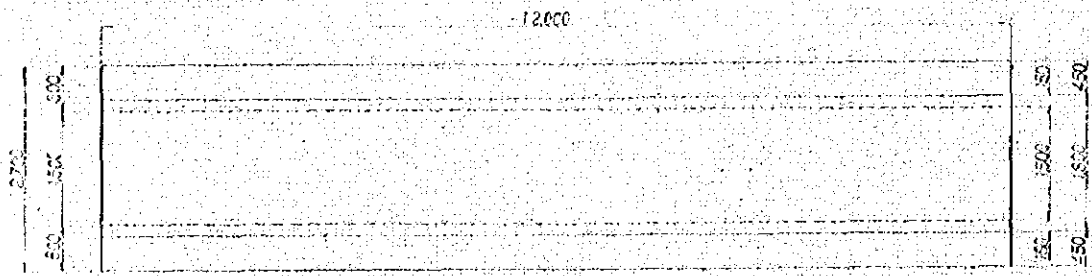
GENERAL NOTES

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
- IRON ORE & COAL BERTH - SHIP UNLOADING PIER			
DETAIL OF UNLOADER TRAVELLING GIRDER			
JAPAN INTERNATIONAL COOPERATION AGENCY CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE	REV. No.		
1:25	1:50		
DATE OCT 1975	DWG. NO. G-11		

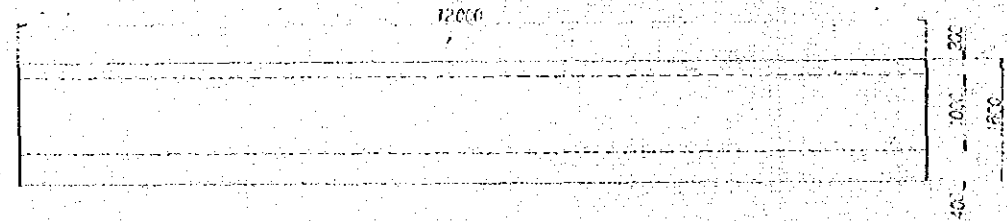


GENERAL NOTES

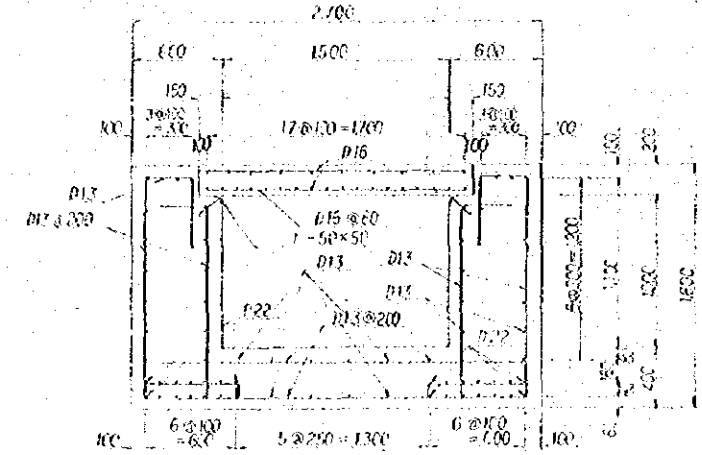
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REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
IRON ORE & COAL BERTH SHIP UNLOADING PIER PRESTRESSED CONCRETE SLAB FOR SHIP UNLOADING PIER			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
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DATE	DWG. NO.		
OCT 1975	B-12		



PLAN Scale 1:50

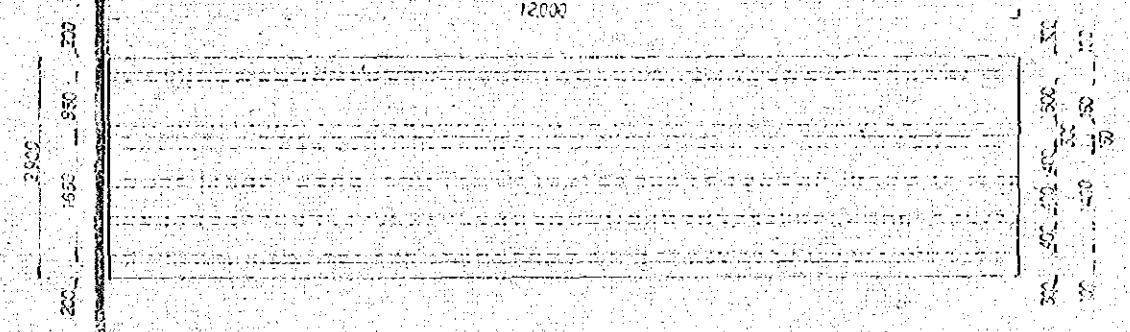


FRONT VIEW Scale 1:50

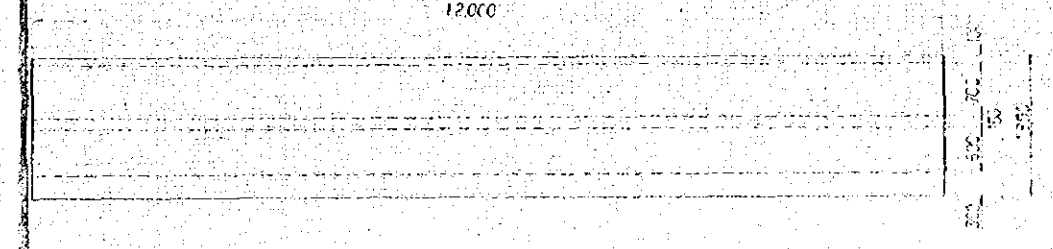


CROSS SECTION SCALE 1:25

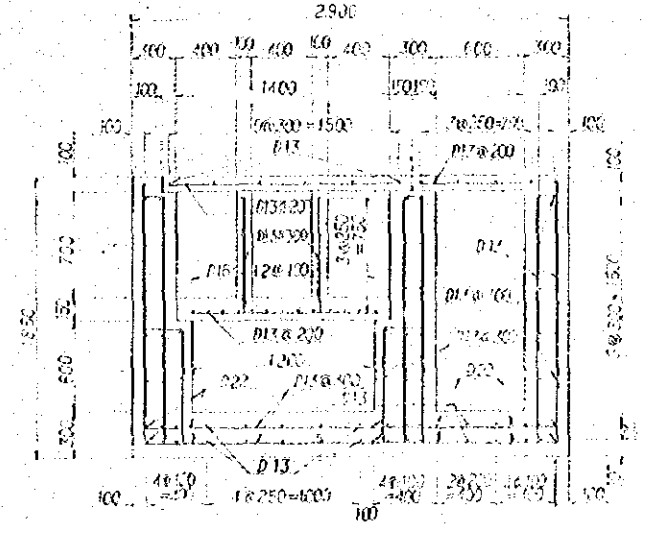
OIL AND WATER SUPPLY DUCT



PLAN Scale 1:50



FRONT VIEW Scale 1:50

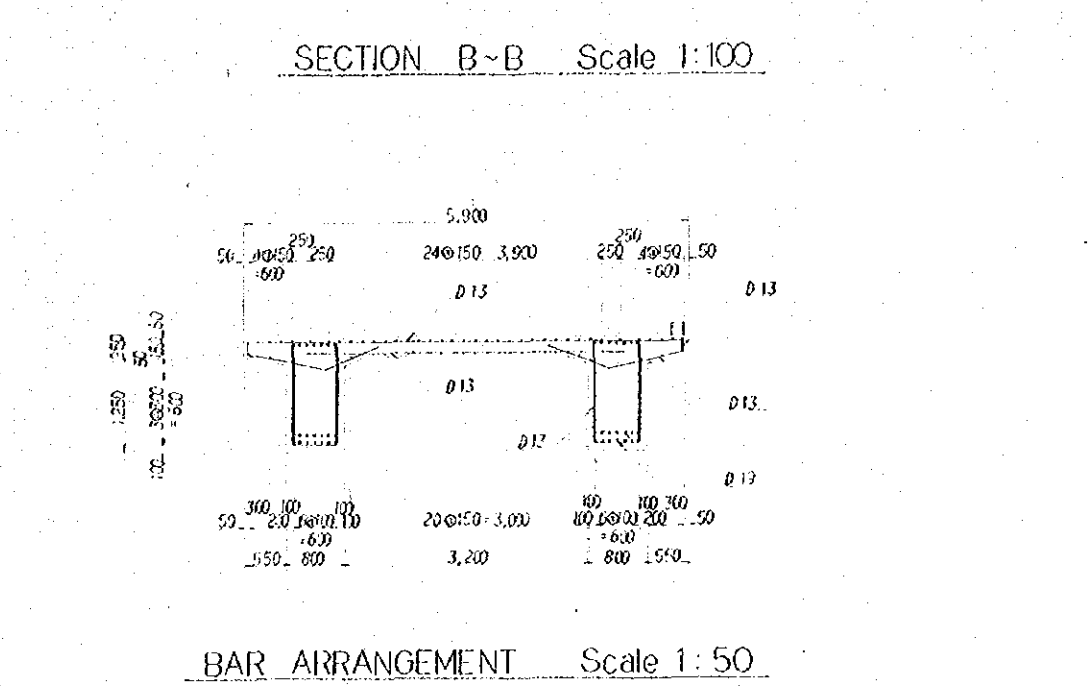
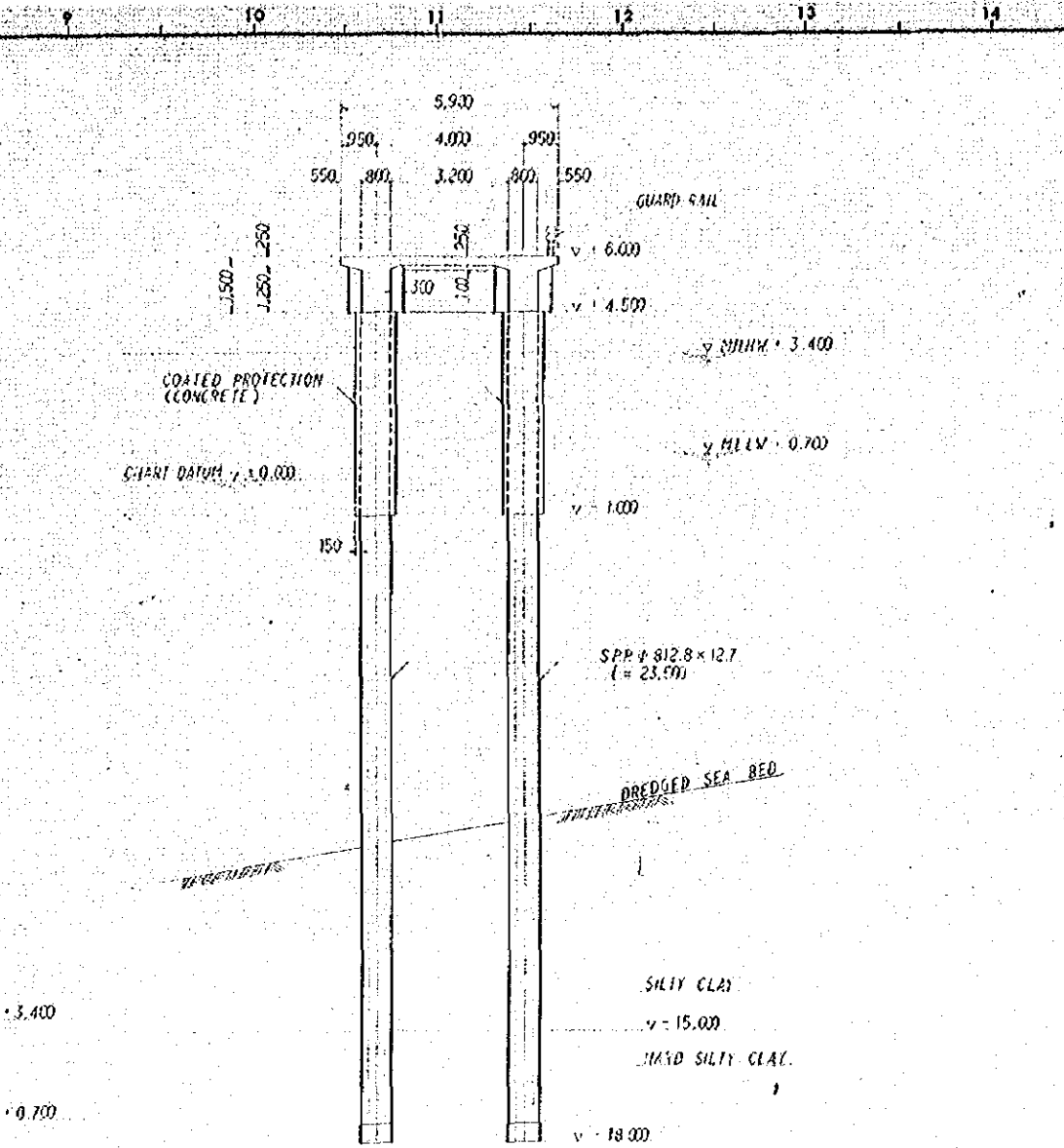
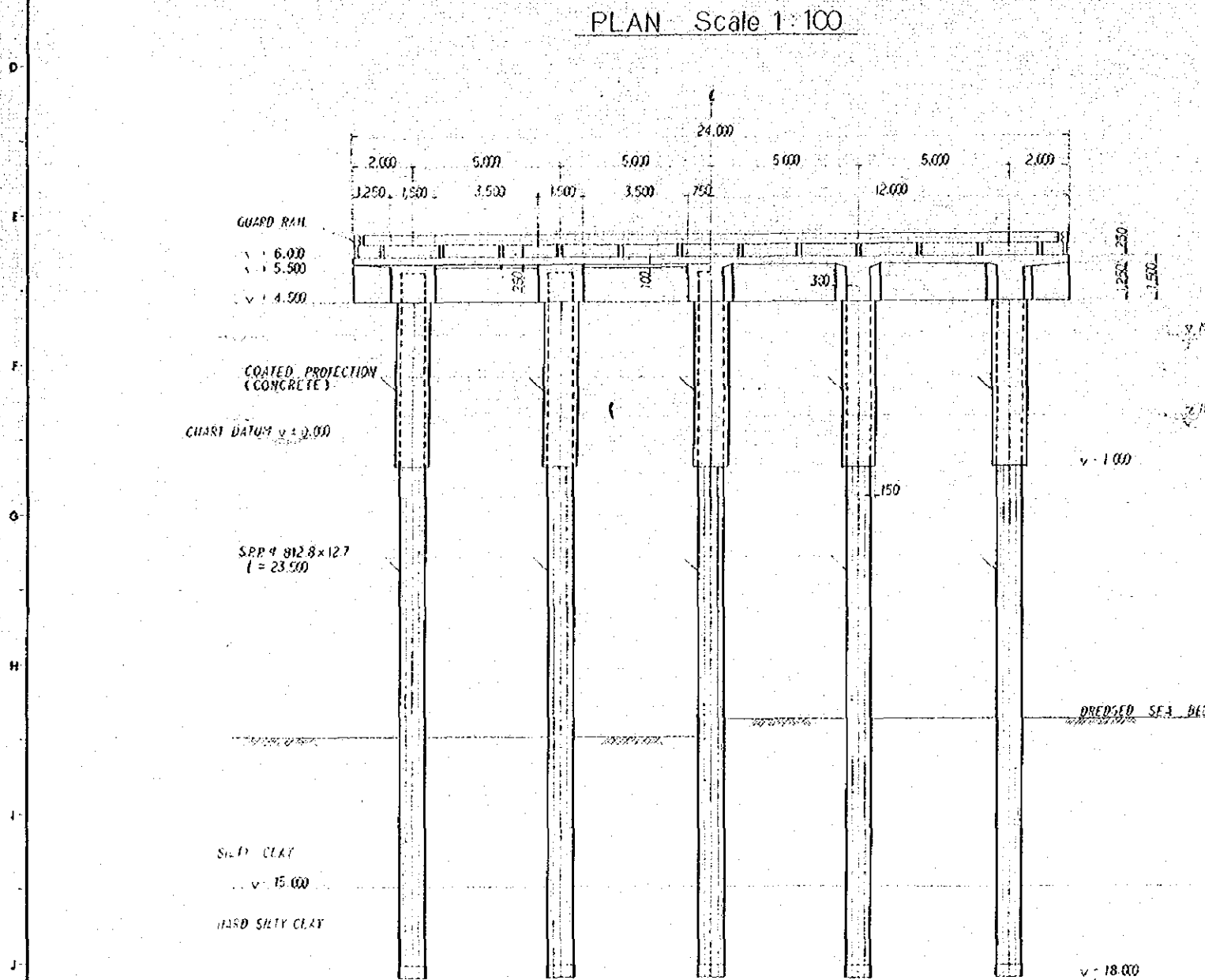
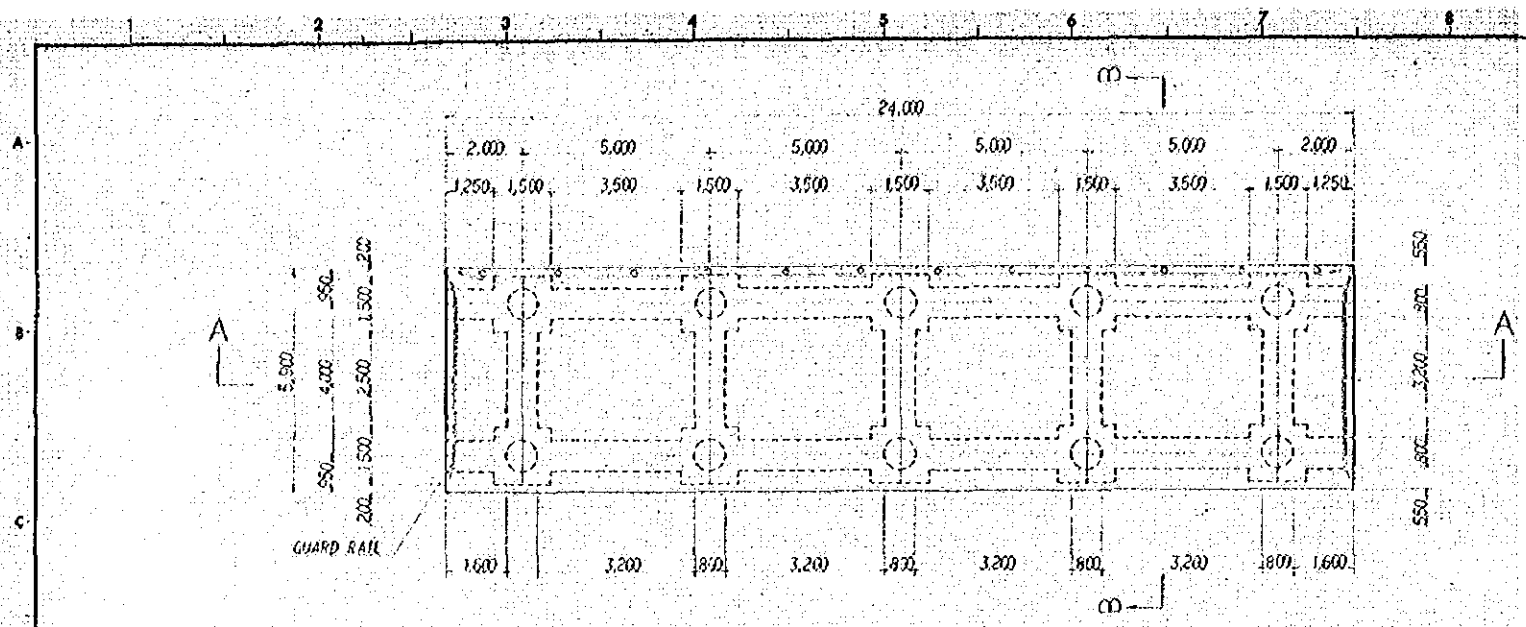


