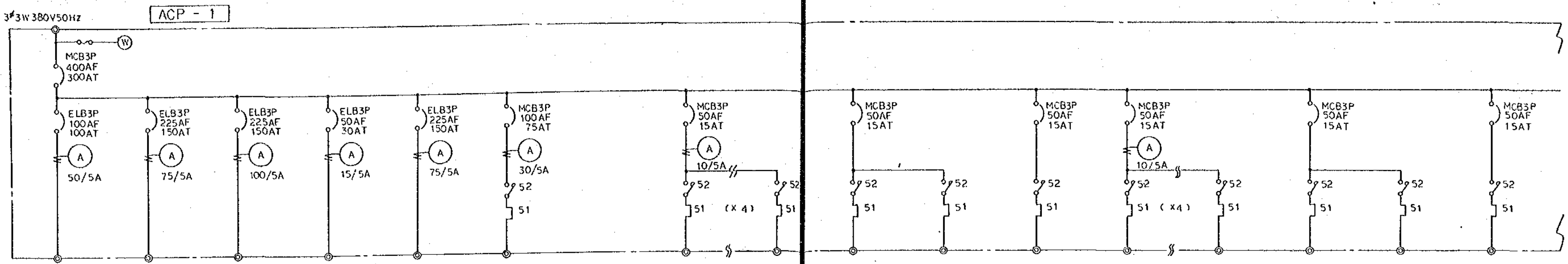
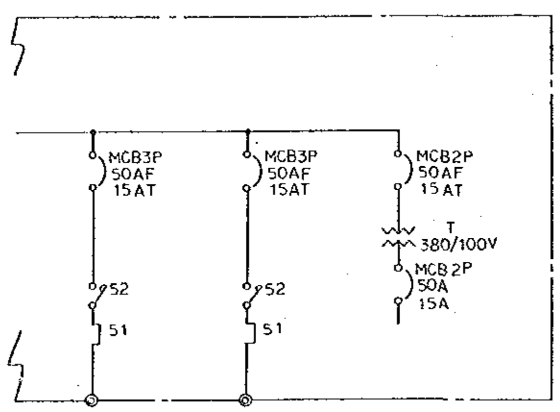
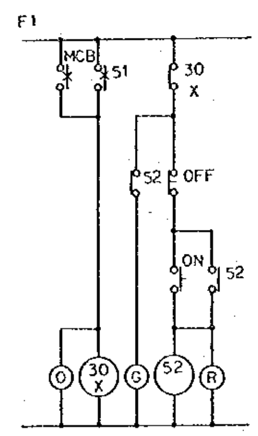
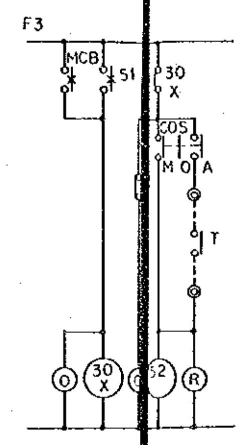


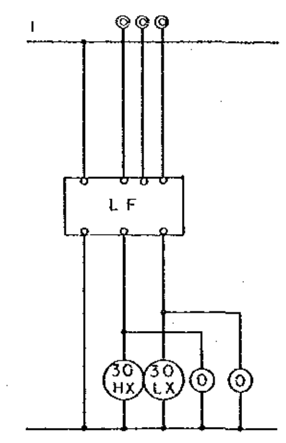
SYMBOL	PAC - 1			PAC - 2		RAF - 1		OF - 1	OF - 2	OF - 3	PF - 1	PF - 2	PF - 3	
CAPACITY(KW)	15	28.65	36.25	55	28.65	15		0.4 x 4	0.1 x 2	0.025	0.4 x 4	0.1 x 2	0.1	
CIRCUIT DIAGRAM						F 1		F 1 (x 4)	F 1 (x 2)	F 1	F 1 (x 4)	F 1 (x 2)	F 3	

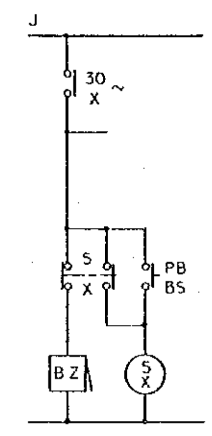


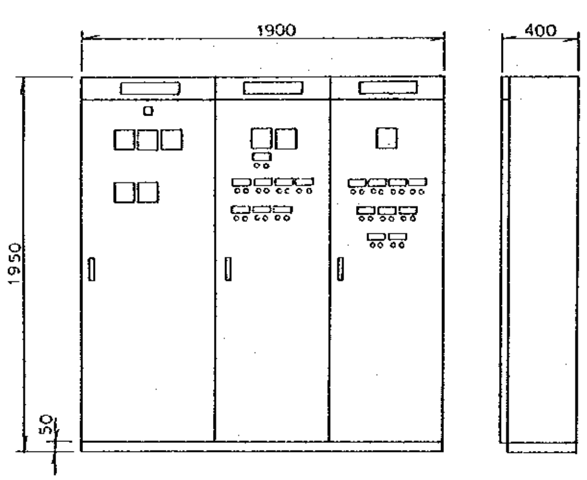
SYMBOL	PF - 4	PF - 5		
CAPACITY(KW)	0.05	0.025		
CIRCUIT DIAGRAM	F 1	F 1	I.J	











ACP - 1

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

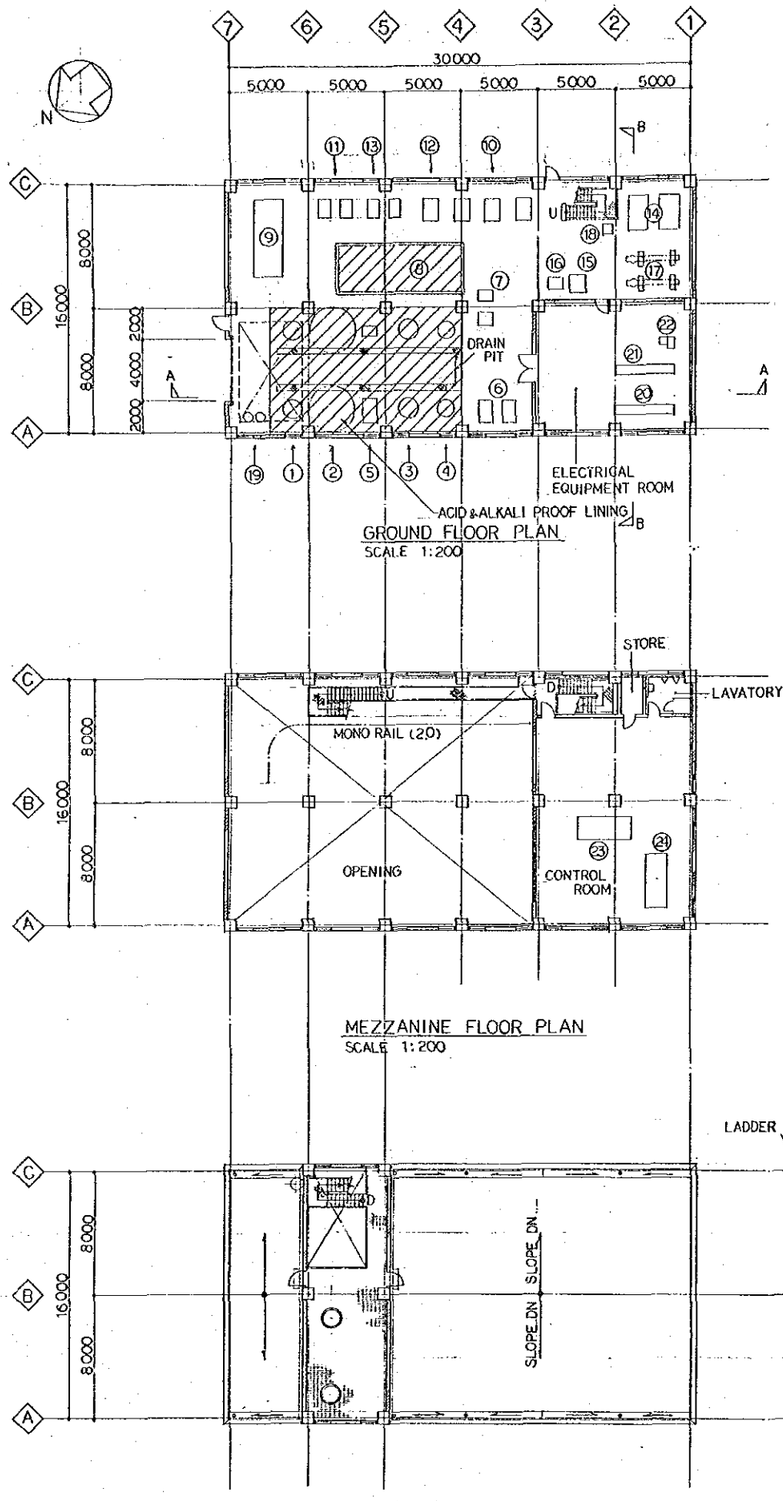
UNITS NO.1 AND NO.2

ADMINISTRATION BUILDING
AUTOMATIC CONTROL & SECONDARY WIRING
SECONDARY WIRING DIAGRAM

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
DRAWING NO. WAT-1534		SCALE not to scale	DATE DEC 1989

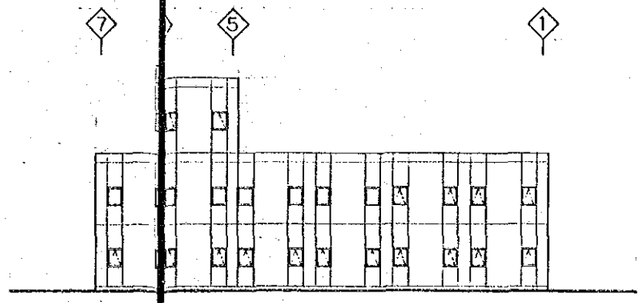


GROUND FLOOR PLAN
SCALE 1:200

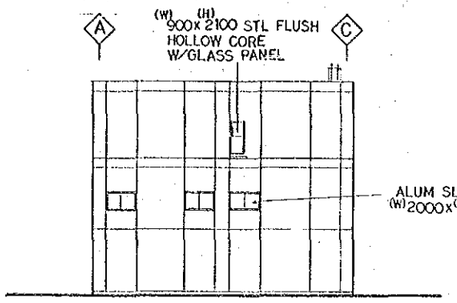
MEZZANINE FLOOR PLAN
SCALE 1:200

1ST FLOOR & ROOF PLAN
SCALE 1:200

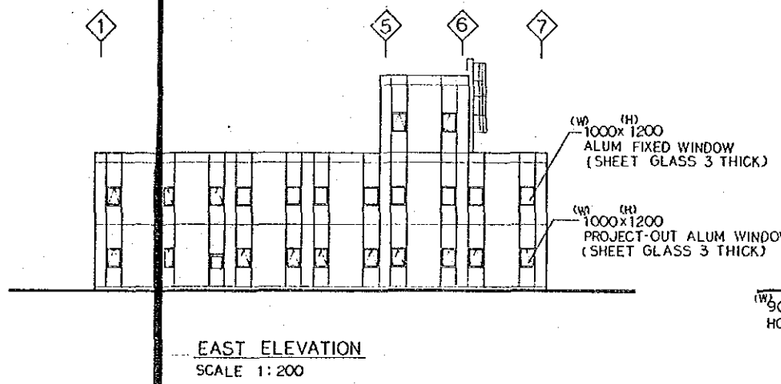
TOP ROOF PLAN
SCALE 1:200



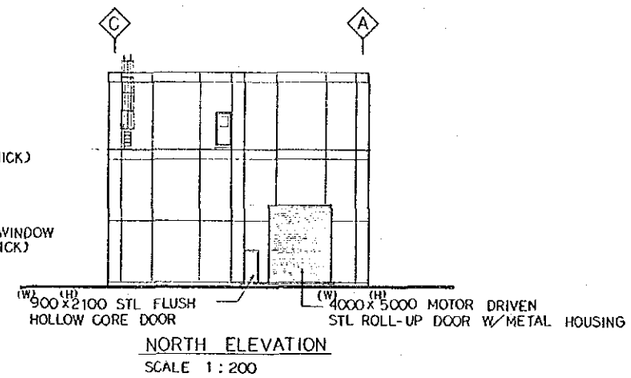
WEST ELEVATION
SCALE 1:200



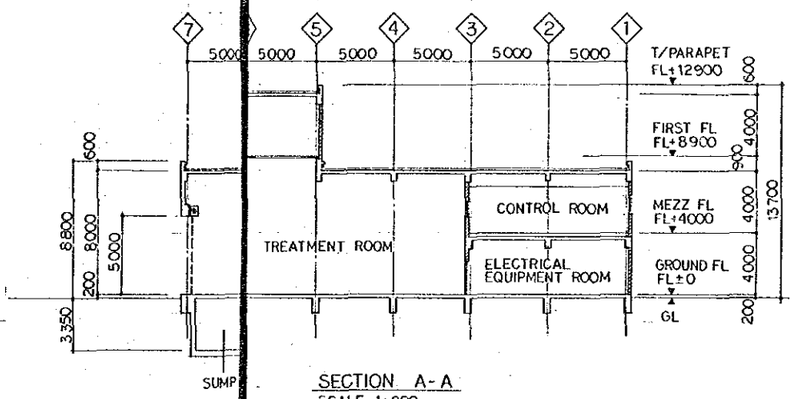
SOUTH ELEVATION
SCALE 1:200



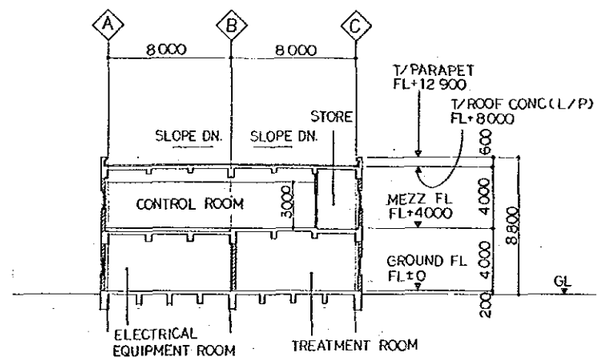
EAST ELEVATION
SCALE 1:200



NORTH ELEVATION
SCALE 1:200



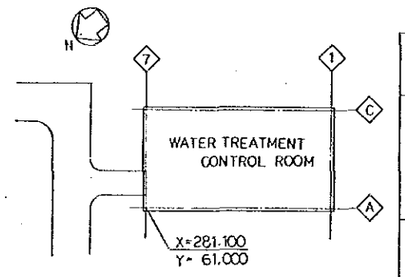
SECTION A-A
SCALE 1:200



SECTION B-B
SCALE 1:200

EQUIPMENT LIST

NO.	ITEM	TON	NO.	ITEM	TON
①	CATION TOWER	3.0	⑭	AIR COMPRESSOR	2.0
②	DEGASSING TOWER	1.5	⑮	AIR RECEIVER	0.5
③	ANION TOWER	3.5	⑯	AIR DRYER	0.2
④	MIXED-BED TOWER	2.5	⑰	AFTER COOLER	0.4
⑤	BOOSTER P	0.2/E	⑱	CONTROL PANEL	0.3
⑥	VACUUM P	1.2/E	⑲	SUMP P	0.5/E
⑦	MIXING BLO	0.2/E	⑳	PLANT WTR TREAT. C/C	4.0
⑧	CHEM INJ EQUIP	4.2	㉑	WASTE WTR TREAT. C/C	4.0
⑨	FRESH WTR FIRE	5.0	㉒	LIGHTING & MISC. D/P	2.0
⑩	DEMI WTR TRANS	0.6/E	㉓	PLANT WTR TREAT CONTROL PANEL	2.0
⑪	WT SUPPLY P	0.3/E	㉔	WASTE WTR TREAT CONTROL PANEL	2.0
⑫	SWP	0.3/E			
⑬	REGENERATION WT	0.2/E			

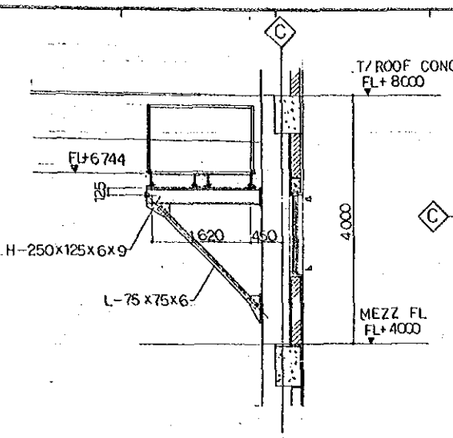


KEY PLAN
SCALE 1:500

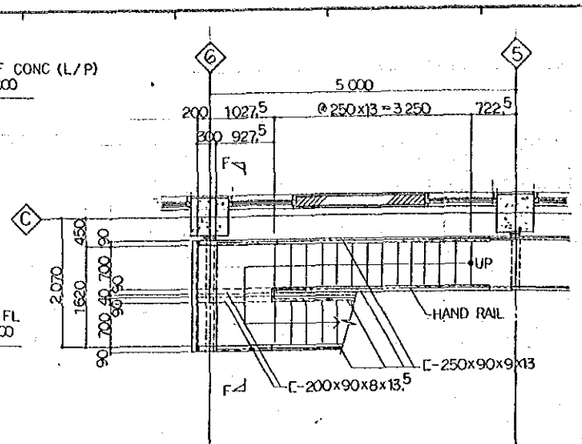
GRAPHIC SCALE
0 1 5 10m
SCALE 1:200

PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2
AUXILIARY BLDG. & OUTDOOR EQUIP. FOUNDATIONS
WATER TREATMENT CONTROL ROOM
ARCHITECTURAL DRAWING · SHT - 1
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

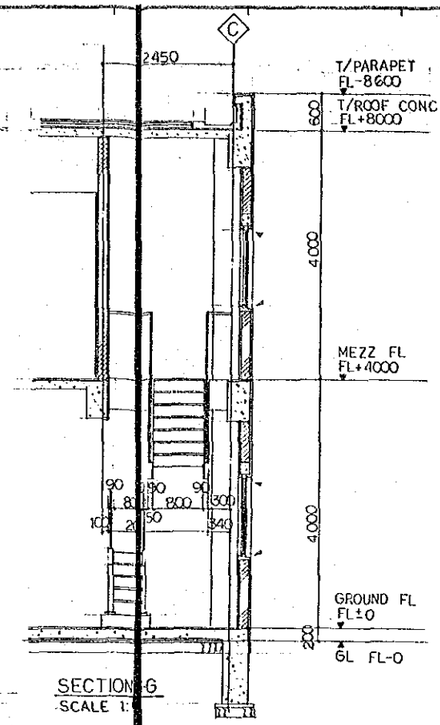
APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	H. Kawa	H. Kawa	H. Ishida
DRAWING NO. WAT-1605		SCALE 1:200	DATE 10. JAN. 1990



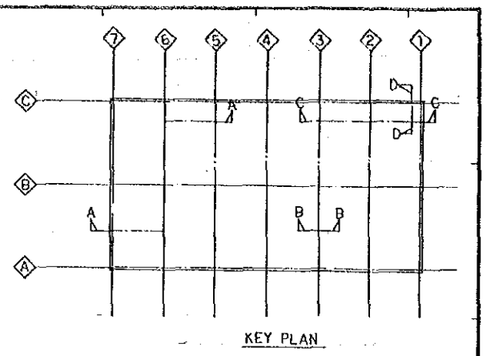
SECTION F-F
SCALE 1:50



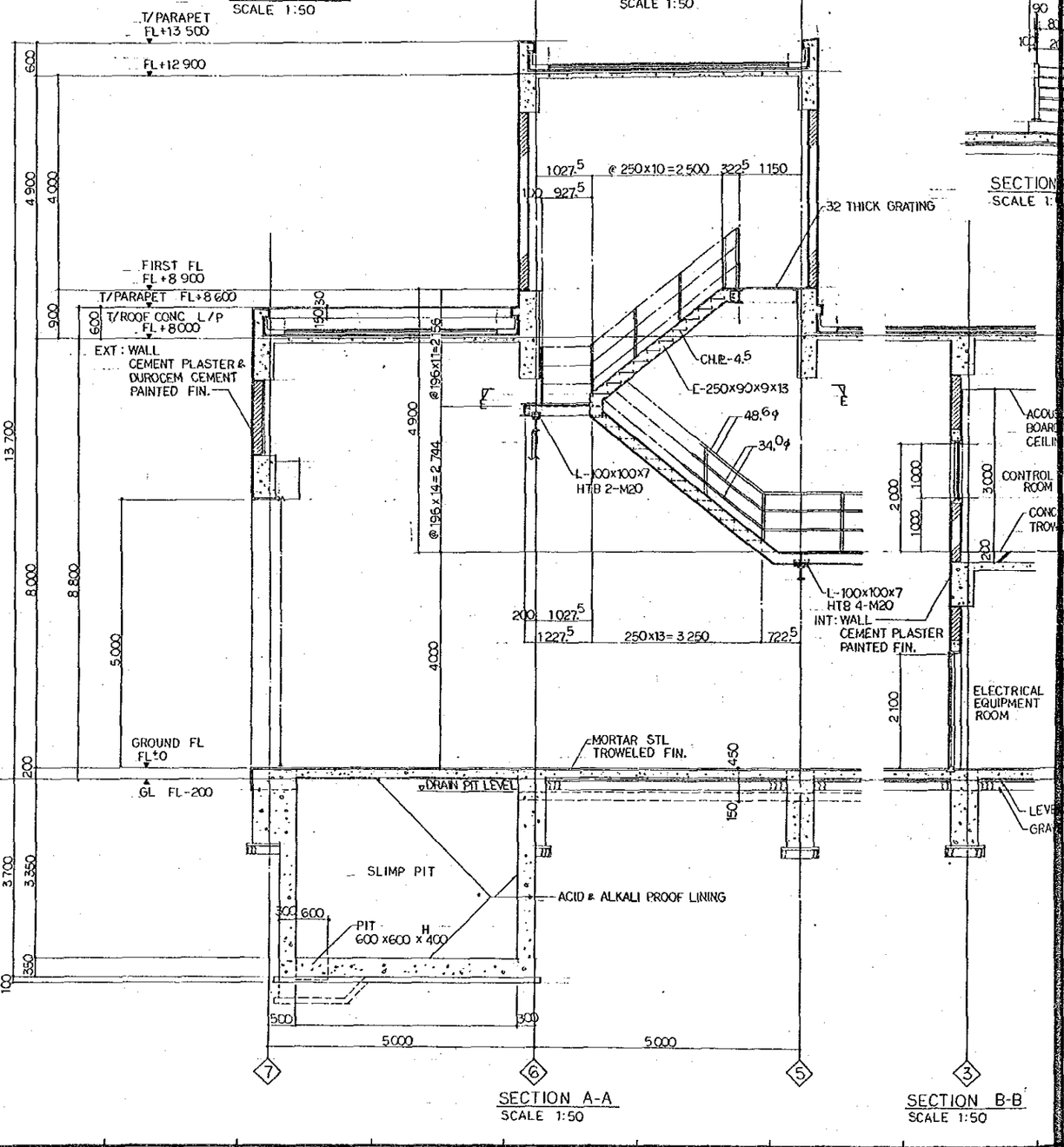
SECTION E-E
SCALE 1:50



SECTION G
SCALE 1:

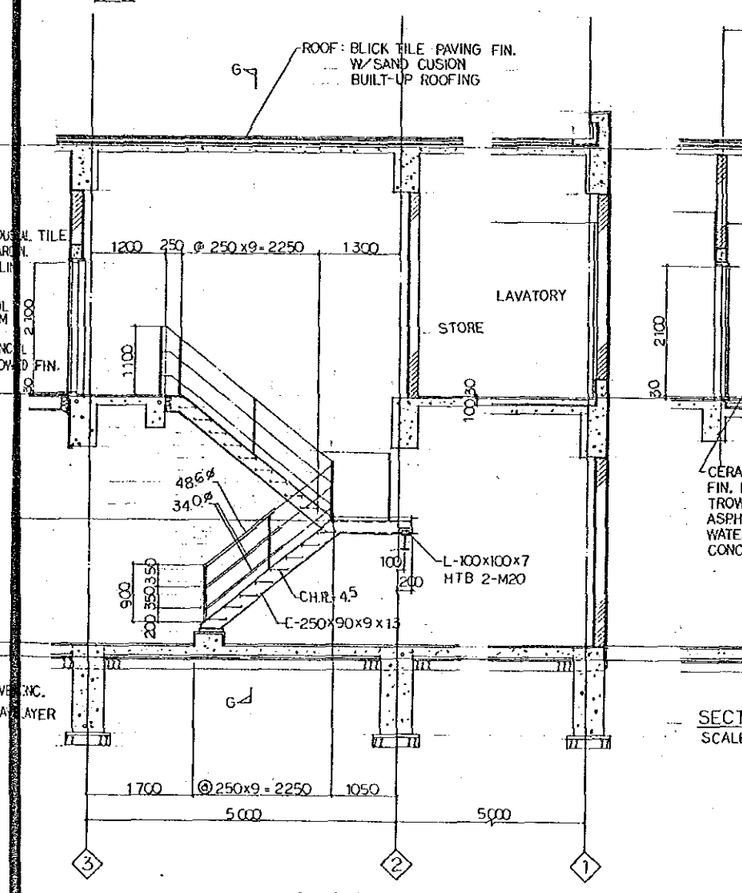


KEY PLAN

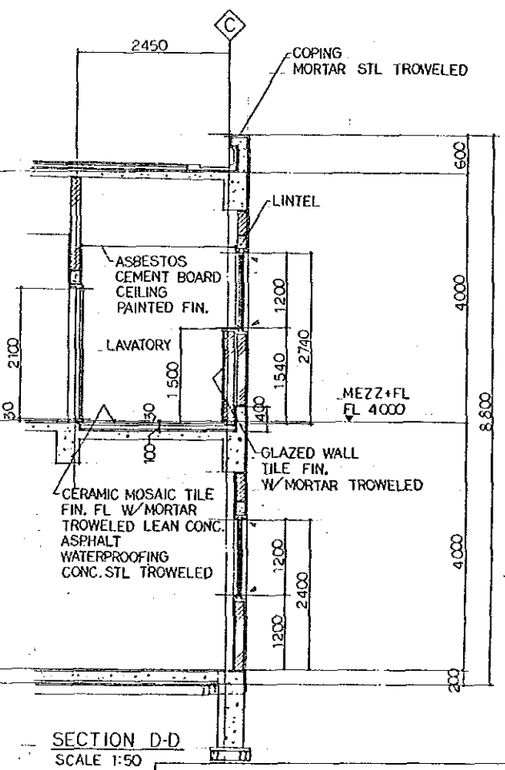


SECTION A-A
SCALE 1:50

SECTION B-B
SCALE 1:50



SECTION C-C
SCALE 1:50



SECTION D-D
SCALE 1:50

GRAPHIC SCALE
0 50 100 250 cm
SCALE 1:50

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

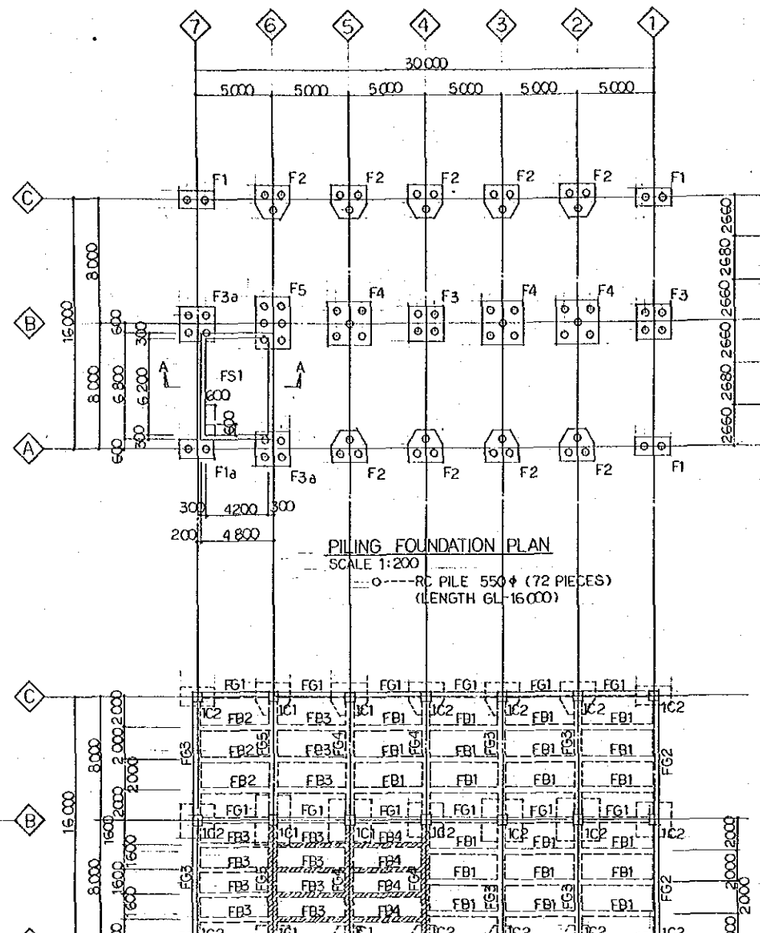
UNITS NO.1 AND NO.2

AUXILIARY BLDG. & OUTDOOR EQUIP. FOUNDATIONS
WATER TREATMENT CONTROL ROOM
ARCHITECTURAL DRAWING SHT-2

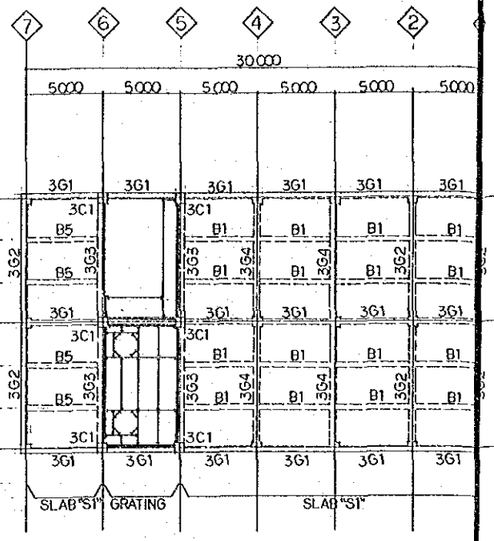
JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

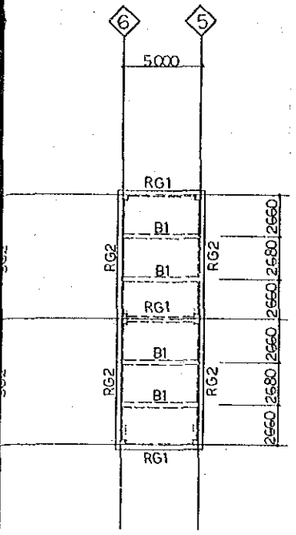
APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
DRAWING NO.	SCALE	DATE	
WAT-1606	1:50	10 JAN. 1990	



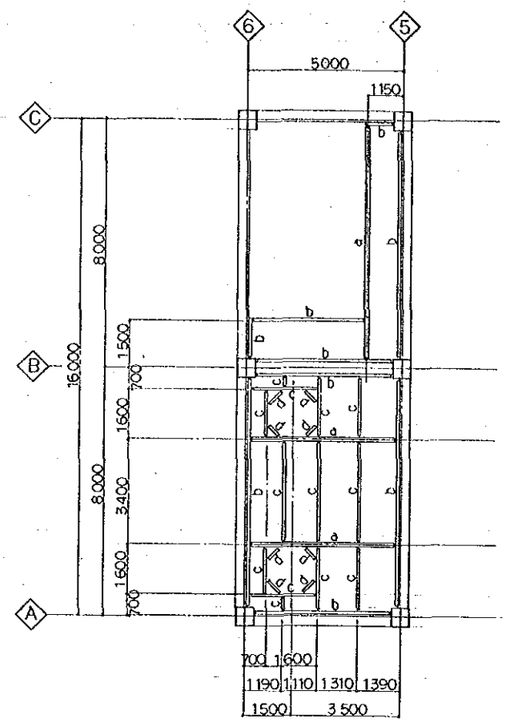
PILING FOUNDATION PLAN
SCALE 1:200
o----RC PILE 550φ (72 PIECES)
(LENGTH GL-16000)



FIRST FLOOR & ROOF FRAMING PLAN
SCALE 1:200

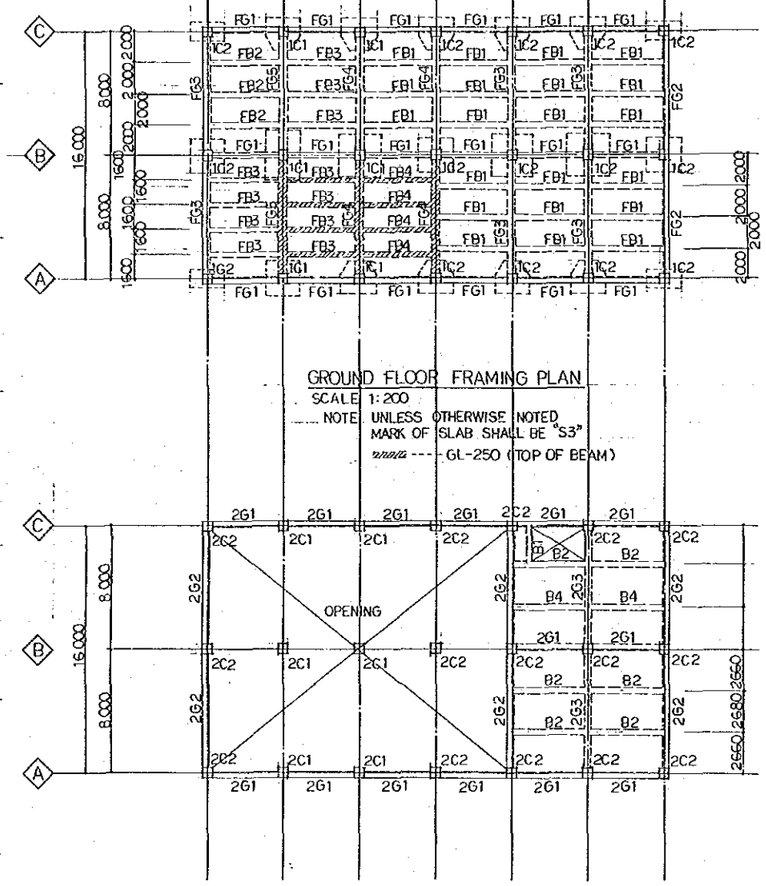


TOP ROOF FRAMING PLAN
SCALE 1:200
NOTE UNLESS OTHERWISE NOTED
MARK OF SLAB SHALL BE "S1"



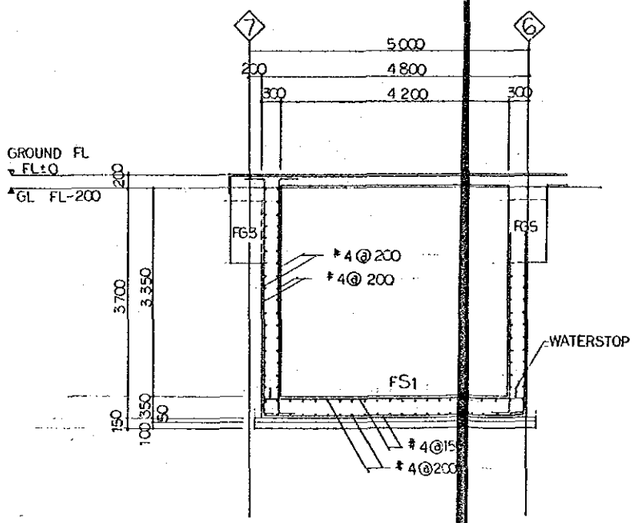
FIRST FLOOR PLAN (EL+8900)
SCALE 1:100

MEMBERS LIST	
MARK	MEMBERS
a	H-250 x 125 x 6 x 9
b	[-250 x 90 x 9 x 13
c	[-125 x 65 x 6 x 8
d	L- 75 x 75 x 6



GROUND FLOOR FRAMING PLAN
SCALE 1:200
NOTE UNLESS OTHERWISE NOTED
MARK OF SLAB SHALL BE "S3"
GL-250 (TOP OF BEAM)

MEZZANINE FLOOR FRAMING PLAN
SCALE 1:200
NOTE. UNLESS OTHERWISE NOTED
MARK OF SLAB SHALL BE "S2"



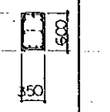
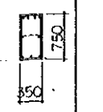
SECTION A-A
SCALE 1:50

GRAPHIC SCALES
0 1 5 10m
SCALE 1:200
0 1 5m
SCALE 1:100
0 50 100 250cm
SCALE 1:50

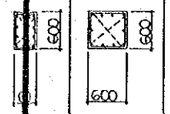
PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2
AUXIARY BLDG. & OUTDOOR EQUIP. FOUNDATIONS
WATER TREATMENT CONTROL ROOM
STRUCTURAL DRAWING SHT - 1
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	H. Kawa	H. Kawa	
DRAWING NO.		SCALE	DATE
WAT-1607		1:200	10 JAN. 1990

