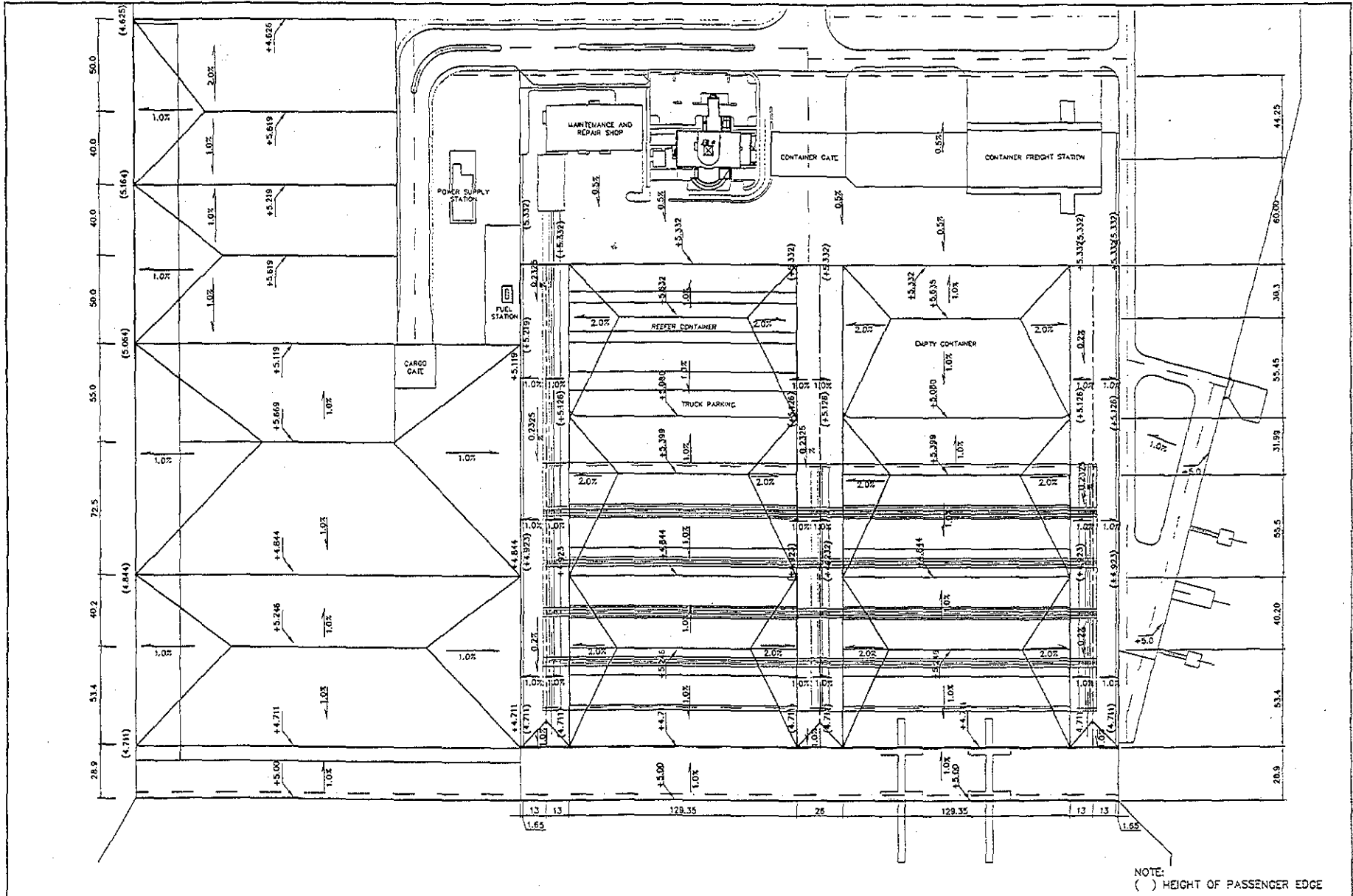
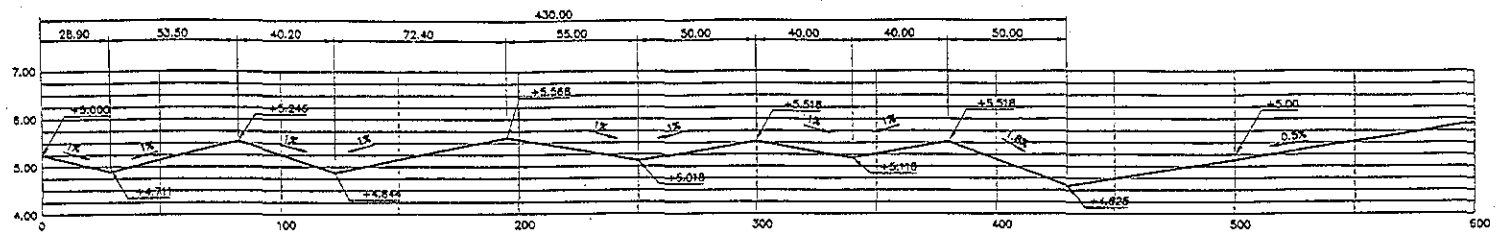


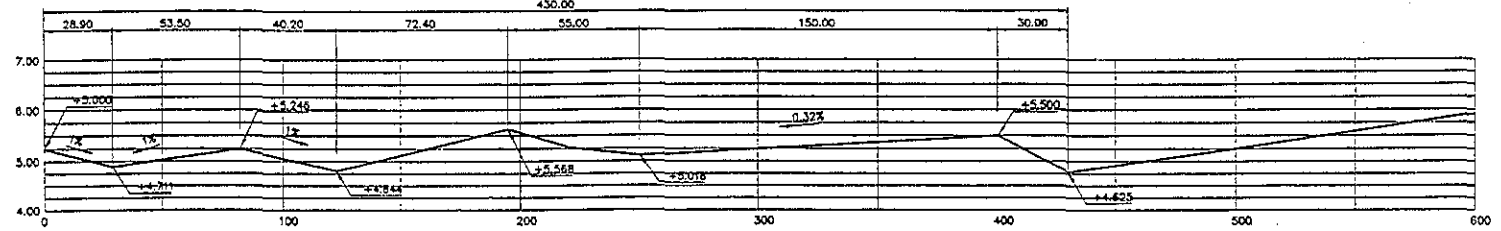
QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Land Reclamation			Pay Item No. (BOQ)				
Quantity Item	Reclamation Area			Unit	m ³			
<p><u>Calculation Procedure Applied</u> (above +4.5m).</p> <p>Reclamation volume above +4.5m in Reclamation Area was computed by the following method.</p> <ol style="list-style-type: none"> 1. calculation of Areas of Sections 2. Average of Areas of Sections 3. calculation of Volume: Average of Areas of Sections times distance between Sections (Excel) 								
<p><u>References, Calculation Base and Revisions</u></p> <p>DW - PV - 00 - 002</p> <p>DW - PV - 00 - 003</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.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								



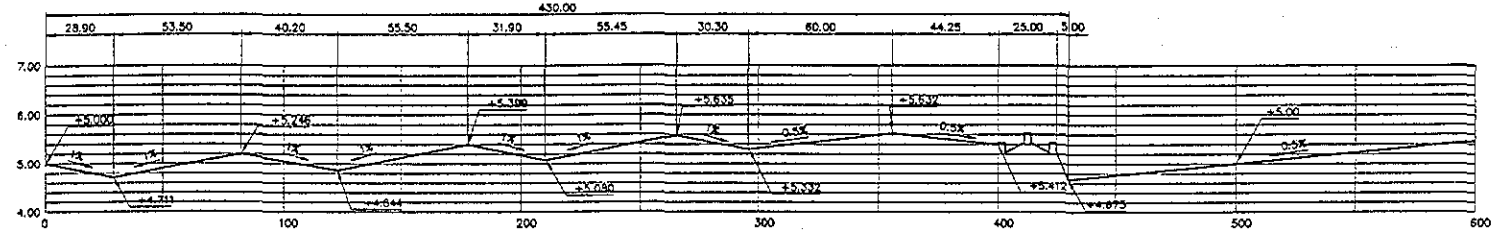
 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	 COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	 NIPPON KOEI CO., LTD.	DESIGNED BY : DRAWN BY : APPROVED BY :	SECTION : ROAD AND PAVEMENT SUB-SECTION : GENERAL TITLE : LEVEL AND SLOPE SURFACE	DATE : JULY/2002 SCALE : 1 : 2000 DRAWING NO : DW-PV-00-002
			DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR		



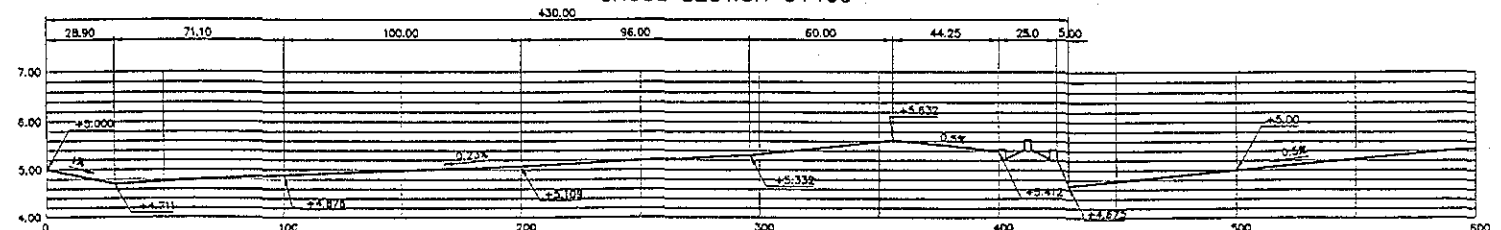
CROSS SECTION 0+475



CROSS SECTION 0+400



CROSS SECTION 0+100



CROSS SECTION 0+000

 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)	 COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)	 NIPPON KOEI CO., LTD.	DESIGNED BY:	SECTION: ROAD AND PAVEMENT	DATE: JULY/2002
			CHECKED BY:	SUB-SECTION: GENERAL	SCALE: H. 1 : 2,000 V. 1 : 100
			APPROVED BY:	TITLE: CROSS SECTION OF YARD	DRAWING NO: DW-PV-00-003

Container Yard (340m) above +4.5m

	Level (m)	Average (m)	Surface depth (m)	Distance (m)	Area (m ²)
No.1	5.100				
		5.368	0.60	53.50	14.31
No.2	5.635				
		5.484	0.60	30.30	11.62
No.3	5.332				
		5.482	0.60	60.00	22.92
No.4	5.632				
		5.522	0.60	44.25	18.67
No.5	5.412				
					67.52