CROSS SECTION SCALE 1:25

ANTI-POLLUTION MEASUREMENT
& ELECTRIC CABLE DUCT

GENERAL NOTES

NO	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
- IRON ORE & COAL BERTH - SHIP UNLOADING PIER UTILITY DUCT FOR SHIP UNLOADING PIER			
JAPAN INTERNATIONAL COOPERATION AGENCY CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
1 : 100			
DATE	OCT. 1975	DWG. NO.	B - 3



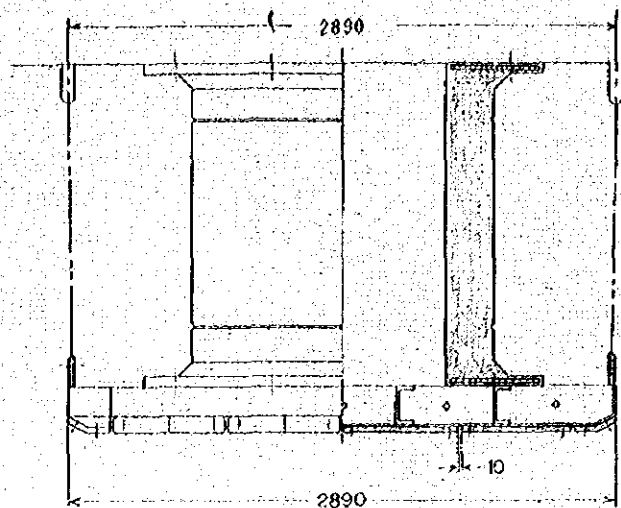
GENERAL NOTES

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT			
PAKISTAN			
- IRON ORE & COAL BERTH - SHIP UNLOADING PIER			
MAINTENANCE PLATFORM			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
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DATE		DWG. NO.	
OCT. 1975		B-14	

CELL FENDER

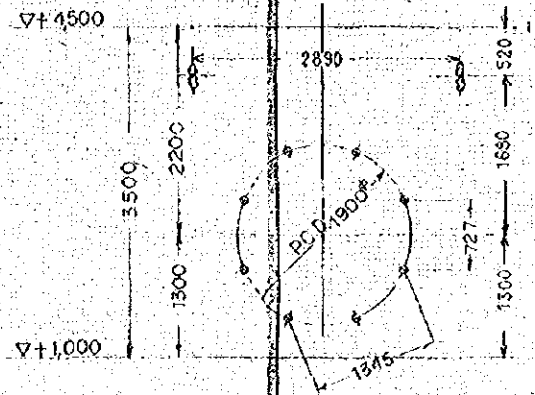
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S=1/20



ANCHOR POSITION

S=1/40



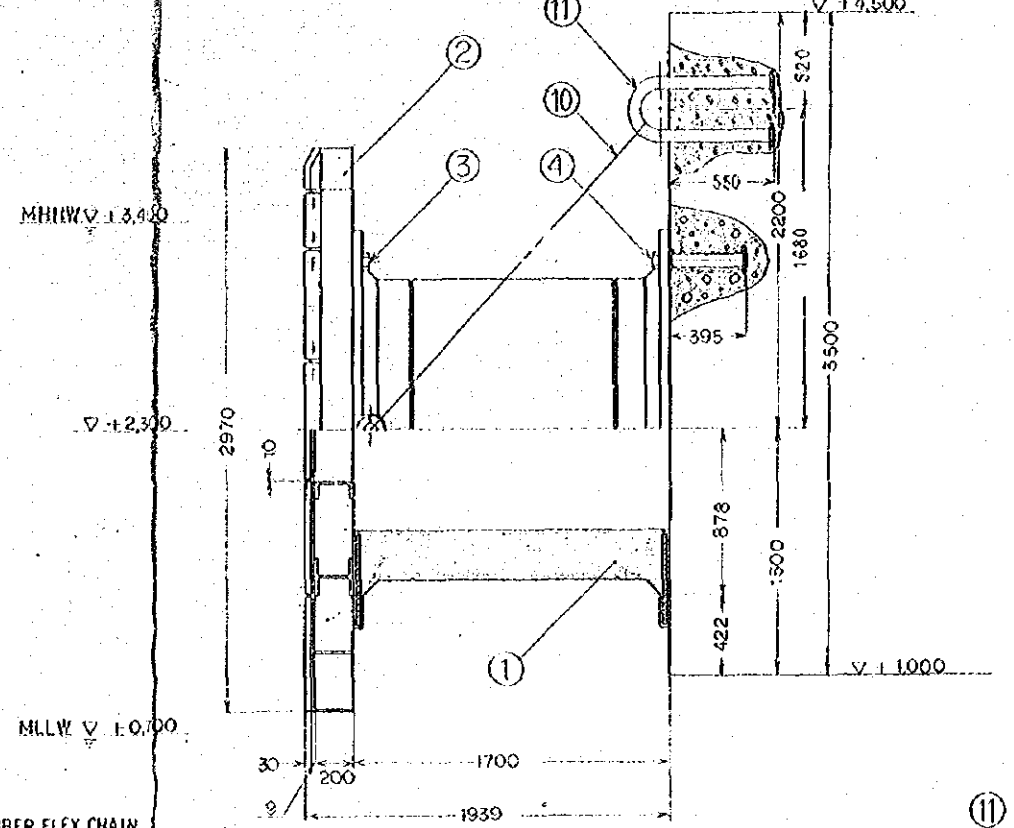
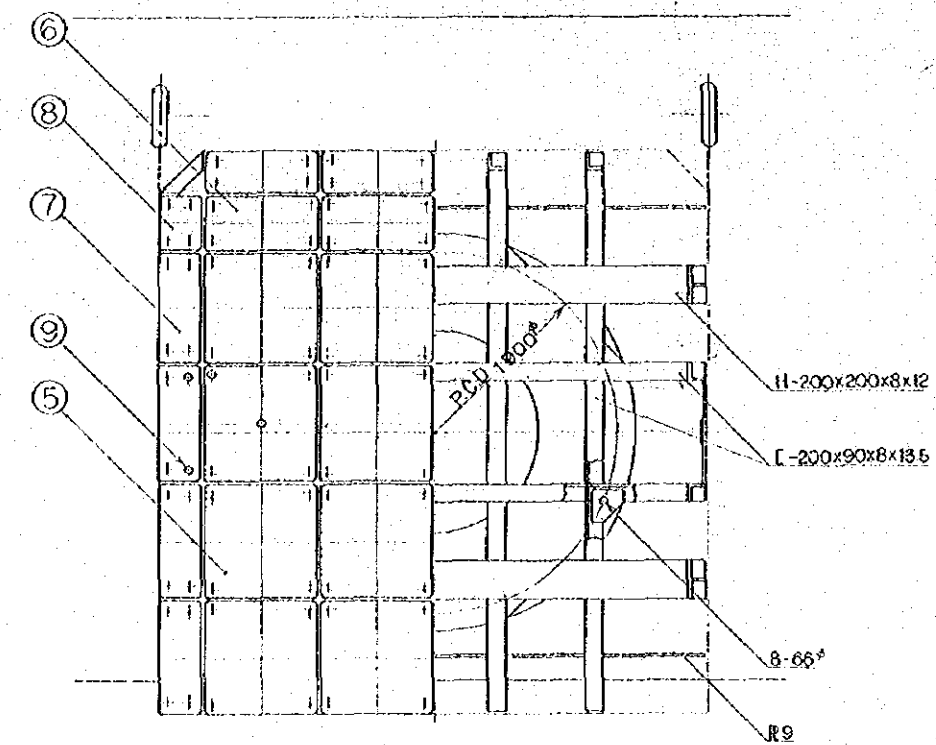
NO.	DESCRIPTION	MATERIAL	QTY	REMARKS
1	CELL FENDER	RUBBER & ROLLED STEEL	1	C 1700H
2	FRONTAL FRAME	ROLLED STEEL	1	2890 X 2970
3	BOLT & NUT	ROLLED STEEL (GALVANIZED)	8	W 2 1/4"
4	ANCHOR BOX & BOLT	STAINLESS STEEL	8	W 2 1/4"
5	FLAT PAD	POLYETHYLENE RESIN	16	600 X 301
6	FLAT PAD	POLYETHYLENE RESIN	4	600 X 300 X 301
7	CORNER PAD	NYLON RESIN	12	600 X 301
8	CORNER PAD	NYLON RESIN	2	300 X 301
9	FIXING BOLT	ROLLED STEEL (GALVANIZED)	162	W 3/4"
10	RUBBER FLEX CHAIN	RUBBER & ROLLED STEEL (GALVANIZED)	2	RFB45
11	U-ANCHOR	ROLLED STEEL (GALVANIZED)	2	

GENERAL NOTES

DIMENSIONS: MM.

RUBBER NO.	QTY
ENERGY ABSORPTION	109.0 I-MAT(425.8)
REACTION FORCE	167.0 TONS(475.8)
FACE PRESSURE	22.5 T/M ²
CONTACT AREA	7.416 M ²
FRAME WEIGHT	2040 KG

