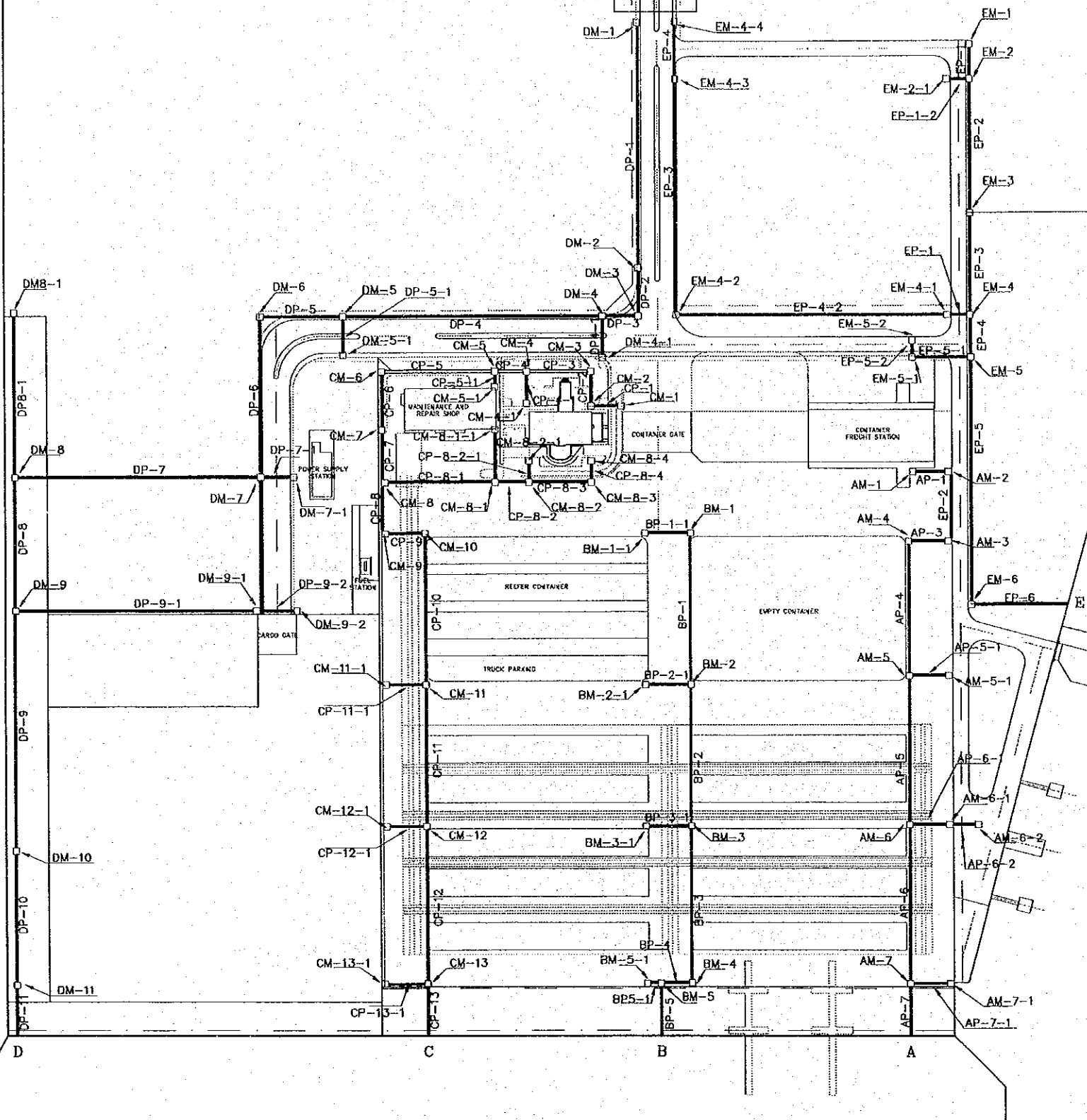


STORM DRAINAGE



LEGEND:
 OM-O: MANHOLE NAME
 OP-O: PIPE LINE NAME

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

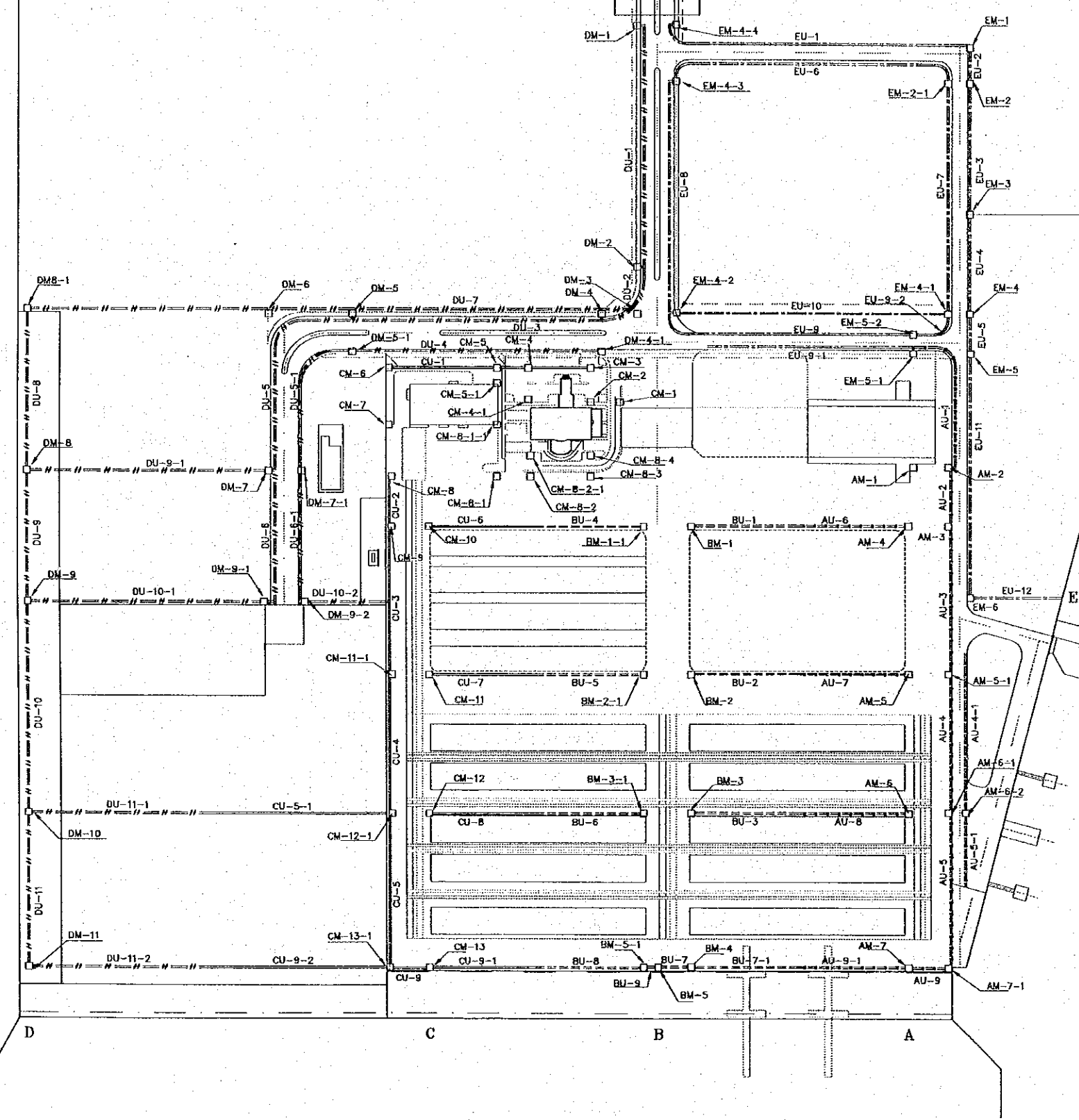
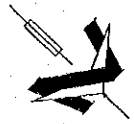
JICA
 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CEPA
 COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR
NK
 NIPPON KOEI CO., LTD.

DESIGNED BY :
 CHECKED BY :
 APPROVED BY :

SECTION : STORM DRAINAGE
 SUB-SECTION : GENERAL
 TITLE : LAYOUT PLAN OF PIPE CULVERT & MANHOLE


DATE : OCTOBER/2002
 SCALE : 1 : 3000
 DRAWING NO. : SD-00-001



- LEGEND:
- : MANHOLE NAME
 - : PIPE LINE NAME
 - A ROUTE
 - B ROUTE
 - C ROUTE
 - D ROUTE
 - E ROUTE

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

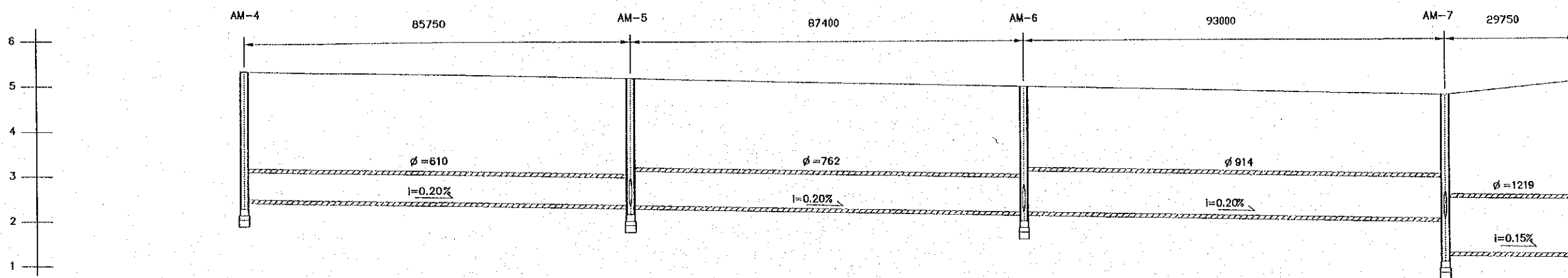
THE DETAILED DESIGN
 ON PORT REACTIVATION PROJECT
 IN LA UNION PROVINCE
 OF THE REPUBLIC OF EL SALVADOR
 NIPPON KOEI CO., LTD.

DESIGNED BY :
 CHECKED BY :
 APPROVED BY :

SECTION : STORM DRAINAGE
 SUB-SECTION : GENERAL
 TITLE : LAYOUT OF TRENCH & MANHOLE

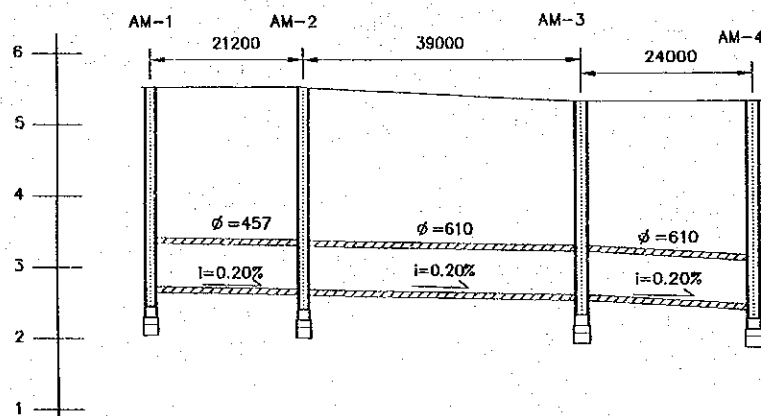
DATE : OCTOBER/2002
 SCALE : 1 : 3000
 DRAWING NO. : SD-00-002

ROUTE "A"



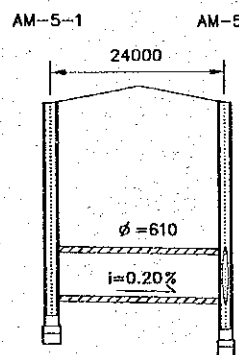
DATUM LINE 0.00m.

MANHOLE No.	AM-4	AM-5	AM-6	AM-7
GLAND LEVEL	5.332	5.132	4.928	4.711
INVERT LEVEL OF INLET PIPE	2.480	2.313	2.137	1.952
INVERT LEVEL OF OUTLET PIPE	2.480	2.309	2.134	1.952
INVERT LEVEL OF MANHOLE	2.280	2.109	1.934	1.797
WIDTH OF MANHOLE	1.5	1.5	1.5	1.5



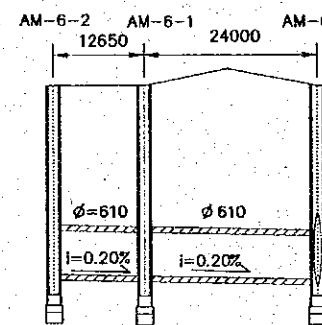
DATUM LINE 0.00m.

MANHOLE No.	AM-1	AM-2	AM-3	AM-4
GLAND LEVEL	5.522	5.522	5.332	5.332
INVERT LEVEL OF INLET PIPE	-	-	2.528	2.480
INVERT LEVEL OF OUTLET PIPE	-	2.406	2.528	2.480
INVERT LEVEL OF MANHOLE	-	2.406	2.328	2.280
WIDTH OF MANHOLE	1.2	1.5	1.5	1.5



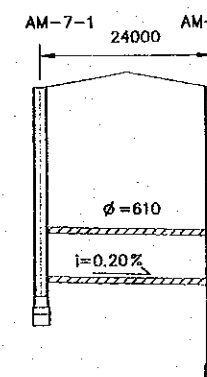
DATUM LINE 0.00m.

MANHOLE No.	AM-5-1	AM-5
GLAND LEVEL	5.132	5.132
INVERT LEVEL OF INLET PIPE	-	2.313
INVERT LEVEL OF OUTLET PIPE	2.359	2.309
INVERT LEVEL OF MANHOLE	2.159	2.109
WIDTH OF MANHOLE	1.5	1.5



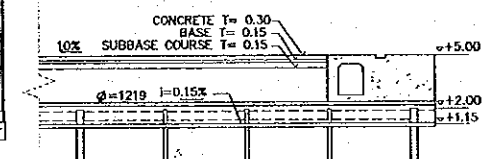
DATUM LINE 0.00m.

MANHOLE No.	AM-6-2	AM-6-1	AM-6
GLAND LEVEL	4.928	4.928	4.928
INVERT LEVEL OF INLET PIPE	-	2.187	2.138
INVERT LEVEL OF OUTLET PIPE	2.208	2.163	2.134
INVERT LEVEL OF MANHOLE	2.008	1.983	1.934
WIDTH OF MANHOLE	1.5	1.5	1.5



DATUM LINE 0.00m.

MANHOLE No.	AM-7-1	AM-7
GLAND LEVEL	4.711	4.711
INVERT LEVEL OF INLET PIPE	-	1.952
INVERT LEVEL OF OUTLET PIPE	1.997	1.952
INVERT LEVEL OF MANHOLE	1.797	1.797
WIDTH OF MANHOLE	1.5	1.5



CAISSON No. 2
ESC. 1:400

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
Cepa
COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

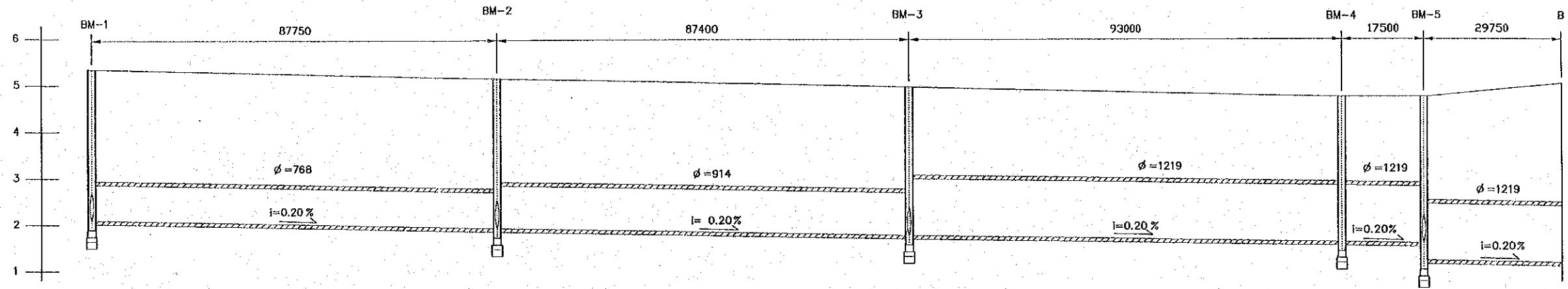
THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR
NK
NIPPON KOEI CO., LTD.

DESIGNED BY :
CHECKED BY :
APPROVED BY :

SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE : LONGITUDINAL PROFILE OF PIPE ROUTE A

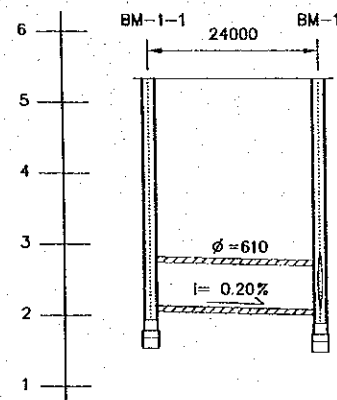
DATE : OCTOBER/2002
SCALE : H = 1 : 1000
V = 1 : 100
DRAWING NO. : SD-01-001

ROUTE "B"



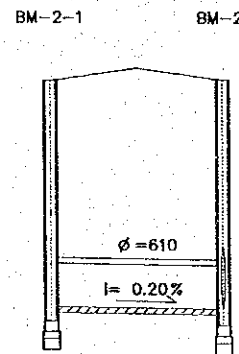
DATUM LINE 0.00m.

MANHOLE No.	BM-1	BM-2	BM-3	BM-4	BM-5
GLAND LEVEL	5.332	5.132	4.928	4.711	4.711
INVERT LEVEL OF INLET PIPE	2.085	1.914	1.739	1.599	1.564
INVERT LEVEL OF OUTLET PIPE	2.081	1.91	1.735	1.595	1.564
INVERT LEVEL OF MANHOLE	1.881	1.71	1.535	1.355	0.993
WIDTH OF MANHOLE	1.5	1.5	1.5	1.5	1.5



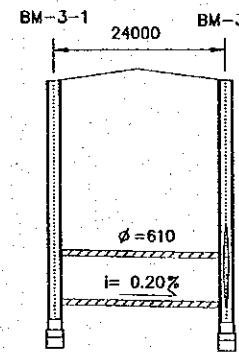
DATUM LINE 0.00m.

MANHOLE No.	BM-1-1	BM-1
GLAND LEVEL	5.332	5.332
INVERT LEVEL OF INLET PIPE	1	2.085
INVERT LEVEL OF OUTLET PIPE	2.129	2.081
INVERT LEVEL OF MANHOLE	1.929	1.881
WIDTH OF MANHOLE	1.5	1.5



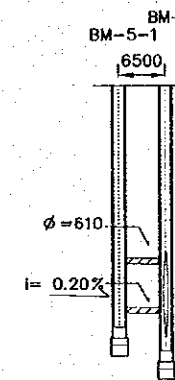
DATUM LINE 0.00m.

MANHOLE No.	BM-2-1	BM-2
GLAND LEVEL	5.132	5.132
INVERT LEVEL OF INLET PIPE	1	1.914
INVERT LEVEL OF OUTLET PIPE	1.958	1.91
INVERT LEVEL OF MANHOLE	1.758	1.71
WIDTH OF MANHOLE	1.5	1.5



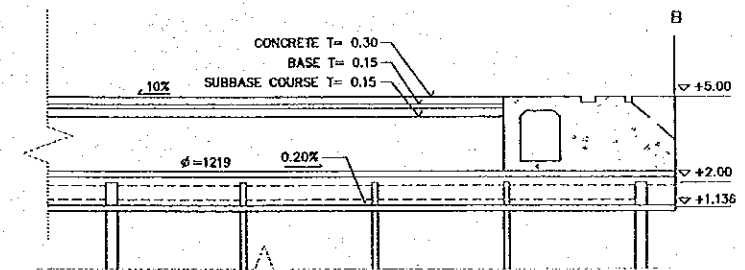
DATUM LINE 0.00m.

MANHOLE No.	BM-3-1	BM-3
GLAND LEVEL	4.928	4.928
INVERT LEVEL OF INLET PIPE	1	1.738
INVERT LEVEL OF OUTLET PIPE	1.782	1.734
INVERT LEVEL OF MANHOLE	1.582	1.534
WIDTH OF MANHOLE	1.5	1.5



DATUM LINE 0.00m.

MANHOLE No.	BM-5-1	BM-5
GLAND LEVEL	4.711	4.711
INVERT LEVEL OF INLET PIPE	1	1.564
INVERT LEVEL OF OUTLET PIPE	1.573	1.193
INVERT LEVEL OF MANHOLE	1.373	0.993
WIDTH OF MANHOLE	1.5	1.5



CAISSON No. 9
ESC. 1:250

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

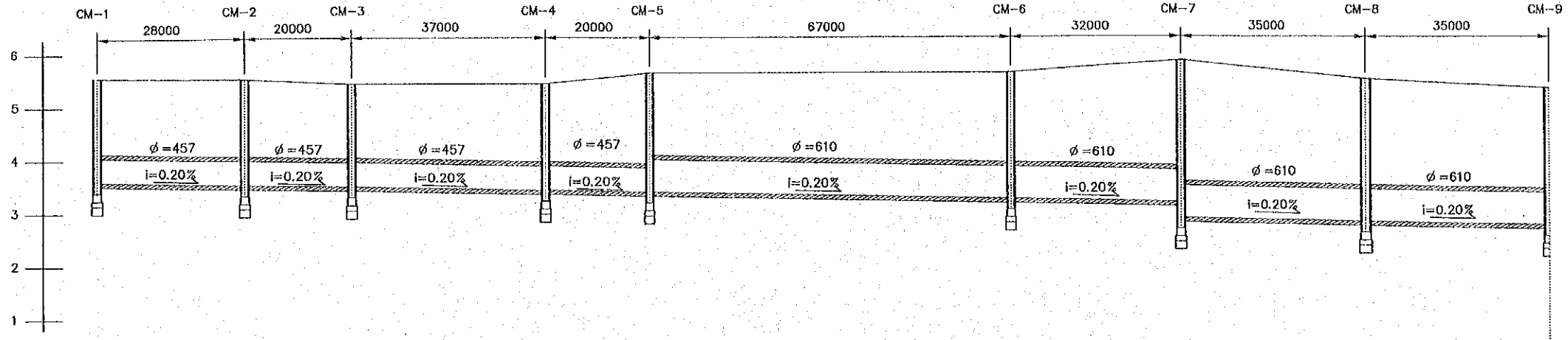
THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR
NIPPON KOEI CO., LTD.

DESIGNED BY :	
CHECKED BY :	
APPROVED BY :	

SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE : LONGITUDINAL PROFILE OF PIPE ROUTE B

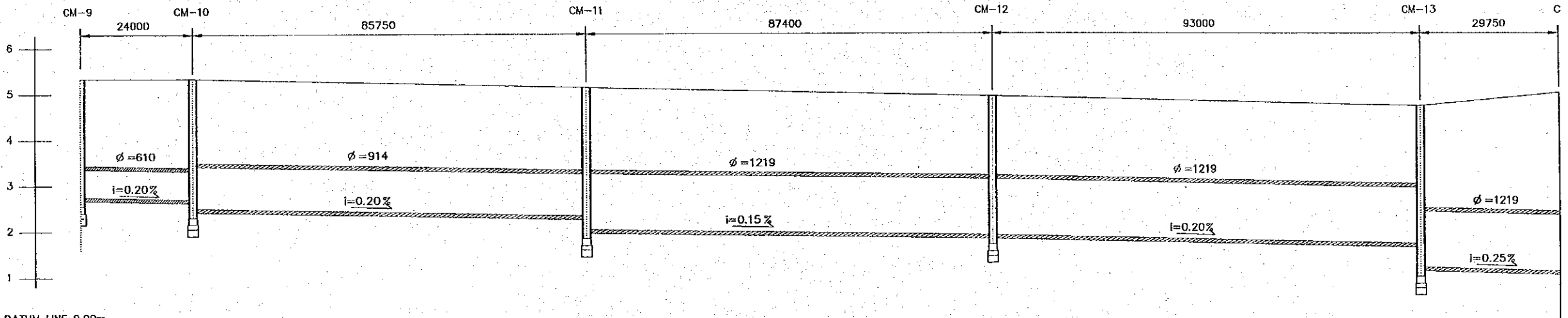
DATE :	OCTOBER/2002
SCALE :	H = 1 : 1000 V = 1 : 100
DRAWING NO.:	SD-01-002

ROUTE "C"



DATUM LINE 0.00m.

MANHOLE No.	CM-1	CM-2	CM-3	CM-4	CM-5	CM-6	CM-7	CM-8	CM-9
GLAND LEVEL	5.552	5.537	5.437	5.437	5.637	5.637	5.857	5.507	5.332
INVERT LEVEL OF INLET PIPE	—	3.545	3.505	3.431	3.391	3.257	3.193	2.824	2.764
INVERT LEVEL OF OUTLET PIPE	3.599	3.543	3.503	3.428	3.388	3.255	2.891	2.82	2.75
INVERT LEVEL OF MANHOLE	3.399	3.343	3.303	3.229	3.189	3.055	2.691	2.62	2.55
WIDTH OF MANHOLE	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.5	1.5



DATUM LINE 0.00m.

