Table 5.2.3 Layout of Access Channel

Ship Type	Container		Bulker	
Channel	Outer	Inner	Outer	Inner
PIANC Standard	142 m	132 m	148 m	151 m
Fast Time Simulation	129 m	138 m	137 m	144 m

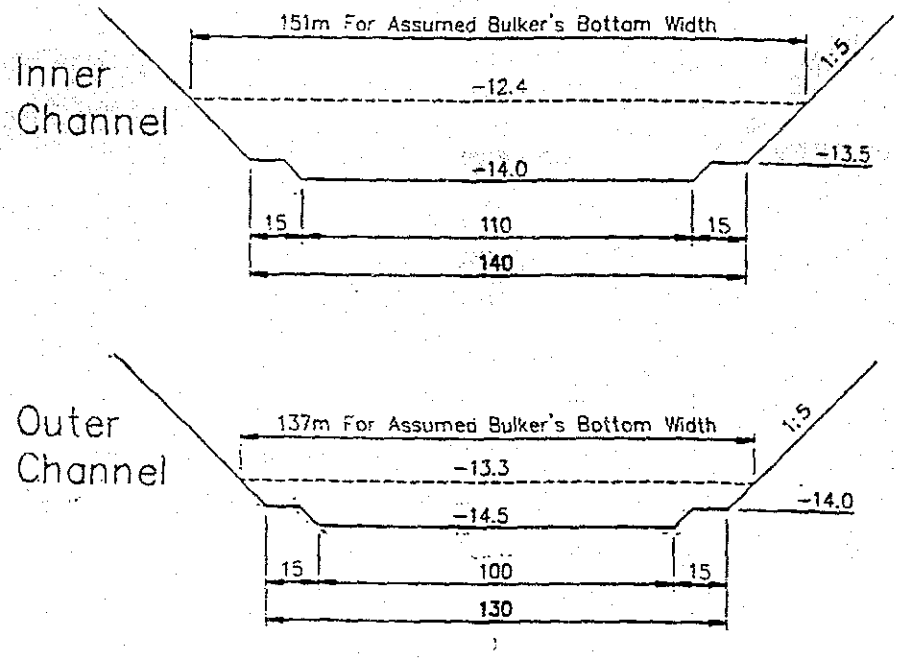


Figure 5.2.2 Width on Straight Division

AREA CALCULATIONS INNER CHANNEL & VOLUMES

19 February 2002

Depth: 14.0 m
Width: 140 m

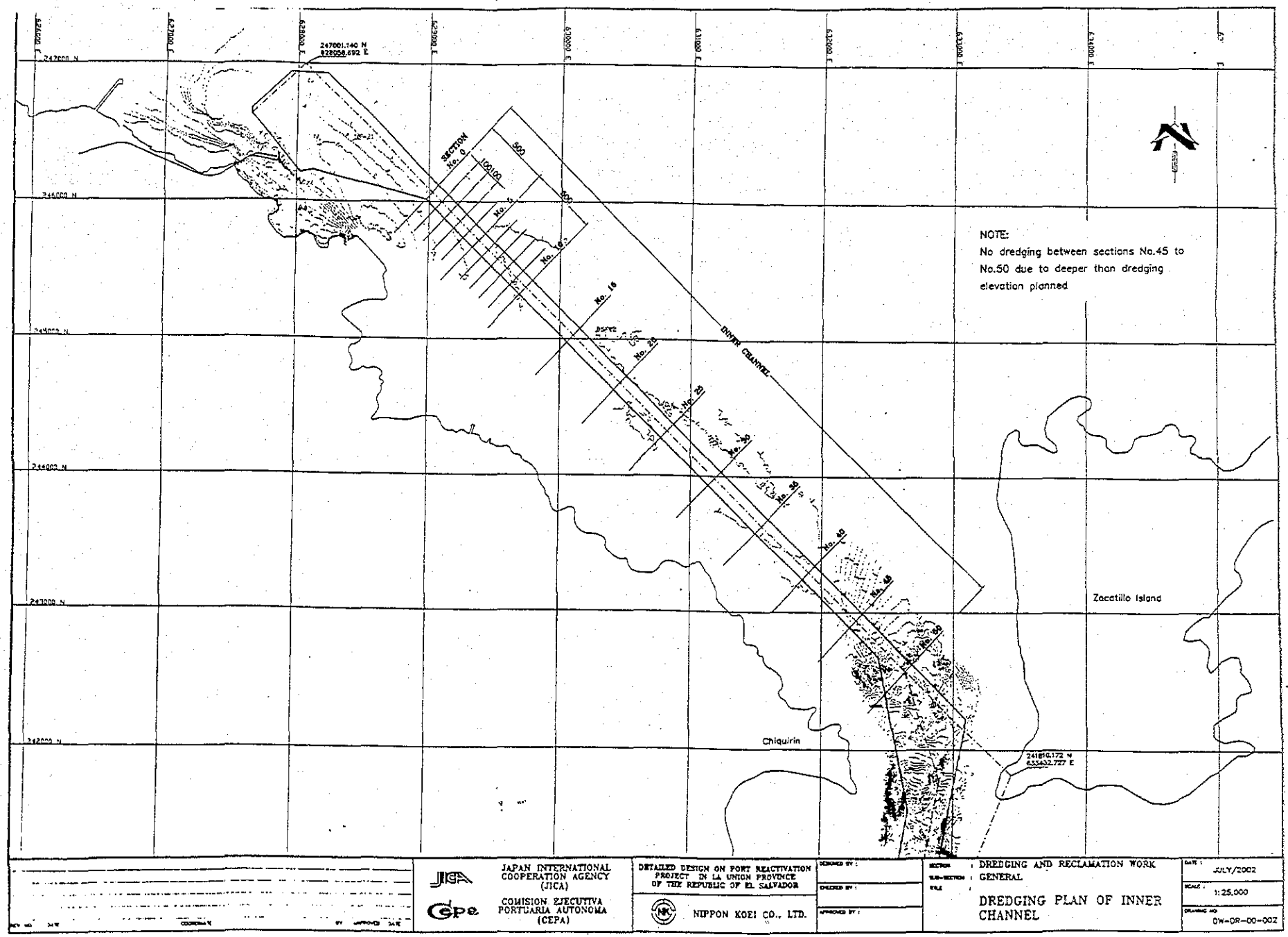
Total Dredging Volume as of 4 March 2002
Volume: 4,468,414 m^3

Section N°	Area (m^2)	Average Area 2 sect.	Dist. Between sect.	Volume (m^3)
0	858.98			
		860.80	100	86,080
1	862.63			
		857.48	100	85,748
2	852.33			
		863.11	100	86,311
3	873.90			
		894.08	100	89,408
4	914.25			
		918.33	100	91,833
5	922.40			
		929.13	100	92,913
6	935.86			
		947.02	100	94,702
7	958.18			
		971.90	100	97,190
8	985.62			
		1,000.80	100	100,080
9	1,015.99			
		1,020.71	100	102,071
10	1,025.43			
		1,042.65	100	104,265
11	1,059.88			
		1,063.91	100	106,391
12	1,067.95			
		1,085.21	100	108,521
13	1,102.48			
		1,100.60	100	110,060
14	1,098.73			
		1,106.24	100	110,624
15	1,113.75			
		1,115.13	100	111,513
16	1,116.50			
		1,132.99	100	113,299
17	1,149.48			
		1,150.66	100	115,066
18	1,151.85			
		1,147.36	100	114,736
19	1,142.88			
		1,141.81	100	114,181
20	1,140.75			
		1,154.25	100	115,425
21	1,167.75			
		1,153.43	100	115,343
22	1,139.10			
		1,151.73	100	115,173
23	1,164.35			
		1,163.86	100	116,386
24	1,163.38			

Section N°	Area (m^2)	Average Area 2 sect.	Dist. Between sect.	Volume (m^3)
		1,146.73	100	114,673
25	1,130.08			
		1,133.91	100	113,391
26	1,137.75			
		1,134.16	100	113,416
27	1,130.58			
		1,129.20	100	112,920
28	1,127.83			
		1,126.58	100	112,658
29	1,125.33			
		1,112.09	100	111,209
30	1,098.85			
		1,093.24	100	109,324
31	1,087.63			
		1,085.00	100	108,500
32	1,082.38			
		1,079.75	100	107,975
33	1,077.13			
		1,056.89	100	105,689
34	1,036.65			
		1,039.21	100	103,921
35	1,041.78			
		1,025.00	100	102,500
36	1,008.23			
		1,005.51	100	100,551
37	1,002.80			
		974.93	100	97,493
38	947.05			
		933.61	100	93,361
39	920.18			
		909.26	100	90,926
40	898.35			
		874.44	100	87,444
41	850.53			
		804.64	100	80,464
42	758.75			
		685.25	100	68,525
43	611.75			
		361.58	100	36,158
44	111.41			

TOTAL VOLUME: 4,468,414 m^3

DREDGING INNER CHANNEL



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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 : DREDGING AND RECLAMATION WORK
SUB-SECTION : GENERAL
TITLE :

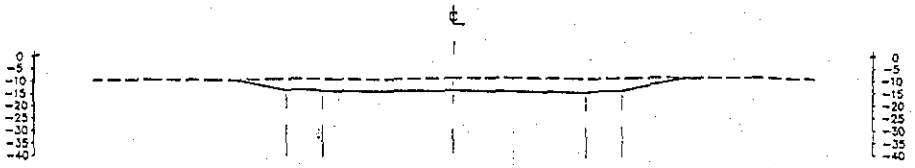
DREDGING PLAN OF INNER CHANNEL

DATE : JULY/2002
SCALE : 1:25,000
DRAWING NO. DW-DR-00-002

LAND SIDE

Sect 0

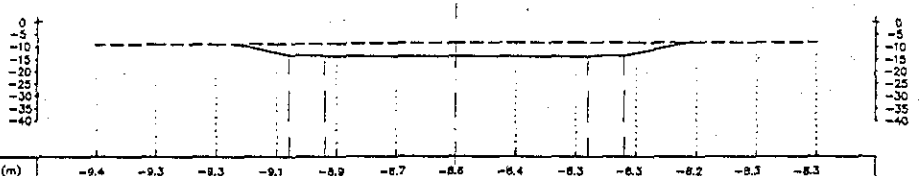
SEA SIDE



Existing Elevation (m)	-9.7	-9.5	-9.3	-9.2	-8.9	-8.8	-8.6	-8.5	-8.4	-8.3	-8.3	-8.4	-8.5
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	- 14.00	-14.00	-13.50	- 7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

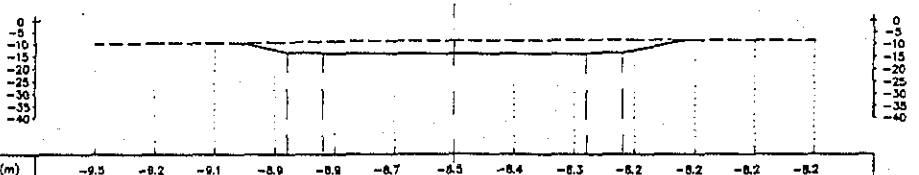
Sect 1



Existing Elevation (m)	-9.4	-9.3	-8.3	-9.1	-8.9	-8.7	-8.6	-8.4	-8.3	-8.3	-8.2	-8.3	-8.3
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	- 14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 2



Existing Elevation (m)	-9.5	-8.2	-9.1	-8.9	-8.9	-8.7	-8.5	-8.4	-8.3	-8.2	-8.2	-8.2	-8.2
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	- 14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	.25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

Existing Elevation

Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA, (CEPA)

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

NIPPON KOEI CO., LTD.

SECTION : DREDGING AND RECLAMATION WORK

SUB-SECTION : INNER CHANNEL

TITLE : CROSS SECTION INNER CHANNEL 0,1,2

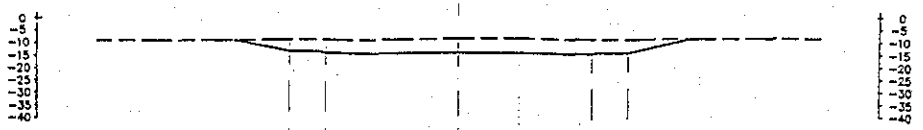
DATE : JULY/2002

SCALE : H.:1:2000 V.:1:2000

LAND SIDE

Sect 3

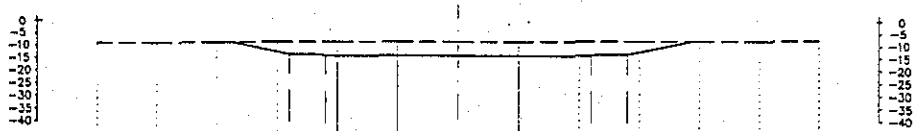
SEA SIDE



Existing Elevation (m)	-9.2	-9.00	-8.9	-8.8	-8.6	-8.6	-8.5	-8.3	-8.3	-8.2	-8.1	-8.1	-8.2
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	- 14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

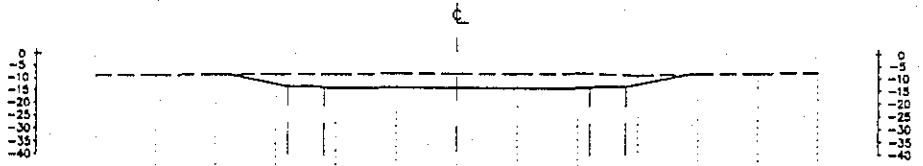
Sect 4



Existing Elevation (m)	-9.0	-8.9	-8.9	-8.8	-8.6	-8.4	-8.4	-8.3	-8.2	-8.1	-8.0	-8.0	-8.5
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	- 14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 5



Existing Elevation (m)	-8.8	-8.7	-8.7	-8.5	-8.5	-8.3	-8.3	-8.2	-8.1	-8.9	-7.9	-7.9	-7.9
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	- 14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

Existing Elevation

Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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 : DREDGING AND RECLAMATION WORK

SUB-SECTION : INNER CHANNEL

FILE : CROSS SECTION INNER CHANNEL 3,4,5

DATE : JULY/2002

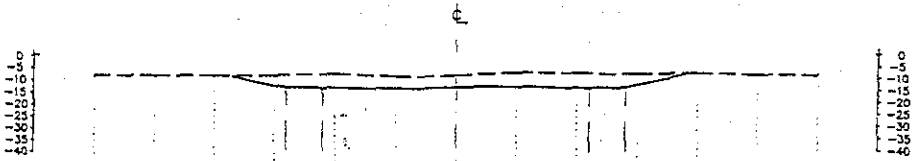
SCALE - H.:1:2000 V.:1:2000

DRAWING NO.

LAND SIDE

Sect 6

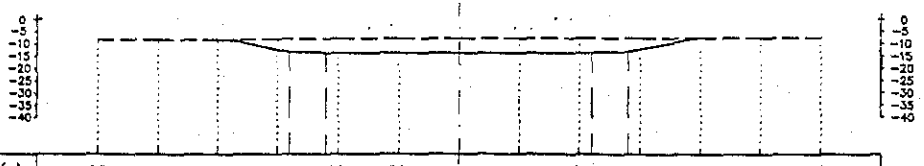
SEA SIDE



Existing Elevation (m)	-8.7	-8.7	-8.6	-8.4	-8.3	-8.3	-8.3	-8.3	-7.9	-8.0	-7.9	-7.9	-7.9
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

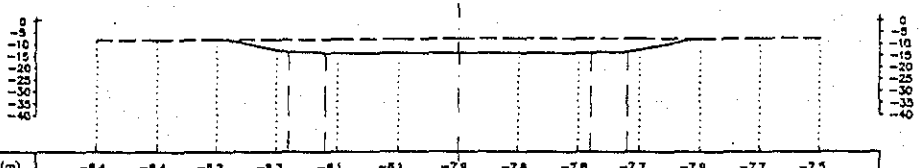
Sect 7



Existing Elevation (m)	-8.5	-8.4	-8.5	-8.4	-8.2	-8.2	-8.1	-8.1	-7.9	-8.0	-7.9	-7.8	-7.7
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 8



Existing Elevation (m)	-8.4	-8.4	-8.2	-8.3	-8.1	-8.1	-7.9	-7.8	-7.8	-7.7	-7.9	-7.7	-7.5
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

Existing Elevation

Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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

NIPPON KOEI CO., LTD.

DREDGING AND RECLAMATION WORK

INNER CHANNEL

CROSS SECTION
INNER CHANNEL
6.7.8

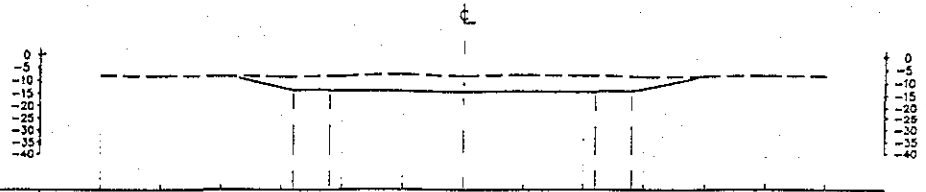
JULY/2002

H.: 1:2000
V.: 1:2000

LAND SIDE

Sect 9

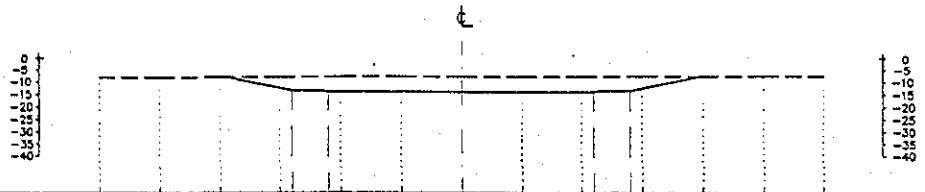
SEA SIDE



Existing Elevation (m)	-8.2	-8.1	-8.3	-8.2	-8.3	-6.9	-7.9	-7.8	-7.7	-7.8	-7.6	-7.6	-7.6
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

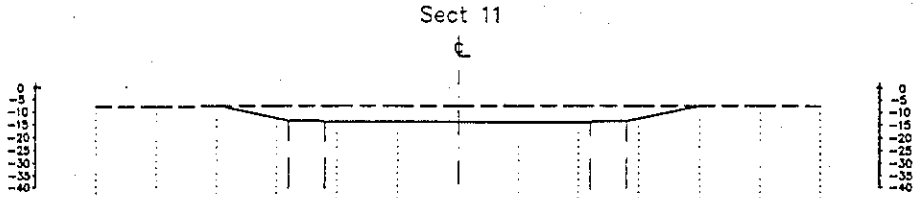
Sect 10



Existing Elevation (m)	-8.1	-8.0	-8.0	8.0	-7.8	-7.8	-7.8	-7.7	-7.7	-7.8	-7.7	-7.4	-7.5
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 11



Existing Elevation (m)	-7.9	7.9	7.8	7.8	-7.7	-7.7	-7.7	-7.5	-7.4	-7.5	-7.5	-7.4	-7.5
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

- Existing Elevation
- Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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

NIPPON KOEI CO., LTD.