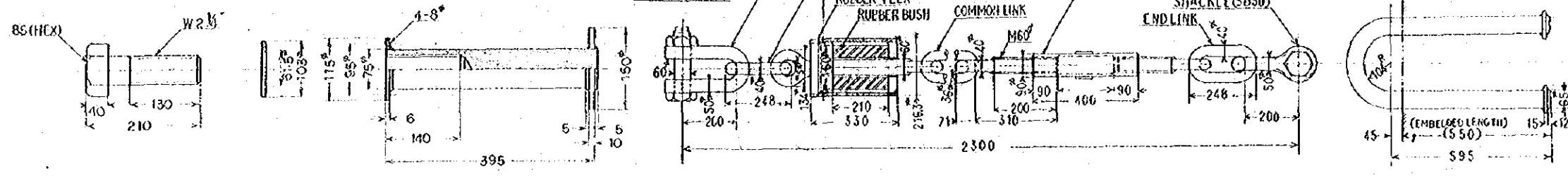
TOLERANCE : ± 10 %



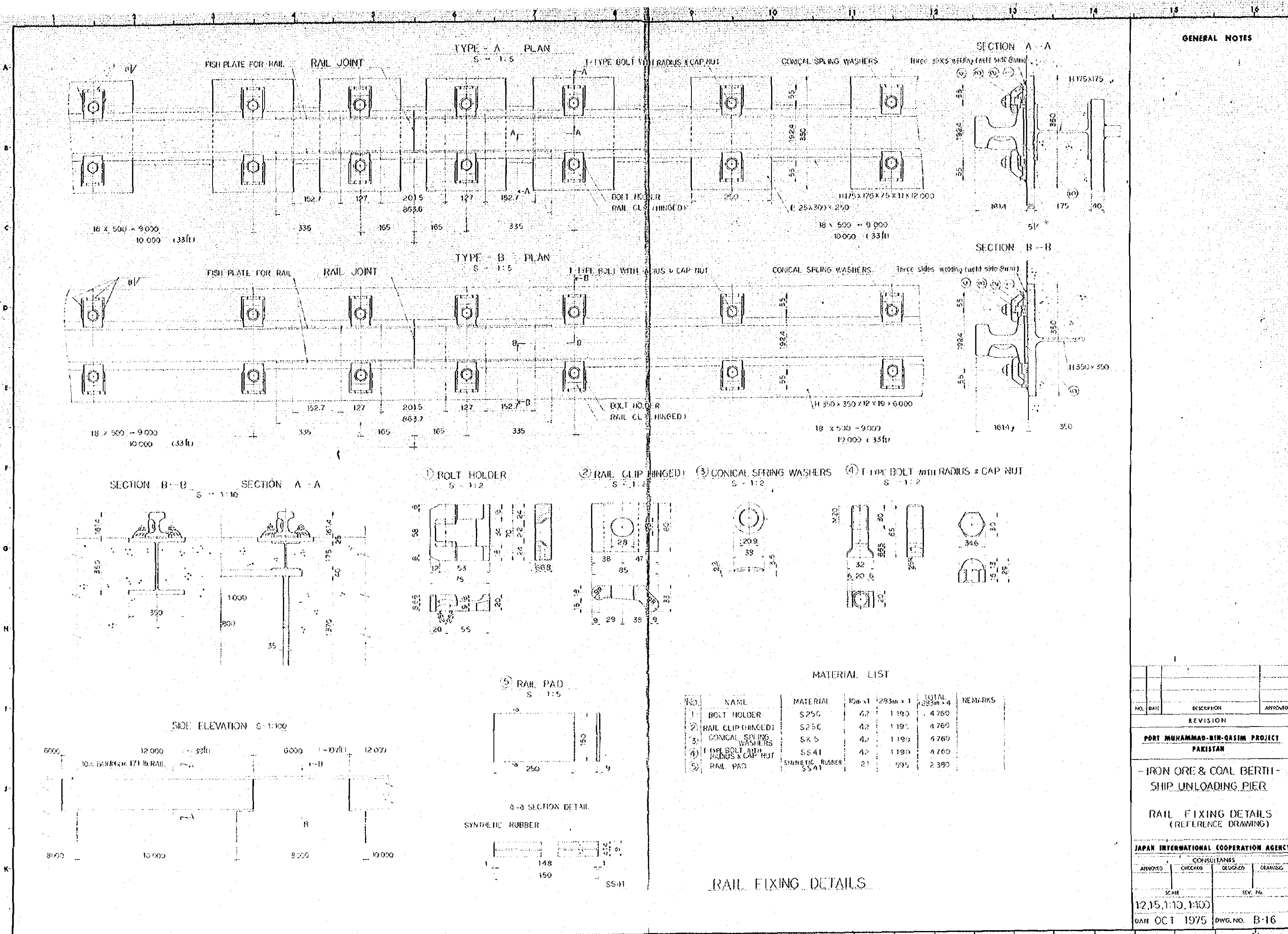
④ ANCHOR BOX & BOLT
S=1/5

⑩ RUBBER FLEX CHAIN
S=1/10

⑪ U-ANCHOR
S=1/6

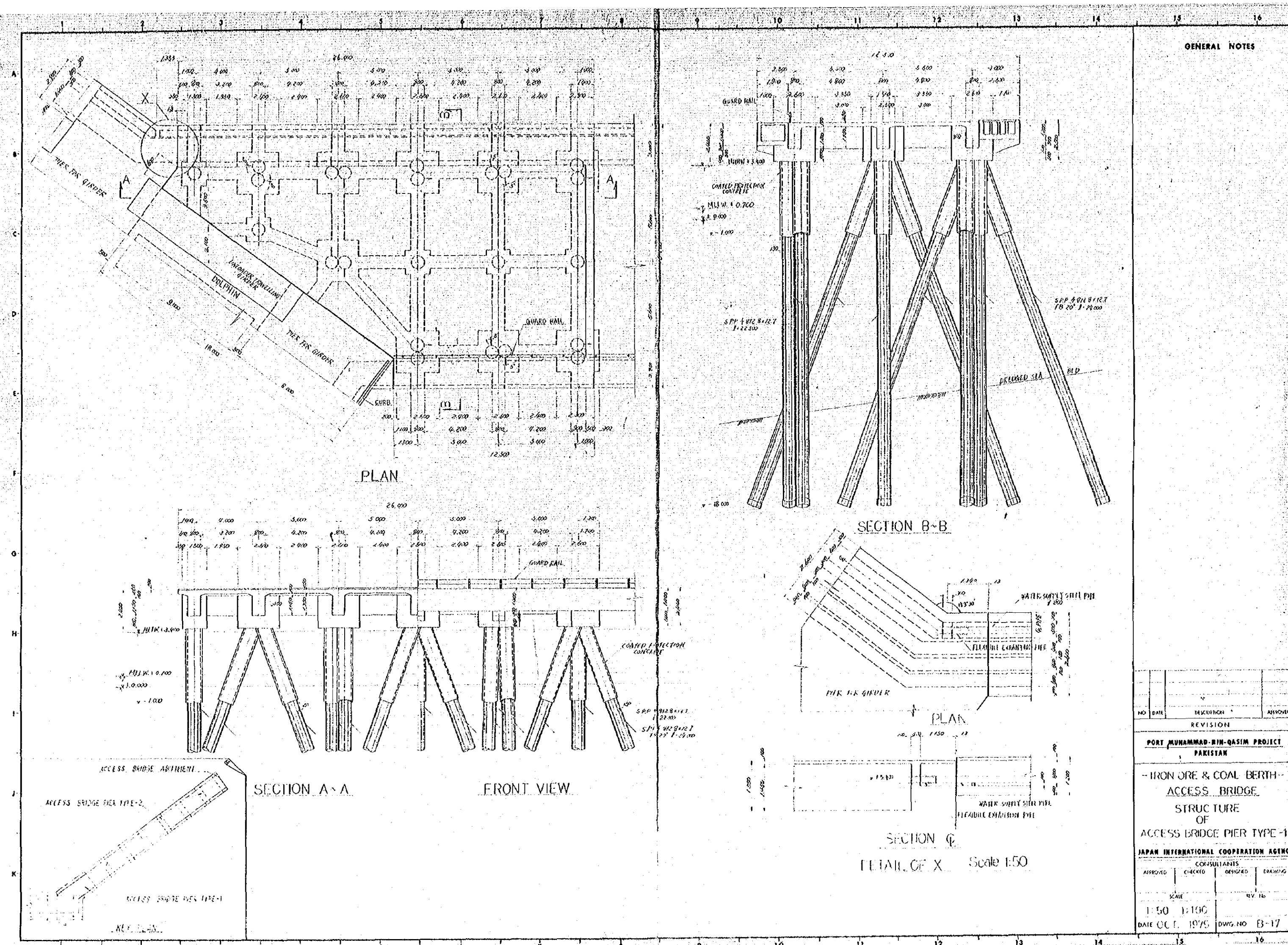


NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
- IRON ORE & COAL BERTH - SHIP UNLOADING PIER			
RUBBER FENDER DETAIL			
JAPAN INTERNATIONAL COOPERATION AGENCY CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
1:5	1:10	1:20	1:40
DATE OCT. 1975		DWG. NO. B-15	



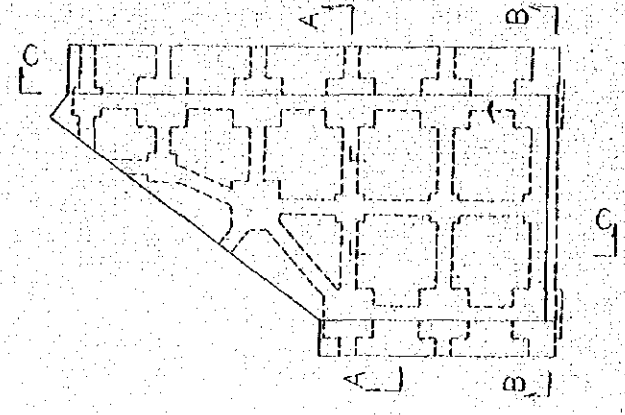
GENERAL NOTES

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
- IRON ORE & COAL BERTH - SHIP UNLOADING PIER			
RAIL FIXING DETAILS (REFERENCE DRAWING)			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. No.	
12,15,1:10, 1:100			
DATE OCT 1975		DWG. NO. B-16	

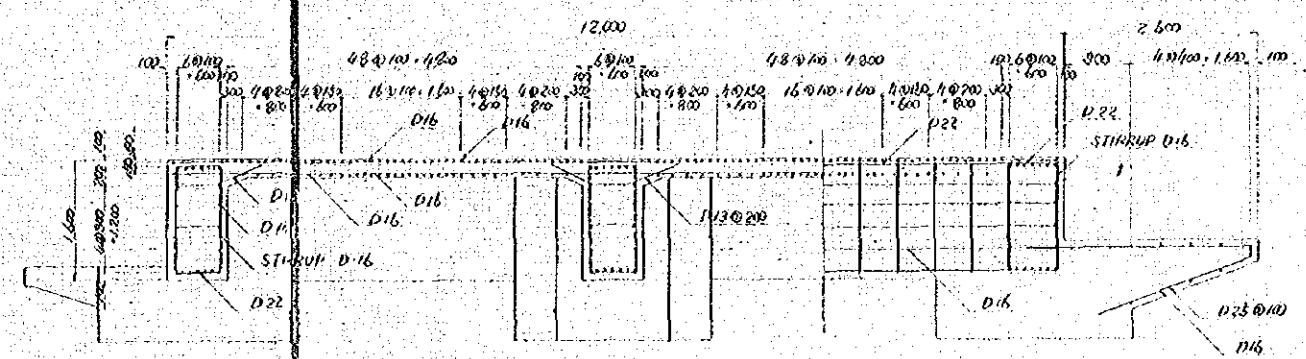


GENERAL NOTES

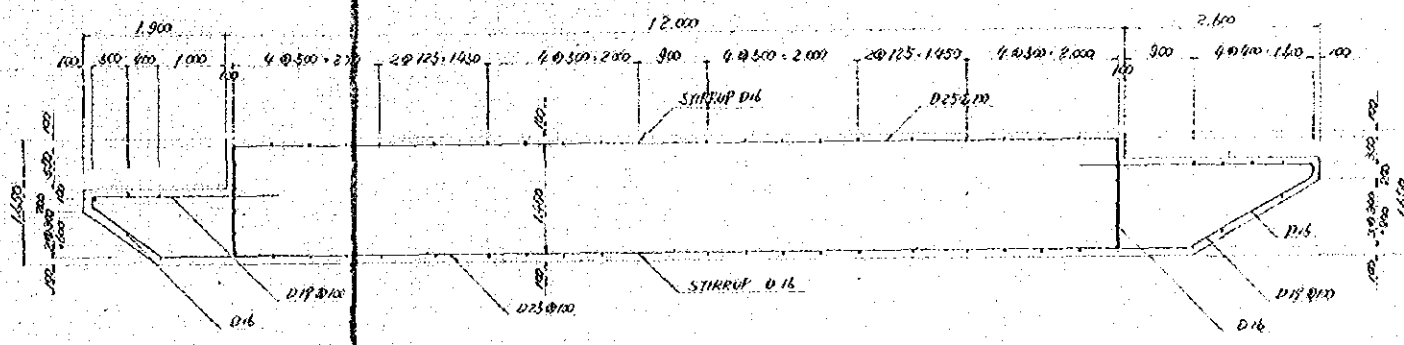
NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
IRON ORE & COAL BERTH- ACCESS BRIDGE STRUCTURE OF ACCESS BRIDGE PIER TYPE-1			
JAPAN INTERNATIONAL COOPERATION AGENCY			
APPROVED		CONSULTANTS	
SCALE	CHECKED	DESIGNED	DRAWING
1:50	1:100		REV. NO.
DATE O.C.F. 1975	DWS. NO. B-17		