GIRDER LIST

MARK	RG1		RG2	
	END	CENTER	END	CENTER
SECTION				
TOP	5-#8	3-#8	4-#8	3-#8
WEB	2-#3		2-#3	
BOTTOM	4-#8	3-#8	3-#8	3-#8
STIRRUP	□#3@150		□#3@200	

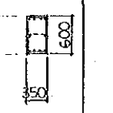
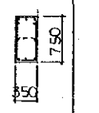
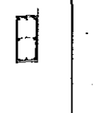
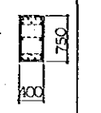
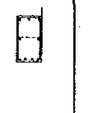
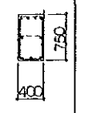
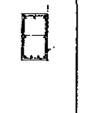
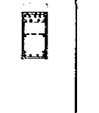
COLUMN LIST

MARK	1C1, 2C1, 3C1	1C2 2C2
	THROUGH	THROUGH
SECTION		
MAIN BAR	#8	10-#8
HOOP	□#3@100	□#3@100
TIE BAR	□#3@600	□#3@600

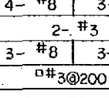
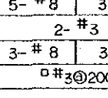
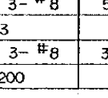
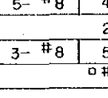
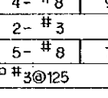
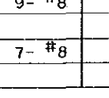
SLAB LIST

MARK	THICKNESS	POSITION	TRANSVERSAL BAR			LONGHITUDINAL BAR		
			END	CENTER	CORNER	END	CENTER	CORNER
S1	120	TOP	#3,#4@200	#3@400	#3@250	#3@250	#3@500	#3@250
		BOTTOM	#3@400	#3@200	#3@250	#3@500	#3@250	#3@250
S2	130	TOP	#3,#4@200	#3@400	#3@250	#3@250	#3@500	#3@250
		BOTTOM	#3@400	#3@200	#3@250	#3@500	#3@250	#3@250
S3	150	TOP	#3,#4@200			#3@200		
		BOTTOM	#3,#4@200			#3@200		
FS1	350	TOP	#4@150			#4@200		
		BOTTOM	#4@150			#4@200		

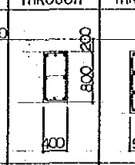
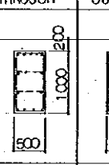
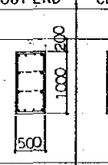
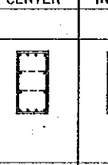
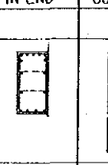
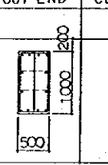
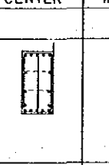
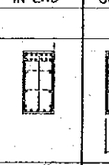
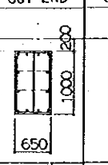
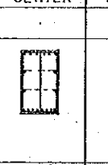
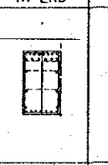
GIRDER LIST

MARK	3G1	3G2		3G3		3G4		
	THROUGH	END	CENTER	END	CENTER	OUT END	CENTER	IN END
SECTION								
TOP	4-#8	5-#8	3-#8	7-#8	3-#8	4-#8	3-#8	9-#8
WEB	2-#3	2-#3		2-#3		2-#3		
BOTTOM	4-#8	3-#8	3-#8	7-#8	4-#8	3-#8	4-#8	6-#8
STIRRUP	□#3@200	□#3@200		□#3@100		□#3@125		

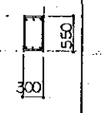
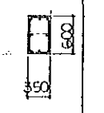
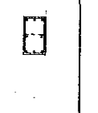
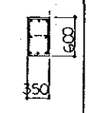
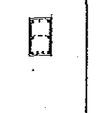
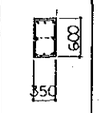
GIRDER LIST

MARK	2G1		2G2		2G3		
	END	CENTER	END	CENTER	OUT END	CENTER	IN END
SECTION							
TOP	4-#8	3-#8	5-#8	3-#8	5-#8	4-#8	9-#8
WEB	2-#3		2-#3		2-#3		
BOTTOM	3-#8	3-#8	3-#8	3-#8	3-#8	5-#8	7-#8
STIRRUP	□#3@200		□#3@200		□#3@125		

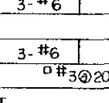
FOUNDATION GIRDER LIST

MARK	FG1	FG2	FG3			FG4			FG5		
	THROUGH	THROUGH	OUT END	CENTER	IN END	OUT END	CENTER	IN END	OUT END	CENTER	IN END
GL FL-200 / SECTION											
TOP	3-#8	5-#8	4-#8	4-#8	7-#8	4-#8	5-#8	12-#8	4-#8	6-#8	14-#8
WEB	2-#3	4-#3	4-#3			4-#3			4-#3		
BOTTOM	3-#8	4-#8	4-#8	4-#8	4-#8	4-#8	7-#8	7-#8	4-#8	8-#8	9-#8
STIRRUP	□#3@150	□#3@125	□#3@125			□#3@90			□#3@70		

BEAM LIST

MARK	B1	B2			B3			B4	
	THROUGH	OUT END	CENTER	IN END	OUT END	CENTER	IN END	END	CENTER
SECTION									
TOP	3-#6	3-#6	3-#6	5-#6	3-#6	3-#6	5-#6	3-#6	3-#6
WEB		2-#3			2-#3			2-#3	
BOTTOM	3-#6	3-#6	3-#6	3-#6	3-#6	4-#6	3-#6	3-#6	4-#6
STIRRUP	□#3@200	□#3@200			□#3@200			□#3@200	

BEAM LIST

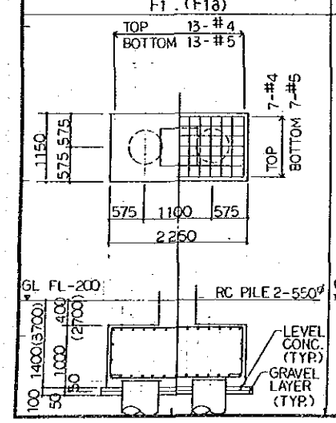
MARK	B5	
	END	CENTER
SECTION		
TOP	3-#6	3-#6
WEB		
BOTTOM	3-#6	4-#6
STIRRUP	□#3@200	

BEAM LIST

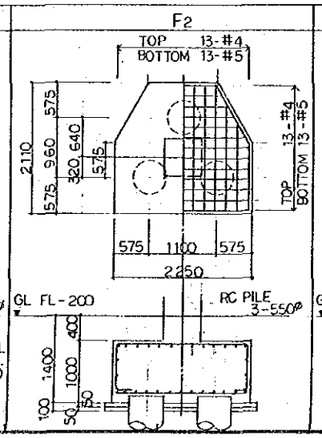
MARK	FB1	FB2			FB3		FB4		
	THROUGH	OUT END	CENTER	IN END	END	CENTER	④ END	CENTER	⑤ END
GL FL-200 / SECTION									
TOP	3-#6	3-#6	3-#6	5-#6	4-#6	3-#6	4-#6	3-#6	7-#6
WEB	2-#3	2-#3			2-#3		2-#3		
BOTTOM	3-#6	3-#6	4-#6	3-#6	3-#6	4-#6	3-#6	5-#6	5-#6
STIRRUP	□#3@200	□#3@200			□#3@200		□#3@125		

FOUNDATION LIST

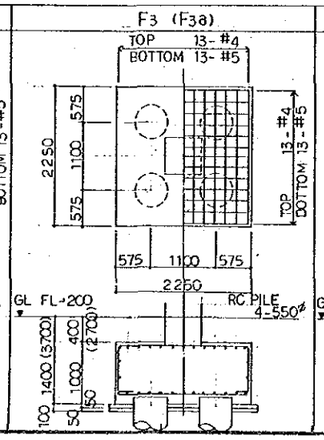
F1 . (F1a)



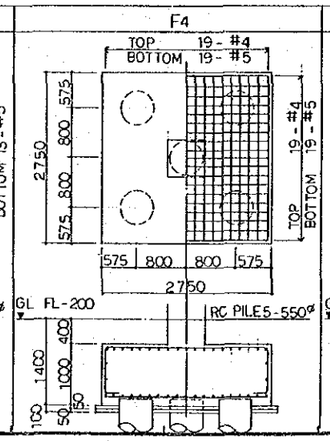
F2



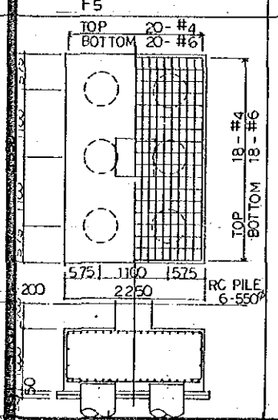
F3 (F3a)



F4

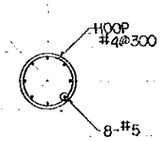


F5



PILE

RC PILE 550ø



GRAPHIC SCALE

0 50 100 250cm

SCALE 1:50

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

AUXILIARY BLDG. & OUTDOOR EQUIP. FOUNDATIONS

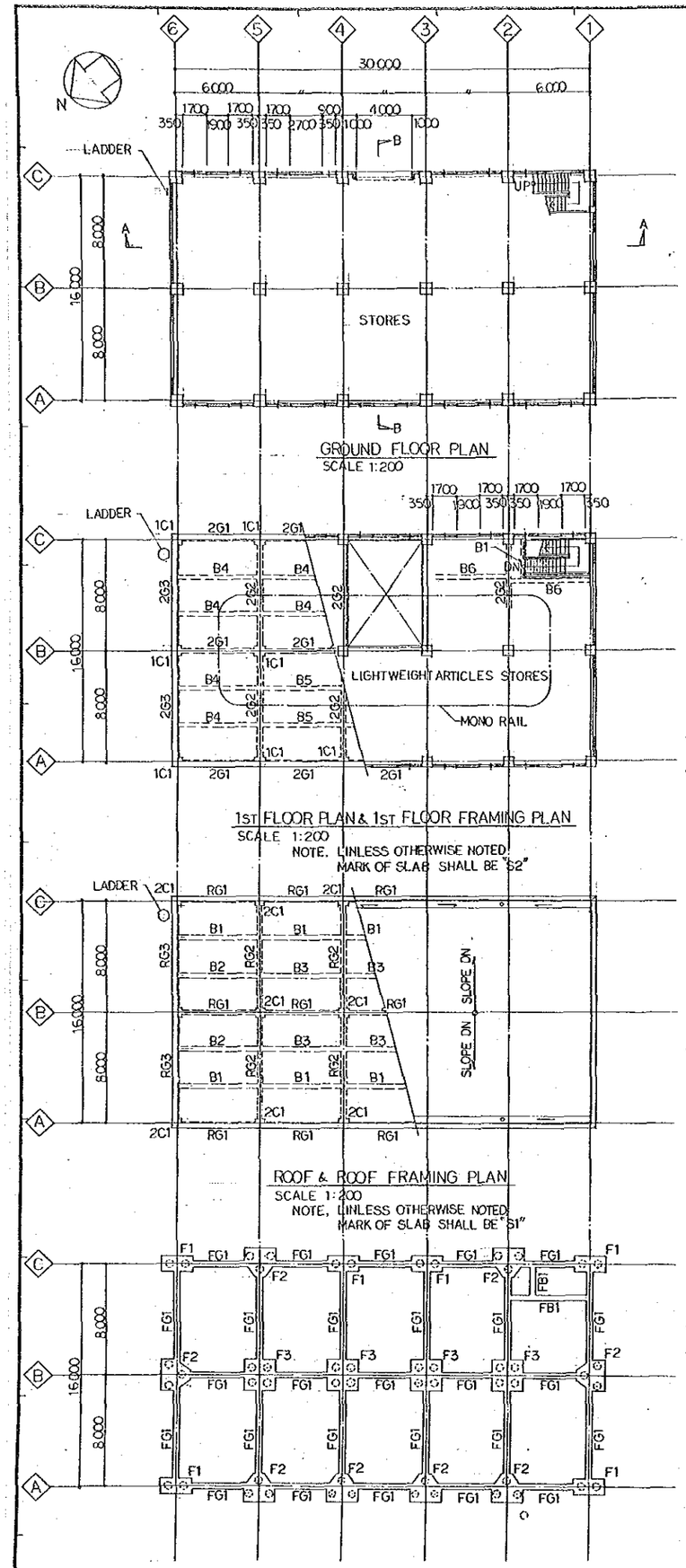
WATER TREATMENT CONTROL ROOM

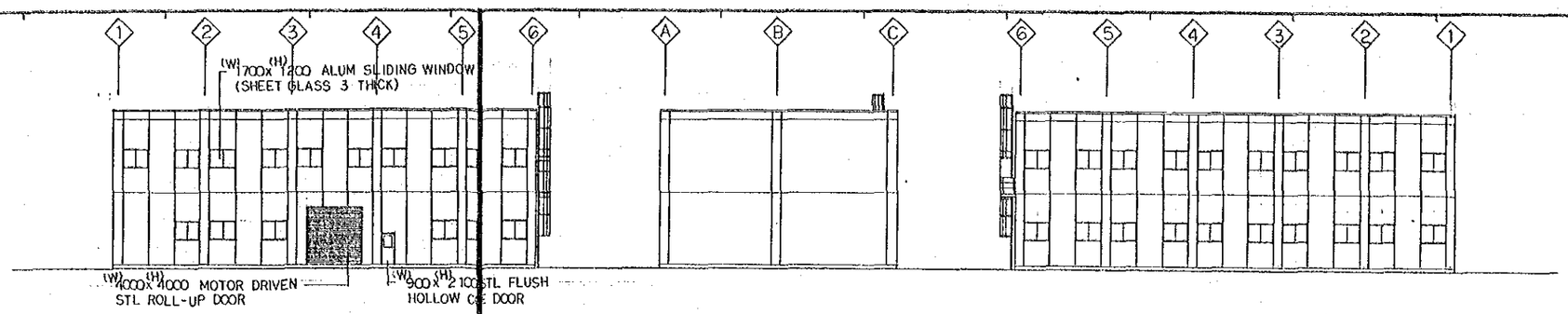
STRUCTURAL DRAWING SHT.-2

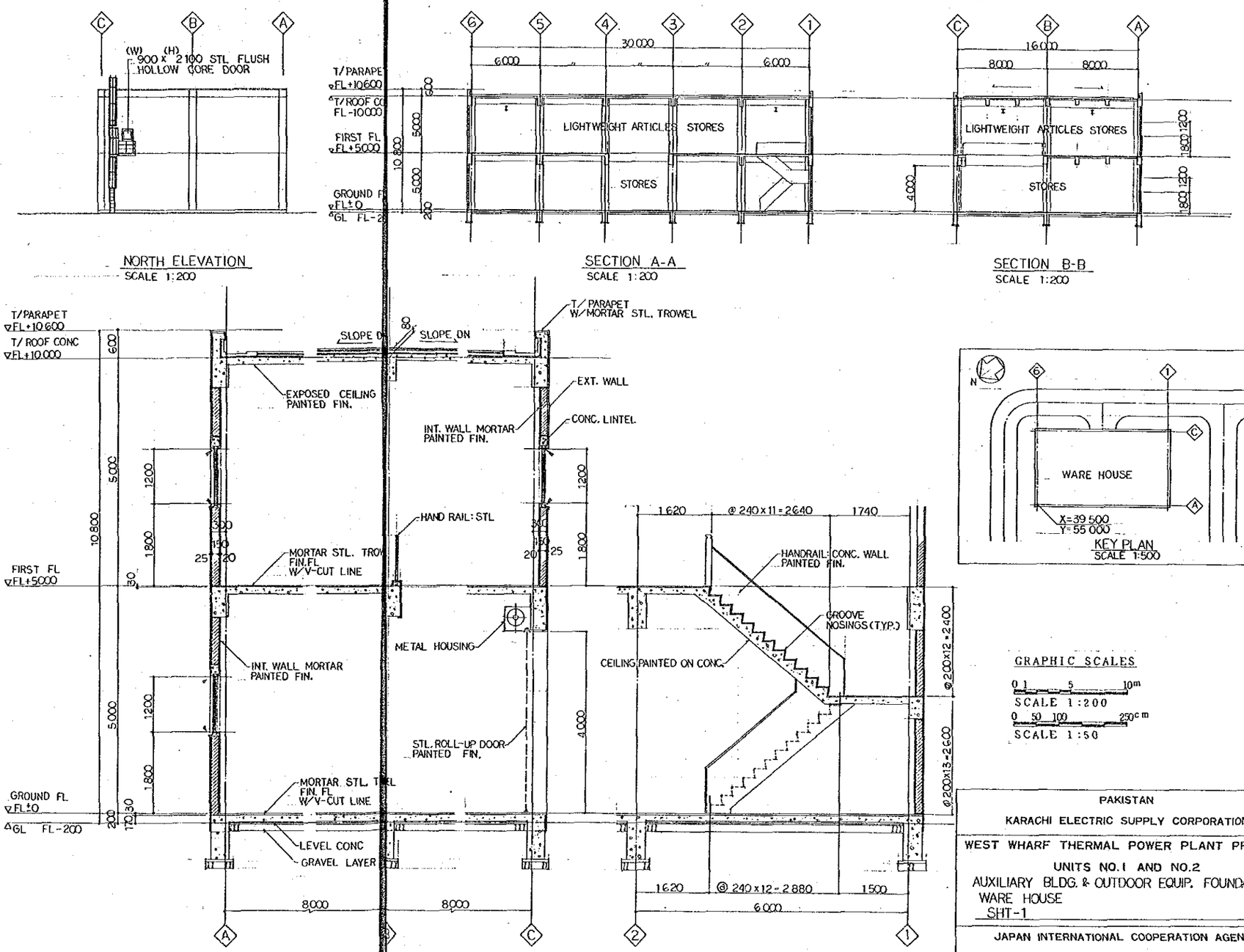
JAPAN INTERNATIONAL COOPERATION AGENCY

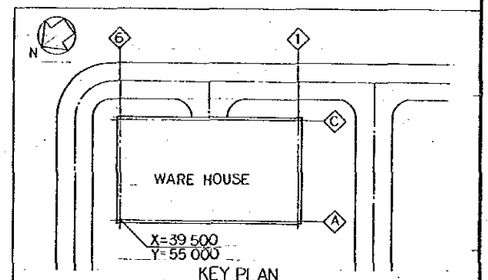
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	Y. Kawa	Y. Kawa	
DRAWING NO		SCALE	DATE
WAT-1608		1:50	10 JAN. 1990









GRAPHIC SCALES

0 1 5 10m
SCALE 1:200

0 50 100 250cm
SCALE 1:50

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

AUXILIARY BLDG. & OUTDOOR EQUIP. FOUNDATIONS

WARE HOUSE

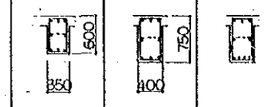
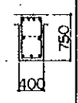
SHT-1

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	H. Kawa	H. Kawa	
DRAWING NO.		SCALE	DATE
WAT-1609		1:200 1:50	10 JAN. 1990

GIRDER LIST

MARK	RG1	RG2			RG3	
	THROUGH	OUT END	CENTER	IN END	END	CENTER
SECTION						
TOP	3-#8	3-#8	3-#8	8-#8	4-#8	3-#8
WEB	2-#3	2-#3			2-#3	
BOTTOM	3-#8	3-#8	4-#8	6-#8	3-#8	3-#8
STIRRUP	□#3@200	□#3@150			□#3@200	

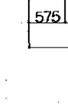
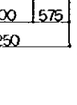
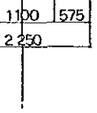
COLUMN LIST

MARK	1C1	2C1	P
	THROUGH	THROUGH	THROUGH
SECTION			
MAIN BAR	8-#8	8-#8	8-#6
HOOP	#3@100	#3@100	#3@100
TIE BAR	#3@600	#3@600	#3@600

SLAB LIST

MARK	THICKNESS	POSITION	TRANSVERSAL BAR			LONGHITUDINAL BAR		
			END	CENTER	CORNER	END	CENTER	CORNER
S1	120	TOP	#3,#4@200	#3@400	#3@250	#3@250	#3@500	#3@250
		BOTTOM	#3@400	#3@200	#3@250	#3@500	#3@250	#3@250
S2	130	TOP	#3,#4@200	#3@400	#3@200	#3@200	#3@400	#3@200
		BOTTOM	#3@400	#3,#4@200	#3@200	#3@400	#3@200	#3@200

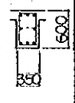
GIRDER LIST

MARK	2G1		2G2			2G3	
	END	CENTER	OUT END	CENTER	IN END	END	CENTER
SECTION							
TOP	4-#8	3-#8	5-#8	4-#8	8-#8	6-#8	3-#8
WEB	2-#3		4-#3			4-#3	
BOTTOM	3-#8	3-#8	3-#8	4-#8	6-#8	3-#8	3-#8
STIRRUP	□#3@200		□#3@150			□#3@150	

FOUNDATION GIRDER LIST

MARK	FG1	FB1	
	THROUGH	END	CENTER
SECTION			
TOP	3-#8	3-#6	3-#6
WEB	2-#3	2-#3	
BOTTOM	3-#8	3-#6	4-#6
STIRRUP	□#3@150	□#3@200	

BEAM LIST

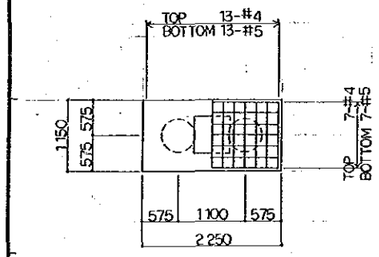
MARK	B1	B2			B3		B4		
	THROUGH	OUT END	CENTER	IN END	END	CENTER	OUT END	CENTER	IN END
SECTION									
TOP	3-#6	3-#6	3-#6	4-#6	4-#6	3-#6	3-#6	3-#6	5-#6
WEB							2-#3		
BOTTOM	3-#6	3-#6	4-#6	3-#6	3-#6	3-#6	3-#6	4-#6	3-#6
STIRRUP	□#3@200	□#3@200			□#3@200		□#3@200		

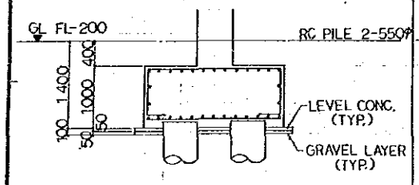
BEAM LIST

MARK	B5		B6		
	END	CENTER	OUT END	CENTER	IN END
SECTION					
TOP	4-#6	3-#6	3-#6	3-#6	6-#6
WEB	2-#3		2-#3		
BOTTOM	3-#6	3-#6	3-#6	4-#6	3-#6
STIRRUP	□#3@200		□#3@200		

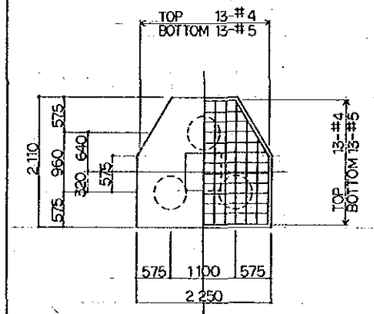
FOUNDATION LIST

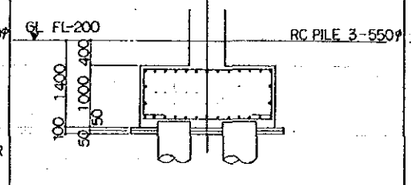
F1



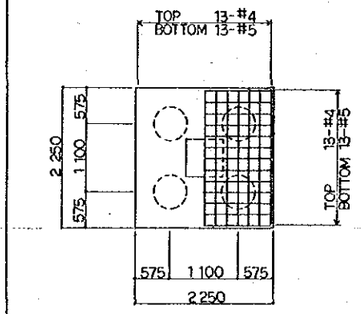


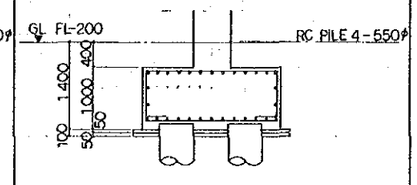
F2





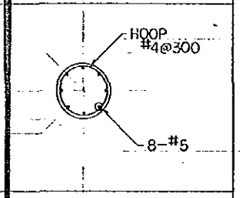
F3





PILE

RC PILE 550φ



GRAPHIC SCALE

0 50 100 250cm

SCALE 1:50

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

AUXILIARY BLDG. & OUTDOOR EQUIP. FOUNDATIONS

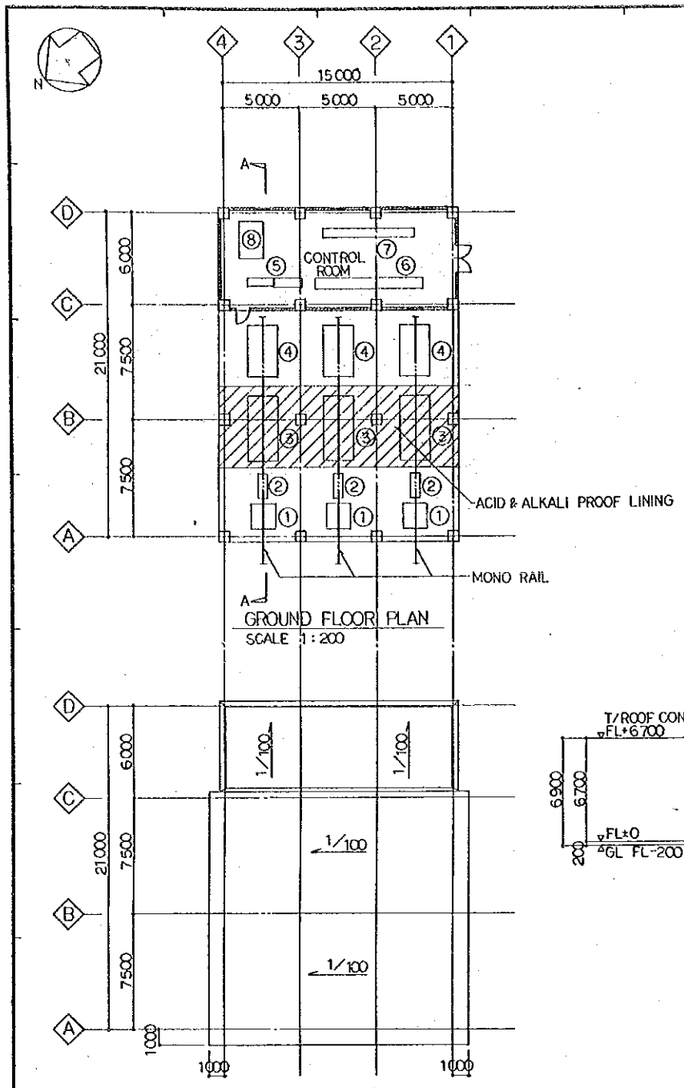
WARE HOUSE

SHT-2

JAPAN INTERNATIONAL COOPERATION AGENCY

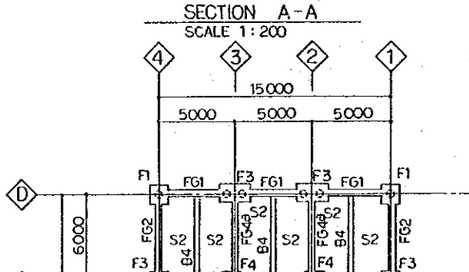
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
DRAWING NO.	SCALE	DATE	
WAT-1610	1:50	10 JAN. 1990	

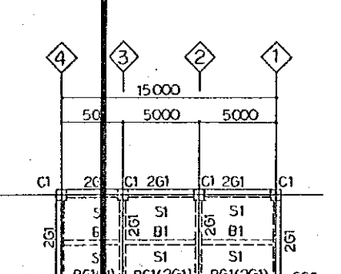


GROUND FLOOR PLAN
SCALE 1:200

ROOF PLAN
SCALE 1:200



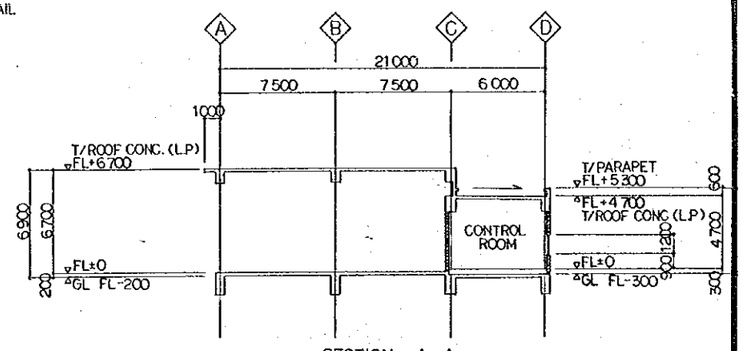
SOUTH ELEVATION
SCALE 1:200



EAST ELEVATION
SCALE 1:200

NORTH ELEVATION
SCALE 1:200

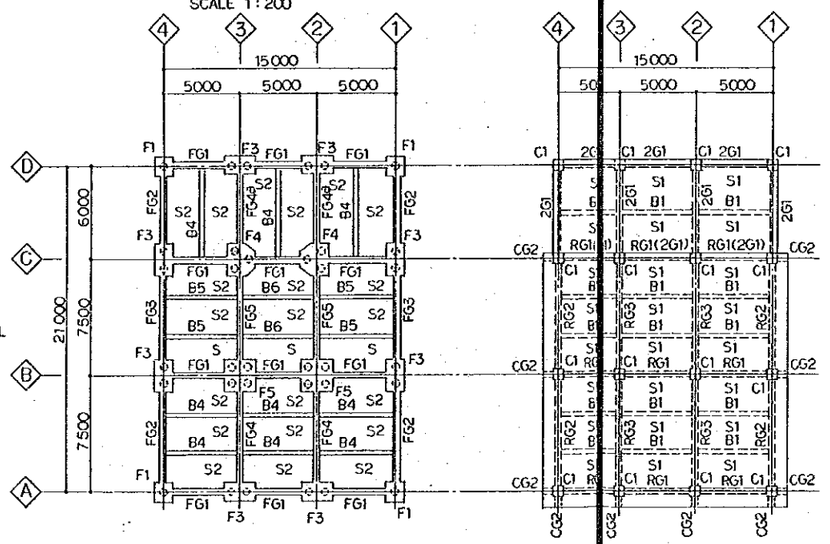
WEST ELEVATION
SCALE 1:200



SECTION A-A
SCALE 1:200

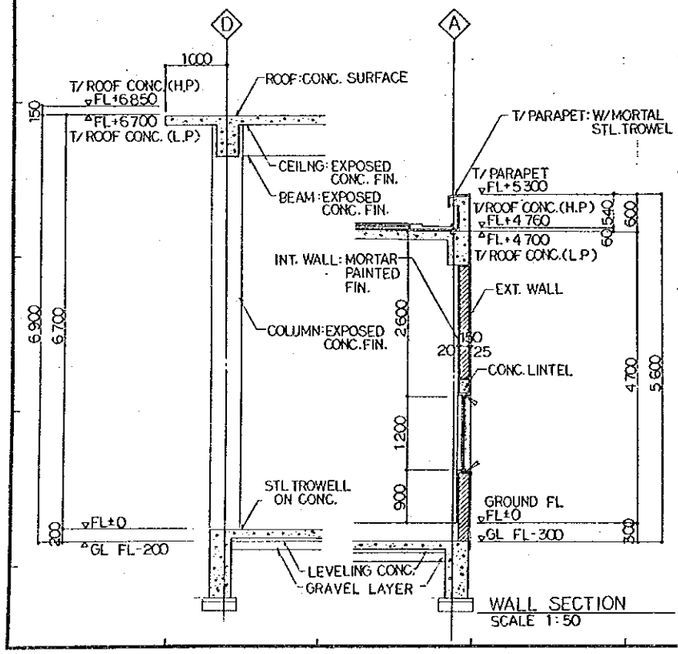
EQUIPMENT LIST

NO.	ITEM	TON
①	DE-GAS TANK AND BLOWER	1.0/E
②	INJECTION PUMP	0.3/E
③	GENERATOR	1.5/E
④	OIL-IMMERSED POWER SUPPLY	8.0/E
⑤	CHLO. CONTROL PANEL	
⑥	NO.1,2 SCREEN CONTROL PANEL	
⑦	NO.1,2 SCREEN AND CHLO. C/C	
⑧	6KV M/C	



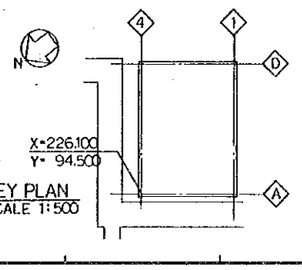
PILE & FOUNDATION PLAN
SCALE 1:200
○---RC PILE 450$^{\phi}$ (34 PIECES)
(LENGTH GL-16000)

ROOF FRAMING PLAN
SCALE 1:200



WALL SECTION
SCALE 1:50

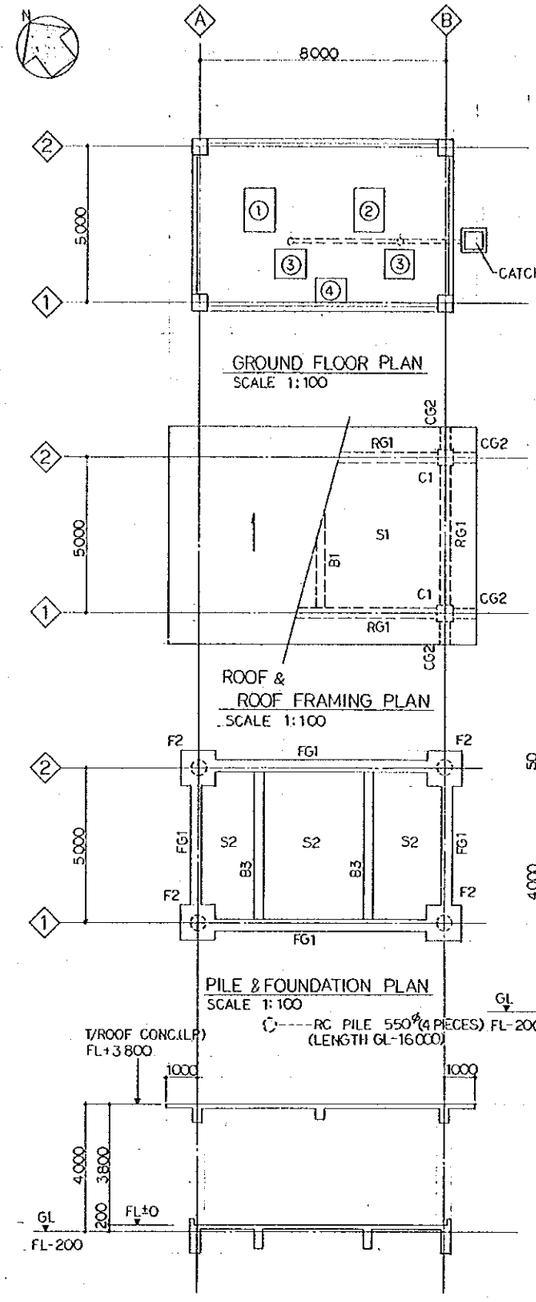
CHLORINATION EQUIPMENT AREA



KEY PLAN
SCALE 1:500

EQUIPMENT LIST

NO.	ITEM	TON
①	NO.1 R.O. TRANSFER P	1.2
②	NO 2 R.O. TRANSFER P	1.2
③	R.O. STRAINER	1.9/E
④	AIR CHAMBER	1.0

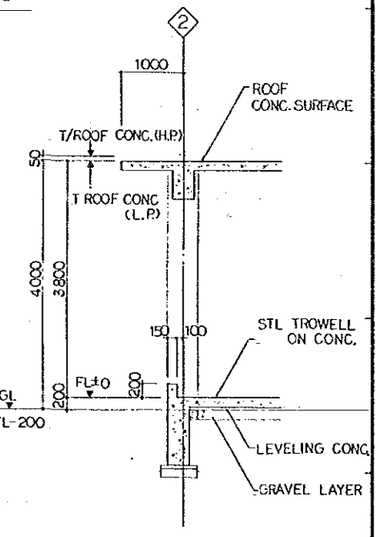


GROUND FLOOR PLAN
SCALE 1:100

ROOF & ROOF FRAMING PLAN
SCALE 1:100

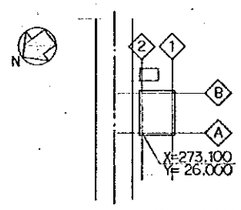
PILE & FOUNDATION PLAN
SCALE 1:100
○---RC PILE 550$^{\phi}$ (4 PIECES)
(LENGTH GL-16000)