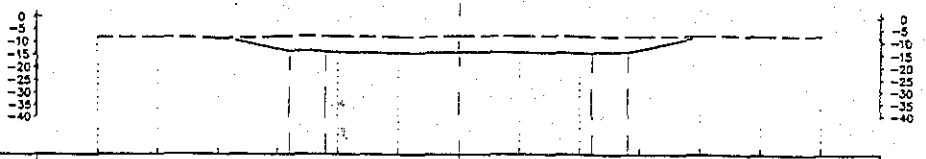
SECTION : DREDGING AND RECLAMATION WORK
SUB-SECTION : INNER CHANNEL
TITLE : CROSS SECTION INNER CHANNEL 9,10,11

DATE : JULY/2002
SCALE : H.:1:2000 V.:1:2000
DRAWING NO. DW-DR-01-004

LAND SIDE

Sect 12

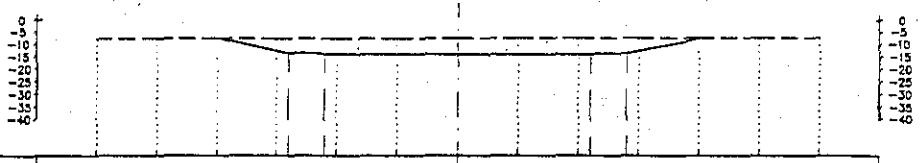
SEA SIDE



Existing Elevation (m)	-7.8	-7.9	-8.3	-7.7	-7.7	-7.6	-7.6	-7.5	-7.4	-7.3	-7.3	-7.2	-7.1
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

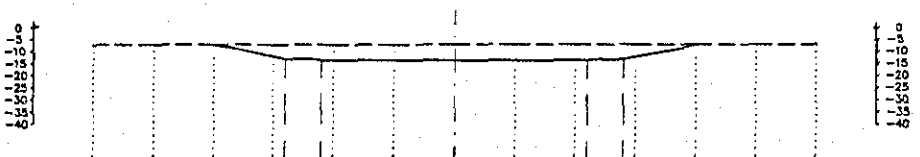
Sect 13



Existing Elevation (m)	-7.7	-7.6	-7.6	-7.6	-7.5	-7.5	-7.4	-7.3	-7.3	-7.2	-7.2	-7.1	-7.1
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 14



Existing Elevation (m)	-7.5	-7.5	-7.6	-7.6	-7.4	-7.3	-7.4	-7.3	-7.3	-7.3	-7.2	-7.2	-7.1
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

- Existing Elevation
- Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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 :

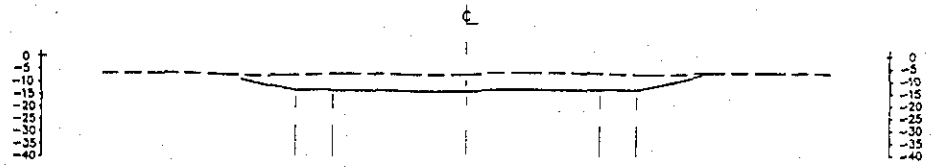
SECTION : DREDGING AND RECLAMATION WORK
SUB-SECTION : INNER CHANNEL
TITLE : CROSS SECTION INNER CHANNEL 12,13,14

DATE : JULY/2002
SCALE : H.: 1:2000 V.: 1:2000
DRAWING NO. DW-DR-01-005

LAND SIDE

Sect 15

SEA SIDE



Existing Elevation (m)	-7.4	-7.5	-7.5	-7.5	-7.4	-7.4	-7.3	-7.3	-7.2	-7.3	-7.3	-7.1	-7.1
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

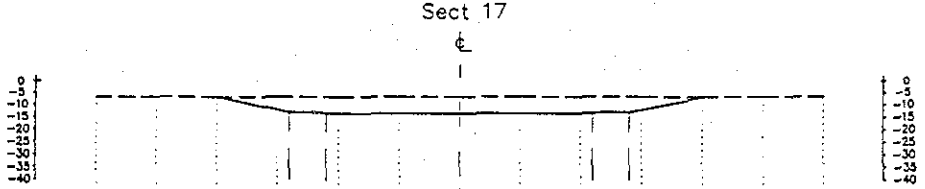
Distance : 100 m

Sect 16

Existing Elevation (m)	-7.3	-7.3	-7.4	-7.5	-7.4	-7.4	-7.3	-7.2	-7.3	-7.2	-7.3	-7.1	-7.1
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 17



Existing Elevation (m)	-7.3	-7.3	-7.6	-7.2	-7.2	-7.2	-7.2	-7.1	-7.2	-7.0	-7.3	-6.9	-6.9
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

- Existing Elevation
- Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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 :

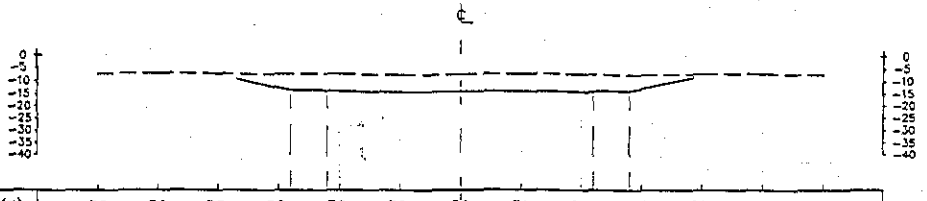
SECTION : DREDGING AND RECLAMATION WORK
SUB-SECTION : INNER CHANNEL
TITLE : CROSS SECTION INNER CHANNEL 15,16,17

DATE : JULY/2002
SCALE : H.1:2000 V.1:2000
DRAWING NO. DW-00-01-006

LAND SIDE

Sect 18

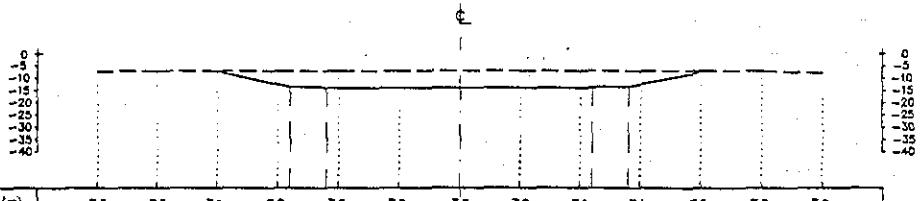
SEA SIDE



Existing Elevation (m)	-7.3	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.1	-7.1	-7.0	-6.9	-6.9	-6.9
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

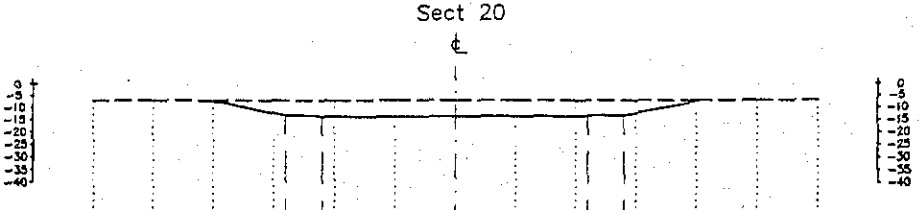
Sect 19



Existing Elevation (m)	-7.3	-7.2	-7.1	-7.2	-7.2	-7.2	-7.2	-7.2	-7.1	-7.1	-7.0	-7.0	-7.9
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 20



Existing Elevation (m)	-7.0	-7.0	-7.3	-7.2	-7.3	-7.0	-7.3	-7.3	-7.3	-7.1	-7.0	-7.0	-6.9
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

Existing Elevation

Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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 : DREDGING AND RECLAMATION WORK

SUB-SECTION : INNER CHANNEL

TITLE : CROSS SECTION INNER CHANNEL 18,19,20

DATE : JULY/2002

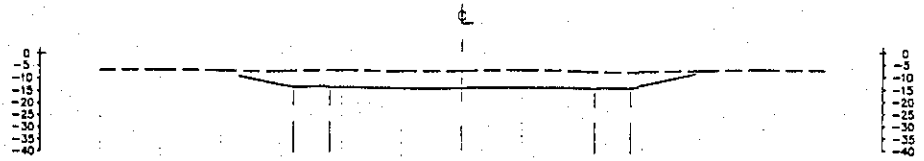
SCALE : H.:1:2000 V.:1:2000

DRAWING NO.

LAND SIDE

Sect 21

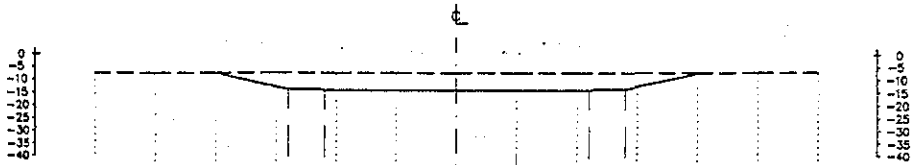
SEA SIDE



Existing Elevation (m)	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.2	-7.0	-7.3	-7.0	-7.0	-6.9	-6.9
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5	15	30	25	0.00	25	30	15	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

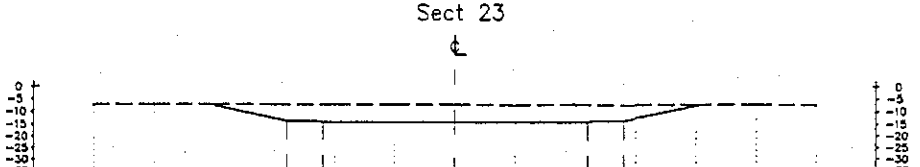
Sect 22



Existing Elevation (m)	-7.2	-7.5	-7.4	-7.0	-7.3	-7.2	-7.3	-7.3	-7.2	-7.2	-7.3	-7.0	-7.0
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5	15	30	25	0.00	25	30	15	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 23



Existing Elevation (m)	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.2	-7.0	-7.3	-7.1	-7.0	-7.3
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5	15	30	25	0.00	25	30	15	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

Existing Elevation

Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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

NIPPON KOEI CO., LTD.

SECTION : DREDGING AND RECLAMATION WORK

SUB-SECTION : INNER CHANNEL

FILE : CROSS SECTION INNER CHANNEL 21,22,23

DATE : JULY/2002

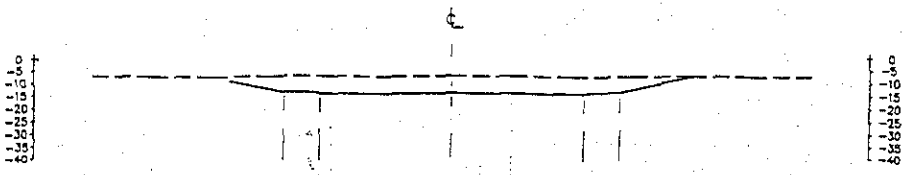
SCALE : H.: 1:2000 V.: 1:2000

DRAWING NO. DW-DR-01-003

LAND SIDE

Sect 24

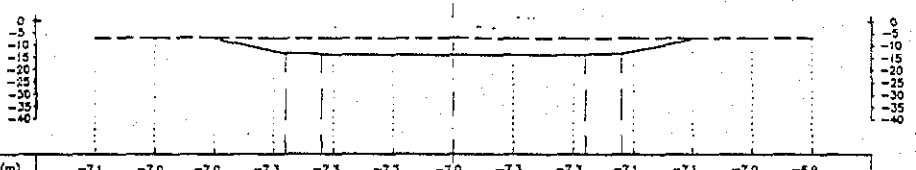
SEA SIDE



Existing Elevation (m)	-7.3	-7.3	-6.9	-7.0	-6.9	-7.1	-7.1	-7.1	-7.2	-7.2	-7.3	-7.0	-7.2
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

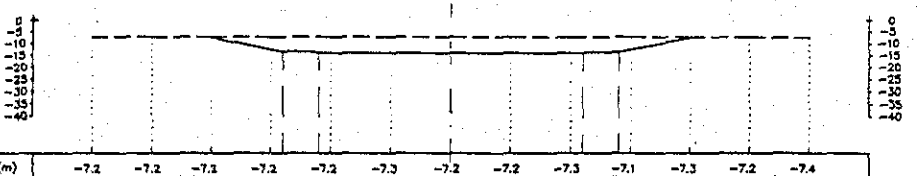
Sect 25



Existing Elevation (m)	-7.1	-7.0	-7.0	-7.3	-7.3	-7.3	-7.0	-7.3	-7.3	-7.1	-7.1	-7.0	-6.9
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 26



Existing Elevation (m)	-7.2	-7.2	-7.2	-7.2	-7.2	-7.3	-7.2	-7.2	-7.3	-7.1	-7.3	-7.2	-7.4
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

- Existing Elevation
- Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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

NIPPON KOEI CO., LTD.

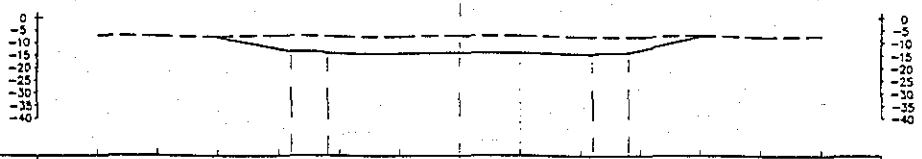
SECTION : DREDGING AND RECLAMATION WORK
SUB-SECTION : INNER CHANNEL
TITLE : CROSS SECTION INNER CHANNEL 24.25.26

DATE : JULY/2002
SCALE : H.:1:2000 V.:1:200

LAND SIDE

Sect 27

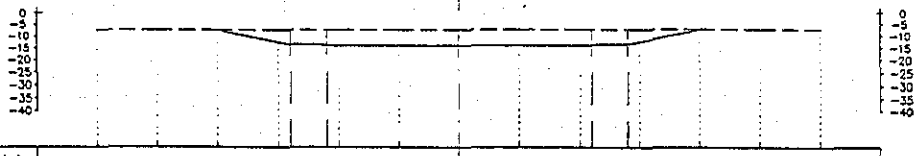
SEA SIDE



Existing Elevation (m)	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.2	-7.1	-7.2	-7.1	-7.2	-7.1
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

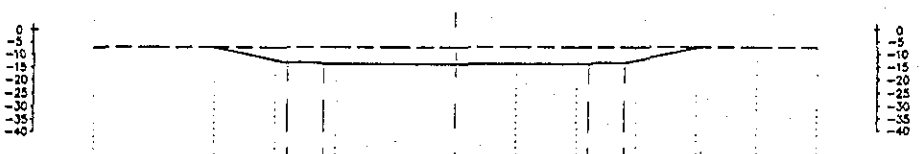
Sect 28



Existing Elevation (m)	-7.4	-7.3	-7.3	-7.3	-7.3	-7.3	-7.2	-7.2	-7.2	-7.2	-7.1	-7.2	-7.1
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 29



Existing Elevation (m)	-7.5	-7.5	-7.4	-7.4	-7.3	-7.3	-7.3	-7.2	-7.3	-7.2	-7.2	-7.2	-7.1
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

Existing Elevation

Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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

NIPPON KOEI CO., LTD.

DESIGNED BY :

DRAWN BY :

APPROVED BY :

SECTION : DREDGING AND RECLAMATION WORK

SUB-SECTION : INNER CHANNEL

TITLE : CROSS SECTION INNER CHANNEL 27,28,29

DATE : JULY/2002

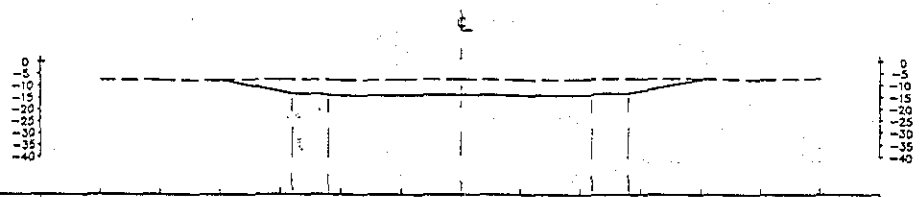
SCALE : H.:1:2000 V.:1:2000

DRAWING NO. DW-DR-01-010

LAND SIDE

Sect 30

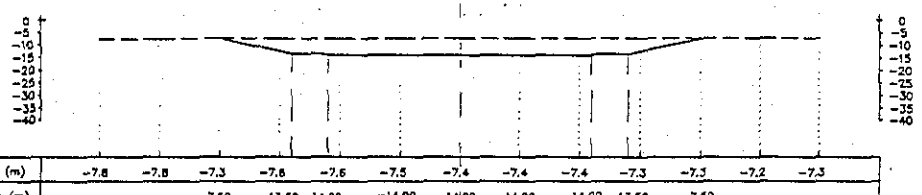
SEA SIDE



Existing Elevation (m)	-7.7	-7.6	-7.6	-7.5	-7.5	-7.4	-7.3	-7.4	-7.3	-7.3	-7.2	-7.3	-7.2
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

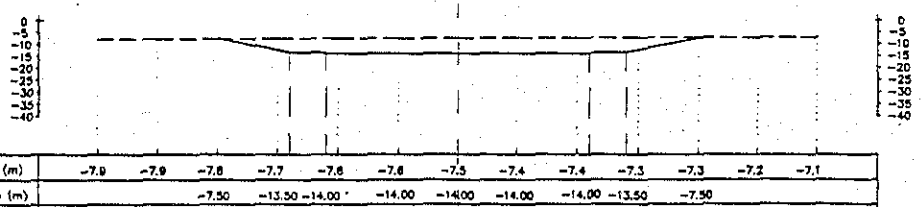
Sect 31



Existing Elevation (m)	-7.8	-7.8	-7.3	-7.8	-7.6	-7.5	-7.4	-7.4	-7.4	-7.3	-7.3	-7.2	-7.3
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 32



Existing Elevation (m)	-7.9	-7.9	-7.8	-7.7	-7.8	-7.8	-7.5	-7.4	-7.4	-7.3	-7.3	-7.2	-7.1
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

Existing Elevation

Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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

NIPPON KOEI CO., LTD.