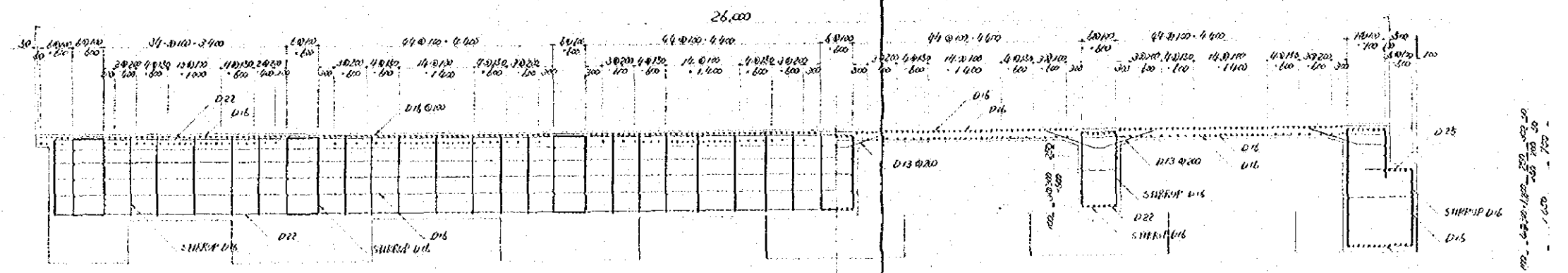
ACCESS BRIDGE PIER TYPE 1 Scale 1:200



SECTION A-A



SECTION B-B

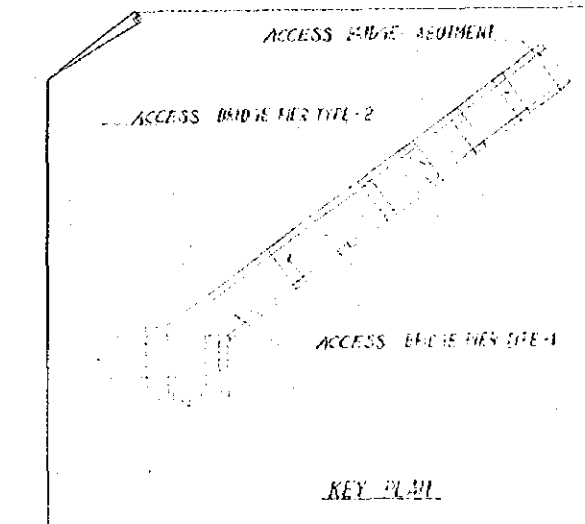
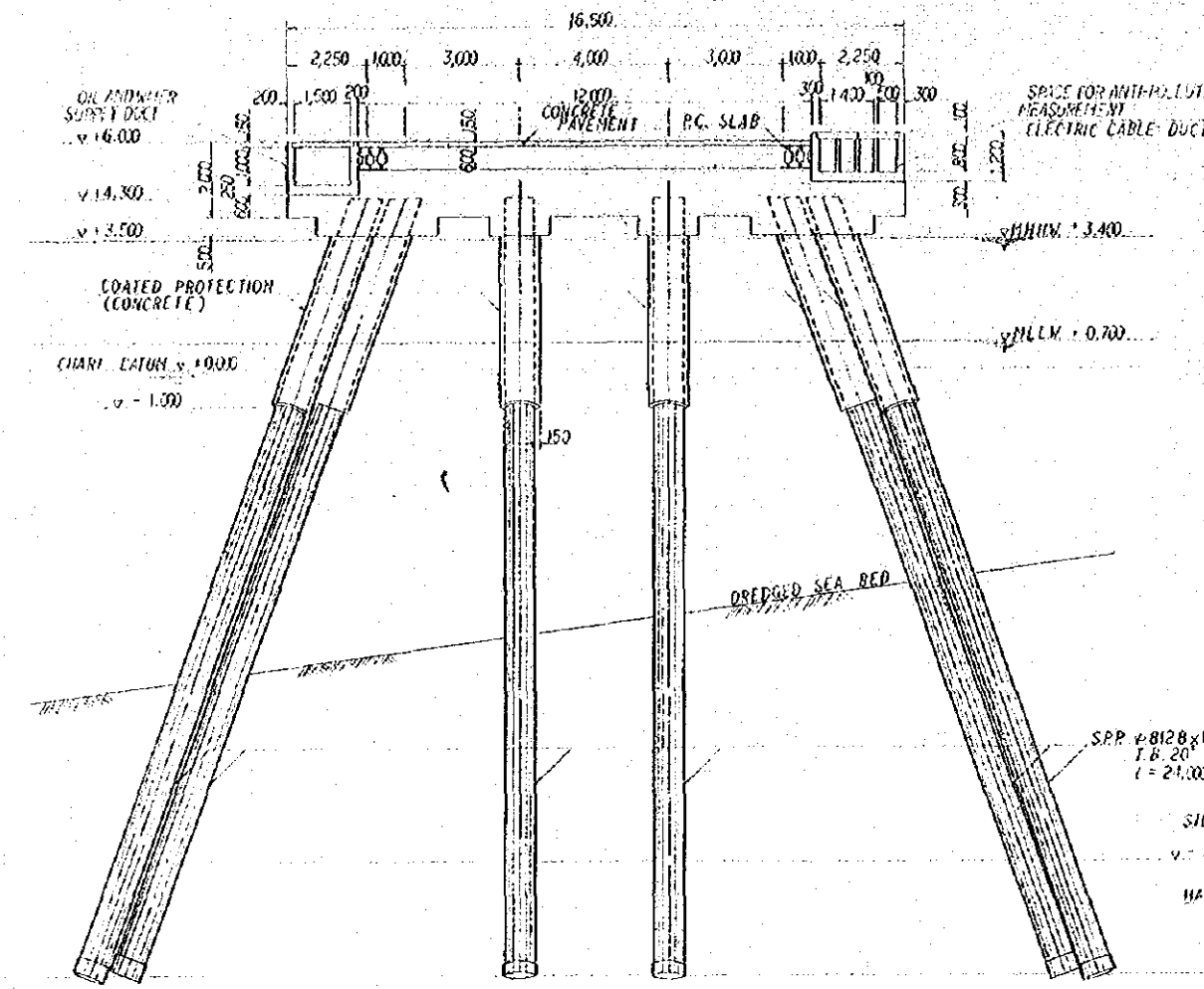
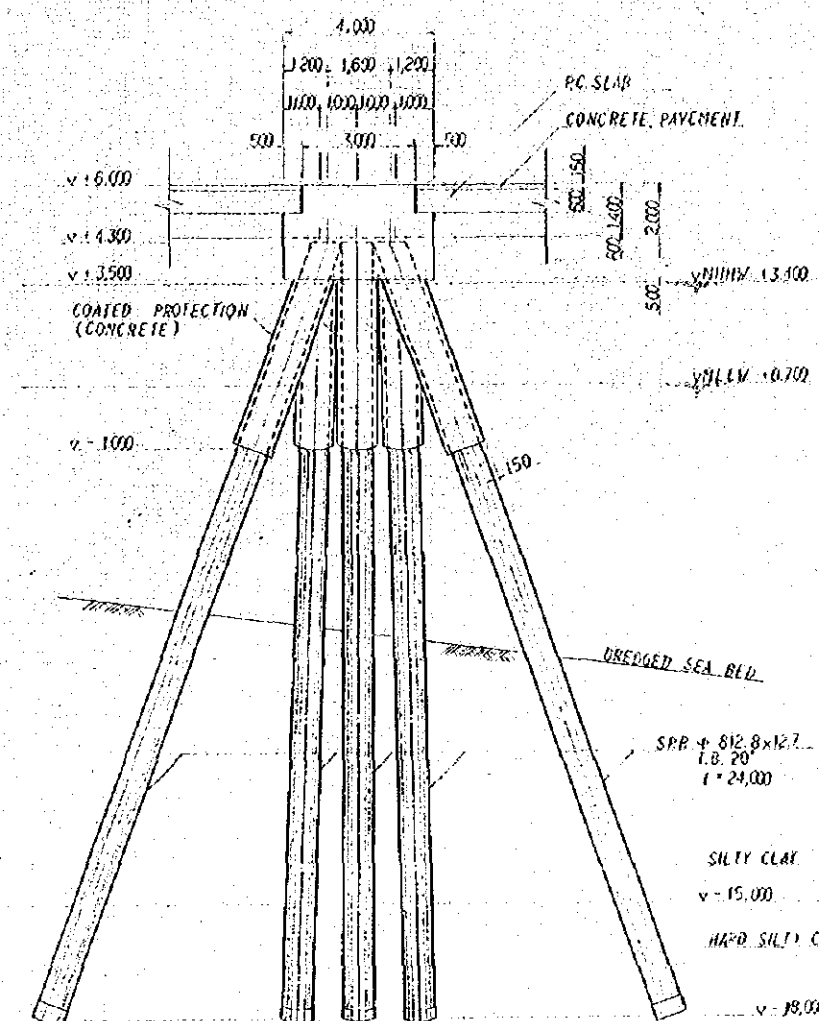
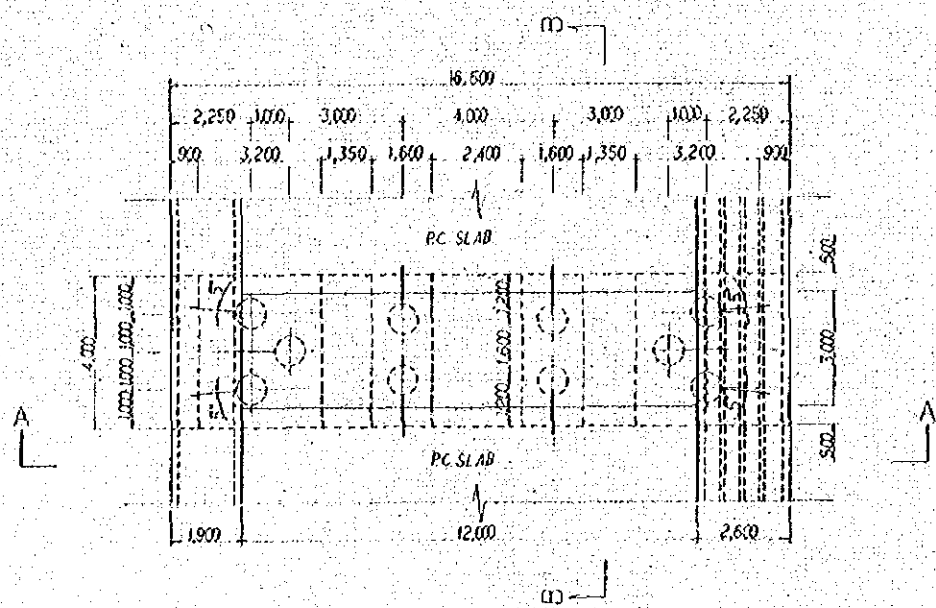


SECTION C-C

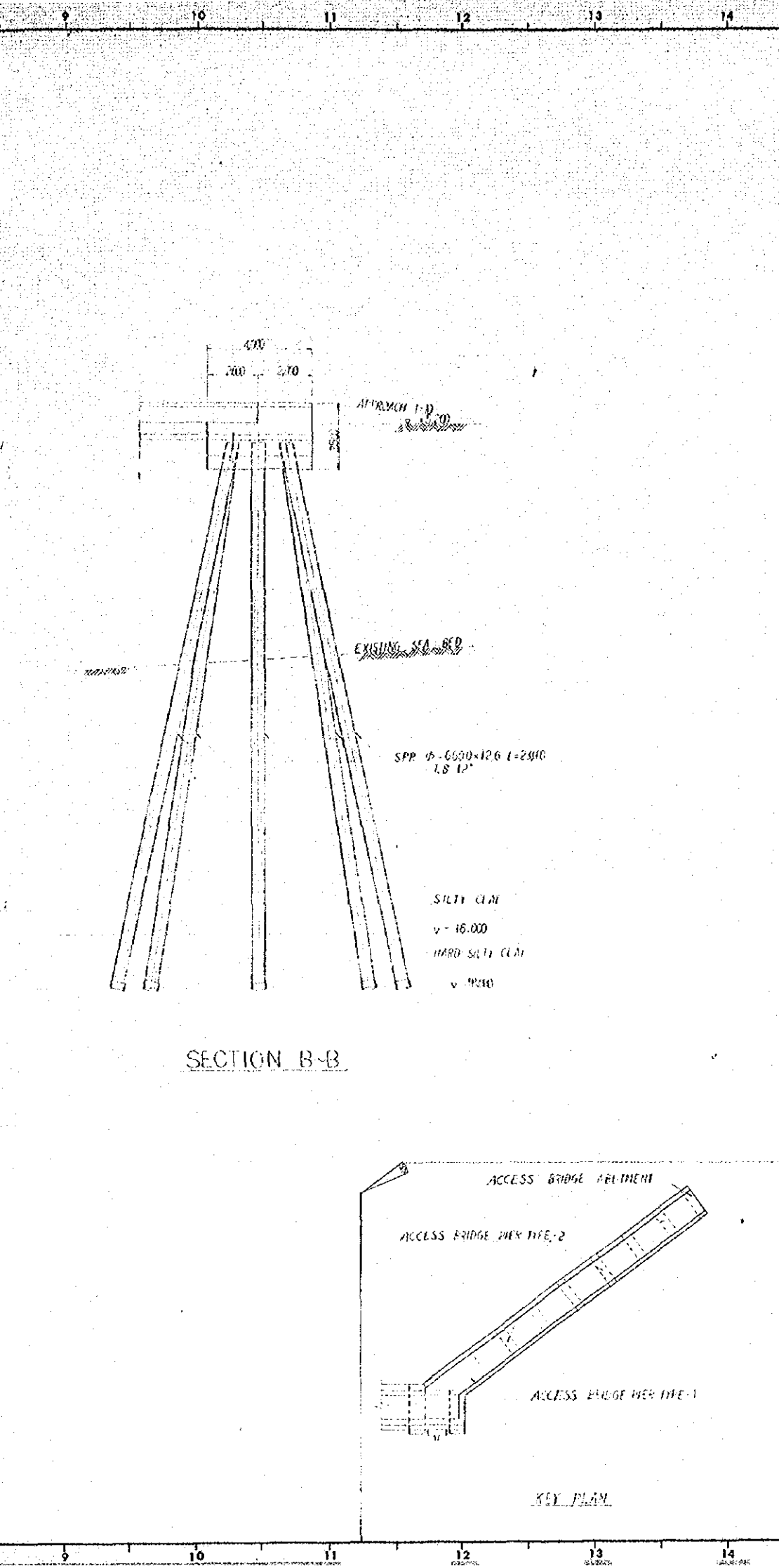
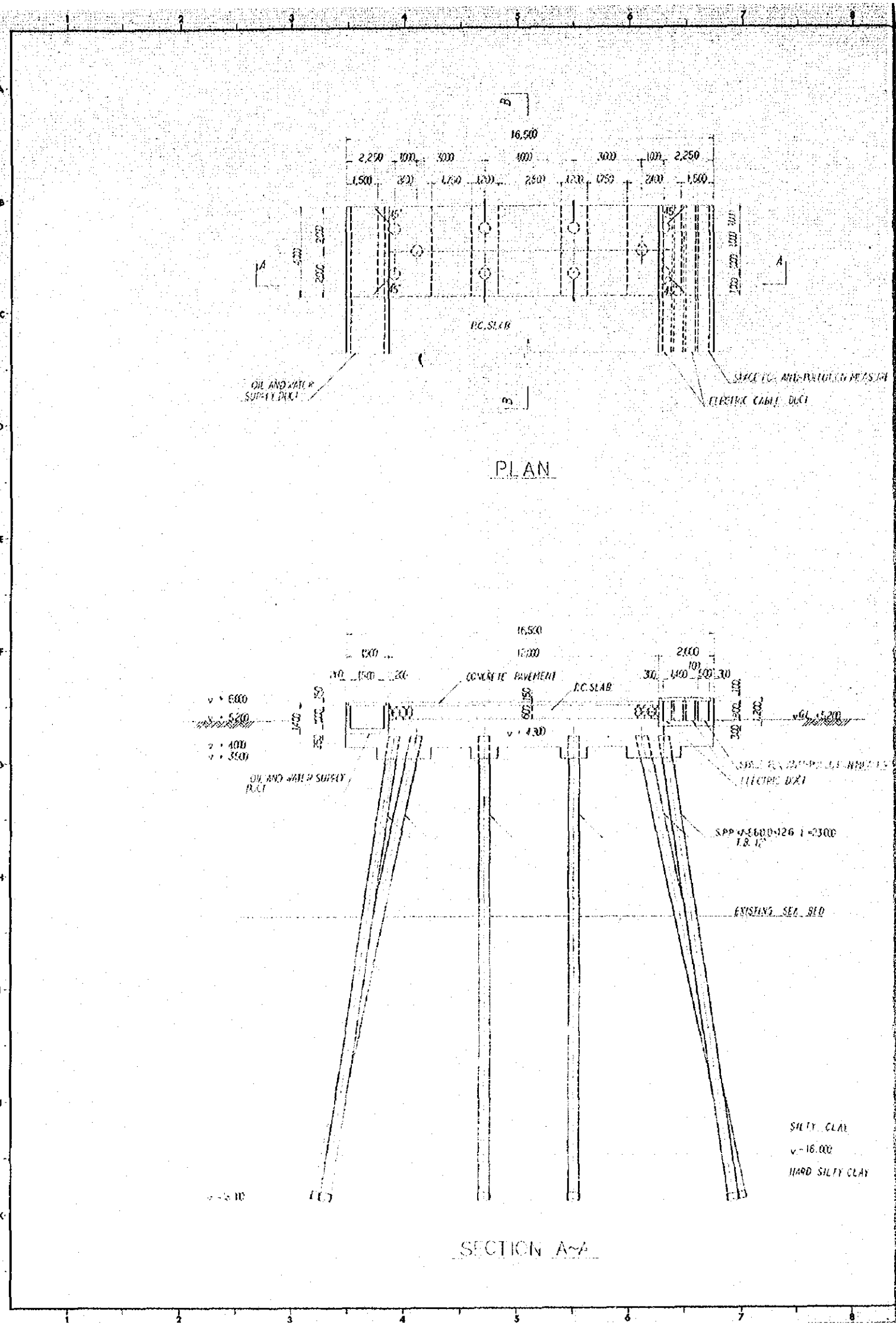
GENERAL NOTES

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
IRON ORE & COAL BERTH ACCESS BRIDGE BAR ARRANGEMENT OF ACCESS BRIDGE PIER TYPE-1			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
1:50 1:200			
DATE OCT. 1975		DWG. NO. 13-13	