MANHOLE No.	CM-9	CM-10	CM-11	CM-12	CM-13
GLAND LEVEL	—	5.332	5.132	4.928	4.711
INVERT LEVEL OF INLET PIPE	—	2.706	2.335	1.903	1.717
INVERT LEVEL OF OUTLET PIPE	—	2.502	2.031	1.699	1.193
INVERT LEVEL OF MANHOLE	—	2.302	1.831	1.699	0.993
WIDTH OF MANHOLE	—	1.5	1.5	1.5	1.5

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
Cepa
COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

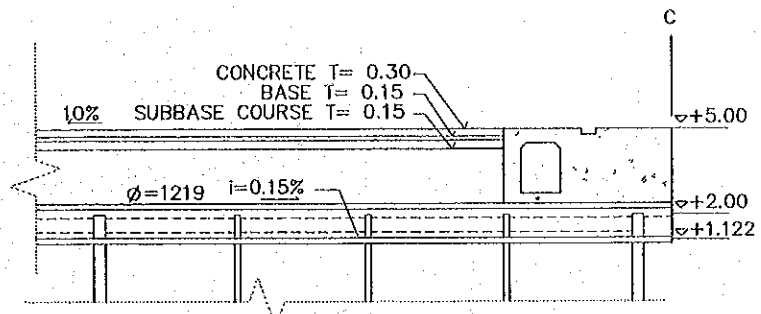
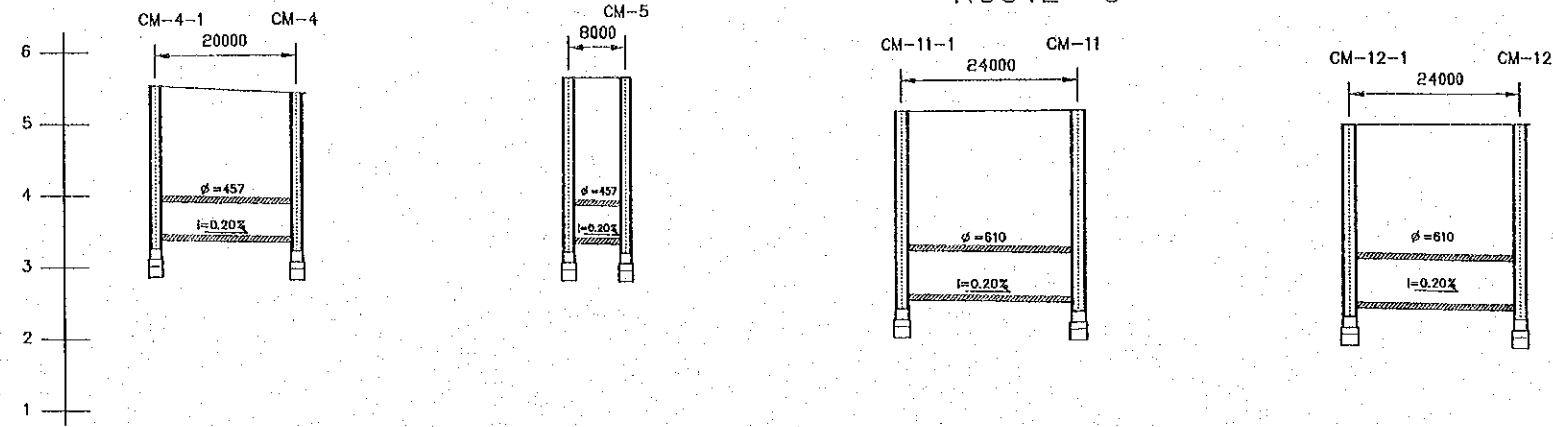
THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR
NK
NIPPON KOEI CO., LTD.

DESIGNED BY :
CHECKED BY :
APPROVED BY :

SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE : LONGITUDINAL PROFILE OF PIPE ROUTE C (1/2)

DATE : OCTOBER/2002
SCALE : H = 1 : 1000
V = 1 : 100
DRAWING NO. : SD-01-003

ROUTE "C"



CAISSON No. 16
ESC. 1:250

DATUM LINE 0.00m.

MANHOLE No.	CM-4-1	CM-4
GLAND LEVEL	5.537	5.437
INVERT LEVEL OF INLET PIPE	—	3.431
INVERT LEVEL OF OUTLET PIPE	3.469	3.429
INVERT LEVEL OF MANHOLE	3.269	3.229
WIDTH OF MANHOLE	1.2	1.2

DATUM LINE 0.00m.

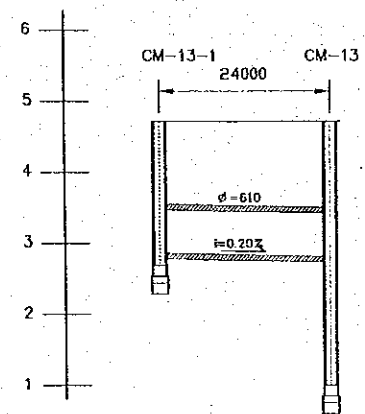
MANHOLE No.	CM-5-1	CM-5
GLAND LEVEL	5.537	5.537
INVERT LEVEL OF INLET PIPE	—	—
INVERT LEVEL OF OUTLET PIPE	3.405	3.391
INVERT LEVEL OF MANHOLE	3.205	3.189
WIDTH OF MANHOLE	1.2	1.2

DATUM LINE 0.00m.

MANHOLE No.	CM-11-1	CM-11
GLAND LEVEL	5.132	5.132
INVERT LEVEL OF INLET PIPE	—	2.535
INVERT LEVEL OF OUTLET PIPE	2.579	2.531
INVERT LEVEL OF MANHOLE	2.379	2.331
WIDTH OF MANHOLE	1.5	1.5

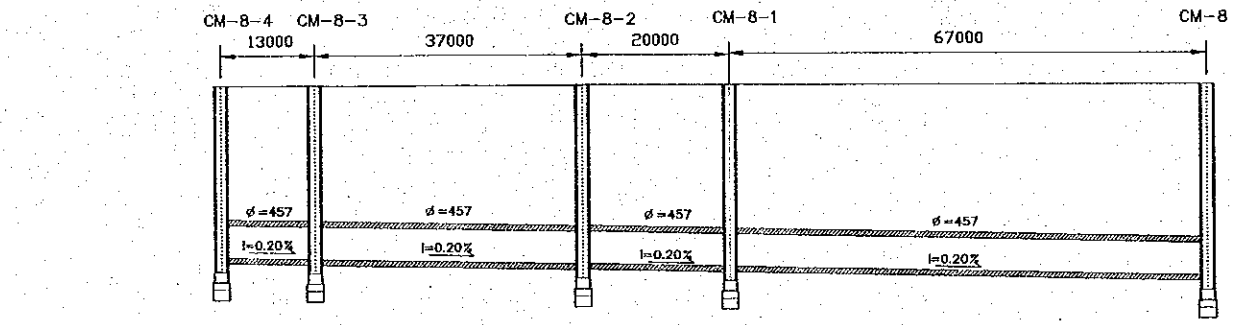
DATUM LINE 0.00m.

MANHOLE No.	CM-12-1	CM-12
GLAND LEVEL	4.928	4.928
INVERT LEVEL OF INLET PIPE	—	—
INVERT LEVEL OF OUTLET PIPE	2.447	2.399
INVERT LEVEL OF MANHOLE	2.247	2.199
WIDTH OF MANHOLE	1.5	1.5



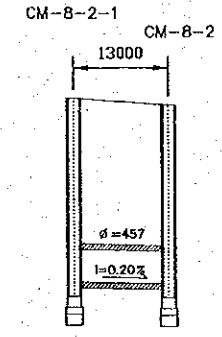
DATUM LINE 0.00m.

MANHOLE No.	CM-13-1	CM-13
GLAND LEVEL	4.711	4.711
INVERT LEVEL OF INLET PIPE	—	2.811
INVERT LEVEL OF OUTLET PIPE	2.892	1.183
INVERT LEVEL OF MANHOLE	2.682	0.993
WIDTH OF MANHOLE	1.5	1.5



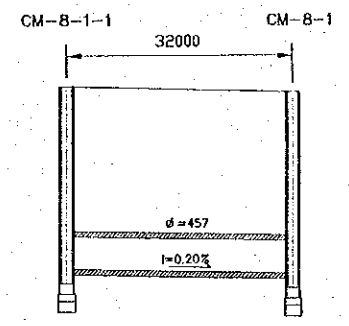
DATUM LINE 0.00m.

MANHOLE No.	CM-8-4	CM-8-3	CM-8-2	CM-8-1	CM-8
GLAND LEVEL	5.507	5.507	5.507	5.507	5.507
INVERT LEVEL OF INLET PIPE	—	3.071	2.997	2.957	2.824
INVERT LEVEL OF OUTLET PIPE	3.095	3.069	2.995	2.955	2.82
INVERT LEVEL OF MANHOLE	2.895	2.869	2.795	2.755	2.62
WIDTH OF MANHOLE	1.2	1.2	1.2	1.2	1.2



DATUM LINE 0.00m.

MANHOLE No.	CM-8-2-1	CM-8-1
GLAND LEVEL	5.602	5.507
INVERT LEVEL OF INLET PIPE	—	—
INVERT LEVEL OF OUTLET PIPE	3.021	2.995
INVERT LEVEL OF MANHOLE	2.821	2.795
WIDTH OF MANHOLE	1.2	1.2

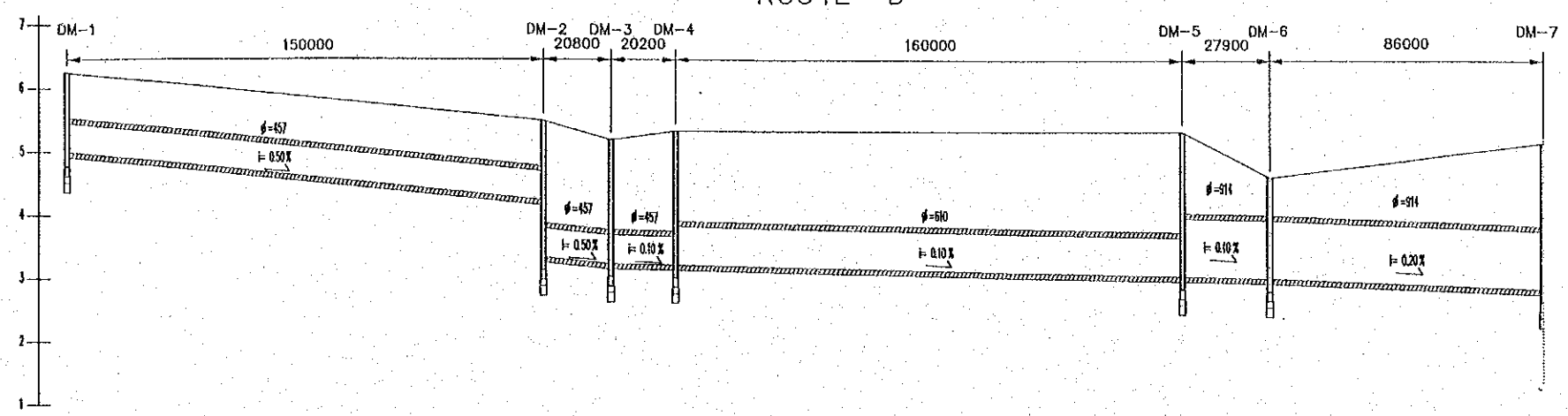


DATUM LINE 0.00m.

MANHOLE No.	CM-8-1-1	CM-8-1
GLAND LEVEL	5.592	5.507
INVERT LEVEL OF INLET PIPE	—	2.957
INVERT LEVEL OF OUTLET PIPE	3.019	2.955
INVERT LEVEL OF MANHOLE	2.819	2.755
WIDTH OF MANHOLE	1.2	1.2

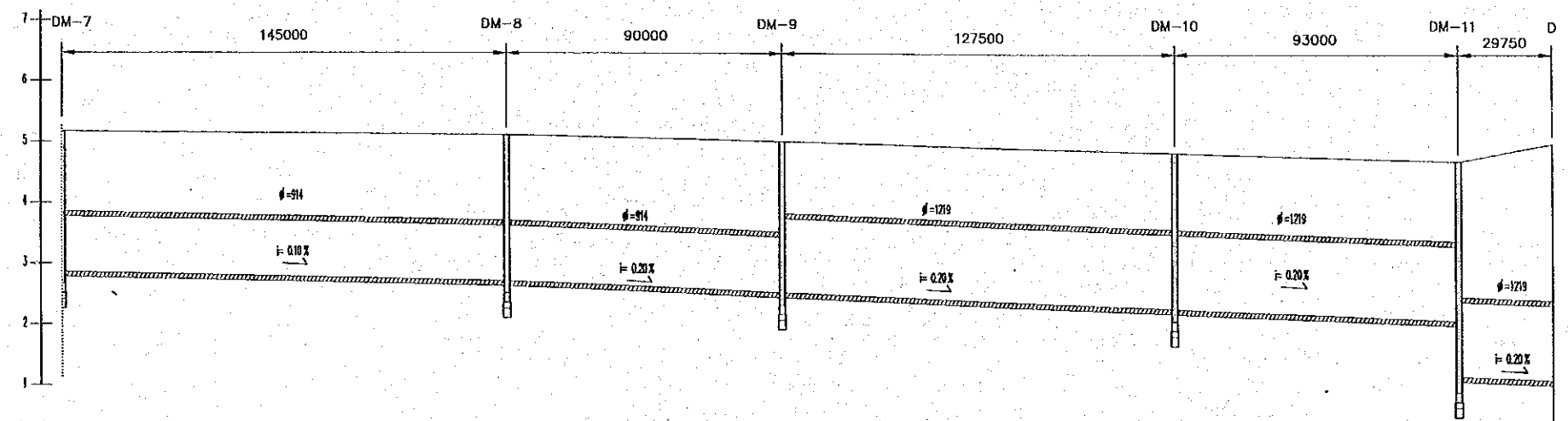
REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE	<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)</p>	<p>THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR</p> <p>NIPPON KOEI CO., LTD.</p>	DESIGNED BY :	SECTION : STORM DRAINAGE	DATE : OCTOBER/2002
								CHECKED BY :	SUB-SECTION : PROFILE AND DETAILS	SCALE : H = 1 : 1000 V = 1 : 100
								APPROVED BY :	TITLE : LONGITUDINAL PROFILE OF PIPE ROUTE C (2/2)	DRAWING NO. : SD-01-004

ROUTE "D"



DATUM LINE 0.00m.

MANHOLE No.	DM-1	DM-2	DM-3	DM-4	DM-5	DM-6	DM-7
GLAND LEVEL	6.25	5.5	5.2	5.34	5.34	4.625	5.17
INVERT LEVEL OF INLET PIPE	-	4.253	3.249	3.225	3.066	3.039	2.868
INVERT LEVEL OF OUTLET PIPE	4.997	3.347	3.245	3.225	3.066	3.039	2.868
INVERT LEVEL OF MANHOLE	4.797	3.147	3.046	3.025	2.865	2.836	2.665
WIDTH OF MANHOLE	1.2	1.2	1.2	1.2	1.2	1.5	1.5



DATUM LINE 0.00m.

MANHOLE No.	DM-8	DM-9	DM-10	DM-11
GLAND LEVEL	5.119	5.019	4.844	4.711
INVERT LEVEL OF INLET PIPE	2.722	2.543	2.288	2.101
INVERT LEVEL OF OUTLET PIPE	2.719	2.539	2.284	2.101
INVERT LEVEL OF MANHOLE	2.519	2.339	2.084	1.993
WIDTH OF MANHOLE	1.5	1.5	1.5	1.5

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Cepa
COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR

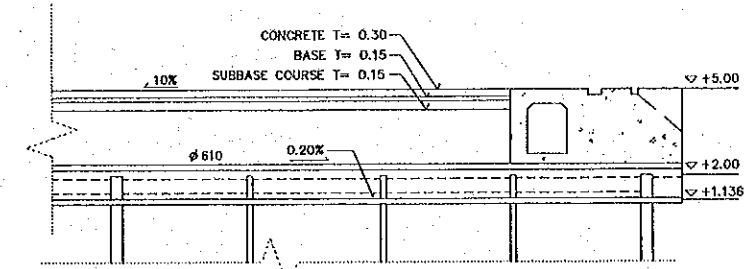
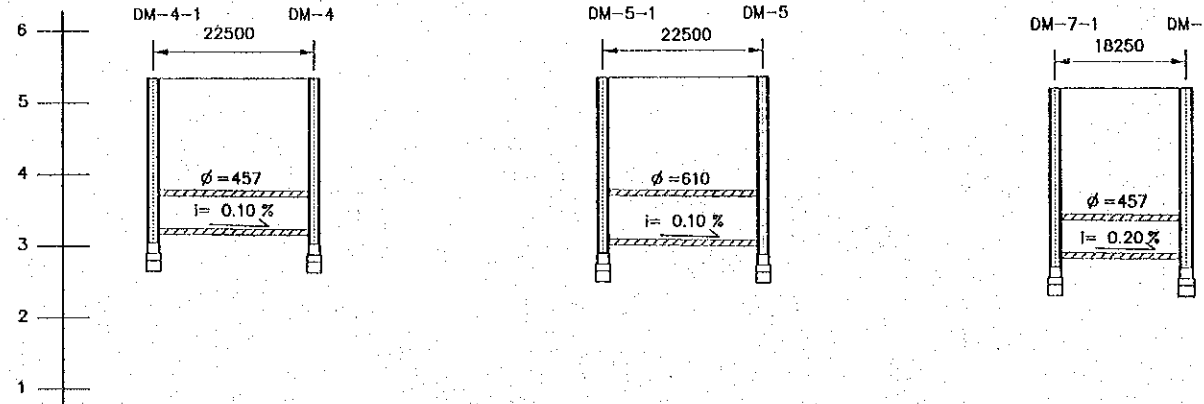
NK NIPPON KOEI CO., LTD.

DESIGNED BY :	
CHECKED BY :	
APPROVED BY :	

SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE : LONGITUDINAL PROFILE OF PIPE ROUTE D (1/2)

DATE :	OCTOBER/2002
SCALE :	H = 1 : 2000 V = 1 : 100
DRAWING NO. :	SD-01-005

ROUTE "D"



CAISSON No. 28
ESC. 1:250

DATUM LINE 0.00m.

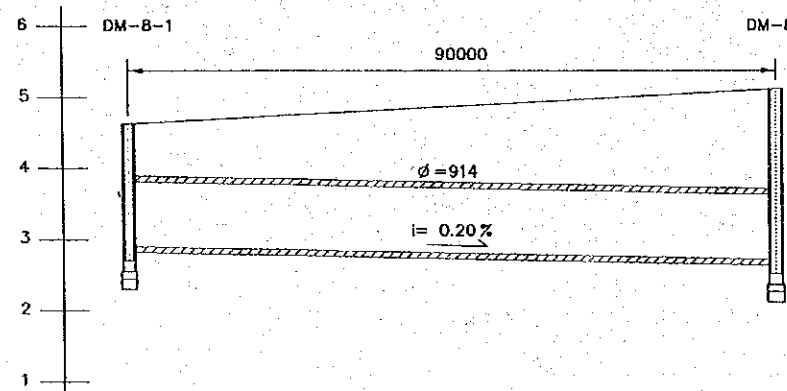
MANHOLE No.	DM-4-1	DM-4
GLAND LEVEL	5.34	5.34
INVERT LEVEL OF INLET PIPE	—	3.226
INVERT LEVEL OF OUTLET PIPE	3.247	3.226
INVERT LEVEL OF MANHOLE	3.047	3.025
WIDTH OF MANHOLE	1.2	1.2

DATUM LINE 0.00m.

MANHOLE No.	DM-5-1	DM-5
GLAND LEVEL	5.34	5.34
INVERT LEVEL OF INLET PIPE	—	3.066
INVERT LEVEL OF OUTLET PIPE	3.087	3.066
INVERT LEVEL OF MANHOLE	2.887	2.865
WIDTH OF MANHOLE	1.2	1.2

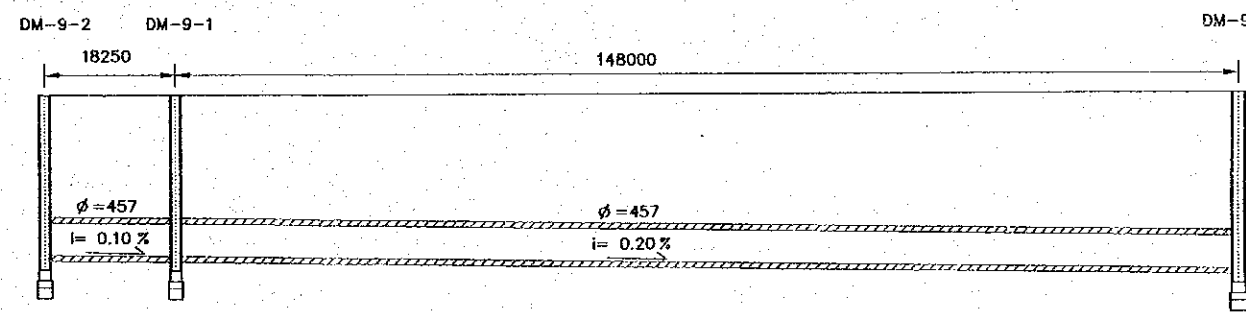
DATUM LINE 0.00m.

MANHOLE No.	DM-7-1	DM-7
GLAND LEVEL	5.17	5.17
INVERT LEVEL OF INLET PIPE	—	2.866
INVERT LEVEL OF OUTLET PIPE	2.883	2.866
INVERT LEVEL OF MANHOLE	2.883	2.865
WIDTH OF MANHOLE	1.2	1.5



DATUM LINE 0.00m.

MANHOLE No.	DM-8-1	DM-8
GLAND LEVEL	4.625	5.119
INVERT LEVEL OF INLET PIPE	—	2.722
INVERT LEVEL OF OUTLET PIPE	2.9	2.719
INVERT LEVEL OF MANHOLE	2.7	2.519
WIDTH OF MANHOLE	1.2	1.5



DATUM LINE 0.00m.

MANHOLE No.	DM-9-2	DM-9-1	DM-9
GLAND LEVEL	5.01	5.01	5.019
INVERT LEVEL OF INLET PIPE	—	2.748	2.543
INVERT LEVEL OF OUTLET PIPE	2.764	2.746	2.539
INVERT LEVEL OF MANHOLE	2.564	2.546	2.339
WIDTH OF MANHOLE	1.2	1.2	1.5

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Cepa
COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR

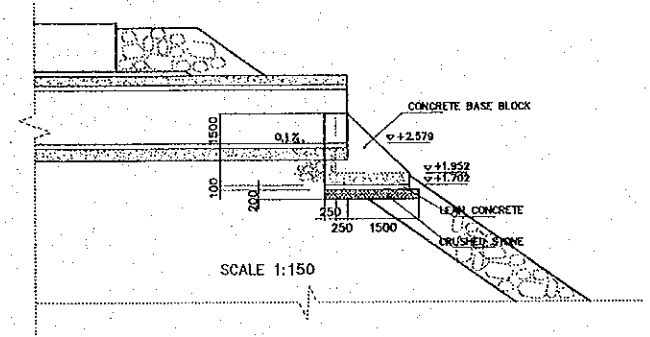
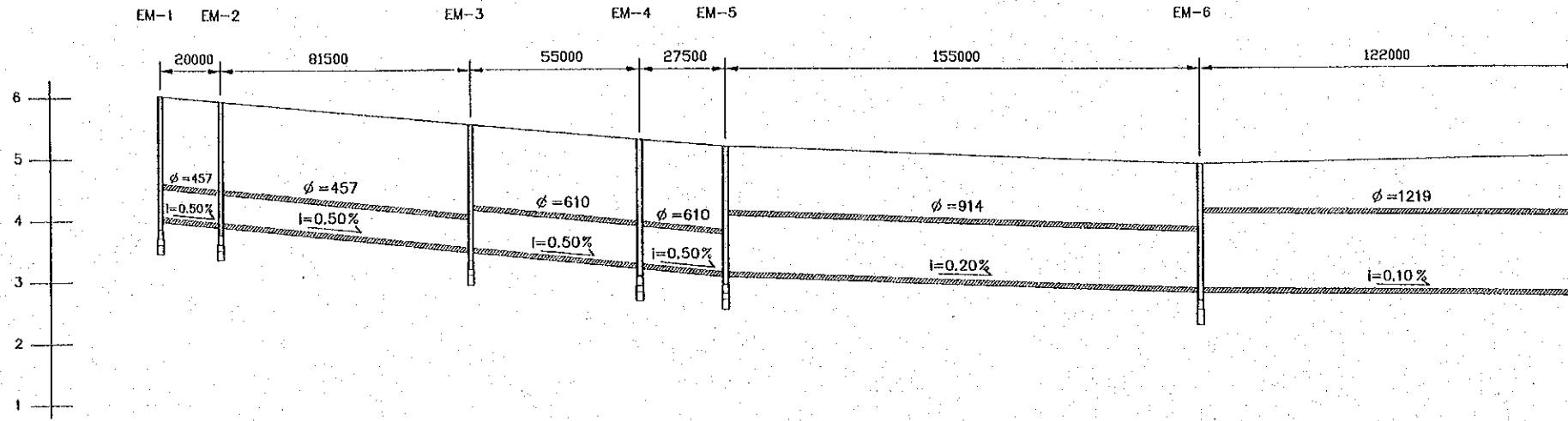
NKC
NIPPON KOEI CO., LTD.