SECTION : DREDGING AND RECLAMATION WORK

SUB-SECTION : INNER CHANNEL

TITLE : CROSS SECTION INNER CHANNEL 30,31,32

DATE : JULY/2002

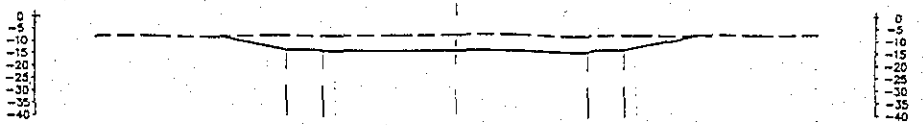
SCALE : H.:1:2000 V.:1:2000

DRAWING NO. DW-DR-01-011

LAND SIDE

Sect 33

SEA SIDE



Existing Elevation (m)	-8.3	-8.1	-7.9	-7.6	-7.7	-7.7	-7.6	-7.4	-7.3	-7.3	-7.4	-7.3	-7.2
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

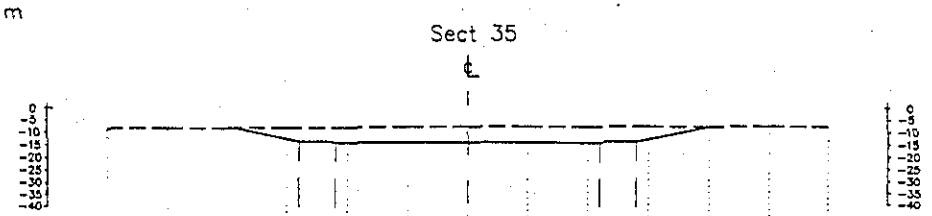
Distance : 100 m

Sect 34

Existing Elevation (m)	-8.4	-8.3	-8.1	-8.0	-7.9	-7.8	-7.7	-7.6	-7.5	-7.4	-7.4	-7.3	-7.1
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 35



Existing Elevation (m)	-8.5	-8.5	-8.2	-8.1	-7.9	-7.8	-7.8	-7.6	-7.5	-7.3	-7.5	-7.3	-7.4
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

Existing Elevation

Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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

NIPPON KOEI CO., LTD.

SECTION : DREDGING AND RECLAMATION WORK

SUB-SECTION : INNER CHANNEL

TITLE : CROSS SECTION INNER CHANNEL 33,34,35

DATE : JULY/2002

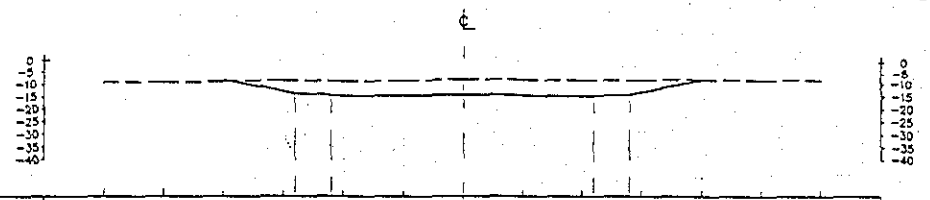
SCALE : H.: 1: 2000 V.: 1: 2000

DW-DR-01-017

LAND SIDE

Sect 36

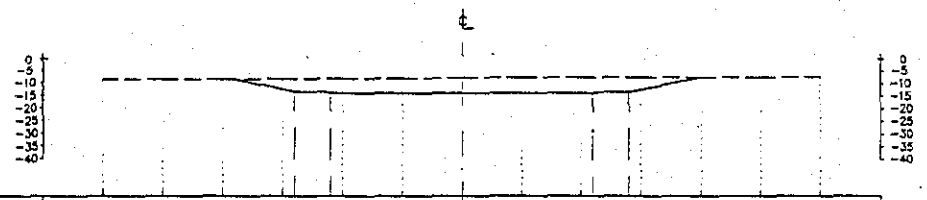
SEA SIDE



Existing Elevation (m)	-8.6	-8.5	-8.3	-8.2	-8.0	-7.9	-7.8	-7.7	-7.5	-7.5	-7.3	-7.3	-7.3
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

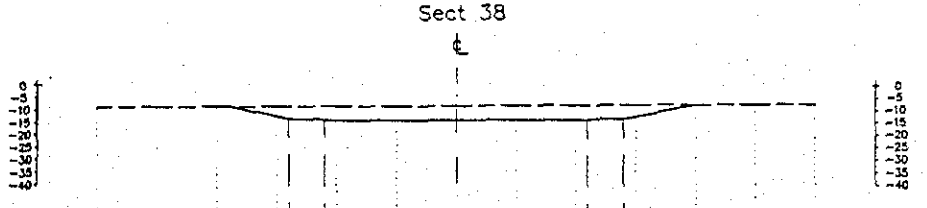
Sect 37



Existing Elevation (m)	-8.6	-8.6	-8.5	-8.4	-8.2	-8.1	-7.9	-7.8	-7.7	-7.6	-7.6	-7.5	-7.3
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 38



Existing Elevation (m)	-8.9	-8.8	-8.6	-8.5	-8.3	-8.3	-8.2	-8.1	-8.0	-7.7	-7.6	-7.5	-7.5
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5.15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

- Existing Elevation
- Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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

NIPPON KOEI CO., LTD.

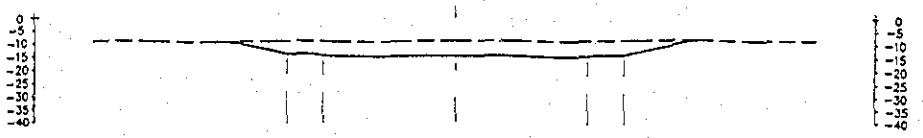
SECTION : DREDGING AND RECLAMATION WORK
SUB-SECTION : INNER CHANNEL
TITLE : CROSS SECTION INNER CHANNEL 36,37,38

DATE : JULY/2002
SCALE : H.:1:2000 V.:1:2000
DRAWING NO. DW-DR-01-013

LAND SIDE

Sect 39

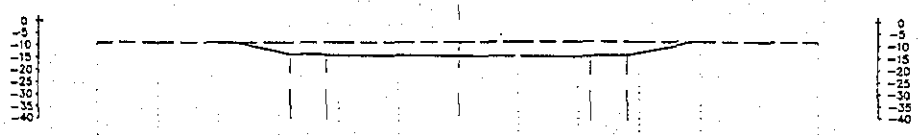
SEA SIDE



Existing Elevation (m)	-8.9	-8.8	-8.8	-8.7	-8.5	-8.5	-8.3	-8.3	-8.1	-7.9	-7.8	-7.8	-7.9
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

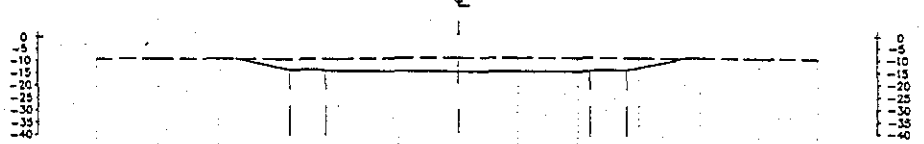
Sect 40



Existing Elevation (m)	-8.9	-8.9	-8.9	-8.8	-8.8	-8.7	-8.4	-8.2	-8.0	-8.0	-8.1	-8.2	-8.4
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 41



Existing Elevation (m)	-9.1	-9.1	-9.0	-9.1	-9.1	-8.6	-8.4	-8.5	-8.5	-8.6	-8.7	-9.0	-9.4
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15 5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

Existing Elevation

Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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

NIPPON KOEI CO., LTD.

SECTION : DREDGING AND RECLAMATION WORK

SUB-SECTION : INNER CHANNEL

TITLE : CROSS SECTION INNER CHANNEL 39,40,41

DATE : JULY/2002

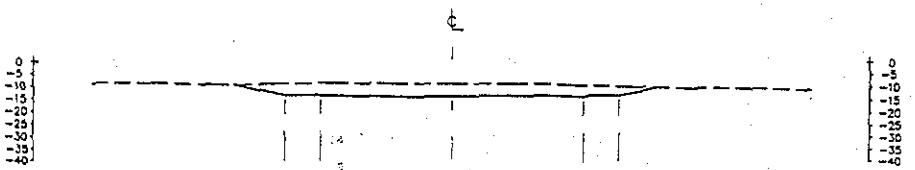
SCALE : H.: 1: 2000 V.: 1: 2000

DRAWING NO. DW-DR-01-014

LAND SIDE

Sect 42

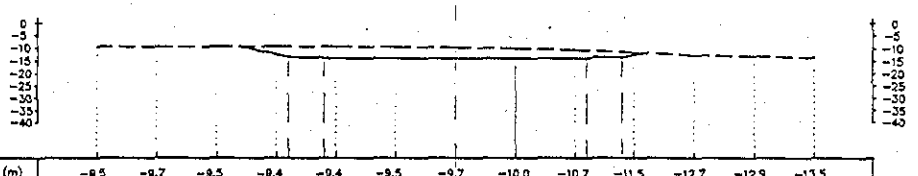
SEA SIDE



Existing Elevation (m)	-9.2	-9.3	-9.4	-8.9	-8.9	-8.8	-9.0	-9.2	-9.5	-9.9	-10.8	-10.9	-11.4
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

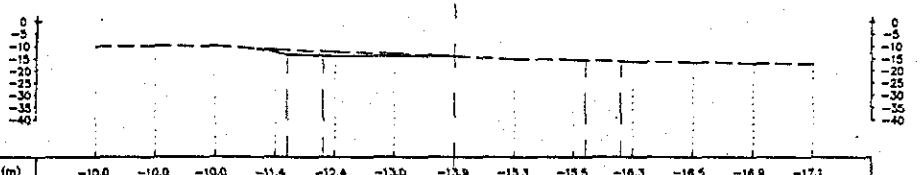
Sect 43



Existing Elevation (m)	-9.5	-9.7	-9.5	-9.4	-9.4	-9.5	-9.7	-10.0	-10.7	-11.5	-12.7	-12.9	-13.5
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Distance : 100 m

Sect 44



Existing Elevation (m)	-10.0	-10.0	-10.0	-11.4	-12.4	-13.0	-13.9	-15.3	-15.5	-16.3	-16.5	-16.9	-17.1
Dredging Elevation (m)			-7.50	-13.50	-14.00	-14.00	-14.00	-14.00	-14.00	-13.50	-7.50		
Distance (m)	25	25	25	5 15	30	25	0.00	25	30	15.5	25	25	25
Cum. Distance (m)	-150	-125	-100	-70	-55	-25	0.00	25	55	70	100	125	150

Legend:

Existing Elevation

Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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

NIPPON KOEI CO., LTD.

SECTION : DREDGING AND RECLAMATION WORK

SUB-SECTION : INNER CHANNEL

TITLE : CROSS SECTION INNER CHANNEL 42,43,44

DATE : JULY/2002

SCALE : H.: 1:2000 V.: 1:2000

DRAWING NO. DW-DR-01-015

					-70	-57.5	-55	-25	0	25	55	57.5	70				
Section N°	:			a	b	c	d	e	f	g	h	i	j	k		:	Area (m^2)
					Natural Ground Elevation												
0	:				8.9	9.0	9.1	8.8	8.6	8.5	8.2	8.3	8.2			:	859
1	:				9.0	8.9	8.9	8.7	8.6	8.4	8.3	8.3	8.3			:	863
2	:				9.3	9.1	9.1	8.7	8.5	8.4	8.3	8.3	8.3			:	852
3	:				9.0	8.9	8.8	8.6	8.5	8.3	8.3	8.3	8.3			:	874
4	:				8.4	8.4	8.4	8.4	8.4	8.3	8.2	8.2	8.2			:	914
5	:				8.5	8.5	8.5	8.3	8.3	8.2	8.1	8.1	8.1			:	922
6	:				8.4	8.3	8.3	8.3	8.3	8.3	7.9	7.9	8.0			:	936
7	:				8.2	8.2	8.2	8.2	8.1	8.1	7.9	7.9	8.0			:	958
8	:				8.3	8.2	8.1	8.1	7.9	7.8	7.8	7.8	7.7			:	986
9	:				8.2	8.3	8.3	6.9	7.9	7.8	7.7	7.7	7.8			:	1,016
10	:				7.9	7.8	7.8	7.8	7.8	7.7	7.7	7.7	7.6			:	1,025
11	:				7.7	7.7	7.7	7.7	7.7	7.5	7.4	7.4	7.4			:	1,060
12	:				7.7	7.7	7.9	7.6	7.6	7.5	7.3	7.3	7.3			:	1,068
13	:				7.5	7.5	7.5	7.5	7.4	7.3	7.2	7.2	7.2			:	1,102
14	:				7.5	7.4	7.4	7.5	7.4	7.3	7.3	7.3	7.3			:	1,099
15	:				7.4	7.4	7.4	7.4	7.3	7.3	7.2	7.2	7.2			:	1,114
16	:				7.4	7.4	7.4	7.4	7.3	7.2	7.2	7.2	7.2			:	1,117
17	:				7.2	7.2	7.2	7.2	7.2	7.1	7.1	7.1	7.0			:	1,149
18	:				7.2	7.2	7.2	7.2	7.2	7.1	7.0	7.0	7.0			:	1,152
19	:				7.2	7.2	7.2	7.2	7.2	7.2	7.1	7.1	7.1			:	1,143
20	:				7.2	7.2	7.2	7.0	7.3	7.3	7.2	7.2	7.1			:	1,141
21	:				7.0	7.0	7.0	7.0	7.2	7.0	7.2	7.2	7.0			:	1,168
22	:				7.0	7.2	7.2	7.2	7.3	7.3	7.2	7.2	7.2			:	1,139
23	:				7.0	7.0	7.0	7.0	7.0	7.2	7.0	7.0	7.2			:	1,164
24	:				6.9	6.9	6.9	7.1	7.1	7.1	7.2	7.2	7.2			:	1,163
25	:				7.2	7.2	7.2	7.3	7.0	7.3	7.3	7.3	7.3			:	1,130
26	:				7.2	7.2	7.2	7.3	7.2	7.2	7.2	7.2	7.1			:	1,138
27	:				7.3	7.3	7.3	7.2	7.2	7.2	7.2	7.2	7.2			:	1,131
28	:				7.3	7.3	7.3	7.3	7.2	7.2	7.2	7.2	7.2			:	1,128
29	:				7.3	7.3	7.3	7.3	7.3	7.2	7.2	7.2	7.2			:	1,125

				-70	-57.5	-55	-25	0	25	55	57.5	70				
Section N°	:		a	b	c	d	e	f	g	h	i	j	k		:	Area (m^2)
								Natural Ground Elevation								
30	:			7.5	7.5	7.5	7.4	7.3	7.4	7.3	7.3	7.3			:	1,099
31	:			7.6	7.6	7.6	7.5	7.4	7.4	7.3	7.3	7.3			:	1,088
32	:			7.6	7.6	7.6	7.6	7.5	7.4	7.3	7.3	7.3			:	1,082
33	:			7.6	7.6	7.6	7.7	7.6	7.4	7.3	7.3	7.3			:	1,077
34	:			7.9	7.9	7.9	7.8	7.7	7.6	7.5	7.5	7.5			:	1,037
35	:			8.0	7.9	7.9	7.8	7.6	7.6	7.4	7.4	7.4			:	1,042
36	:			8.3	8.2	8.2	7.9	7.8	7.7	7.5	7.5	7.5			:	1,008
37	:			8.1	8.0	8.0	8.1	7.9	7.8	7.6	7.6	7.6			:	1,003
38	:			8.4	8.3	8.3	8.3	8.2	8.1	7.9	7.9	7.9			:	947
39	:			8.6	8.5	8.5	8.5	8.3	8.3	8.0	8.0	7.9			:	920
40	:			8.8	8.8	8.8	8.7	8.4	8.2	8.0	8.0	8.0			:	898
41	:			9.1	9.1	9.0	8.6	8.4	8.5	8.5	8.5	8.5			:	851
42	:			8.9	8.9	8.9	8.8	9.0	9.2	9.5	9.6	9.8			:	759
43	:			9.4	9.4	9.4	9.5	9.7	10.0	10.8	10.9	11.3			:	612
44	:			11.5	12.1	12.1	13.0	13.9	15.3	15.3	15.7	16.1			:	111

NIPPON KOEI CO.,LTD.

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	**Project Code**	JC1N004/2N001
Work Section Title	Turning Basin Dredging	**Pay Item No. (BOQ)**	2A-05
Quantity Item	offshore dumping	**Unit**	m^3

Calculation Procedure Applied

Offshore dumping volume was computed based on the assumption that offshore dumping volume was ~~74.35~~ 75.0 % of dredging volume.