V= 22,957 m³

Multi-purpose Yard (70m)

	Level (m)	Average (m)	Surface depth (m)	Distance (m)	Area (m ²)
No.1	5.100				
		5.3345	0.45	61.90	23.80
No.2	5.569				
		5.294	0.45	55.00	18.92
No.3	5.019				
		5.2595	0.45	150.00	46.43
No.4	5.500				
					89.15

V= 6,241 m³

Multi-purpose Yard (150m)

	Level (m)	Average (m)	Surface depth (m)	Distance (m)	Area (m ²)
No.1	5.100				
		5.3345	0.45	61.90	23.80
No.2	5.569				
		5.294	0.45	55.00	18.92
No.3	5.019				
		5.269	0.00	50.00	38.45
No.4	5.519				
		5.319	0.00	40.00	32.76
No.5	5.119				
		5.319	0.00	40.00	32.76
No.6	5.519				
		5.072	0.00	50.00	28.60
No.7	4.625				
					175.29

V= 26,294 m³

Total 56,000 m³

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	Land Reclamation	Pay Item No. (BOQ)	
Quantity Item	Embankment of road	Unit	m ³

Calculation Procedure Applied

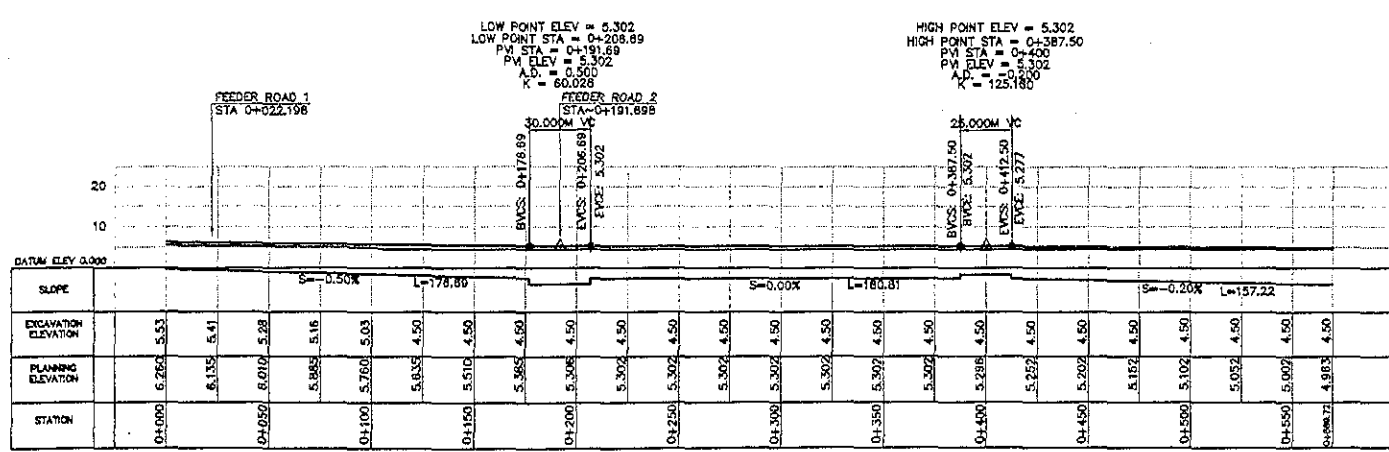
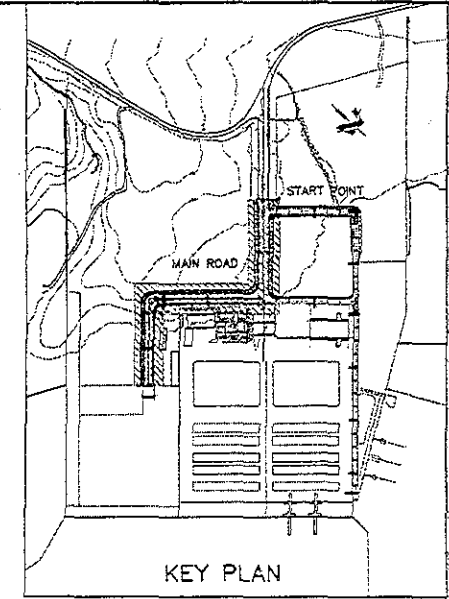
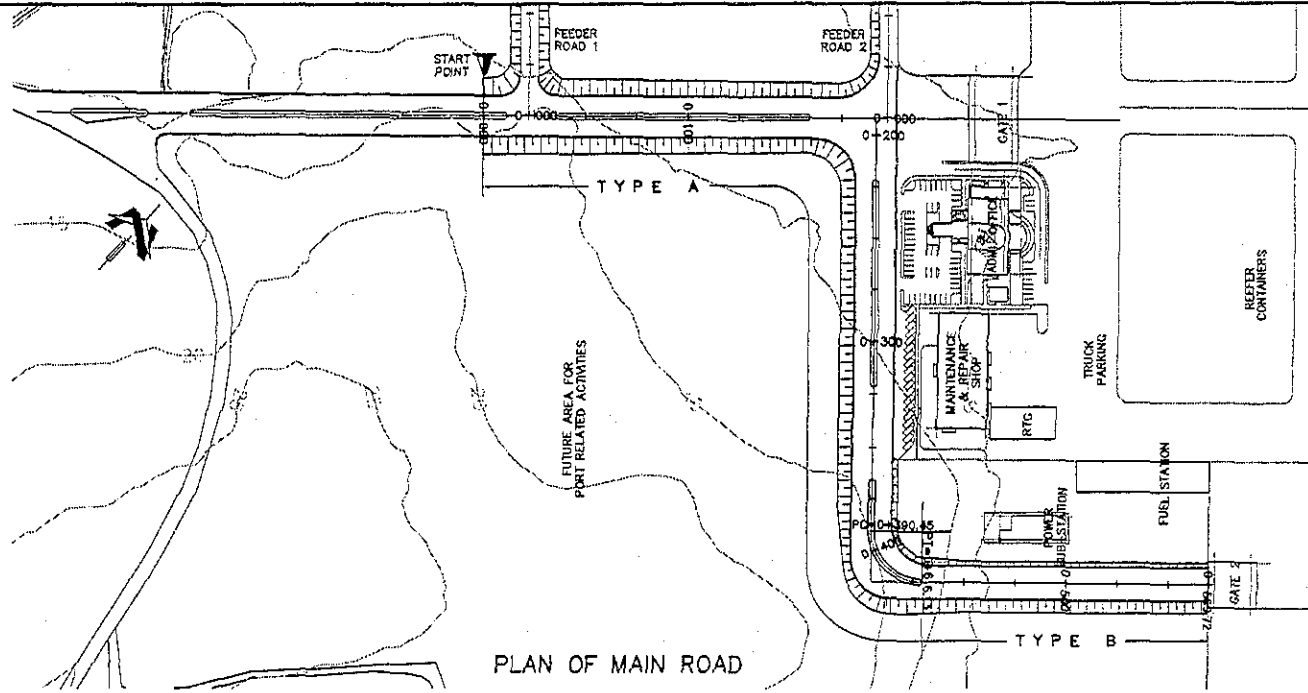
Volume of embankment of road was computed by Excel.

1. Calculation of area of section
2. Average of area of sections
3. Calculation of volume : Average of area of sections
times distance between sections.

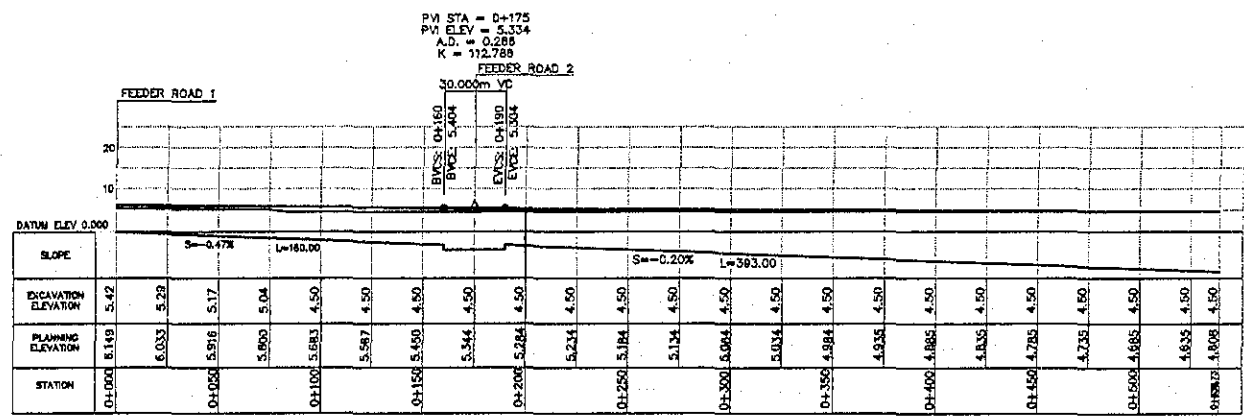
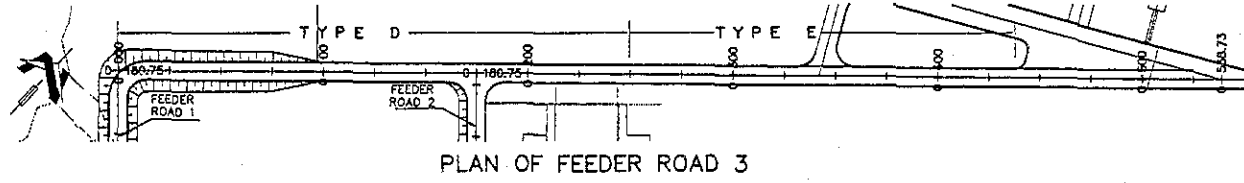
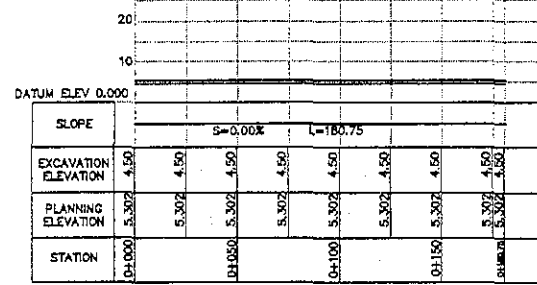
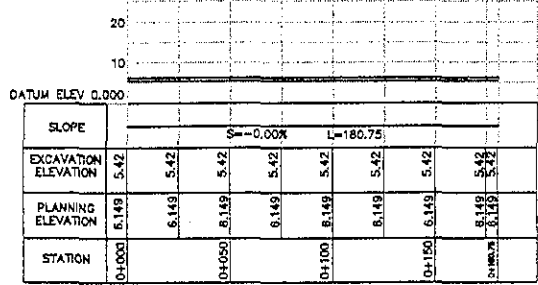
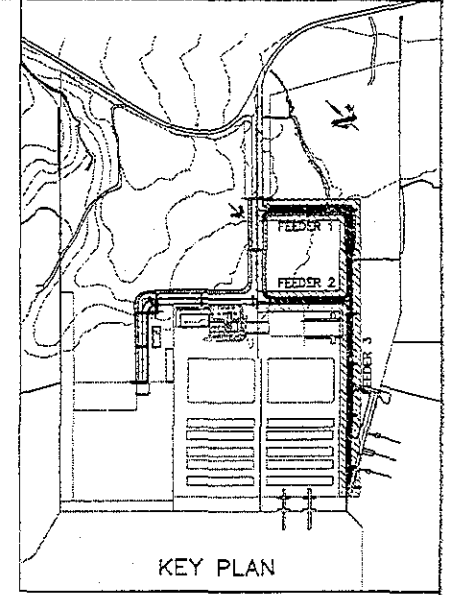
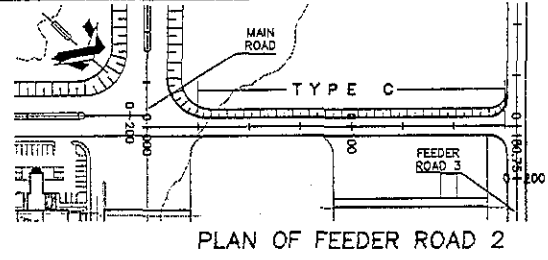
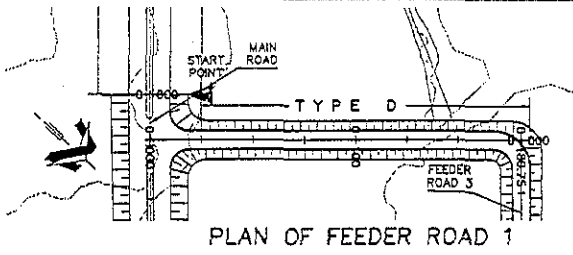
References, Calculation Base and Revisions