SECTION A-A
SCALE 1:100



WALL SECTION
SCALE 1:50

FUEL OIL TRANSFER PUMP AREA



KEY PLAN
SCALE 1:500

GRAPHIC SCALES

0 1 5 10m
SCALE 1:200

0 1 5m
SCALE 1:100

0 50 100 250cm
SCALE 1:50

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

AUXIARY BLDG. & OUTDOOR EQUIP. FOUNDATIONS
CHLORINATION EQUIP. AREA &
FUEL OIL TRANSFER PUMP AREA

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

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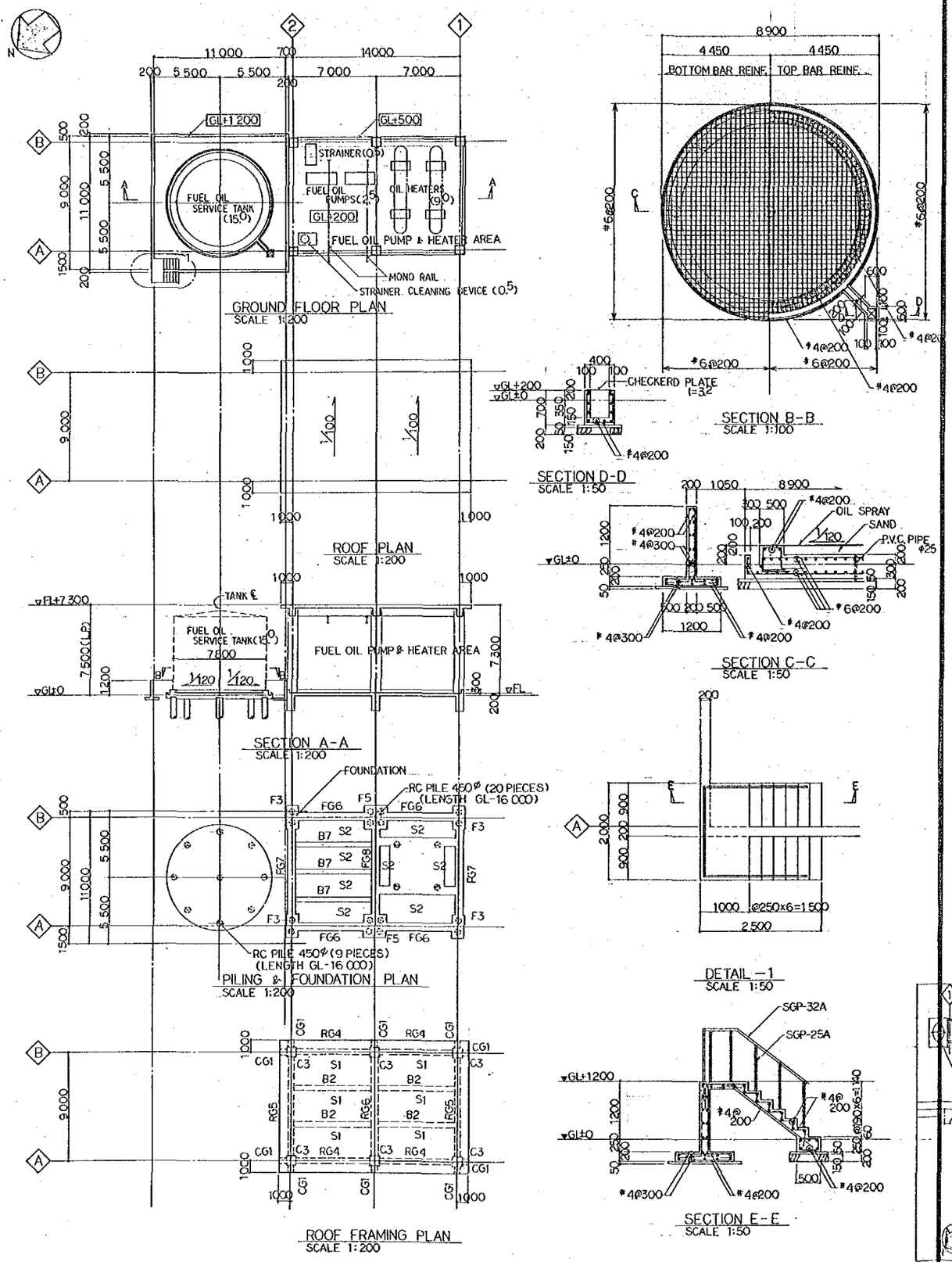
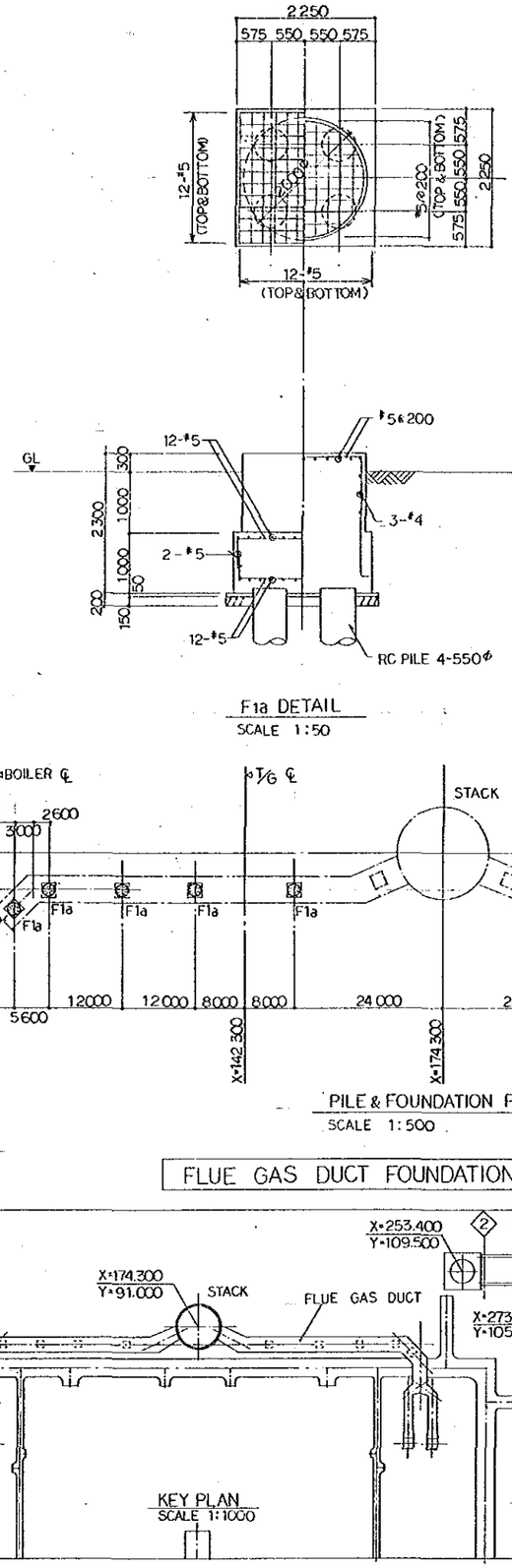
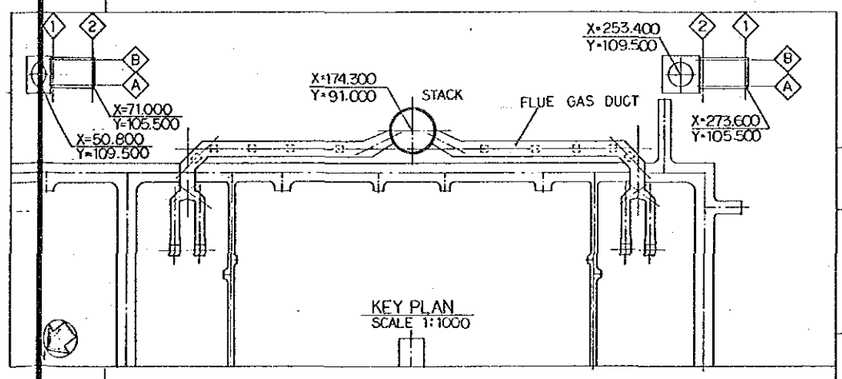
DRAWING NO	SCALE	DATE	
WAT-1611	1:200	10 JAN. 1990	



FUEL OIL PUMP, HEATER AREA & SERVICE TANK



FLUE GAS DUCT FOUNDATION



GRAPHIC SCALES

SCALE 1:500

SCALE 1:200

SCALE 1:100

SCALE 1:50

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

AUXIARY BLDG. & OUTDOOR EQUIP. FOUNDATION
FUEL OIL PUMP, HEATER AREA & SERVICE TANK
FLUE GAS DUCT FOUNDATION

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

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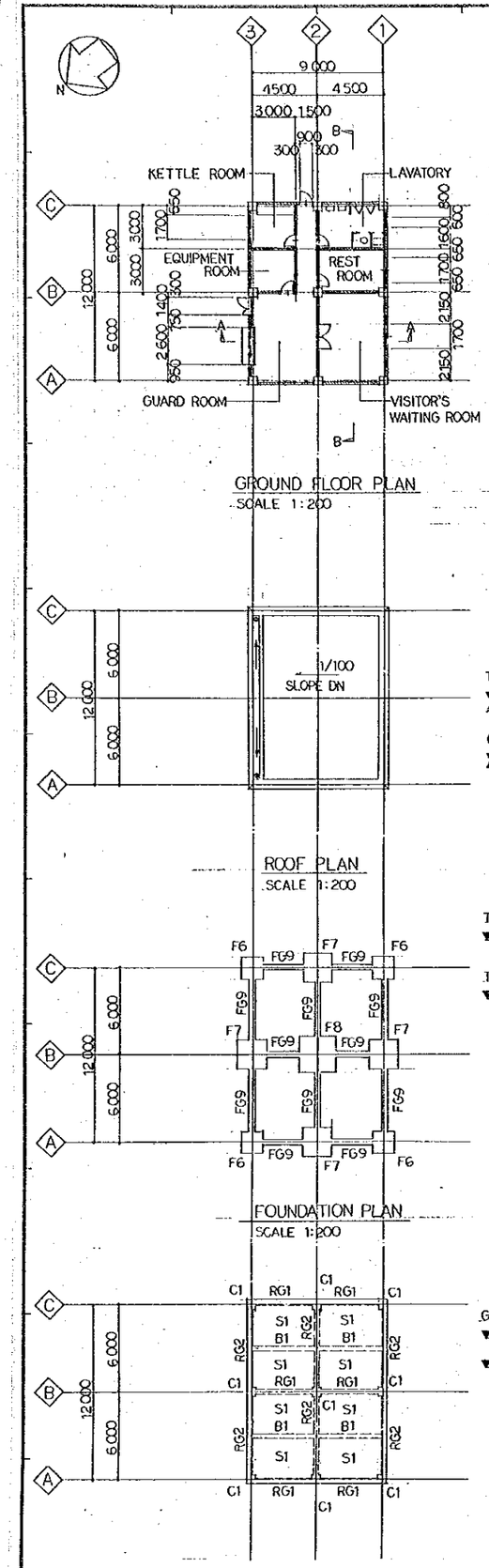
DRAWING NO	SCALE	DATE	
WAT-1612	1:200	10 JAN. 1990	

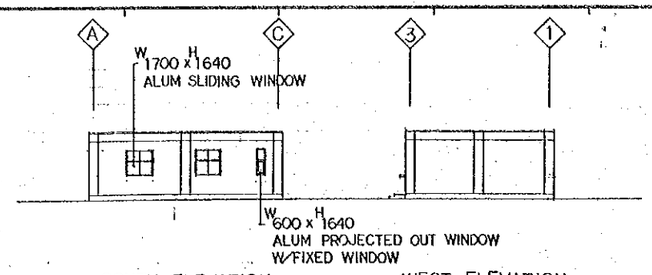


GROUND FLOOR PLAN
SCALE 1:200

ROOF PLAN
SCALE 1:200

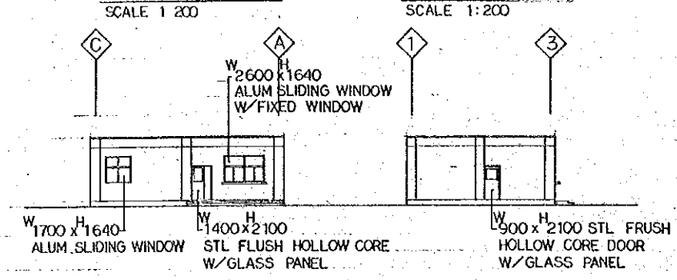
SCALE 1:200

SCALE 1:200



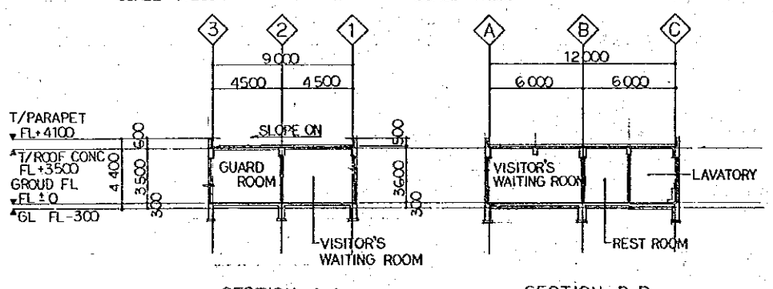
SOUTH ELEVATION
SCALE 1:200

WEST ELEVATION
SCALE 1:200



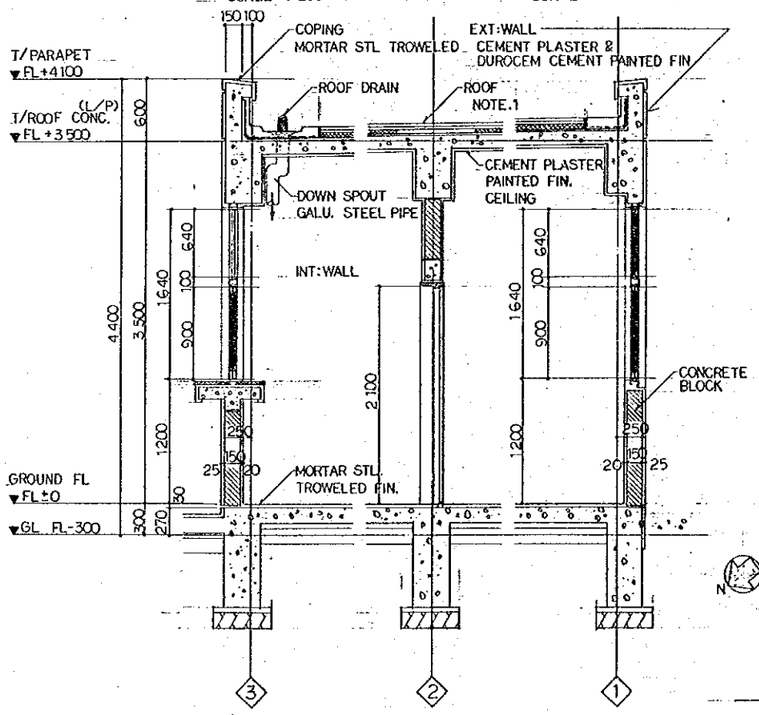
NORTH ELEVATION
SCALE 1:200

EAST ELEVATION
SCALE 1:200



SECTION A-A
SCALE 1:200

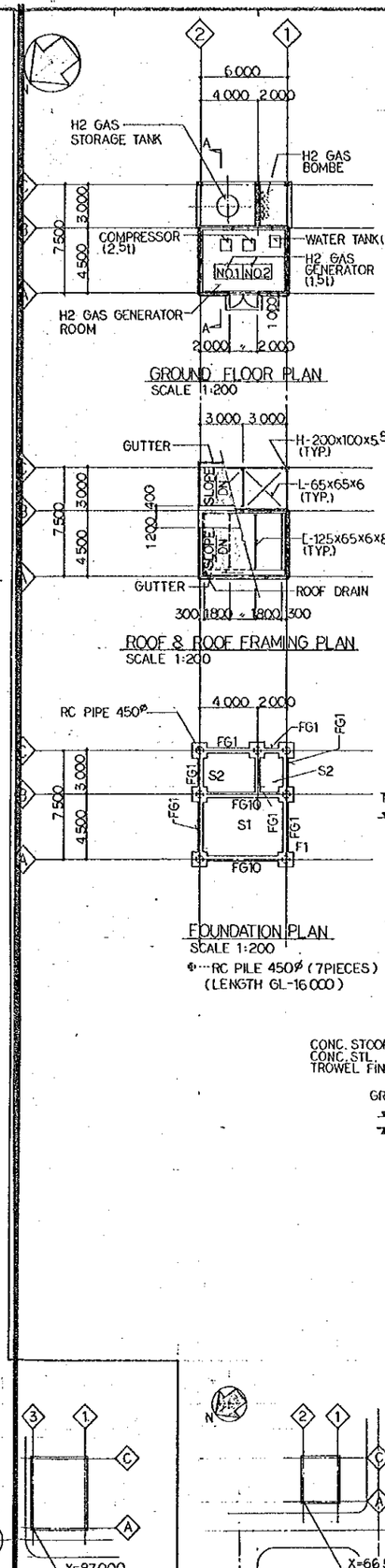
SECTION B-B
SCALE 1:200



WALL SECTIONS
SCALE 1:30

NOTE 1 BLICK TILE PAVING FIN. W/SAND CUSION BUILT-UP ROOFING

GUARD HOUSE

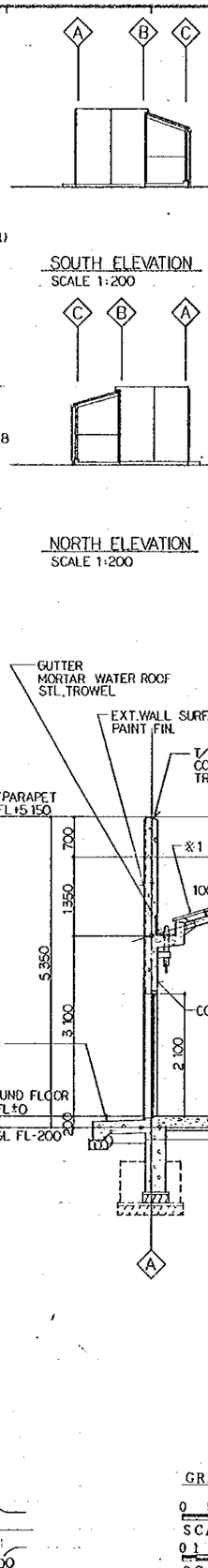


GROUND FLOOR PLAN
SCALE 1:200

ROOF & ROOF FRAMING PLAN
SCALE 1:200

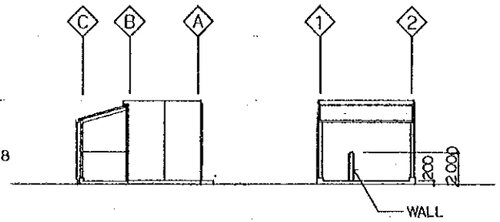
FOUNDATION PLAN
SCALE 1:200

ø···RC PILE 450ø (7PIECES)
(LENGTH GL-16.000)



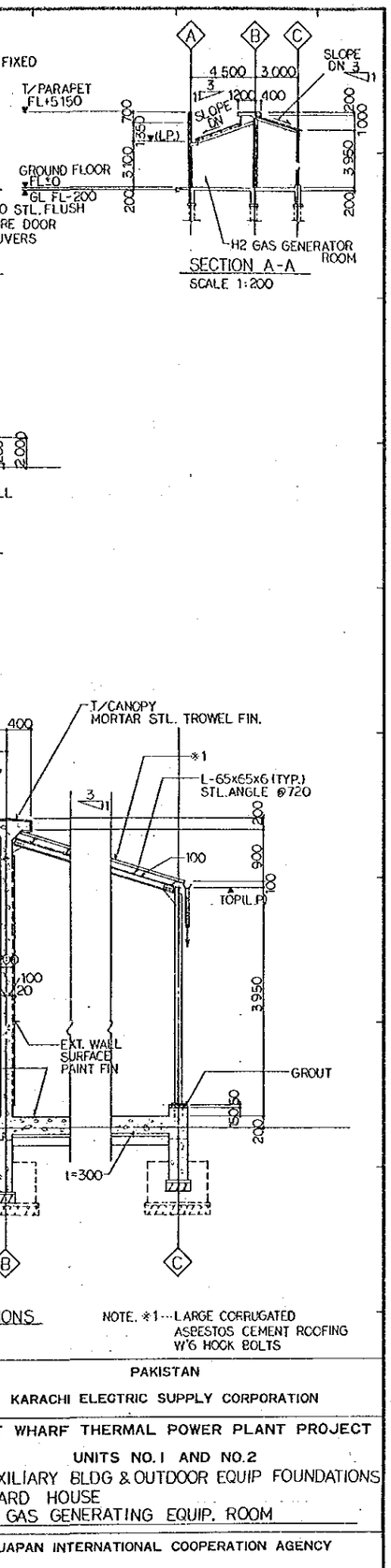
SOUTH ELEVATION
SCALE 1:200

WEST ELEVATION
SCALE 1:200

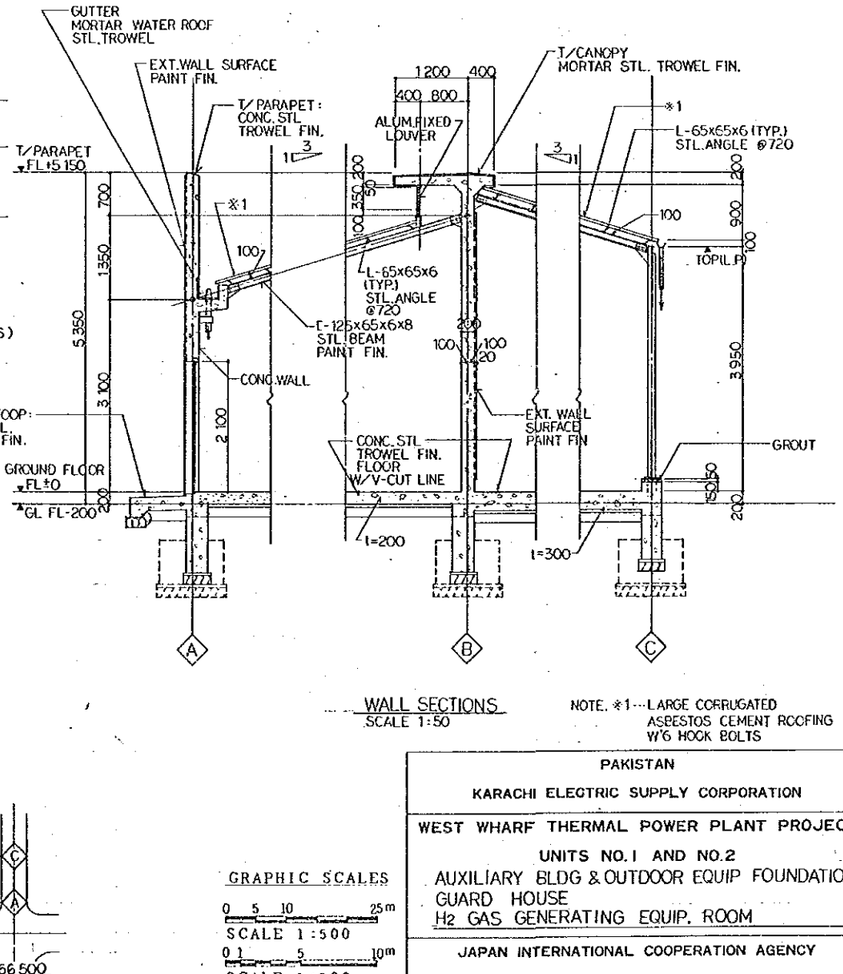


NORTH ELEVATION
SCALE 1:200

EAST ELEVATION
SCALE 1:200

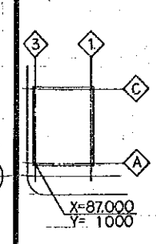


SECTION A-A
SCALE 1:200

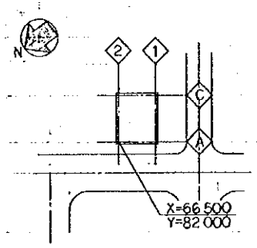


WALL SECTIONS
SCALE 1:50

NOTE. ※1···LARGE CORRUGATED ASBESTOS CEMENT ROOFING W/6 HOOK BOLTS



KEY PLAN
SCALE 1:500



KEY PLAN
SCALE 1:500

GRAPHIC SCALES

0 5 10 25m
SCALE 1:500

0 1 5 10m
SCALE 1:200

0 50 100 250cm
SCALE 1:50

0 10 50 100 150cm
SCALE 1:30

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

AUXILIARY BLDG & OUTDOOR EQUIP FOUNDATIONS
GUARD HOUSE
H_2 GAS GENERATING EQUIP. ROOM

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

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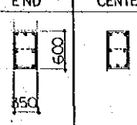
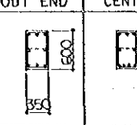
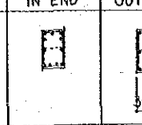
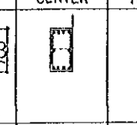
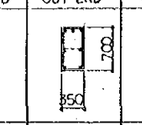
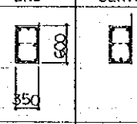
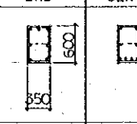
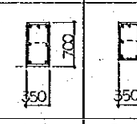
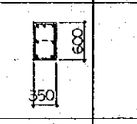
DRAWING NO.	SCALE	DATE	
WAT-1613	1:200	10 JAN. 1990	

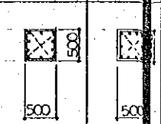
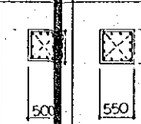
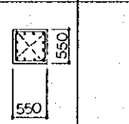
GIRDER LIST

MARK	RG1		RG2			RG3			RG4			RG5		RG6	
	END	CENTER	OUT END	CENTER	IN END	OUT END	CENTER	IN END	OUT END	CENTER	IN END	END	CENTER	END	CENTER
SECTION															
TOP	3-#7	2-#7	3-#7	3-#7	5-#7	3-#7	4-#7	8-#7	3-#7	2-#7	4-#7	4-#7	2-#7	6-#7	6-#7
WEB	2-#3		2-#3			2-#3			2-#3			2-#3		2-#3	
BOTTOM	2-#7	3-#7	3-#7	4-#7	4-#7	2-#7	4-#7	8-#7	2-#7	3-#7	2-#7	2-#7	4-#7	4-#7	6-#7
STIRRUP	□#3 @200		□#3 @200			□#3 @100			□#3 @200			□#4 @150		▥#4 @100	

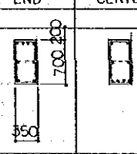
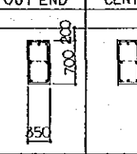
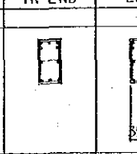
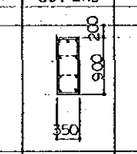
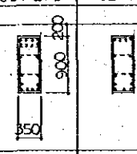
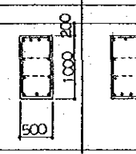
GIRDER LIST

MARK	2G1		2G2		CG1	CG2
	END	CENTER	END	CENTER	THROUGH	THROUGH
SECTION						
TOP	3-#7	2-#7	3-#7	2-#7	3-#7	3-#7
WEB	2-#3		2-#3		2-#3	2-#3
BOTTOM	2-#7	3-#7	2-#7	4-#7	2-#7	2-#7
STIRRUP	□#3@200		□#3@200		□#3@200	□#3@200

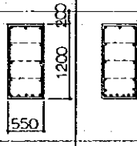
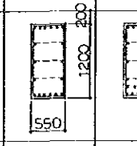
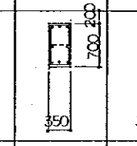
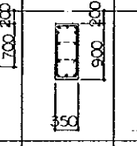
COLUMN LIST

MARK	C1	C2	C3
	THROUGH	THROUGH	THROUGH
SECTION			
MAIN BAR	10-#7	10-#6	12-#7
HOOP	□#4@150	□#4@150	□#4@150
TIE BAR	#3@600	#3@600	#3@600

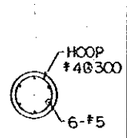
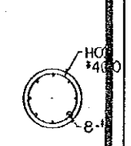
FOUNDATION GIRDER LIST

MARK	FG1		FG2			FG3		FG4 (FG4a)			FG5			FG6	
	END	CENTER	OUT END	CENTER	IN END	END	CENTER	OUT END	CENTER	IN END	OUT END	CENTER	IN END	END	CENTER
GL ±0 SECTION															
TOP	4-#7	2-#7	3-#7	3-#7	5-#7	5-#7	3-#7	3-#7	4-#7 (3-#7)	8-#7 (5-#7)	8-#7	4-#7	5-#7	4-#8	3-#8
WEB	2-#3		2-#3			2-#3		4-#3			4-#3			4-#3	
BOTTOM	2-#7	4-#7	2-#7	3-#7	3-#7	3-#7	3-#7	2-#7	4-#7 (3-#7)	6-#7 (3-#7)	6-#7	5-#7	3-#7	3-#8	4-#8
STIRRUP	□#3@200		□#3@200			□#3@200		□#3@200			□#3@200			□#4@200	

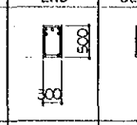
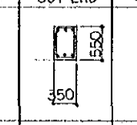
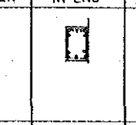
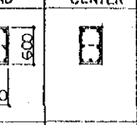
FOUNDATION GIRDER LIST

MARK	FG7		FG8		FG9	FG10	
	END	CENTER	END	CENTER	THROUGH	END	CENTER
GL ±0 SECTION							
TOP	3-#8	3-#8	6-#8	6-#8	3-#7	5-#7	3-#7
WEB	6-#3		6-#3		2-#3	4-#3	
BOTTOM	5-#8	6-#8	6-#8	10-#8	3-#7	3-#7	6-#7
STIRRUP	□#4 @200		□#4 @100		□#4 @200	□#3 @100	

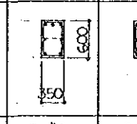
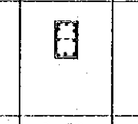
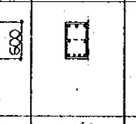
PILE

RC PILE 450φ	RC PILE 550φ
	

BEAM LIST

MARK	B1		B2			B3		B4	
	END	CENTER	OUT END	CENTER	IN END	END	CENTER	END	CENTER
SECTION									
TOP	5-#6	2-#6	3-#7	3-#7	7-#7	3-#6	2-#6	3-#6	2-#6
WEB						2-#3		2-#3	
BOTTOM	2-#6	3-#6	3-#7	5-#7	5-#7	2-#6	3-#6	2-#6	3-#6
STIRRUP	□#3@200		□#3@100			□#3@200		□#3@200	

BEAM LIST

MARK	B5			B6		B7		
	OUT END	CENTER	IN END	END	CENTER	OUT END	CENTER	IN END
SECTION								
TOP	3-#6	3-#6	5-#6	5-#6	3-#6	4-#7	4-#7	7-#7
WEB		2-#3			2-#3		2-#3	
BOTTOM	2-#6	5-#6	3-#6	3-#6	4-#6	2-#7	4-#7	5-#7
STIRRUP	□#3@200			□#3@200		□#3@100		

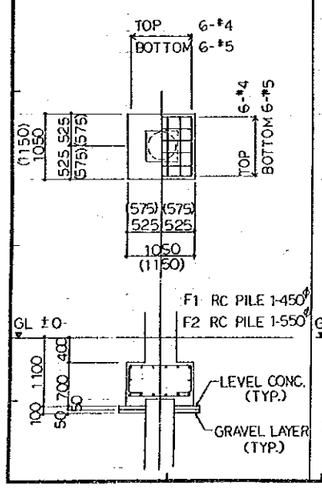
SLAB LIST

MARK	THICKNESS	POSITION	TRANSVERSAL BAR			LONGITUDINAL BAR		
			END	CENTER	CORNER	END	CENTER	CORNER
S1	120	TOP	#3,#4@200	#4@400	#3@250	#3@200	#3@400	#3@250
		BOTTOM	#3@400	#3@200	#3@250	#3@400	#3@200	#3@250
S2	150	TOP	#3,#4@200			#3@200		
		BOTTOM	#3,#4@200			#3@200		
S3	200	TOP	#3,#4@150			#3,#4@200		
		BOTTOM	#3,#4@150			#3,#4@200		
S4	300	TOP	#5@200			#4@200		
		BOTTOM	#5@200			#4@200		

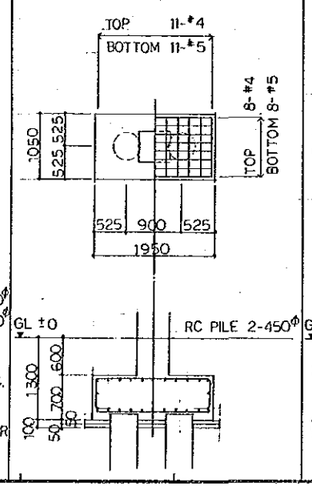
WALL LIST

MARK	THICKNESS	HORIZONTAL	VERTICAL	SECTION
W15	150	#3@200	#3@200	VERTICAL / HORIZONTAL, 150
W20	200	#3@200 2 LAYERS	#3@200 2 LAYERS	VERTICAL / HORIZONTAL, 200

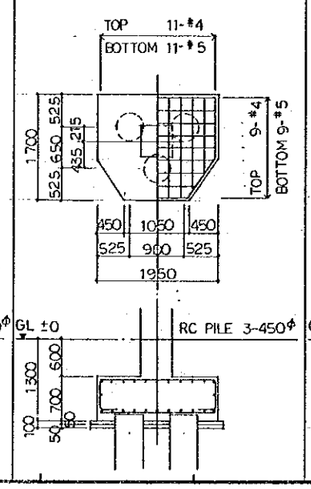
F1 (F2)



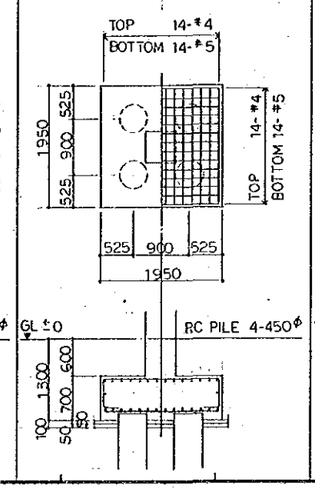
F3



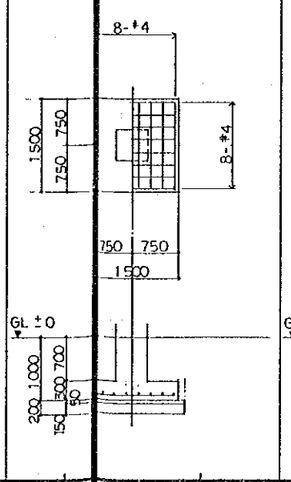
F4



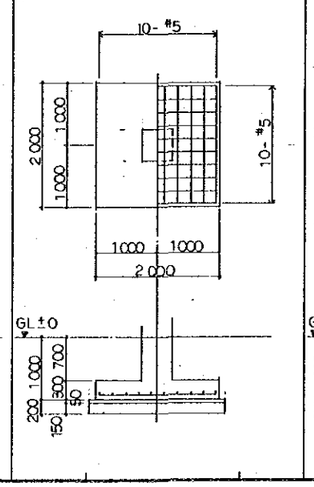
F5



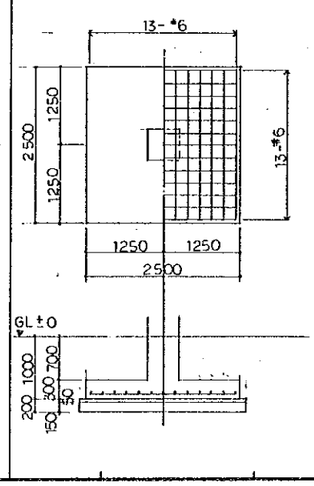
F6



F7



F8



GRAPHIC SCALE
0 50 100 250cm
SCALE 1:50

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

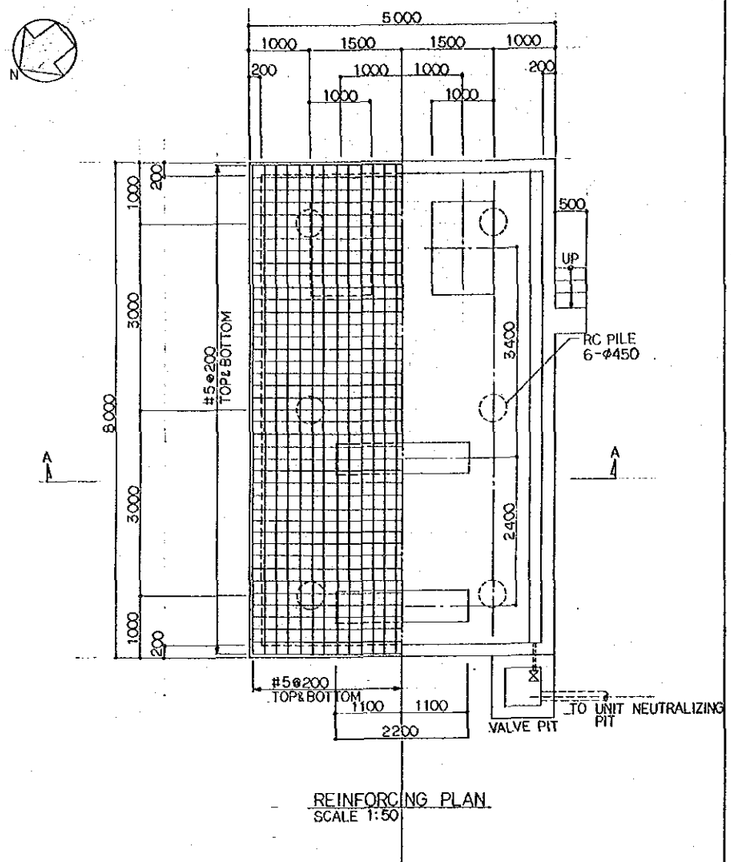
UNITS NO.1 AND NO.2

AUXILIARY BLDG & OUTDOOR EQUIP. FOUNDATION STRUCTURAL DRAWING (COMMON FOR WAT 1611~1613)