DESIGNED BY :
CHECKED BY :
APPROVED BY :

SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE : LONGITUDINAL PROFILE OF PIPE ROUTE D (2/2)

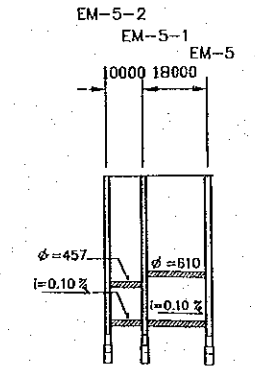
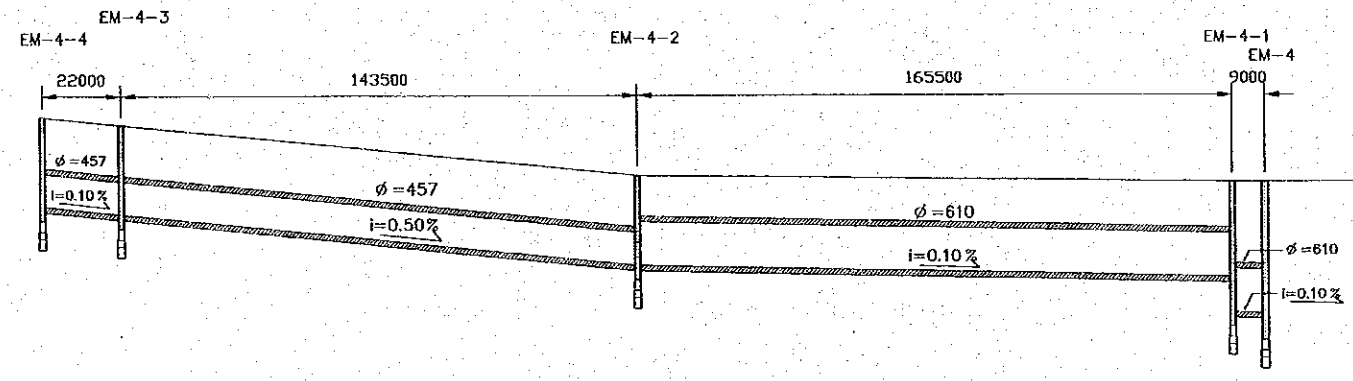
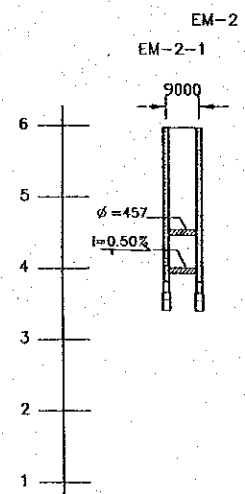
DATE : OCTOBER/2002
SCALE : H = 1 : 1000
V = 1 : 100
DRAWING NO. : SD-01-006

ROUTE "E"



DATUM LINE 0.00m.

MANHOLE No.	EM-1	EM-2	EM-3	EM-4	EM-5	EM-6	E
GLAND LEVEL	6.06	5.97	5.99	5.33	5.22	4.89	5
INVERT LEVEL OF INLET PIPE	—	4.003	3.596	3.321	3.184	2.872	2.812
INVERT LEVEL OF OUTLET PIPE	4.097	3.997	3.59	3.314	3.179	2.869	—
INVERT LEVEL OF MANHOLE	3.897	3.799	3.39	3.114	2.979	2.669	—
WIDTH OF MANHOLE	1.2	1.2	1.2	1.5	1.5	1.5	—



DATUM LINE 0.00m.

MANHOLE No.	EM-2-1	EM-2
GLAND LEVEL	5.97	5.97
INVERT LEVEL OF INLET PIPE	—	4.003
INVERT LEVEL OF OUTLET PIPE	4.008	3.997
INVERT LEVEL OF MANHOLE	3.808	3.799
WIDTH OF MANHOLE	1.2	1.2

DATUM LINE 0.00m.

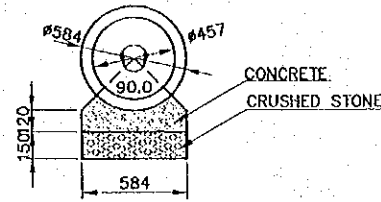
MANHOLE No.	EM-4-4	EM-4-3	EM-4-2	EM-4-1	EM-4
GLAND LEVEL	5.25	5.14	5.43	5.33	5.33
INVERT LEVEL OF INLET PIPE	—	4.893	4.176	4.008	3.699
INVERT LEVEL OF OUTLET PIPE	4.997	4.887	4.172	3.506	3.314
INVERT LEVEL OF MANHOLE	4.797	4.667	4.172	3.306	3.114
WIDTH OF MANHOLE	1.2	1.2	1.2	1.5	1.5

DATUM LINE 0.00m.

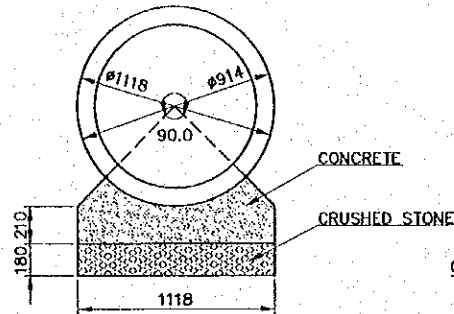
MANHOLE No.	EM-5-2	EM-5-1	EM-5
GLAND LEVEL	5.22	5.22	5.22
INVERT LEVEL OF INLET PIPE	—	3.205	3.184
INVERT LEVEL OF OUTLET PIPE	3.211	3.201	3.179
INVERT LEVEL OF MANHOLE	3.011	3.001	2.979
WIDTH OF MANHOLE	1.2	1.2	1.5

<p>REV. NO. DATE COORDINATE BY APPROVED DATE</p>	<p>JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)</p> <p>Cepa COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)</p>	<p>THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR</p> <p>NIPPON KOEI CO., LTD.</p>	<p>DESIGNED BY : CHECKED BY : APPROVED BY :</p>	<p>SECTION : STORM DRAINAGE SUB-SECTION : PROFILE AND DETAILS TITLE : LONGITUDINAL PROFILE OF PIPE ROUTE E</p>	<p>DATE : OCTOBER/2002 SCALE : H = 1 : 2000 V = 1 : 100 DRAWING NO. : SD-01-007</p>
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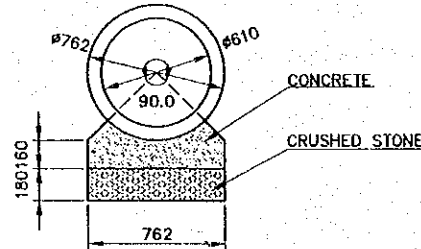
SECTION OF CULVERT (#457)
SCALE 1:40



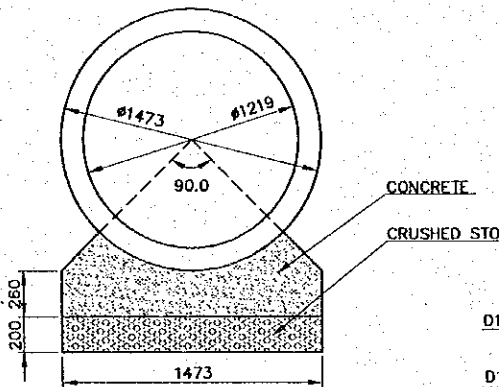
SECTION OF CULVERT (#914)
SCALE 1:40



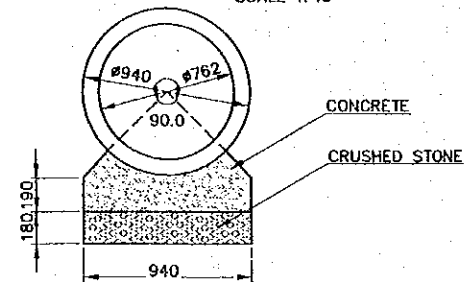
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SCALE 1:40



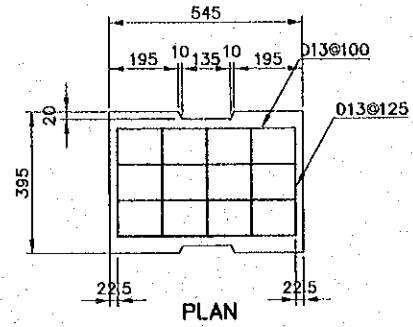
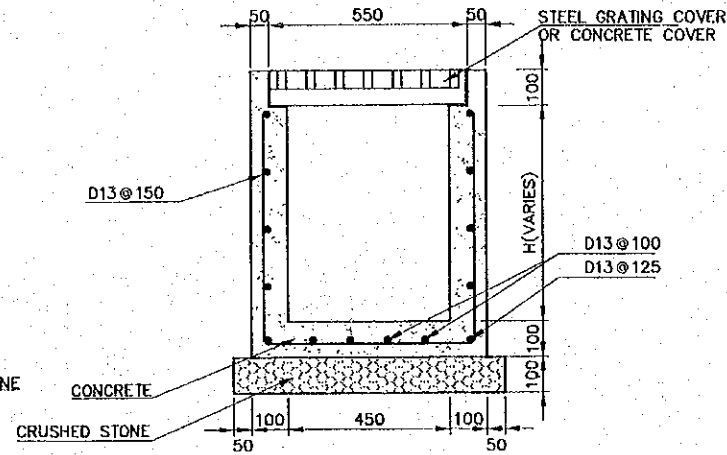
SECTION OF CULVERT (#1219)
SCALE 1:40



SECTION OF CULVERT (#762)
SCALE 1:40

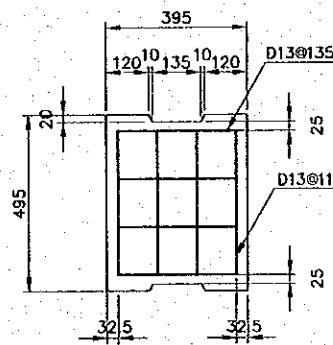


SECTION OF TRENCH WITH COVER (450)
SCALE 1:20

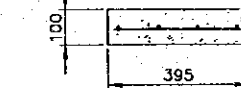


SIDE VIEW

DETAILS OF CONCRETE COVER (450)
SCALE 1:20



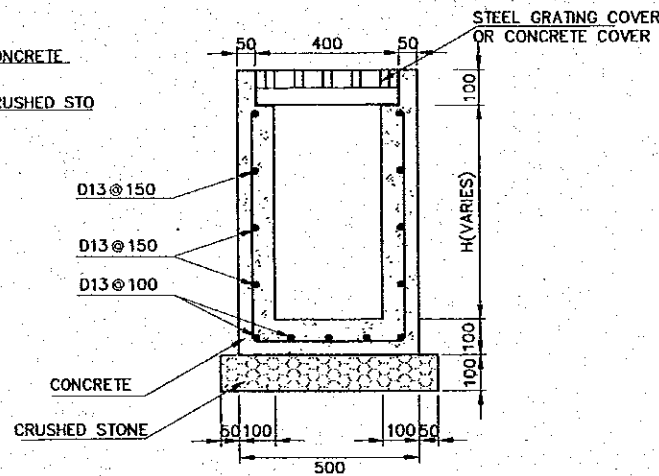
PLAN



SIDE VIEW

DETAILS OF CONCRETE COVER (300)
SCALE 1:20

SECTION OF TRENCH WITH COVER (300)
SCALE 1:20



LEGEND:
1. CEMENT CONCRETE CLASS: S3
2. ALL DIMENSIONS ARE IN MILLIMETERS, UNLESS OTHERWISE INDICATED.

INFORMATION OF TRENCHES

NAME OF TRENCH	LENGTH (M)	TYPE OF COVER	SLOPE OF ROAD OR YARD (%)	SLOPE OF TRENCH (%)	SIZE OF TRENCH H (MM)	HEIGHT OF TRENCH (MM)	
						MINIMUM	MAXIMUM
AU-1	92.0	CONCRETE	0.20	0.20	300	300	300
AU-2	35.7	NONE	0.20	0.20	300	300	300
AU-3	89.8	NONE	0.20	0.20	300	300	300
AU-4	83.8	NONE	0.20	0.20	300	300	300
AU-4-1	94.9	CONCRETE	0.20	0.20	300	300	300
AU-5	93.8	NONE	0.20	0.20	300	300	300
AU-5-1	44.9	CONCRETE	0.10	0.10	300	300	300
AU-6	65.2	GRATING	0.00	0.10	450	450	515
AU-7	65.2	GRATING	0.00	0.10	450	450	515
AU-8	65.2	GRATING	0.00	0.10	450	450	515
AU-9	23.7	CONCRETE	0.00	0.10	300	300	324
AU-9-1	65.2	CONCRETE	0.00	0.15	300	300	398
BU-1	63.8	GRATING	0.00	0.10	450	450	514
BU-2	65.2	GRATING	0.00	0.10	450	450	515
BU-3	65.2	GRATING	0.00	0.10	450	450	515
BU-4	64.3	GRATING	0.00	0.10	450	450	514
BU-5	64.3	GRATING	0.00	0.20	300	300	429
BU-6	64.3	GRATING	0.00	0.10	450	450	514
BU-7	19.6	CONCRETE	0.00	0.10	300	300	320
BU-7-1	65.2	CONCRETE	0.00	0.10	450	450	515
BU-8	64.3	CONCRETE	0.00	0.10	300	300	364
BU-9	8.6	CONCRETE	0.00	0.10	300	300	309
CU-1	66.7	CONCRETE	0.00	0.10	300	300	367
CU-2	30.4	CONCRETE	0.50	0.50	300	300	300
CU-3	89.8	CONCRETE	0.20	0.20	300	300	300
CU-4	84.2	NONE	0.23	0.23	300	300	303
CU-5	93.0	NONE	0.20	0.20	300	300	300
CU-5-1	109.7	CONCRETE	0.00	0.10	450	450	560
CU-6	64.3	GRATING	0.20	0.20	300	300	300
CU-7	64.3	GRATING	0.20	0.20	300	300	300
CU-8	64.3	GRATING	0.20	0.20	300	300	300
CU-9	25.0	CONCRETE	0.00	0.10	300	300	325
CU-9-1	64.3	CONCRETE	0.00	0.10	450	450	514
CU-9-2	108.0	CONCRETE	0.00	0.10	450	450	558
DU-1	145.0	CONCRETE	0.50	0.50	300	300	300
DU-2	46.0	CONCRETE	0.25	0.25	300	300	300
DU-3	151.2	CONCRETE	0.00	0.10	300	300	451
DU-4	151.2	CONCRETE	0.00	0.10	450	450	601
DU-5	129.4	CONCRETE	0.20	0.20	300	300	300
DU-5-1	93.9	CONCRETE	0.20	0.20	300	300	300
DU-6	79.5	CONCRETE	0.20	0.20	300	300	300
DU-6-1	79.5	CONCRETE	0.20	0.20	300	300	300
DU-7	362.2	NONE	0.00	0.10	450	450	812
DU-8	98.0	NONE	0.50	0.50	300	300	300
DU-9	79.4	NONE	0.10	0.10	300	300	300
DU-9-1	144.7	CONCRETE	0.00	0.10	300	300	445
DU-10	128.2	NONE	0.17	0.17	300	300	300
DU-10-1	141.7	CONCRETE	0.00	0.10	300	300	442
DU-10-2	49.5	CONCRETE	0.00	0.10	300	300	350
DU-11	93.0	NONE	0.15	0.15	300	300	300
DU-11-1	108.0	CONCRETE	0.00	0.10	450	450	558
DU-11-2	108.0	CONCRETE	0.00	0.10	450	450	558
EU-1	186.4	CONCRETE	0.00	0.20	300	300	673
EU-2	21.6	CONCRETE	0.47	0.47	300	300	300
EU-3	78.9	CONCRETE	0.47	0.47	300	300	300
EU-4	60.4	CONCRETE	0.47	0.47	300	300	300
EU-5	24.1	CONCRETE	0.47	0.47	300	300	300
EU-6	176.9	CONCRETE	0.00	0.10	300	300	477
EU-7	139.3	CONCRETE	0.47	0.47	300	300	300
EU-8	139.3	CONCRETE	0.50	0.50	300	300	300
EU-9	155.5	CONCRETE	0.00	0.15	300	300	533
EU-9-1	123.1	CONCRETE	0.00	0.10	300	300	423
EU-9-2	28.9	CONCRETE	0.00	0.10	300	300	329
EU-10	162.2	NONE	0.00	0.10	300	300	462
EU-11	148.0	CONCRETE	0.20	0.20	300	300	300
EU-12	57.2	CONCRETE	0.00	0.25	450	450	593

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

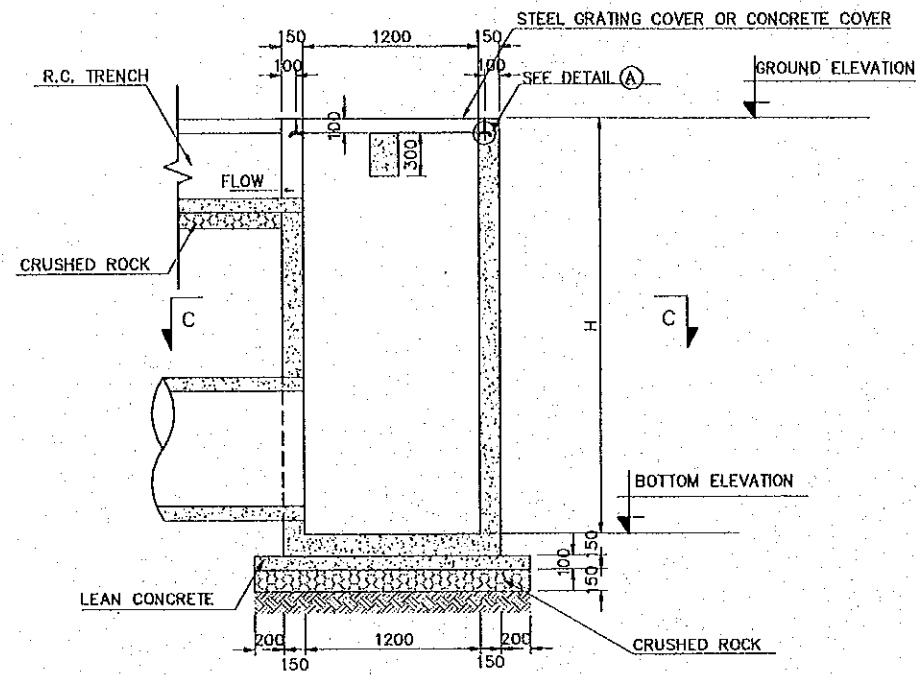
JICA
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
Cepa
COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR
NKC
NIPPON KOEI CO., LTD.

DESIGNED BY :
CHECKED BY :
APPROVED BY :

SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE : TYPICAL SECTION OF PIPE CULVERT AND TRENCHES

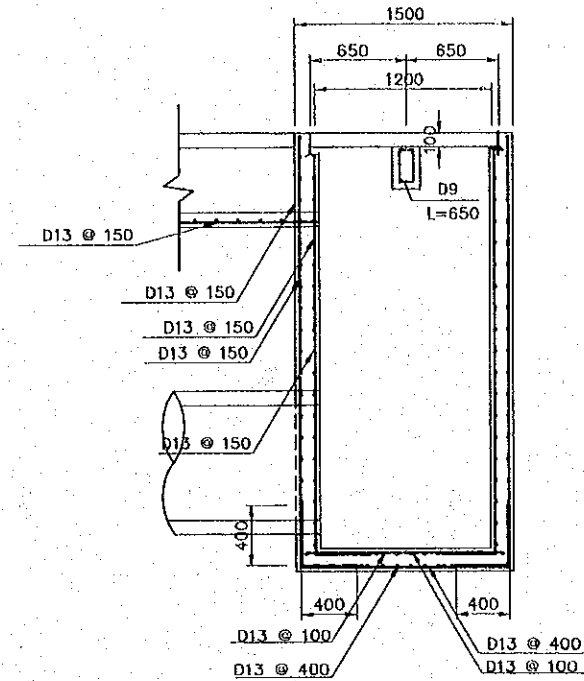
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SCALE : AS INDICATED
DRAWING NO. : SD-01-008



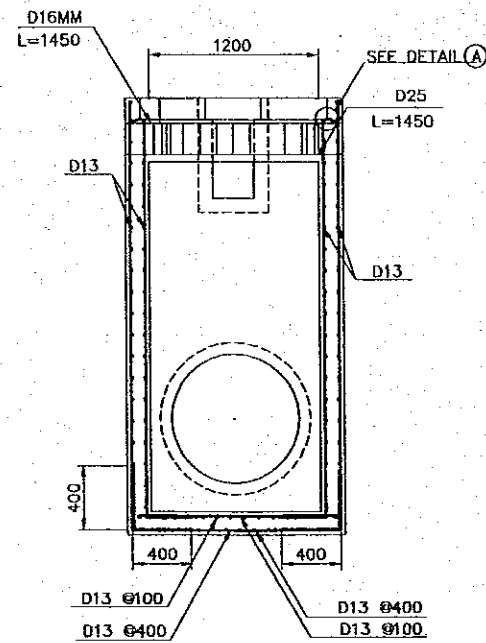
CONCRETE

SECTION (A)-(A)

SCALE 1:50

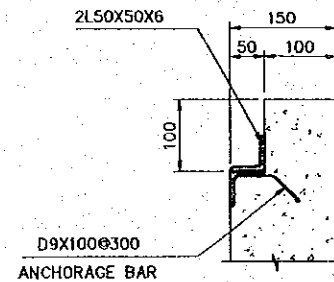


REINFORCEMENT



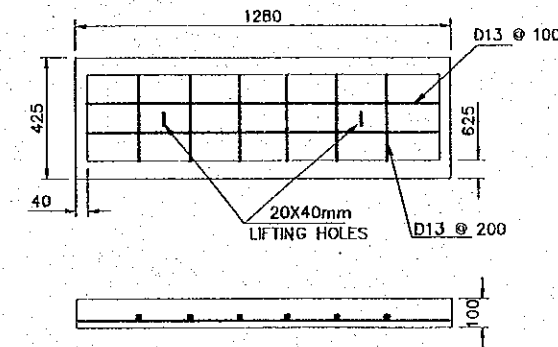
SECTION (B)-(B)

SCALE 1:50



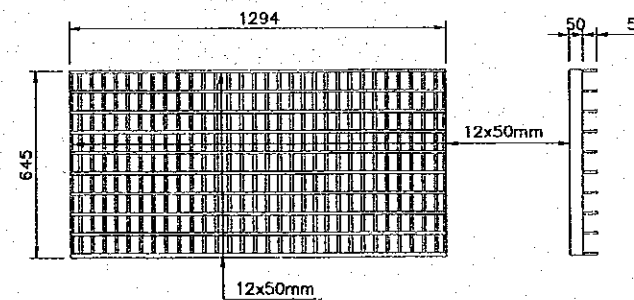
DETAIL (A)

SCALE 1:10



DETAILS OF CONCRETE COVER FOR MANHOLE (RC 1200 TYPE)

SCALE 1:25



DETAILS OF STEEL GRATING COVER FOR MANHOLE

SCALE 1:25

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)



COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR

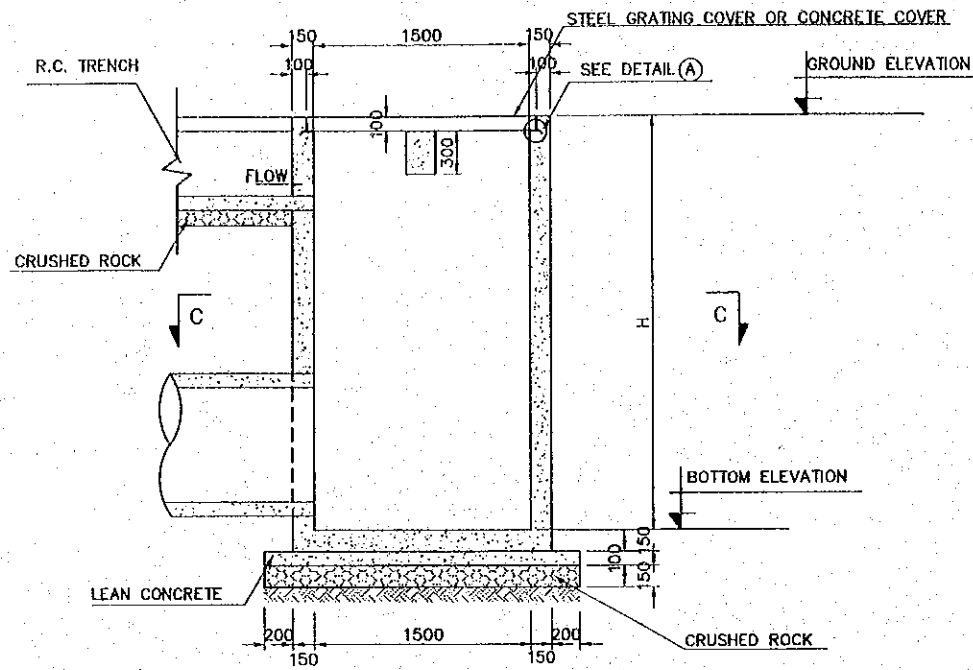


NIPPON KOEI CO., LTD.