See attached drawings.

Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla Garcia			Mr. Jauma		Mr. Ando		
1								
2								
3								

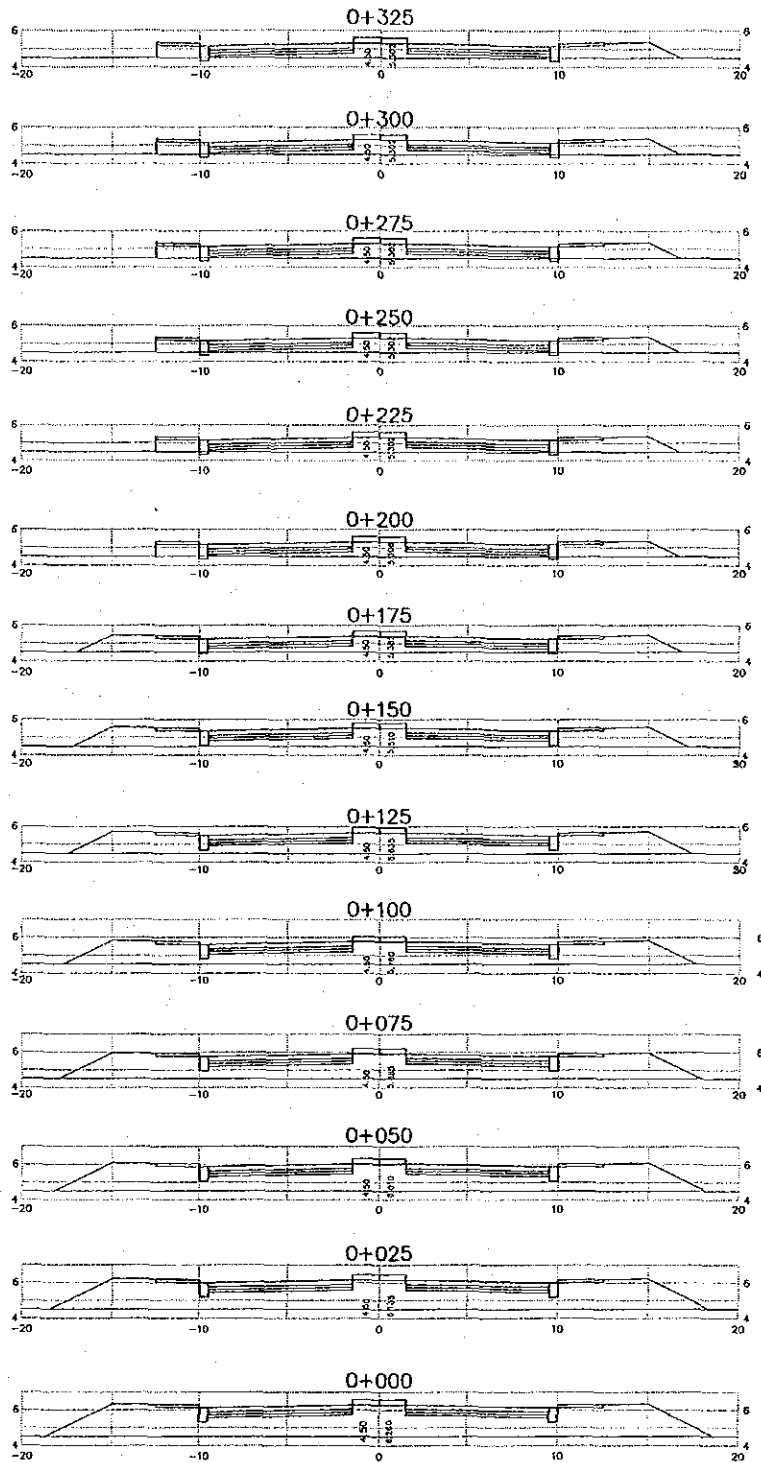


LEGEND:
 EMBANKMENT



LEGEND:
[Symbol] EMBANKMENT

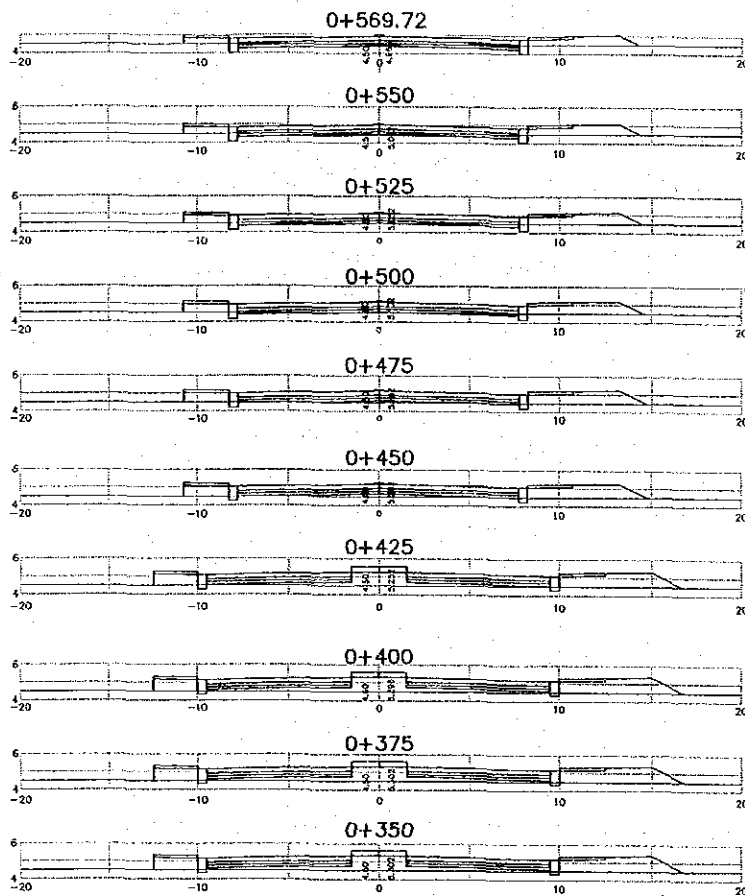
MAIN ROAD



SCALE 1:400

Japan International Cooperation Agency (JICA)	Figure	Title
Detailed Design on Port Reactivation Project in La Union Province of the Republic of El Salvador		CROSS SECTIONS MAIN ROAD

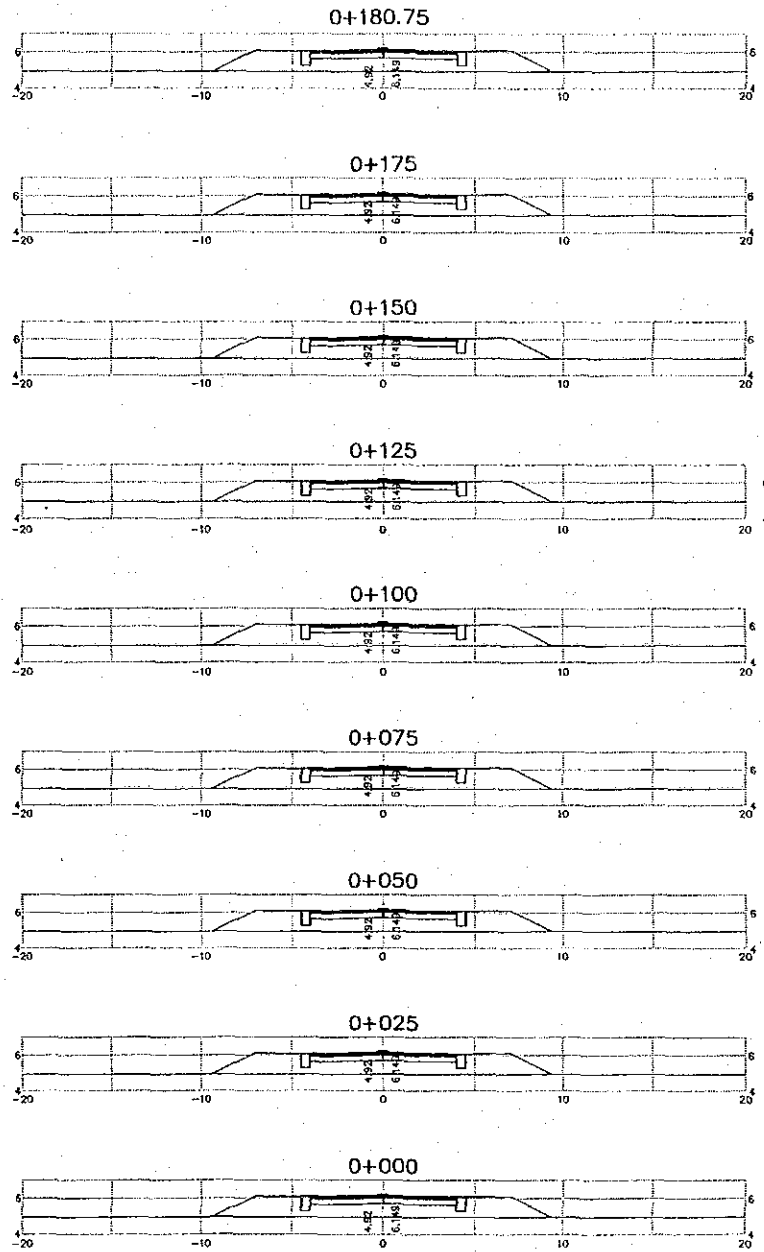
MAIN ROAD



SCALE 1:400

Japan International Cooperation Agency (JICA)	Figure	Title
Detailed Design on Port Reactivation Project in La Union Province of the Republic of El Salvador		CROSS SECTIONS MAIN ROAD