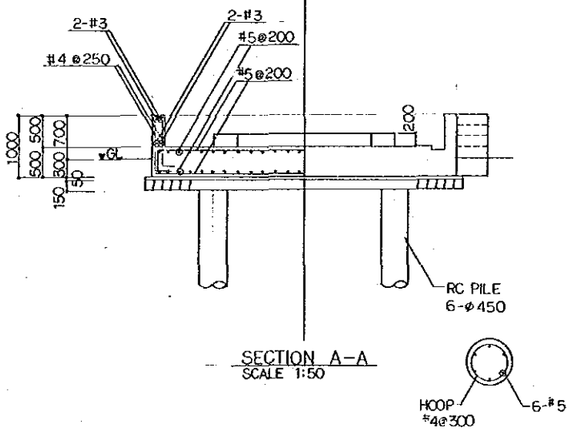
JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
DRAWING NO.	SCALE	DATE	
WAT-1614	1:50	10 JAN. 1990	



REINFORCING PLAN
SCALE 1:50



SECTION A-A
SCALE 1:50

TURBINE OIL STORAGE TANK FOUNDATION

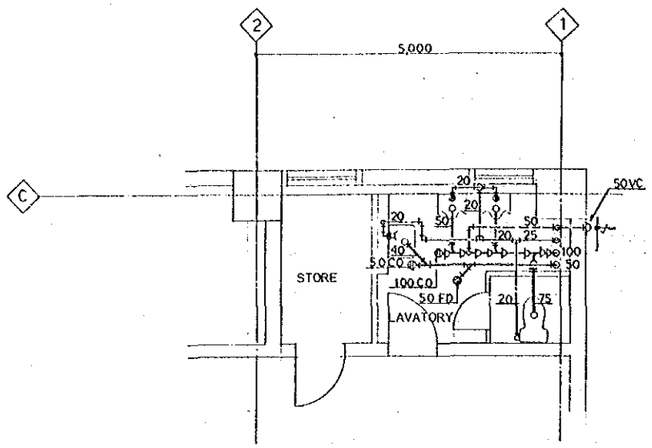
GRAPHIC SCALE
0 50 100 250 cm
SCALE 1:50

PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

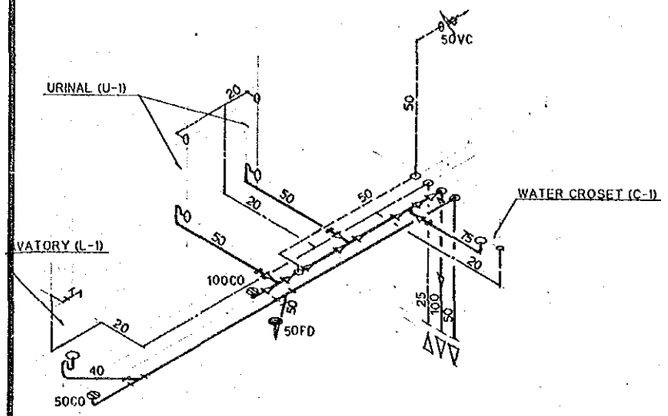
TURBIN OIL STORAGE TANK

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

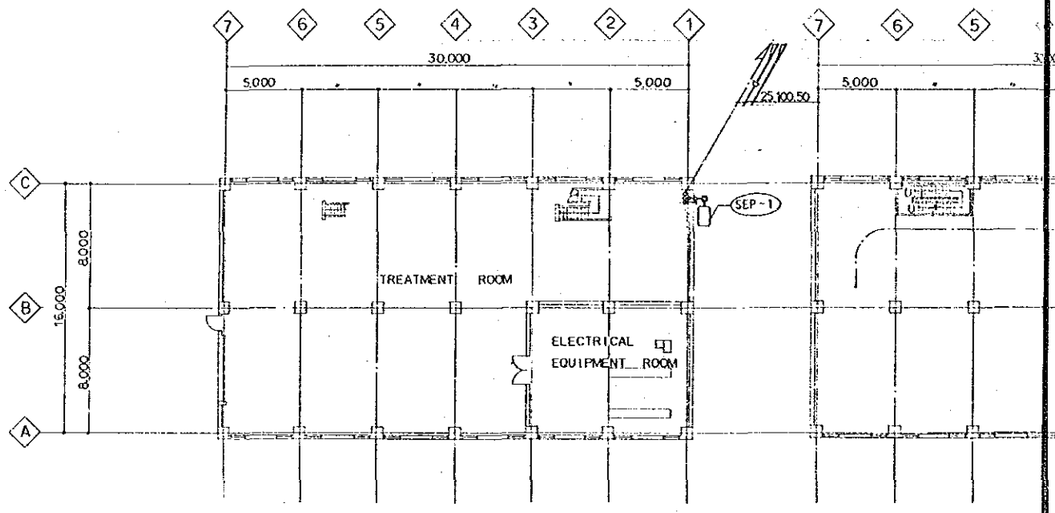
APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
DRAWING NO.		SCALE	DATE
WAT-1617		1:50	10 JAN. 1990



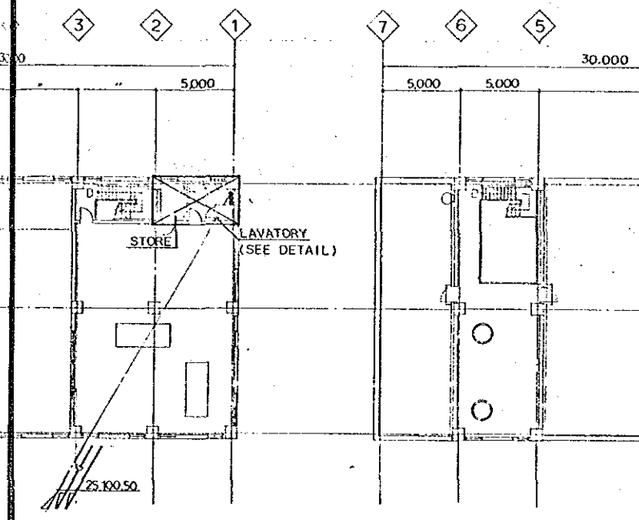
LAVATORY DETAIL PLAN



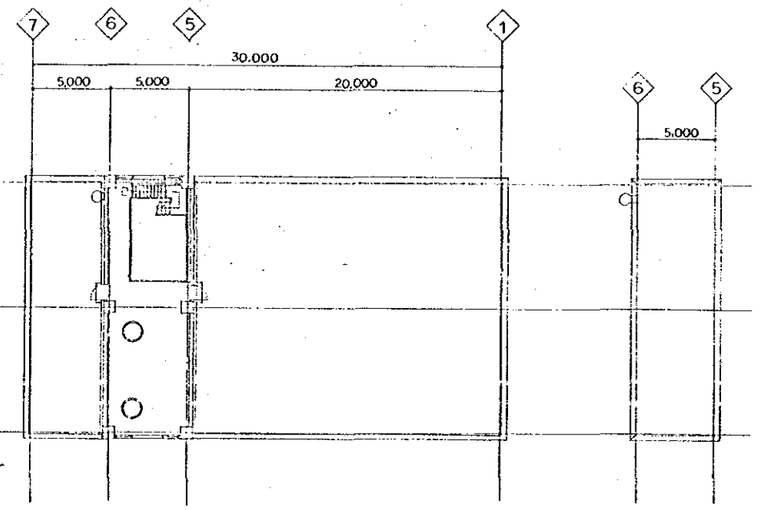
SCHEMATIC DIAGRAM



GROUND FLOOR PLAN



MEZZANINE FLOOR PLAN



1ST FLOOR & ROOF PLAN

HIGH ROOF PLAN

PLUMBING EQUIPMENT SCHEDULE

NO.	MACHINE NAME	SPECIFICATION	Q'ty	NOTES
SEP-1	SEPTIC TANK	F.R.P.	1	
		CAPACITY: 1.0ton		

PLUMBING AND SANITARY FIXTURES SCHEDULE

NO.	FIXTURE NAME	SPECIFICATION	ACCESSORIES	Q'ty	NOTES
C-1	WATER CLOSET	VITREOUS CHINA, WAS-DOWN	LOW TANK W/INSULATING LINE AND	1	
		CLOSED COUPLED	HAND WASHING LID, TANK TRIP SEAT		
			AND COVER		
	ROLL PAPER HOLDER	PLASTIC MADE			
U-1	URINAL	V.C WALL HUNG.	INTEGRAL TRAP, FLUSH-VALVE	2	
			INLET SPUD		
L-1	LAVATORY	V.C WALL HUNG.	LAVATORY FAUCET, WALL SUPP W/STOP	1	
			POP-UP WASTE W/P-TRAP, PEDTAL		
	LIQUID SOAP HOLDER				
	MIRROR				

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

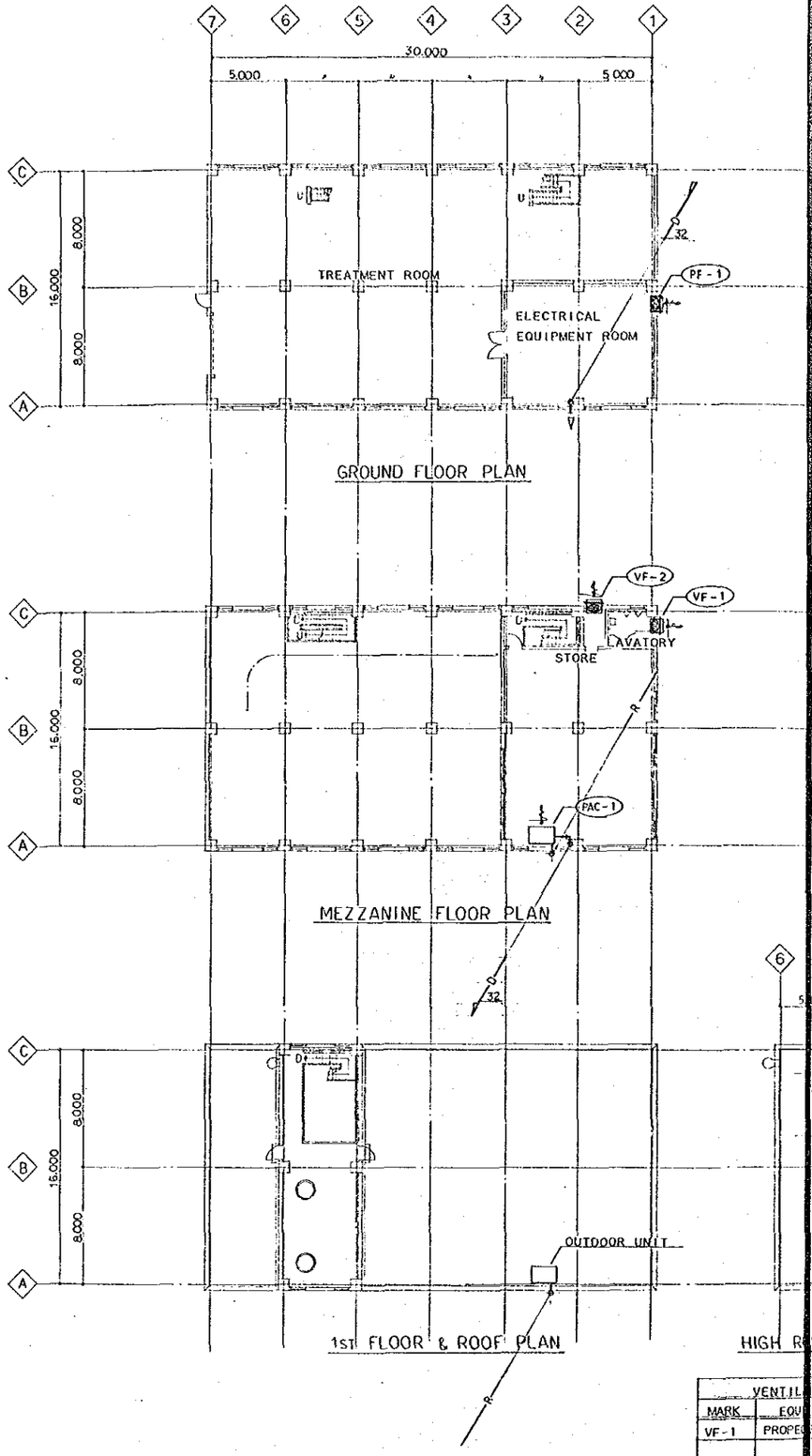
WATER TREATMENT
PLUMBING EQUIPMENT, SANITARY FIXTURES SCHEDULE
GROUND, MEZZANINE, 1st FLOOR & ROOF, HIGH ROOF PLAN
AND LAVATORY DETAIL PLAN

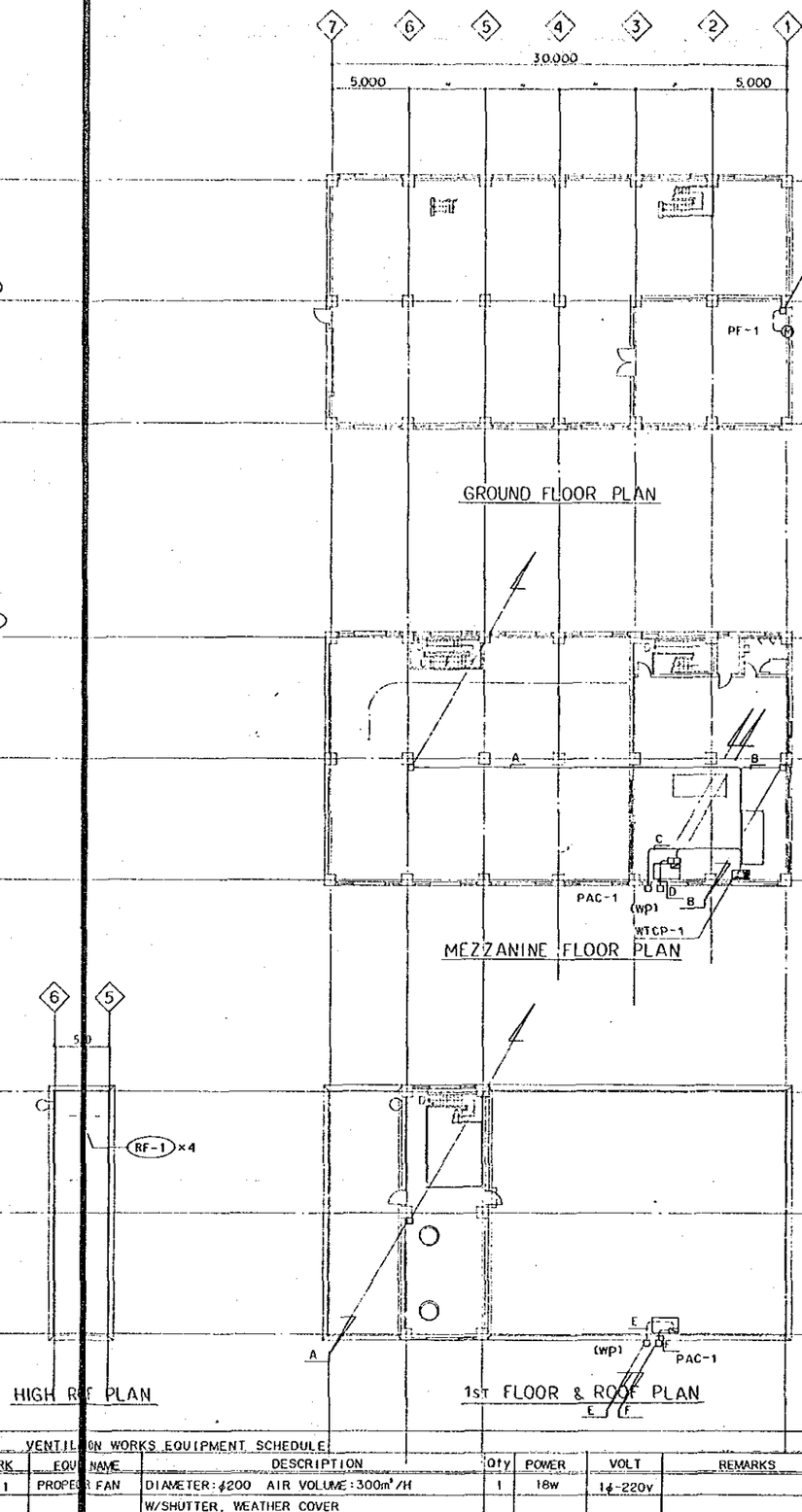
JAPAN INTERNATIONAL COOPERATION AGENCY

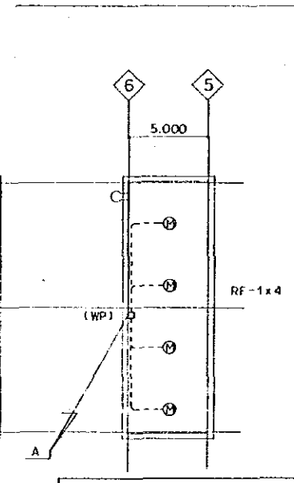
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
		Trigo	Trigo

DRAWING NO.	SCALE	DATE
WAT-1623	1/200 1/50	DEC 1989







LEGEND.

NAME	CAPACITY	WIRING PIPING
WTCP-1	3Φ380V	
PAC-1(I.D.U)	2.2KW	1V2Φ x 3 E2Φ (25)
PAC-1(O.D.U)	14.2KW	1V14Φ x 3 E5.5Φ(28)
PF-1	0.4KW	1V2Φ x 3 E2Φ (25)
RF-1(x4)	2.2KW	1V2Φ x 3 E2Φ (25)

-A-
(1V2Φ x 3 E2Φ (25))x4 RF-1x4

-B-
1V2Φ x 3 E2Φ (25) PF-1

-C-
1V14Φ x 3 E5.5Φ(31) PAC-1(O.D.U)

-D-
1V2Φ x 5 (25) IN DOOR UNIT

-E-
1V14Φ x 3 E5.5Φ(28) PAC-1(O.D.U)

-F-
1V2Φ x 5 (22) IN DOOR UNIT

MARK	EQUIPT NAME	DESCRIPTION	Qty	POWER	VOLT	REMARKS
	VENTILATION WORKS EQUIPMENT SCHEDULE					
PAC-1	PACKAGED AIR CONDITIONER	AIR COOLED, FLOOR TYPE	1		3Φ-380v	
		COOLING LOAD: 39,000kcal/H				
		FAN: AIR FLOW: 11,210CMH				
		POWER OUTPUT: IN/OUT		37Kw/0.3Kw×2	3Φ-380v	
		COMP:		23.2Kw	3Φ-380v	

MARK	EQUIPT NAME	DESCRIPTION	Qty	POWER	VOLT	REMARKS
	VENTILATION WORKS EQUIPMENT SCHEDULE					
VF-1	PROPELLER FAN	DIAMETER: Φ200 AIR VOLUME: 300m³/H	1	18w	1Φ-220v	
		W/SHUTTER, WEATHER COVER				
VF-2	PROPELLER FAN	DIAMETER: Φ200 AIR VOLUME: 150m³/H	1	18w	1Φ-220v	
		W/SHUTTER, WEATHER COVER				
PF-1	PROPELLER FAN	Φ550, AIR VOLUME: 4,350m³/H SP: 5mmAq	1	0.4kw	3Φ-380v	
RF-1	ROOF VENTILATOR	Φ1,050, AIR VOLUME: 15,350m³/H SP: 10mmAq	4	2.2kw	3Φ-380v	

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

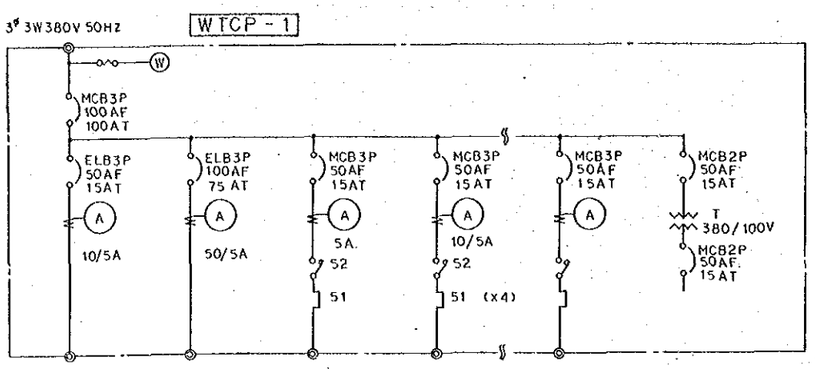
UNITS NO.1 AND NO.2

WATER TREATMENT CONTROL ROOM
A/C AND VENTILATION
AUTOMATIC CONTROL & SECONDARY WIRING
FLOOR PLAN

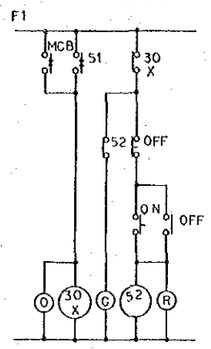
JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

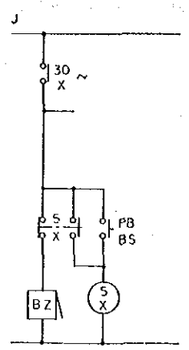
APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
DRAWING NO.	SCALE	DATE	
WAT-1624	1:200	DEC 1989	



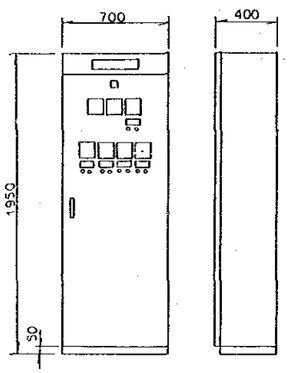
SYMBOL	PAC - 1		PF - 1	RF - 1		
CAPACITY(KW)	2.2	14.2	0.4	2.2 x 4		
CIRCUIT DIAGRAM			F1	F1 (x 4)	J	



RF, EF, OF, PF



BZ ALAM



WTCP - 1

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

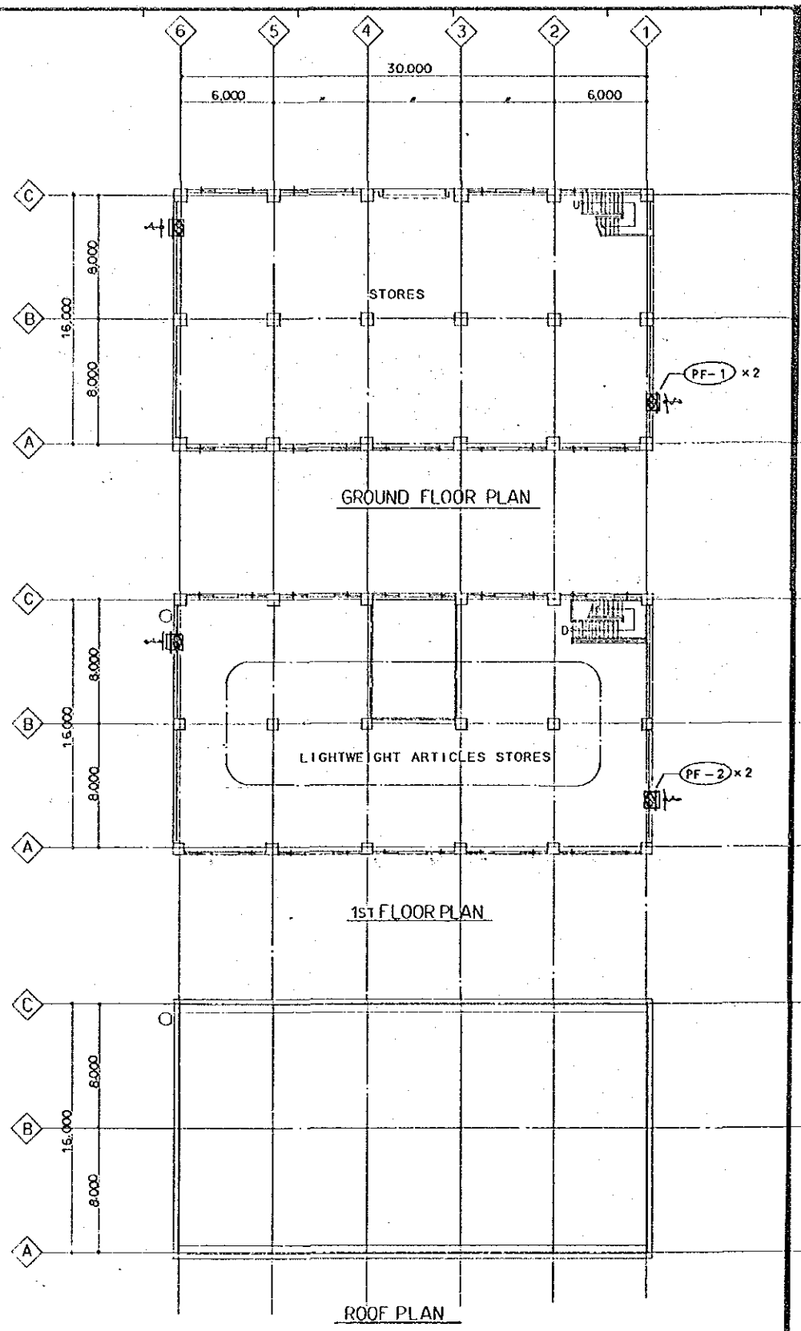
UNITS NO.1 AND NO.2

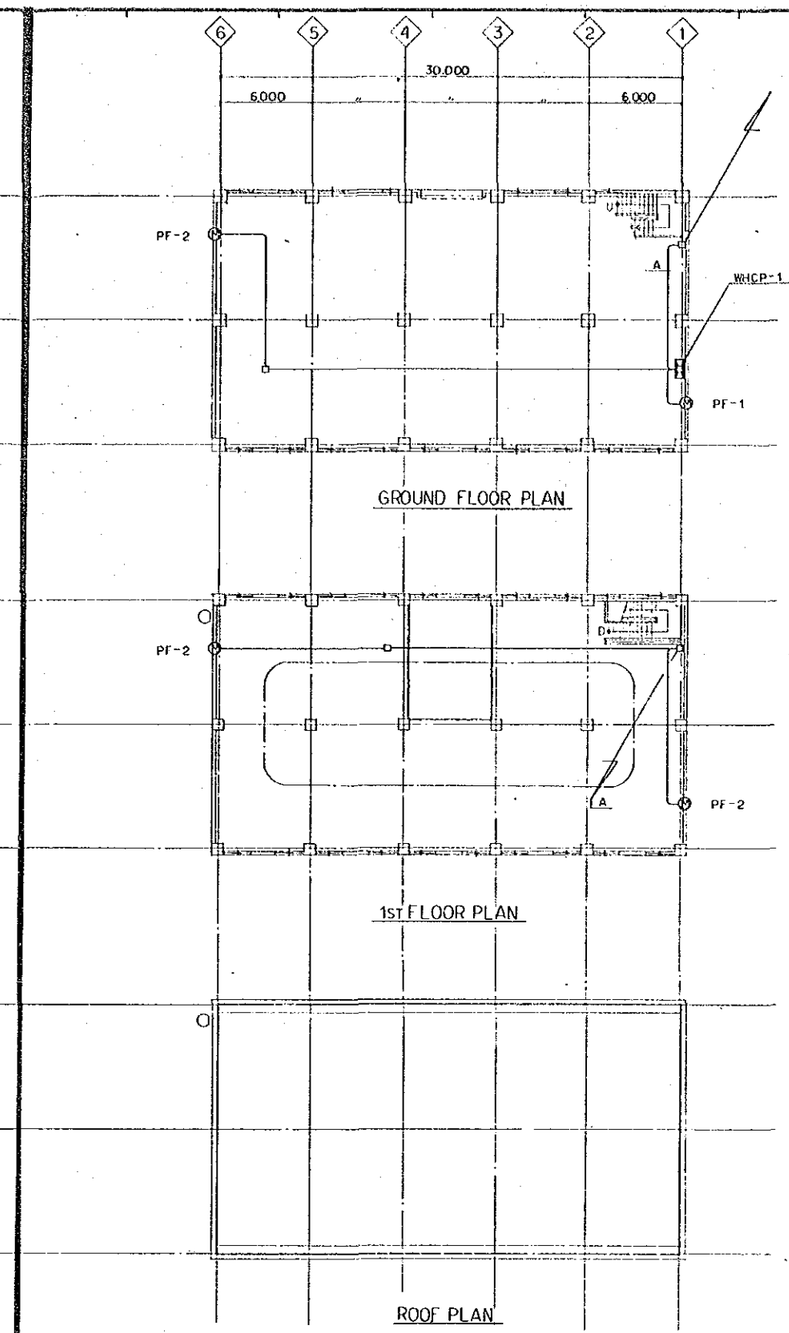
WATER TREATMENT CONTROL ROOM
A/C AND VENTILATION
SECONDARY WIRING DIAGRAM

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
DRAWING NO.		SCALE	DATE
WAT-1625		not to scale	DEC 1989





LEGEND

NAME	CAPACITY	WIRING	PIPING
WHCP-1	3Φ380V		
PF-1(x2)	0.75KW	IV2° x 3 E2°	(25)
RF-2(x2)	0.75KW	IV2° x 3 E2°	(25)

-A-
IIV2° x 3 E2° (25))x2 PF-2x2

VENTILATION WORKS EQUIPMENT SCHEDULE

MARK	EQUIPT NAME	DESCRIPTION	Q'ty	POWER	VO	REMARKS
PF-1	PROPELLER FAN	φ600 AIR VOLUME:6.350m³/H SP:5mmAq	2	0.75kw	3φ-	
		W/SUS WEATHER COVER, SHUTTER				
PF-2	PROPELLER FAN	φ600 AIR VOLUME:6.350m³/H SP:5mmAq	2	0.75kw	3φ-	
		W/SUS WEATHER COVER, SHUTTER				

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

WARE HOUSE
VENTILATION AND
SECONDARY WIRING
FLOOR PLAN

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

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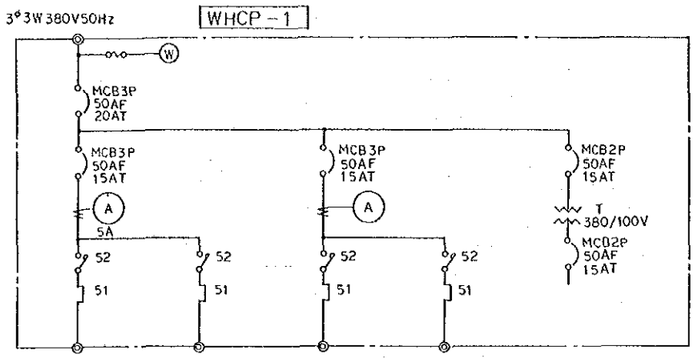
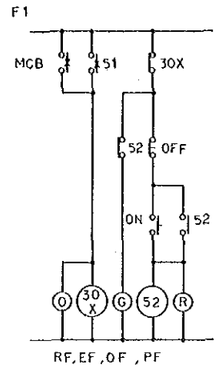
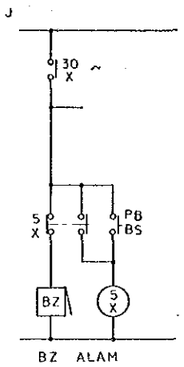
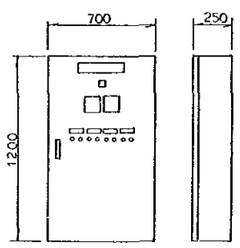
DRAWING NO.		SCALE	DATE
WAT-1626		1/200	DEC 1989



SYMBOL	PF - 1	PF - 2		
CAPACITY (KW)	0.75 x 2	0.75 x 2		
CIRCUIT DIAGRAM	F1 (x 2)	F1 (x 2)	J	







WHCP-1

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

WARE HOUSE
VENTILATION AND
SECONDARY WIRING DIAGRAM

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

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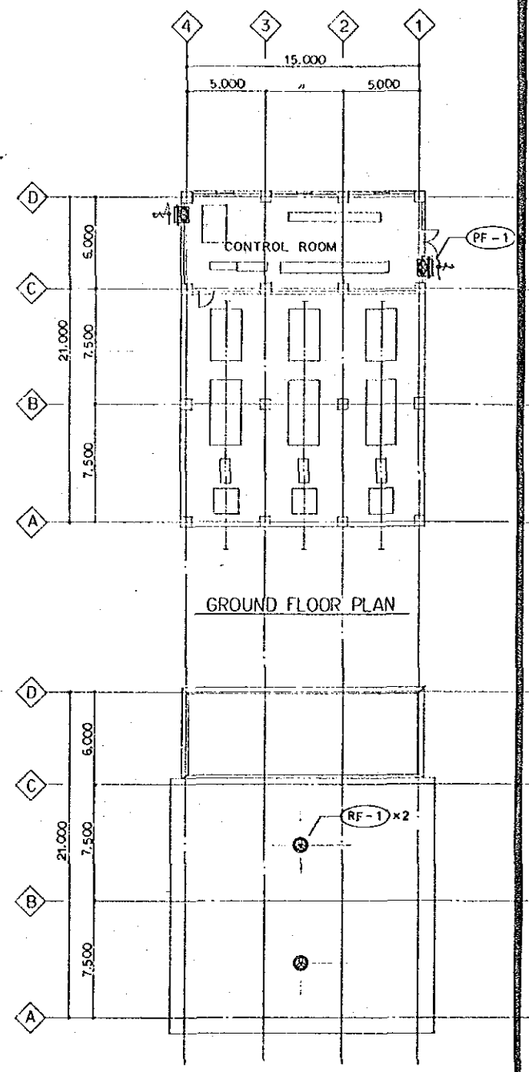
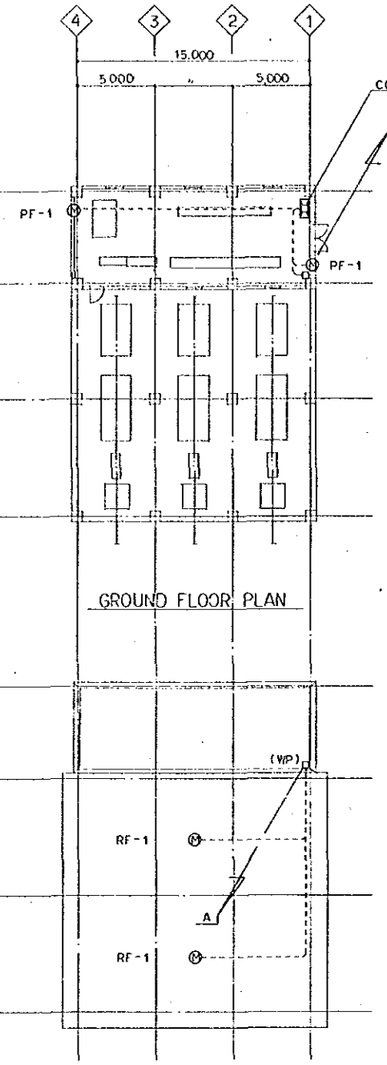
DRAWING NO.		SCALE	DATE
WAT-1627		not to scale	DEC 1989



GROUND FLOOR PLAN



GROUND FLOOR PLAN

ROOF PLAN

ROOF PLAN

LEGEND

NAME	CAPACITY	WIRING	PIPING
CCP-1	3Ø380V		
RF-1(x2)	0.4KW	1V2.0 x 3 E2.0	(16)
PF-1(x2)	0.1KW	1V2.0 x 3 E2.0	(25)

-A-
(1V2.0 x 3 E2.0 (25))x2 RF-1x2

VENTILATION WORKS EQUIPMENT SCHEDULE

MARK	EQUIPT NAME	DESCRIPTION	Q'ty	POWER	VOLT	REMARKS
RF-1	ROOF VENTILATOR	ϕ500. AIR VOLUME: 3.770m³/H SP: 5mmAq	2	.4kw	3ϕ-380v	
PF-1	PROPELLER FAN	ϕ400. AIR VOLUME: 2.120m³/H SP: 5mmAq	2	.1kw	3ϕ-380v	
		W/SUS WEATHER COVER. SHUTTER				

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

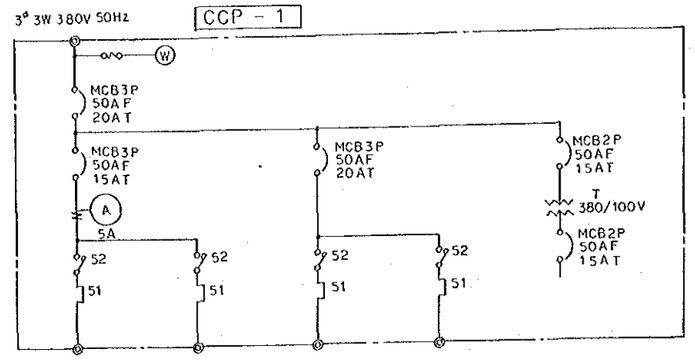
UNITS NO.1 AND NO.2

CLORINATION EQUIP. CONTROL ROOM
VENTILATION AND
SECONDARY WIRING
FLOOR PLAN

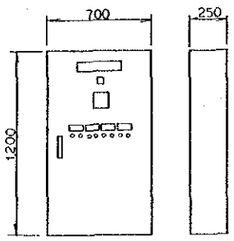
JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

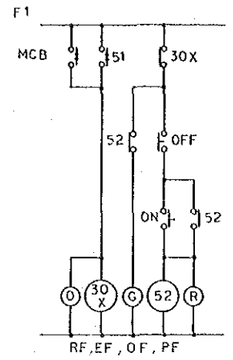
APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
DRAWING NO.		SCALE	DATE
WAT-1628		1:200	DEC 1989