GENERAL NOTES

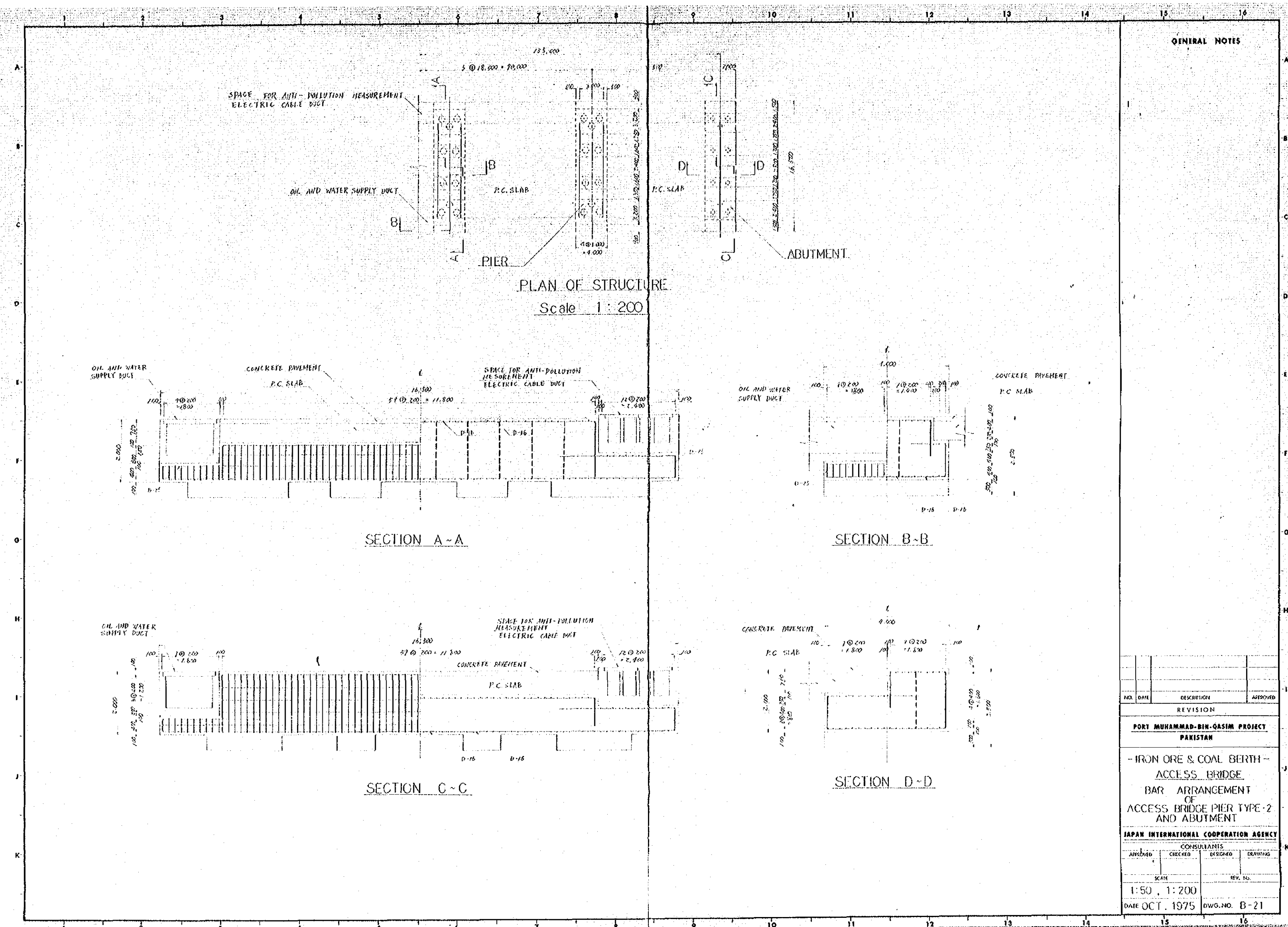


NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
- IRON ORE & COAL BERTH - ACCESS BRIDGE STRUCTURE OF ACCESS BRIDGE PIER TYPE-2			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. No.	
1 : 100			
DATE OCT. 1975		DWG. NO. B-19	



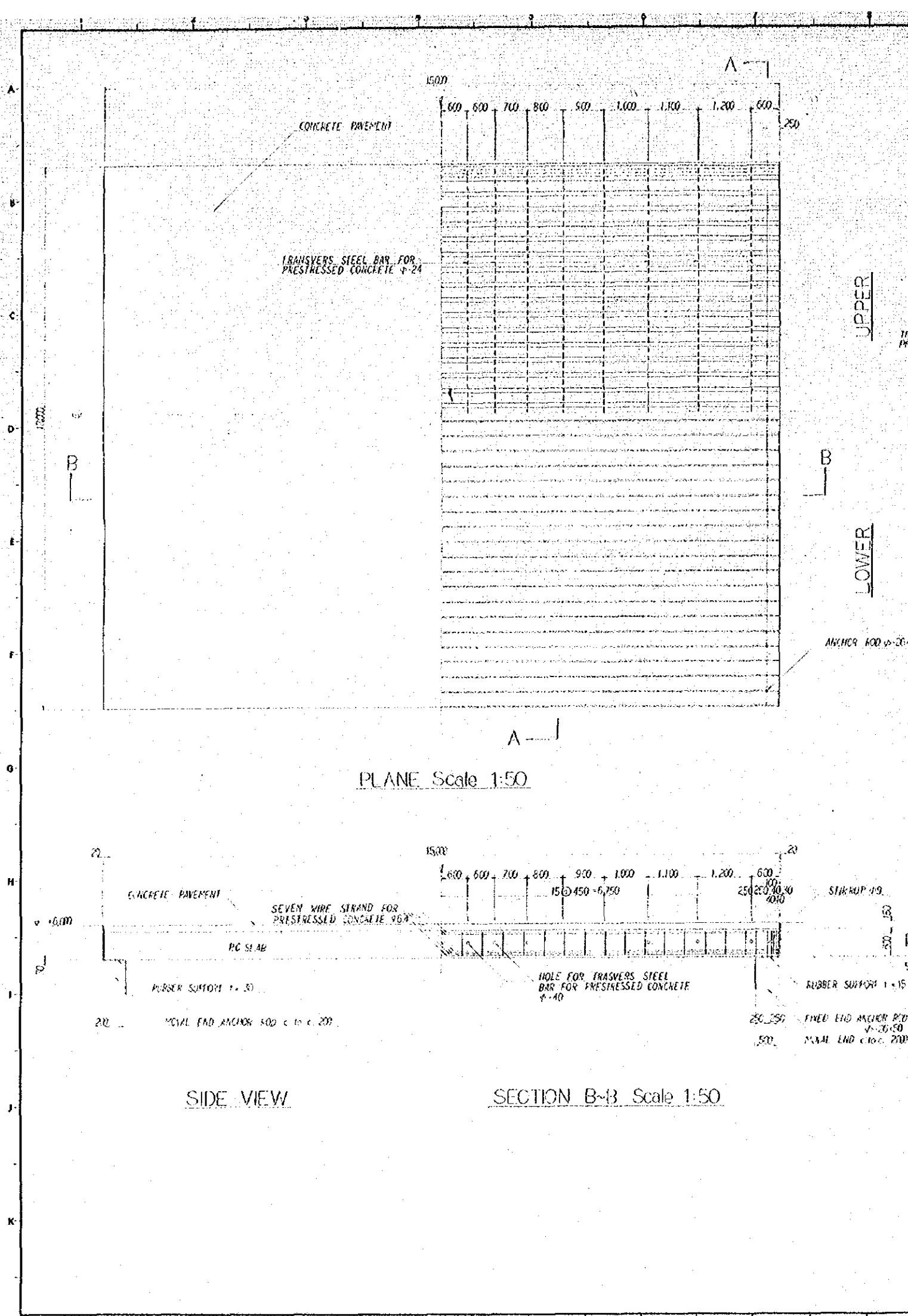
GENERAL NOTES

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT			
PAKISTAN			
-IRON ORE & COAL BERTH-			
ACCESS BRIDGE			
STRUCTURE			
OF			
ACCESS BRIDGE ABUTMENT			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE	REV. NO.		
1 : 100			
DATE	01/19/85	DWG. NO. B-20	



GENERAL NOTES

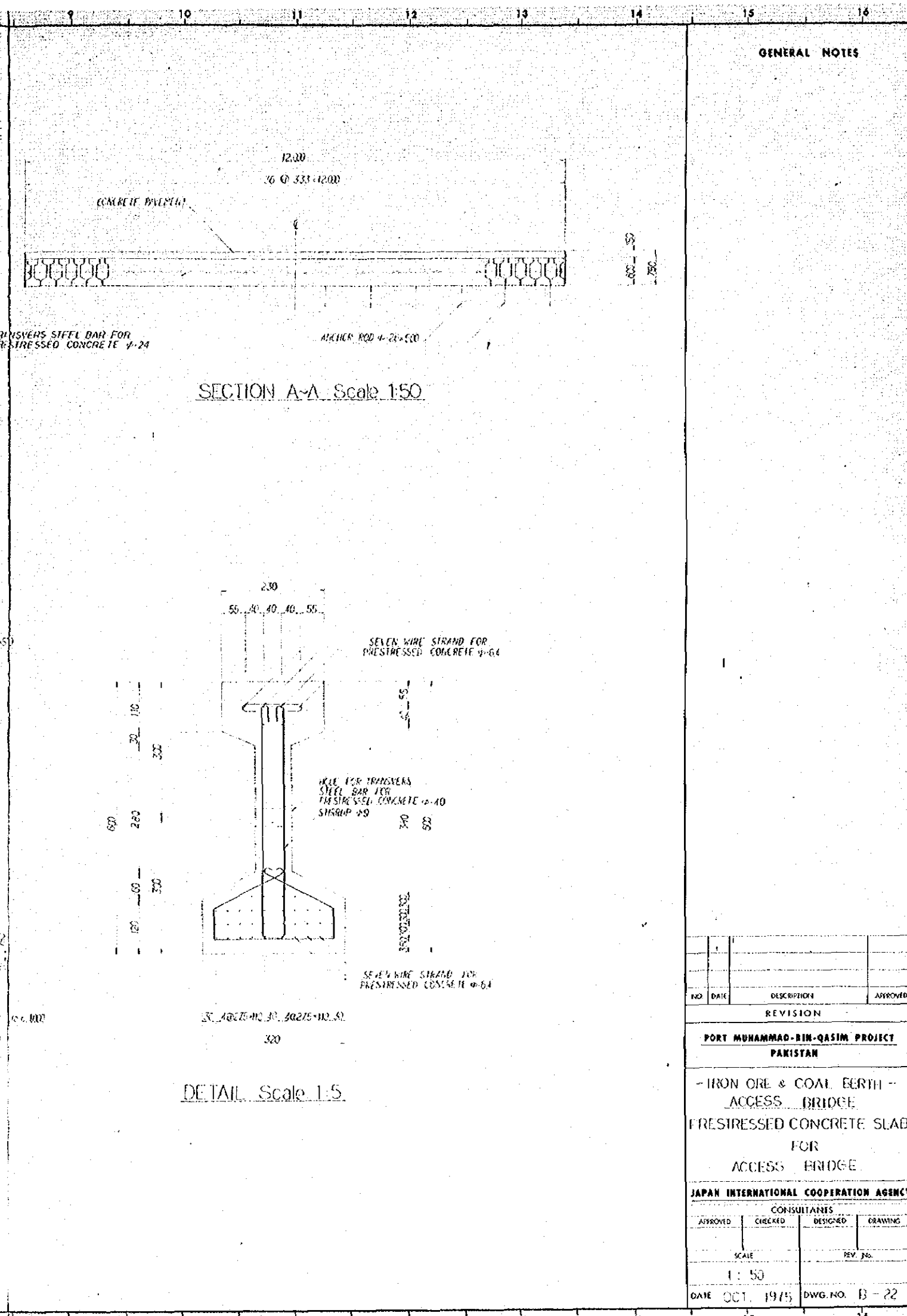
NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
- IRON ORE & COAL BERTH - ACCESS BRIDGE BAR ARRANGEMENT OF ACCESS BRIDGE PIER TYPE-2 AND ABUTMENT			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
1:50, 1:200			
DATE OCT. 1975		DWG. NO. B-21	



PLANE Scale 1:50

SIDE VIEW

SECTION B-B Scale 1:50

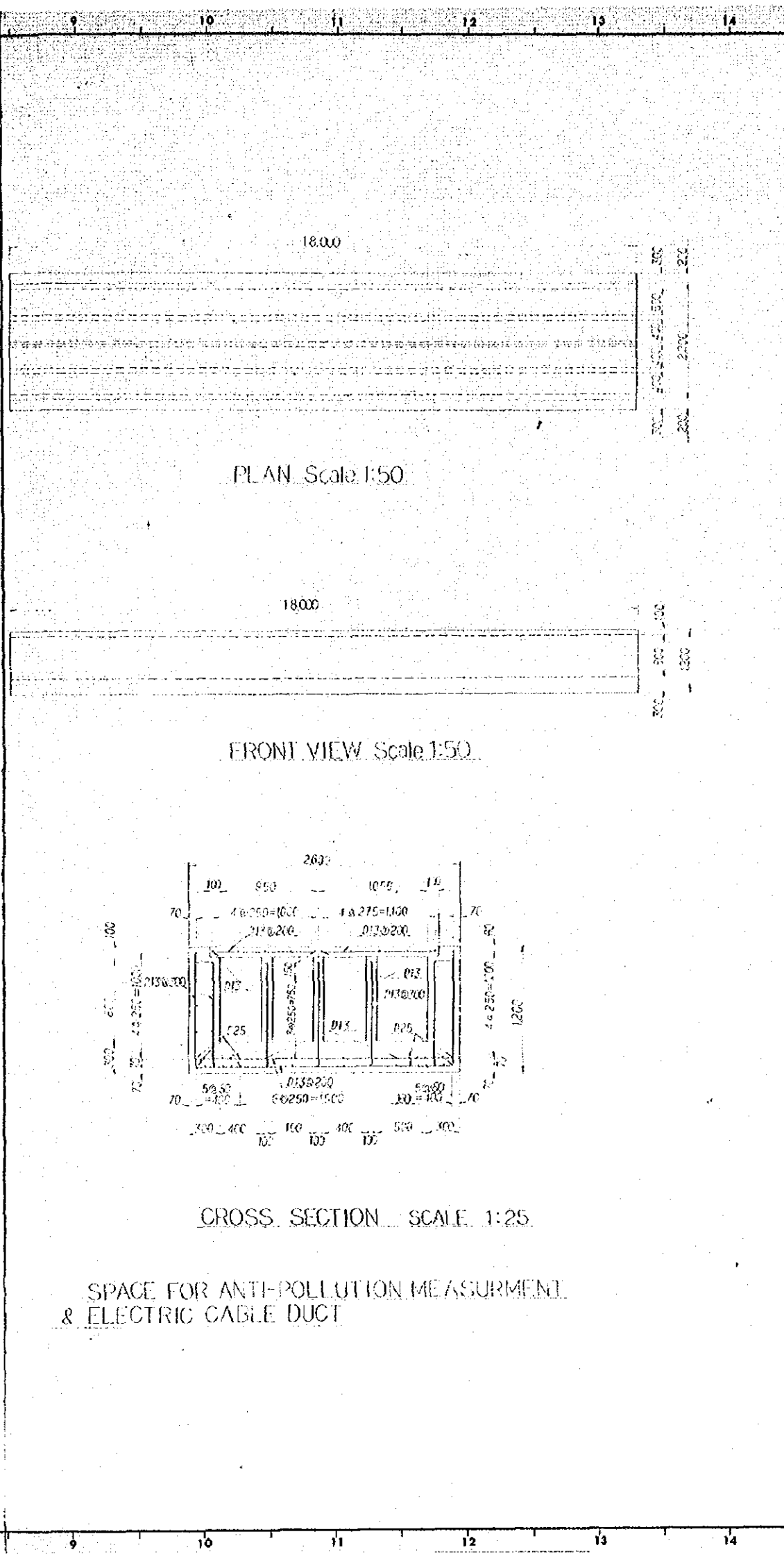
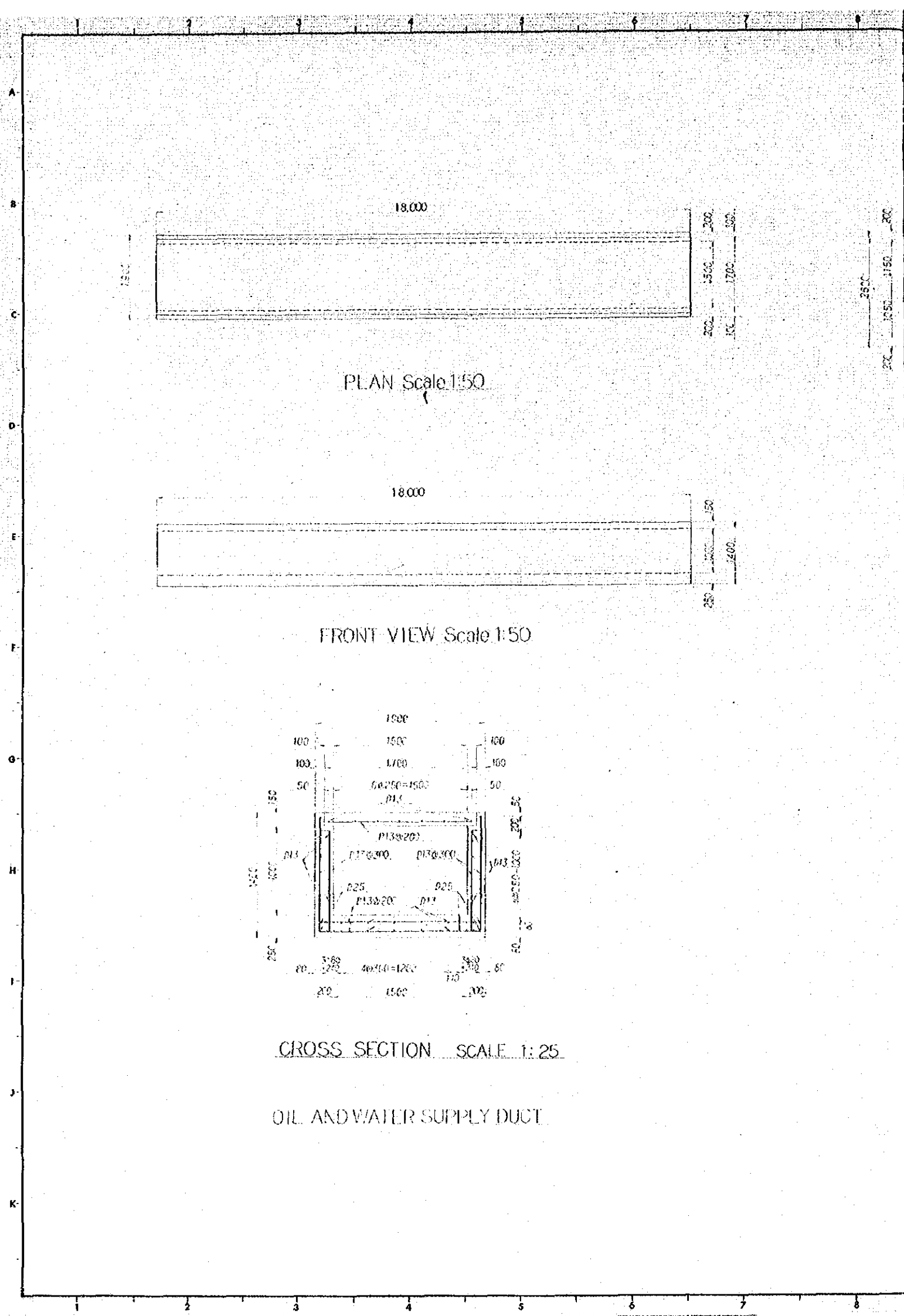