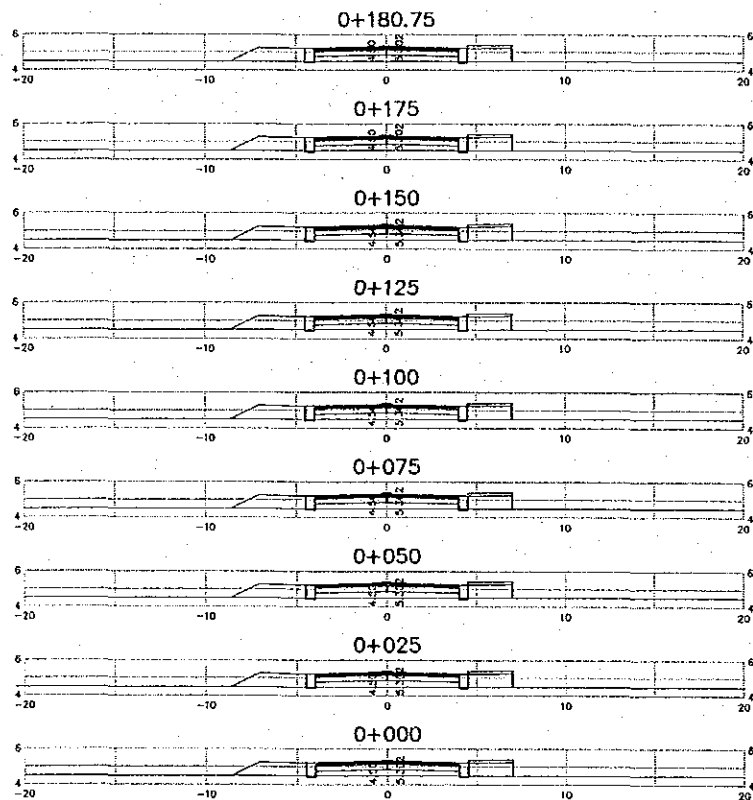
FEEDER 1



SCALE 1:400

Japan International Cooperation Agency (JICA)	Figure	Title
Detailed Design on Port Reactivation Project in La Union Province of the Republic of El Salvador		CROSS SECTIONS OF FEEDER 1

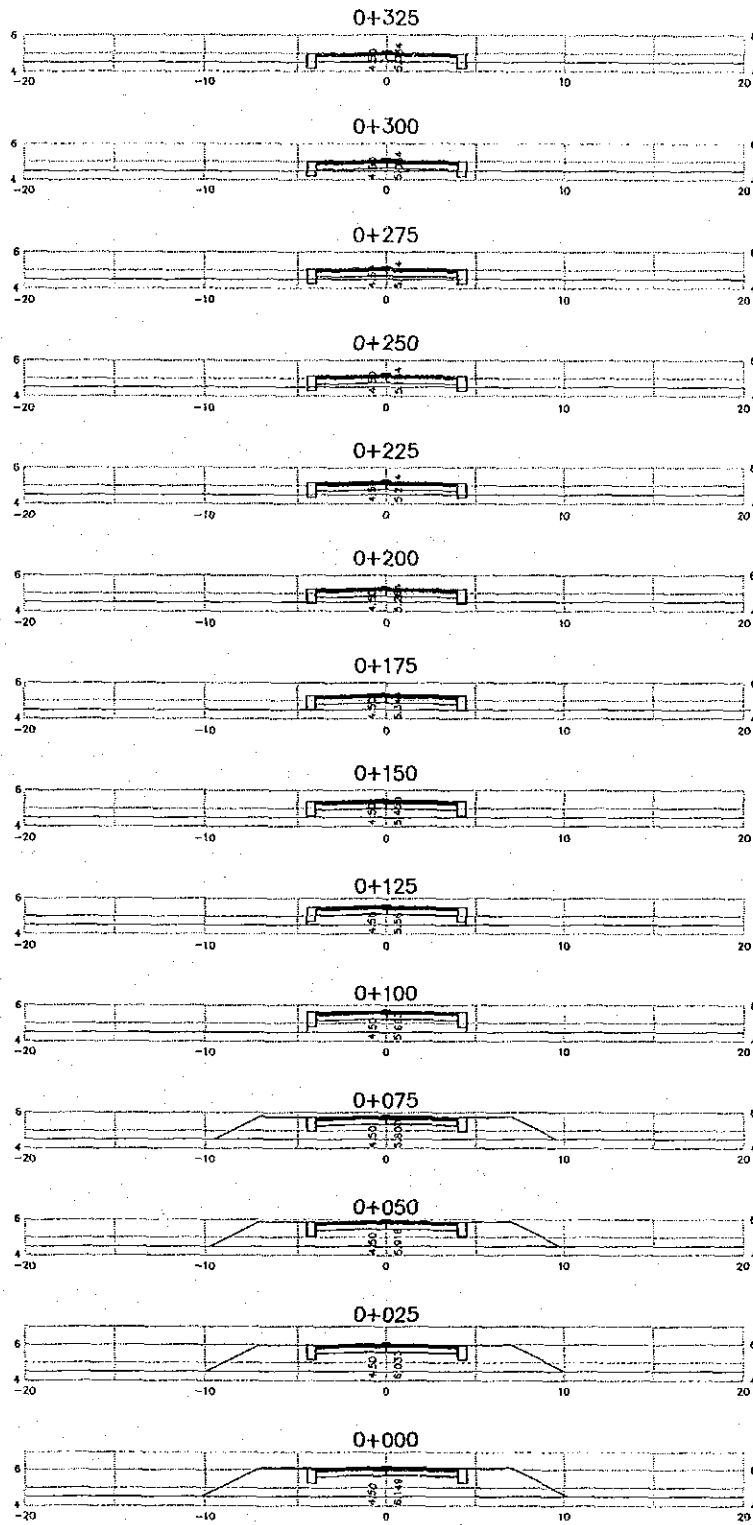
FEEDER 2



SCALE 1:400

Japan International Cooperation Agency (JICA)	Figure	Title
Detailed Design on Port Reactivation Project in La Union Province of the Republic of El Salvador		CROSS SECTIONS OF FEEDER 2

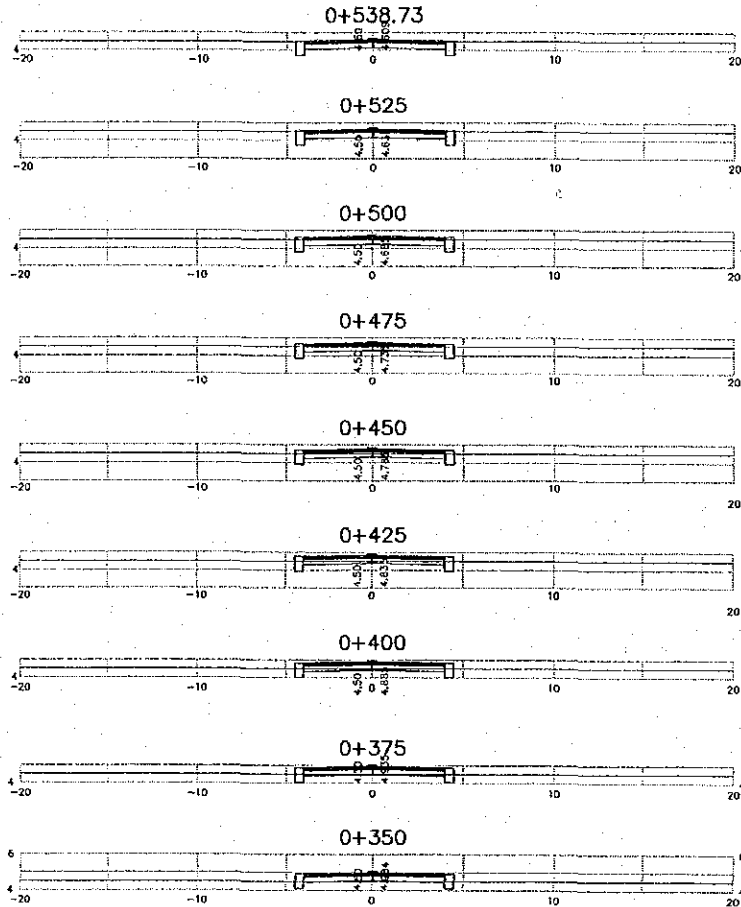
FEEDER 3



SCALE 1:400

Japan International Cooperation Agency (JICA)	Figure	Title
Detailed Design on Port Reactivation Project in La Union Province of the Republic of El Salvador		CROSS SECTIONS OF FEEDER 3

FEEDER 3



SCALE 1:400

Japan International Cooperation Agency (JICA)	Figure	Title
Detailed Design on Port Reactivation Project in La Union Province of the Republic of El Salvador		CROSS SECTIONS OF FEEDER 3