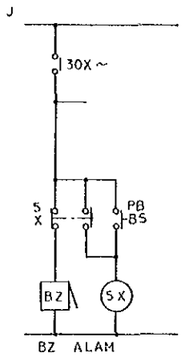


SYMBOL	R F - 1	P F - 1		
CAPACITY (KW)	0.4 x 2	0.1 x 2		
CIRCUIT DIAGRAM	F1(x 2)	F1(x 2)	J	



CCP - 1





PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

CLORINATIONEQUIP. CONTROL ROOM
VENTILATION AND
SECONDARY WIRING DIAGRAM

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

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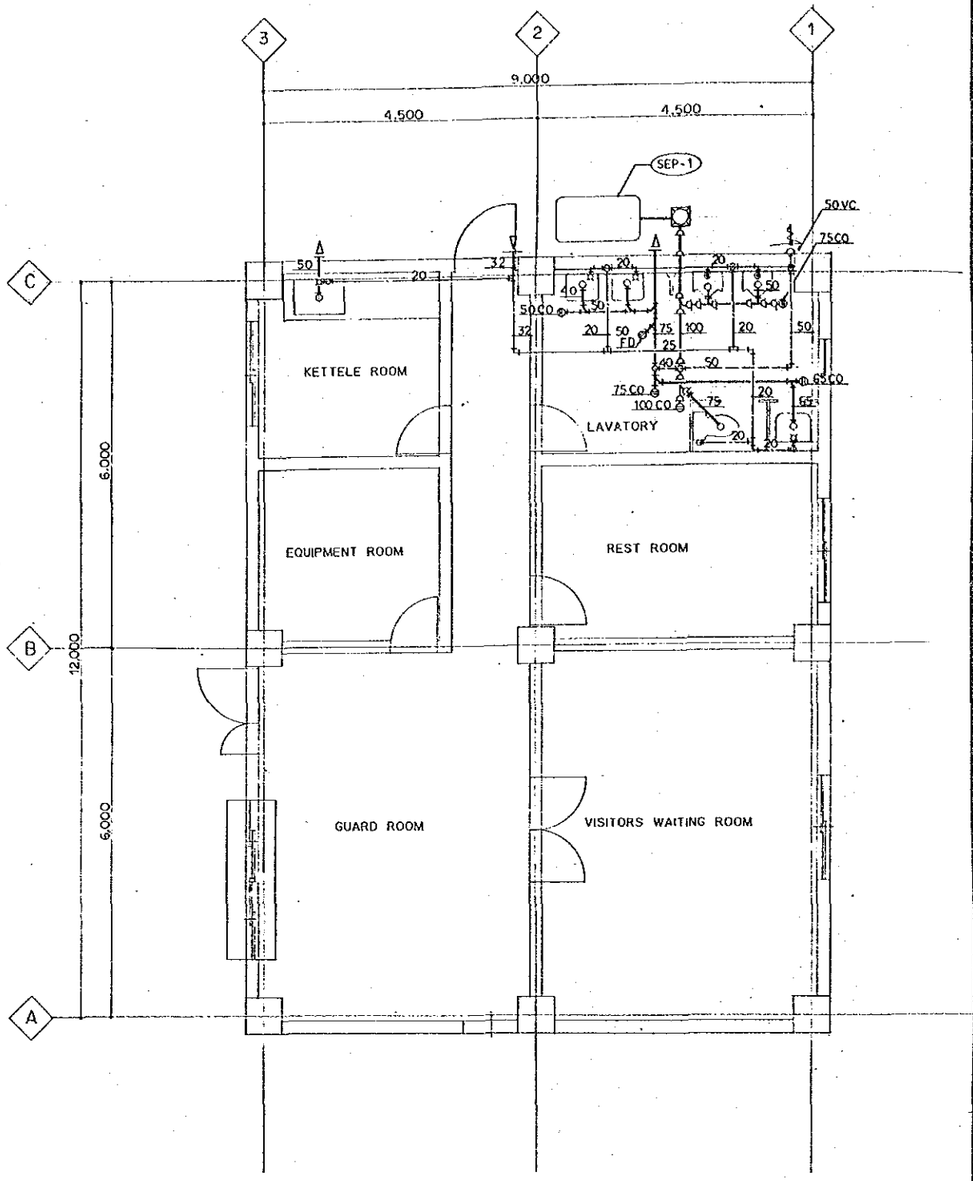
DRAWING NO.		SCALE	DATE
WAT-1629		not to scale	DEC 1989



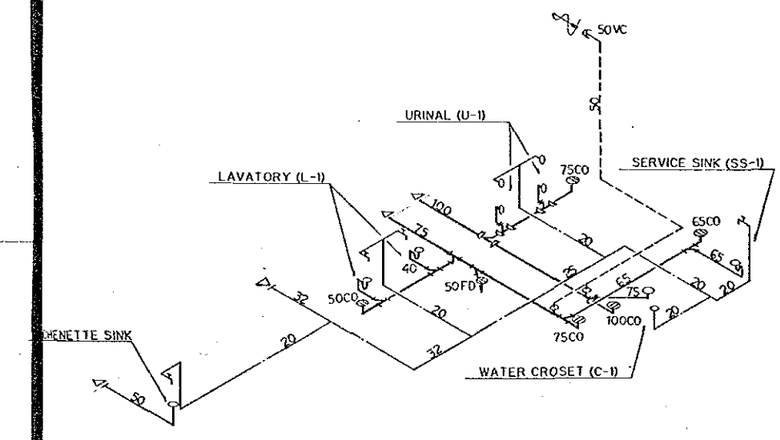
GROUND FLOOR DETAIL PLAN

PLUMBING EQUIPMENT SCHEDULE

NO.	MACHINE NAME	SPECIFICATION	Q'TY	NOTES
SEP-1	SEPTIC TANK	F.R.P	1	
		CAPACITY: 1,000		

PLUMBING AND SANITARY FIXTURES SCHEDULE

NO.	FIXTURE NAME	SPECIFICATION	ACCESSORIES	Q'TY	NOTES
C-1	WATER CLOSET	VITREOUS CHINA, WAS-DOWN	LOW TANK W/INSULATING LINER AND	1	
		CLOSED COUPLED	HAND WASHING LID, TANK TRIM, SEAT		
			AND COVER		
	ROLL PAPER HOLDER	PLASTIC MADE			
U-1	URINAL	V.C WALL HUNG,	INTEGRAL TRAP, FLUSH VALVE,	2	
			INLET SPUD		
L-1	LAVATORY	V.C WALL HUNG,	LAVATORY FAUCET, WALL SUPPLY W/STOP	2	
			POP-UP WASTE W/P-TRAP, PEDESTRAL		
	LIQUID SOAP HOLDER				
	MIRROR				
SS-1	SERVISE SINK	V.C HIGH HUNG,	WALL FAUCET, W/ADJUSTABLE FLANGE	1	
			RM COVER WASTE W/CAST IRON S-TRAP		
	WALL FAUCET	FOR KITCHIEN AND KITCHENETTE SINK		1	
		SWING SPOUT			



SCHEMATIC DIAGRAM

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

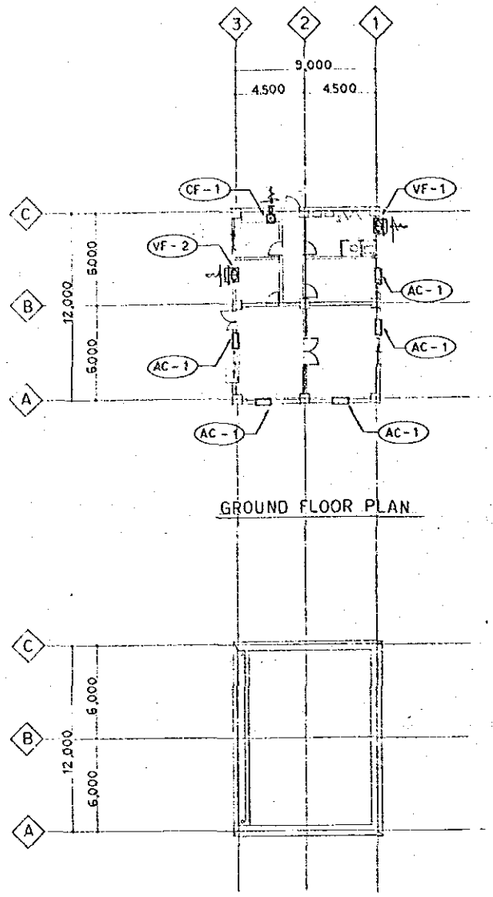
GUARD HOUSE

PLUMDING FLOOR PLAN AND SANITARY FIXTURES SCHEDULE

JAPAN INTERNATIONAL COOPERATION AGENCY

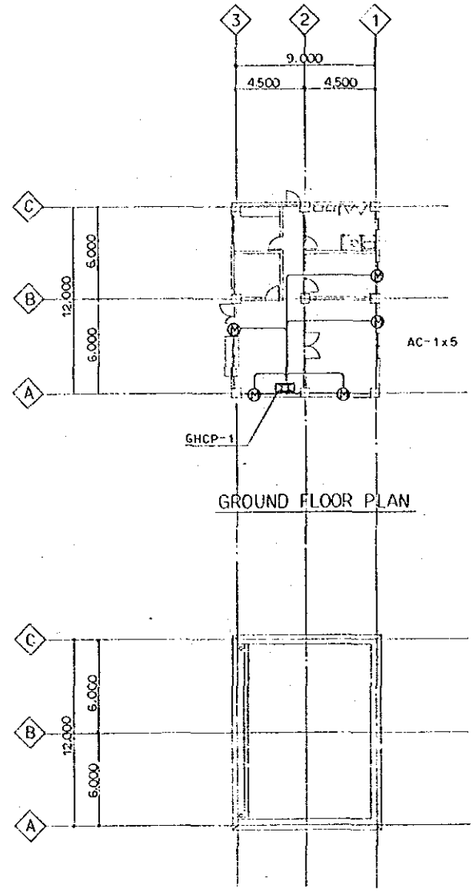
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
		Jinja	Jinja
DRAWING NO.		SCALE	DATE
WAT-1630		1:50	DEC 1989



GROUND FLOOR PLAN

ROOF PLAN



GROUND FLOOR PLAN

ROOF PLAN

LEGEND

NAME	CAPACITY	WIRING	PIPING
GHCP-1	3Ø380V		
AC-1(x5)	1.5KW	1V2.0	x 3 E2.0 (25)

AIR CONDITION AND VENTILATION WORKS EQUIPMENT SCHEDULE

MARK	EQUIPT NAME	DESCRIPTION	Q'ty	MOTIVE	POWER	REMARKS
AC-1	AIR CONDITIONER	WINDOW MOUNTED	5			
		COOLING CAPACITY: 3250kcal/Hr				
		AIR FLOW RATE : 780CMH				
		COMPRESSOR:		1.5kw	3φ-380v	

AIR CONDITION AND VENTILATION WORKS EQUIPMENT SCHEDULE

MARK	EQUIPT NAME	DESCRIPTION	Q'ty	MOTIVE	POWER	REMARKS
CF-1	CEILING	150φ × 320CMH × 5mmAq	1	43w	1φ-220v	W/150φ VENT CAP
VF-1	PROPELLER	250φ × 500CMH	1	25w	1φ-220v	W/SUS WEATHER COVER
VF-2	-do-	200φ × 200CMH	1	18w	1φ-220v	W/ -do-

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

GUARD HOUSE
A/C AND VENTILATION
SECONDARY WIRING
FLOOR PLAN

JAPAN INTERNATIONAL COOPERATION AGENCY

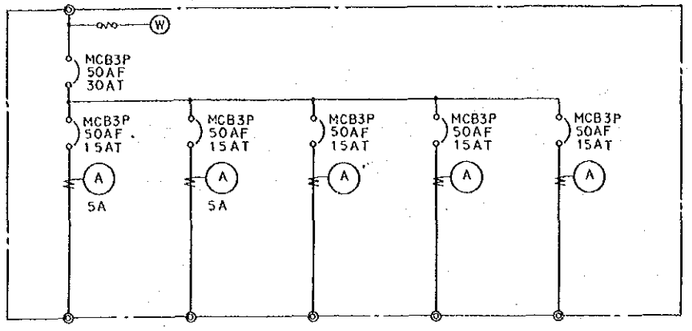
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY

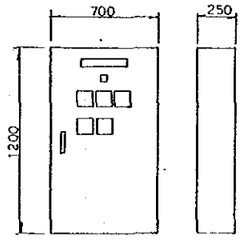
DRAWING NO.	SCALE	DATE
WAT-1631	1:200	DEC 1989

3φ3W 380V 50HZ

GHCP - 1



SYMBOL	A C - 1		
CAPACITY (KW)	1.5 x 5		
CIRCUIT DIAGRAM			



GHCP-1

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

GUARD HOUSE
A/C AND VENTILATION
SECONDARY WIRING DIAGRAM

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

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DRAWING NO.		SCALE	DATE
WAT-1632		not to scale	DEC 1989

# P L A N
S = 1/1000

N
38°12'

TO KARACHI CITY

X = 0
Y = 0

TEX

X = 93 000

X = 82 000

UNIT 2 BOILER

DOCKYARD ROAD

Y = 6 000

Y = 77 500

Y = 107 100

RAIL WAY

INLET

EXISTING RCC CW PIPES

DRY DOCK NO.1

DRY DOCK NO.2

THE PAKISTAN OXYGEN AND ACETTLENE CO., LTD

SCREEN & PUMP PIT

X = 142 300

INTAKE OPEN CHANNEL

KARACHI PORT TRUST

QUAY WALL

MAIN POWERHOUSE

STACK

X = 174 300

OCEAN

SCREEN & PUMP PIT

X = 206 300

64 000

82 500

31 500

Y = 19 000

UNIT 1 BOILER

X = 258 600

ROAD X = 26 000

INLET

EXISTING BOX CULVERT

Y = 12 500

QUAY WALL

KARACHI SHIPYARD ENGINEERING & WORKS

OCEAN

GATE

162 000

Y = 181 000

DISCHARGE TUNNEL

OUTLET

X = 462 000

PAKISTAN NAVY

X = 469 000
Y = 25 504

TO PAKISTAN NAVY

-X
ORIGIN POINT
-Y +Y
+X

GRAPHIC SCALE
0 10 20 30 40 50 100M
1/1000

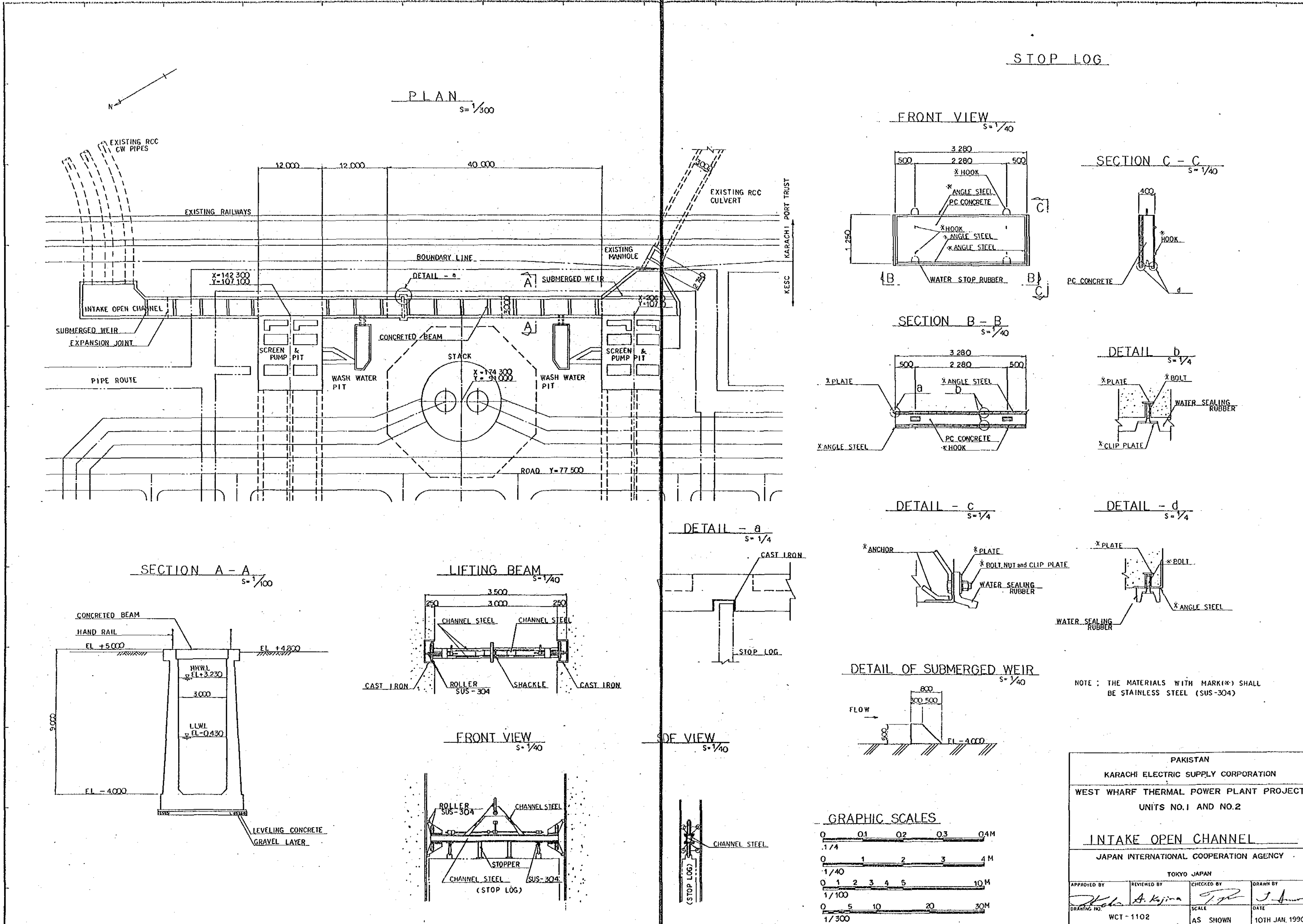
PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

COOLNG WATER WAY

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kojima		
DRAWING NO. WCT-1101		SCALE AS SHOWN	DATE 10TH JAN. 1990

3



PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

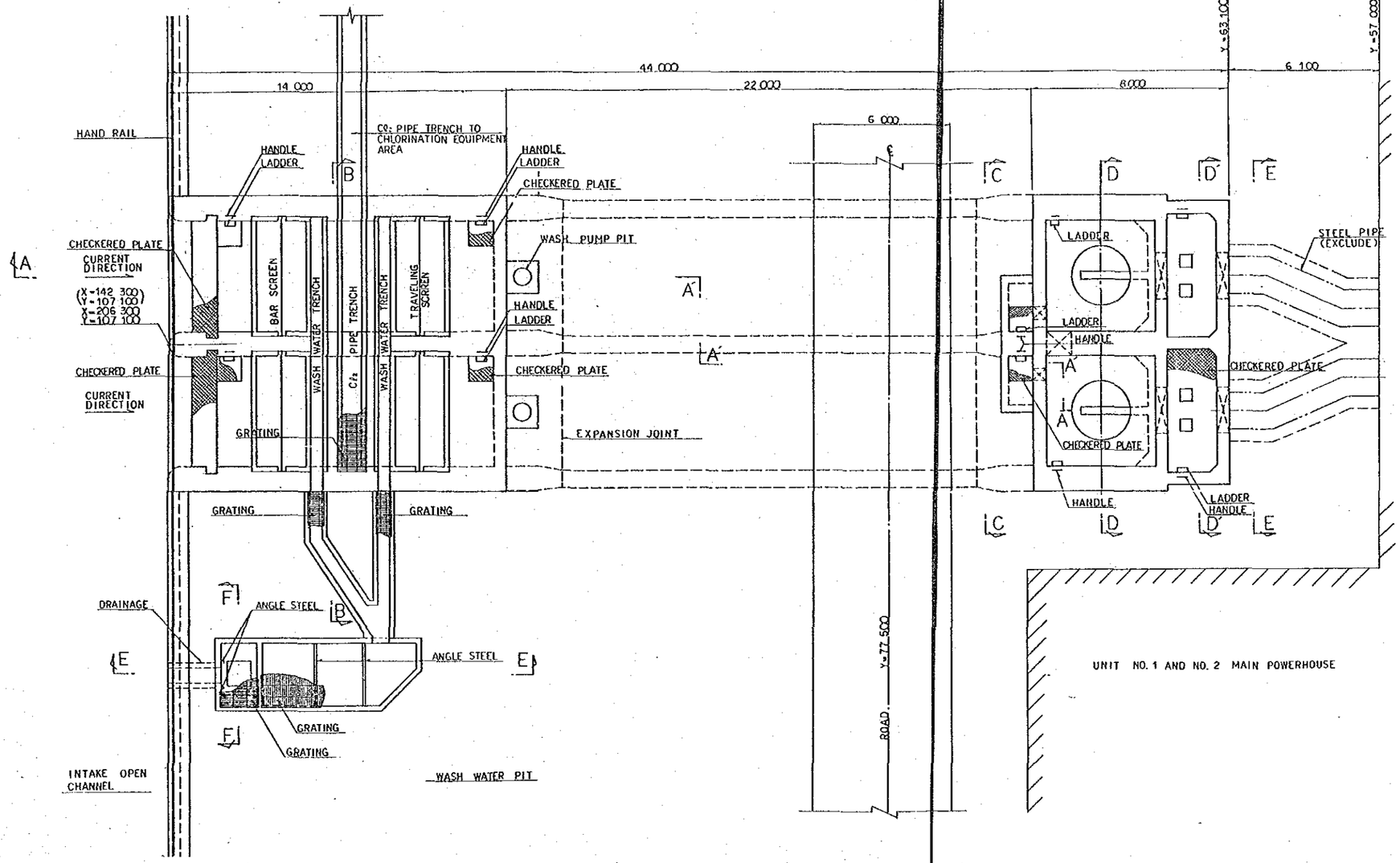
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

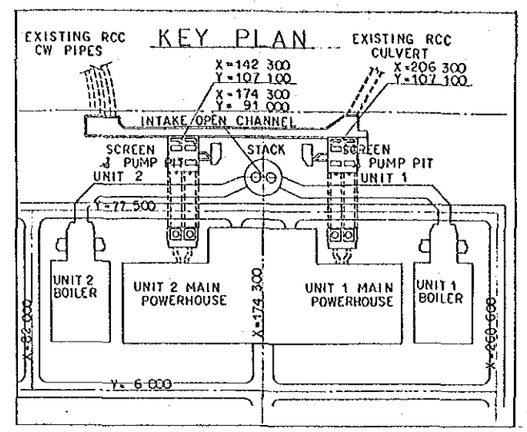
INTAKE OPEN CHANNEL

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
[signature]	A. Kajima	[signature]	[signature]
DRAWING NO. WCT-1102		SCALE AS SHOWN	DATE 10TH JAN. 1990

# PLAN
S = 1/100





NOTE: 1. ( ) INDICATES UNIT 2.
2. FOR THE SECTION A-A, B-B, C-C, D-D, AND D'-D' SEE DWG NO. WCT-1104 (PUMP PIT 2).
3. FOR THE SECTION E-E AND F-F SEE DWG NO. WCT-1105 (PUMP PIT -3).

GRAPHIC SCALE
0 1 2 3 4 5 10M
1/100

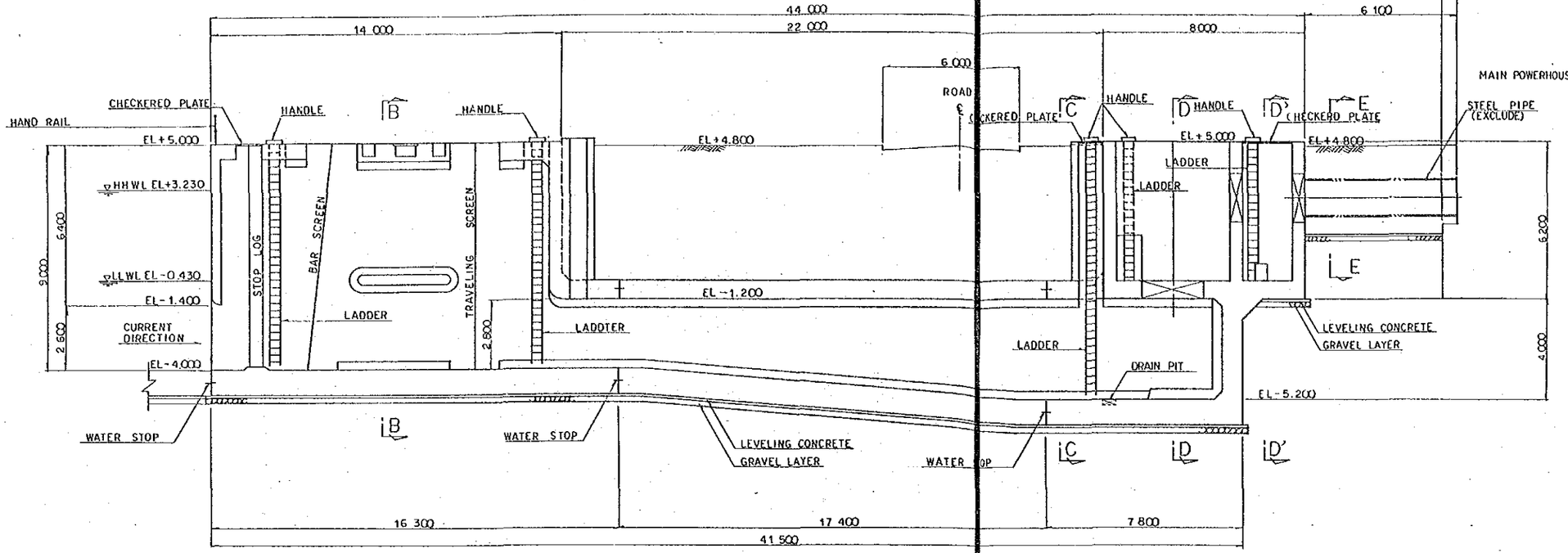
PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

PUMP PIT - 1

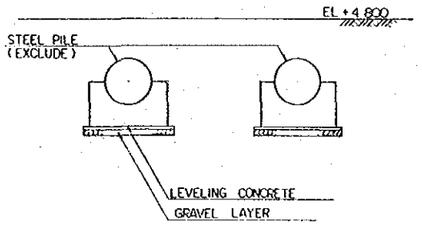
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kijima		T. Amo
DRAWING NO. WCT-1103		SCALE AS SHOWN	DATE 10TH JAN. 1990

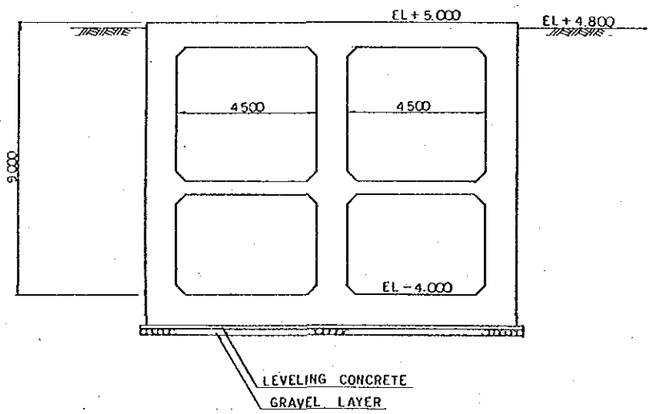
SECTION A — A
S = 1/100



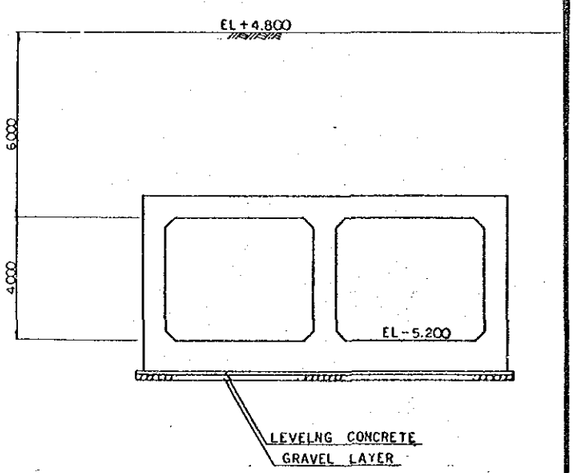
SECTION E-E
S = 1/100



SECTION B — B
S = 1/100

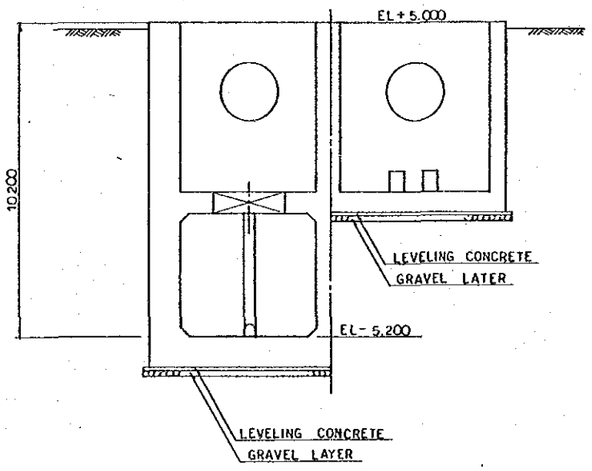


SECTION C — C
S = 1/100



SECTION D — D
S = 1/100

SECTION D' — D'
S = 1/100



NOTE : 1, FOR THE LOCATION OF SECTION A-A B-B, C-C, D-D AND D'-D', SEE DWG NO. WCT-1103 (PUMP PIT-1)

GRAPHIC SCALE
0 1 2 3 4 5 10 M
1/100

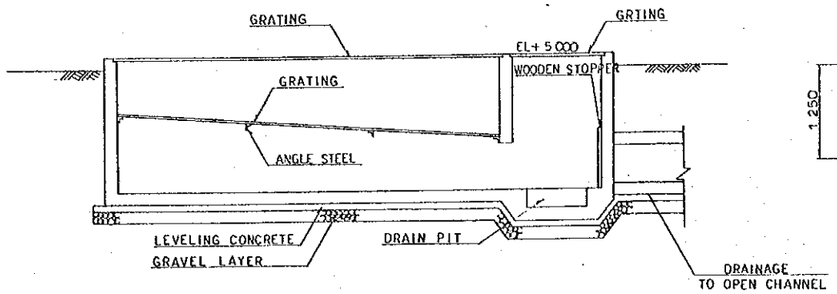
PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

PUMP PIT-2

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kijima		J. Ahmed
DRAWING NO. WCT-1104		SCALE AS SHOWN	DATE 10TH JAN. 1990

SECTION E - E
S = 1/50



SECTION F - F
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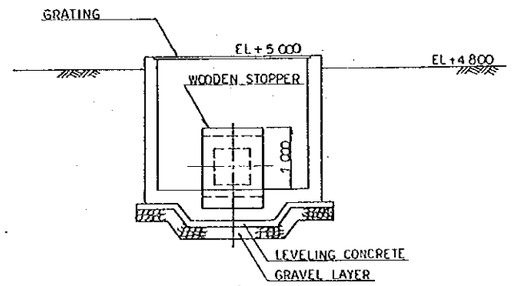
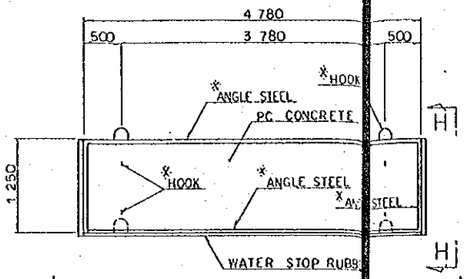
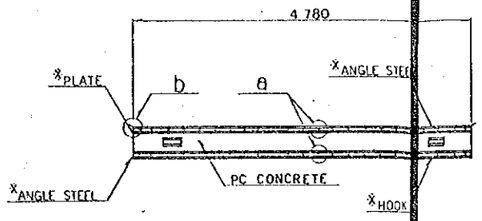


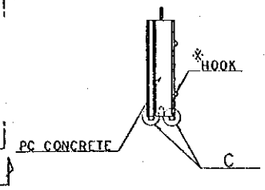
STOP LOG
S = 1/



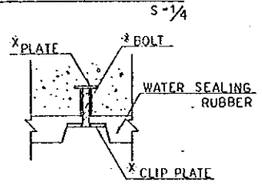
SECTION G -
S = 1/40



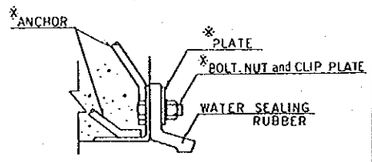
SECTION H - H
S = 1/40



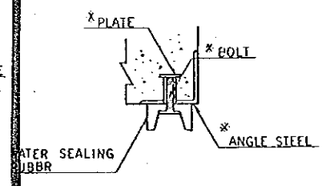
DETAIL a
S = 1/4



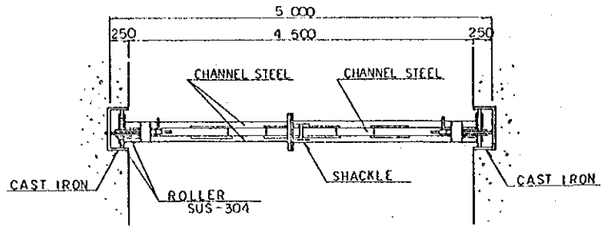
DETAIL b
S = 1/4



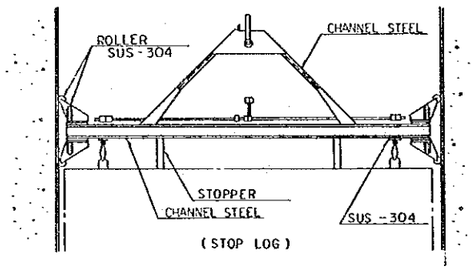
DETAIL c
S = 1/4



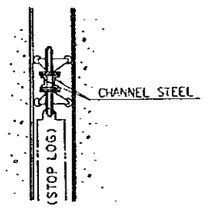
LIFTING BEAM
S = 1/40



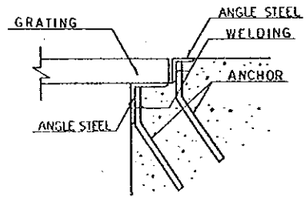
FRONT VIEW
S = 1/40



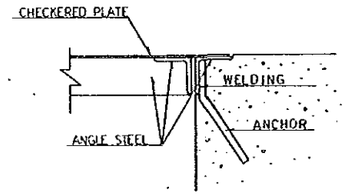
SIDE VIEW
S = 1/40



GRATING CORNER
S = 1/4

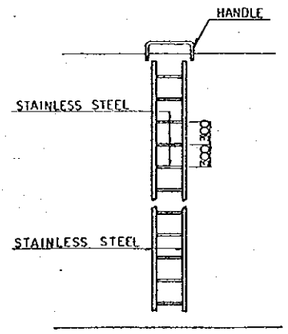


CHECKER PL CORNER
S = 1/4

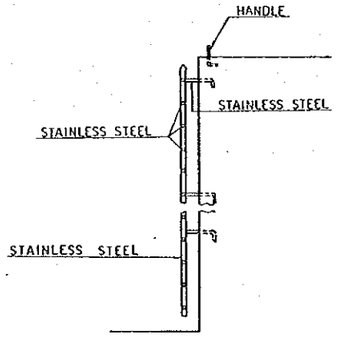


LADDER

FRONT VIEW
S = 1/40



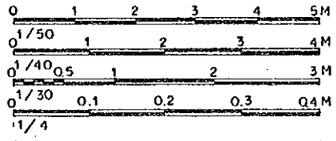
SIDE VIEW
S = 1/40



NOTES:

1. FOR THE LOCATION OF SECTION E - E AND F - F, SEE DWG. NO. WCT - 1103 (PUMP PIT - 2)
2. THE MATERIALS WITH MARK(※) SHALL BE STAINLESS STEEL (SUS - 304).