References, Calculation Base and Revisions

Cushore dumping of Turning Basin Dredging (2A-05)

Turning Basin Dredging (calculation by Excel)

Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	JAM	2/May/2002						
1								
2								
3								

FN : Calculation_Cover_Sheet_020504_seg cover

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Turning Basin Dredging	Calc. Index No.	
Subject	Offshore dumping	Page No.	Rev.

References/ Notes

2,790,000 × ~~0.7435~~ 0.75 = ~~2,074,000~~ m³

2,092,000 m³

	Prepared by	Checked by
	/ /200	/ /200

NIPPON KOEI CO.,LTD.

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	**Project Code**	JC1N004/2N001
Work Section Title	Turning Basin Dredging	**Pay Item No. (BOQ)**	2A-06
Quantity Item	Onshore dumping	**Unit**	m^3

Calculation Procedure Applied

Onshore dumping volume was computed based on the assumption that onshore dumping ratio was ~~25.65~~ 25.0 % of dredging volume.

References, Calculation Base and Revisions

Turning Basin Dredging (calculation by Excel)

Rev	Prepared		No. of	Checked		Reviewed		Superseded
	by	Date	Pages	by	Date	by	Date	by Calc No.
0	JAM	2 May 2002						
1								
2								
3								

FN : Calculation_Cover_Sheet_020504_seg cover

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Turning Basin Dredging	Calc. Index No.	
Subject	Onshore dumping	Page No.	Rev.

References/ Notes

2,790,000 × ~~0.3285~~ 0.25 = ~~916,500~~ m^3

698,000 m^3

		Prepared by		Checked by	
			/ /200		/ /200

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	**Project Code**	JC1N004/2N001
Work Section Title	Dredging Work	**Pay Item No. (BOQ)**	
Quantity Item	Turning Basin Dredging	**Unit**	m^3

Calculation Procedure Applied

Volume of Turning Basin Dredging is needed to reduce excavation volume of Container Berth (above -14m sea side) and Multi-purpose Berth (above -14m sea side).

References, Calculation Base and Revisions

Rev	Prepared		No. of	Checked		Reviewed		Superseded
	by	Date	Pages	by	Date	by	Date	by Calc No.
0								
1								
2								
3								

FN : Calculation_Cover_Sheet_020504_seg cover

NIPPON KOEI CO.,LTD.

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Turning Basin Dredging	Calc. Index No.	
Subject	Actual Turning Basin Dredging volume	Page No.	Rev.

References/ Notes

Turning Basin Dredging 2,919,000 m³

reduction

Container Berth (above +14m sea side)

63,200 m³

Multi-purpose Berth (above -14m sea side)

66,500 m³

2,790,000 m³

Prepared by		Checked by	
	/ /200		/ /200

FN: Calculation_Sheet

NIPPON KOEI CO.,LTD.

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	**Project Code**	JC1N004/2N001
Work Section Title	Container Berth	**Pay Item No. (BOQ)**	
Quantity Item	Excavation (above -14m seaside)	**Unit**	m^3

Calculation Procedure Applied

1. Calculation of Areas of Sections (Excel)
2. Average of Areas of Sections (Excel)
3. Calculation of Volume : Average of Areas of Sections times distance between Sections (Excel)

References, Calculation Base and Revisions

DW-GW-01-001
DW-GW-01-002 ~ 018 → 2A-02
Container Berth offshore dumping

Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	JAM	2 May 2002						
1								
2								
3								

FN : Calculation_Cover_Sheet_020504_seg cover

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Container Berth	Calc. Index No.	
Subject	Excavation (above -14m, seaside)	Page No.	Rev.

References/ Notes

Sea side Total 109,697.63

Sea side below -14m 46,642.48

above -14m 63,055.15

≒ 63,100 m^3

	Prepared by	Checked by
	/ /200	/ /200

FN: Calculation_Sheet

○Container Berth

2. Excavation for Foundation (sea side)

Section No.	Area (m^2)	Average Area of 2 Sections (m^2)	Distance Between Sections (m)	Volume (m^3)
No.0-80.00	0.00			
		53.23	15.34	816.47
No.0-64.66	106.45			
		179.09	10.46	1,873.28
No.0-54.20	251.73			
		301.32	13.62	4,103.98
No.0-40.58	350.91			
		358.65	1.81	649.15
No.0-38.77	366.38			
		389.44	6.16	2,398.92
No.0-32.61	412.49			
		424.50	6.96	2,954.49
No.0-25.65	436.50			
		436.50	25.65	11,196.23
No.0	436.50			
		436.50	8.00	3,492.00
No.0+8.00	436.50			
		436.50	7.35	3,208.28
No.0+15.35	436.50			
		436.50	9.65	4,212.23
No1	436.50			
		436.50	2.20	960.30
No.1+2.20	436.50			
		436.50	16.44	7,176.06
No.1+18.64	436.50			
		436.50	6.36	2,776.14
No.2	436.50			
		436.50	25.00	10,912.50
No.3	436.50			
		436.50	25.00	10,912.50
No.4	436.50			
		436.50	20.00	8,730.00
No.4+20.00	436.50			
		260.25	5.00	1,301.25
No.5	84.00			
		84.00	1.00	84.00
No5+1.00	84.00			
		75.98	24.00	1,823.40
No.6	67.95			
		75.98	25.00	1,899.38
No.7	84.00			
		74.59	25.00	1,864.75
No.8	65.18			
		65.15	25.00	1,628.63
No.9	65.11			
		65.06	25.00	1,626.38
No.10	65.00			
		65.01	25.00	1,625.13
No.11	65.01			
		65.05	16.73	1,088.29
No.11+16.73	65.09			
		260.77	8.00	2,086.12
No.11+24.73	456.44			
		456.71	0.27	123.31
No.12	456.98			
		455.32	25.00	11,382.88
No.13	453.65			
		452.78	15.00	6,791.63
No.14	451.90			
Total		8,527.82	420.00	109,697.63

○Container Berth

2'. Excavation for Foundation (sea side) Below -14.0m

Section No.	Area (m^2)	Average Area of 2 Sections (m^2)	Distance Between Sections (m)	Volume (m^3)
No.0-80.00	0.00			
		0.00	21.51	0.00
No.0-58.49	0.00			
		8.33	4.29	35.71
No.0-54.20	16.65			
		61.78	13.62	841.44
No.0-40.58	106.91			
		114.64	1.81	207.50
No.0-38.77	122.37			
		145.48	6.16	896.13
No.0-32.61	168.58			
		180.54	6.96	1,256.56
No.0-25.65	192.50			
		192.50	25.65	4,937.63
No.0	192.50			
		192.50	8.00	1,540.00
No.0+8.00	192.50			
		192.50	7.35	1,414.88
No.0+15.35	192.50			
		192.50	9.65	1,857.63
No1	192.50			
		192.50	2.20	423.50
No.1+2.20	192.50			
		192.50	16.44	3,164.70
No.1+18.64	192.50			
		192.50	6.36	1,224.30
No.2	192.50			
		192.50	25.00	4,812.50
No.3	192.50			
		192.50	25.00	4,812.50
No.4	192.50			
		192.50	20.00	3,850.00
No.4+20.00	192.50			
		106.25	5.00	531.25
No.5	20.00			
		20.00	1.00	20.00
No5+1.00	20.00			
		20.00	24.00	480.00
No.6	20.00			
		20.00	25.00	500.00
No.7	20.00			
		20.00	25.00	500.00
No.8	20.00			
		20.00	25.00	500.00
No.9	20.00			
		20.00	25.00	500.00
No.10	20.00			
		20.00	25.00	500.00
No.11	20.00			
		20.00	16.73	334.60
No.11+16.73	20.00			
		139.00	8.00	1,112.00
No.11+24.73	258.00			
		258.00	0.27	69.66
No.12	258.00			
		258.00	25.00	6,450.00
No.13	258.00			
		258.00	15.00	3,870.00
No.14	258.00			
Total		3,615.01	420.00	46,642.48

NIPPON KOEI CO.,LTD.

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	**Project Code**	JC1N004/2N001
Work Section Title	Multi-purpose Berth	**Pay Item No. (BOQ)**	
Quantity Item	Excavation (above -4m seaside)	**Unit**	m^3

Calculation Procedure Applied

1. Calculation of Areas of Sections (Excel)
2. Average of Areas of Sections (Excel)
3. Calculation of Volume : Average of Areas of Sections times distance between Sections (Excel)

References, Calculation Base and Revisions

DW-QW-01-003
DW-QW-01-019 ~ 026 → 2A-09
Multi-purpose Berth
offshore dumping

Rev.	Prepared by	Prepared Date	No. of Pages	Checked by	Checked Date	Reviewed by	Reviewed Date	Superseded by Calc No.
0								
1								
2								
3								

FN : Calculation_Cover_Sheet_020504_seg cover

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Multi-purpose Berth	Calc. Index No.	
Subject	Excavation (above -14m seaside)	Page No.	Rev.

References/ Notes

Sea side Total 129,259.09 m^3

sea side below -14m. 62,773.03 m^3

above -14m 66,486.06

≒ 66,500 m^3

	Prepared by	Checked by
	/ /200	/ /200

FN: Calculation_Sheet

○Multi-Purpose Berth

2. Excavation for Foundation (sea side)

Section No.	Area (m^2)	Average Area of 2 Sections (m^2)	Distance Between Sections (m)	Volume (m^3)
No.0	451.90			
		453.70	25.00	11,342.50
No.1	455.50			
		456.08	25.00	11,402.00
No.2	456.66			
		458.19	25.00	11,454.75
No.3	459.72			
		457.11	25.00	11,427.76
No.4	454.50			
		454.50	17.50	7,953.75
No.4+17.50	454.50			
		354.82	2.50	887.04
No.4+20.00	255.13			
		275.87	5.00	1,379.33
No.5	296.60			
		296.44	25.00	7,410.88
No.6	296.27			
		296.24	10.00	2,962.35
No.6+10.00	296.20			
		401.16	2.50	1,002.89
No.6+12.50	506.11			
		506.71	12.50	6,333.88
No.7	507.31			
		507.23	11.00	5,579.53
No.7+11.00	507.15			
		508.39	5.16	2,623.29
No.7+16.16	509.63			
		509.63	2.84	1,447.35
No.7+19.00	509.63			
		515.24	6.00	3,091.41
No.8	520.84			
		520.84	6.00	3,125.04
No.8+6.00	520.84			
		520.84	2.10	1,093.76
No.8+8.10	520.84			
		522.11	6.00	3,132.66
No.8+14.10	523.38			
		523.38	5.90	3,087.94
No.9	523.38			
		528.75	20.00	10,575.00
No.9+20.00	534.12			
		534.12	0.00	0.00
No.9+20.00'	534.12			
		524.04	12.50	6,550.50
No.9+32.50	513.96			
		398.79	30.00	11,963.70
No.9+62.50	283.62			
		141.81	24.20	3,431.80
No.9+86.70	0.00			
Total		10,665.96	306.70	129,259.09

○Multi-Purpose Berth

2'. Excavation for Foundation (sea side) Below -14.0m

Section No.	Area (m^2)	Average Area of 2 Sections (m^2)	Distance Between Sections (m)	Volume (m^3)
No.0	258.00			
		258.00	25.00	6,450.00
No.1	258.00			
		258.00	25.00	6,450.00
No.2	258.00			
		258.00	25.00	6,450.00
No.3	258.00			
		258.00	25.00	6,450.00
No.4	258.00			
		258.00	17.50	4,515.00
No.4+17.50	258.00			
		184.57	2.50	461.41
No.4+20.00	111.13			
		111.13	5.00	555.65
No.5	111.13			
		111.13	25.00	2,778.25
No.6	111.13			
		111.13	10.00	1,111.30
No.6+10.00	111.13			
		184.57	2.50	461.41
No.6+12.50	258.00			
		258.00	12.50	3,225.00
No.7	258.00			
		258.00	11.00	2,838.00
No.7+11.00	258.00			
		258.00	14.00	3,612.00
No.8	258.00			
		258.00	8.10	2,089.80
No.8+8.10	258.00			
		258.00	6.00	1,548.00
No.8+14.10	258.00			
		258.00	5.90	1,522.20
No.9	258.00			
		258.00	20.00	5,160.00
No.9+20.00	258.00			
		258.00	0.00	0.00
No.9+20.00'	258.00			
		258.00	12.50	3,225.00
No.9+32.50	258.00			
		129.00	30.00	3,870.00
No.9+62.50	0.00			
		0.00	24.20	0.00
No.9+86.70	0.00			
Total		4,443.52	306.70	62,773.03

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	**Project Code**	
Work Section Title	Dredging Work	**Pay Item No. (BOQ)**	
Quantity Item	Turning Basin Dredging	**Unit**	cubic meter

Calculation Procedure Applied

1. Calculation of Areas of Sections (Excel)

2. Average of Areas of Sections (Excel)

3. Calculation of Volume: Average of area of sections times distance between sections (Excel)

References, Calculation Base and Revisions

1. Area and Volume have been calculated starting from Section T-0 to Section T-16, in accordance with the general Plan of Turning Basin Dredging N° DW-RD-00-04, plus transition section of Passenger Turning Basin N° PB-8.

2. Design Information

   Slope: 1:5 (vertical: horizontal)

   Depth: -14.0 meters

3. This volume includes the transition from Turning Basin (-14.00) to Passenger Turning Basin (-9.50).

Rev	Prepared		No. of	Checked		Reviewed		Superseded
	by	Date	Pages	by	Date	by	Date	by Calc No.
O	jam	02/May/2002	16					
1								
2								
3								

File in Calc. File

FN : Calculation_Cover_Sheet

AREA AND VOLUME CALCULATIONS TURNING BASIN
6 MARCH 2002

DEPTH: 14.0 M

Total Dredging Volume as of 6 March 2002
Volume: 2,918,954 m^3

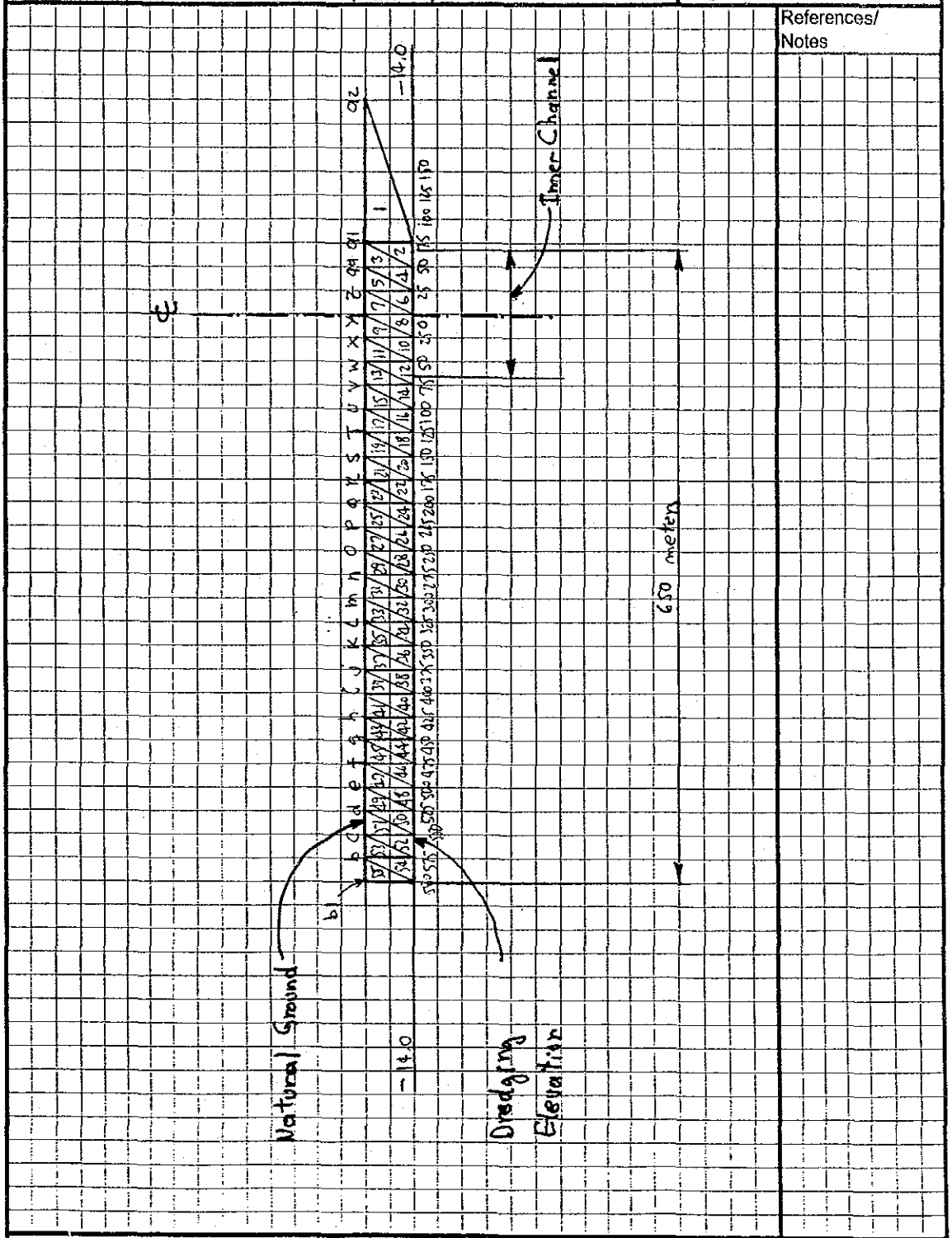
Section N°	Area m^2	Average area 2 Sect.	Dist. Between Sect.	Volume m^3
0	887.90			
		1,002.58	100	100,258
T-1	1,117.25			
		1,228.90	100	122,890
T-2	1,340.55			
		1,418.23	100	141,823
T-3	1,495.90			
		1,564.14	100	156,414
T-4	1,632.38			
		1,743.45	100	174,345
T-5	1,854.53			
		1,944.10	100	194,410
T-6	2,033.68			
		2,167.10	100	216,710
T-7	2,300.53			
		2,360.76	60	141,646
T-8	2,421.00			
		2,602.58	50	130,129
T-9	2,784.15			
		2,783.65	90	250,529
T-10	2,783.15			
		2,802.61	100	280,261
T-11	2,822.08			
		2,848.74	100	284,874
T-12	2,875.40			
		2,905.28	70	203,369
T-13	2,935.15			
		2,859.15	30	85,775
T-14	2,783.15			
		2,582.21	100	258,221
T-15	2,381.28			
		2,184.39	70	152,907
T-16	1,987.50			
		1,219.75	20	24,395
PB-8	452.00			

Note: This volume is the transition from Turning Basin (-14.00) to Passenger Turning Basin (-9.50)

TOTAL DREDGING VOLUME TURNING BASIN: 2,918,954 m^3

Project	Detailed Design on Port Reactivation Project In La Union	Calc. File No.	
Section	DREDGING WORK	Calc. Index No.	
Subject	AREA DISTRIBUTION TURNING BASIN	Page No.	Rev.