SECTION A-A Scale 1:50

DETAIL Scale 1:50

GENERAL NOTES

NO	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
- IRON ORE & COAL BERTH - ACCESS BRIDGE			
PRESTRESSED CONCRETE SLAB FOR ACCESS BRIDGE			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
1:50			
DATE	OCT. 1975	DWG. NO.	B-22

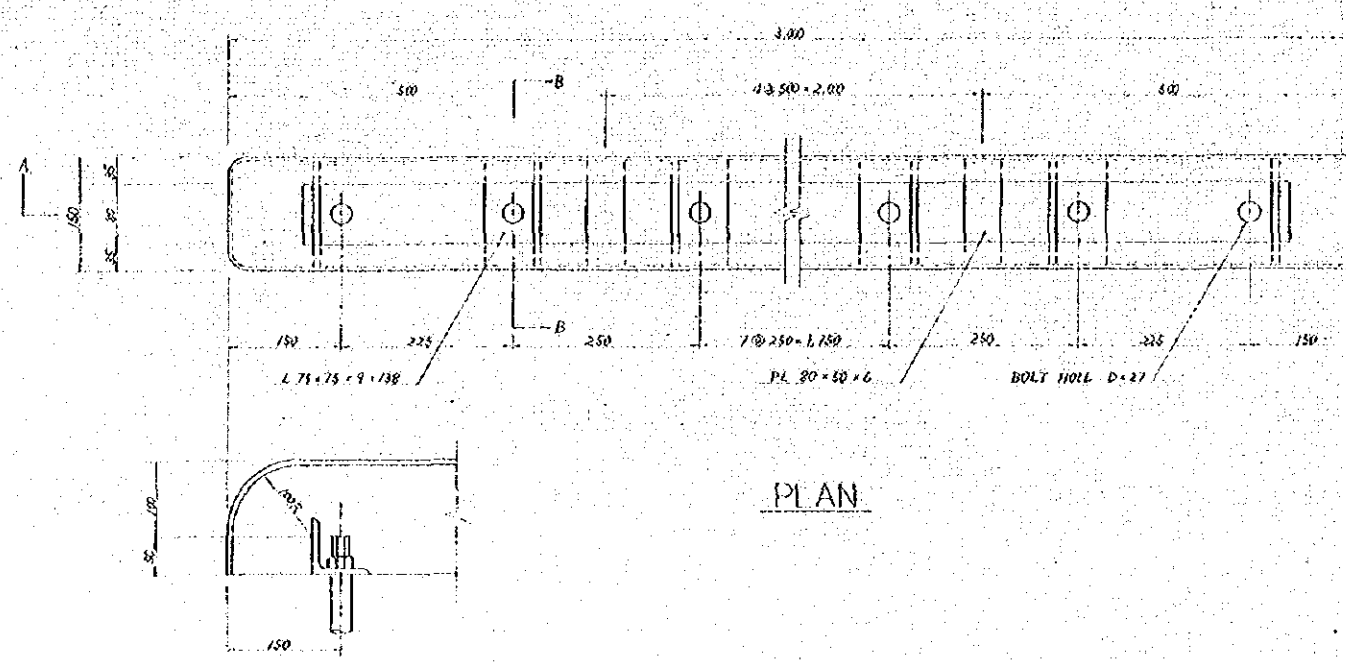


GENERAL NOTES

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIH-QASIM PROJECT PAKISTAN			
- IRON ORE & COAL BERTH - ACCESS BRIDGE UTILITY DUCT FOR ACCESS BRIDGE			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
ASSIGNED	CHECKED	DESIGNED	DRAWING
SCALE		REV. No	
1:25		1:10	
DATE OCT. 1975		DWG. NO. B-23	

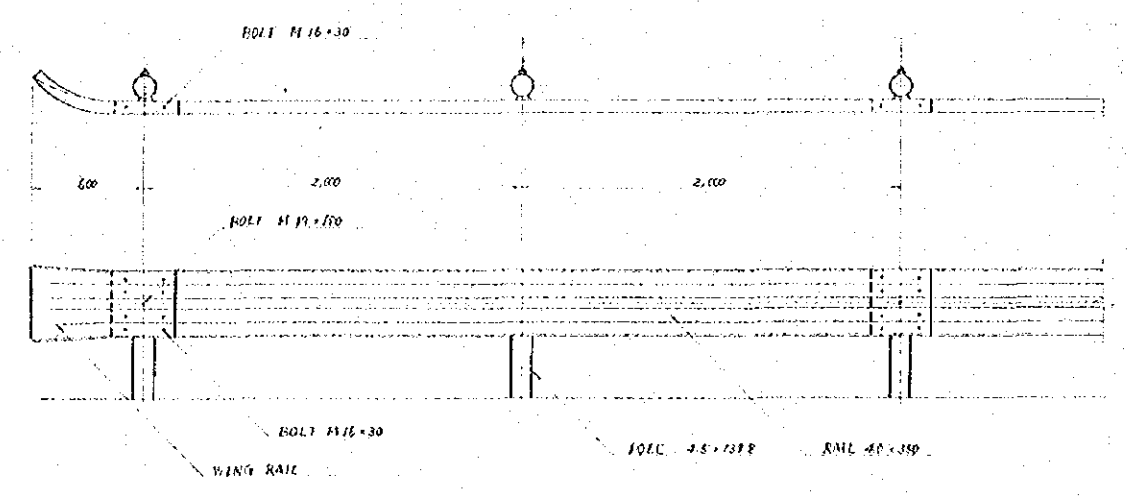
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

A
B
C
D
E
F
G
H
I
J
K

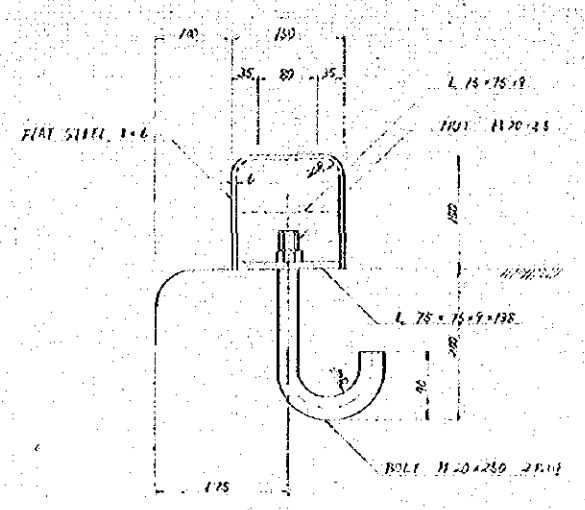


SECTION A-A

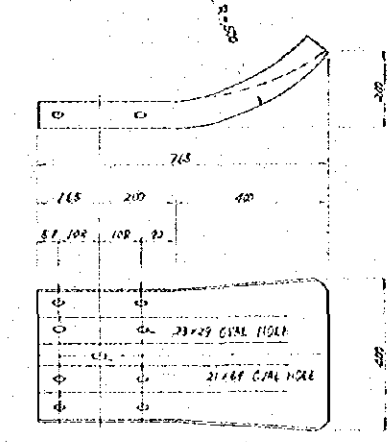
CURB Scale 1:5



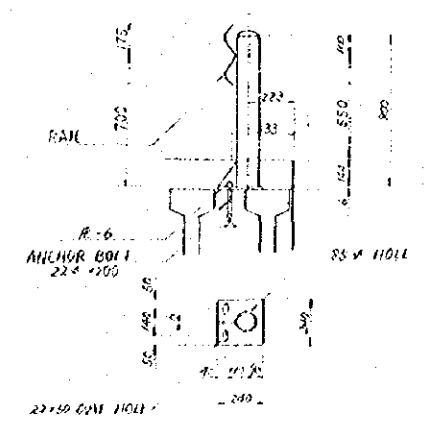
GUARD RAIL Scale 1:20



SECTION B-B



WING RAIL Scale 1:5

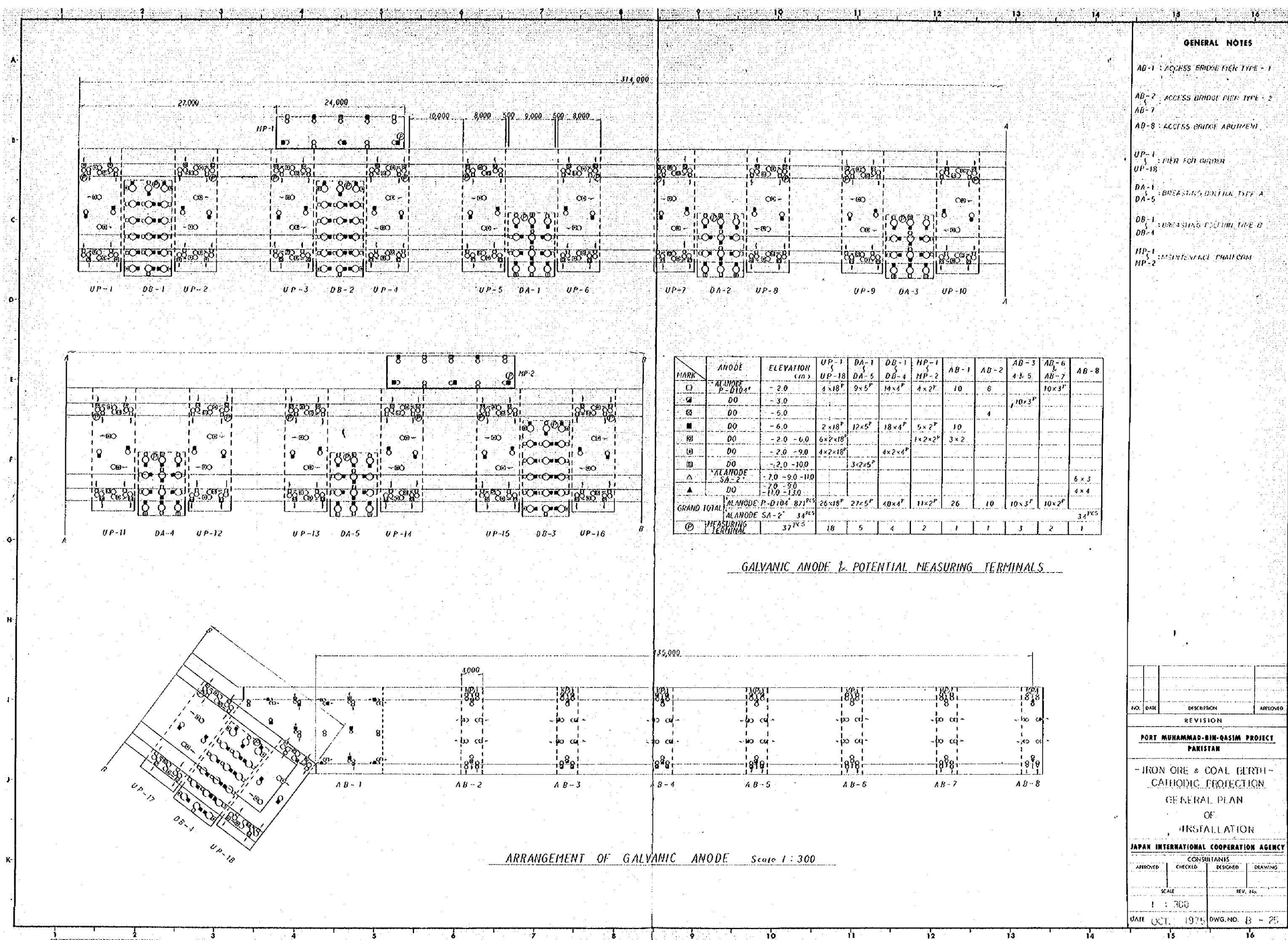


POLE Scale 1:20

GENERAL NOTES

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
- IRON CRE & COAL BERTH - ACCESS BRIDGE			
DETAIL OF GUARD RAIL AND CURB			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE	REV. NO.		
1:5 1:20			
DATE OCT. 1975	DWG. NO. B-24		

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



GENERAL NOTES

- AB-1 : ACCESS BRIDGE PIER TYPE - 1
- AB-2 : ACCESS BRIDGE PIER TYPE - 2
- AB-3 : ACCESS BRIDGE ABUTMENT
- UP-1 : PIER FOR GARDEN
- UP-18
- DA-1 : BREAKING BULKHEAD TYPE A
- DA-5
- DB-1 : BREAKING COLUMN TYPE B
- DB-4
- HP-1 : MAINTENANCE PLATFORM
- HP-2