GRAPHIC SCALES



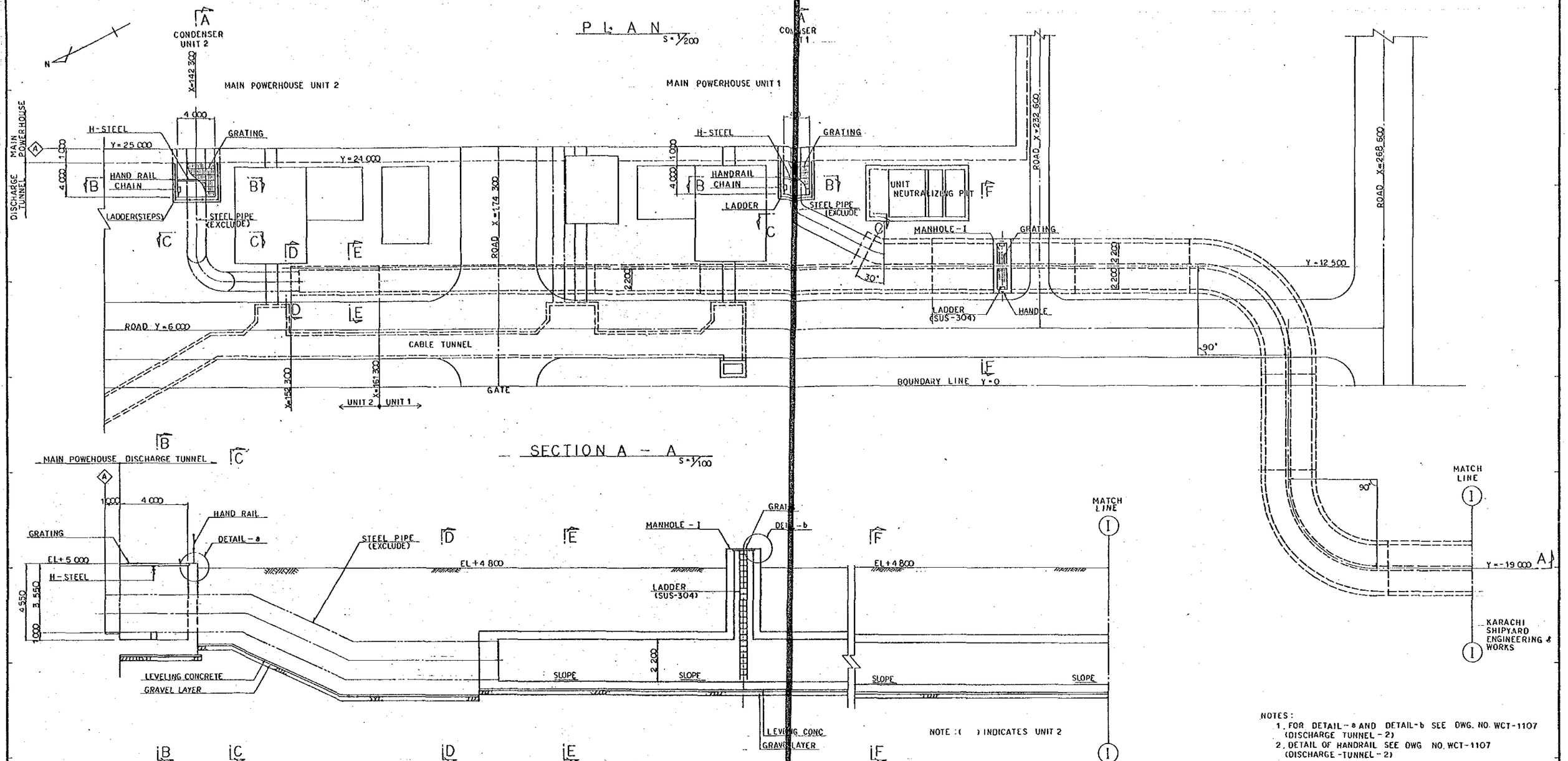
PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

PUMP PIT - 3

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

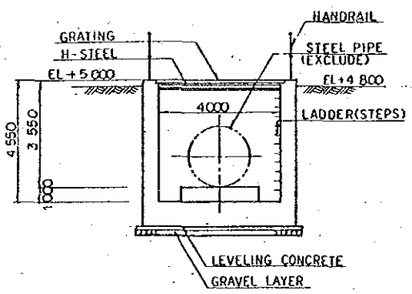
APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kojima		J.
DRAWING NO.	SCALE	DATE	
WCT - 1105	AS SHOWN	10TH JAN. 1990	

# PLAN
S = 1/200

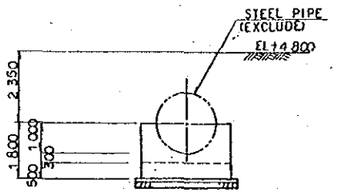


# SECTION A - A
S = 1/100

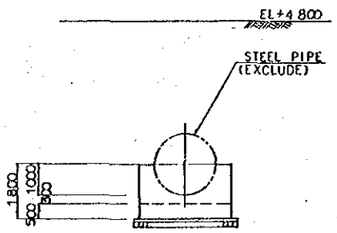
# SECTION B - B
S = 1/100



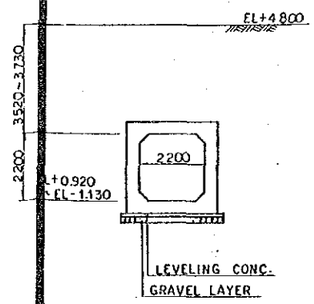
# SECTION C - C
S = 1/100



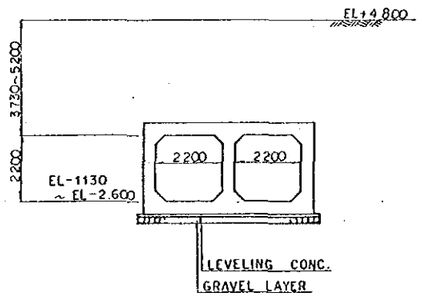
# SECTION D - D
S = 1/100



# SECTION E - E
S = 1/100



# SECTION F - F
S = 1/100



NOTES:
1. FOR DETAIL - a AND DETAIL - b SEE DWG. NO. WCT-1107 (DISCHARGE TUNNEL - 2)
2. DETAIL OF HANDRAIL SEE DWG NO. WCT-1107 (DISCHARGE - TUNNEL - 2)

GRAPHIC SCALES

0 1 2 3 4 5 10 M
1/100

0 1 2 3 4 5 10 20M
1/200

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

DISCHARGE TUNNEL - 1

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kaji-1		
DRAWING NO.	SCALE	DATE	
WCT-1106	AS SHOWN	10TH JAN. 1990	

8

N

PLAN
S=1/200

MATCH LINE (I)

LG

EXPANSION JOINT

2.200 2.200

KARACHI SHIPYARD ENGINEERING WORKS

90°

MANHOLE - II

LADDER

CONCRETE COVER

SECTION G - G
S=1/100

DISCHARGE TUNNEL

OUTLET

MATCH LINE (I)

MANHOLE - II

CONCRETE COVER

EL +4.800

DETAIL - C

LADDER(STEPS)

EXPANSION JOINT

2.200

SLOPE

LEVELING CONCRETE

GRAVEL LAYER

Y=-181.000

EL +4.800

2.200

SLOPE

EL - 2.600 LEVEL

STOP LOG

2.200 2.200

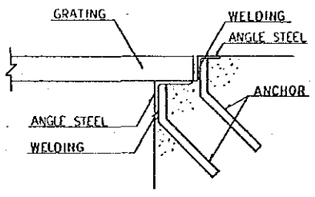
Y=-181.000

OUTLET

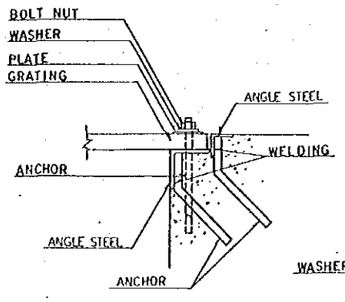
DISCHARGE TUNNEL

(I)

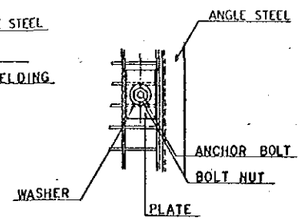
DETAIL - a
S=1/4

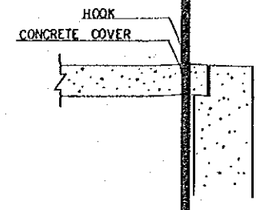


DETAIL - b
S=1/4



DETAIL - C
S=1/20





NOTES :
1. FOR THE LOCATION OF DETAIL- a AND DETAIL-b SEE DWG NO. WCT-1106 (DISCHARGE TUNNEL-1).

GRAPHIC SCALES

0 0.1 0.2 0.3 0.4M
1/4

0 0.5 1 2M
1/20

0 1 2 3 4 5 10 M
1/100

0 5 10 20M
1/200

LG

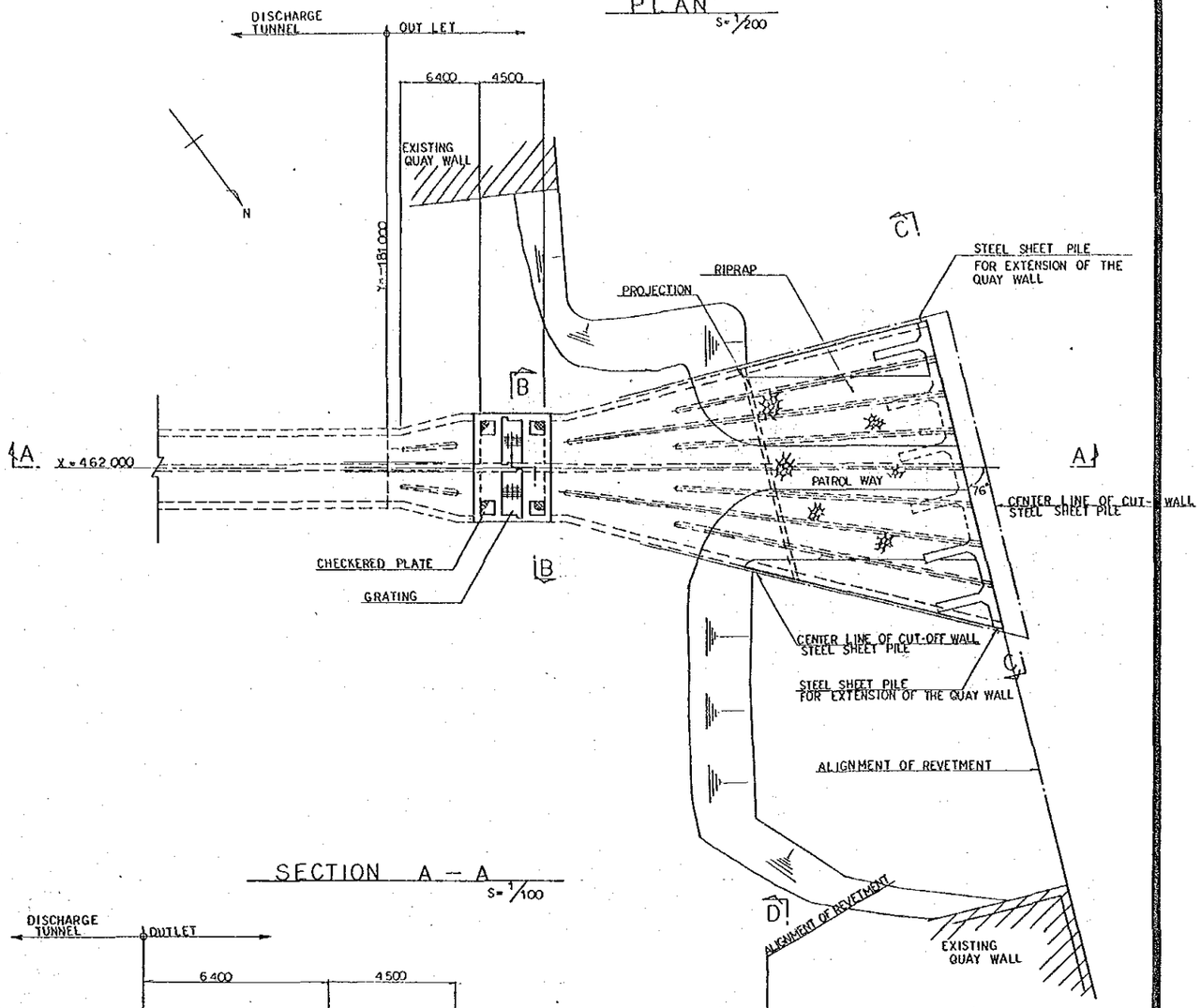
PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

DISCHARGE TUNNEL - 2

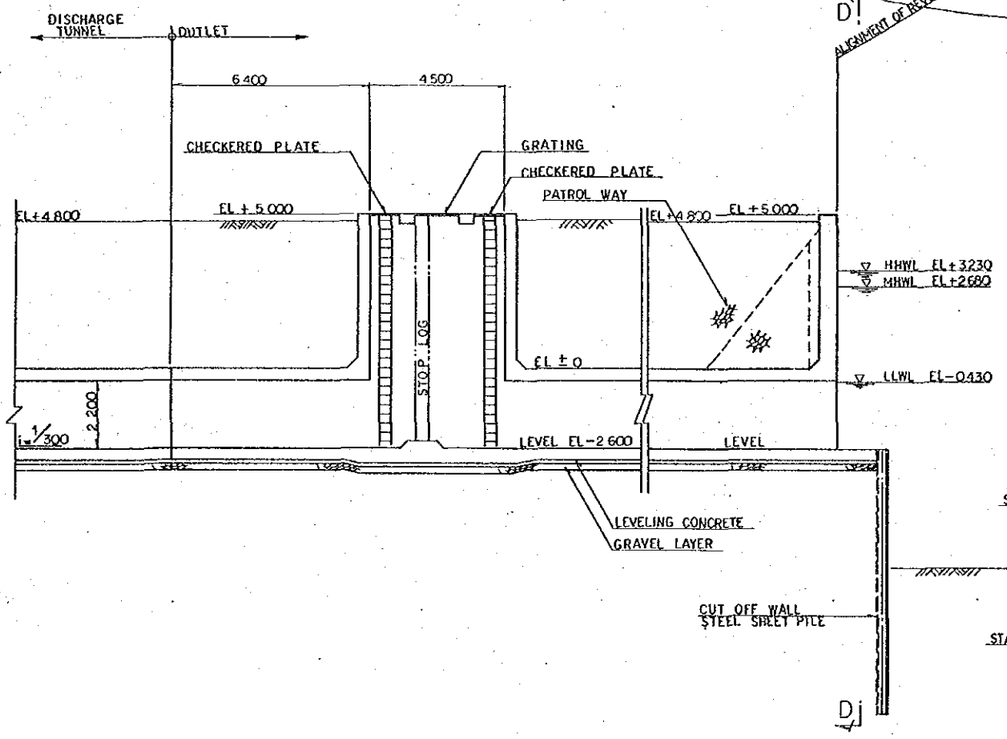
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kajima		J.
DRAWING NO. WCT-1107		SCALE AS SHOWN	DATE 10TH JAN. 1990

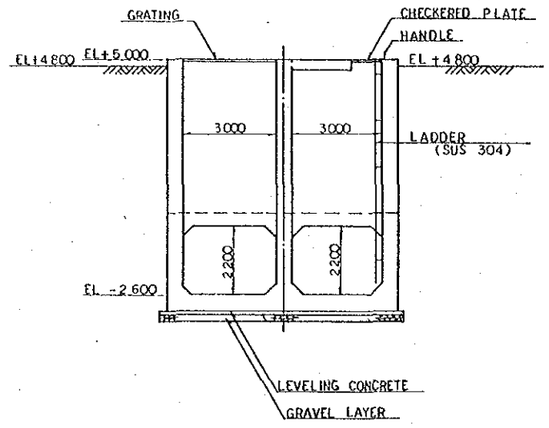
# PLAN
S=1/200



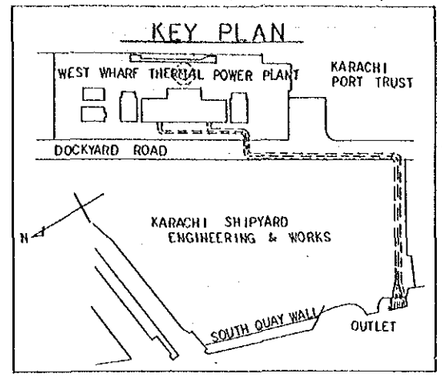
# SECTION A – A
S=1/100



# SECTION B – B
S=1/100

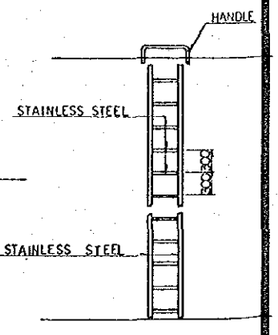


KEY PLAN

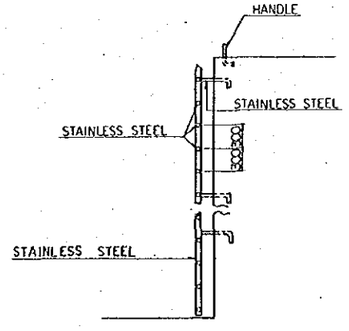


LADDER

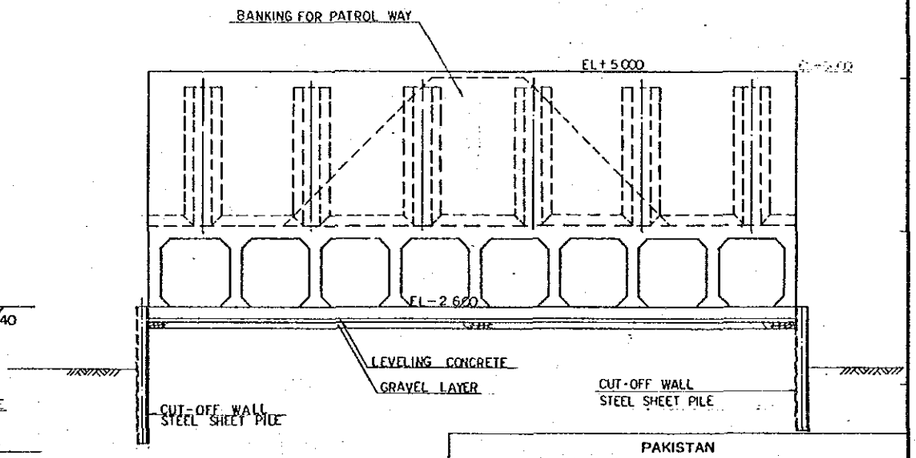
FRONT VIEW
S=1/40



SIDE VIEW
S=1/40

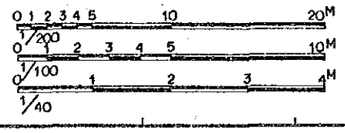


# SECTION C – C
S=1/100



NOTE:
1. DETAIL OF GRATING CORNER SEE DWG NO. WCT-1103 (PUMP PIT - 3).
2. DETAIL OF CHECKERED PLATE CORNER SEE DWG NO. WCT-1103 (PUMP PIT - 3).

GRAPHIC SCALES



PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

OUTLET

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kajima		J. Aw
DRAWING NO. WCT-1108		SCALE AS SHOWN	DATE 10TH JAN. 1990

PLAN

S= 1/300

N

UNIT 2 UNIT 1

STACK

X = 174.300
Y = 81.000

SCREEN & PUMP PIT

UNIT 1 MAIN POWERHOUSE

UNIT BOILER

ROAD

ROAD

Y=115.500

Y=89.000

Y=81.500

Y=77.500

Y=73.500

Y=59.500

X=174.300

X=192.000

X=220.600

X=223.100

X=232.600

X=224.600

X=255.600

X=258.600

X=262.600

X=268.600

X=260.600

X=264.600

X=272.600

X=276.600

X=306.600

Y=103.000
Y=101.500
Y= 91.750

Y= 98.500

Y=81.500
Y=80.000

Y= 73.500

Y= 69.500

Y= 57.500

Y=44.500

Y=41.000

NOTE 1. SHOW TYPE OF OUTDOOR PIPE UPPORT FOUNDATION.

2. E RACK FOUNDATION SHALL BE PROVIDED E PILE AT EACH OF PEDESTAL.

GRAPHIC SCALE

0 5 10 20 30M

1/300

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

OUTDOOR PIPE SUPPORT FOUNDATION - 1

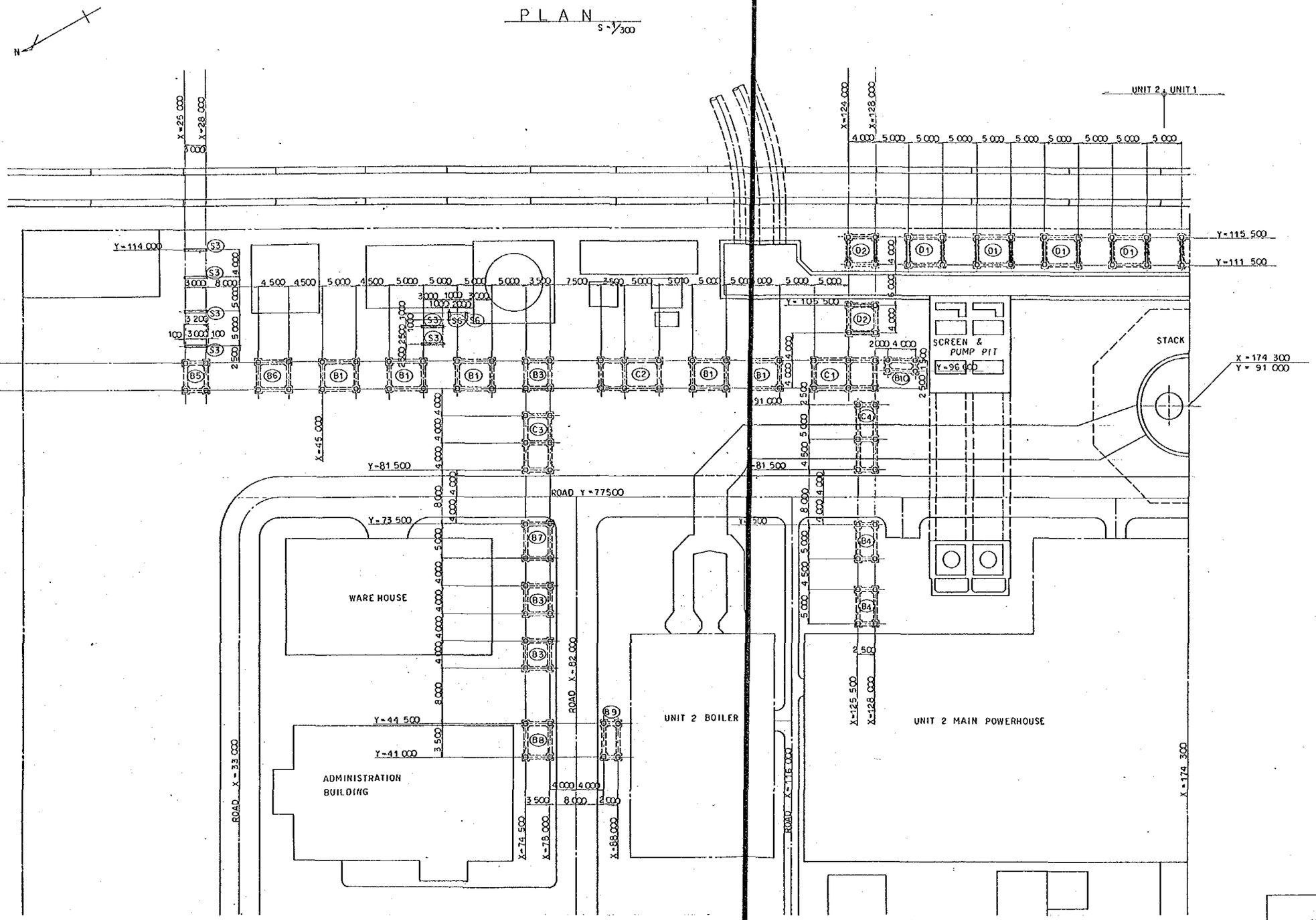
JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kojima		J. Amo
DRAWING NO.		SCALE	DATE
WCT-1201		AS SHOWN	10TH JAN. 1990

PLAN

S = 1/300



NOTE: 1. ○ SHOW TYPE OF OUTDOOR PIPE SUPPORT FOUNDATION.

2. THE RACK FOUNDATION SHALL BE PROVIDED THE PILE AT EACH OF PEDESTAL.

GRAPHIC SCALE

0 5 10 20 30M

1/300

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

OUTDOOR PIPE SUPPORT FOUNDATION-2

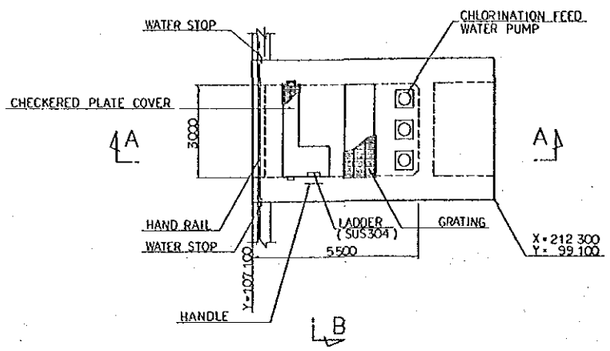
JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

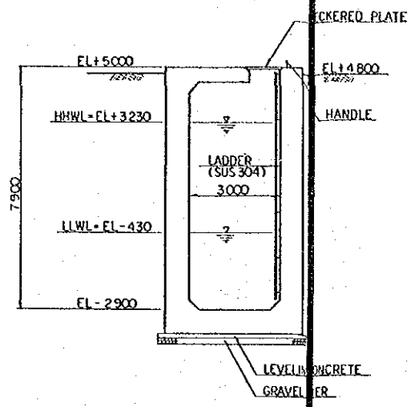
APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kojima		
DRAWING NO. WCT-1202		SCALE AS SHOWN	DATE 10TH JAN. 1990

CHLORINATION FEED WATER PUMP PIT
S = 1/100

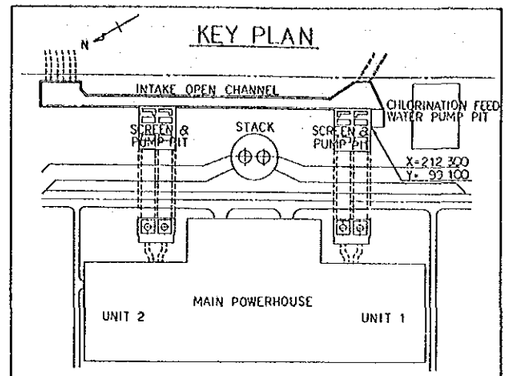
PLAN
S = 1/100



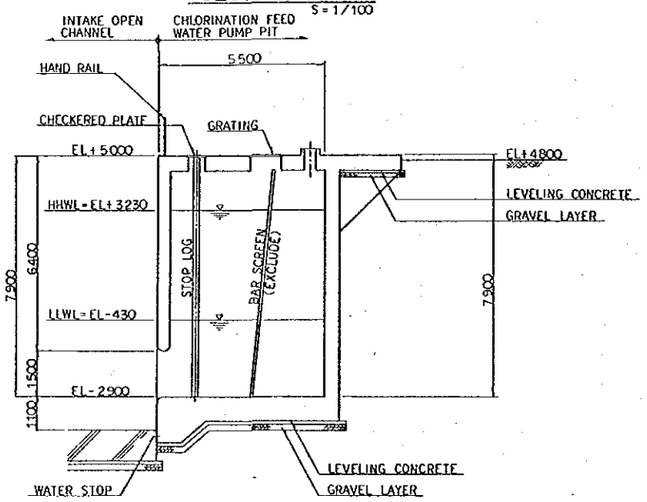
SECTION B - B
S = 1/1



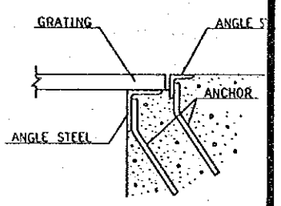
KEY PLAN



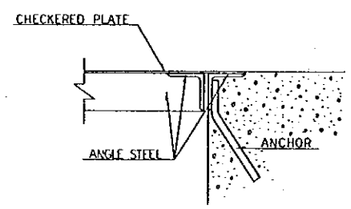
SECTION A - A
S = 1/100



GRATING CORNER
S = 1/4

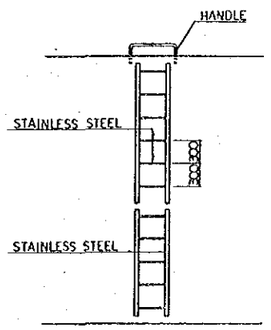


CHECKERED PLATE CORNER
S = 1/4

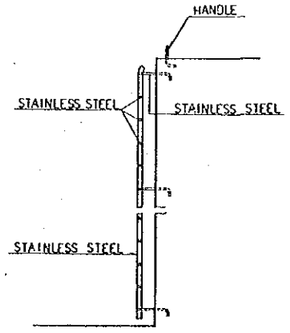


LADDER

FRONT VIEW
S = 1/40



SIDE VIEW
S = 1/40



GRAPHIC SCALES

0 0.1 0.2 0.3 0.4 M
1/4

0 0.5 1 2 3 M
1/30

0 1 2 3 4 5 10 M
1/100

NOTE: 1. THE MATERIALS WITH MARK(※) SHALL BE STAINLESS STEEL (SUS-304).

PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

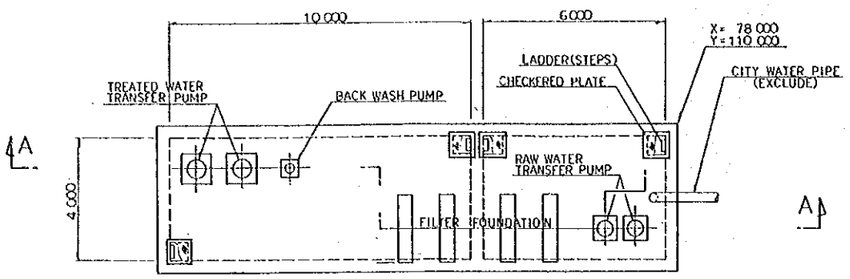
CHLORINATION FEED WATER PUMP PIT

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

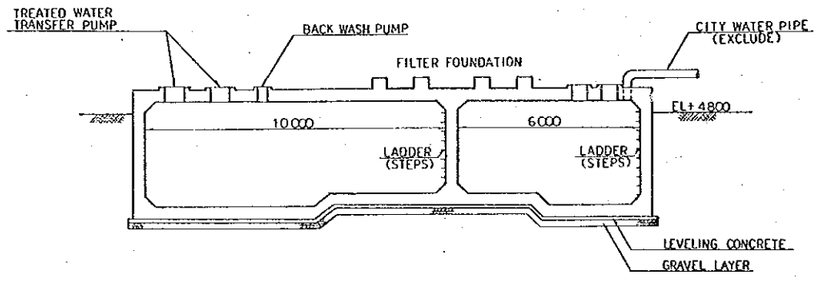
APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
DRAWING NO.		SCALE	DATE
WCT-1203		AS SHOWN	10TH JAN.1990

RAW WATER RECEIVING POND

PLAN
S=1/100

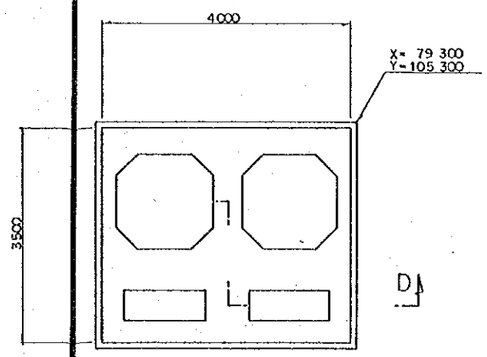


SECTION A-A
S=1/100

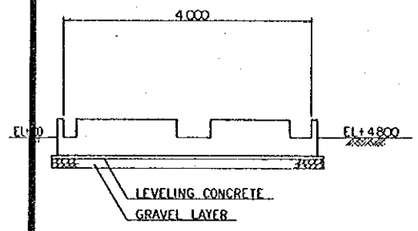


CHEMICAL TANK AND PUMP FOUNDATION

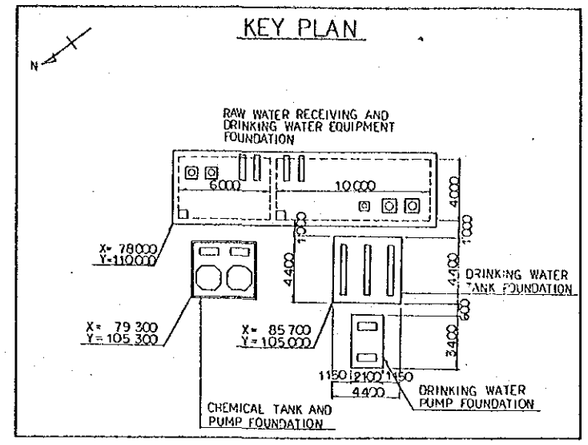
PLAN
S=1/50



SECTION D-D
S=1/50

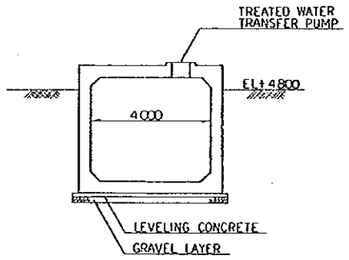


KEY PLAN

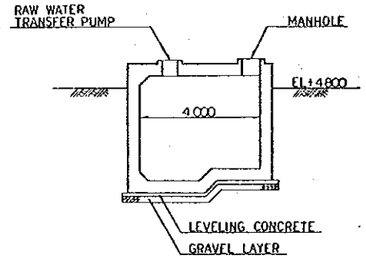


NOTE : 1. THE INSIDE CONCRETE SURFACE OF THE CHEMICAL TANK AND PUMP FOUNDATION SHALL BE APPLID ACID AND ALKALI PROOF LINING.
2. THE INSIDE CONCRETE SURFACE OF THE RAW WATER RECEIVING POND SHALL BE APPLID WATER PROOF COATING.