DESIGNED BY :
CHECKED BY :
APPROVED BY :

SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE : DETAILS OF MANHOLE (1)

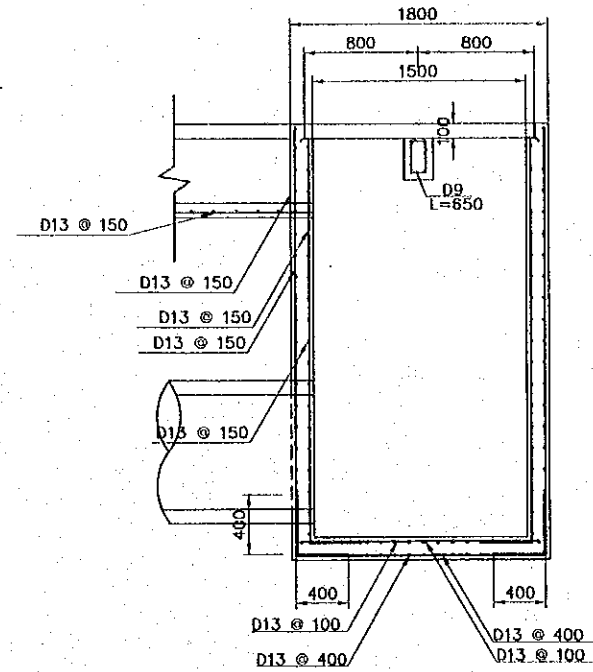
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SCALE : AS INDICATED
DRAWING NO : SD-01-009



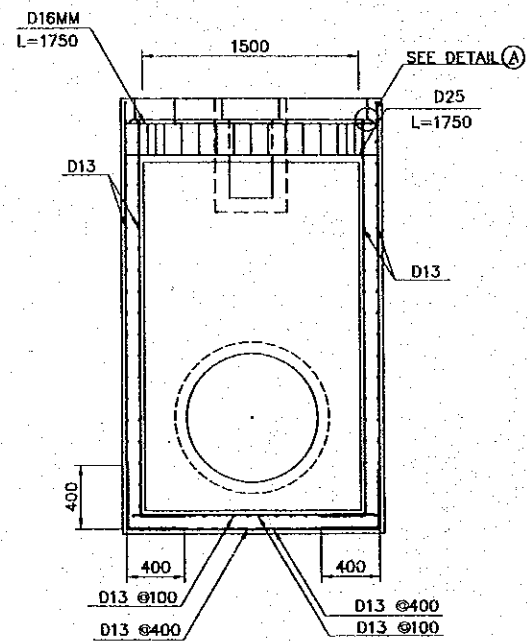
CONCRETE

SECTION (A)-(A)

SCALE 1:50

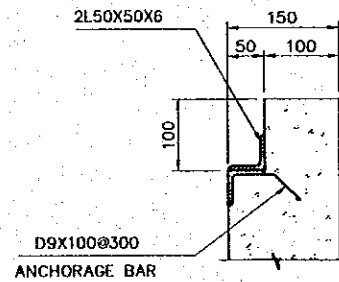


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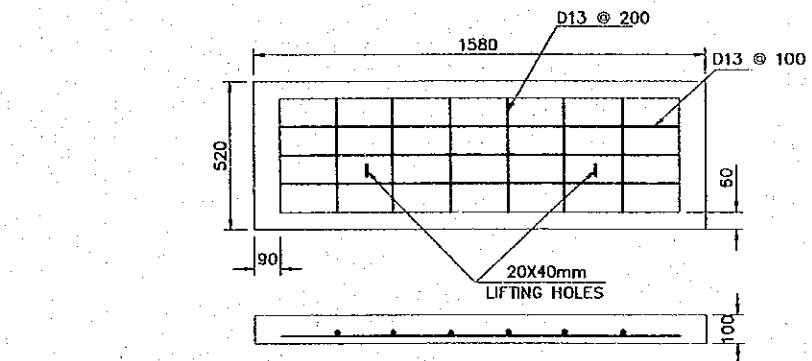
SECTION (B)-(B)

SCALE 1:50



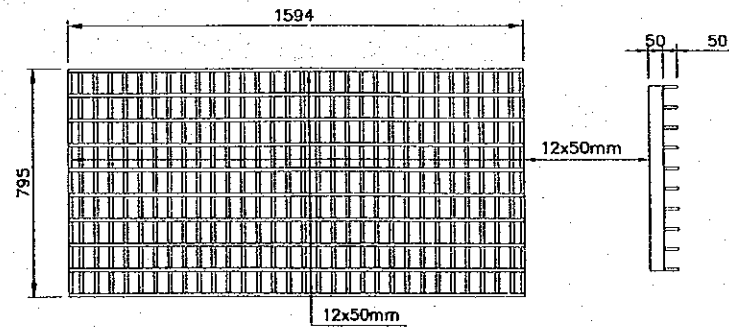
DETAIL (A)

SCALE 1:10



DETAILS OF CONCRETE COVER FOR MANHOLE (RC 1500 TYPE)

SCALE 1:25

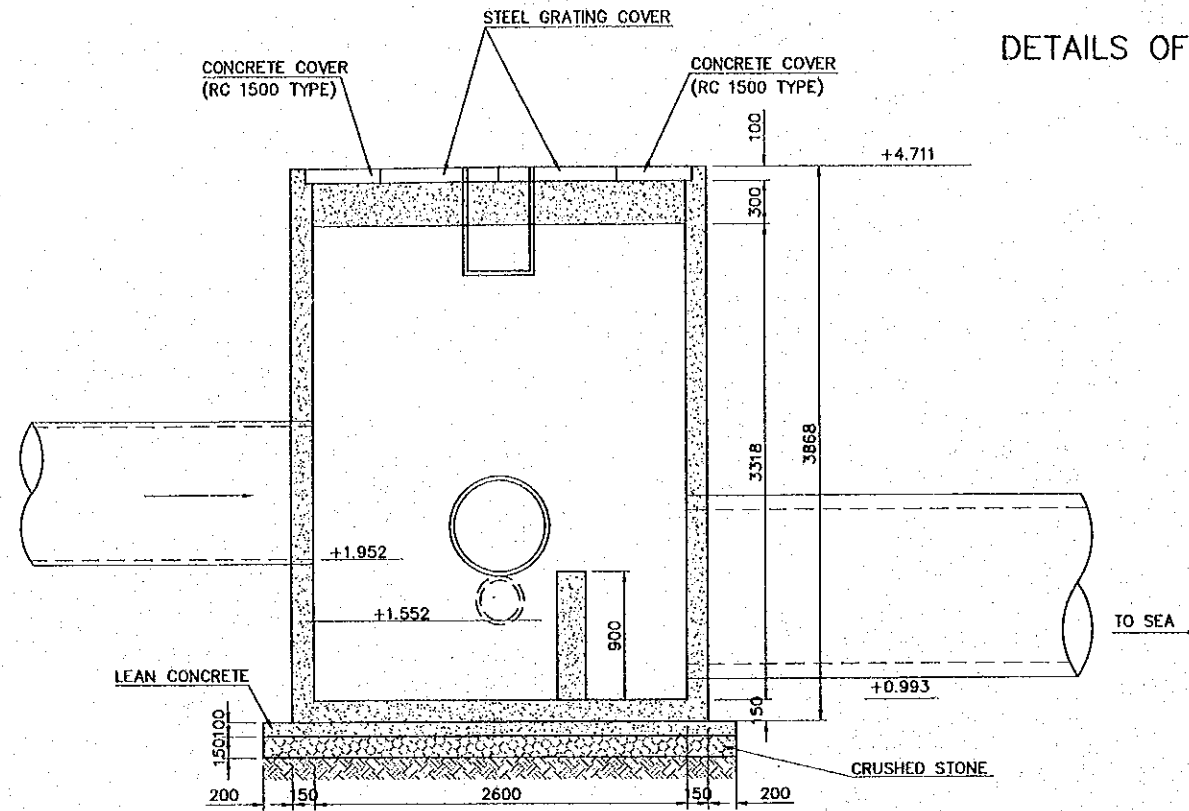


DETAILS OF STEEL GRATING COVER FOR MANHOLE

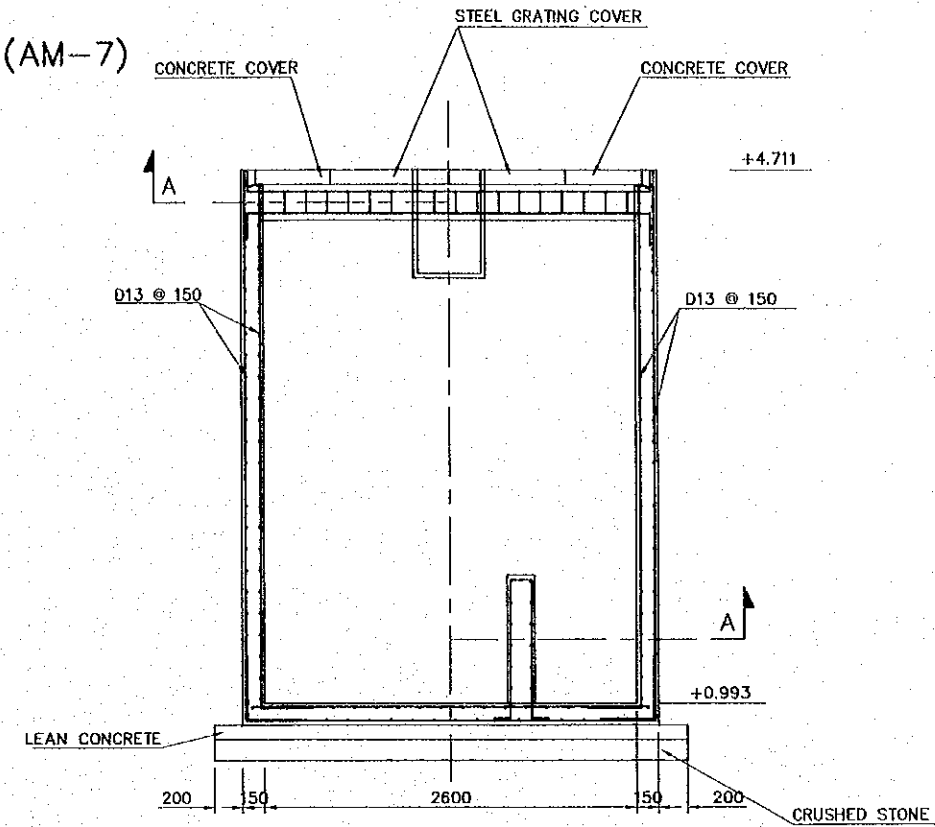
SCALE 1:25

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE	JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR	DESIGNED BY :	SECTION : STORM DRAINAGE	DATE : OCTOBER/2002
								COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	NIPPON KOEI CO., LTD.	CHECKED BY :
								APPROVED BY :	TITLE : DETAILS OF MANHOLE (2)	DRAWING NO. : SD-01-010

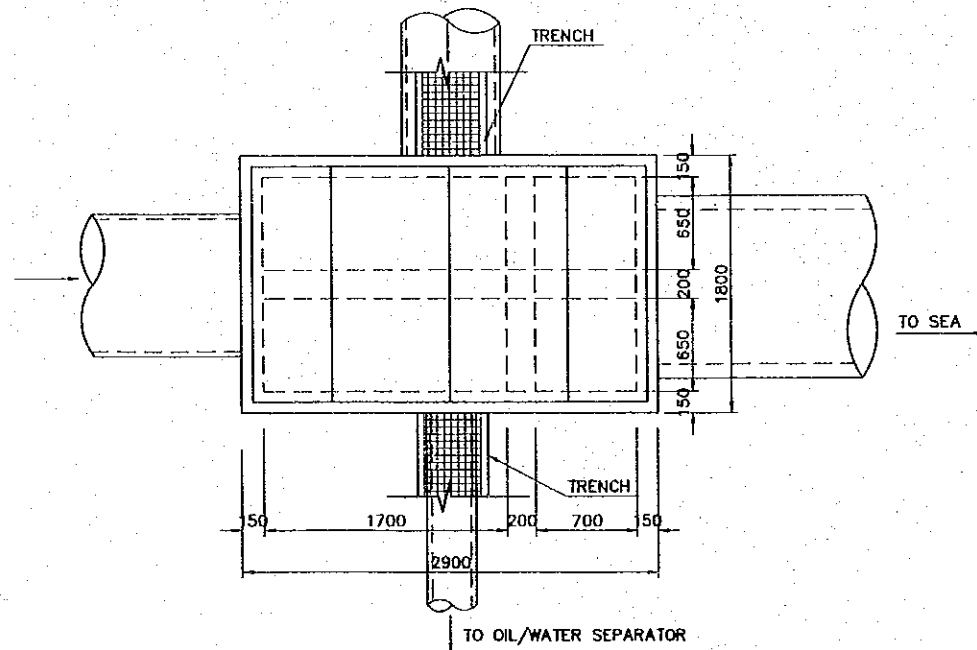
DETAILS OF MANHOLE (AM-7)



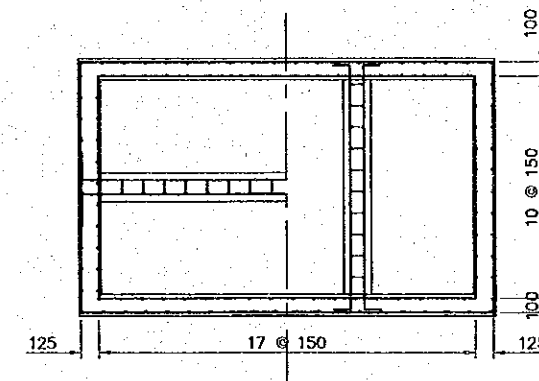
SECTION INTERNAL OF MANHOLE






REINFORCEMENT (1)



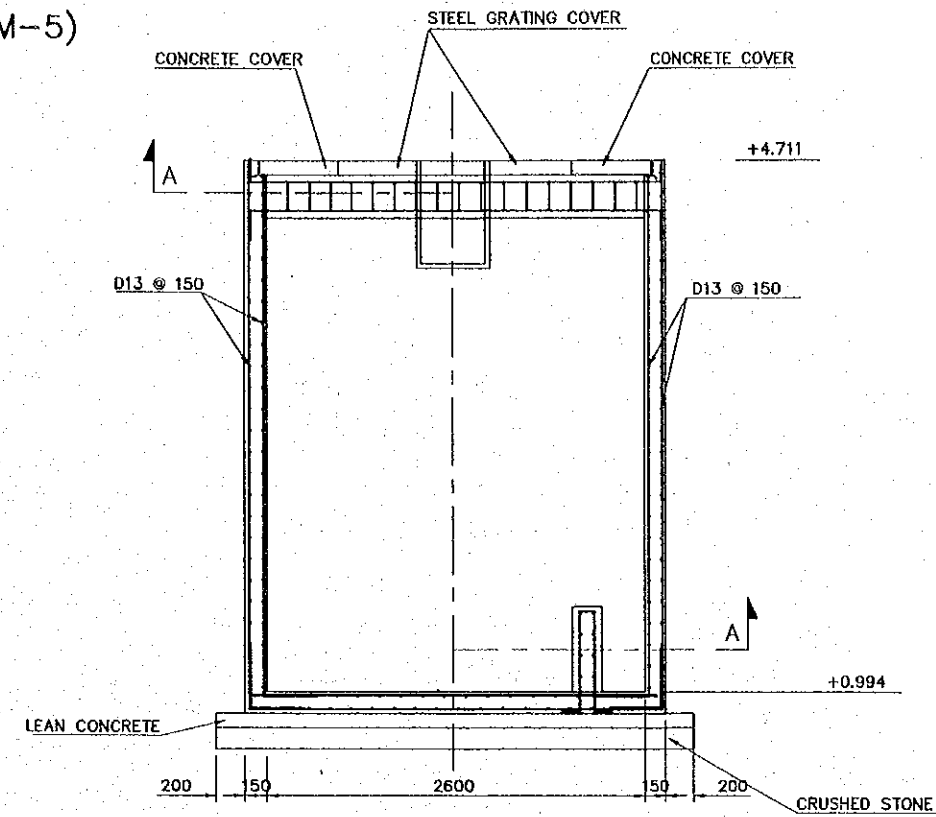
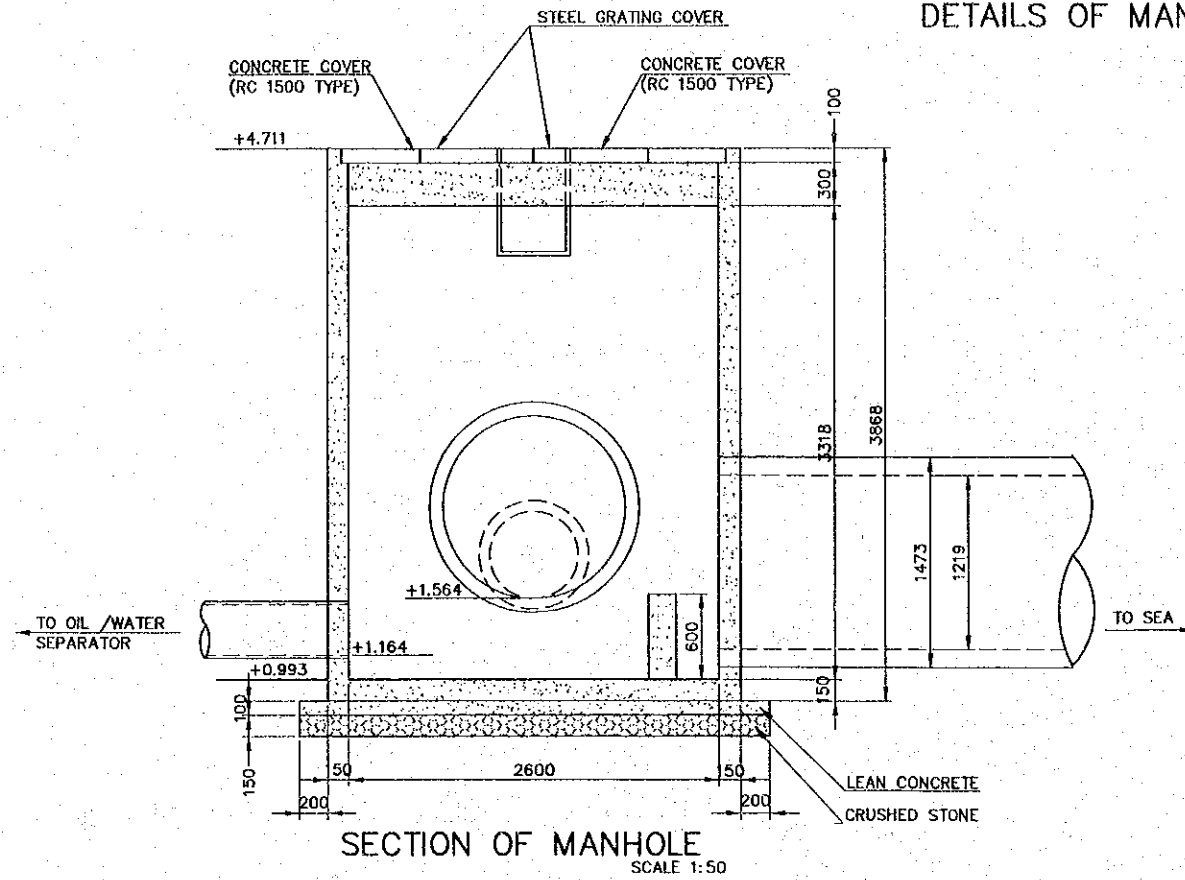
PLAN OF MANHOLE



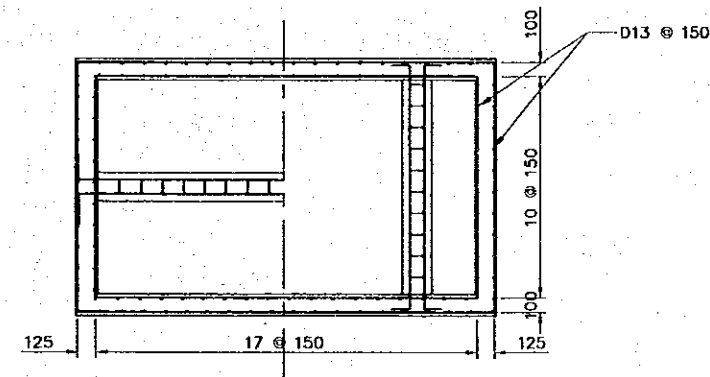
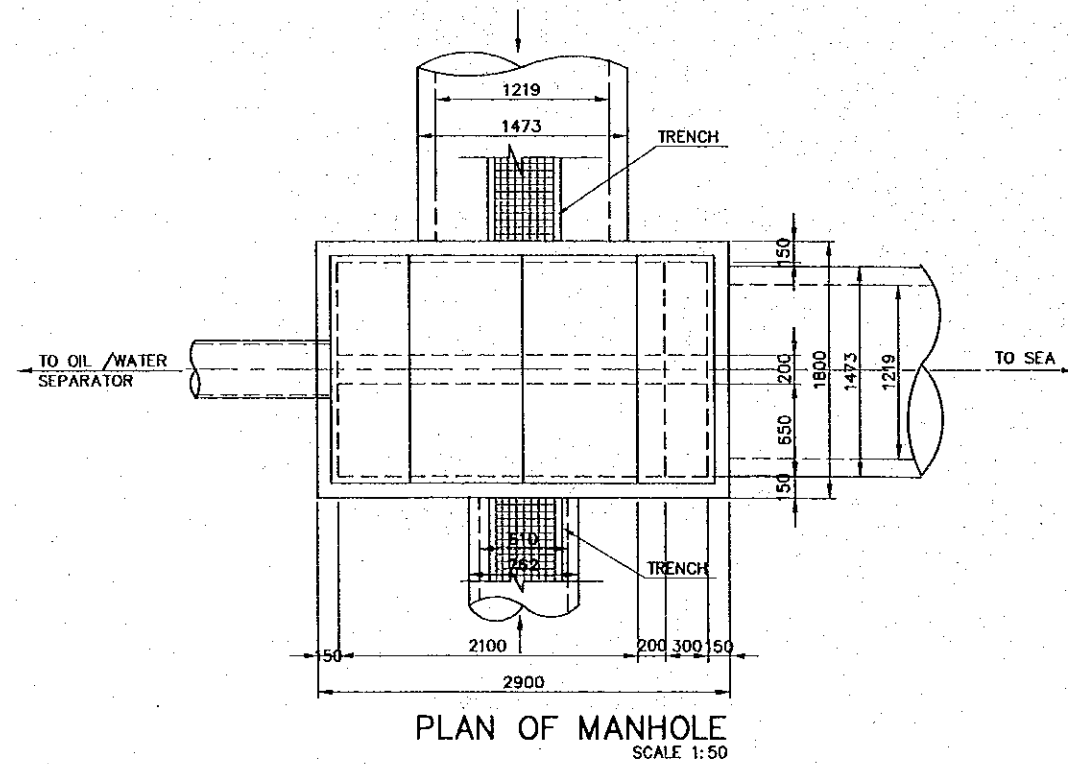
REINFORCEMENT (2)
SECTION A-A

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE	 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	 COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	 NIPPON KOEI CO., LTD.	DESIGNED BY :	SECTION :	DATE :
											CHECKED BY :
									APPROVED BY :	TITLE :	SCALE :
										DETAILS OF MANHOLE (3)	1:50
											DRAWING NO. : SD-01-011

DETAILS OF MANHOLE (BM-5)



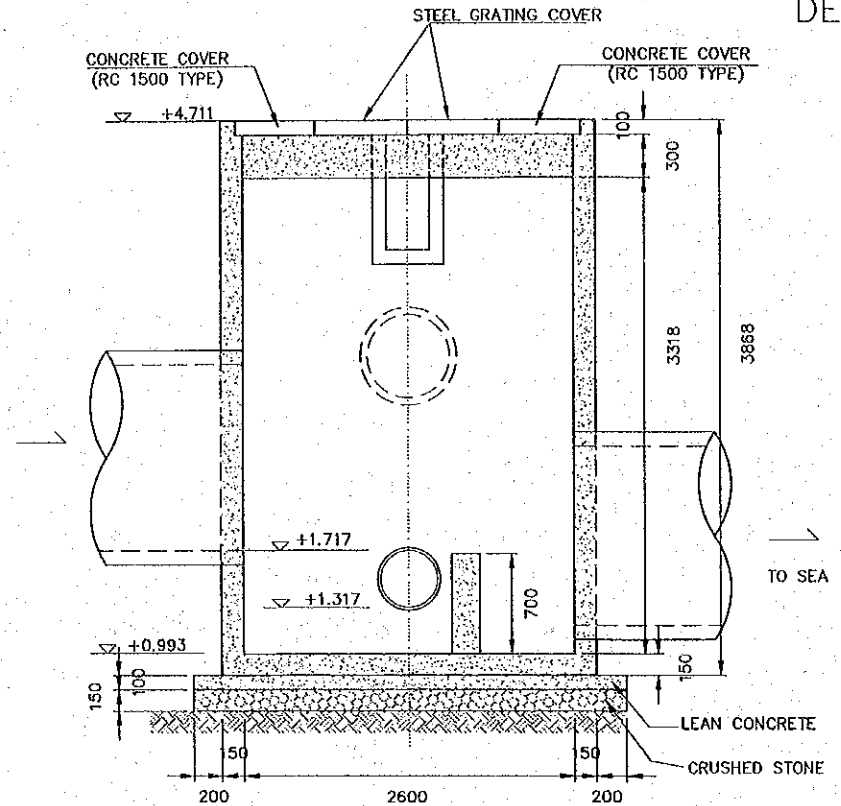
REINFORCEMENT (1)