MARK	ANODE	ELEVATION (m)	UP-1 UP-18	DA-1 DA-5	DB-1 DB-4	HP-1 HP-2	AB-1	AB-2	AB-3	AB-6 AB-7	AB-8
□	ALANODE P-D104	-2.0	4x18"	9x5"	14x4"	4x2"	10	6	4x5	10x3"	
■	DO	-3.0						4			
■	DO	-5.0									
■	DO	-6.0	2x18"	12x5"	18x4"	5x2"	10				
■	DO	-2.0 -6.0	6x2x18"			1x2x2"	3x2				
■	DO	-2.0 -9.0	4x2x18"		4x2x4"						
■	DO	-2.0 -10.0		3x2x5"							
△	ALANODE SA-2	7.0 -9.0 -11.0									5x3
▲	DO	7.0 -9.0 -11.0									4x4
GRAND TOTAL		ALANODE P-D104	871 ^{PCS}	26x18"	27x5"	40x4"	11x2"	26	10	10x5"	10x2"
MEASURING TERMINAL											34 ^{PCS}

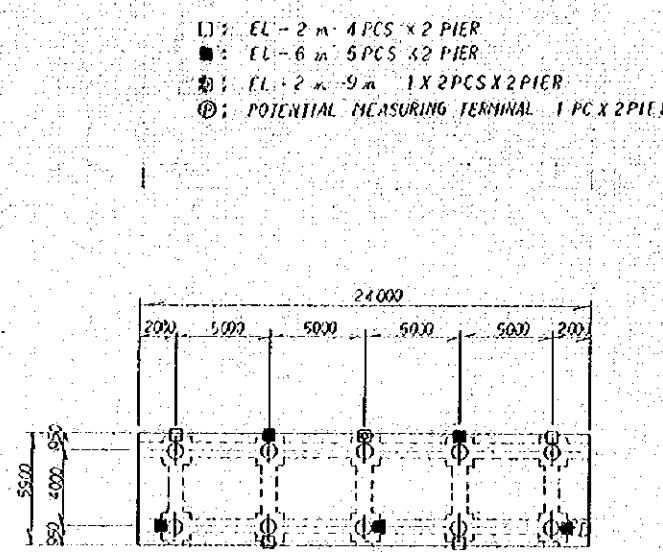
GALVANIC ANODE & POTENTIAL MEASURING TERMINALS

ARRANGEMENT OF GALVANIC ANODE Scale 1:300

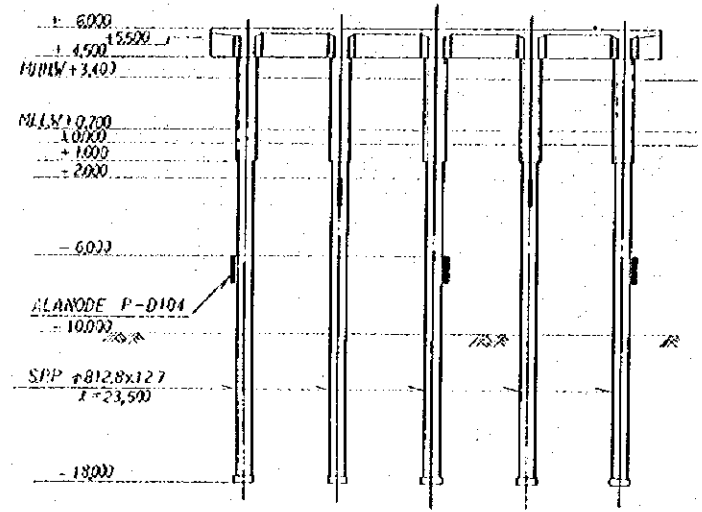
NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
- IRON ORE & COAL BERTH - CATHODIC PROTECTION GENERAL PLAN OF INSTALLATION			
JAPAN INTERNATIONAL COOPERATION AGENCY CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. No.	
1 : 300			
DATE OCT. 1975		DWG. NO. B - 25	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

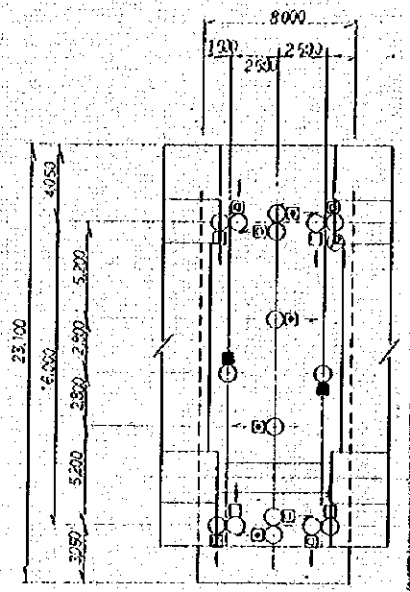
A B C D E F G H I J K



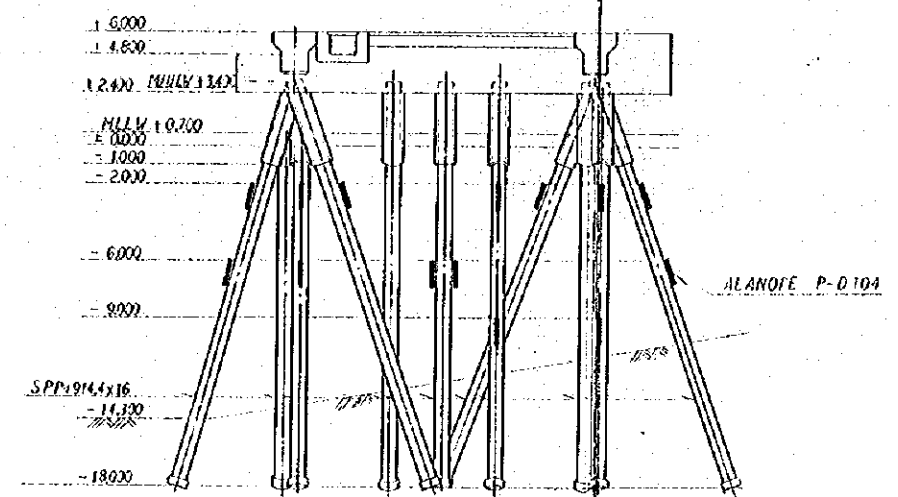
PLAN



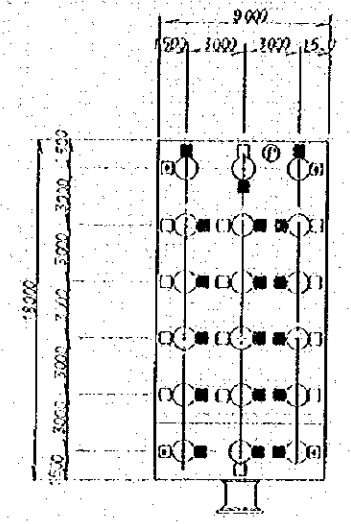
FRONT VIEW
MAINTENANCE PLATFORM SCALE 1:200
MP-1,2



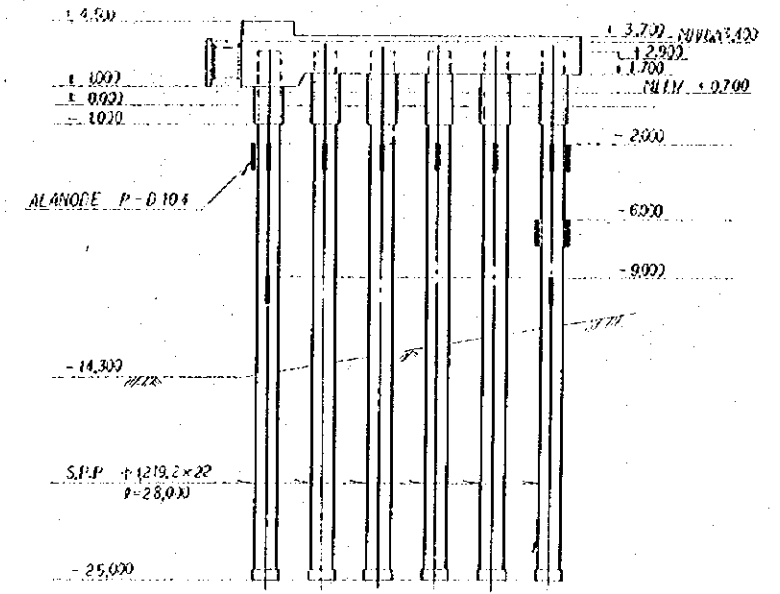
PLAN



SECTION
PIER FOR GIRDER SCALE 1:200
UP-1x18



PLAN



SECTION
BREASTING DOLPHIN TYPE-B SCALE 1:200
DB-1,2,3,4

GENERAL NOTES

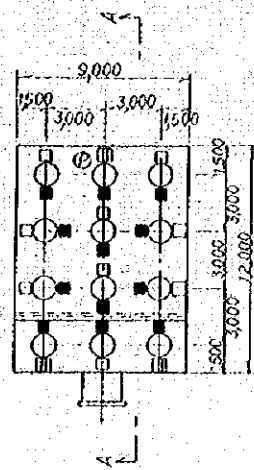
NO	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
-IRON ORE & COAL BERTH- CATHODIC PROTECTION INSTALLATION OF GALVANIC ANODE (1)			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. No.	
1:200			
DATE OCT. 1975		DWG. NO. B-26	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

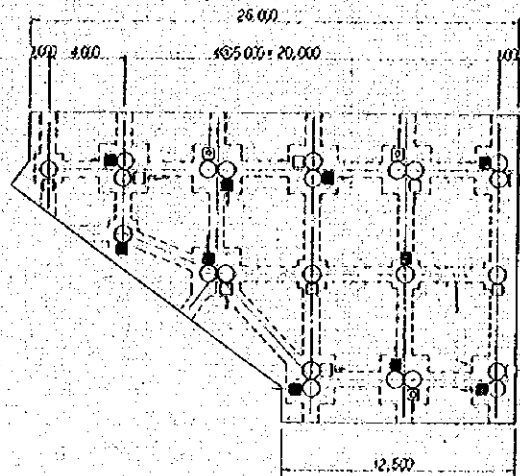
- : EL - 2 m 9 PCS X 5 PIER
- : EL - 3 m 12 PCS X 5 PIER
- ▣ : EL - 2 m - 10 m 3 X 2 PCS X 4 PIER
- ⊙ : POTENTIAL MEASURING TERMINAL 1 PC X 5 PIER

- : EL - 2 m 11 PCS
- : EL - 5 m 10 PCS
- ▣ : EL - 2 m - 6 m 3 X 2 PCS
- ⊙ : POTENTIAL MEASURING TERMINAL 1 PC

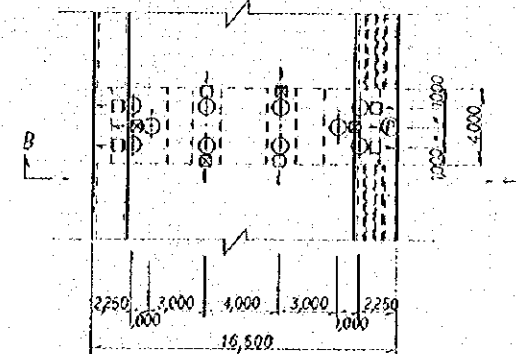
- : EL - 2 m 6 PCS
- : EL - 5 m 4 PCS
- ⊙ : POTENTIAL MEASURING TERMINAL 1 PC



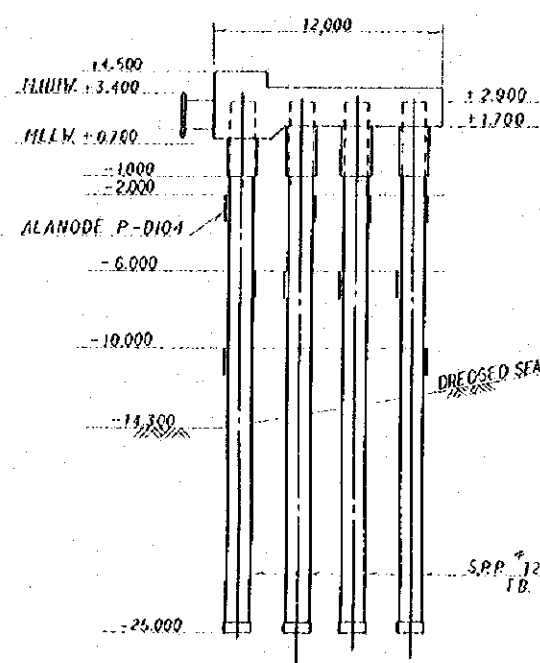
PLAN



PLAN

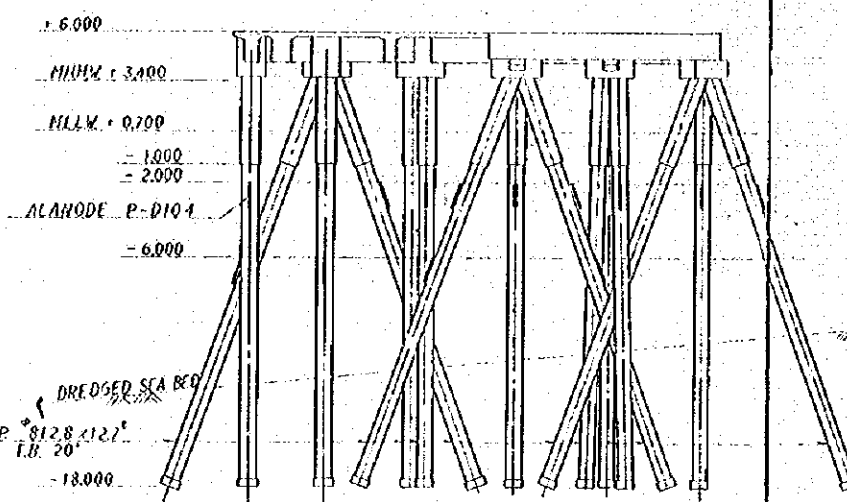


PLAN



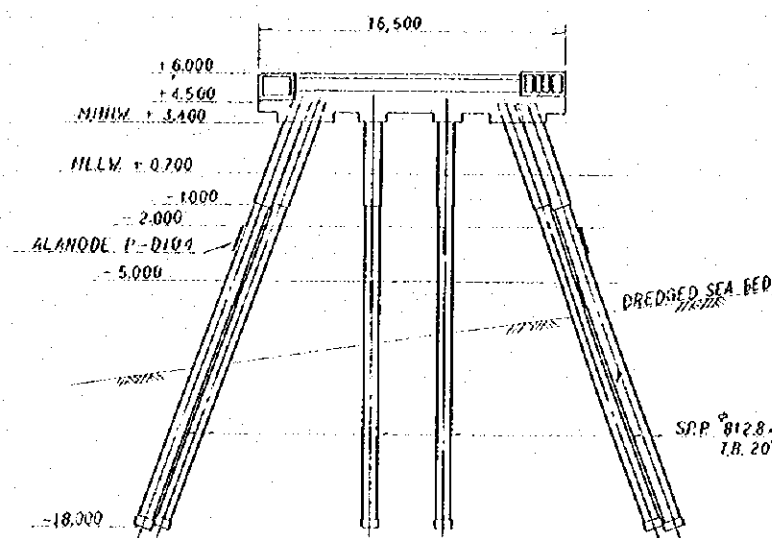
SECTION A-A

BREASTING DOLPHIN TYPE - A SCALE 1:200
DA - 1, 2, 3, 4, 5



FRONT VIEW

ACCESS BRIDGE TYPE - 1 SCALE 1:200
AB - 1



SECTION B - B

PIER OF ACCESS BRIDGE TYPE - 2 SCALE 1:200
AB - 2

GENERAL NOTES

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
- IRON ORE & COAL BERTH - CATHODIC PROTECTION INSTALLATION OF GALVANIC ANODE (2)			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. No.	
1:200			
DATE OCT. 1975		DWG. NO. B-27	