References/ Notes



	Prepared by		Checked by	
	Jam	8 /May /200		/ /200

FN: Calculation_Sheet

NIPPON KOEI CO.,LTD.

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Dredging Work	Calc. Index No.	
Subject	Area Calculation Turning Basin	Page No.	Rev.

References/ Notes

area 1: [(14.0 - a1) x (14.0 - a1) x 5] / 2

area 2: [(14.0 - a1) x 20] / 2

area 3: [(14.0 - aa) x 20] / 2

area 4: [(14.0 - aa) x 25] / 2

area 5: [(14.0 - z) x 25] / 2

area 6: [(14.0 - z) x 25] / 2

area 7: [(14.0 - y) x 25] / 2

area 8: [(14.0 - y) x 25] / 2

area 9: [(14.0 - x) x 25] / 2

area 10: [(14.0 - x) x 25] / 2

area 11: [(14.0 - w) x 25] / 2

area 12: [(14.0 - w) x 25] / 2

area 13: [(14.0 - v) x 25] / 2

area 14: [(14.0 - v) x 25] / 2

area 15: [(14.0 - u) x 25] / 2

area 16: [(14.0 - u) x 25] / 2

area 17: [(14.0 - t) x 25] / 2

area 18: [(14.0 - t) x 25] / 2

area 19: [(14.0 - s) x 25] / 2

area 20: [(14.0 - s) x 25] / 2

area 21: [(14.0 - r) x 25] / 2

area 22: [(14.0 - r) x 25] / 2

area 23: [(14.0 - q) x 25] / 2

area 24: [(14.0 - q) x 25] / 2

area 25: [(14.0 - p) x 25] / 2

	Prepared by		Checked by	
	jam	08 / May /2002		/ /200

FN: Calculation_Sheet

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Dredging Work	Calc. Index No.	
Subject	Area Calculation Turning Basin	Page No.	Rev.

References/ Notes

area 26: [(14.0 - p) x 25] / 2

area 27: [(14.0 - o) x 25] / 2

area 28: [(14.0 - o) x 25] / 2

area 29: [(14.0 - n) x 25] / 2

area 30: [(14.0 - n) x 25] / 2

area 31: [(14.0 - m) x 25] / 2

area 32: [(14.0 - m) x 25] / 2

area 33: [(14.0 - l) x 25] / 2

area 34: [(14.0 - l) x 25] / 2

area 35: [(14.0 - k) x 25] / 2

area 36: [(14.0 - k) x 25] / 2

area 37: [(14.0 - j) x 25] / 2

area 38: [(14.0 - j) x 25] / 2

area 39: [(14.0 - i) x 25] / 2

area 40: [(14.0 - i) x 25] / 2

area 41: [(14.0 - h) x 25] / 2

area 42: [(14.0 - h) x 25] / 2

area 43: [(14.0 - g) x 25] / 2

area 44: [(14.0 - g) x 25] / 2

area 45: [(14.0 - f) x 25] / 2

area 46: [(14.0 - f) x 25] / 2

area 47: [(14.0 - e) x 25] / 2

area 48: [(14.0 - e) x 25] / 2

area 49: [(14.0 - d) x 25] / 2

area 50: [(14.0 - d) x 25] / 2

	Prepared by		Checked by	
	jam	08 / May /2002		/ /200

FN: Calculation_Sheet

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Dredging Work	Calc. Index No.	
Subject	Area Calculation Turning Basin	Page No.	Rev.

References/ Notes

area 51: [(14.0 - c) x 25] / 2

area 52: [(14.0 - c) x 25] / 2

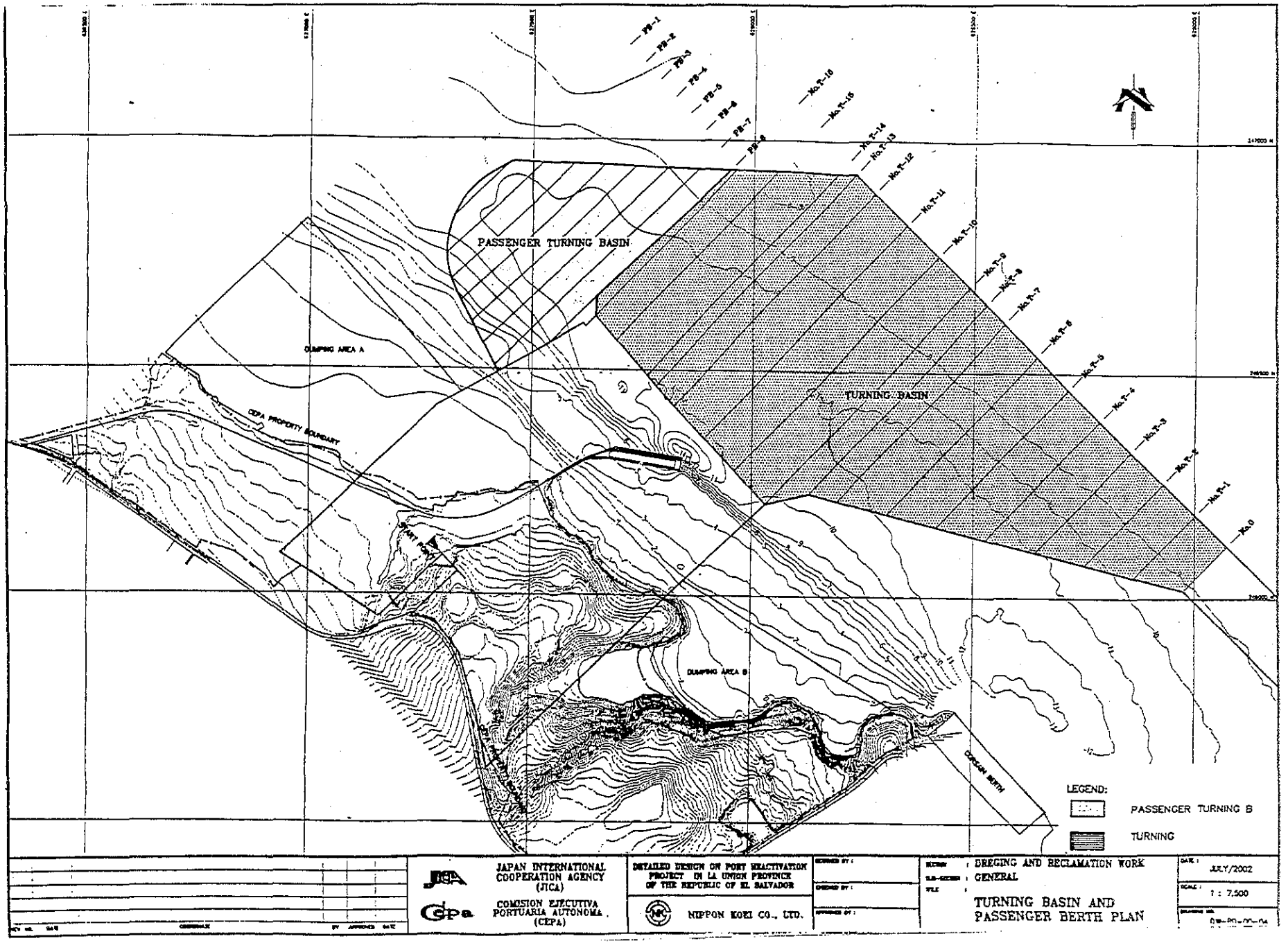
area 53: [(14.0 - b) x 25] / 2

area 54: [(14.0 - b) x 5] / 2

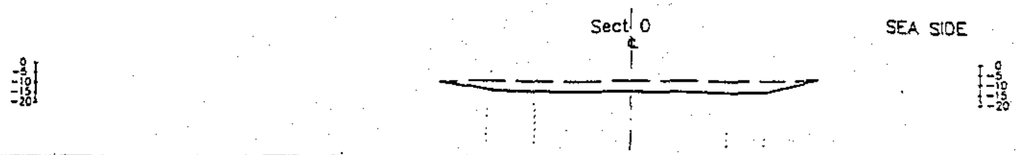
area 55: [(14.0 - b1) x 5] / 2

		Prepared by		Checked by	
		jam	08 / May /2002		/ /200

FN: Calculation_Sheet

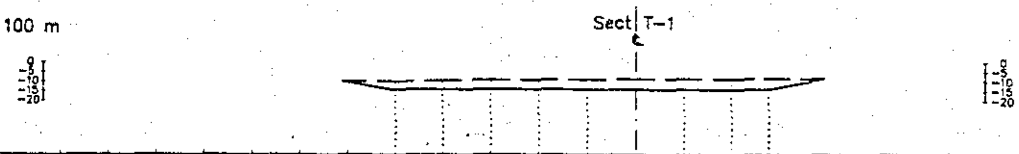

PASSENGER TURNING BASIN
TURNING BASIN
DUMPING AREA A
DUMPING AREA B
CEPA PROPERTY BOUNDARY
COPESAN BERTH
LEGEND:
PASSENGER TURNING B
TURNING
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)
DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR
NIPPON KOEI CO., LTD.
DREDGING AND RECLAMATION WORK
GENERAL
TURNING BASIN AND PASSENGER BERTH PLAN
JULY/2002
1 : 7,500

LAND SIDE — Sect 0 — SEA SIDE



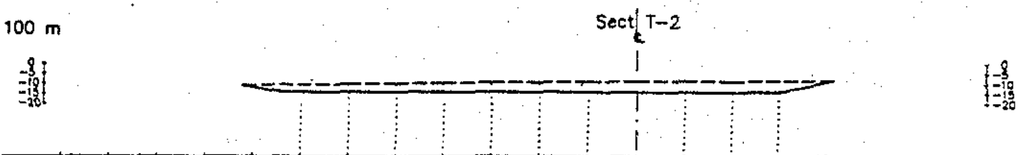
Existing Elevation (m)								-8.6	-9.3	-9.0	-9.0	-8.8	8.4	8.5	8.4	8.4	8.4	8.5		
Dredging Elevation (m)									-8.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-8.0			
Distance (m)	25	25	25	25	25	25	25	25	25	5 20	25	25	0.00	25	25	20 5	25	25	25	25
Cum. Distance (m)	-300	-275	-250	-225	-200	-175	-150	-125	-100	-70	-50	-25	0.00	25	50	70	100	125	150	175

Distance : 100 m — Sect T-1



Existing Elevation (m)						-10.4	-8.9	-8.8	-9.4	-9.2	-9.1	-8.8	8.5	8.5	8.5	8.4	8.4	8.5		
Dredging Elevation (m)							-8.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-8.0			
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	0.00	25	25	20 5	25	25	25	25
Cum. Distance (m)	-300	-275	-250	-225	-200	-175	-150	-127.37	-100	-75	-50	-25	0.00	25	50	70	100	125	150	175

Distance : 100 m — Sect T-2



Existing Elevation (m)				-16.5	-15.5	-10.4	-10.1	-9.9	-8.8	-9.3	-9.1	-8.8	8.9	8.4	8.5	8.4	8.9	8.8			
Dredging Elevation (m)					-8.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-8.0				
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	0.00	25	25	20 5	25	25	25	25	
Cum. Distance (m)	-300	-275	-250	-225	-200	-183.47	-150	-125	-100	-75	-50	-25	0.00	25	50	75	100	125	150	175	

Legend:
- - - - - Existing Elevation
——— Dredging Elevation

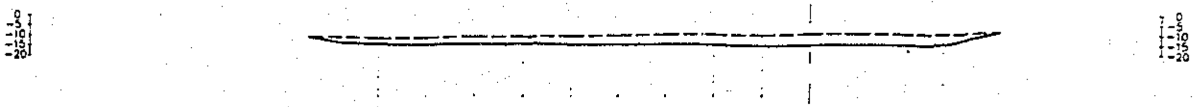
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR NIPPON KOEI CO., LTD.	DREDGING AND RECLAMATION WORK TURNING BASIN CROSS SECTION TURNING BASIN DREDGING (0,T-1,T-2)	JULY/2002 H.:1:250 V.:1:250 DW-DR-05-001

LAND SIDE

Distance : 100 m

Sect T-3

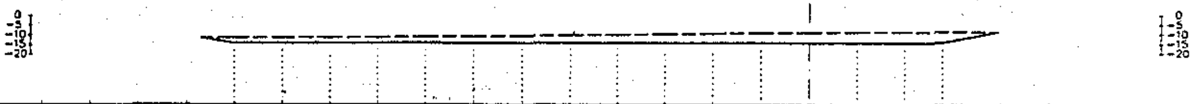
SEA SIDE



Existing Elevation (m)						-11.2	-11.1	-10.8	-10.7	-10.3	-10.2	-9.8	-9.3	-9.2	-9.0	-8.8	8.6	8.6	8.4	8.5	8.5			
Dredging Elevation (m)							-11.1-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-8.0			
Distance (m)	25	25	25	25	25	25	19	25	25	25	25	25	25	25	25	25	0.00	25	25	20.5	25	25	25	25
Cum. Distance (m)	-400	-375	-350	-325	-300	-275	-244	-225	-200	-175	-150	-125	-100	-75	-50	-25	0.00	25	50	70	100	125	150	175

Distance : 100 m

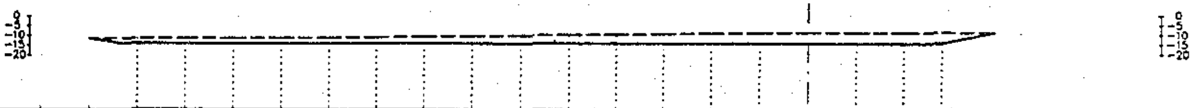
Sect T-4



Existing Elevation (m)			-11.4	-11.5	-11.3	-11.2	-11.1	-11.1	-10.8	-10.6	-10.3	-10.0	-9.7	-9.4	-9.1	-8.8	8.7	8.4	8.4	8.4	8.5	8.0		
Dredging Elevation (m)				-11.4	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-8.0			
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	0.00	25	25	20.5	25	25	25	25
Cum. Distance (m)	-400	-375	-350	-325	-300.84	-275	-250	-225	-200	-175	-150	-125	-100	-75	-50	-25	0.00	25	50	70	100	125	150	175

Distance : 100 m

Sect T-5



Existing Elevation (m)	-11.4	-11.4	-11.4	-11.4	-11.4	-11.2	-11.3	-10.9	-10.8	-10.3	-9.9	-9.8	-9.4	-9.1	-8.8	-8.9	8.4	8.4	8.4	8.5	8.5	8.5		
Dredging Elevation (m)		-10.8	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	8.0			
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	0.00	25	25	20.5	25	25	25	25
Cum. Distance (m)	-400	-378	-350	-325	-300	-275	-250	-225	-200	-175	-150	-125	-100	-75	-50	-25	0.00	25	50	70	100	125	150	175

Legend:

- - - - - Existing Elevation
——— Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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 : DREDGING AND RECLAMATION WORK

SUB-SECTION : TURNING BASIN

TITLE : CROSS SECTION TURNING BASIN DREDGING (T-3,T-4,T-5)

DATE : JULY/2002

SCALE : H.:1:250 V.:1:250

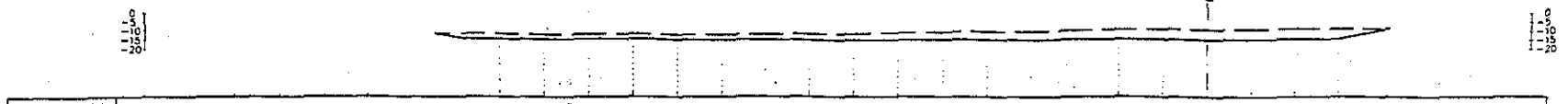
DRAWING NO. DW-DR-03-002

REV. NO. | DATE | DESCRIPTION | BY | APPROVED | DATE

LAND SIDE

Sect 6

SEA SIDE



Existing Elevation (m)							-10.8	-10.9	-11.1	-11.1	-11.3	-11.4	-11.4	-11.4	-11.2	-11.2	-10.8	-10.6	-10.1	-9.8	-9.5	-9.2	-9.0	-8.7	-8.5	8.5	8.3	8.4	8.4	8.6	8.6
Dredging Elevation (m)								-10.8~14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-8.0	
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	5.20	25	25	0.00	25	25	20.5	25	25	25	25
Cum. Distance (m)	-600	-575	-550	-525	-500	-475	-450	-417	-400	-375	-350	-325	-300	-275	-250	-225	-200	-175	-150	-125	-100	-75	-50	-25	0.00	25	50	70	100	125	150	175	