Cutuco Port, El Salvador

Project: cutuco
Alignment: Road

END AREA VOLUME LISTING WITH CURVE CORRECTION

Station	Cut Area (m2)	Fill Area (m2)	Cut 1.0000 Surface	Fill 1.000 SurfaceTot	Cut 1.0000 Vol (m3)	Fill 1.0000 Tot Vol (m3)	MassOrdinate
0+000	0.00	48.35					
			0.00	1150.80	0.00	1150.80	-1150.80
0+025	0.00	43.71					
			0.00	1035.69	0.00	2186.49	-2186.49
0+050	0.00	39.14					
			0.00	922.15	0.00	3108.64	-3108.64
0+075	0.00	34.63					
			0.00	810.17	0.00	3918.81	-3918.81
0+100	0.00	30.18					
			0.00	699.75	0.00	4618.56	-4618.56
0+125	0.00	25.80					
			0.00	590.89	0.00	5209.45	-5209.45
0+150	0.00	21.47					
			0.81	484.40	0.81	5693.85	-5693.04
0+175	0.07	17.28					
			2.61	362.63	3.42	6056.48	-6053.06
0+200	0.14	11.73					
			3.65	292.00	7.07	6348.48	-6341.41
0+225	0.15	11.63					
			3.70	290.68	10.77	6639.17	-6628.39
0+250	0.15	11.63					
			3.70	290.68	14.47	6929.85	-6915.38
0+275	0.15	11.63					
			3.70	290.68	18.17	7220.53	-7202.36
0+300	0.15	11.63					
			3.70	290.68	21.87	7511.22	-7489.35
0+325	0.15	11.63					
			3.70	290.68	25.57	7801.90	-7776.33
0+350	0.15	11.63					
			3.70	290.68	29.27	8092.59	-8063.31
0+375	0.15	11.63					
			3.78	288.48	33.05	8381.07	-8348.02
0+400	0.15	11.45					
			4.40	310.84	37.45	8691.91	-8654.46
0+425	0.20	10.22					
			5.57	210.22	43.02	8902.13	-8859.10
0+450	0.25	6.60					
			8.26	151.11	51.28	9053.24	-9001.96
0+475	0.41	5.49					
			15.49	126.56	66.77	9179.79	-9113.03
0+500	0.83	4.64					
			28.95	108.36	95.72	9288.16	-9192.43
0+525	1.49	4.03					
			47.51	95.39	143.24	9383.54	-9240.31
0+550	2.31	3.60					
			22.79	35.46	166.02	9419.00	-9252.98
0+569.72	0.00	0.00					

Project: cutuco
Alignment: feeder1

END AREA VOLUME LISTING WITH CURVE CORRECTION

Station	Cut Area (m2)	Fill Area (m2)	Cut 1.00 Volume (m3)	Fill 1.00 Volume(m3)	Cut 1.0000 Tot Vol (m3)	Fill 1.0000 Tot Vol (m3)	Mass Ordinate
0+000	0	15.008					
			0	375.193	0	375.193	-375.193
0+025	0	15.007					
			0	375.16	0	750.353	-750.353
0+050	0	15.006					
			0	375.128	0	1125.481	-1125.481
0+075	0	15.004					
			0	375.095	0	1500.576	-1500.576
0+100	0	15.003					
			0	375.063	0	1875.639	-1875.639
0+125	0	15.002					
			0	375.03	0	2250.669	-2250.669
0+150	0	15.001					
			0	374.998	0	2625.667	-2625.667
0+175	0	14.999					
			0	86.245	0	2711.912	-2711.912
0+180.75	0	14.999					

Project: cutuco
Alignment: feeder2

END AREA VOLUME LISTING WITH CURVE CORRECTION

Station	Cut Area (m2)	Fill Area (m2)	Cut 1.0000 Volume (m3)	Fill 1.0 Volume(m3)	Cut 1.0000 Tot Vol (m3)	Fill 1.0000 Tot Vol (m3)	Mass Ordinate
0+000	0.073	6.854					
			1.825	171.342	1.825	171.342	-169.517
0+025	0.073	6.854					
			1.825	171.342	3.65	342.684	-339.034
0+050	0.073	6.854					
			1.825	171.342	5.475	514.026	-508.551
0+075	0.073	6.854					
			1.825	171.342	7.3	685.368	-678.068
0+100	0.073	6.854					
			1.825	171.342	9.125	856.71	-847.585
0+125	0.073	6.854					
			1.825	171.342	10.95	1028.052	-1017.102
0+150	0.073	6.854					
			1.825	171.342	12.775	1199.394	-1186.619
0+175	0.073	6.854					
			0.42	39.409	13.195	1238.803	-1225.608
0+180.75	0.073	6.854					

Project: cutuco
Alignment: fr-3

END AREA VOLUME LISTING WITH CURVE CORRECTION

Station	Cut Area (m2)	Fill Area (m2)	Cut 1.0000 Volume (m3)	Fill 1.0 Volume (m3)	Cut 1.0000 Tot Vol (m3)	Fill 1.0000 Tot Vol (m3)	Mass Ordinate
0+000	0	23.254	0	551.936	0	551.936	-551.936
0+025	0	20.9	0	493.764	0	1045.7	-1045.7
0+050	0	18.601	0	436.947	0	1482.647	-1482.647
0+075	0	16.355	0	278.112	0	1760.759	-1760.759
0+100	0	5.894	0	134.248	0	1895.007	-1895.007
0+125	0	4.846	0	108.052	0	2003.059	-2003.059
0+150	0	3.798	0.388	83.365	0.388	2086.424	-2086.036
0+175	0.031	2.871	1.524	65.786	1.912	2152.211	-2150.298
0+200	0.091	2.392	2.897	54.803	4.81	2207.013	-2202.204
0+225	0.141	1.992	4.146	44.816	8.955	2251.83	-2242.874
0+250	0.191	1.593	5.394	34.83	14.349	2286.66	-2272.311
0+275	0.241	1.193	6.642	24.844	20.992	2311.504	-2290.512
0+300	0.291	0.794	7.891	14.858	28.882	2326.362	-2297.479
0+325	0.341	0.395	10.169	5.902	39.052	2332.264	-2293.212
0+350	0.473	0.078	16.472	0.97	55.523	2333.234	-2277.71
0+375	0.845	0	26.736	0	82.259	2333.234	-2250.974
0+400	1.294	0	37.971	0	120.23	2333.234	-2213.003
0+425	1.744	0	49.205	0	169.436	2333.234	-2163.798
0+450	2.193	0	60.44	0	229.875	2333.234	-2103.358
0+475	2.642	0	71.674	0	301.55	2333.234	-2031.684
0+500	3.092	0	77.637	0	379.186	2333.234	-1954.047
0+525	3.119	0	21.411	0	400.597	2333.234	-1932.636
0+538.73	0	0					

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	Land Reclamation	Pay Item No. (BOQ)	
Quantity Item	West Revetment	Unit	m ³

Calculation Procedure Applied

Volume of land reclamation is needed to reduce volume of rubble (harbor side) and sand (harbor side) and coping of West Revetment.

References, Calculation Base and Revisions

See the item of offshore dumping of west revetment (2A-10)

Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Kota Gorio			Mr. Inuma		Mr. Ando		
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	West Revetment	Calc. Index No.	
Subject		Page No.	Rev.
Cross Section			References/ Notes
	$A_1 = (1+2) \times 2.9 \div 2$ $= 4.35 \text{ m}^2$		
	$A_2 = (3+10) \times 6 \div 2$ $= 39.0 \text{ m}^2$		
	$A_3 = 6 \times 4.6 \div 2 + (1.5 \times 2.0) \div 2$ $= 12.3 \text{ m}^2$		
	$A_4 = (6.5+10) \times 6.5 \div 2$ $= 47.125 \text{ m}^2$		
	$A = \sum A = 103.5 \text{ m}^2$		
$L = 340 \text{ m}$	$V = 103.5 \times 340$ $= 35190$		
$\square 55600 \text{ m}^3$			
Prepared by	/ /200	Checked by	/ /200

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	Land Reclamation	Pay Item No. (BOQ)	
Quantity Item	East Revetment	Unit	m ³

Calculation Procedure Applied

Volume of land reclamation is needed to reduce volume of rubble (harbor side) and sand (harborside) and coping of East Revetment.

References, Calculation Base and Revisions

See the item of offshore dumping of east revetment.
(2A-11)

Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla Gada			Mr. Inuma		Mr. Ando		
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	East Revetment	Calc. Index No.	
Subject		Page No.	Rev.
<p>Cross Section</p>			References/Notes
$A_1 = 20.0 \times 1.0 = 20.0 \text{ m}^2$ $A_2 = (20.0 + 11.9) \times 7 + 2 = 83.9 \text{ m}^2$ $A_3 = (11.9 + 26) \times 6 + 2 = 120 \text{ m}^2$ $A = \sum A = 175.9 \text{ m}^2$ $L = 230 \text{ m}$ $V = 175.9 \times 230 = 40457$ $\approx 140500 \text{ m}^3$			
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	Land Reclamation			Pay Item No. (BOQ)				
Quantity Item	West Band			Unit		m ³		
Calculation Procedure Applied								
<p>A part of West Band is in the Reclamation area. So, reclamation volume is needed to reduce this volume,</p>								
References, Calculation Base and Revisions								
<p>See the item of sand of west band. (2A-1304)</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Koki Guro			Mr. Inuma		Mr. Ando		
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Land Reclamation	Calc. Index No.	
Subject	West Bank	Page No.	Rev.
			References/ Notes
$A = 5 \times 6 \div 2 = 15.0 \text{ m}^2$			
$L = 200 \text{ m}$			
$V = 15.0 \times 200 = 3000 \text{ m}^3$			
		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	Land Reclamation			Pay Item No. (BOQ)				
Quantity Item	East Bund			Unit	m ²			
Calculation Procedure Applied								
<p>A part of East Bund is in the Reclamation area. So, reclamation volume is needed to reduce this volume.</p>								
References, Calculation Base and Revisions								
<p>See the item of sand of east bund (2A-1325)</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Kosha Garcia			Mr. Inuma		Mr. Ando		
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Land Reclamation	Calc. Index No.	
Subject	East Sand	Page No.	Rev.
			References/ Notes
(Cross Section)			
$A = 7.2 \times 6.0 = 21.6 \text{ m}^2$			
$L = 50 \text{ m}$			
$V = 21.6 \times 50 = 1080 \text{ m}^3$			
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	Land Reclamation			Pay Item No. (BOQ)		2F-0202		
Quantity Item	Dumping Area A			Unit		m ³ .		
Calculation Procedure Applied								
<p>Onshore dumping for Dumping Area A is need to combine with Excavation for Foundation (harbor side) and reduce volume of Rubble stone (harbor side) and Sand Replacement (harbor side).</p>								
References, Calculation Base and Revisions								
<p>See the attached items</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Koichi Gorio			Mr. Inuma		Mr. Ando		
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Land Reclamation	Calc. Index No.	
Subject	Dumping Area A	Page No.	Rev.
		References/ Notes	
Land Reclamation 1,012,000 m ²			
deduction			
A-north harbor side 30,900 m ²			
A-west harbor side 16,500 m ²			
West Band 8,750 m ²			
956,150 m ²			
= 957,000 m ²			
deduction (small craft berth)			
$\frac{1}{2} (60 + 35) \times 95 \times 5 = 22,563$			
= 22,600			
957,000 - 22,600 = 934,400 m ²			
Prepared by		Checked by	
/ /200		/ /200	