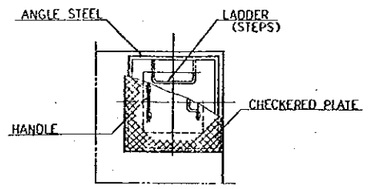
SECTION B-B
S=1/100



SECTION C-C
S=1/100

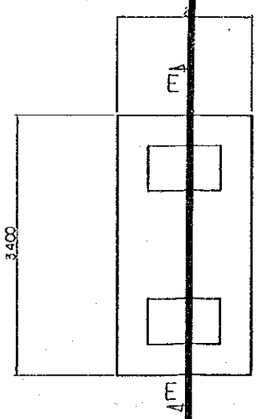


DETAIL OF CHECKERED PLATE
S=1/30

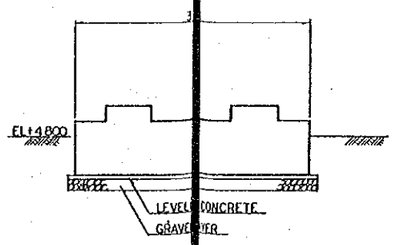


DRINKING WATER PUMP FOUNDATION

PLAN
S=1/40

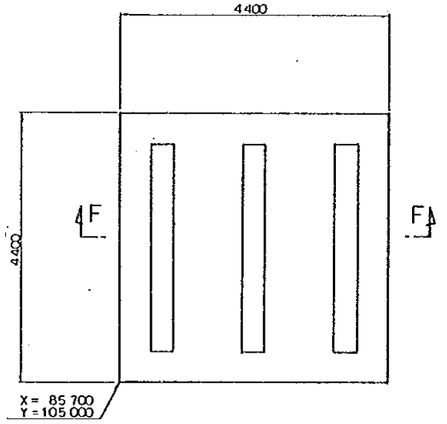


SECTION E-E
S=1/40

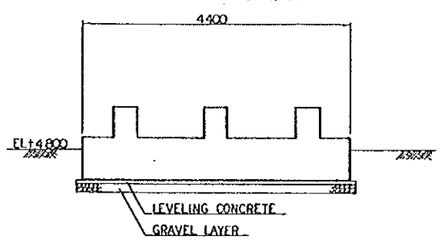


DRINKING WATER TANK FOUNDATION

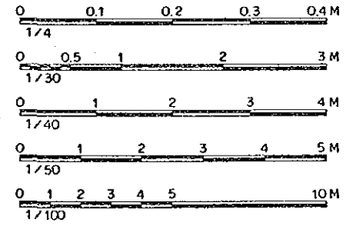
PLAN
S=1/50



SECTION F-F
S=1/50



GRAPHIC SCALES



PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

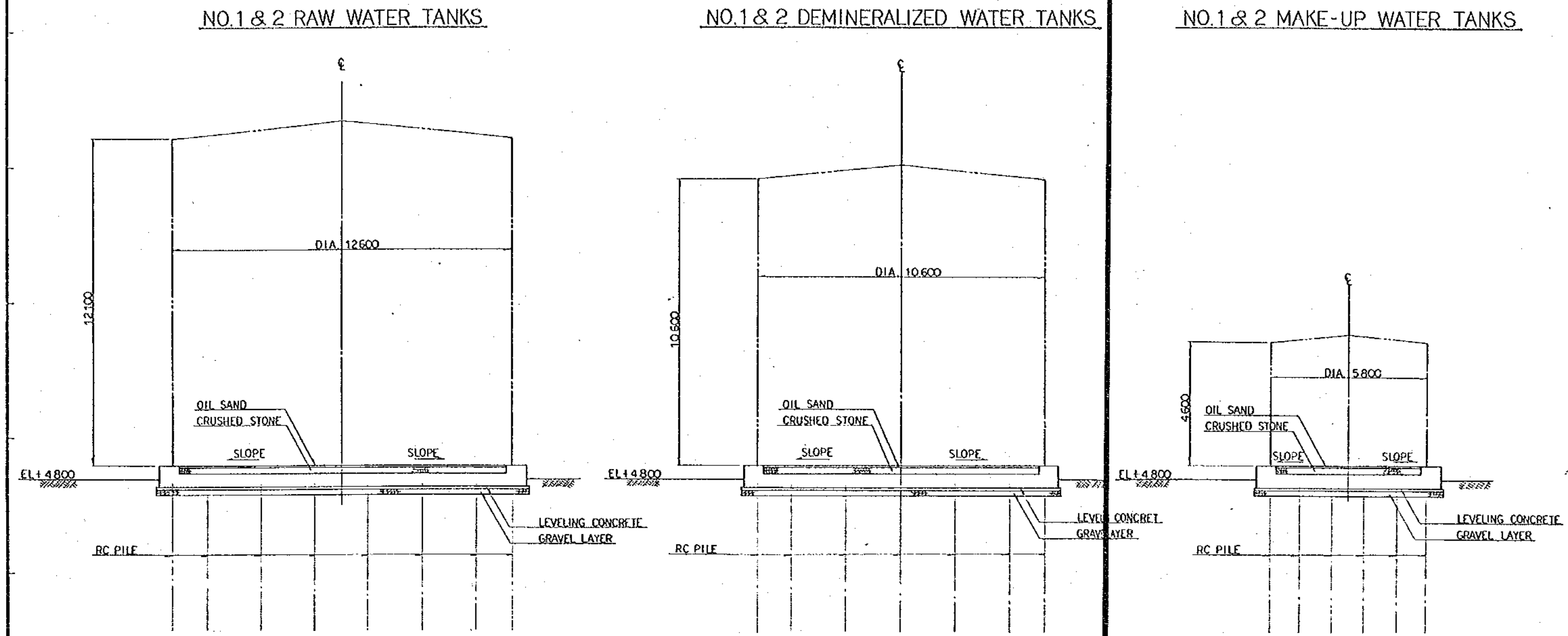
RAW WATER RECEIVING AND DRINKING WATER EQUIPMENT FOUNDATION

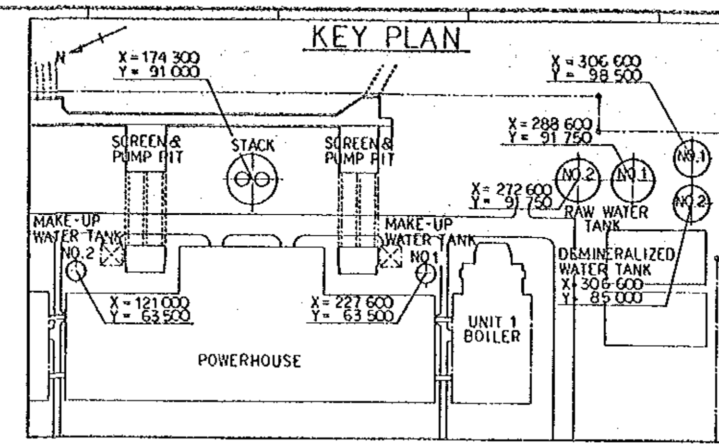
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kajima		
DRAWING NO.	SCALE	DATE	
WCT-1204	AS SHOWN	10TH JAN. 1990	

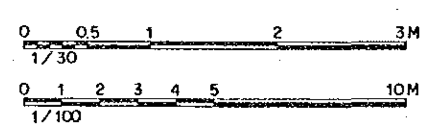
SECTION OF WATER TANKS

S=1/100





GRAPHIC SCALES



PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

RAW WATER, DEMINERALIZED WATER AND MAKE-UP WATER TANK FOUNDATION

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

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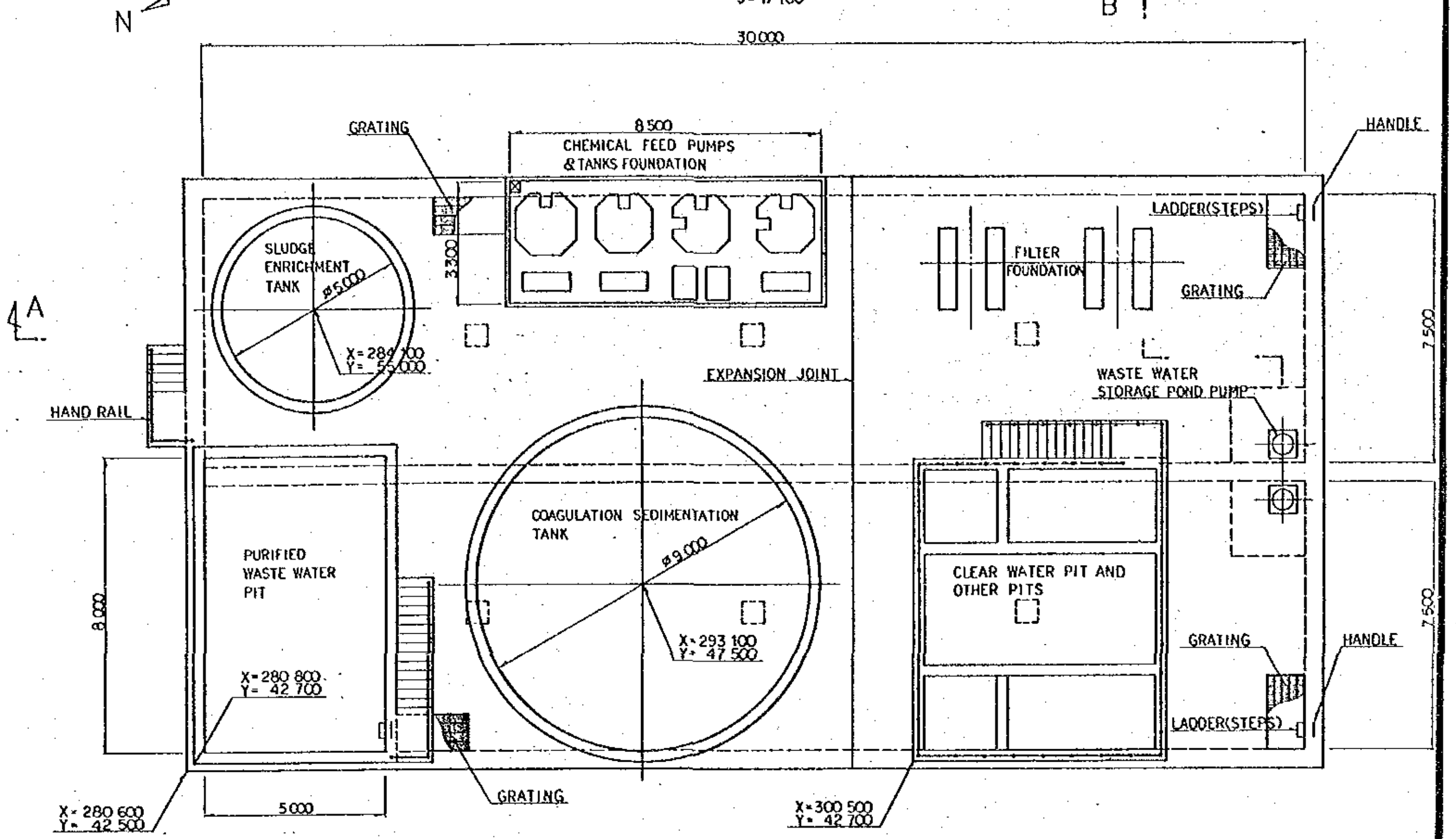
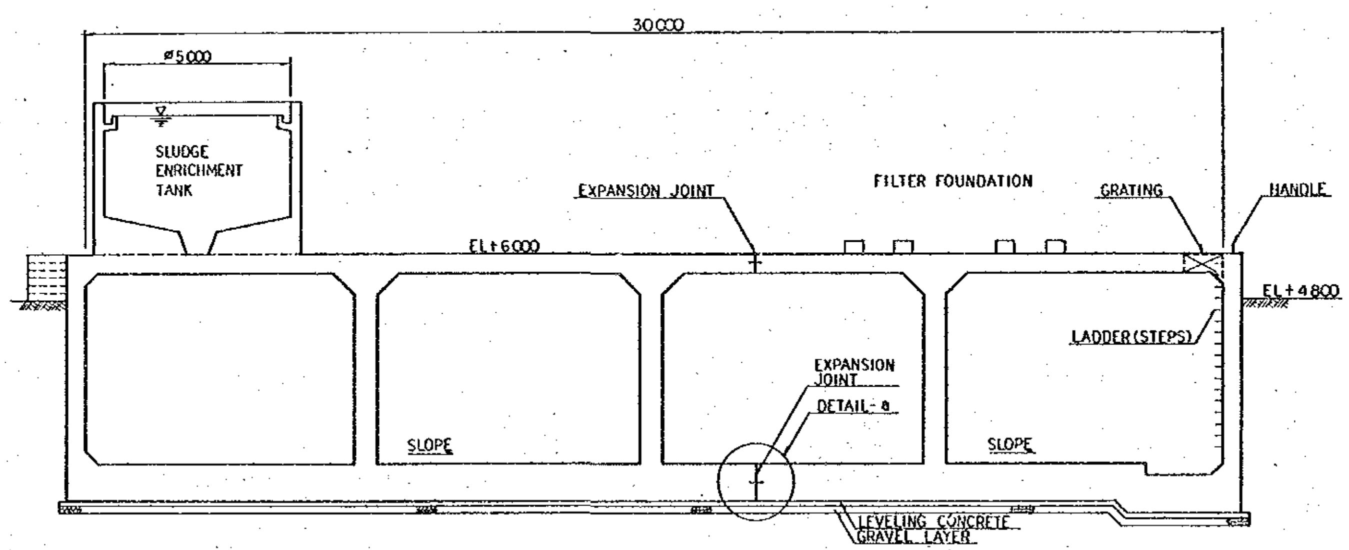
(signature)	(signature)	(signature)	(signature)
DRAWING NO. WCT-1205		SCALE AS SHOWN	DATE 10TH JAN. 1990

WASTE WATER STORAGE POND

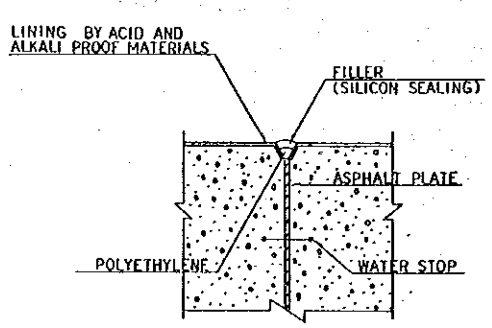
PLAN
S=1/100



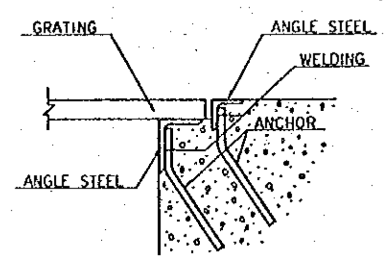
SECTION A-A
S=1/100



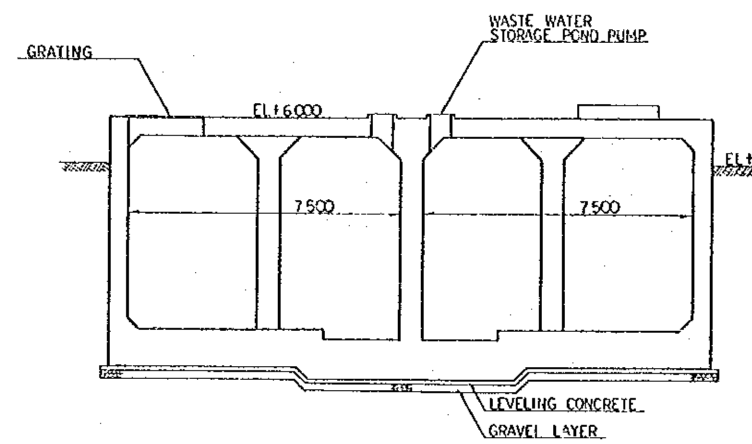
DETAIL-a
S=1/20



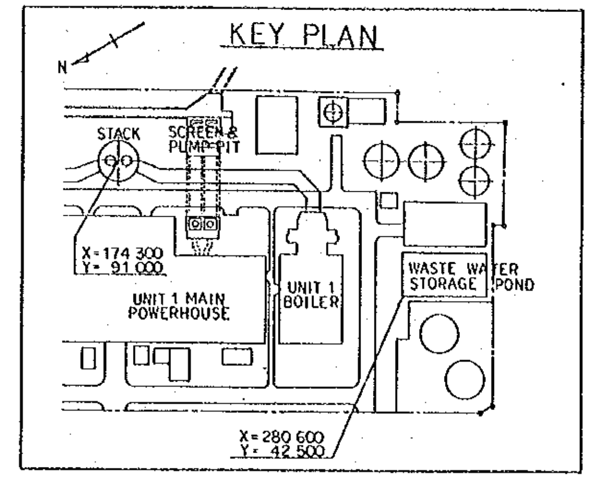
GRATING CORNER
S=1/4



SECTION B-B
S=1/100

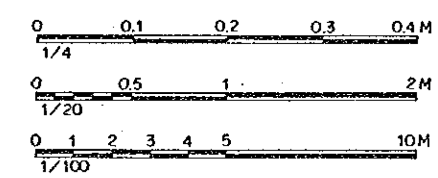


KEY PLAN



NOTE:
1. THE INSIDE CONCRETE SURFACE OF THE WASTE WATER STORAGE POND SHALL BE APPLID ACID AND ALKALI PROOF LINING.
2. FOR DETAIL OF THE COAGULATION SEDIMENTATION TANK, THE SLUDGE ENRICHMENT TANK AND THE PURIFIED WASTE WATER PIT SEE DWG NO. WCT-1207 (WASTE WATER TREATMENT FACILITIES-2).
3. FOR DETAIL OF THE CLEAR WATER PIT AND OTHER PITS AND THE CHEMICAL FEED PUMPS & TANKS FOUNDATION SEE DWG NO. WCT-1208 (WASTE WATER TREATMENT FACILITIES-3).

GRAPHIC SCALES



PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

WASTE WATER TREATMENT FACILITIES-1

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

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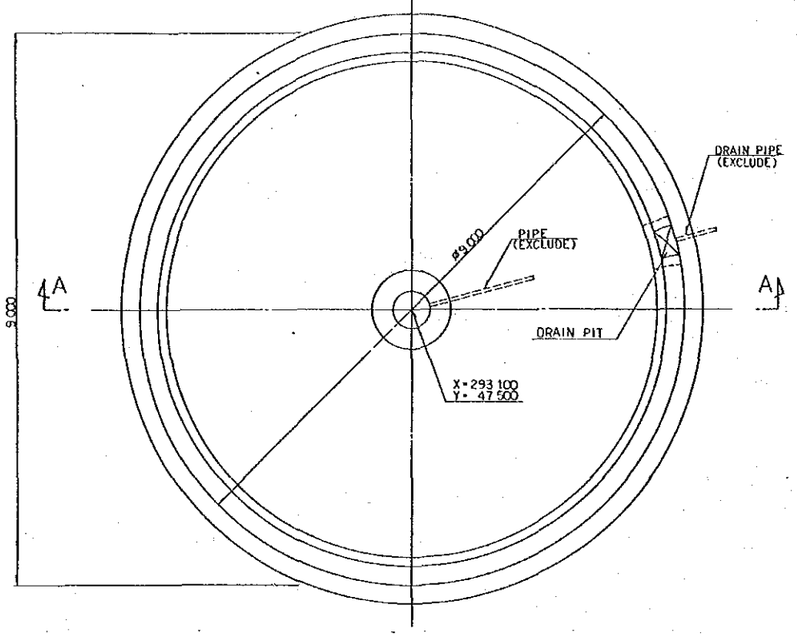
[signature]	A Kajima	[signature]	[signature]
DRAWING NO. WCT-1206		SCALE AS SHOWN	DATE 10TH JAN.1990

COAGULATION SEDIMENTATION TANK

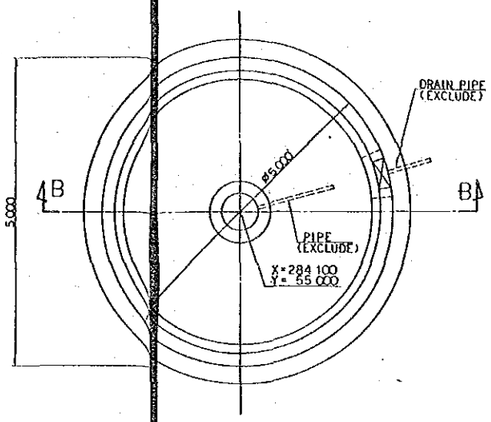
PLAN
S=1/50



SECTION A - A
S=1/50

SLUDGE ENRICHMENT TANK

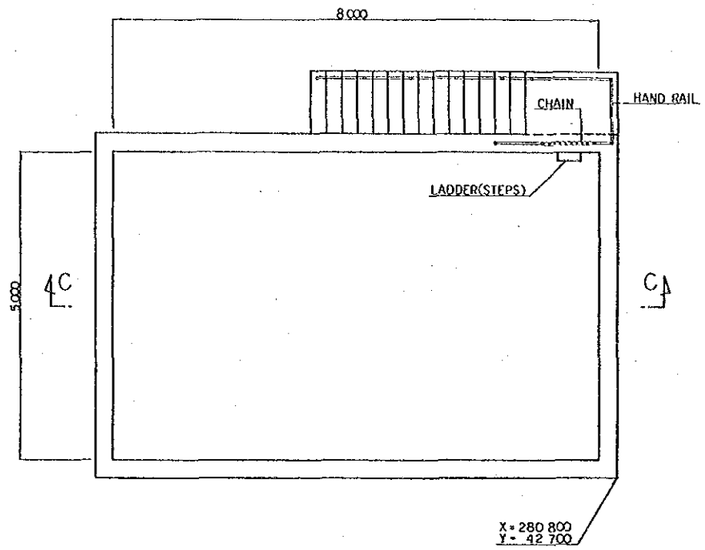
PLAN
S=1/50



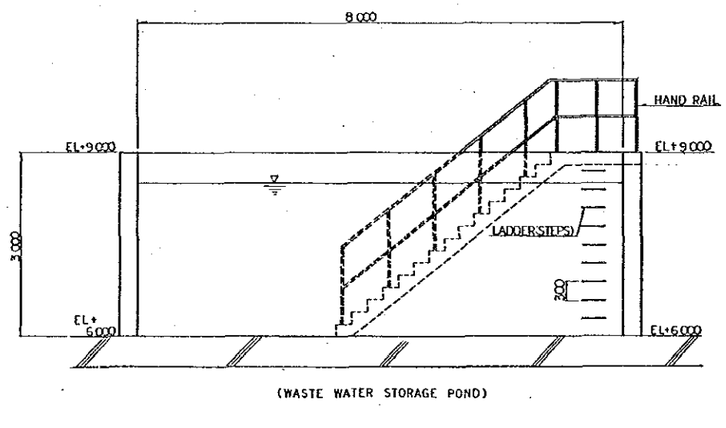
SECTION B - B
S=1/50

PURIFIED WASTE WATER PIT

PLAN
S=1/50



SECTION C - C
S=1/50



NOTE: 1. THE INSIDE CONCRETE SURFACE OF THE COAGULATION SEDIMENTATION TANK, THE SLUDGE ENRICHMENT TANK AND THE PURIFIED WASTE WATER PIT SHALL BE APPLID ACID AND ALKALI PROOF LINING.
2. LOCATION OF THE COAGULATION SEDIMENTATION TANK, THE SLUDGE ENRICHMENT TANK AND THE PURIFIED WASTE WATER PIT SHOW DWG NO. WCT-1206 (WASTE WATER TREATMENT FACILITIES-1)

GRAPHIC SCALES

0 0.5 1 2 3M
1/30

0 1 2 3 4 5M
1/50

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

WASTE WATER TREATMENT FACILITIES - 2

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

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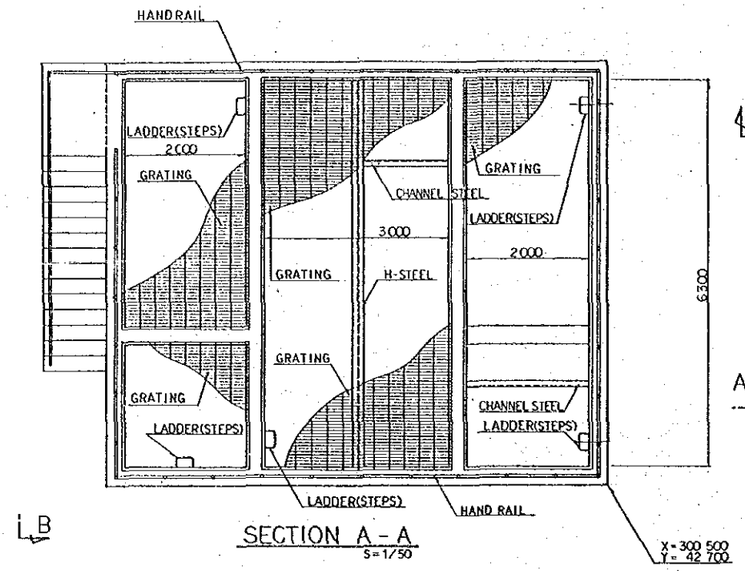
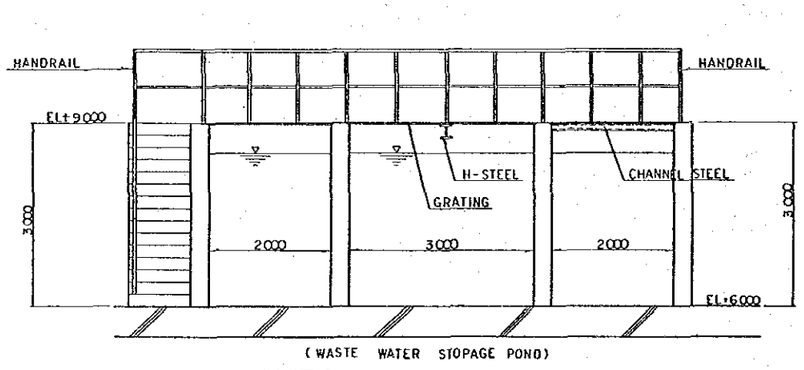
DRAWING NO.	SCALE	DATE	
WCT-1207	AS SHOWN	10TH JAN. 1990	

CLEAR WATER PIT AND OTHER PITS

PLAN
S = 1/50

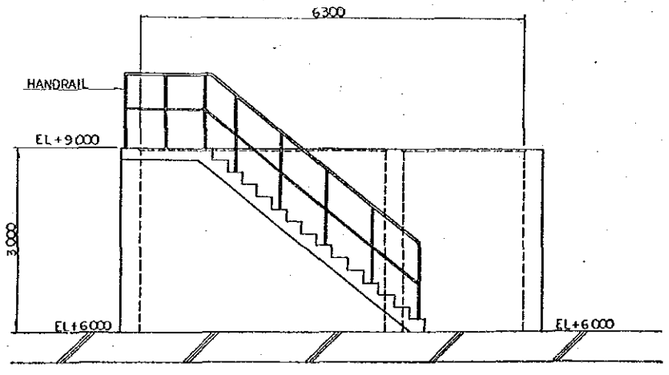


SECTION A - A
S = 1/50



(WASTE WATER STOPAGE POND)

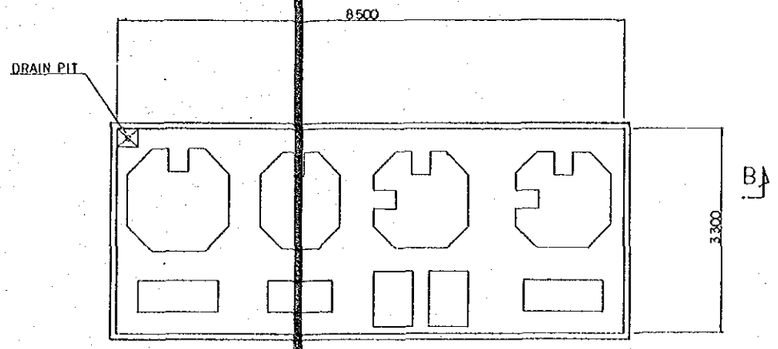
SECTION B - B
S = 1/50



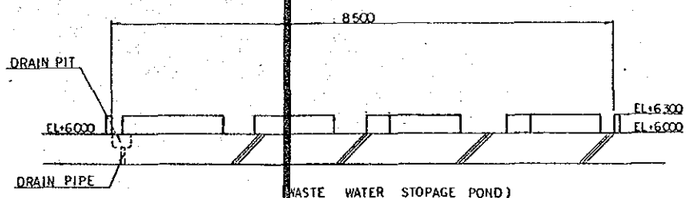
(WASTE WATER STORAGE POND)

CHEMICAL FEED PUMPS & TANKS, FOUNDATION

PLAN
S = 1/50

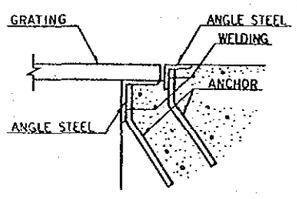


SECTION B - B
S = 1/50



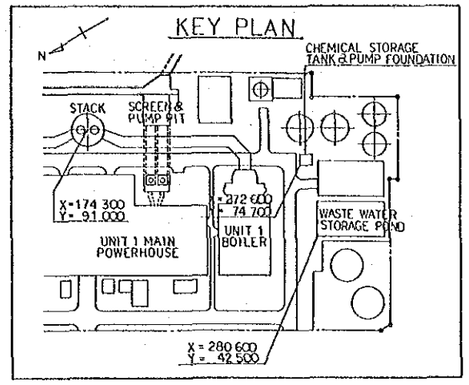
(WASTE WATER STOPAGE POND)

GRATING CORNER
S = 1/4



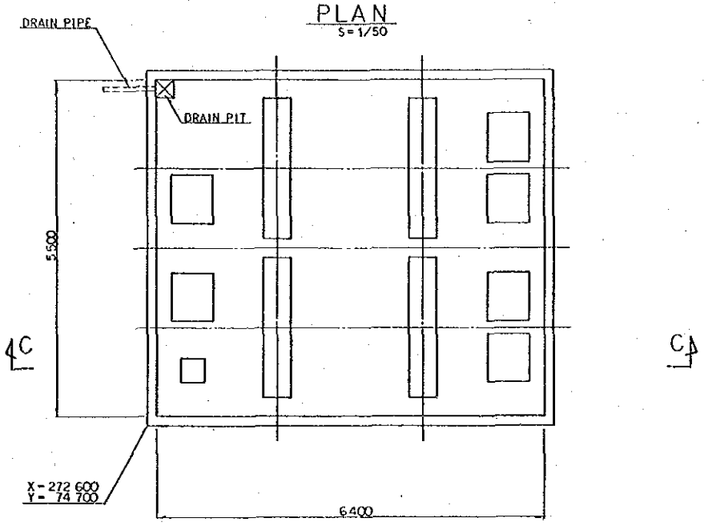
NOTE :
1. THE INSIDE CONCRETE SURFACE OF THE CLEAR WATER PIT AND OTHER PITS, THE CHEMICAL FEED PUMPS & TANKS FOUNDATION AND THE CHEMICAL STORAGE TANK & PUMP FOUNDATION SHALL BE APPLID ACID AND ALKALI PROOF LINING.
2. LOCATION OF THE CLEAR WATER PIT AND OTHER PITS AND CHEMICAL FEED PUMPS & TANKS FOUNDATION SHOW DWG NO. WCT-1206 (WASTE WATER TREATMENT FACILITIES - 1).

KEY PLAN

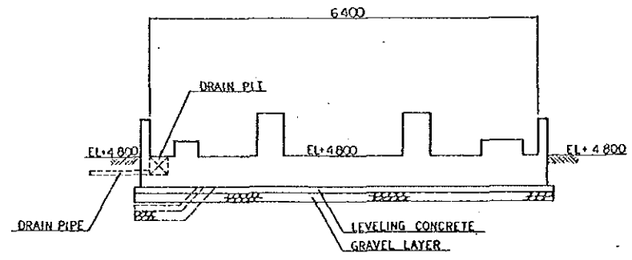


CHEMICAL STORAGE TANK & PUMP FOUNDATION

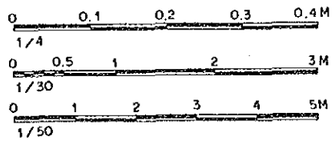
PLAN
S = 1/50



SECTION C - C
S = 1/50



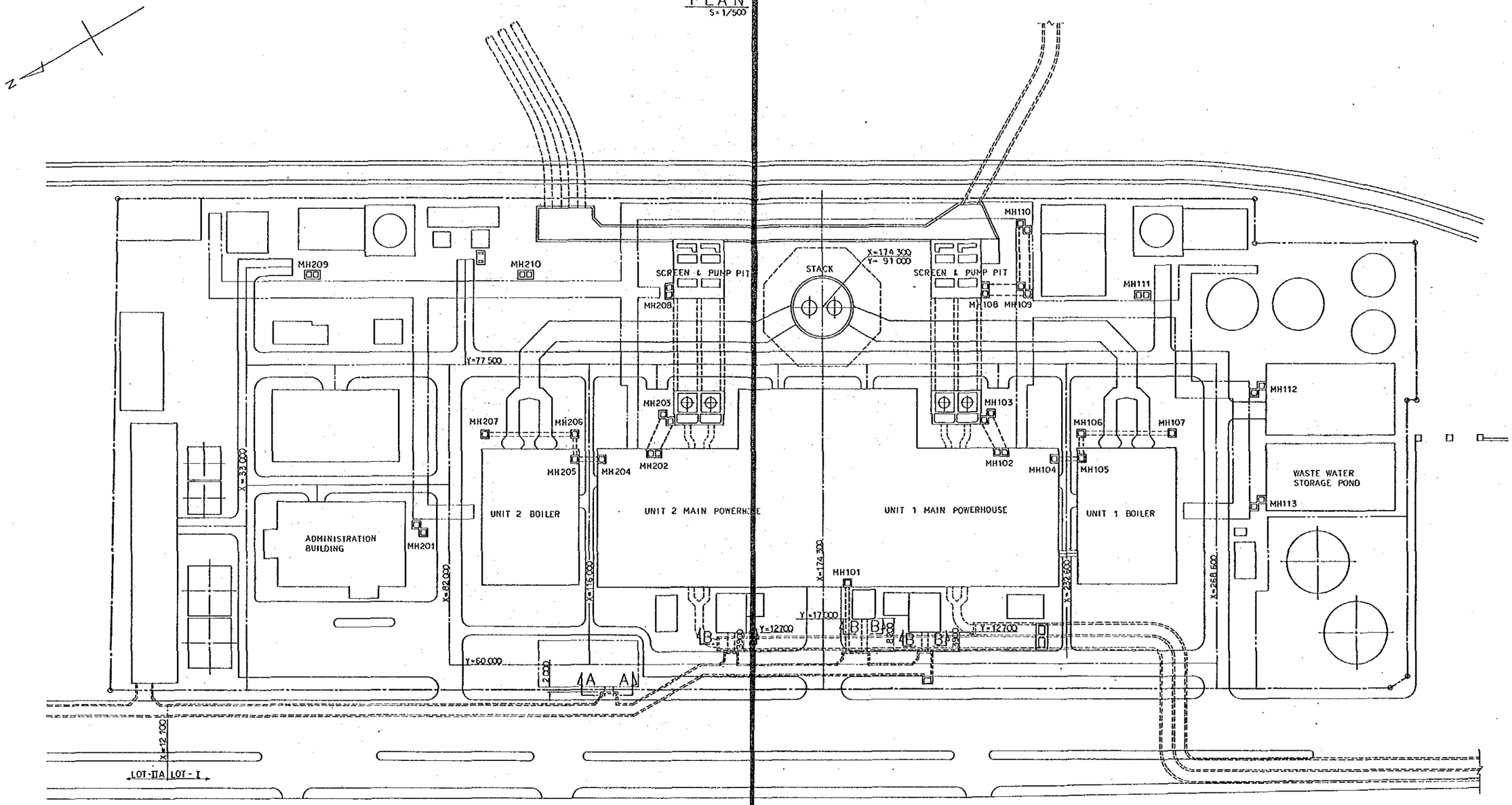
GRAPHIC SCALES



PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO. I AND NO. 2
WASTE WATER TREATMENT FACILITIES - 3
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

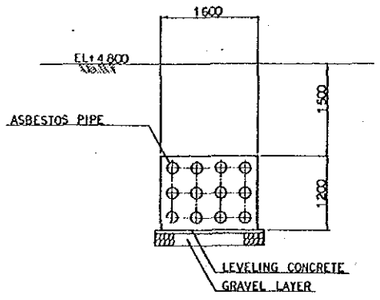
APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kijima		
DRAWING NO. WCT-1208		SCALE AS SHOWN	DATE 10TH JAN. 1990

# PLAN
S=1/500

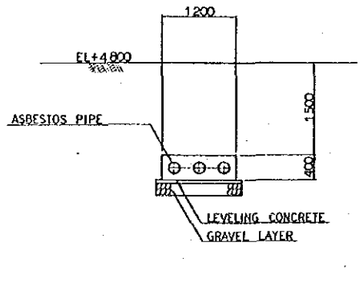


STANDARD SECTION OF C.V. CABLE DUCT

SECTION A - A
S=1/50



SECTION B - B
S=1/50



NOTE: 1 ▭ SHOWS UNIT 1 AND 2, SCOPE OF WORK.

GRAPHIC SCALES

0 1 2 3 4 5M
1/50

0 10 20 30 40 50M
1/500

PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

CABLE DUCT FOUNDATION - 1

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

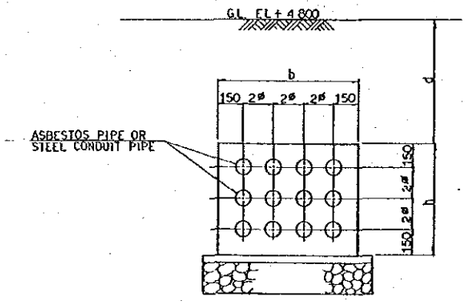
APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kojima		
DRAWING NO. WCT - 1209	SCALE AS SHOWN	DATE 10TH JAN. 1990	

20

DEMENSION TABLE OF CABLE DUCT

FOR POWER CABLE DUCT						FOR CONTROL CABLE DUCT					
SECTION	DISTANCE(m)	ARRANGEMENT OF PIPING	DIMENSION (mm) b	h	d	SECTION	DISTANCE(m)	ARRANGEMENT OF PIPING	DIMENSION (mm) b	h	d
MH MH 102~103	7.5	○○○ ○○○ ○○○	700	700	600	MH MH 102~103	9.0	○○○ ○○○	700	500	600
MH MH 108~109	9.5	○○○ ○○○	700	500	800	MH MH 108~109	8.0	○○ ○○	500	500	800
MH MH 109~110	14.0	○○○ ○○○	700	500	800	MH MH 109~110	14.0	○○ ○○	500	500	800
MH MH 202~203	7.5	○○○ ○○○ ○○○	700	700	600	MH MH 202~203	9.0	○○○ ○○○	700	500	600
						MH CABLE 101~TUNNEL	16.5	○○○○○○○ ○○○○○○○ ○○○○○○○ ○○○○○○○ ○○○○○○○	1300	1300	1500

CABLE DUCT STANDARD SECTION

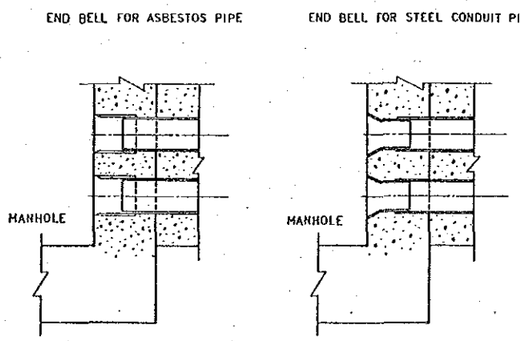


NOTE

ASBESTOS PIPE SHALL BE USED FOR POWER CABLE DUCT (JIS A 5405 OR EQUIVALENT).
STEEL CONDUIT PIPES SHALL BE USED FOR CONTROL CABLE DUCT PIPES (JIS C-8305 OR EQUIVALENT).