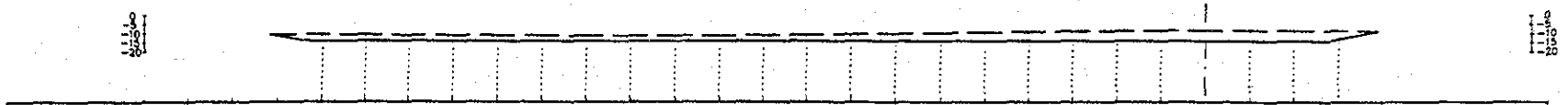
Distance : 100 m

Sect T-7

Existing Elevation (m)					-10.3	-10.6	-10.7	-10.9	-11.0	-11.1	-11.2	-11.2	-11.1	-11.1	-11.1	-10.9	-10.4	-10.1	-9.7	-9.4	-8.9	-8.8	-8.5	-8.4	8.3	8.3	8.4	8.5	8.7	8.9	
Dredging Elevation (m)					-8.6	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-8.0		
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	0.00	25	25	20.5	25	25	25	25	
Cum. Distance (m)	-600	-575	-550	-525	-500	-475	-450	-425	-400	-375	-350	-325	-300	-275	-250	-225	-200	-175	-150	-125	-100	-75	-50	-25	0.00	25	50	70	100	125	150	175	

Distance : 100 m

Sect T-8



Existing Elevation (m)			-10.1	-10.3	-10.6	-10.8	-10.9	-10.9	-11.0	-11.1	-11.2	-11.2	-11.2	-11.1	-10.9	-10.6	-10.3	-9.9	-9.7	-9.4	-9.0	-8.9	-8.9	-8.6	8.3	8.3	8.4	8.5	8.7		
Dredging Elevation (m)			-10.4	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-8.0		
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	0.00	25	25	20.5	25	25	25	25	
Cum. Distance (m)	-600	-575	-550	-525	-500	-475	-450	-425	-400	-375	-350	-325	-300	-275	-250	-225	-200	-175	-150	-125	-100	-75	-50	-25	0.00	25	50	70	100	125	150	175	

Legend:

Existing Elevation

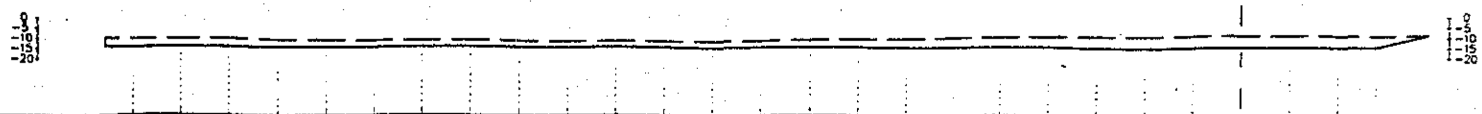
Dredging Elevation

	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR	DESIGNED BY :	SECTION : DREDGING AND RECLAMATION WORK	DATE : JULY/2002
	COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	NIPPON KOEI CO., LTD.	CHECKED BY :	SUB-SECTION : TURNING BASIN	SCALE : H.1:250 V.1:250
			APPROVED BY :	TITLE : CROSS SECTION TURNING BASIN DREDGING (T-6,T-7,T-8)	DRAWING NO DW-DR-03-003

LAND SIDE

Distance : 100 m

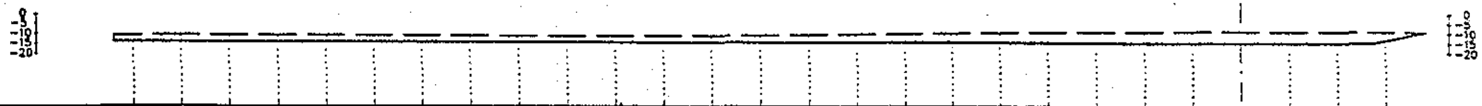
Sect T-9 SEA SIDE



Existing Elevation (m)	Dredging Elevation (m)	Distance (m)	Cum. Distance (m)
-10.8	-14.0	25	-600
-10.0	-14.0	25	-580
-10.2	-14.0	25	-550
-10.8	-14.0	25	-525
-10.5	-14.0	25	-500
-10.8	-14.0	25	-475
-10.8	-14.0	25	-450
-10.9	-14.0	25	-425
-10.9	-14.0	25	-400
-11.0	-14.0	25	-375
-11.1	-14.0	25	-350
-11.2	-14.0	25	-325
-11.1	-14.0	25	-300
-10.9	-14.0	25	-275
-10.9	-14.0	25	-250
-10.5	-14.0	25	-225
-10.2	-14.0	25	-200
-9.6	-14.0	25	-175
-9.3	-14.0	25	-150
-9.1	-14.0	25	-125
-8.9	-14.0	25	-100
-8.5	-14.0	25	-75
-8.4	-14.0	25	-50
-8.2	-14.0	25	-25
8.2	-14.0	0.00	0.00
8.3	-14.0	25	25
8.3	-14.0	25	50
8.4	-14.0	20.5	70
8.7	-8.0	25	100

Distance : 100 m

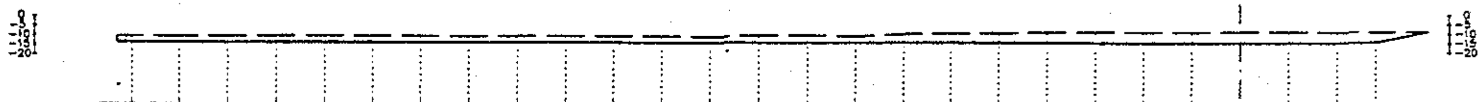
Sect T-10



Existing Elevation (m)	Dredging Elevation (m)	Distance (m)	Cum. Distance (m)
-10.8		30	-600
-10.8	-14 -14.0	25	-580
-10.3	-14.0	25	-550
-10.6	-14.0	25	-525
-10.7	-14.0	25	-500
-10.7	-14.0	25	-475
-10.8	-14.0	25	-450
-10.8	-14.0	25	-425
-10.9	-14.0	25	-400
-11.0	-14.0	25	-375
-11.0	-14.0	25	-350
-10.9	-14.0	25	-325
-10.8	-14.0	25	-300
-10.7	-14.0	25	-275
-10.5	-15.0	25	-250
-10.2	-14.0	25	-225
-10.0	-14.0	25	-200
-9.6	-14.0	25	-175
-9.4	-14.0	25	-150
-9.0	-14.0	25	-125
-8.8	-14.0	25	-100
-8.5	-14.0	25	-75
-8.4	-14.0	25	-50
-8.1	-14.0	25	-25
8.2	-14.0	0.00	0.00
8.3	-14.0	25	25
8.3	-14.0	25	50
8.6	-14.0	20.5	70
8.8	-8.0	25	100

Distance : 100 m

Sect T-11



Existing Elevation (m)	Dredging Elevation (m)	Distance (m)	Cum. Distance (m)
-10.9		35	-600
-10.9	-14.0	25	-583
-10.8	-14.0	25	-550
-10.7	-14.0	25	-525
-10.9	-14.0	25	-500
-10.8	-14.0	25	-475
-10.6	-14.0	25	-450
-10.7	-14.0	25	-425
-10.9	-14.0	25	-400
-10.7	-14.0	25	-375
-10.7	-14.0	25	-350
-10.7	-14.0	25	-325
-10.6	-14.0	25	-300
-10.8	-14.0	25	-275
-10.2	-14.0	25	-250
-10.1	-14.0	25	-225
-10.6	-14.0	25	-200
-9.4	-14.0	25	-175
-9.0	-14.0	25	-150
-8.8	-14.0	25	-125
-8.5	-14.0	25	-100
-8.2	-14.0	25	-75
-8.1	-14.0	25	-50
-8.1	-14.0	25	-25
8.2	-14.0	0.00	0.00
8.2	-16.0	25	25
8.4	-14.0	25	50
8.8	-14.0	20.5	70
8.6	-8.0	25	100

Legend:

- - - - - - Existing Elevation

———— Dredging Elevation

REV NO.	DATE	DESCRIPTION	BY	APPROVED	DATE

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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 : DREDGING AND RECLAMATION WORK

SUB-SECTION : TURNING BASIN

TITLE : CROSS SECTION TURNING BASIN DREDGING (T-9,T-10,T-11)

DATE : JULY/2002

SCALE : H.: 1:250 V.: 1:250

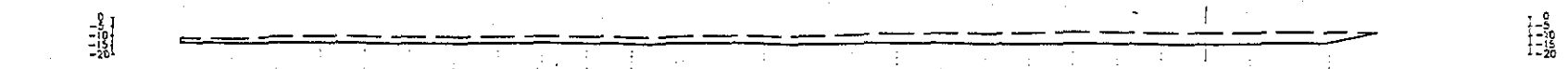
DRAWING NO : DW-DR-03-004

LAND SIDE

Distance : 100 m

Sect T-12

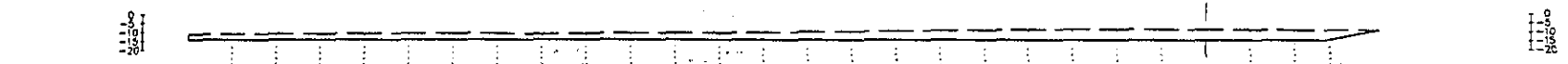
SEA SIDE



Existing Elevation (m)		-11.7	-11.9	-10.9	-10.7	-10.9	-10.6	-10.7	-10.7	-10.6	-10.7	-10.6	-10.4	-10.3	-10.1	-9.8	-9.4	-9.1	-8.9	-8.5	-8.3	-8.1	-8.0	-8.1	5.0	8.2	8.3	8.4	8.6	8.9	
Dredging Elevation (m)		-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-8.0		
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	0.00	25	25	20.5	25	25	25	25
Cum. Distance (m)	-600	-575.38	-550	-525	-500	-475	-450	-425	-400	-375	-350	-325	-300	-275	-250	-225	-200	-175	-150	-125	-100	-75	-50	-25	0.00	25	50	70	100	125	150	175

Distance : 100 m

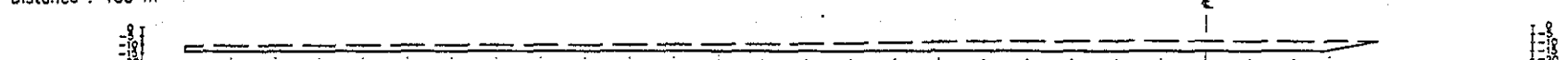
Sect T-13



Existing Elevation (m)		-10.8	-10.7	-10.7	-10.6	-10.5	-10.6	-10.5	-11.0	-10.5	-10.4	-10.3	-10.2	-10.0	-9.8	-9.4	-9.0	-8.8	-8.3	-8.2	-8.0	-8.0	-8.0	-8.1	8.1	8.1	8.3	8.4	8.7	8.7	
Dredging Elevation (m)		-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-8.0		
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	0.00	25	25	20.5	25	25	25	25
Cum. Distance (m)	-600	-573.98	-550	-525	-500	-475	-450	-425	-400	-375	-350	-325	-300	-275	-250	-225	-200	-175	-150	-125	-100	-75	-50	-25	0.00	25	50	70	100	125	150	175

Distance : 100 m

Sect T-14



Existing Elevation (m)		-10.9	-10.8	-10.7	-10.9	-10.5	-10.5	-10.5	-10.5	-10.8	-10.4	-10.7	-10.7	-9.8	-9.8	-9.4	-9.1	-8.7	-8.6	-8.3	-8.1	-8.0	-8.1	8.2	8.3	8.4	8.5	8.7	8.7		
Dredging Elevation (m)		-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-8.0		
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	0.00	25	25	20.5	25	25	25	25
Cum. Distance (m)	-600	-573.94	-550	-525	-500	-475	-450	-425	-400	-375	-350	-325	-300	-275	-250	-225	-200	-175	-150	-125	-100	-75	-50	-25	0.00	25	50	70	100	125	150	175

Legend:

Existing Elevation

Dredging Elevation

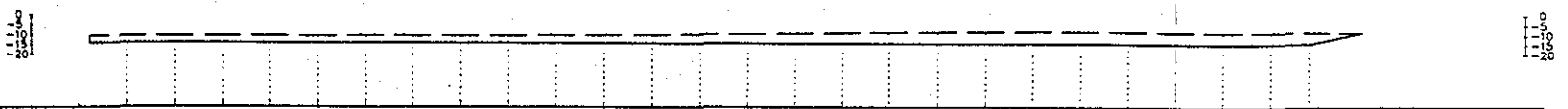
	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR	DESIGNED BY :	SECTION : DREDGING AND RECLAMATION WORK	DATE : JULY/2002
	COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	NIPPON KOEI CO., LTD.	CHECKED BY :	SUB-SECTION : TURNING BASIN	SCALE : H.1:250 V.1:250
			APPROVED BY :	TITLE : CROSS SECTION TURNING BASIN DREDGING (T-12,T-13,T-14)	DRAWING NO. DW-DR-03-005

LAND SIDE

Distance : 100 m

Sect T-15

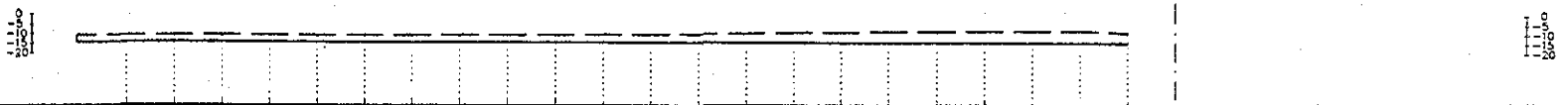
SEA SIDE



Existing Elevation (m)		-10.5	-10.6	-10.6	-10.5	-10.4	-10.5	-10.4	-10.4	-10.3	-10.3	-10.1	-9.9	-9.8	-9.5	-9.3	-9.0	-8.7	-8.3	-8.1	-8.0	-7.8	-7.9	-7.9	-8.1	-8.2	-8.2	-8.3	-8.4	-8.5	
Dredging Elevation (m)		-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0			
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	0.00	25	25	20.5	25	25	25	25
Cum. Distance (m)	-600	-589.27	-550	-525	-500	-475	-450	-425	-400	-375	-350	-325	-300	-275	-250	-225	-200	-175	-150	-125	-100	-75	-50	-25	0.00	25	50	70	100	125	150	175

Distance : 100 m

Sect T-16



Existing Elevation (m)		-10.5	-10.5	-10.6	-10.4	-10.4	-10.5	-10.4	-10.4	-10.3	-10.3	-10.2	-10.0	-9.8	-9.6	-9.3	-8.7	-8.7	-8.3	-8.2	-8.0	-7.8	-7.8	-8.7	-8.9						
Dredging Elevation (m)		-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0	-14.0						
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	0.00	25	25	20.5	25	25	25	25
Cum. Distance (m)	-600	-573.84	-550	-525	-500	-475	-450	-425	-400	-375	-350	-325	-300	-275	-250	-225	-200	-175	-150	-125	-100	-75	-50	-25	0.00	25	50	70	100	125	150	175

Legend:

Existing Elevation

Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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

NIPPON KOEI CO., LTD.

SECTION : DREDGING AND RECLAMATION WORK

SUB-SECTION : TURNING BASIN

TITLE : CROSS SECTION TURNING BASIN DREDGING (T-15,T-16)

DATE : JULY/2002

SCALE : H.1:250 V.1:250

DRAWING NO. DW-DR-03-006

TURNING BASIN ELEVATIONS; SOUNDING MAP; MARCH 6, 2002

		b1	b	c	d	e	f	g	h	i	j
[illegible]		-580	-575	-550	-525	-500	-475	-450	-425	-400	-375
0											
T1											
T2											
T3											
T4											11.6
T5							11	11.2	11.3	11.4	11.4
T6							10.8	10.9	11.1	11.1	11.3
T7				9.8	10.1	10.3	10.6	10.7	10.9	11	11.1
T8		9.8	9.8	10.1	10.3	10.5	10.6	10.9	10.9	11.1	11.5
T9		10	10	10.2	10	10.5	10.5	10.8	10.9	10.9	11
T10		10.8	10.8	10.5	10.6	10.7	10.7	10.8	10.8	10.9	11
T11		10.9	10.9	10.8	10.7	10.6	10.6	10.6	10.7	10.9	10.7
T12		11.7	11.7	11.9	10.8	10.7	10.6	10.6	10.7	10.7	10.6
T13		11.4	11.4	10.9	10.7	10.7	10.6	10.5	10.4	10.5	11
T14		10.9	10.9	10.8	10.7	10.6	10.5	10.5	10.5	10.5	10.5
T15		10.7	10.7	10.6	10.6	10.5	10.4	10.5	10.4	10.4	10.3
T16		10.5	10.5	10.5	10.5	10.4	10.4	10.5	10.4	10.4	10.3
T17		10.4	10.4	10.5	10.5	10.6	10.5	10.5	10.4	10.4	10.2
T18		10.3	10.3	10.5	10.5	10.7	10.5	10.6	10.4	10.4	10.2