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code				
Work Section Title	Reclamation Work			Pay Item No. (BOQ)				
Quantity Item	Land Reclamation by Dredged Mat. Zone A			Unit		cubic meter		
Calculation Procedure Applied								
<p>1. Calculation of Area of Sections (Excel)</p> <p>2. Average area of Sections (Excel)</p> <p>3. Calculation of volume. Average of area of sections times distance between sections (Excel)</p>								
References, Calculation Base and Revisions								
<p>1. Area and Volume have been calculated starting from Section ZIII-0 to ZIII-11 in accordance to Drawing N°: GENERAL PLAN RECLAMATION ZONE A.</p> <p>2. Design Information: Height of Reclamation: +5.00 meters</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	jam	02/ may/ 2002	17					
1								
2								
3								

File in Calc. File

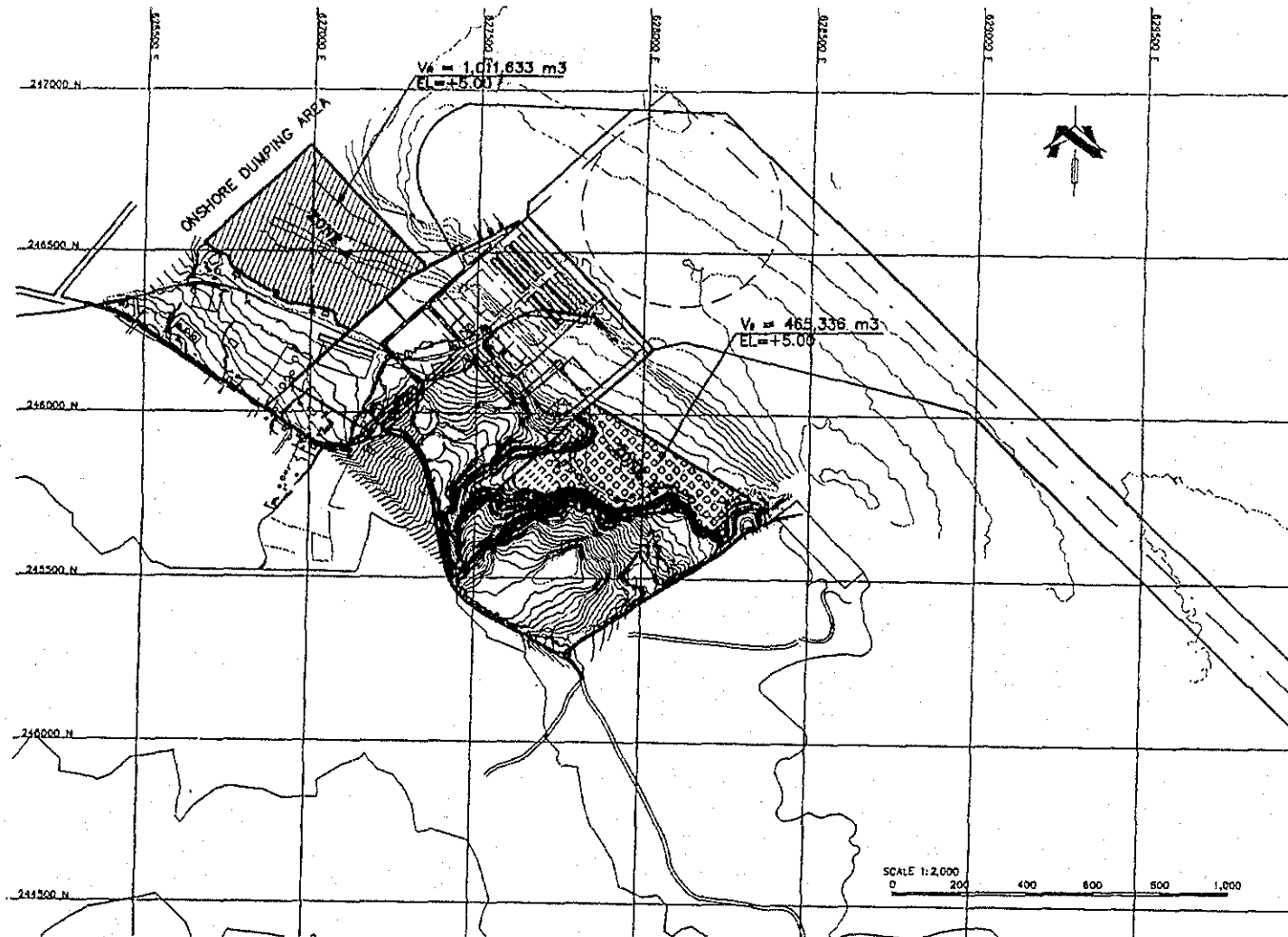
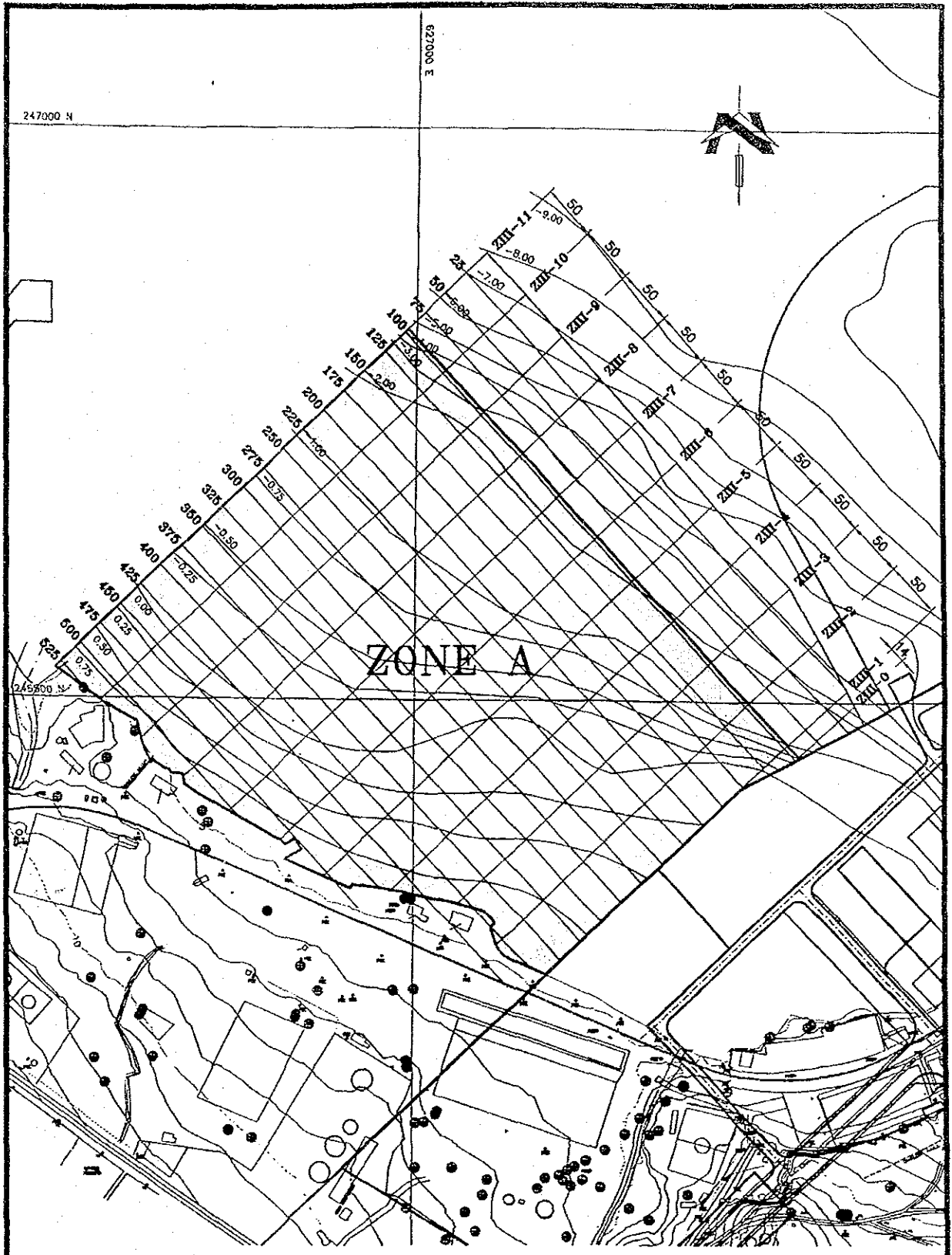


Figure 11.2.1b Proposed Reclamation for the Port Site and to Dispose of Dredged Material (Zones A and B)



SCALE 1:5,000

Japan International Cooperation Agency (JICA)	Figure	Title
Detailed Design on Port Reactivation Project in La Union Province of the Republic of El Salvador	-	GENERAL PLAN RECLAMATION ZONE A

VOLUME RECLAMATION ZONE A; 27 JUNE 2002

ELEVATION: +5.00 mt

SECTION N°	AREA	AVERAGE AREA OF 2 SECTIONS	DISTANCE BETWEEN SECTIONS	VOLUME
ZIII-0	127.19			
		756.09	14.00	10,585
ZIII-1	1,385.00			
		1,405.63	50.00	70,281
ZIII-2	1,426.25			
		1,460.31	50.00	73,016
ZIII-3	1,494.38			
		1,615.14	50.00	80,757
ZIII-4	1,735.90			
		1,837.95	50.00	91,898
ZIII-5	1,940.00			
		2,023.15	50.00	101,158
ZIII-6	2,106.30			
		2,161.28	50.00	108,064
ZIII-7	2,216.25			
		2,282.00	50.00	114,100
ZIII-8	2,347.75			
		2,368.88	50.00	118,444
ZIII-9	2,390.00			
		2,405.63	50.00	120,281
ZIII-10	2,421.25			
		2,461.00	50.00	123,050
ZIII-11	2,500.75			

VOLUME RECLAMATION ZONE A: 1,011,633 m³

Natural ground elevation: a	Final Elevation: b	Difference of elevation: c= b-a	Average of elevation	Width: d	area: $a = c \cdot d$
-----------------------------	--------------------	---------------------------------	----------------------	----------	-----------------------

Section N°
ZIII-0

distance	a	b	c	c'	d	e
39						
50						
75						
100	-0.50	5.00	5.50			
				5.25	25.00	131.25
125	0.00	5.00	5.00			
				4.93	25.00	123.13
150	0.15	5.00	4.85			