CONECTION BETWEEN MANHOLE AND PIPE

S=1/10

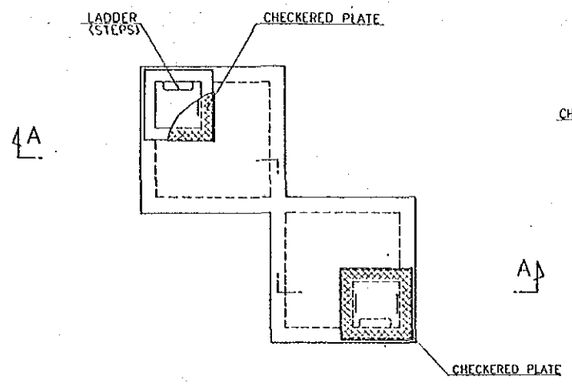


MANHOLE

S=1/40

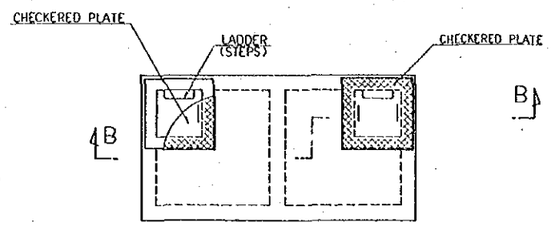
TYPE I

PLAN

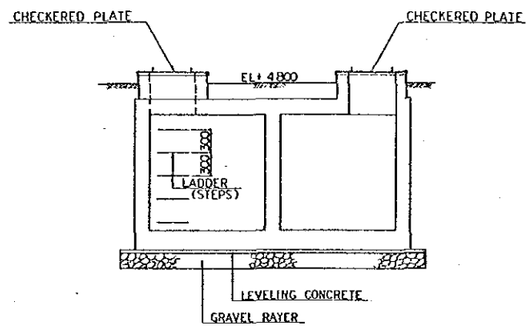


TYPE II

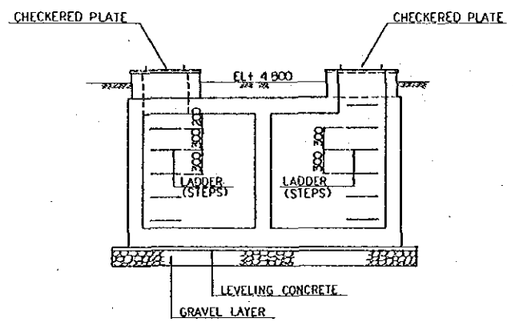
PLAN



SECTION A - A

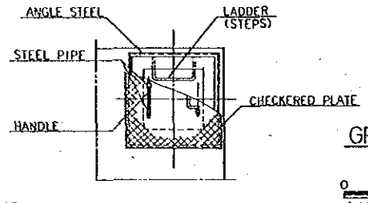


SECTION B - B



DETAIL OF CHECKERED PLATE

S=1/30



NOTE: OPEN AREA SHALL BE INFORMED LATER ON

GRAPHIC SCALES

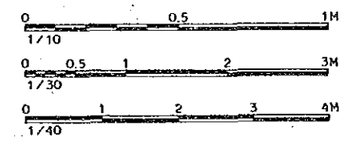


TABLE OF MANHOLE TYPE

MANHOLE NO.	TYPE	MANHOLE NO.	TYPE	MANHOLE NO.	TYPE	MANHOLE NO.	TYPE
101	EXCLUDE	108	P II C	201	P I C	208	P II C
102	EXCLUDE	109	P I C	202	(EXCLUDE)	209	P II C
103	P I C	110	P I C	203	P I C	210	P II C
104	(EXCLUDE)	111	P II C	204	(EXCLUDE)		
105	(EXCLUDE)	112	P I C	205	(EXCLUDE)		
106	(EXCLUDE)	113	P I C	206	(EXCLUDE)		
107	(EXCLUDE)			207	(EXCLUDE)		

NOTE ; P: FOR POWER CABLE
C: FOR CONTROL CABLE

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

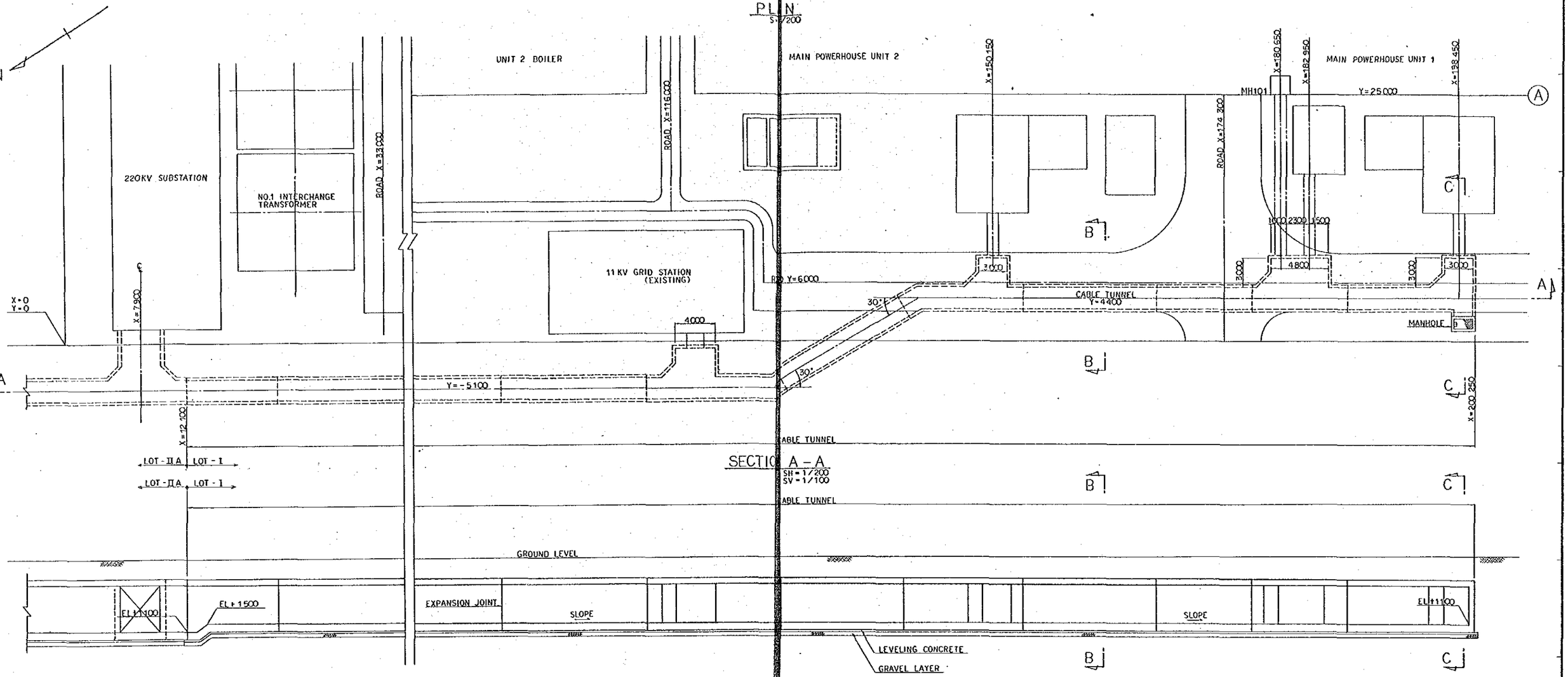
CABLE DUCT FOUNDATION - 2

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

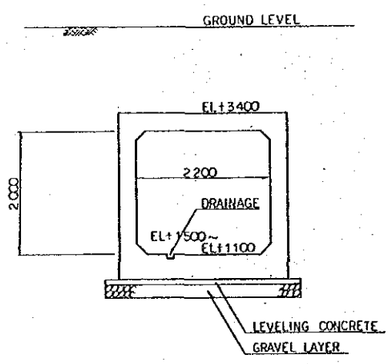
APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kijima		J.
DRAWING NO. WCT-1210		SCALE AS SHOWN	DATE 10TH JAN. 1990

PLAN
S=1/200



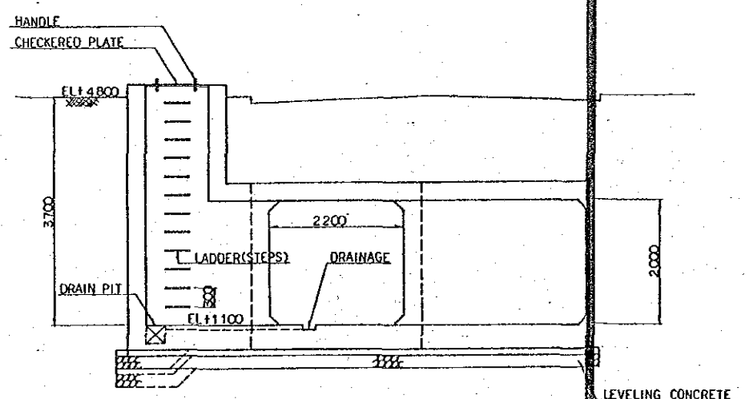
SECTION A-A
S H = 1/200
S V = 1/100

SECTION B-B
S=1/50

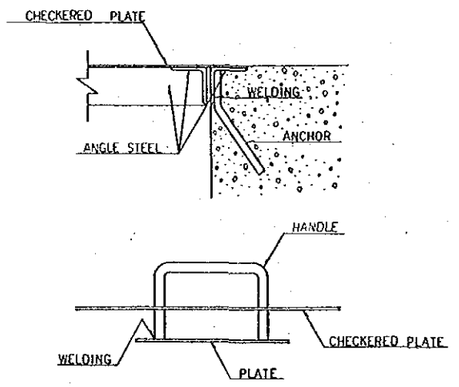


SECTION C-C
S=1/50

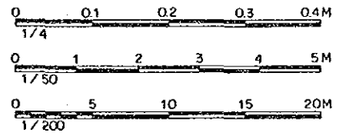
ROAD



CHECKERED PLATE CORNER AND HANDLE
S=1/4



GRAPHIC SCALES

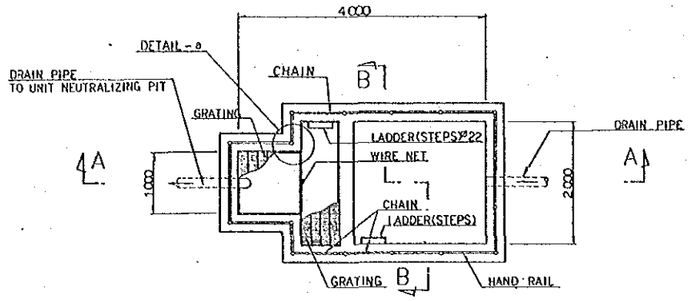


PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2
CABLE DUCT FOUNDATION - 3
(CABLE TUNNEL)
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

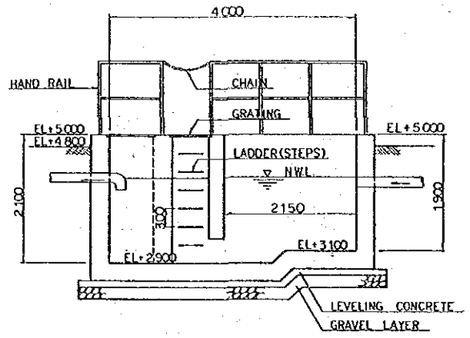
APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kijima		
DRAWING NO	SCALE	DATE	
WCT-1211	AS SHOWN	10TH JAN. 1990	

OIL SEPARATOR
FOR SERVICE OIL TANK NO. 1 AREA
FOR SERVICE OIL TANK NO. 2 AREA
FOR FUEL OIL STORAGE TANK AREA

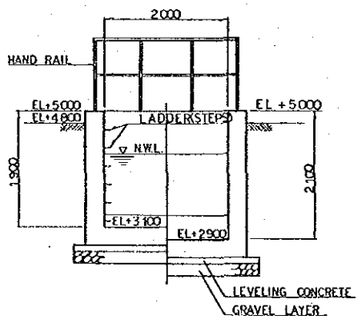
PLAN
S=1/50



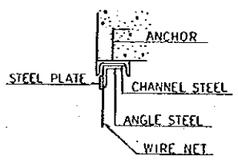
SECTION A - A
S=1/50



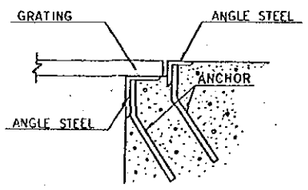
SECTION B - B
S=1/50



DETAIL - a
S=1/10

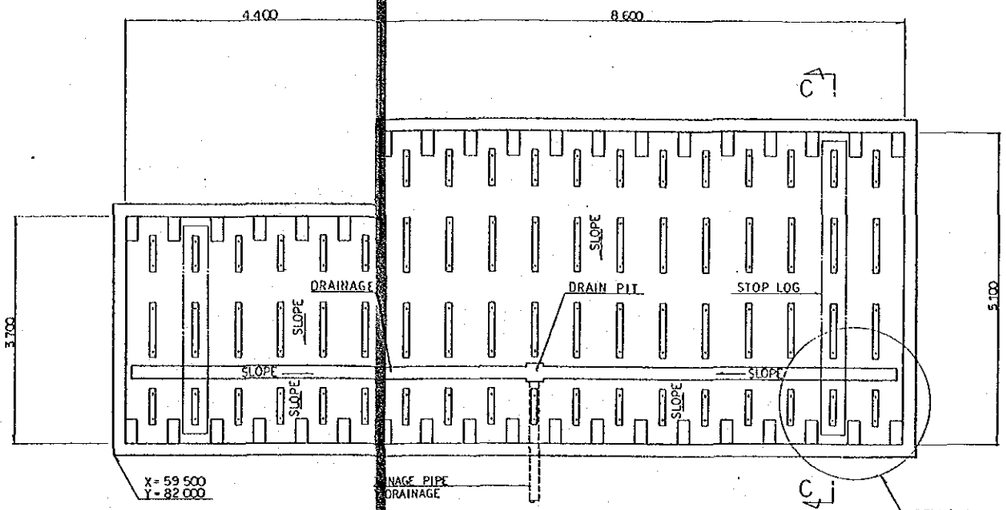


GRATING CORNER
S=1/4

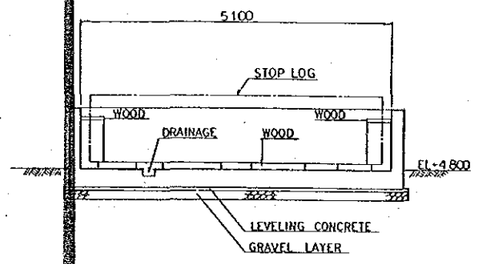


STORAGE BOX FOR STOP LOG

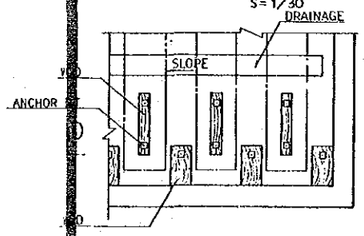
PLAN
S=1/50



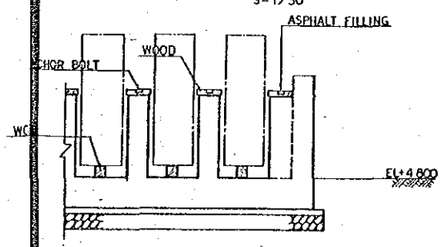
SECTION C - C
S=1/50

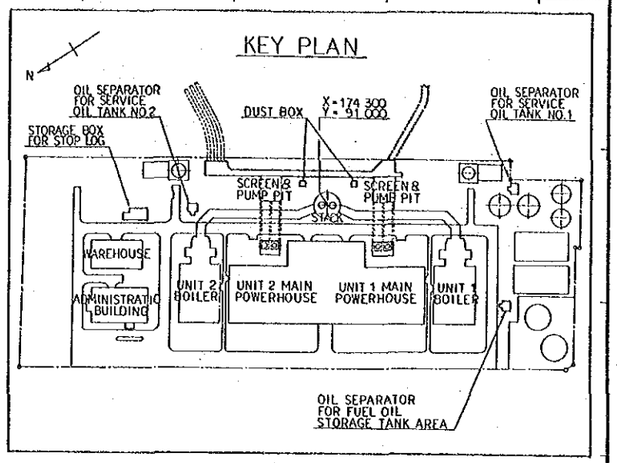


DETAIL - b
S=1/30



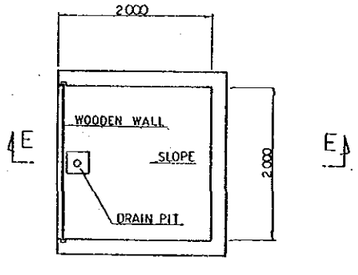
SECTION D - D
S=1/30



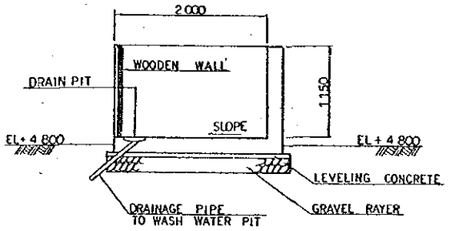


DUST BOX

PLAN
S=1/40



SECTION E - E
S=1/40



GRAPHIC SCALES

0 0.1 0.2 0.3 0.4 M
1/4
0 0.1 0.2 0.3 0.4 0.5 M
1/5
0 0.5 1 M
1/10
0 0.5 1 2 M
1/20
0 0.5 1 2 3 M
1/30
0 1 2 3 4 M
1/40
0 1 2 3 4 5 M
1/50

PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

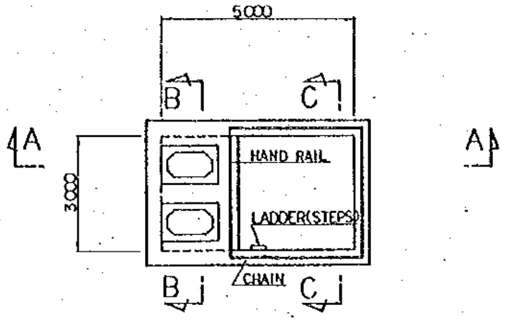
OTHER FOUNDATIONS - 1

JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

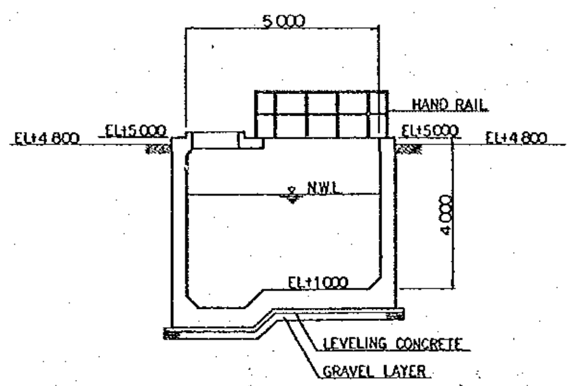
APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kajima	T.	J.
DRAWING NO. WCT-1212	SCALE AS SHOWN	DATE 10TH JAN. 1990	

WASTE WATER PIT FOR STACK

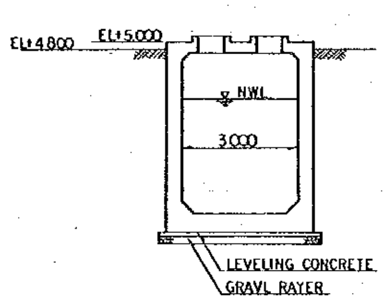
PLAN
S=1/100



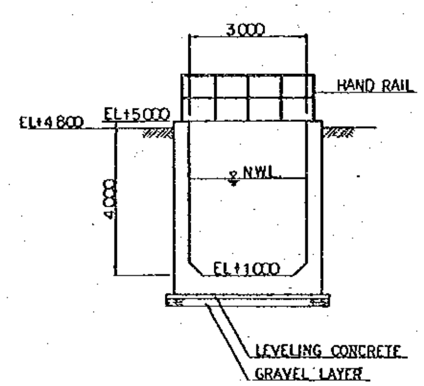
SECTION A-A
S=1/100



SECTION B-B
S=1/100

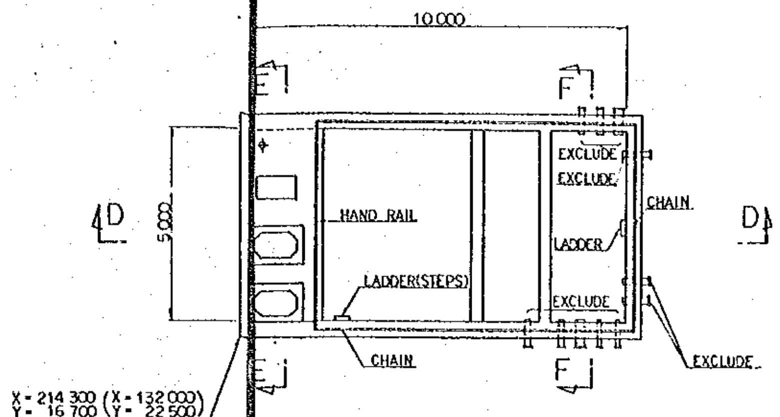


SECTION C-C
S=1/100



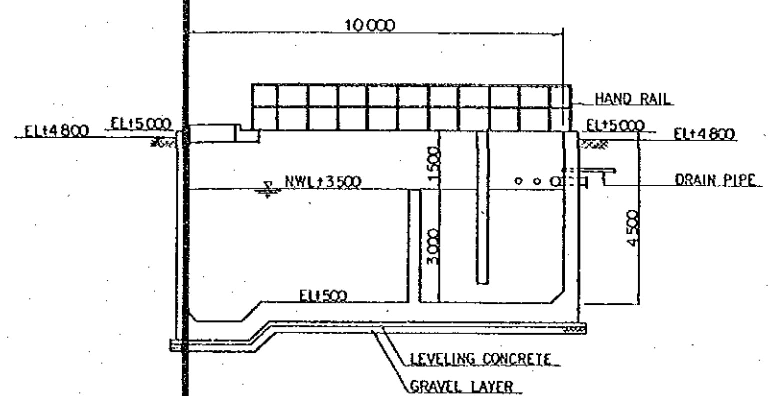
UNIT NEUTRALIZING PIT

PLAN
S=1/100

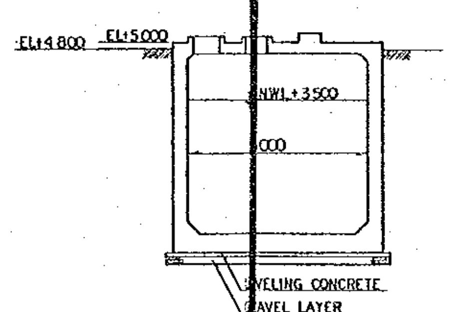


NOTE: ( ) INDICATE UNIT 2.

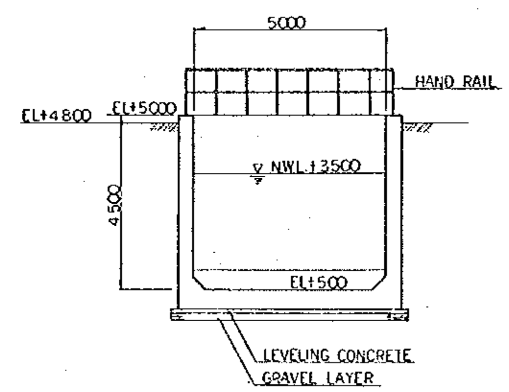
SECTION D-D
S=1/100



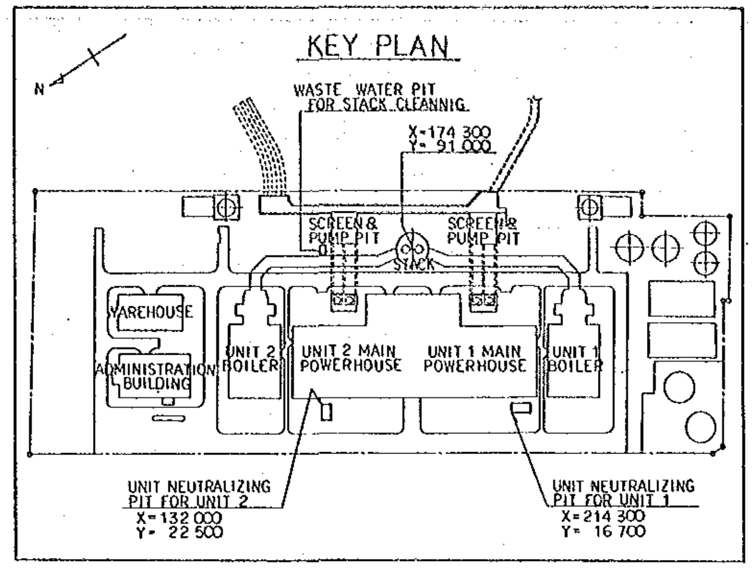
SECTION E-E
S=1/100



SECTION F-F
S=1/100

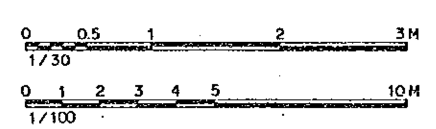


KEY PLAN



NOTE: THE INSIDE CONCRETE SURFACE OF THE WASTE WATER PIT FOR STACK CLEANING AND THE UNIT NEUTRALIZING PIT SHALL BE APPLID ACID AND ALKAL PROOF LINING.

GRAPHIC SCALES



PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

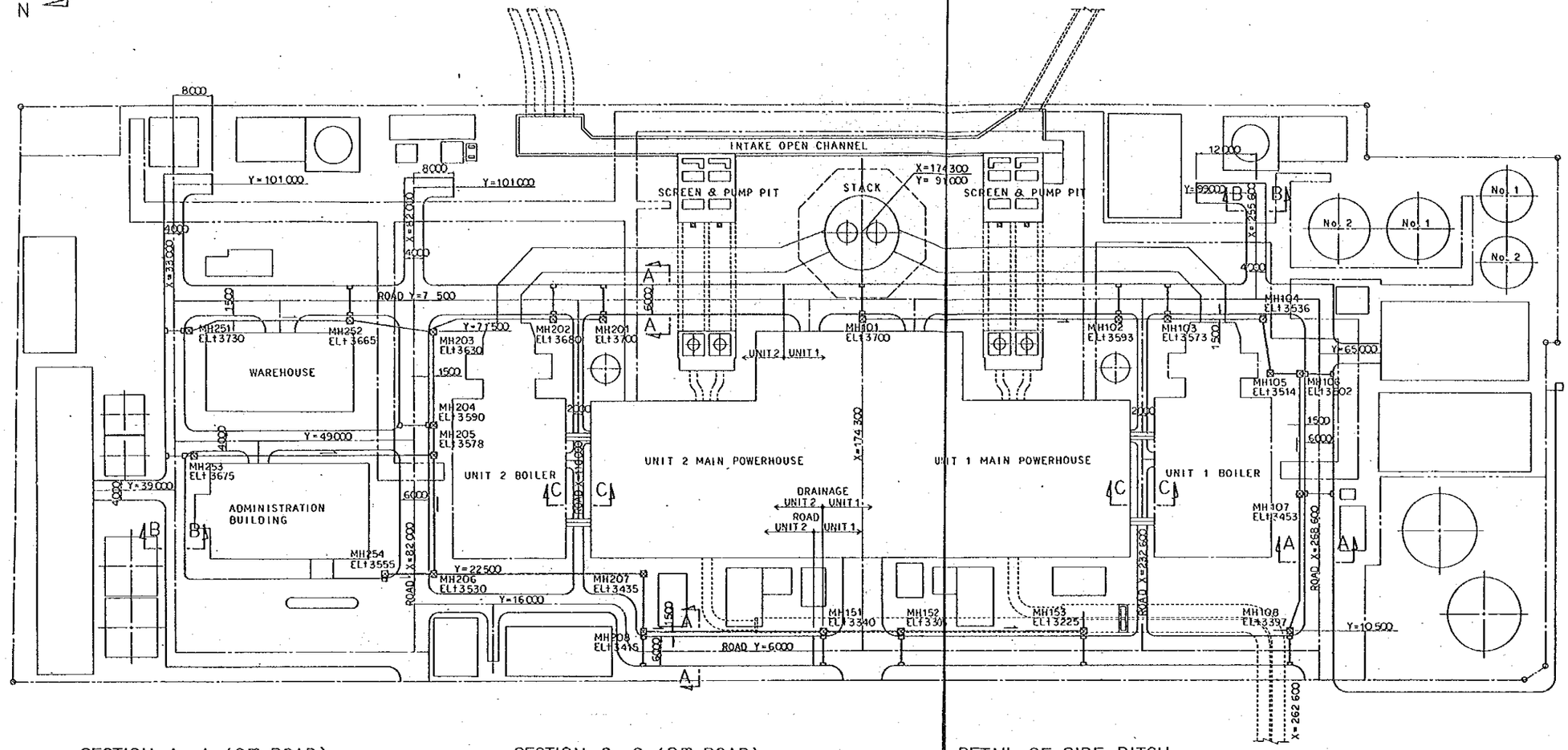
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

OTHER FOUNDATIONS - 2

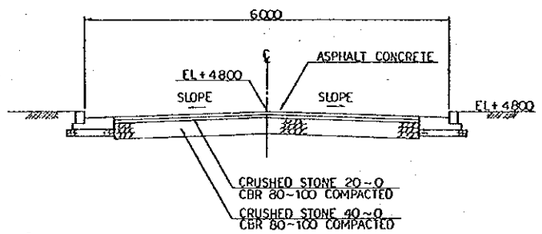
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
(signature)	A. Kojima (signature)	(signature)	(signature)
DRAWING NO. WCT-1213		SCALE AS SHOWN	DATE 10TH JAN.1990

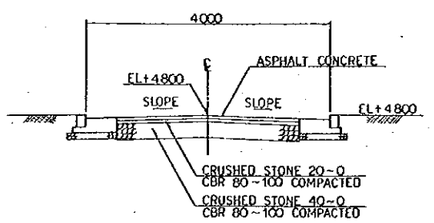
# PLAN
S=1/500



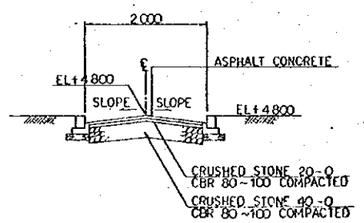
SECTION A - A (6m ROAD)
S=1/50



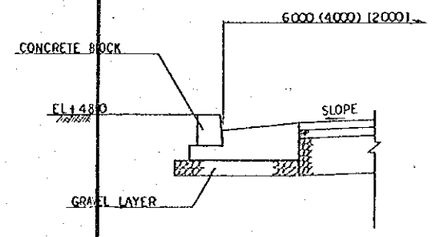
SECTION B - B (4m ROAD)
S=1/50



SECTION C - C (2m ROAD)
S=1/50

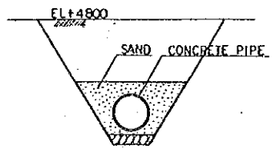


DETAIL OF SIDE DITCH
S=1/20

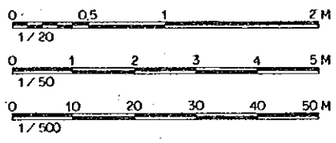


NOTE: 1. THE EXPANSION JOINT (ASPHALT PLATE t=10mm) OF SIDE DITCH SHALL BE CONSTRUCTED EVERY 25m.
2. ( ) INDICATE ROAD OF 4m WIDTH
3. [ ] INDICATE ROAD OF 2m WIDTH

STANDARD SECTION ORDINARY DRAINAGE PIPE
S=1/50



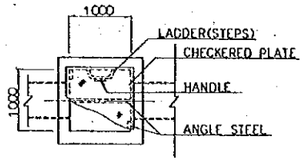
GRAPHIC SCALES



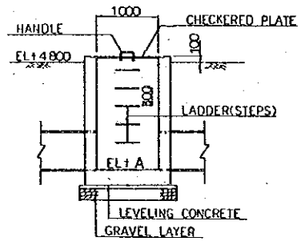
NOTES
1. SCOPE OF THIS WORK FOR ROAD
2. SCOPE OF THIS WORK
3. MANHOLE (1000 x 1000)
4. CATCH BASIN
5. INDICATED OF ELEVATIONS SHOW ELEVATION OF MANHOLE BOTTOM SLAB "A".

MANHOLE
S=1/50

PLAN

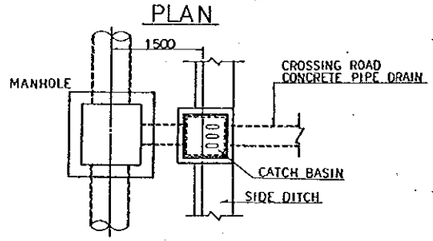


SECTION

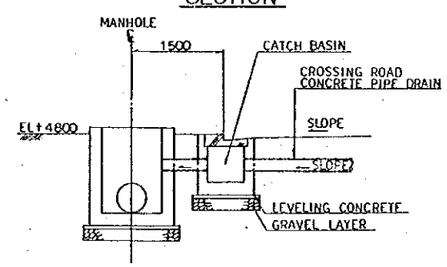


CATCH BASIN
S=1/50

PLAN



SECTION



PAKISTAN
KARACHI ELECTRIC SUPPLY CORPORATION
WEST WHARF THERMAL POWER PLANT PROJECT
UNITS NO.1 AND NO.2

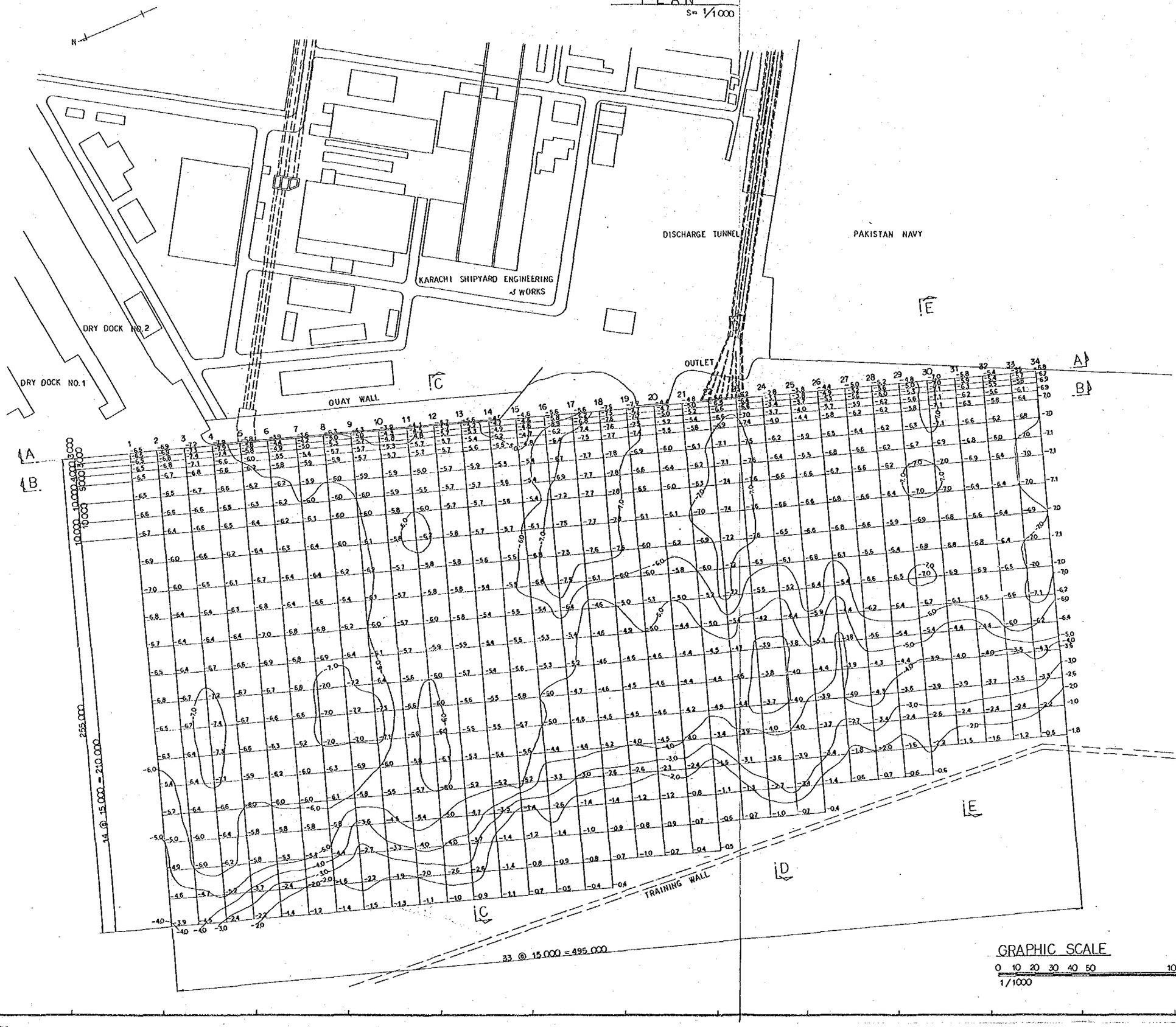
ROAD AND DRAINAGE SYSTEM

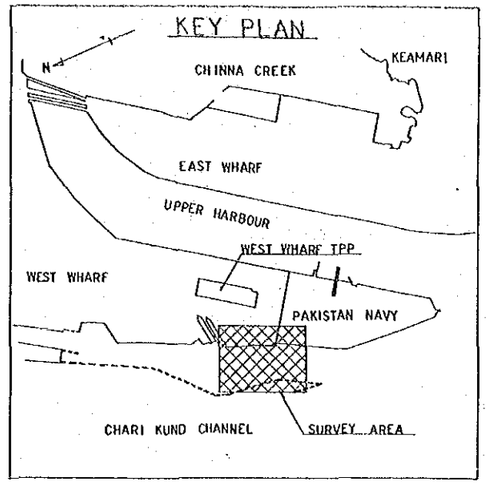
JAPAN INTERNATIONAL COOPERATION AGENCY
TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kojima		
DRAWING NO.		SCALE	DATE
WCT-1214		AS SHOWN	10TH JAN. 1990

PLAN

S= 1/1000





NOTE: 1. DEPTHS ARE IN METRES AND ARE REDUCED TO CHART DATUM, WHICH IS THE SAME AS THE ZERO OF THE TIDAL PREDICTIONS.

2. THIS DRAWING IS BASED ON DATA OF SEA WATER DEPTH, WHICH IS SURVEYED BY PAKISTAN NAVY ON AUG. - SEP., 1988.

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GRAPHIC SCALE

0 10 20 30 40 50 100 M

1/1000

PAKISTAN

KARACHI ELECTRIC SUPPLY CORPORATION

WEST WHARF THERMAL POWER PLANT PROJECT

UNITS NO.1 AND NO.2

SEA WATER DEPTH INFRONT OF OUTLET

JAPAN INTERNATIONAL COOPERATION AGENCY

TOKYO JAPAN

APPROVED BY	REVIEWED BY	CHECKED BY	DRAWN BY
	A. Kojima		J.
DRAWING NO.		SCALE	DATE
WCT - 1301		1/1000	10TH JAN, 1990