Note a: Some values where asumed in relation to the next by sections

[illegible]

k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	aa	ai		
-350	-325	-300	-275	-250	-225	-200	-175	-150	-125	-100	-75	-50	-25	0	25	50	70	Notes	Area (m^2)
									9.6	9.3	9	9	8.8	8.6	8.5	8.4	8.4		888
						10.4	10.4	9.9	9.8	9.4	9.2	9.1	8.8	8.5	8.5	8.5	8.4		1,117
				11	10.8	10.6	10.4	10.1	9.8	9.6	9.3	9.1	8.8	8.5	8.4	8.5	8.4		1,341
11.6	11.5	11.3	11.2	11.1	10.8	10.7	10.3	10.2	9.8	9.5	9.2	9	8.8	8.6	8.6	8.4	8.5		1,496
11.4	11.5	11.3	11.2	11.1	11.1	10.8	10.6	10.3	10	9.7	9.4	9.1	8.8	8.7	8.4	8.4	8.4		1,632
11.4	11.4	11.3	11.2	11.2	10.9	10.6	10.3	9.9	9.6	9.4	9.1	8.8	8.6	8.4	8.4	8.4	8.5		1,855
11.4	11.4	11.4	11.2	11.2	10.8	10.6	10.1	9.9	9.6	9.2	9	8.7	8.5	8.5	8.3	8.4	8.4		2,034
11.2	11.2	11.1	11.1	11.1	10.8	10.4	10.1	9.7	9.4	9	8.8	8.5	8.4	8.3	8.3	8.4	8.5		2,301
11.2	11.2	11.2	11.1	10.9	10.6	10.3	9.9	9.7	9.4	9	8.8	8.5	8.4	8.3	8.3	8.4	8.5		2,421
11.1	11.2	11.1	10.9	10.9	10.5	10.2	9.8	9.5	9.1	8.9	8.5	8.4	8.2	8.2	8.3	8.3	8.4		2,784
11	10.9	10.8	10.7	10.5	10.2	10	9.6	9.4	9	8.8	8.5	8.4	8.1	8.2	8.3	8.3	8.6		2,783
10.7	10.7	10.6	10.8	10.2	10.1	10.6	9.4	9	8.8	8.5	8.2	8.1	8.1	8.2	8.2	8.4	8.5		2,822
10.7	10.6	10.4	10.3	10.1	9.8	9.4	9.1	8.9	8.5	8.3	8.1	8	8.1	8	8.2	8.3	8.4		2,875
10.5	10.4	10.3	10.2	10	9.6	9.4	9	8.8	8.5	8.2	8	8	8	8.1	8.1	8.3	8.4		2,935
10.5	10.4	10.2	10.1	9.9	9.6	9.4	9.1	8.7	8.4	8.3	8.1	8	8.1	8.2	8.3	8.4	8.5		2,783
10.3	10.1	9.9	9.8	9.5	9.3	9	8.7	8.3	8.1	8	7.8	7.9	7.9	8.1	8.2	8.2	8.3		2,381
10.3	10.2	10	9.8	9.6	9.3	8.7	8.7	8.3	8.2	8	7.9	7.8						a	1,988
10.2	10.2	10	9.8	9.6	9.4	9	9	8.5	8.4	8.1	8.1	8						a	1,942
10.1	10.1	10	9.8	9.7	9.6	9.4	9.2	8.8	8.5	8.3	8.3	8.2						a	1,775

section	total sum	area 1	area 2	area 3	area 4	area 5	area 6	area 7	area 8	area 9	area 10	area 11
0	888	78	56	56	70	69	69	68	68	65	65	63
T1	1,117	78	56	55	69	69	69	69	69	65	65	61
T2	1,341	78	56	55	69	70	70	69	69	65	65	61
T3	1,496	76	55	56	70	68	68	68	68	65	65	63
T4	1,632	78	56	56	70	70	70	66	66	65	65	61
T5	1,855	76	55	56	70	70	70	70	70	68	68	65
T6	2,034	78	56	56	70	71	71	69	69	69	69	66
T7	2,301	76	55	56	70	71	71	71	71	70	70	69
T8	2,421	76	55	56	70	71	71	71	71	70	70	69
T9	2,784	78	56	57	71	71	71	73	73	73	73	70
T10	2,783	73	54	57	71	71	71	73	73	74	74	70
T11	2,822	76	55	56	70	73	73	73	73	74	74	74
T12	2,875	78	56	57	71	73	73	75	75	74	74	75
T13	2,935	78	56	57	71	74	74	74	74	75	75	75
T14	2,783			78	42	43	71	73	73	74	74	75
T15	2,381											93
T16	1,988											
T17	1,942											
T18	1,775											

area 12	area 13	area 14	area 15	area 16	area 17	area 18	area 19	area 20	area 21	area 22	area 23	area 24	area 25	area 26	area 27	area 28	area 29	area 30	area 31	area 32
50	50	63																		
61	60	60	58	58	53	44														
61	59	59	55	55	53	53	49	49	45	23	23	32								
63	60	60	56	56	53	53	48	48	46	46	41	41	40	24	22	21				
61	58	58	54	54	50	50	46	46	43	43	40	40	36	36	36	36	35	35	34	18
65	61	61	58	58	55	55	51	51	46	46	43	43	39	39	35	35	35	35	34	34
66	63	63	60	60	55	55	51	51	49	49	43	43	40	40	35	35	35	35	33	33
69	65	65	63	63	58	58	54	54	49	49	45	45	40	40	36	36	36	36	36	36
69	65	65	63	63	58	58	54	54	51	51	46	46	43	43	39	39	36	36	35	35
70	69	69	64	64	61	61	56	56	53	53	48	48	44	44	39	39	39	39	36	36
70	69	69	65	65	63	63	58	58	55	55	50	50	48	49	44	44	41	41	40	40
74	73	73	69	69	65	65	63	63	58	58	43	43	49	49	48	48	40	40	43	43
75	74	74	71	71	69	69	64	64	61	61	58	58	53	53	49	49	46	46	45	45
75	75	75	73	73	69	69	65	65	63	63	59	58	55	55	50	50	48	48	46	46
75	74	74	71	71	70	70	66	66	61	61	58	58	55	55	51	51	49	49	48	48
76	78	78	75	75	74	74	71	71	66	66	63	63	59	59	56	56	53	53	51	51
			90	38	36	73	71	71	66	66	66	66	59	59	55	55	53	53	50	50
			87	30	28	70	69	69	63	63	63	63	58	58	55	55	53	53	50	50
					76	34	33	65	60	60	58	58	55	55	54	54	53	53	50	50

area 33	area 34	area 35	area 36	area 37	area 38	area 39	area 40	area 41	area 42	area 43	area 44	area 45	area 46	area 47
33	33	33	13	13	17									
33	33	33	33	34	34	36	22	22	21					
35	35	35	35	36	36	38	38	39	39	41	41	43	29	
35	35	35	35	31	31	36	36	39	39	39	39	43	43	44
35	35	36	36	38	38	39	39	39	39	40	40	43	43	44
39	39	38	38	38	38	39	39	40	40	40	40	41	41	41
41	41	41	41	41	41	39	39	41	41	43	43	43	43	43
43	43	41	41	43	43	41	41	41	41	43	43	43	43	41
45	45	44	44	38	38	44	44	45	45	44	44	43	43	41
45	45	44	44	44	44	44	44	44	44	44	44	44	44	43
49	49	46	46	46	46	45	45	45	45	44	44	45	45	44
48	48	46	46	46	46	45	45	45	45	44	44	45	45	45
48	48	48	48	48	48	45	45	45	45	44	44	44	44	43
49	49	49	49	48	48	45	45	45	45	43	43	44	44	41

area 48	area 49	area 50	area 51	area 52	area 53	area 54	area 55
18	18	31					
44	50	50	48	48	50	32	32
41	43	43	44	44	40	24	24
43	41	41	40	40	39	11	11
41	40	40	26	26	29	6	6
41	41	41	39	39	33		
43	41	41	40	40	39		
44	43	43	43	34	33		
45	44	44	44	26	26		
43	44	44	44	26	27		
41	44	44	44	26	28		

(for area 54 & 55)

length from center line	591	-580	11
length from center line	590	-580	10
length from center line	582	-580	2
length from center line	580	-580	0
length from center line	576	-580	-4
length from center line	575		
length from center line	570		
length from center line	565		

NIPPON KOEI CO.,LTD.

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	**Project Code**	JC1N004/2N001
Work Section Title	Passenger Turning Basin Dredging	**Pay Item No. (BOQ)**	2A – 07
Quantity Item	offshore dumping volume	**Unit**	m^3

Calculation Procedure Applied

Passenger Turning Basin Dredging was needed to ajust with excavation of West Revetment.

According to construction plan, this dredging volume was reduced by excavation volume of West Revetment (above −9.5m sea side).

References, Calculation Base and Revisions

See next calculation by Excel

Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	JAM	3 May 2002						
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Passenger Turning Basin Dredging	Calc. Index No.	
Subject	Offshore dumping volume	Page No.	Rev.

References/ Notes

Passenger Turning Basin 136,000 m³

West Revetment - 66,000 m³

70,000 m³

	Prepared by	Checked by
	/ /200	/ /200

FN: Calculation_Sheet

NIPPON KOEI CO.,LTD.

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	**Project Code**	
Work Section Title	Dredging Work	**Pay Item No. (BOQ)**	
Quantity Item	Dredging Passenger Turning Basin	**Unit**	cubic meter

Calculation Procedure Applied

1. Calculation of areas of Sections (Excel).

2. Average of areas of Sections (Excel).

3. Calculation of Volume: average of area of sections times distance between sections (Excel)

References, Calculation Base and Revisions

1. Area and volume have been calculated starting from section PB-1 to PB-8, in accordance with the Turning Basin and Passenger Berth Plan N° DW-RD-00-04

2. Design Information

   Slope: 1:5 (vertical: horizontal)

   Depth: -9.5 meters

3. The volume of the transition from Turning Basin (-14.00) to Passenger Turning Basin (-9.5) is included in the Turning Basin Volume.

Rev	Prepared		No. of	Checked		Reviewed		Superseded
	by	Date	Pages	by	Date	by	Date	by Calc No.
0	jam	03/may/2002	15					
1								
2								
3								

File in Calc. File

FN : Calculation_Cover_Sheet

VOLUME DREDGING PASSENGER TURNING BASIN
as of April 12/2002 DREDGING ELEVATION: -9.5 METERS

SECTION N°	AREA	AVERAGE AREA OF 2 SECTIONS	DISTANCE BETWEEN SECTIONS	VOLUME
PB-1	0.00			
		36.94	50.00	1,847
PB-2	73.89			
		190.99	50.00	9,550
PB-3	308.10			
		277.36	50.00	13,868
PB-4	246.63			
		324.64	50.00	16,232
PB-5	402.65			
		508.08	50.00	25,404
PB-6	613.51			
		722.52	50.00	36,126
PB-7	831.53			
		641.83	50.00	32,092
PB-8	452.13			

TOTAL VOLUME DREDGING PASSENGER TURNING BASIN: **135,119** m^3

GRAN TOTAL: **135,119** m^3

* AREA AND VOLUME CALCULATIONS PASSENGER TURNING BASIN

Natural ground elevation: a	Final Elevation: b	Difference of elevation: c= b-a	Width: d	area: e= c*d

Section N°
PB-1

distance	a	b	c	d	e
0					
-25					
-50					
-75					
-100					
-125					
-150					
-175					
-200					
-225					
-250					
-275					
-300					
-325					
-350					
-375					
-400					
-425					
-450					
-475					
-500					
-525					
-550					
-575					
-600					
-625					
-650					
-675					
-700					
-725					
-750					
-775					
-800					
-825					
-850					
-875					
-900					
-925					

AREA OF SECTION: **0.00 m^2**

Natural ground elevation: a	Final Elevation: b	Difference of elevation: c= b-a	Width: d	area: e= c*d

Section N°
PB-2

distance	a	b	c	d	e	
0						
-25						
-50						
-75						
-100						
-125						
-150						
-175						
-200						
-225						
-250						
-275						
-300						
-325						
-350						
-375						
-400						
-425						
-450						
-475						
-500						
-525						
-550						
-575						
-600						
-625						
-650	-9.32	-9.50	0.18	25.00	4.50	
-675	-8.66	-9.50	0.84	25.00	21.00	
-700	-7.84	-9.50	1.66	25.00	41.50	
-725	-7.84	-9.50	1.66	8.30	6.89	* special section (area of slope)
-750						
-775						
-800						
-825						
-850						
-875						
-900						
-925						

AREA OF SECTION: **73.89** m^2

Natural ground elevation: a	Final Elevation: b	Difference of elevation: c= b-a	Width: d	area: e= c*d

Section N°
PB-3

distance	a	b	c	d	e	
0						
-25						
-50						
-75						
-100						
-125						
-150						
-175						
-200						
-225						
-250						
-275						
-300						
-325						
-350						
-375						
-400						
-425						
-450						
-475						
-500						
-525						
-550						
-575						
-600						
-625						
-650	-9.28	-9.50	0.22	25.00	5.50	
-675	-8.58	-9.50	0.92	25.00	23.00	
-700	-7.69	-9.50	1.81	25.00	45.25	
-725	-6.67	-9.50	2.83	25.00	70.75	
-750	-4.99	-9.50	4.51	25.00	112.75	
-775	-4.99	-9.50	4.51	22.55	50.85	* special section (area of slope)
-800						
-825						
-850						
-875						
-900						
-925						

AREA OF SECTION: **308.10 m^2**

Natural ground elevation: a	Final Elevation: b	Difference of elevation: c= b-a	Width: d	area: e= c*d

Section N°
PB-4

distance	a	b	c	d	e	
0						
-25						
-50						
-75						
-100						
-125						
-150						
-175						
-200						
-225						
-250						
-275						
-300						
-325						
-350						
-375						
-400						
-425						
-450						
-475						
-500						
-525						
-550						
-575						
-600						
-625						
-650	-9.28	-9.50	0.22	25.00	5.50	
-675	-8.57	-9.50	0.93	25.00	23.25	
-700	-7.82	-9.50	1.68	25.00	42.00	
-725	-7.19	-9.50	2.31	25.00	57.75	
-750	-6.00	-9.50	3.50	25.00	87.50	
-775	-6.00	-9.50	3.50	17.50	30.63	* special section (area of slope)
-800						
-825						
-850						
-875						
-900						
-925						

AREA OF SECTION: 246.63 m^2

Natural ground elevation: a	Final Elevation: b	Difference of elevation: c= b-a	Width: d	area: e= c*d

Section N°
PB-5

distance	a	b	c	d	e	
0						
-25						
-50						
-75						
-100						
-125						
-150						
-175						
-200						
-225						
-250						
-275	-9.14	-9.50	0.36	25.00	9.00	
-300	-9.35	-9.50	0.15	25.00	3.75	
-325						
-350						
-375						
-400						
-425						
-450						
-475						
-500						
-525						
-550						
-575						
-600						
-625						
-650	-9.21	-9.50	0.29	25.00	7.25	
-675	-8.58	-9.50	0.92	25.00	23.00	
-700	-7.82	-9.50	1.68	25.00	42.00	
-725	-7.19	-9.50	2.31	25.00	57.75	
-750	-5.82	-9.50	3.68	25.00	92.00	
-775	-4.90	-9.50	4.60	25.00	115.00	
-800	-4.90	-9.50	4.60	23.00	52.90	* special section (area of slope)
-825						
-850						
-875						
-900						
-925						

AREA OF SECTION: **402.65 m^2**

Natural ground elevation: a	Final Elevation: b	Difference of elevation: c= b-a	Width: d	area: e= c*d

Section N°
PB-6

distance	a	b	c	d	e	
0						
-25						
-50						
-75						
-100						
-125						
-150						
-175						
-200	-8.53	-9.50	0.97	4.85	2.35	* special section
-225	-8.53	-9.50	0.97	25.00	24.25	(area of slope)
-250	-8.68	-9.50	0.82	25.00	20.50	
-275	-8.93	-9.50	0.57	25.00	14.25	
-300	-9.16	-9.50	0.34	25.00	8.50	
-325	-9.36	-9.50	0.14	25.00	3.50	
-350	-9.49	-9.50	0.01	25.00	0.25	
-375						
-400						
-425						
-450						
-475						
-500						
-525						
-550						
-575						
-600						
-625						
-650	-9.11	-9.50	0.39	25.00	9.75	
-675	-8.49	-9.50	1.01	25.00	25.25	
-700	-7.79	-9.50	1.71	25.00	42.75	
-725	-7.16	-9.50	2.34	25.00	58.50	
-750	-6.05	-9.50	3.45	25.00	86.25	
-775	-4.81	-9.50	4.69	25.00	117.25	
-800	-4.25	-9.50	5.25	25.00	131.25	
-825	-4.25	-9.50	5.25	26.25	68.91	* special section
-850						(area of slope)
-875						
-900						
-925						

AREA OF SECTION: **613.51** m^2

Natural ground elevation: a	Final Elevation: b	Difference of elevation: c= b-a	Width: d	area: e= c*d

Section N°
PB-7

distance	a	b	c	d	e	
0						
-25						
-50						
-75						
-100						
-125						
-150	-8.01	-9.50	1.49	7.45	5.55	* special section
-175	-8.01	-9.50	1.49	25.00	37.25	(area of slope)
-200	-8.04	-9.50	1.46	25.00	36.50	
-225	-8.20	-9.50	1.30	25.00	32.50	
-250	-8.44	-9.50	1.06	25.00	26.50	
-275	-8.71	-9.50	0.79	25.00	19.75	
-300	-9.01	-9.50	0.49	25.00	12.25	
-325	-9.12	-9.50	0.38	25.00	9.50	
-350	-9.26	-9.50	0.24	25.00	6.00	
-375	-9.41	-9.50	0.09	25.00	2.25	
-400						
-425						
-450						
-475						
-500						
-525						
-550						
-575						
-600						
-625						
-650	-9.13	-9.50	0.37	25.00	9.25	
-675	-8.53	-9.50	0.97	25.00	24.25	
-700	-7.86	-9.50	1.64	25.00	41.00	
-725	-7.33	-9.50	2.17	25.00	54.25	
-750	-6.62	-9.50	2.88	25.00	72.00	
-775	-5.64	-9.50	3.86	25.00	96.50	
-800	-4.75	-9.50	4.75	25.00	118.75	
-825	-3.73	-9.50	5.77	25.00	144.25	
-850	-3.73	-9.50	5.77	28.85	83.23	* special section
-875						(area of slope)
-900						
-925						