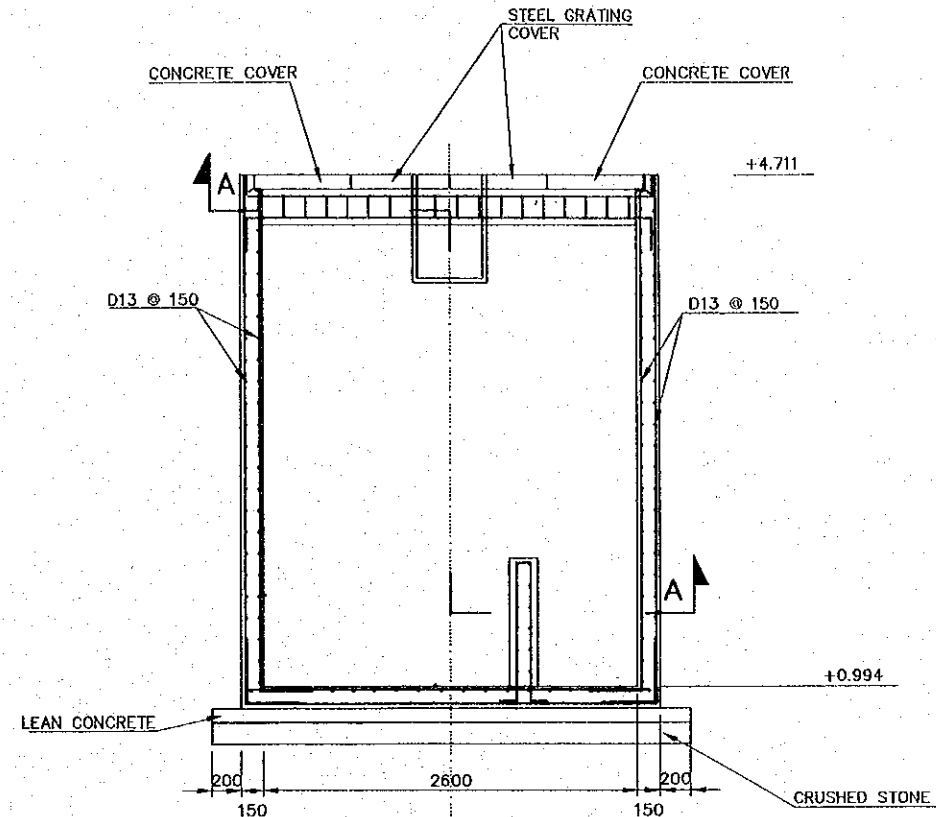
REINFORCEMENT (2)
SECTION A-A

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE	JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR	DESIGNED BY :	SECTION : STORM DRAINAGE	DATE : OCTOBER/2002
								COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	NIPPON KOEI CO., LTD.	CHECKED BY :
								APPROVED BY :	TITLE : DETAILS OF MANHOLE (4)	DRAWING NO: SD-01-012

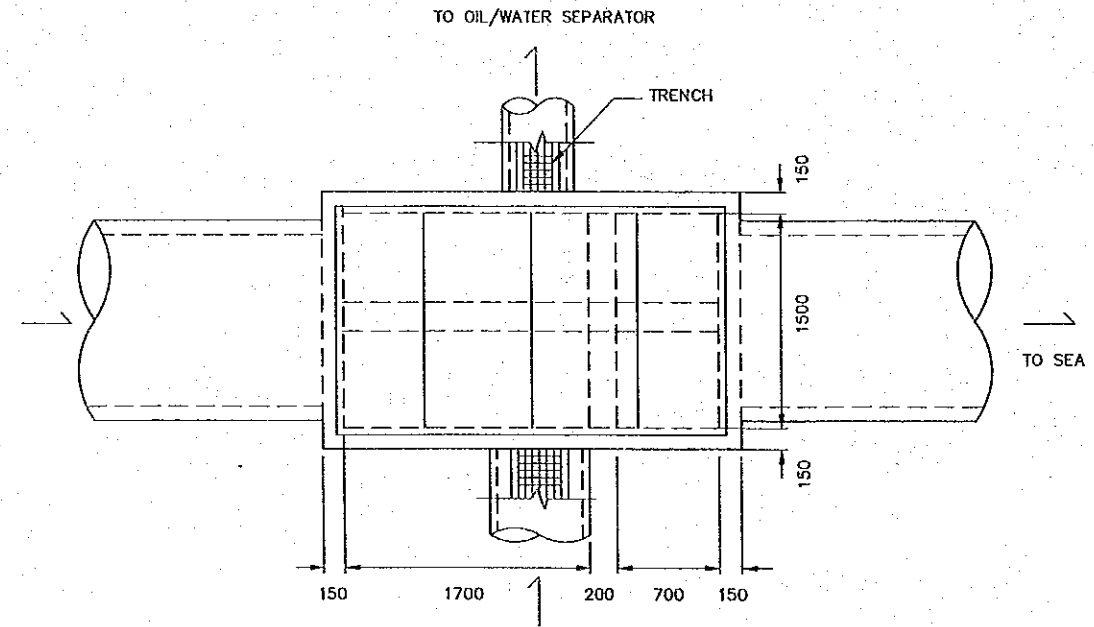
DETAILS OF MANHOLE (CM-13)



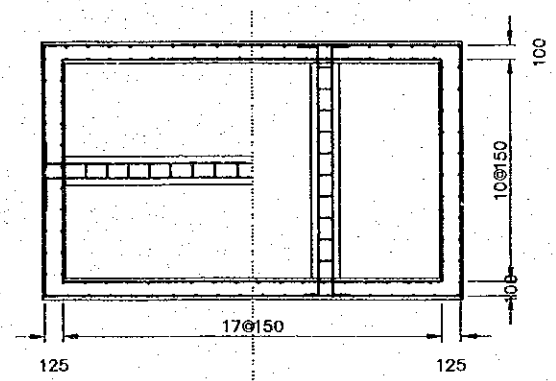
SECTION OF MANHOLE



REINFORCEMENT (1)

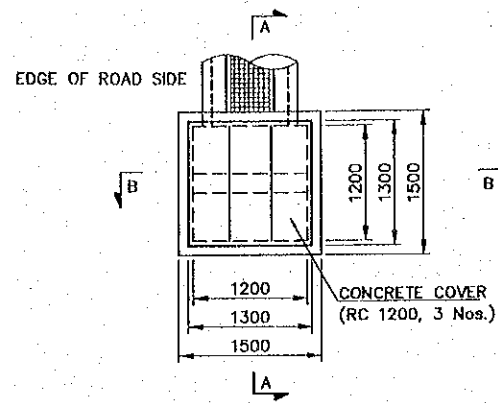


PLAN OF MANHOLE

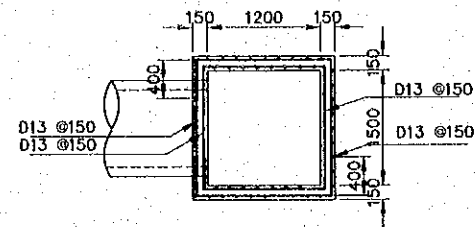


REINFORCEMENT (2)
SECTION A-A

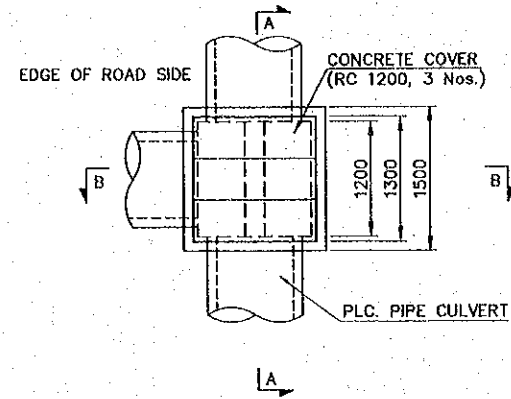
JICA COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)		THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR NIPPON KOEI CO., LTD.		DESIGNED BY : CHECKED BY : APPROVED BY :	SECTION : STORM DRAINAGE SUB-SECTION : PROFILE AND DETAILS TITLE : DETAILS OF MANHOLE (5)	DATE : OCTOBER/2002 SCALE : 1:50 DRAWING NO: SD-01-013
REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE	



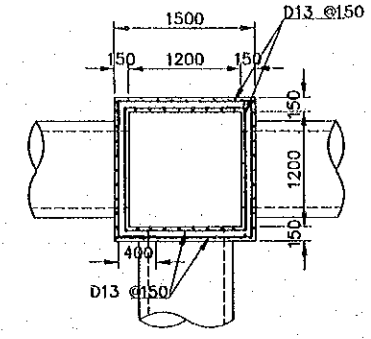
PLAN OF MANHOLE TYPE "1"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75



PLAN OF MANHOLE TYPE "3"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75

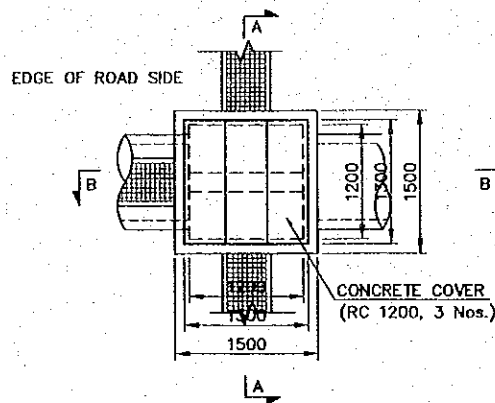
Type-1

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT (mm)	NAME AND TYPE OF TRENCH (mm)	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
DM4-1	DP4-1 457	DU-4 450	RC 1200	+5.340	+3.047	2.293
DM5-1	DP5-1 610	DU5-1 300	RC 1200	+5.340	+2.887	2.453
DM7-1	DP7-1 457	DUB-1 300	RC 1200	+5.170	+2.683	2.487
DM9-2	DP9-2 457	DU10-2 300	RC 1200	+5.010	+2.564	2.446

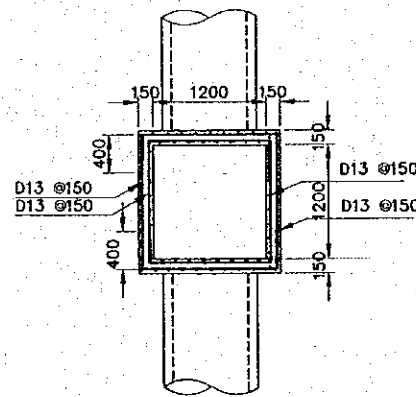
Type-3

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
CM-4	CP3 457 CP4 457 CP4-1 457		RC 1200	+5.437	+3.229	2.208
CM-5	CP4 457 CP5-1 457 CP5 457		RC 1200	+5.637	+3.189	2.448
CM-7	CP6 610 CP7 457 O/W		RC 1200	+5.857	+2.691	3.166
CMB-2	CPB-3 457 CPB-2-1 457 CPB-2 457		RC 1200	+5.507	+2.795	2.712
CMB-1	CPB-2 457 CPB-1-1 457 CPB-1 457		RC 1200	+5.507	+2.755	2.752

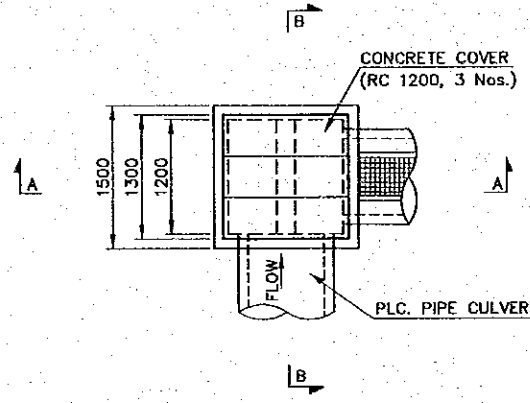
O/W: OIL AND WATER SEPARATOR



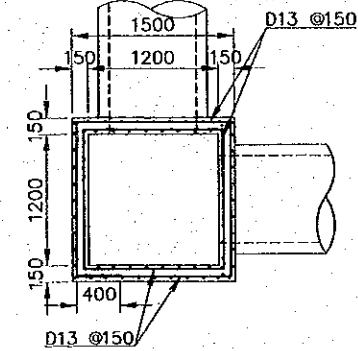
PLAN OF MANHOLE TYPE "2"
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SECTION (C)-(C)
SCALE 1:75



PLAN OF MANHOLE TYPE "4"
SCALE 1:75



SECTION (C)-(C)
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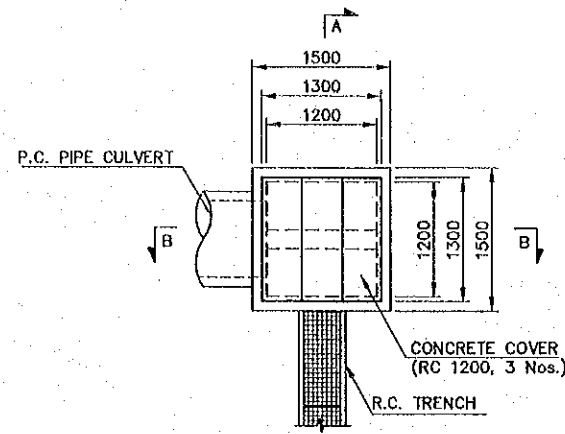
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NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
EM4-1	EP4-2 610 EP4-1 610	EU-7 300 EU9-1 300 EU-10 300	RC 1200	+5.330	+3.306	2.024

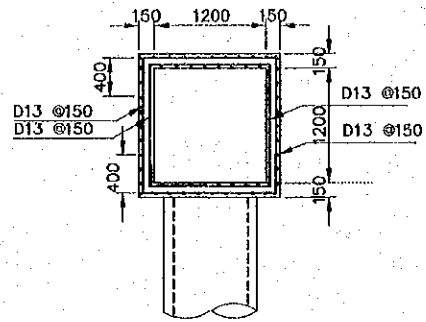
Type-4

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
CM-6	CP5 457 CP6 610	CU1 300	RC 1200	+5.637	+3.055	2.582

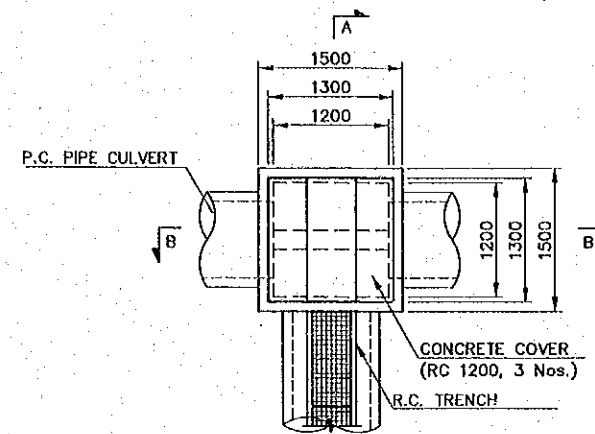
REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE	<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)</p>	<p>THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR</p> <p>NIPPON KOEI CO., LTD.</p>	DESIGNED BY :	SECTION : STORM DRAINAGE	DATE : OCTOBER/2002
								CHECKED BY :	SUB-SECTION : PROFILE AND DETAILS	SCALE : 1:75
								APPROVED BY :	TITLE : MANHOLE DETAIL TYPE 1,2,3,4	DRAWING NO. : SD-01-015



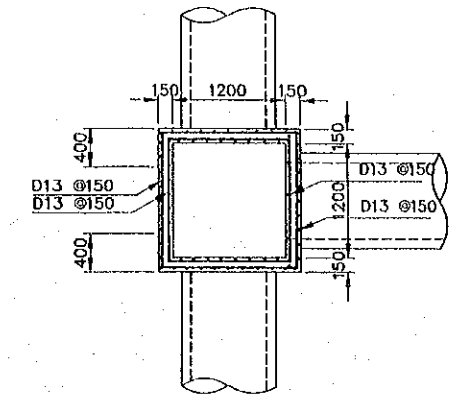
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SCALE 1:75



SECTION (C)-(C)
SCALE 1:75



PLAN OF MANHOLE TYPE "7"
SCALE 1:75



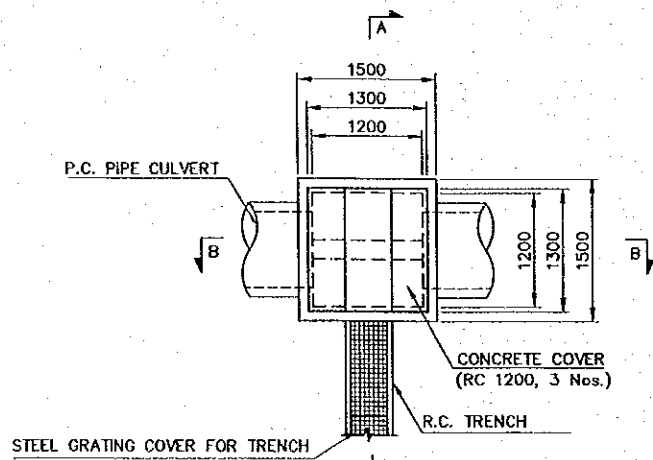
SECTION (C)-(C)
SCALE 1:75

Type-5

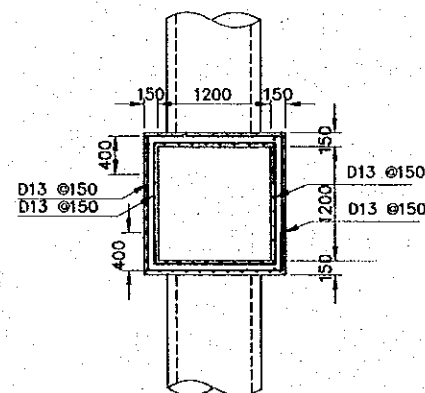
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DM-1	DP1	457	-	-	-	DU1	300	-	-	-	RC 1200	+6.250	+4.797	1.453
EM-4-4	EP4	610	-	-	-	EU1	300	-	-	-	RC 1200	+6.250	+4.797	1.453

Type-7

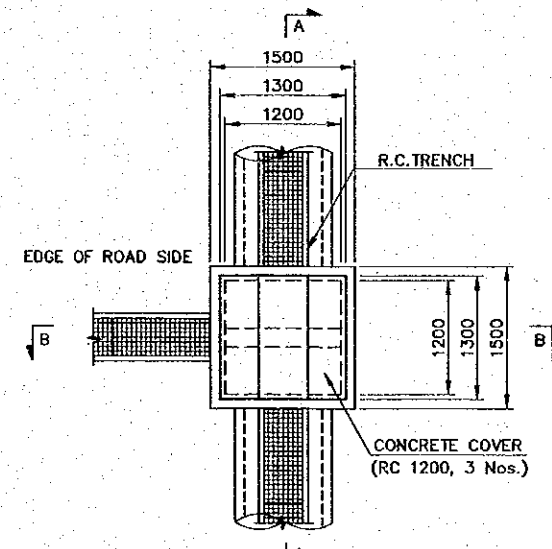
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DM-4	DP3	457	DP4-1	457	DP4	610	DU3	300	-	-	-	RC 1200	+5.340	+3.025	2.315
DM-5	DP4	610	DP5-1	610	DP5	914	DU5	300	-	-	-	RC 1200	+5.340	+2.865	2.475



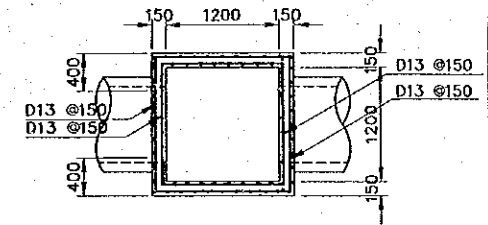
PLAN OF MANHOLE TYPE "6"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75



PLAN OF MANHOLE TYPE "8"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75

Type-6

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT					NAME AND TYPE OF TRENCH					TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
DM-2	DP1	457	DP2	457	-	DU2	300	-	-	-	RC 1200	+5.500	+3.147	2.353
EM-4-3	EP4	457	EP3	457	-	EU8	300	-	-	-	RC 1200	+6.140	+4.687	1.453

Type-8

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT					NAME AND TYPE OF TRENCH					TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)	
EM-3	EP2	457	EP3	610	-	EU3	300	EU4-1	300	EU4	300	RC 1200	+5.590	+3.390	2.200

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

JICA
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Cepa
COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

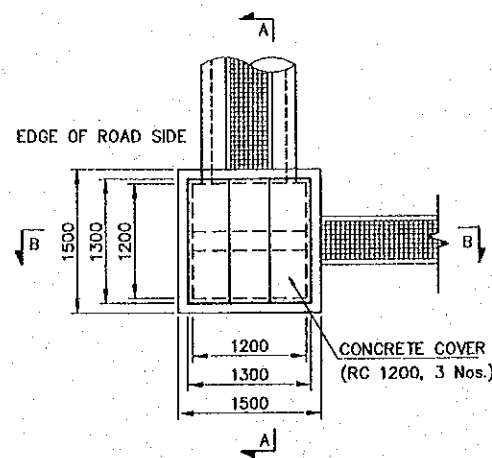
THE DETAILED DESIGN
ON PORT REACTIVATION PROJECT
IN LA UNION PROVINCE
OF THE REPUBLIC OF EL SALVADOR

NCC
NIPPON KOEI CO., LTD.

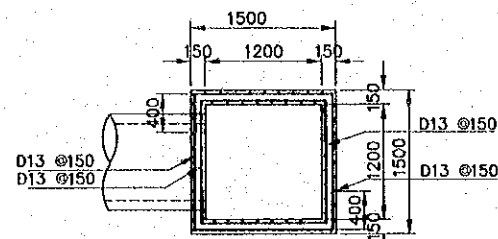
DESIGNED BY :
CHECKED BY :
APPROVED BY :

SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE :
MANHOLE DETAIL TYPE 5,6,7,8

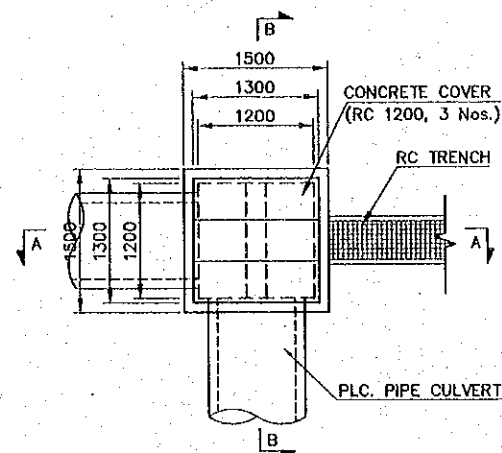
DATE : OCTOBER/2002
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DRAWING NO : SD-01-016



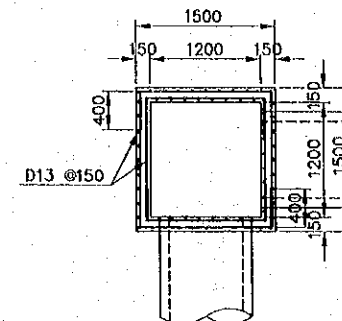
PLAN OF MANHOLE TYPE "9"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75



PLAN OF MANHOLE TYPE "11"
SCALE 1:75



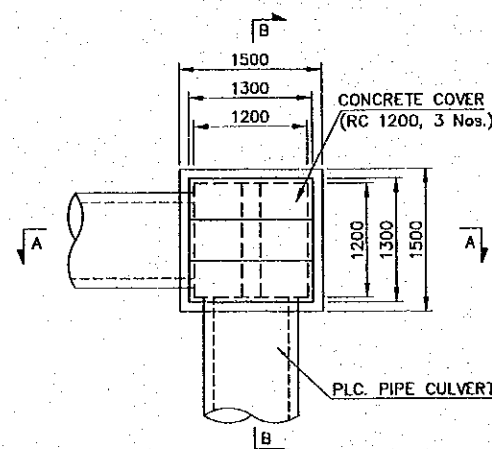
SECTION (C)-(C)

TYPE-9

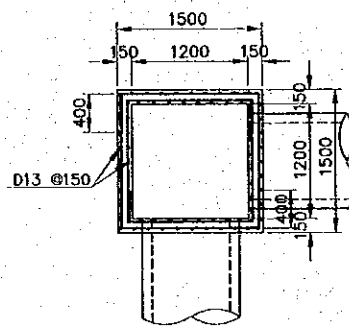
NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
DM-8-1	DPB-1 914	DU7 450 DU8 300	RC 1200	+4.625	+2.700	1.925
EM-1	EP1 457	EU1 300 EU2 300	RC 1200	+6.060	+3.897	2.163

TYPE-11

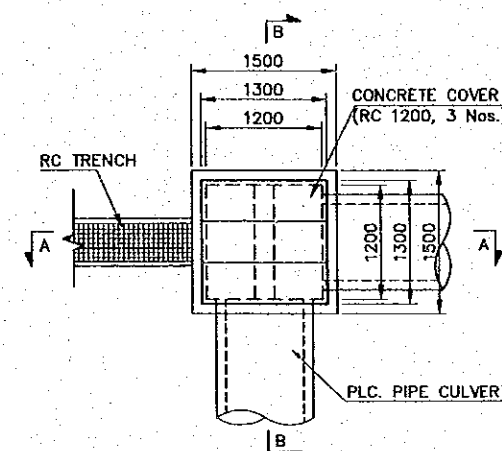
NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
EM-5-1	EP5-1 610 EP5-2 457	EU9-1 300	RC 1200	+5.220	+3.001	2.219



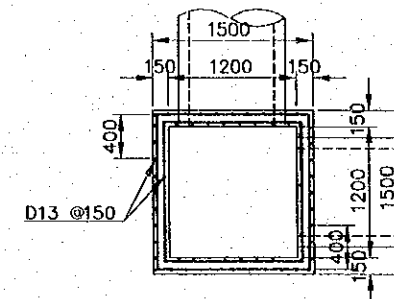
PLAN OF MANHOLE TYPE "10"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75



PLAN OF MANHOLE TYPE "12"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75

TYPE-10

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
AM-1	AP 610 CFS 457		RC 1200	+5.522	+2.444	3.078
CM-1	A/B 457 CP1 457		RC 1200	+5.562	+3.399	2.163
CM-2	CP1 457 CP2 457		RC 1200	+5.537	+3.343	2.194
CM-3	CP2 457 CP3 457		RC 1200	+5.437	+3.229	2.208
CM-4-1	A/B 457 CP4-1 457		RC 1200	+5.537	+3.289	2.268
CM-5-1	M/R 457 CP5-1 457		RC 1200	+5.637	+3.205	2.432
CM-8-4	A/B 457 CPB-4 457		RC 1200	+5.507	+2.895	2.612
CM-8-3	CPB-4 457 CPB-3 457		RC 1200	+5.507	+2.869	2.638
CM-8-2-1	A/B 457 CPB-2-1 457		RC 1200	+5.602	+2.821	2.781
CM-8-1-1	M/R 457 CPB-1-1 457		RC 1200	+5.592	+2.819	2.773
DM-3	DP2 457 DP3 457		RC 1200	+5.200	+3.045	2.155

A/B :Administration Building
M/R :Maintenance and Repair Shop

TYPE-12

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
EM-4-2	EP4-2 610 EP4-3 457	EU10 300 EUB 300	RC 1200	+5.430	+3.972	1.458

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

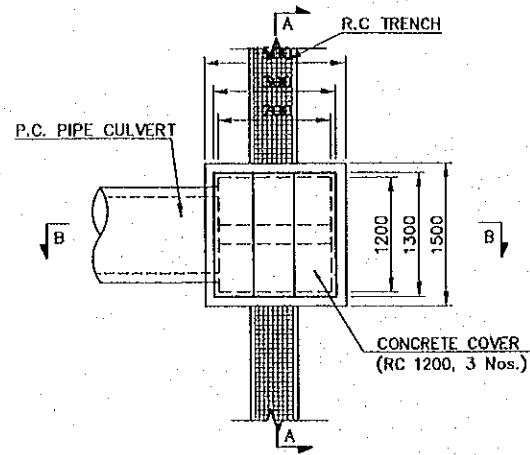
JICA
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
CEPA
COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR
NIPPON KOEI CO., LTD.