AREA OF SECTION: 127.19 m²

NOTE: this area is divided by 2 because of triangular form

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

Section N°
ZIII-1

distance	a	b	c	c'	d	e
100	-0.75	5.00	5.75			
				5.38	25.00	134.38
125	0.00	5.00	5.00			
				4.95	25.00	123.75
150	0.10	5.00	4.90			
				4.85	25.00	121.25
175	0.20	5.00	4.80			
				4.78	25.00	119.38
200	0.25	5.00	4.75			
				4.70	25.00	117.50
225	0.35	5.00	4.65			
				4.60	25.00	115.00
250	0.45	5.00	4.55			
				4.53	25.00	113.13
275	0.50	5.00	4.50			
				4.48	25.00	111.88
300	0.55	5.00	4.45			
				4.40	25.00	110.00
325	0.65	5.00	4.35			
				4.30	25.00	107.50
350	0.75	5.00	4.25			
				4.25	25.00	106.25
375	0.75	5.00	4.25			
				4.20	25.00	105.00
400	0.85	5.00	4.15			

AREA OF SECTION: 1,385.00 m²

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

Section N°
ZIII-2

distance	a	b	c	c'	d	e
100	-1.25	5.00	6.25			
				6.00	25.00	150.00
125	-0.75	5.00	5.75			
				5.38	25.00	134.38
150	0.00	5.00	5.00			
				5.00	25.00	125.00
175	0.00	5.00	5.00			
				4.93	25.00	123.13
200	0.15	5.00	4.85			
				4.80	25.00	120.00
225	0.25	5.00	4.75			
				4.70	25.00	117.50
250	0.35	5.00	4.65			
				4.60	25.00	115.00
275	0.45	5.00	4.55			
				4.50	25.00	112.50
300	0.55	5.00	4.45			
				4.40	25.00	110.00
325	0.65	5.00	4.35			
				4.33	25.00	108.13
350	0.70	5.00	4.30			
				4.25	25.00	106.25
375	0.80	5.00	4.20			
				4.18	25.00	104.38
400	0.85	5.00	4.15			

AREA OF SECTION: 1426.25 m²

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

Section N°
ZIII-3

distance	a	b	c	c'	d	e
100	-1.60	5.00	6.60			
				6.35	25.00	158.75
125	-1.10	5.00	6.10			
				5.75	25.00	143.75
150	-0.40	5.00	5.40			
				5.35	25.00	133.75
175	-0.30	5.00	5.30			
				5.25	25.00	131.25
200	-0.20	5.00	5.20			
				5.10	25.00	127.50
225	0.00	5.00	5.00			
				4.93	25.00	123.13
250	0.15	5.00	4.85			
				4.80	25.00	120.00
275	0.25	5.00	4.75			
				4.70	25.00	117.50
300	0.35	5.00	4.65			
				4.58	25.00	114.38
325	0.50	5.00	4.50			
				4.43	25.00	110.63
350	0.65	5.00	4.35			
				4.33	25.00	108.13
375	0.70	5.00	4.30			
				4.23	25.00	105.63
400	0.85	5.00	4.15			

AREA OF SECTION: 1494.38 m²

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

Section N°
ZIII-4

distance	a	b	c	c'	d	e
100	-1.80	5.00	6.80			
				6.53	25.00	163.13
125	-1.25	5.00	6.25			
				6.05	25.00	151.25
150	-0.85	5.00	5.85			
				5.75	25.00	143.75
175	-0.65	5.00	5.65			
				5.50	25.00	137.50
200	-0.35	5.00	5.35			
				5.25	25.00	131.25
225	-0.15	5.00	5.15			
				5.05	25.00	126.25
250	0.05	5.00	4.95			
				4.90	25.00	122.50
275	0.15	5.00	4.85			
				4.80	25.00	120.00
300	0.25	5.00	4.75			
				4.70	25.00	117.50
325	0.35	5.00	4.65			
				4.60	25.00	115.00
350	0.45	5.00	4.55			
				4.48	25.00	111.88
375	0.60	5.00	4.40			
				4.35	25.00	108.75
400	0.70	5.00	4.30			
				4.28	25.00	106.88
425	0.75	5.00	4.25			
				4.23	19.00	80.28
444	0.80	5.00	4.20			

AREA OF SECTION: 1735.9 m²

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

Section N°
ZIII-5

distance	a	b	c	c'	d	e
100	-2.25	5.00	7.25			
				6.93	25.00	173.13
125	-1.60	5.00	6.60			
				6.43	25.00	160.63
150	-1.25	5.00	6.25			
				6.05	25.00	151.25
175	-0.85	5.00	5.85			
				5.75	25.00	143.75
200	-0.65	5.00	5.65			
				5.50	25.00	137.50
225	-0.35	5.00	5.35			
				5.30	25.00	132.50
250	-0.25	5.00	5.25			
				5.13	25.00	128.13
275	0.00	5.00	5.00			
				4.93	25.00	123.13
300	0.15	5.00	4.85			
				4.83	25.00	120.63
325	0.20	5.00	4.80			
				4.78	25.00	119.38
350	0.25	5.00	4.75			
				4.68	25.00	116.88
375	0.40	5.00	4.60			
				4.53	25.00	113.13
400	0.55	5.00	4.45			
				4.40	25.00	110.00
425	0.65	5.00	4.35			
				4.28	25.00	106.88
450	0.80	5.00	4.20			
				4.13	25.00	103.13
475	0.95	5.00	4.05			

AREA OF SECTION: 1940.00 m²

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

Section N°
ZIII-6

distance	a	b	c	c'	d	e
100	-2.40	5.00	7.40			
125	-1.80	5.00	6.80	7.10	25.00	177.50
150	-1.50	5.00	6.50	6.65	25.00	166.25
175	-1.25	5.00	6.25	6.38	25.00	159.38
200	-1.00	5.00	6.00	6.13	25.00	153.13
225	-0.75	5.00	5.75	5.88	25.00	146.88
250	-0.50	5.00	5.50	5.63	25.00	140.63
275	-0.30	5.00	5.30	5.40	25.00	135.00
300	-0.20	5.00	5.20	5.25	25.00	131.25
325	-0.15	5.00	5.15	5.18	25.00	129.38
350	-0.05	5.00	5.05	5.10	25.00	127.50
375	0.05	5.00	4.95	5.00	25.00	125.00
400	0.25	5.00	4.75	4.85	25.00	121.25
425	0.45	5.00	4.55	4.65	25.00	116.25
450	0.65	5.00	4.35	4.45	25.00	111.25
475	0.80	5.00	4.20	4.28	25.00	106.88
489	0.80	5.00	4.20	4.20	14.00	58.80

AREA OF SECTION: 2106.30 m²

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

Section N°
ZIII-7

distance	a	b	c	c'	d	e
100	-2.50	5.00	7.50			
125	-1.90	5.00	6.90	7.20	25.00	180.00
150	-1.60	5.00	6.60	6.75	25.00	168.75
175	-1.30	5.00	6.30	6.45	25.00	161.25
200	-1.15	5.00	6.15	6.23	25.00	155.63
225	-0.80	5.00	5.80	5.98	25.00	149.38
250	-0.75	5.00	5.75	5.78	25.00	144.38
275	-0.65	5.00	5.65	5.70	25.00	142.50
300	-0.50	5.00	5.50	5.58	25.00	139.38
325	-0.20	5.00	5.20	5.35	25.00	133.75
350	-0.30	5.00	5.30	5.25	25.00	131.25
375	-0.15	5.00	5.15	5.23	25.00	130.63
400	0.00	5.00	5.00	5.08	25.00	126.88
425	0.25	5.00	4.75	4.88	25.00	121.88
450	0.55	5.00	4.45	4.60	25.00	115.00
475	0.70	5.00	4.30	4.38	25.00	109.38
500	0.80	5.00	4.20	4.25	25.00	106.25

AREA OF SECTION: 2216.25 m²

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

Section N°
ZIII-8

distance	a	b	c	c'	d	e
100	-2.50	5.00	7.50			
				7.20	25.00	180.00
125	-1.90	5.00	6.90			
				6.80	25.00	170.00
150	-1.70	5.00	6.70			
				6.53	25.00	163.13
175	-1.35	5.00	6.35			
				6.33	25.00	158.13
200	-1.30	5.00	6.30			
				6.15	25.00	153.75
225	-1.00	5.00	6.00			
				5.93	25.00	148.13
250	-0.85	5.00	5.85			
				5.78	25.00	144.38
275	-0.70	5.00	5.70			
				5.65	25.00	141.25
300	-0.60	5.00	5.60			
				5.55	25.00	138.75
325	-0.50	5.00	5.50			
				5.40	25.00	135.00
350	-0.30	5.00	5.30			
				5.28	25.00	131.88
375	-0.25	5.00	5.25			
				5.20	25.00	130.00
400	-0.15	5.00	5.15			
				5.08	25.00	126.88
425	0.00	5.00	5.00			
				4.83	25.00	120.63
450	0.35	5.00	4.65			
				4.55	25.00	113.75
475	0.55	5.00	4.45			
				4.33	25.00	108.13
500	0.80	5.00	4.20			
				4.20	20.00	84.00
520	0.80	5.00	4.20			

AREA OF SECTION: 2347.75 m²

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

Section N°
ZIII-9

distance	a	b	c	c'	d	e
100	-2.60	5.00	7.60			
				7.25	25.00	181.25
125	-1.90	5.00	6.90			
				6.83	25.00	170.63
150	-1.75	5.00	6.75			
				6.63	25.00	165.63
175	-1.50	5.00	6.50			
				6.38	25.00	159.38
200	-1.25	5.00	6.25			
				6.18	25.00	154.38
225	-1.10	5.00	6.10			
				5.98	25.00	149.38
250	-0.85	5.00	5.85			
				5.80	25.00	145.00
275	-0.75	5.00	5.75			
				5.70	25.00	142.50
300	-0.65	5.00	5.65			
				5.63	25.00	140.63
325	-0.60	5.00	5.60			
				5.48	25.00	136.88
350	-0.35	5.00	5.35			
				5.33	25.00	133.13
375	-0.30	5.00	5.30			
				5.23	25.00	130.63
400	-0.15	5.00	5.15			
				5.10	25.00	127.50
425	-0.05	5.00	5.05			
				4.93	25.00	123.13
450	0.20	5.00	4.80			
				4.65	25.00	116.25
475	0.50	5.00	4.50			
				4.35	25.00	108.75
500	0.80	5.00	4.20			
				4.20	25.00	105.00
522	0.80	5.00	4.20			