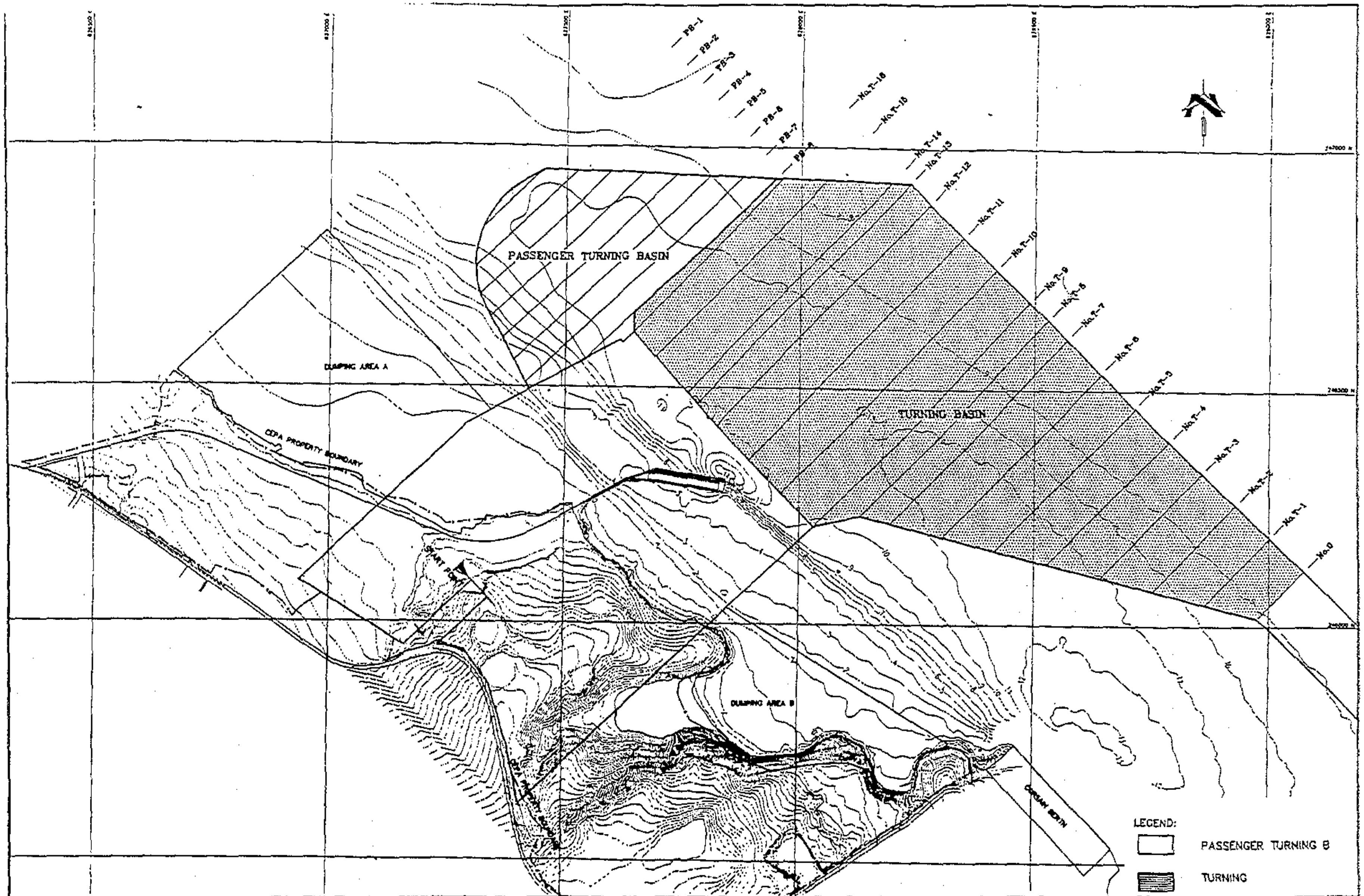
AREA OF SECTION: **831.53** m^2

Natural ground elevation: a	Final Elevation: b	Difference of elevation: c= b-a	Width: d	area: e= c*d

Section N°
PB-8

distance	a	b	c	d	e	
0						
-25						
-50						
-75						
-100	-7.98	-9.50	1.52	7.60	5.78	* special section
-125	-7.98	-9.50	1.52	25.00	38.00	(area of slope)
-150	-7.98	-9.50	1.52	25.00	38.00	
-175	-7.98	-9.50	1.52	25.00	38.00	
-200	-7.98	-9.50	1.52	25.00	38.00	
-225	-7.98	-9.50	1.52	25.00	38.00	
-250	-7.98	-9.50	1.52	25.00	38.00	
-275	-8.24	-9.50	1.26	25.00	31.50	
-300	-8.50	-9.50	1.00	25.00	25.00	
-325	-8.75	-9.50	0.75	25.00	18.75	
-350	-8.97	-9.50	0.53	25.00	13.25	
-375	-9.14	-9.50	0.36	25.00	9.00	
-400	-9.33	-9.50	0.17	25.00	4.25	
-425						
-450						
-475						
-500						
-525						
-550						
-575						
-600						
-625						
-650	-8.70	-9.50	0.80	25.00	20.00	
-675	-8.96	-9.50	0.54	25.00	13.50	
-700	-8.35	-9.50	1.15	25.00	28.75	
-725	-7.55	-9.50	1.95	25.00	48.75	
-750	-8.35	-9.50	1.15	9.75	5.61	* special section
-775						(area of slope)
-800						
-825						
-850						
-875						
-900						
-925						

AREA OF SECTION: **452.13 m^2**



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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

NIPPON KOEI CO., LTD.

DREGING AND RECLAMATION WORK

GENERAL

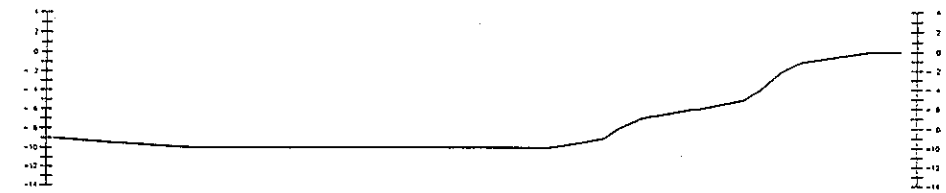
TURNING BASIN AND PASSENGER BERTH PLAN

JULY/2002

1 : 7,500

DW-RD-00-04

CROSS SECTION PB1

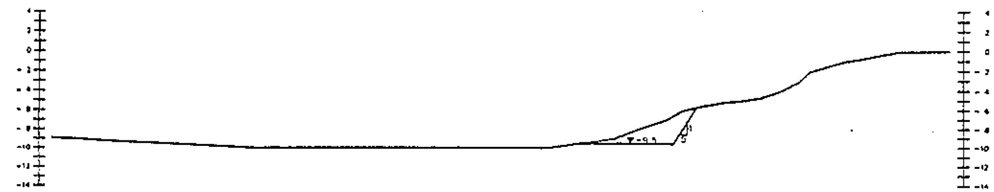


Existing Elevation (m)	-9.08	-9.33	-9.54	-9.74	-9.92	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
Dredging Elevation (m)															
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Cum. Distance (m)	225	250	275	300	325	350	375	400	425	450	475	500	525	550	575

Existing Elevation (m)	-10.00	-10.00	-9.81	-9.05	-7.40	-6.56	-6.00	-5.47	-4.53	-2.08	-0.98	-0.47	0.00	0.00
Dredging Elevation (m)														
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Cum. Distance (m)	600	625	650	675	700	725	750	775	800	825	850	875	900	925

DISTANCE: 50 MTS.

CROSS SECTION PB2

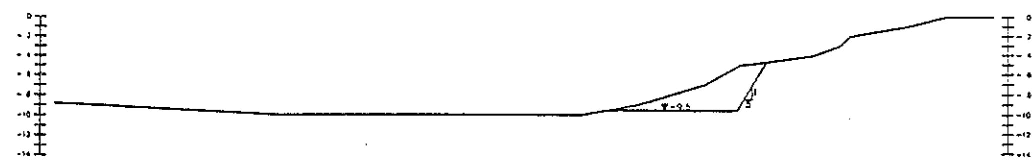


Existing Elevation (m)	-8.82	-9.07	-9.29	-9.43	-9.58	-9.75	-9.91	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
Dredging Elevation (m)															
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Cum. Distance (m)	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550

Existing Elevation (m)	-10.00	-10.00	-10.00	-9.77	-9.32	-8.88	-7.64	-6.05	-5.37	-4.98	-4.18	-2.87	-1.39	-0.75	-0.20	0.00	0.00
Dredging Elevation (m)					-9.50	-9.50	-9.50	-5.87									
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Cum. Distance (m)	575	600	625	650	675	700	725	750	775	800	825	850	875	900	925	950	

DISTANCE: 50 MTS.

CROSS SECTION PB3



Existing Elevation (m)	-8.81	-8.83	-9.07	-9.21	-9.40	-9.57	-9.73	-9.86	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
Dredging Elevation (m)																
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Cum. Distance (m)	175	200	225	250	275	300	325	350	375	400	425	450	475	500	525	550

Existing Elevation (m)	-10.00	-10.00	-9.81	-9.78	-9.38	-7.69	-6.67	-4.99	-4.81	-4.20	-2.38	-1.83	-1.79	-0.67	0.00	0.00
Dredging Elevation (m)				-9.50	-9.50	-9.50	-9.50	-9.50	-4.65							
Distance (m)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Cum. Distance (m)	575	600	625	650	675	700	725	750	775	800	825	850	875	900	925	950

Legend:
Existing Elevation
Dredging Elevation

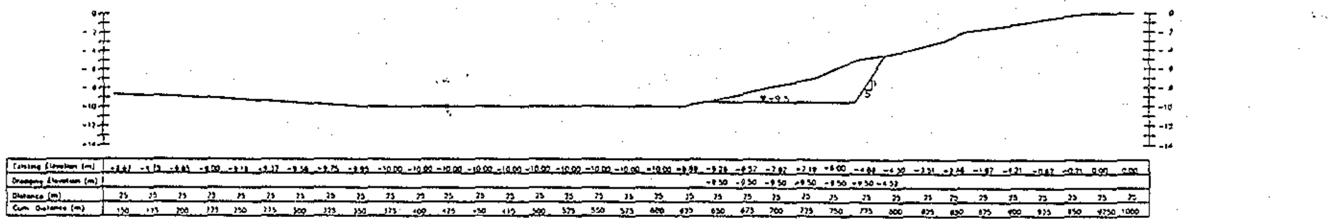
REV. NO. / DATE / DESCRIPTION / BY / APPROVED / DATE	JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR NIPPON KOEI CO., LTD.
DESIGNED BY : CHECKED BY : APPROVED BY :	SECTION : DREDGING AND RECLAMATION WORK SUB-SECTION : PASSENGER BERTH TITLE : CROSS SECTION (PB1,PB2,PB3)	DATE : JULY/2002 SCALE : H= 1:4000 V= 1:500 DRAWING NO. DW-DR-05-001

DISTANCE: 50 MTS.

CROSS SECTION PB4

SEA SIDE

LAND SIDE

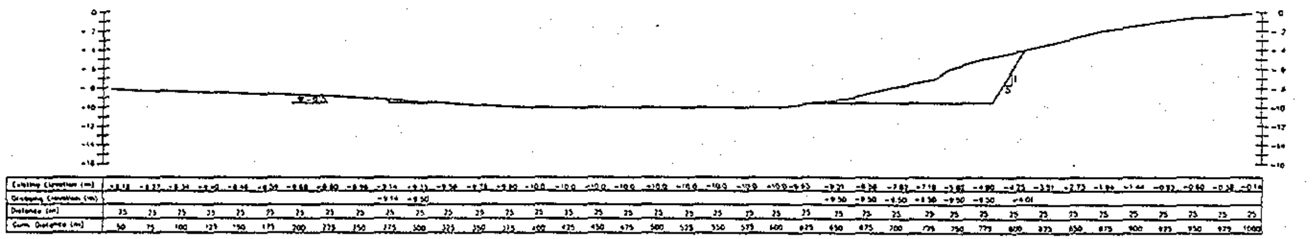


DISTANCE: 50 MTS.

CROSS SECTION PB5

SIDE SIDE

LAND SIDE

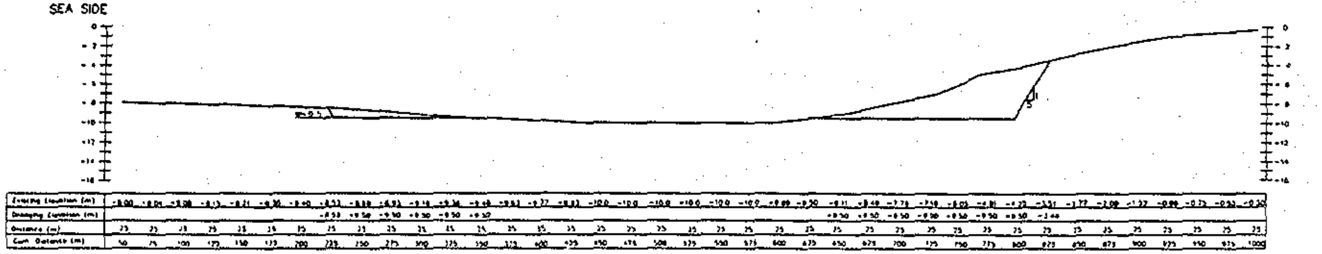


CROSS SECTION PB6

DISTANCE: 50 MTS.

SEA SIDE

LAND SIDE



Legend:

Existing Elevation

Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)

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 : DREDGING AND RECLAMATION WORK

SUB-SECTION : PASSENGER BERTH

TITLE : CROSS SECTION (PB4,PB5,PB6)

DATE: JULY/2002

SCALE: H= 1:4000 V= 1:500

DRAWING NO. DW-DR-05-002

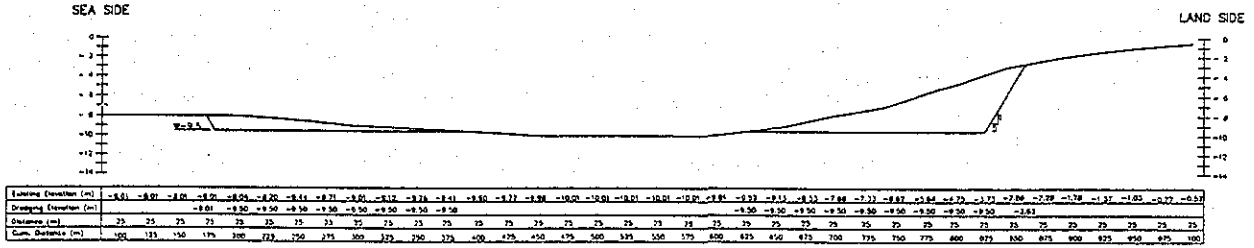
REV. NO. | DATE | DESCRIPTION | BY | APPROVED | DATE

DISTANCE: 50 MTS.

CROSS SECTION PB7

SEA SIDE

LAND SIDE

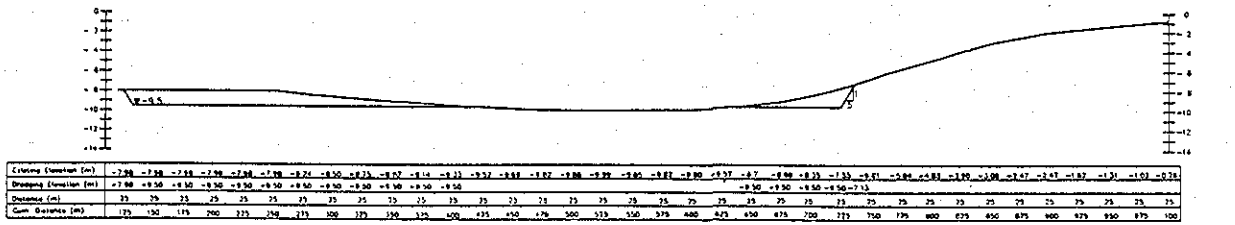


DISTANCE: 50 MTS.

CROSS SECTION PB8

SEA SIDE

LAND SIDE



Legend:

Existing Elevation

Dredging Elevation

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR	DESIGNED BY :	SECTION : DREDGING AND RECLAMATION WORK
COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	NIPPON KOEI CO., LTD.	CHECKED BY :	SUB-SECTION : PASSENGER BERTH
		APPROVED BY :	TITLE : CROSS SECTION (PB7,PB8)
			DATE : JULY/2002
			SCALE : H= 1:4000 V= 1:500
			DRAWING NO. DW-DR-05-005

PASSENGER TURNING BASIN ELEVATIONS MARCH 23/2002: FINAL DREDGING ELEVATION -9.5 METERS

Land Side **Sea Side**

SECTION N°	-875	-850	-825	-800	-775	-750	-725	-700	-675	-650	-625	-600	-575	-550	-525	-500	-475	-450	-425	-400	-375	-350	-325	-300	-275	-250	-225	-200	-175	-150	-125	-100	-75	-50	-25	0
PB-1																																				
PB-2								7.84	8.66	9.32																										
PB-3						4.99	6.67	7.69	8.58	9.26																										
PB-4						6.00	7.19	7.82	8.57	9.28																										
PB-5					4.90	5.82	7.19	7.82	8.58	9.21													9.56	9.35	9.14										
PB-6				4.25	4.81	6.05	7.16	7.79	8.49	9.11	9.50											9.49	9.36	9.16	8.93	8.68	8.53								
PB-7			3.73	4.75	6.64	6.62	7.33	7.86	8.53	9.13	9.52										9.41	9.26	9.12	9.01	8.71	8.44	8.20	8.04	8.01						
PB-8								8.35	8.96	8.70	9.57									9.33	9.14	8.97	8.75	8.50	8.24	7.98	7.98	7.98	7.98	7.98	7.98					