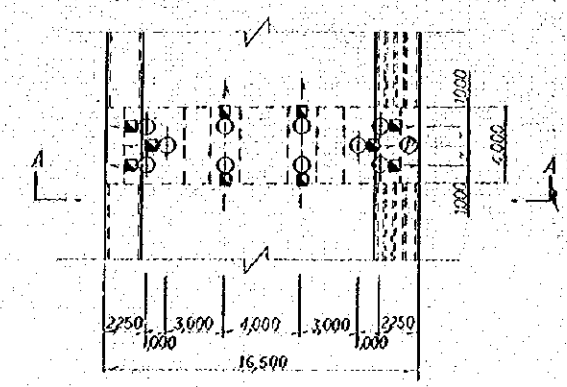
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

GENERAL NOTES

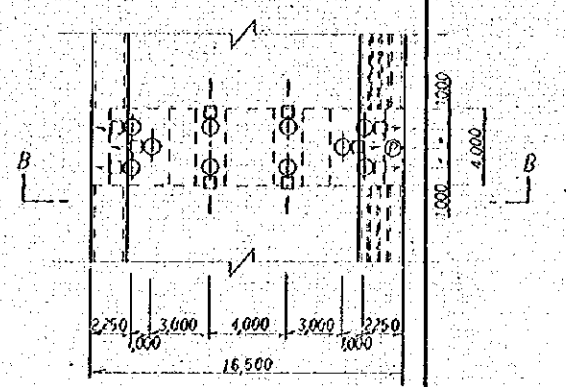
□ : EL - 3m 10PCS X 3PIER
 ⊕ : POTENTIAL MEASURING TERMINAL 1PC X 3PIER

□ : EL - 2m 10PCS X 2PIER
 ⊕ : POTENTIAL MEASURING TERMINAL 1PC X 2PIER

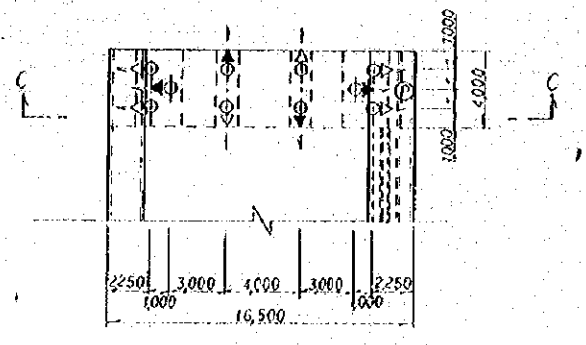
△ : EL - 7m - 9m - 11m 6 X 3PCS
 ▲ : EL - 7m - 9m - 11m - 13m 4 X 4PCS
 ⊕ : POTENTIAL MEASURING TERMINAL 1PC



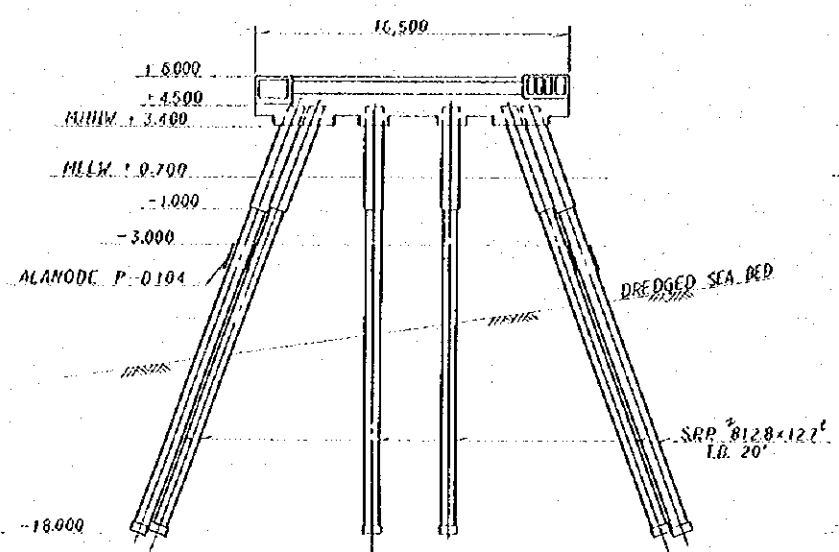
PLAN



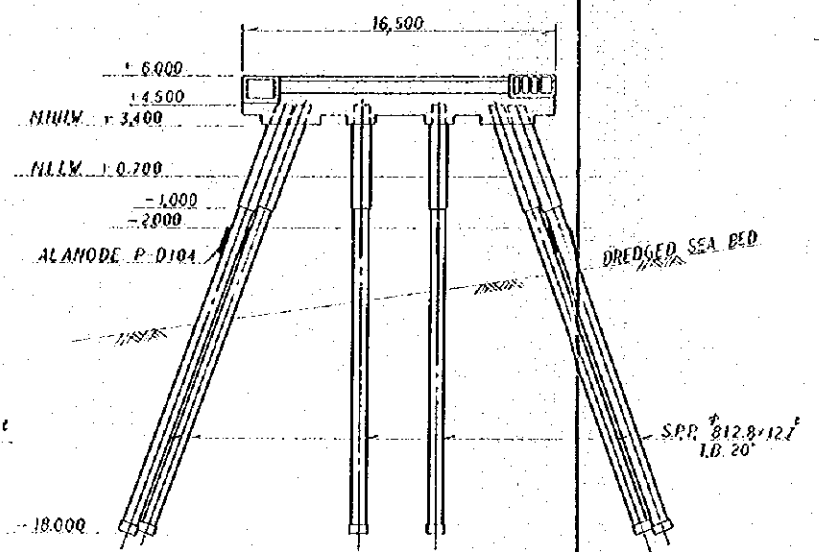
PLAN



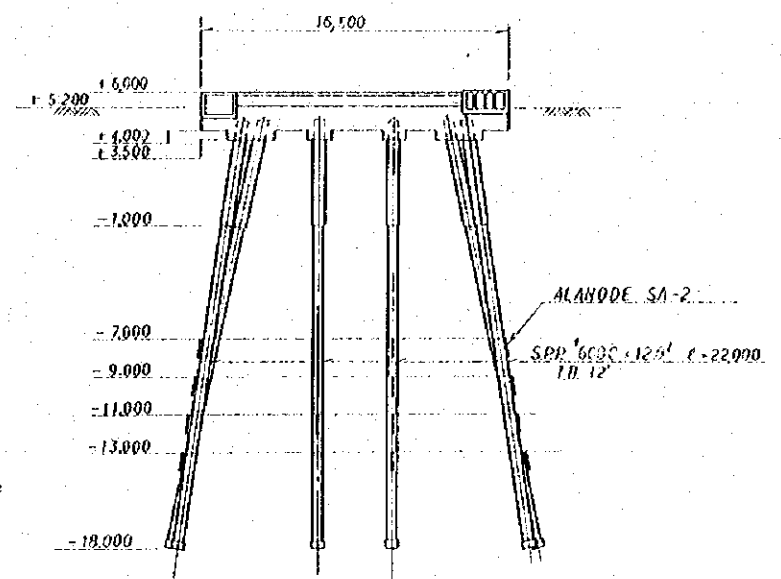
PLAN



SECTION A - A
 AB - 3.4.5



SECTION B - B
 AB - 6.7



SECTION C - C
 AB - 8

PIER OF ACCESS BRIDGE TYPE - 2 SCALE 1:200

NO.	DATE	DESCRIPTION	APPROVED
REVISION			

PORT MUHAMMAD-BIN-QASIM PROJECT
 PAKISTAN

- IRON ORE & COAL BERTH -
 CATHODIC PROTECTION

INSTALLATION OF
 GALVANIC ANODE
 (3)

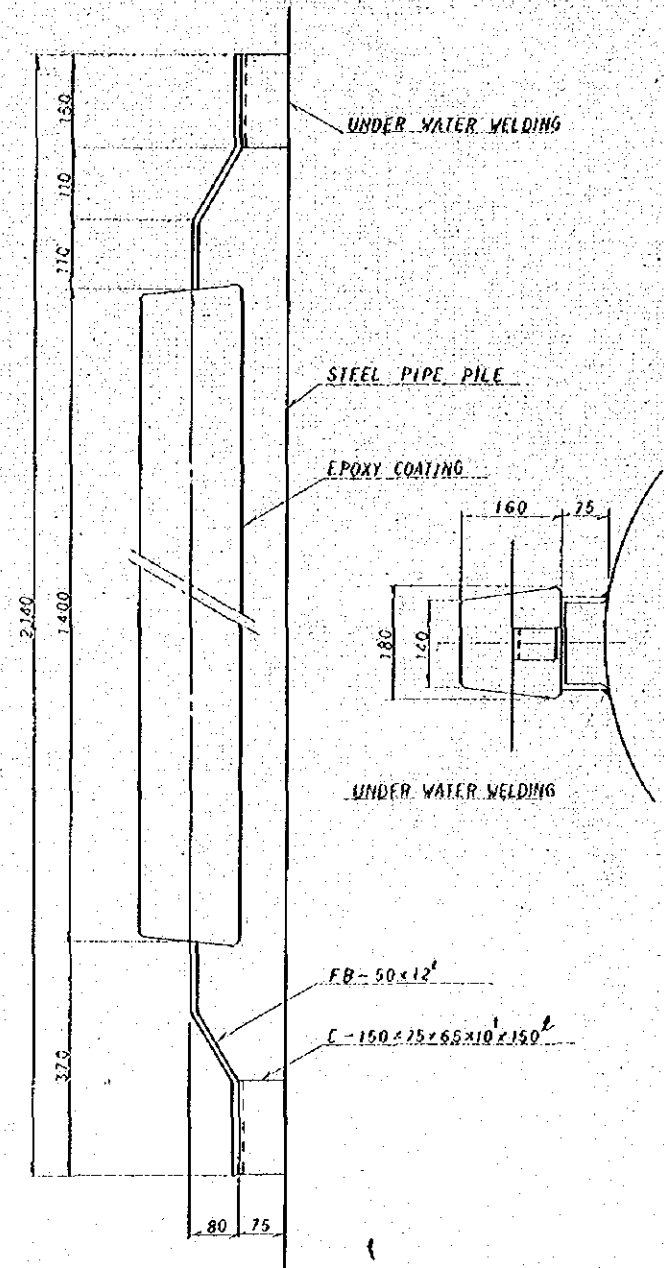
JAPAN INTERNATIONAL COOPERATION AGENCY

CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
1 : 200			
DATE OCT. 1975		DWG. NO. B - 28	

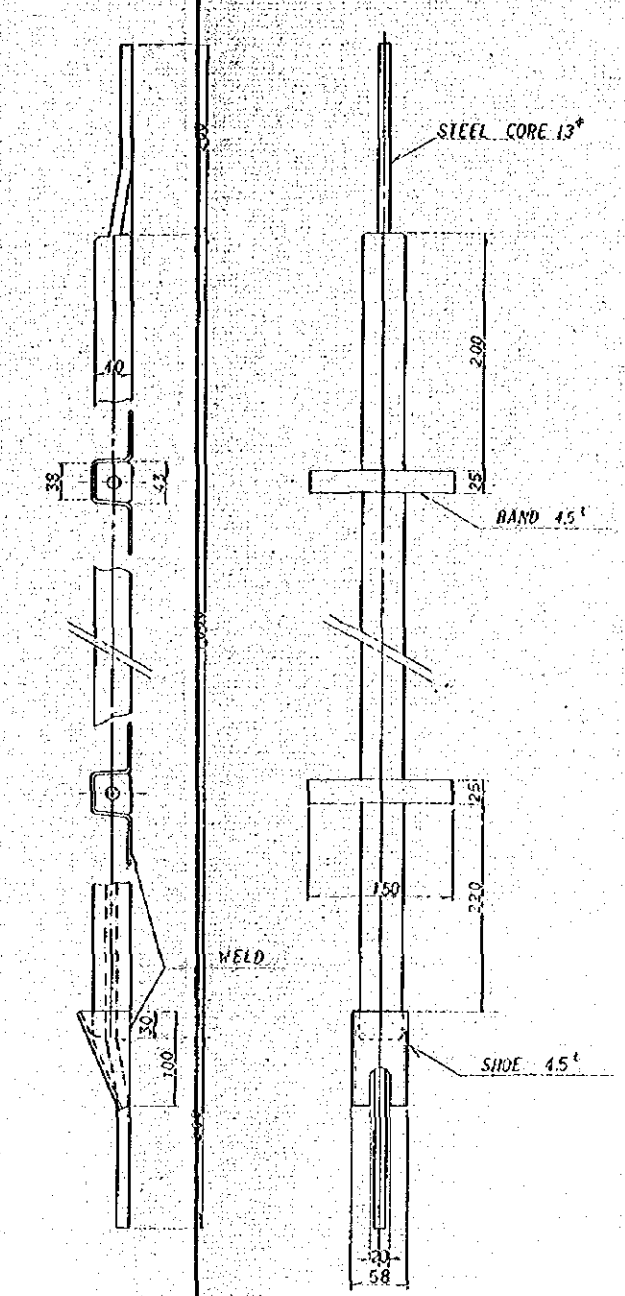
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

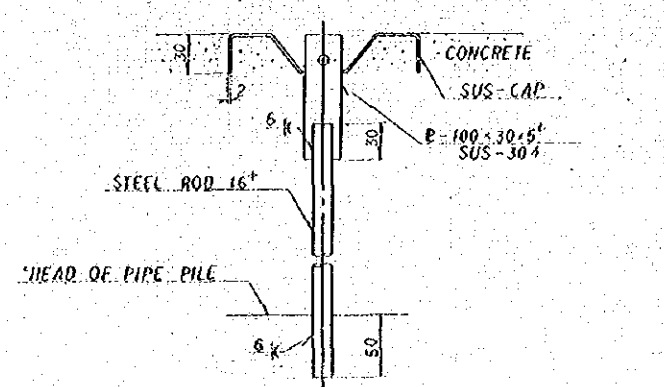
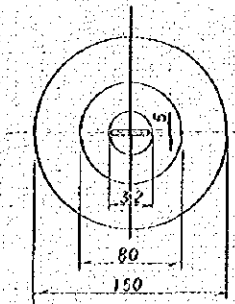
A B C D E F G H I J K



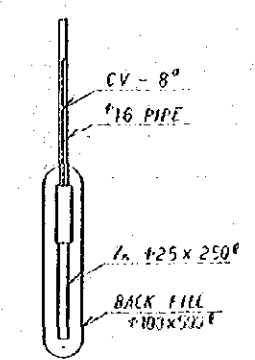
TYPE ANODE P-D104 Scale 1:10



TYPE ANODE SA-2 Scale 1:4
(AB-8 ONLY)



POTENTIAL MEASURING TERMINAL
TYPE MT-150 Scale 1:3



Zn REFERENCE ELECTRODE Scale 1:10
(AB-8 ONLY)

INSTALLATION OF GALVANIC ANODE

GENERAL NOTES

NO.	DATE	DESCRIPTION	APPROVED
REVISION			
PORT MUHAMMAD-BIN-QASIM PROJECT PAKISTAN			
IRON ORE & COAL BERTH- CATHODIC PROTECTION DETAIL OF GALVANIC ANODE			
JAPAN INTERNATIONAL COOPERATION AGENCY			
CONSULTANTS			
APPROVED	CHECKED	DESIGNED	DRAWING
SCALE		REV. NO.	
1:3 1:4 1:10			
DATE OCT. 1975		DWG. NO. B-25	