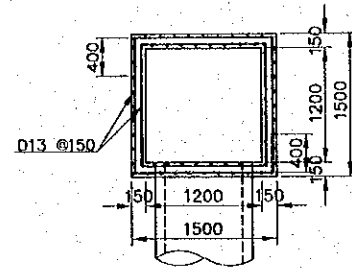
DESIGNED BY :
CHECKED BY :
APPROVED BY :

SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE : MANHOLE DETAIL TYPE 9,10,11,12

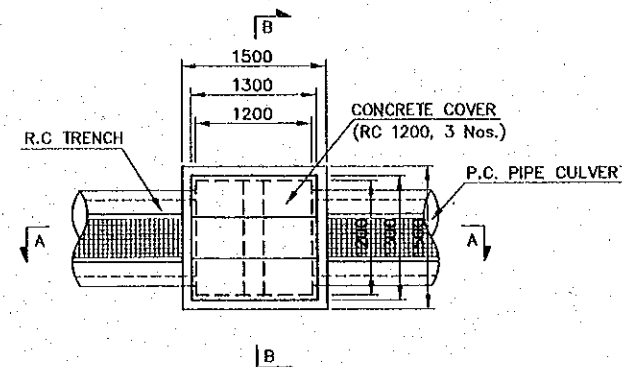
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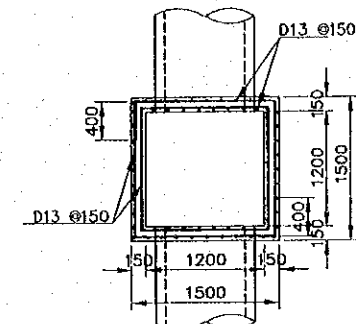
PLAN OF MANHOLE TYPE "13"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75



PLAN OF MANHOLE TYPE "15"
SCALE 1:75



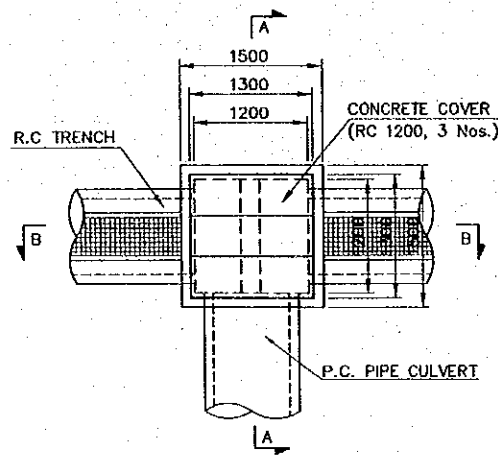
SECTION (C)-(C)
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TYPE-13

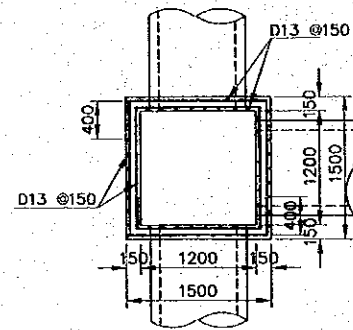
NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
EM2-1	EP2-1 457	EU6 300 EU7 300	RC 1200	+5.970	+3.808	2.162
EM5-2	EP5-1 610	EU9-1 300 EU9 300	RC 1200	+5.220	+3.011	2.209

TYPE-15

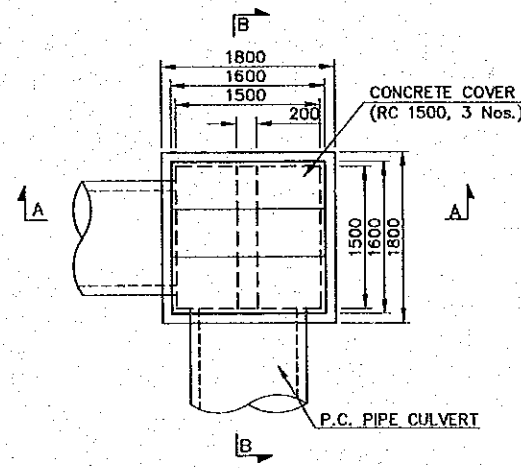
NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
DM-9-1	DP9-1 457 DP9-2 457	DU8 300 DU10-1 300	RC 1200	+5.010	+2.564	2.446



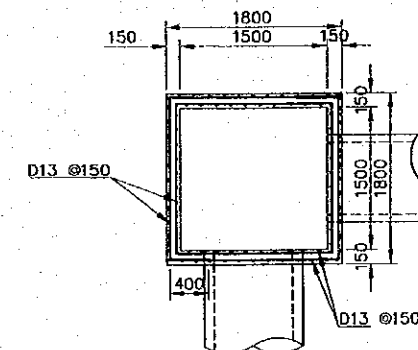
PLAN OF MANHOLE TYPE "14"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75



PLAN OF MANHOLE TYPE "16"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75

TYPE-14

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
EM-2	EP1 457 EP2-1 457 EP2 457	EU2 300 EU3 300	RC 1200	+5.970	+3.799	2.171

TYPE-16

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
DM-6	DP-5 914 DP6 914		RC 1500	+4.625	+2.836	1.789

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

JICA
JAPAN INTERNATIONAL
COOPERATION AGENCY
(JICA)

Cepa
COMISION EJECUTIVA
PORTUARIA AUTONOMA
(CEPA)

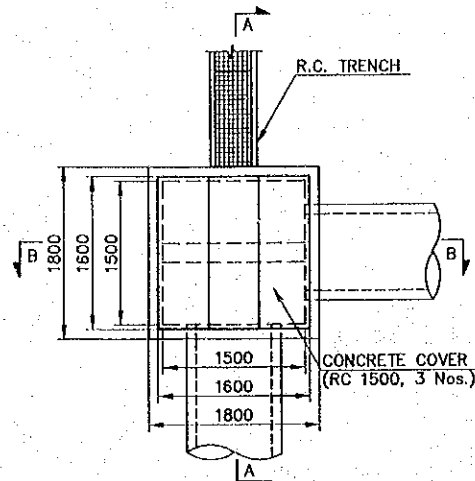
THE DETAILED DESIGN
ON PORT REACTIVATION PROJECT
IN LA UNION PROVINCE
OF THE REPUBLIC OF EL SALVADOR

NK NIPPON KOEI CO., LTD.

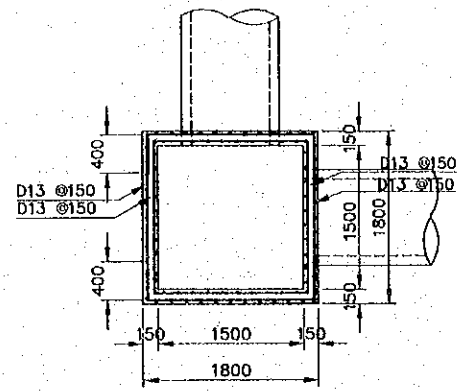
DESIGNED BY :
CHECKED BY :
APPROVED BY :

SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE :
MANHOLE DETAIL TYPE
13,14,15,16

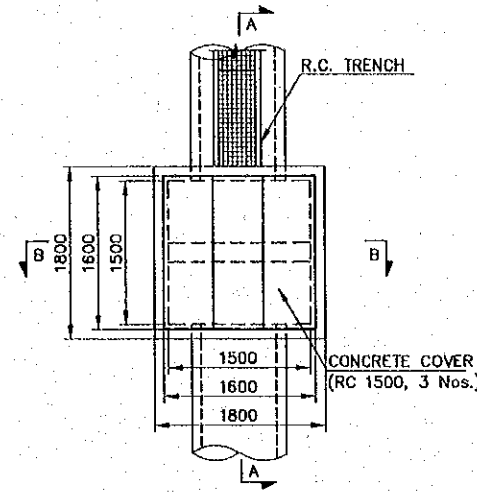
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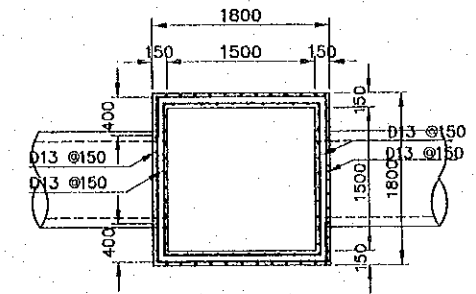
PLAN OF MANHOLE TYPE "17"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75



PLAN OF MANHOLE TYPE "19"
SCALE 1:75



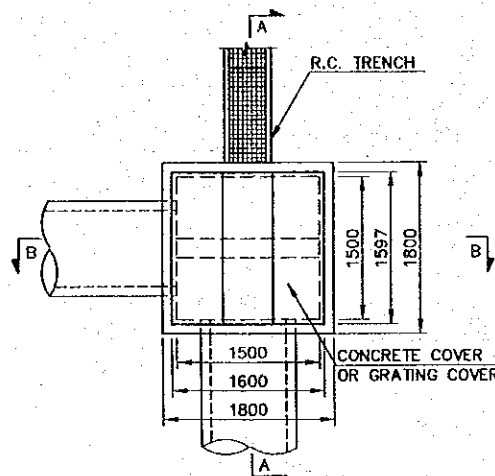
SECTION (C)-(C)
SCALE 1:75

Type-17

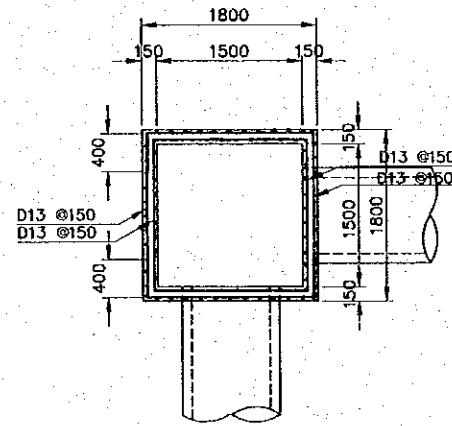
NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT				NAME AND TYPE OF TRENCH				TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)			
AM-2	AP1	457	AP2	610	-	-	AU2	300	-	-	-	RC 1500	+5.522	+2.406	3.116

Type-19

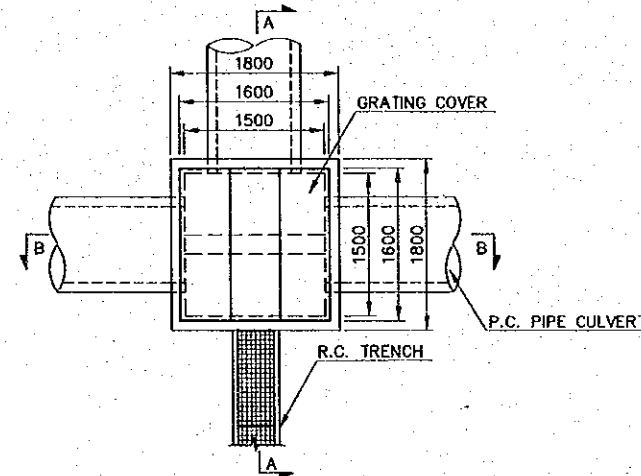
NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT				NAME AND TYPE OF TRENCH				TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)			
AM-6-1	AP6-1	610	AP6-2	610	-	-	AU5	300	-	-	-	RC 1500	+4.928	1.982	2.946



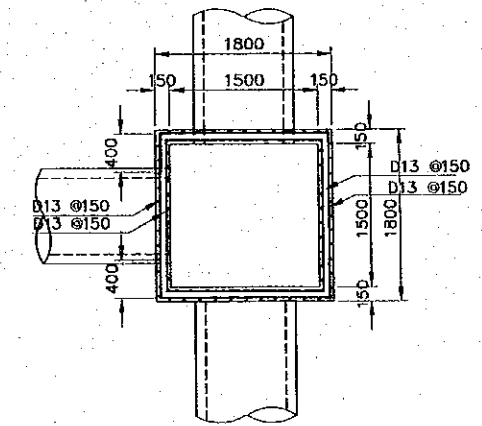
PLAN OF MANHOLE TYPE "18"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75



PLAN OF MANHOLE TYPE "20"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75

Type-18

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT				NAME AND TYPE OF TRENCH				TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)			
AM-3	AP2	610	AP3	610	-	-	AU3	300	-	-	-	RC 1500	+5.320	+2.328	2.992
AM-4	AP3	610	AP4	610	-	-	AU6	450	-	-	-	GRATING	+5.332	+2.550	2.782
BM-1	BP1	762	BP1-1	610	-	-	BU1	450	-	-	-	GRATING	+5.332	+2.280	3.052
CM-10	CP9	610	CP10	914	-	-	CU8	450	-	-	-	GRATING	+5.332	+2.502	2.830

Type-20

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT				NAME AND TYPE OF TRENCH				TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)			
AM-5	AP4	610	AP5	762	AP5-1	610	AU7	450	-	-	-	GRATING	+5.132	+2.109	3.023
AM-6	AP5	762	AP6	914	AP6-1	610	AU8	450	-	-	-	GRATING	+4.928	+1.934	2.994
BM-2	BP1	610	BP2	762	BP2-1	610	BU2	450	-	-	-	GRATING	+5.132	+1.710	3.422
BM-3	BP2	762	BP3	914	BP3-1	610	BU3	450	-	-	-	GRATING	+4.928	+1.535	3.393
CM-11	CP10	914	CP11	1219	CP11-1	610	CU9	300	-	-	-	GRATING	+5.132	+2.331	2.801
CM-12	CP11	1219	CP12	1219	CP12-1	610	CU10	300	-	-	-	GRATING	+4.982	+2.199	2.783

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

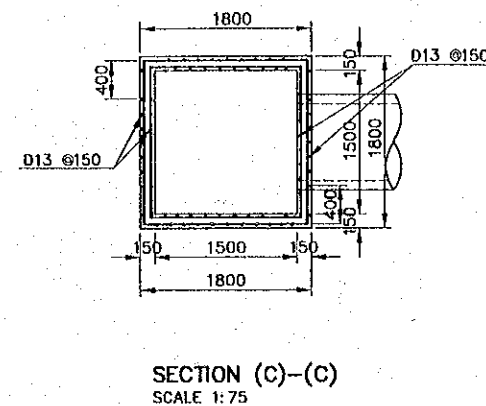
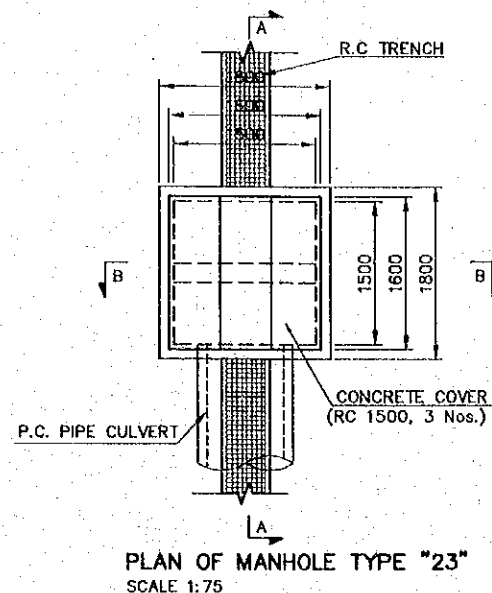
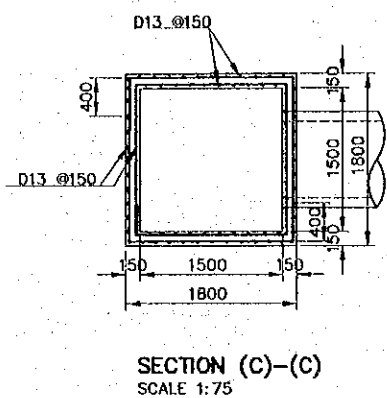
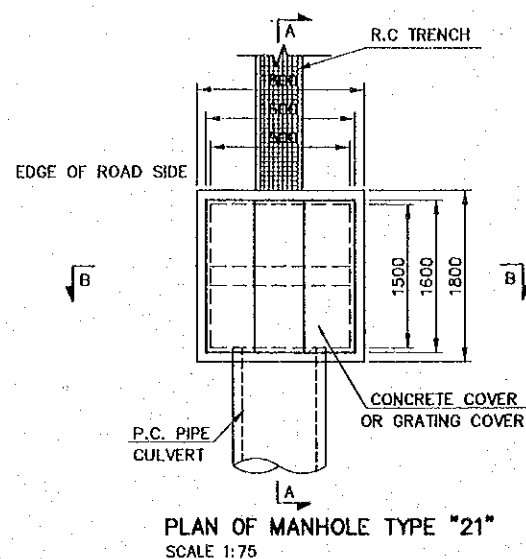
JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
Cepa COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR
NK NIPPON KOEI CO., LTD.

DESIGNED BY :
CHECKED BY :
APPROVED BY :

SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE : MANHOLE DETAIL TYPE 17,18,19,20

DATE : OCTOBER/2002
SCALE : 1:75
DRAWING NO : SD-01-019

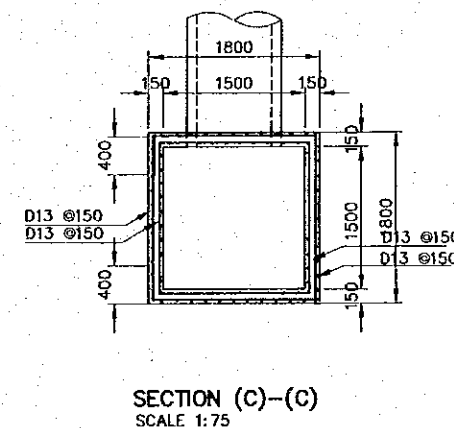
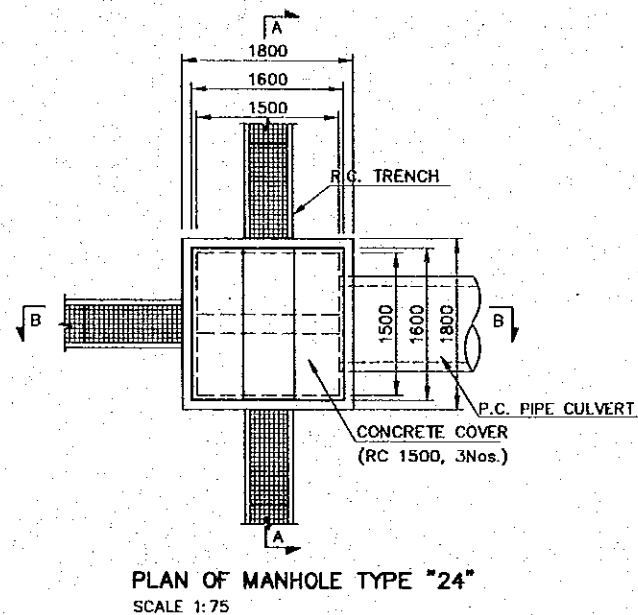
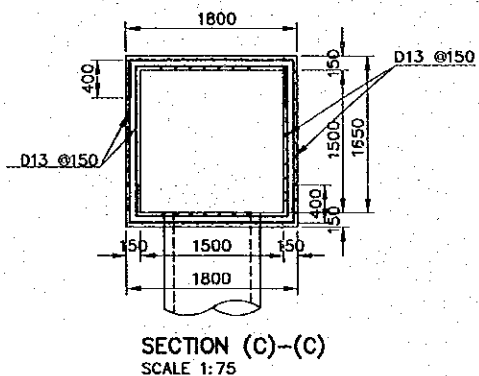
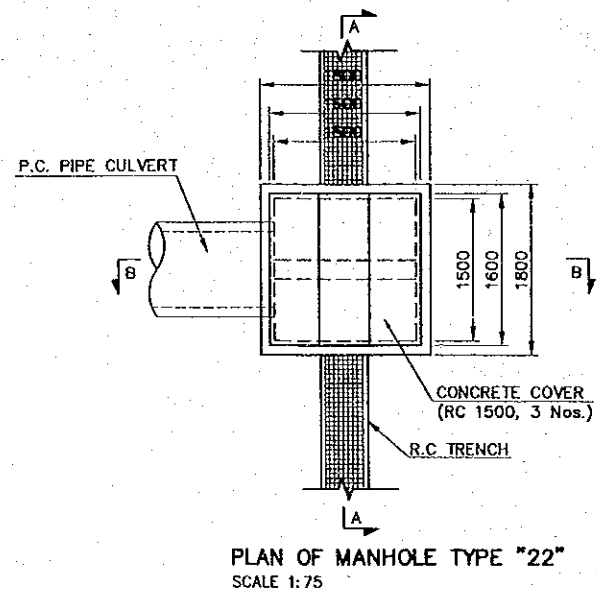


TYPE-21

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L.)	BOTTOM ELEVATION OF MANHOLE (C.D.L.)	HEIGHT OF MANHOLE (mm)
AM-5-1	AP5-1 610	AU-4 300	RC 1500	+5.132	+2.158	2.974
BM-1-1	BP1-1 610	BU4 450	GRATING	+5.332	+1.929	3.403
BM-2-1	BP2-1 610	BU5 300	GRATING	+5.132	+1.758	3.374
BM-3-1	BP3-1 610	BU6 450	GRATING	+4.928	+1.582	3.346
CM-11-1	CP11-1 610	CU6 300	RC 1500	+5.132	+2.379	2.753

TYPE-23

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L.)	BOTTOM ELEVATION OF MANHOLE (C.D.L.)	HEIGHT OF MANHOLE (mm)
AM-7-1	AP7-1 610	AU5 300 AU9 300	RC 1500	+4.711	+1.797	2.914
BM-5-1	BP5-1 1219	BU8 450 BU9 300	RC 1500	+4.711	+1.373	3.338



TYPE-22

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L.)	BOTTOM ELEVATION OF MANHOLE (C.D.L.)	HEIGHT OF MANHOLE (mm)
AM-6-2	AP6-2 610	AU5-1 300 AU4-1 300	RC 1500	+4.928	+2.007	2.921

TYPE-24

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L.)	BOTTOM ELEVATION OF MANHOLE (C.D.L.)	HEIGHT OF MANHOLE (mm)
CM-12-1	CP12-1 610	CU6 300 CU7-1 450 CU7 300	RC 1500	+4.928	+2.247	2.681

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE



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CEPA
COMISION EJECUTIVA
PORTUARIA AUTONOMA
(CEPA)

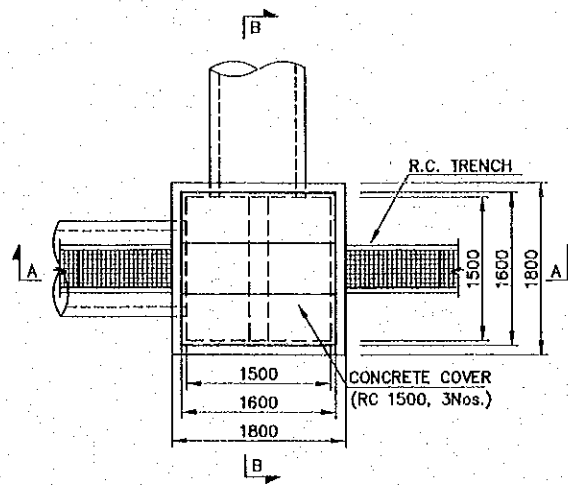
THE DETAILED DESIGN
ON PORT REACTIVATION PROJECT
IN LA UNION PROVINCE
OF THE REPUBLIC OF EL SALVADOR

NIPPON KOEI CO., LTD.

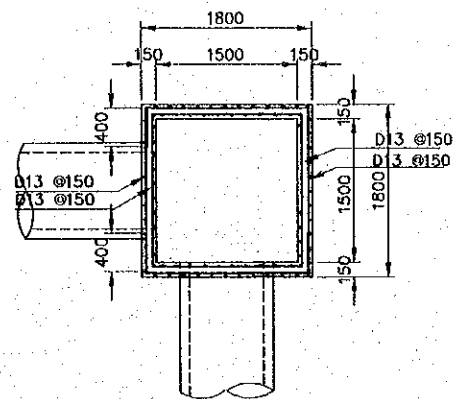
DESIGNED BY :
CHECKED BY :
APPROVED BY :

SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE :
MANHOLE DETAIL TYPE
21,22,23,24

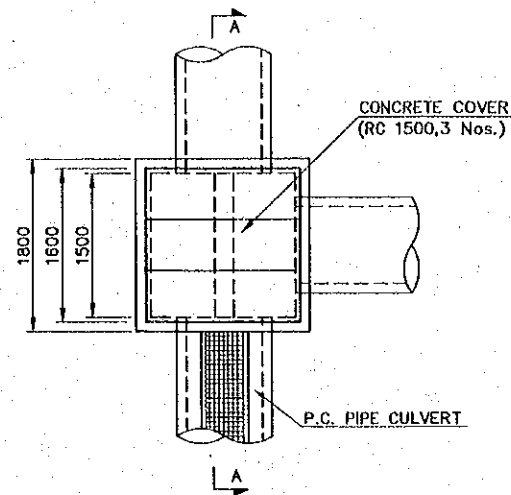
DATE : OCTOBER/2002
SCALE : AS INDICATED
DRAWING NO. : SD-01-020



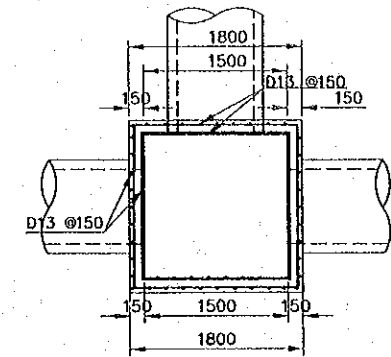
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SCALE 1:75



SECTION (C)-(C)
SCALE 1:75



PLAN OF MANHOLE TYPE "27"
SCALE 1:75



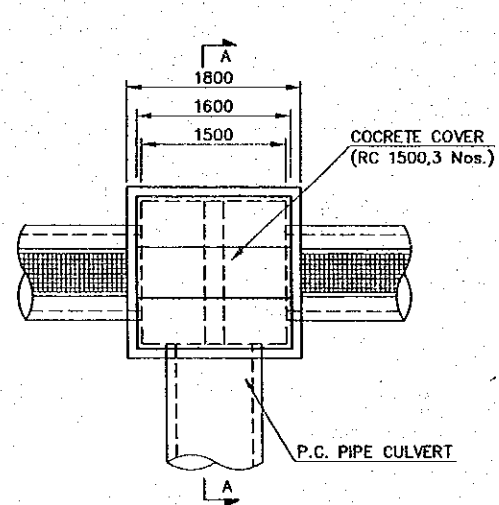
SECTION (C)-(C)
SCALE 1:75

Type-25

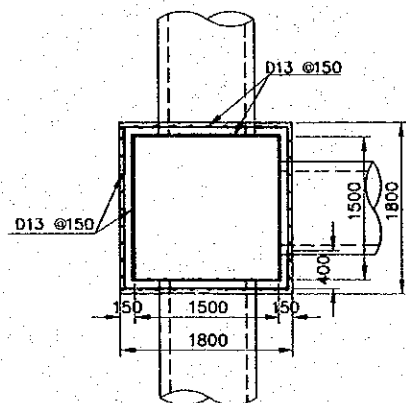
NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
BM-4	BP3 1219 BP4 1219	BU7 300 BU7-1 450	RC 1500	+4.711	+1.395	3.316

Type-27

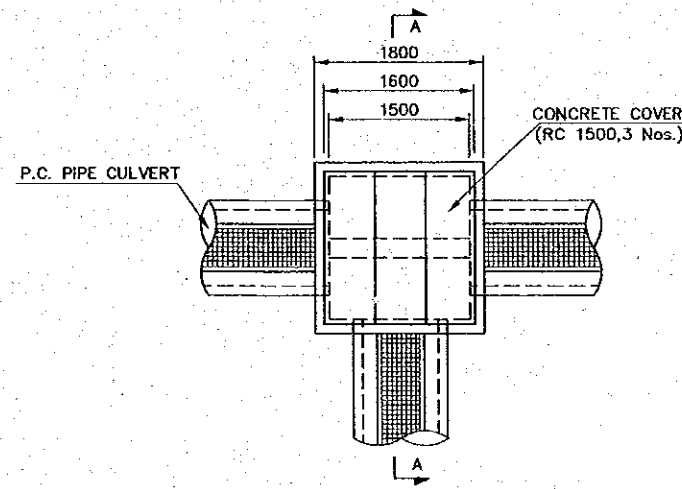
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CM-8	CP7 457 CP8 610 CP8-1 457	CU4 300	RC 1500	+5.507	+2.620	2.887



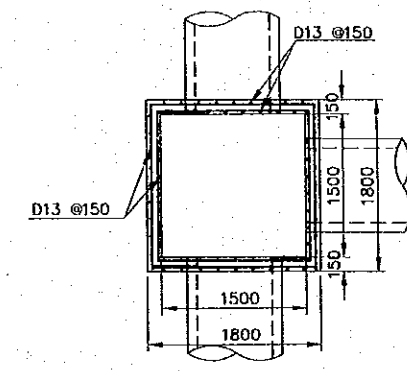
PLAN OF MANHOLE TYPE "26"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75



PLAN OF MANHOLE TYPE "28"
SCALE 1:75



SECTION (C)-(C)
SCALE 1:75

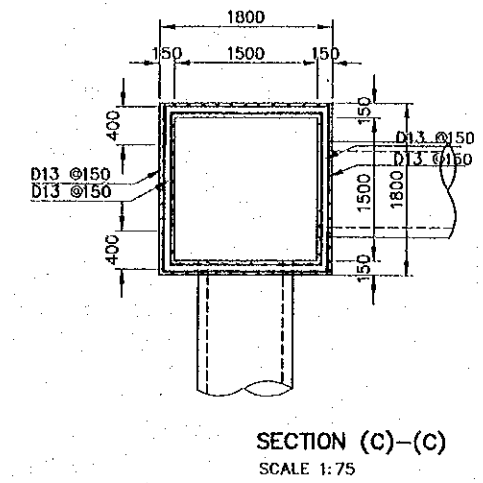
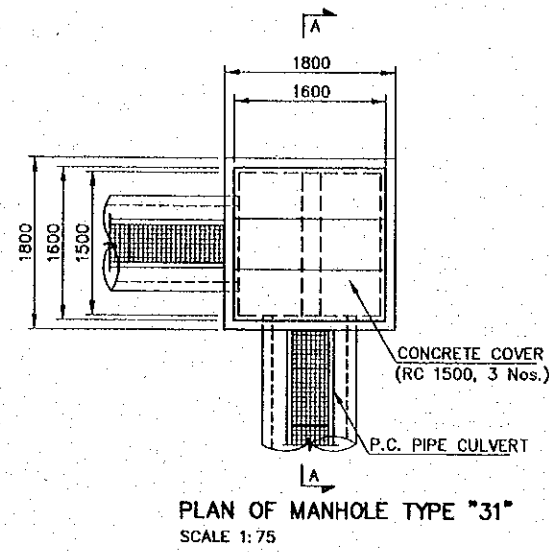
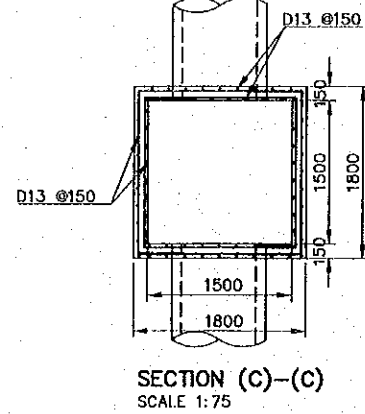
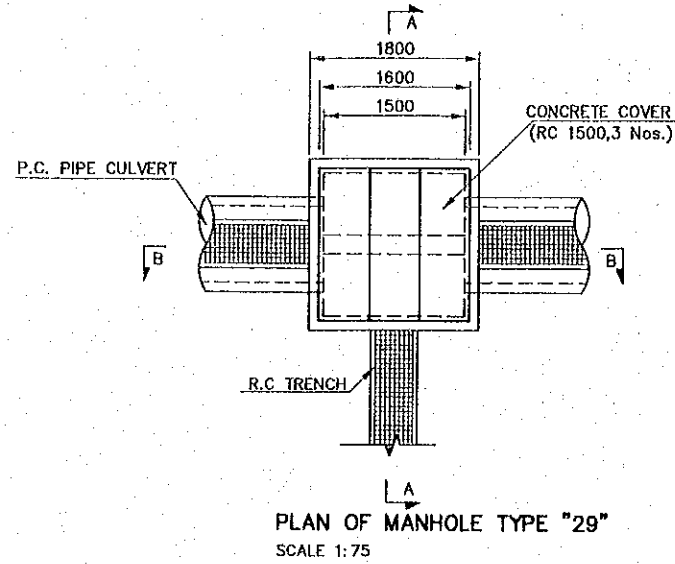
Type-26

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
DM-7	DP6 914 DP7 914 DP7-1 457	DU6 300 DU9-1 300	RC 1500	+5.170	+2.665	2.505
EM-4	EP3 610 EP4-1 610 EP4 610	EU4 300 EU5 300	RC 1500	+5.330	+3.114	2.216
EM-5	EP4 610 EP5-1 610 EP5 914	EU5 300 EU11 300	RC 1500	+5.220	+2.979	2.241

Type-28

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
DM-8	DP7 914 DP8 914 DP8-1 914	DU8 300 DU9 300 DU9-1 300	RC 1500	+5.119	+2.519	2.600
DM-9	DP8 914 DP9 1219 DP9-1 457	DU9 300 DU10 300 DU10-1 300	RC 1500	+5.019	+2.339	2.280

REV. NO. DATE	COORDINATE	BY	APPROVED	DATE	<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)</p>	<p>THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR</p> <p>NIPPON KOEI CO., LTD.</p>	DESIGNED BY :	SECTION : STORM DRAINAGE	DATE : OCTOBER/2002
							CHECKED BY :	SUB-SECTION : PROFILE AND DETAILS	SCALE : 1:75
							APPROVED BY :	TITLE : MANHOLE DETAIL TYPE 25,26,27,28	DRAWING NO. : SD-01-021

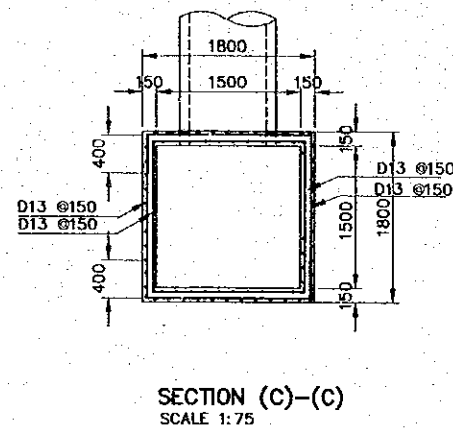
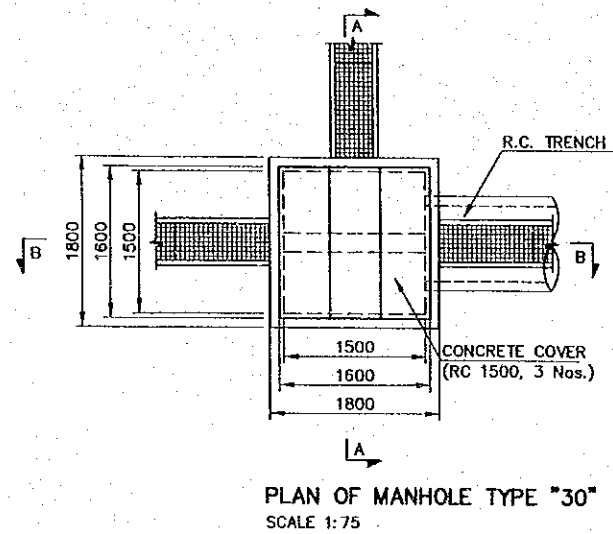


Type-29

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
DM-10	DP9 1219 DP10 1219 - -	DU10 300 DU11 300 DU11-1 450	RC 1500	+4.844	+2.084	2.760

Type-31

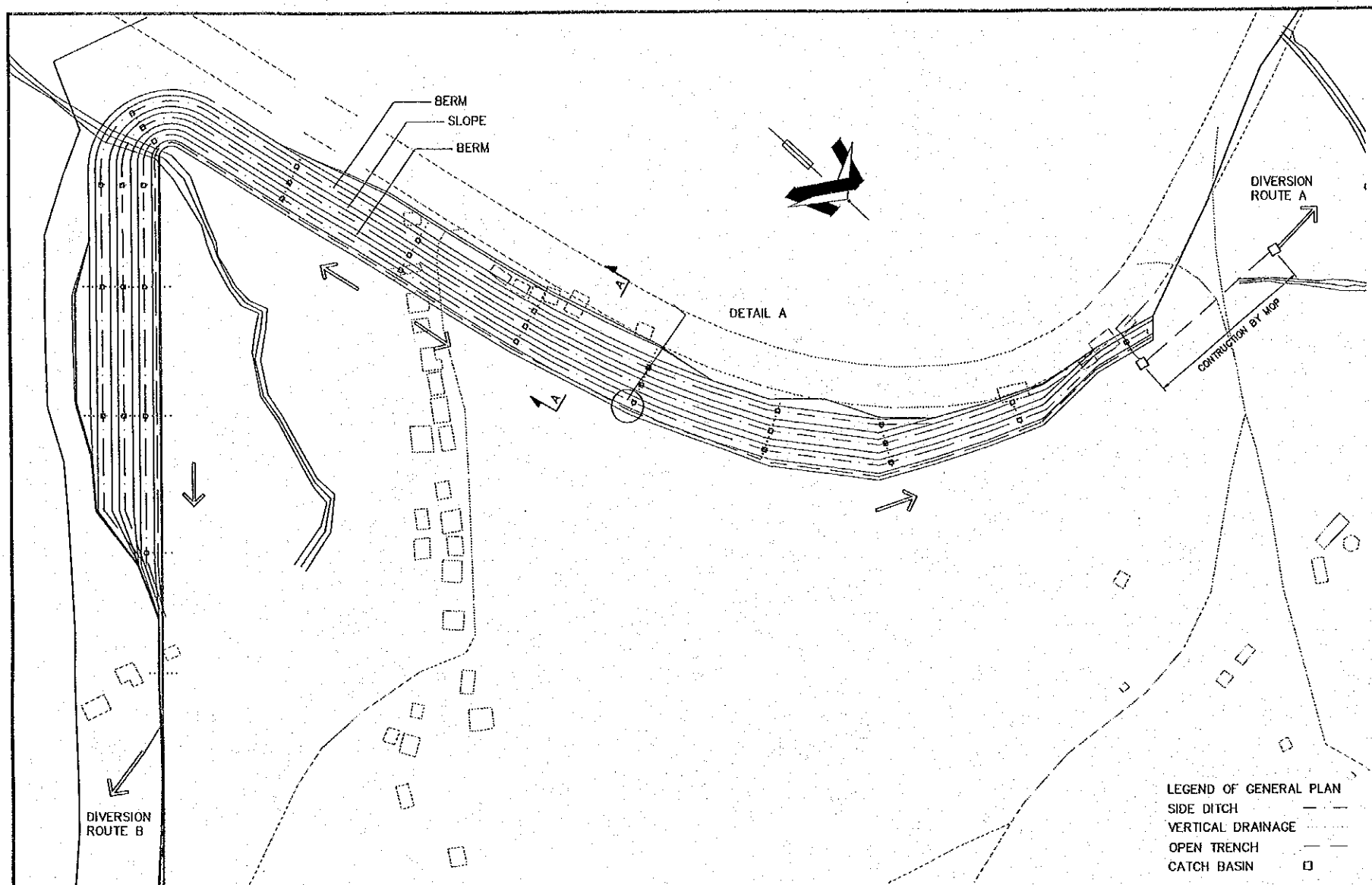
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EM-6	EP5 914 EP6 1219 - -	EU11 300 EU12 450 - -	RC 1500	+4.890	+2.669	2.221



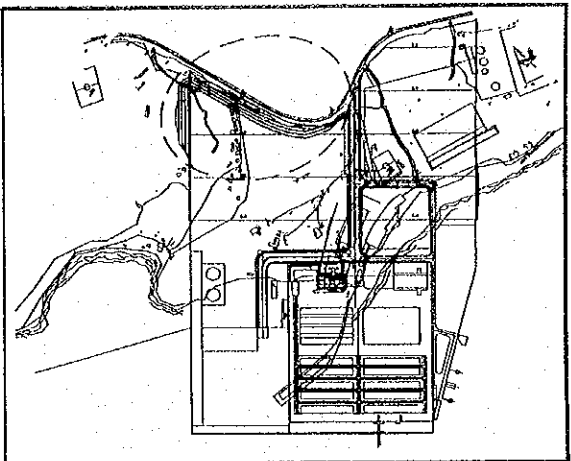
Type-30

NAME OF MANHOLE	NAME AND TYPE OF PIPE CULVERT	NAME AND TYPE OF TRENCH	TYPE OF COVER	GROUND LEVEL (C.D.L)	BOTTOM ELEVATION OF MANHOLE (C.D.L)	HEIGHT OF MANHOLE (mm)
CM-13-1	CP13-1 610 - - -	CU7 300 CU11 300 CU11-2 450	RC 1500	+4.711	+1.440	3.271

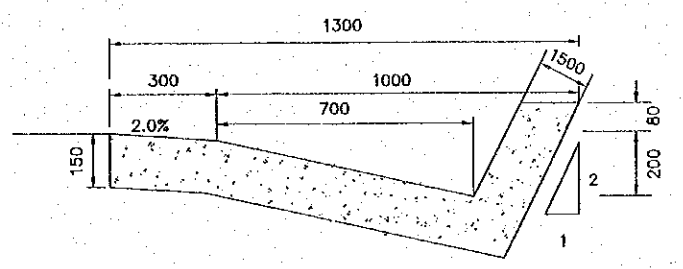
REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE		<p>THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR</p>	DESIGNED BY :	SECTION : STORM DRAINAGE	DATE : OCTOBER/2002
					CHECKED BY :			SUB-SECTION : PROFILE AND DETAILS	SCALE : 1:75	
					APPROVED BY :			TITLE : MANHOLE DETAIL TYPE 29,30,31	DRAWING NO. : SD-01-022	



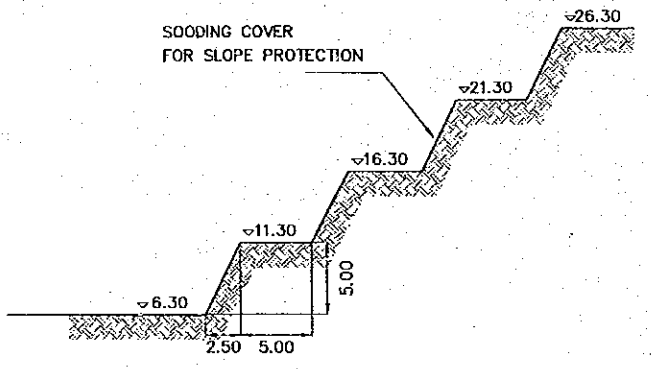
GENERAL PLAN
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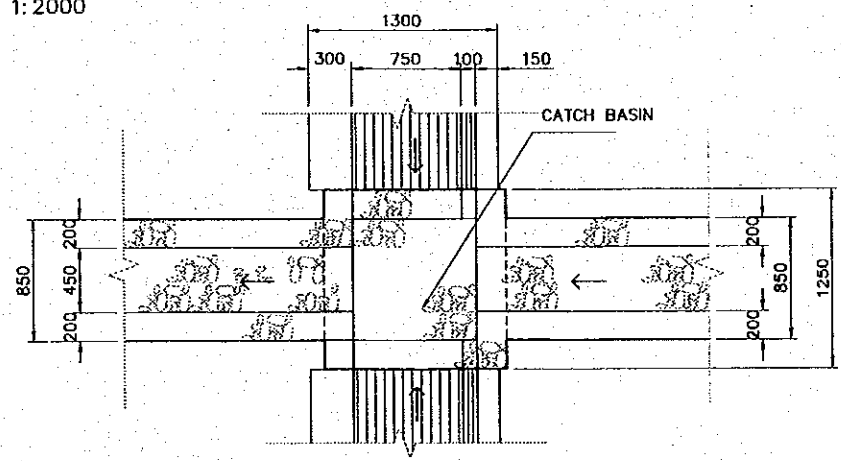
KEY PLAN



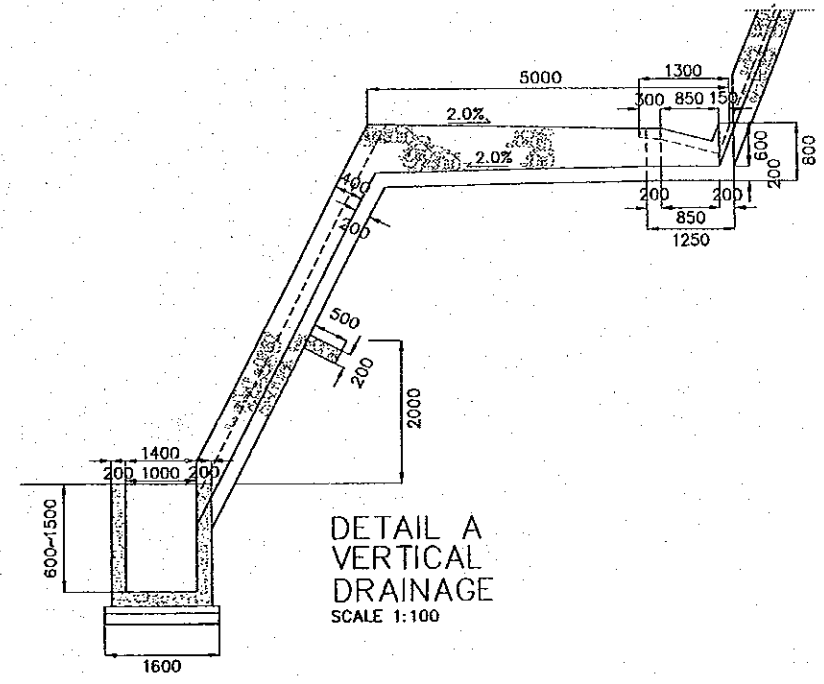
CONCRETE SIDE DITCH
SCALE 1:20



SECTION A-A
GENERAL PROFILE OF SLOPE
SCALE 1:500



DETAIL A
PLAN OF VERTICAL DRAINAGE
SCALE 1:50



DETAIL A
VERTICAL DRAINAGE
SCALE 1:100

LEGEND OF GENERAL PLAN
SIDE DITCH ———
VERTICAL DRAINAGE ———
OPEN TRENCH ———
CATCH BASIN □

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

JICA
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COOPERATION AGENCY
(JICA)

Cepa
COMISION EJECUTIVA
PORTUARIA AUTONOMA
(CEPA)

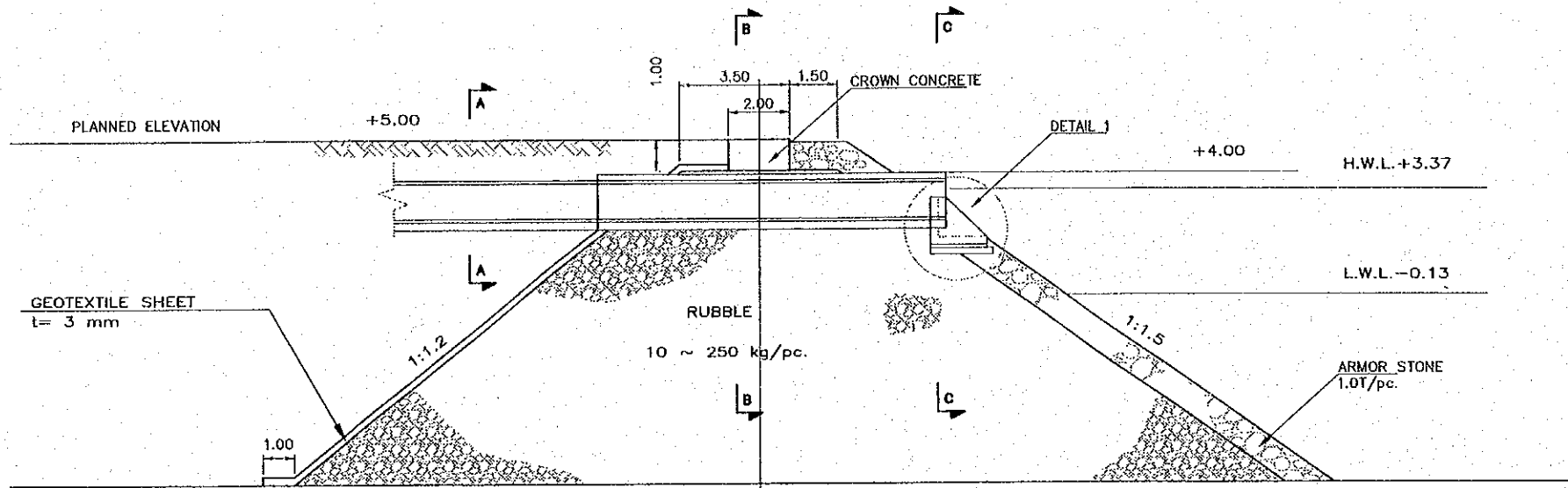
THE DETAILED DESIGN
ON PORT REACTIVATION PROJECT
IN LA UNION PROVINCE
OF THE REPUBLIC OF EL SALVADOR

NKC NIPPON KOEI CO., LTD.

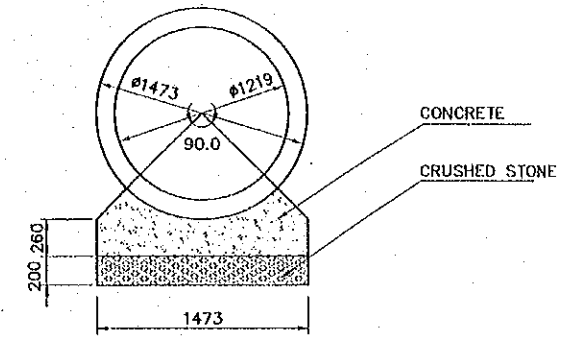
DESIGNED BY :
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APPROVED BY :

SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE : SLOPE DRAINAGE

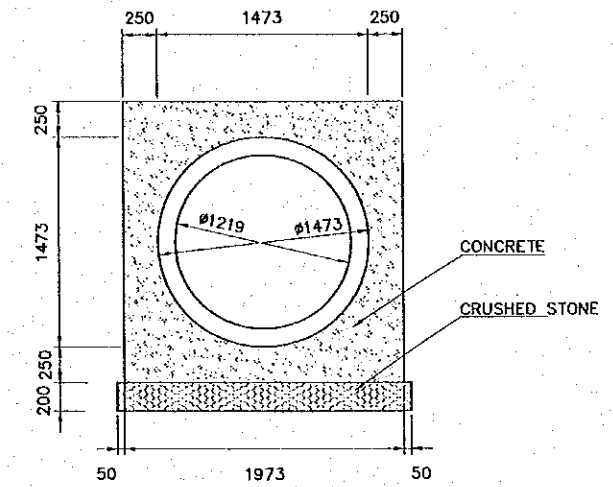
DATE : OCTOBER/2002
SCALE : AS INDICATED
DRAWING NO. : SD-01-023



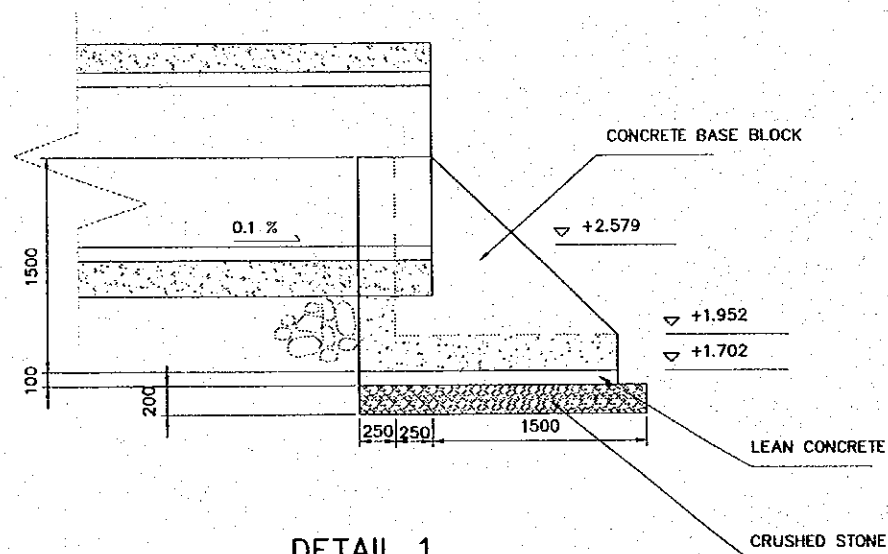
TYPICAL SECTION OF OUTLET E
SCALE 1:200



A-A SECTION
SCALE 1:50

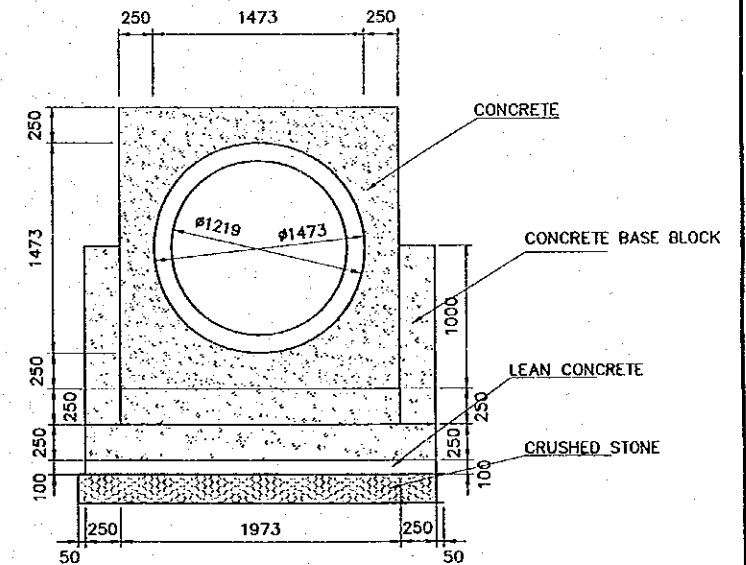


B-B SECTION
SCALE 1:50



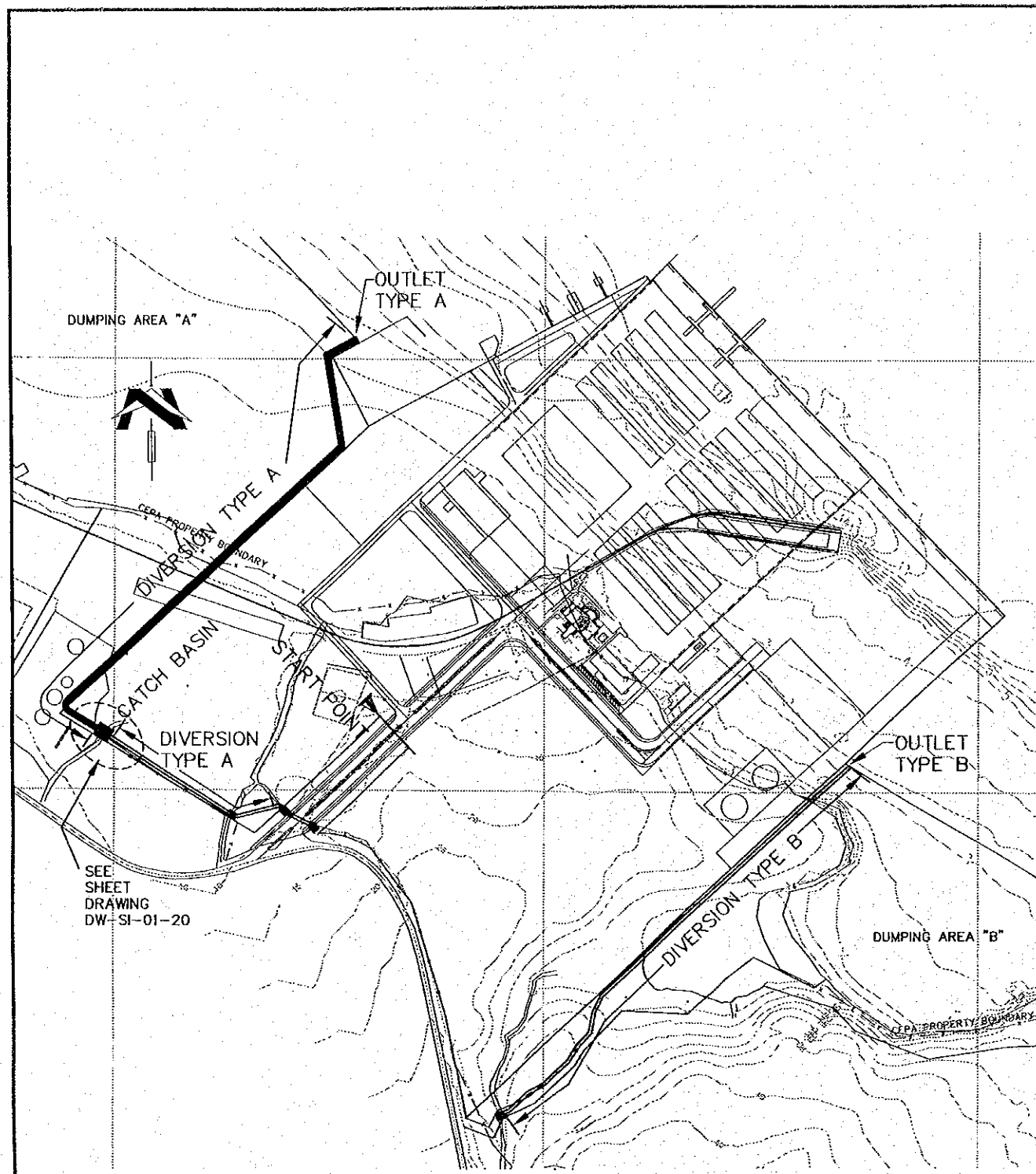
DETAIL 1
SCALE 1:50

- LEGEND:
1. CONCRETE CLASS: S3
2. LEAN CONCRETE CLASS: S6

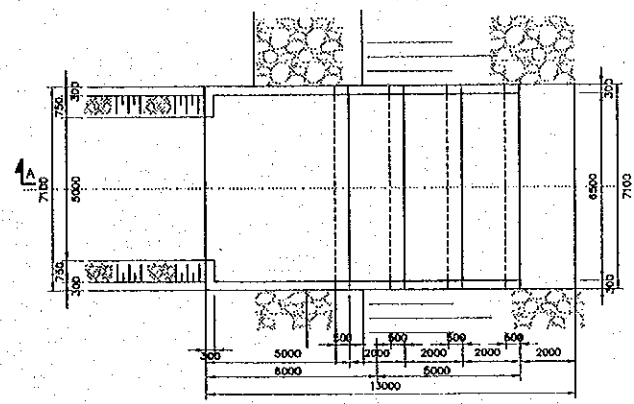


C-C SECTION
SCALE 1:50

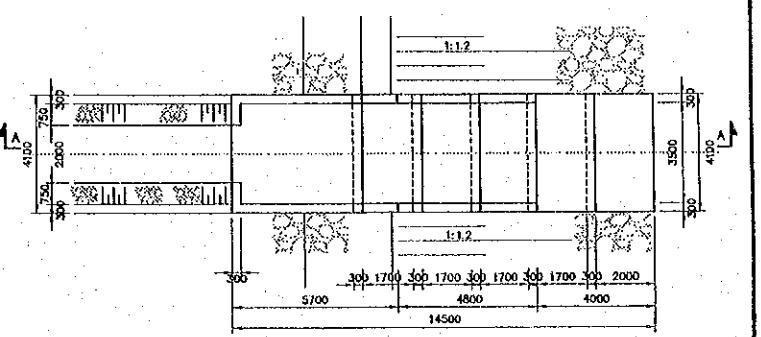
REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	THE DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR NIPPON KOEI CO., LTD.	DESIGNED BY :	SECTION :	DATE :
								CHECKED BY :	SUB-SECTION :	OCTOBER/2002
								APPROVED BY :	TITLE :	SCALE :
							STORM DRAINAGE PROFILE AND DETAILS PROFILE AND DETAILS OF OUTLET E		AS INDICATED DRAWING NO. SD-01-024	



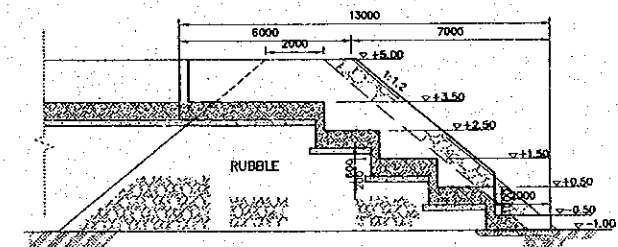
PLAN OF DIVERSION DRAINAGE
SCALE 1:6,500



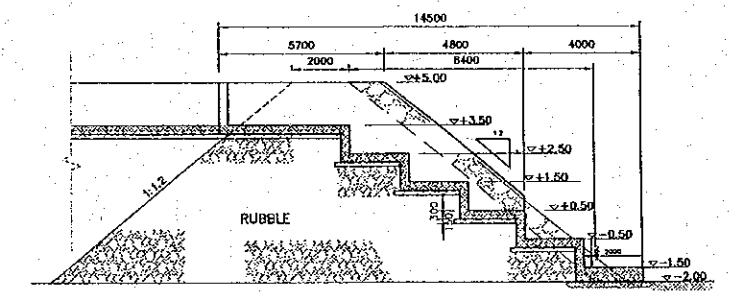
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SCALE 1:250



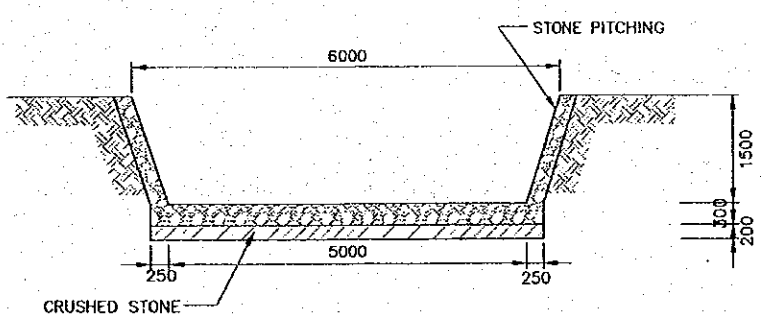
PLAN OUTLET TYPE A
SCALE 1:250



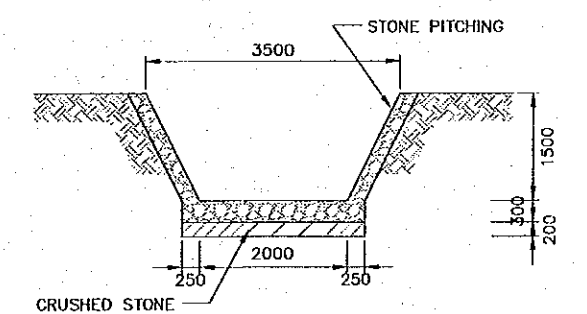
SECTION A-A OUTLET TYPE B
SCALE 1:250



SECTION A-A OUTLET TYPE A
SCALE 1:250



DIVERSION TYPE A
SCALE 1:100



DIVERSION TYPE A-1 & TYPE B
SCALE 1:100

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

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PORTUARIA AUTONOMA
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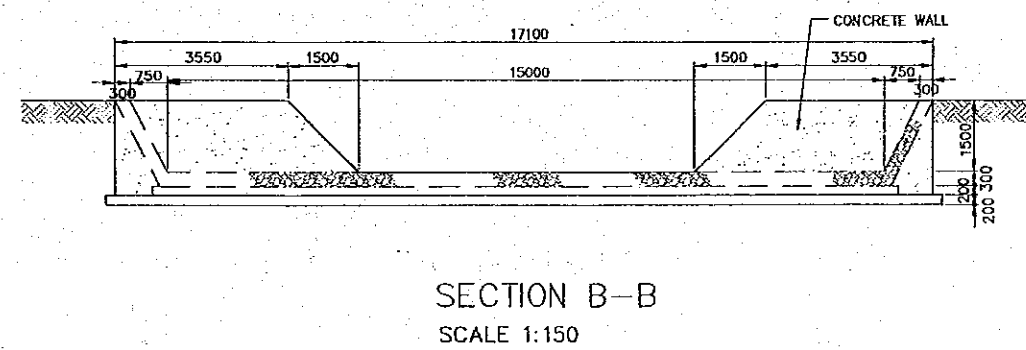
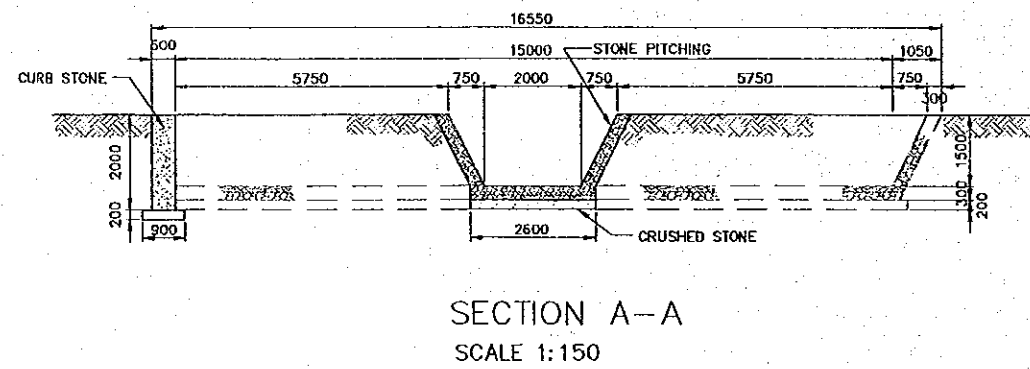
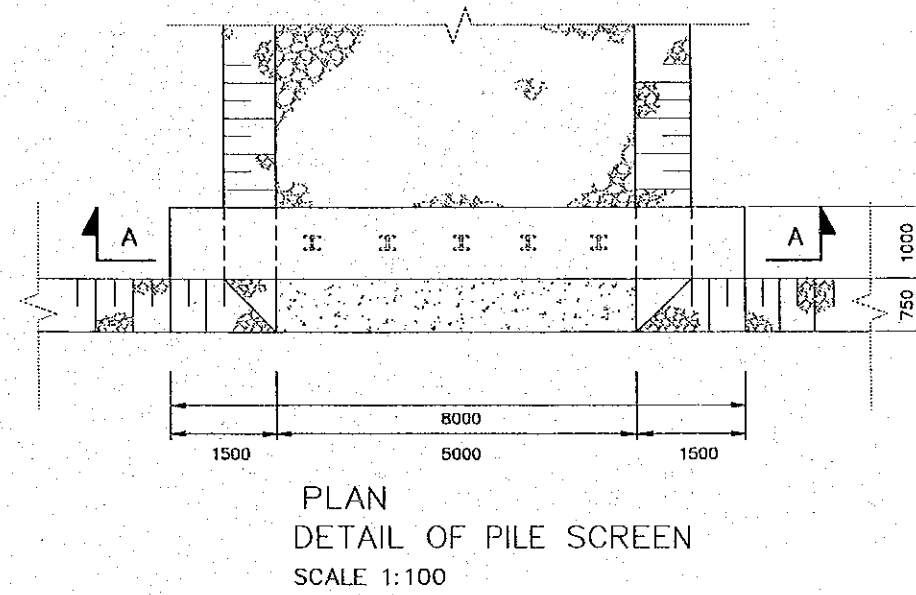
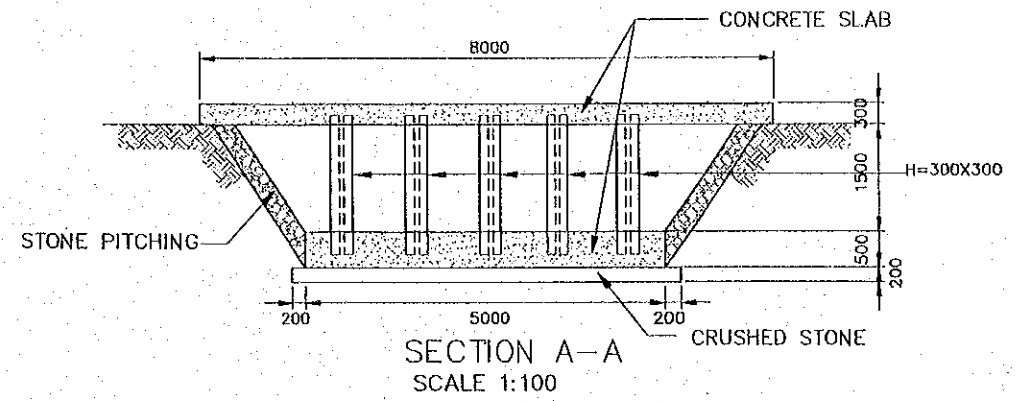
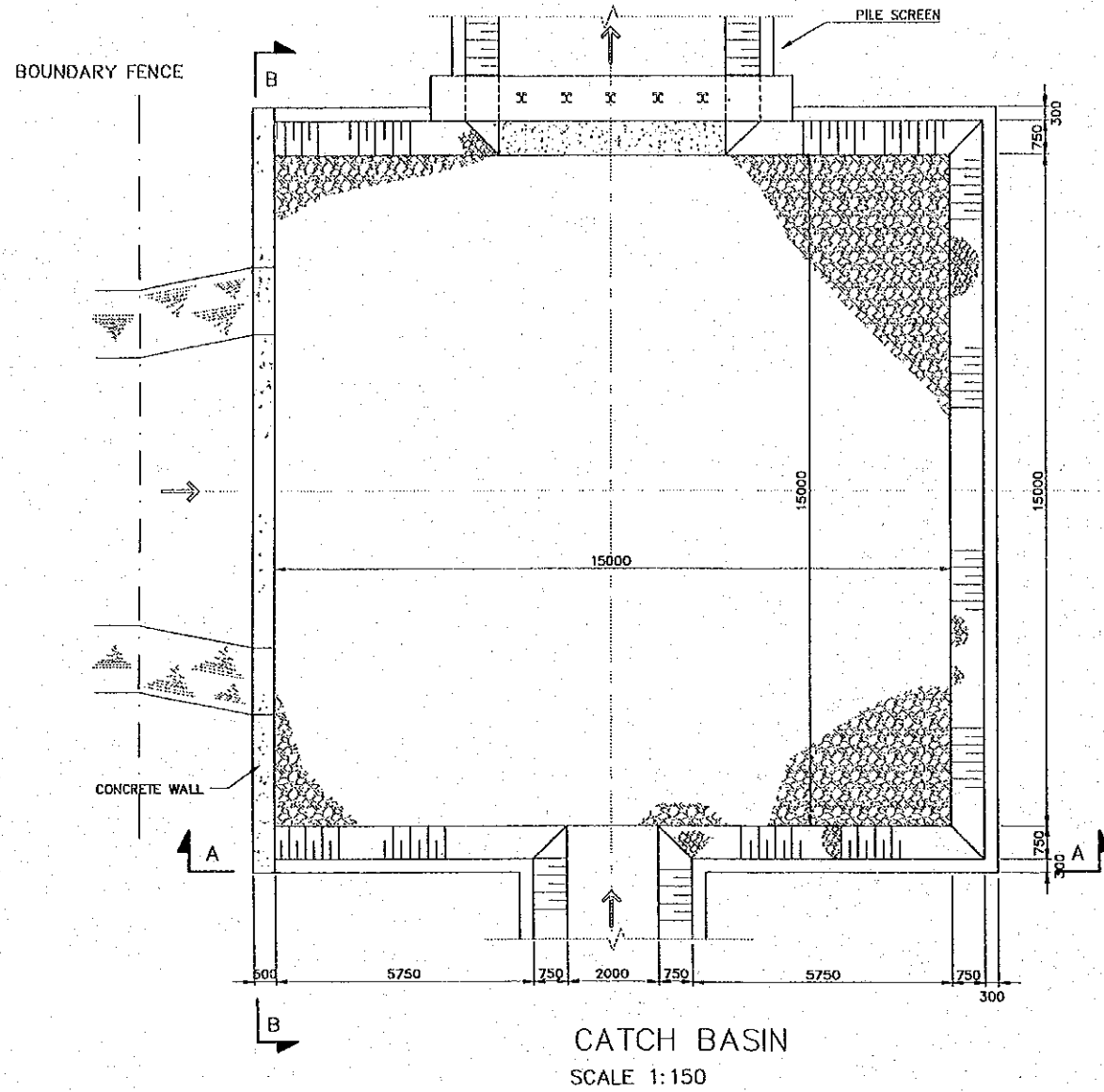
THE DETAILED DESIGN
ON PORT REACTIVATION PROJECT
IN LA UNION PROVINCE
OF THE REPUBLIC OF EL SALVADOR

NKC NIPPON KOEI CO., LTD.



DESIGNED BY :
CHECKED BY :
APPROVED BY :


SECTION : STORM DRAINAGE
SUB-SECTION : PROFILE AND DETAILS
TITLE :
DIVERSION DRAINAGE (1/2)

DATE : OCTOBER/2002
SCALE : AS INDICATED
DRAWING NO : SD-01-025



REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE

 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

THE DETAILED DESIGN
 ON PORT REACTIVATION PROJECT
 IN LA UNION PROVINCE
 OF THE REPUBLIC OF EL SALVADOR
 NIPPON KOEI CO., LTD.

DESIGNED BY :
 CHECKED BY :
 APPROVED BY :

SECTION : STORM DRAINAGE
 SUB-SECTION : PROFILE AND DETAILS
 TITLE : DIVERSION DRAINAGE (2/2)

DATE : OCTOBER/2002
 SCALE : AS INDICATED
 DRAWING NO. : SD-01-026