AREA OF SECTION: 2390.00 m²

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

Section N°
ZIII-10

distance	a	b	c	c'	d	e
100	-3.40	5.00	8.40			
				7.90	25.00	197.50
125	-2.40	5.00	7.40			
				7.10	25.00	177.50
150	-1.80	5.00	6.80			
				6.73	25.00	168.13
175	-1.65	5.00	6.65			
				6.48	25.00	161.88
200	-1.30	5.00	6.30			
				6.20	25.00	155.00
225	-1.10	5.00	6.10			
				5.98	25.00	149.38
250	-0.85	5.00	5.85			
				5.83	25.00	145.63
275	-0.80	5.00	5.80			
				5.73	25.00	143.13
300	-0.65	5.00	5.65			
				5.63	25.00	140.63
325	-0.60	5.00	5.60			
				5.48	25.00	136.88
350	-0.35	5.00	5.35			
				5.33	25.00	133.13
375	-0.30	5.00	5.30			
				5.23	25.00	130.63
400	-0.15	5.00	5.15			
				5.10	25.00	127.50
425	-0.05	5.00	5.05			
				4.93	25.00	123.13
450	0.20	5.00	4.80			
				4.68	25.00	116.88
475	0.45	5.00	4.55			
				4.38	25.00	109.38
500	0.80	5.00	4.20			
				4.20	25.00	105.00
525	0.80	5.00	4.20			

AREA OF SECTION: 2421.25 m²

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

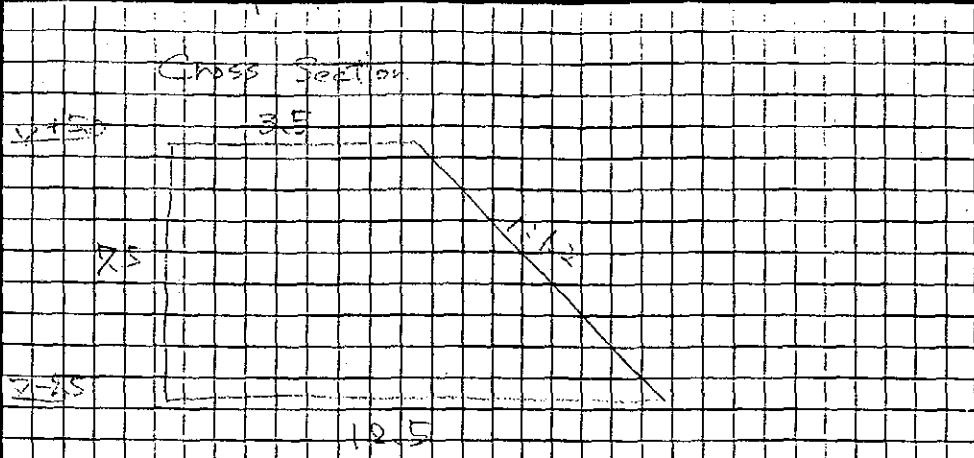
Section N°
ZIII-11

distance	a	b	c	c'	d	e
100	-4.40	5.00	9.40			
125	-2.75	5.00	7.75	8.58	25.00	214.38
150	-2.25	5.00	7.25	7.50	25.00	187.50
175	-1.75	5.00	6.75	7.00	25.00	175.00
200	-1.40	5.00	6.40	6.58	25.00	164.38
225	-1.10	5.00	6.10	6.25	25.00	156.25
250	-0.85	5.00	5.85	5.98	25.00	149.38
275	-0.80	5.00	5.80	5.83	25.00	145.63
300	-0.65	5.00	5.65	5.73	25.00	143.13
325	-0.60	5.00	5.60	5.63	25.00	140.63
350	-0.35	5.00	5.35	5.48	25.00	136.88
375	-0.30	5.00	5.30	5.33	25.00	133.13
400	-0.15	5.00	5.15	5.23	25.00	130.63
425	-0.05	5.00	5.05	5.10	25.00	127.50
450	0.20	5.00	4.80	4.93	25.00	123.13
475	0.45	5.00	4.55	4.68	25.00	116.88
500	0.80	5.00	4.20	4.38	25.00	109.38
525	0.80	5.00	4.20	4.20	25.00	105.00
535	0.80	5.00	4.20	4.20	10.00	42.00

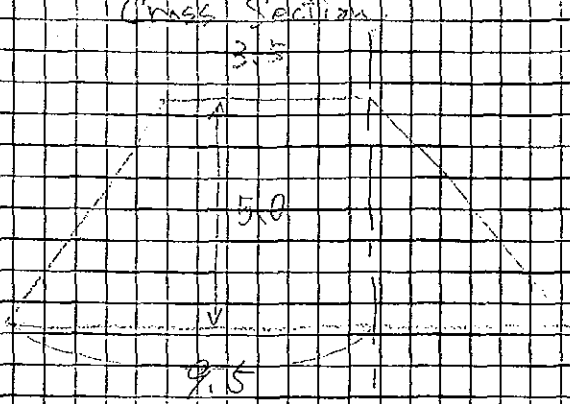
AREA OF SECTION: 2500.75 m²

16-May-02 NATURAL GROUND ELEVATIONS AREA OF RECLAMATION ZONE III (ZONE A)

SECTION N°		525	500	475	450	425	400	375	350	325	300	275	250	225	200	175	150	125	100	75	50	25	0
ZIII-0																	0.15	0	-0.5	-1.25	-2	-3	
ZIII-1							0.85	0.75	0.75	0.65	0.55	0.50	0.45	0.35	0.25	0.20	0.10	0.00	-0.75	-1.50	-2.40	-3.00	
ZIII-2							0.85	0.80	0.70	0.65	0.55	0.45	0.35	0.25	0.15	0.00	0.00	-0.75	-1.25	-1.75	-3.00	-4.00	-4.25
ZIII-3							0.85	0.70	0.65	0.50	0.35	0.25	0.15	0.00	-0.20	-0.30	-0.40	-1.10	-1.60	-2.25	-3.25	-4.00	-4.50
ZIII-4					0.80	0.75	0.70	0.60	0.45	0.35	0.25	0.15	0.05	-0.15	-0.35	-0.65	-0.85	-1.25	-1.80	-2.50	-3.30	-4.00	-4.50
ZIII-5				0.95	0.80	0.65	0.55	0.40	0.25	0.20	0.15	0.00	-0.25	-0.35	-0.65	-0.85	-1.25	-1.60	-2.25	-2.60	-3.35	-4.25	-5.00
ZIII-6			0.80	0.80	0.65	0.45	0.25	0.05	-0.05	-0.15	-0.20	-0.30	-0.50	-0.75	-1.00	-1.25	-1.50	-1.80	-2.40	-2.75	-3.75	-4.75	-5.50
ZIII-7			0.80	0.70	0.55	0.25	0.00	-0.15	-0.30	-0.20	-0.50	-0.65	-0.75	-0.80	-1.15	-1.30	-1.60	-1.90	-2.50	-3.00	-3.95	-4.50	-5.40
ZIII-8		0.80	0.80	0.55	0.35	0.00	-0.15	-0.25	-0.30	-0.50	-0.60	-0.70	-0.85	-1.00	-1.30	-1.35	-1.70	-1.90	-2.50	-3.00	-4.25	-5.00	-6.00
ZIII-9		0.80	0.80	0.50	0.20	-0.05	-0.15	-0.30	-0.35	-0.60	-0.65	-0.75	-0.85	-1.10	-1.25	-1.50	-1.75	-1.90	-2.60	-3.60	-5.00	-5.75	-6.75
ZIII-10		0.80	0.80	0.45	0.20	-0.05	-0.15	-0.30	-0.35	-0.60	-0.65	-0.80	-0.85	-1.10	-1.30	-1.65	-1.80	-2.40	-3.40	-4.50	-5.60	-6.50	-7.25
ZIII-11	0.80	0.80	0.80	0.45	0.20	-0.05	-0.15	-0.30	-0.35	-0.60	-0.65	-0.80	-0.85	-1.10	-1.40	-1.75	-2.25	-2.75	-4.40	-5.40	-6.25	-7.00	-7.50

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Land Reclamation	Calc. Index No.	
Subject	Temporary Reclamation A-north harbor side	Page No.	Rev.
<p style="text-align: center;">Cross Section</p>  $A = \frac{(3.5 + 12.5) \times 7.5}{2}$ $= 60 \text{ m}^2$ $L = 575 \text{ m}$ $V = 60 \times 575 = 30,900 \text{ m}^3$			References/ Notes
<p>Prepared by</p>			
/ /200			/ /200

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Land Reclamation	Calc. Index No.	
Subject	Temporary Revetment A-west harborside	Page No.	Rev.
			References/ Notes
<p>Cross Section</p> <p> $A = \frac{(3.5 + 10.1) \times 5.5}{2}$ $= 37.4 \text{ m}^2$ $L = 440 \text{ m}$ $V = 37.4 \times 440 = 16456$ $= 16500 \text{ m}^3$ </p>			
		Prepared by	Checked by
		/ /200	/ /200

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Land Reclamation	Calc. Index No.	
Subject	West Band	Page No.	Rev.
<p style="text-align: center;">Cross Section</p>  $A = \frac{(3.5 + 0.5)}{2} \times 5.0 = 11.5$ $= 32.5 \text{ m}^2$ $l = 260 \text{ m}$ $V = 32.5 \times 260 = 8450 \text{ m}^3$			References/Notes
Prepared by		Checked by	
		/ /200	

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Land Reclamation			Pay Item No. (BOQ)	2F-0203			
Quantity Item	Dumping Area B			Unit	m ³			
Calculation Procedure Applied								
<p>Onshore dumping volume for Dumping Area B is needed to combine with Excavation for Foundation (harbor side) and reduce volume of Rubble stone (harbor side) and Sand Replacement (harbor side).</p>								
References, Calculation Base and Revisions								
<p>See the attached items.</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Keda Gao			Mr. Inuma		Mr. Ando		
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Land Reclamation	Calc. Index No.	
Subject	Dumping Area B	Page No.	
		Rev.	
		References/Notes	
Land Reclamation	466,000 m ³		
reduction			
Temporary Retention B	20,000 m ³		
East Band	2,130 m ³		
	488,130 m ³		
	≈ 484,000 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				
Work Section Title	Reclamation Work			Pay Item No. (BOQ)				
Quantity Item	Land Reclamation by Dredged Mat. Zone B			Unit		cubic meter		
Calculation Procedure Applied								
<p>1. Calculation of area of Sections (Excel)</p> <p>2. Average area of Sections (Excel)</p> <p>3. Calculation of Volume: Average of area of sections times distance between sections (Excel)</p>								
References, Calculation Base and Revisions								
<p>1. Area and volume have been calculated starting from Section ZII-1 to ZII-11 in accordance to drawing Nº: RECLAMATION ZONE B.</p> <p>2. Design Information: Height of reclamation: +5.00 meters</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	jam	03/may/2002	16					
1								
2								
3								

File in Calc. File

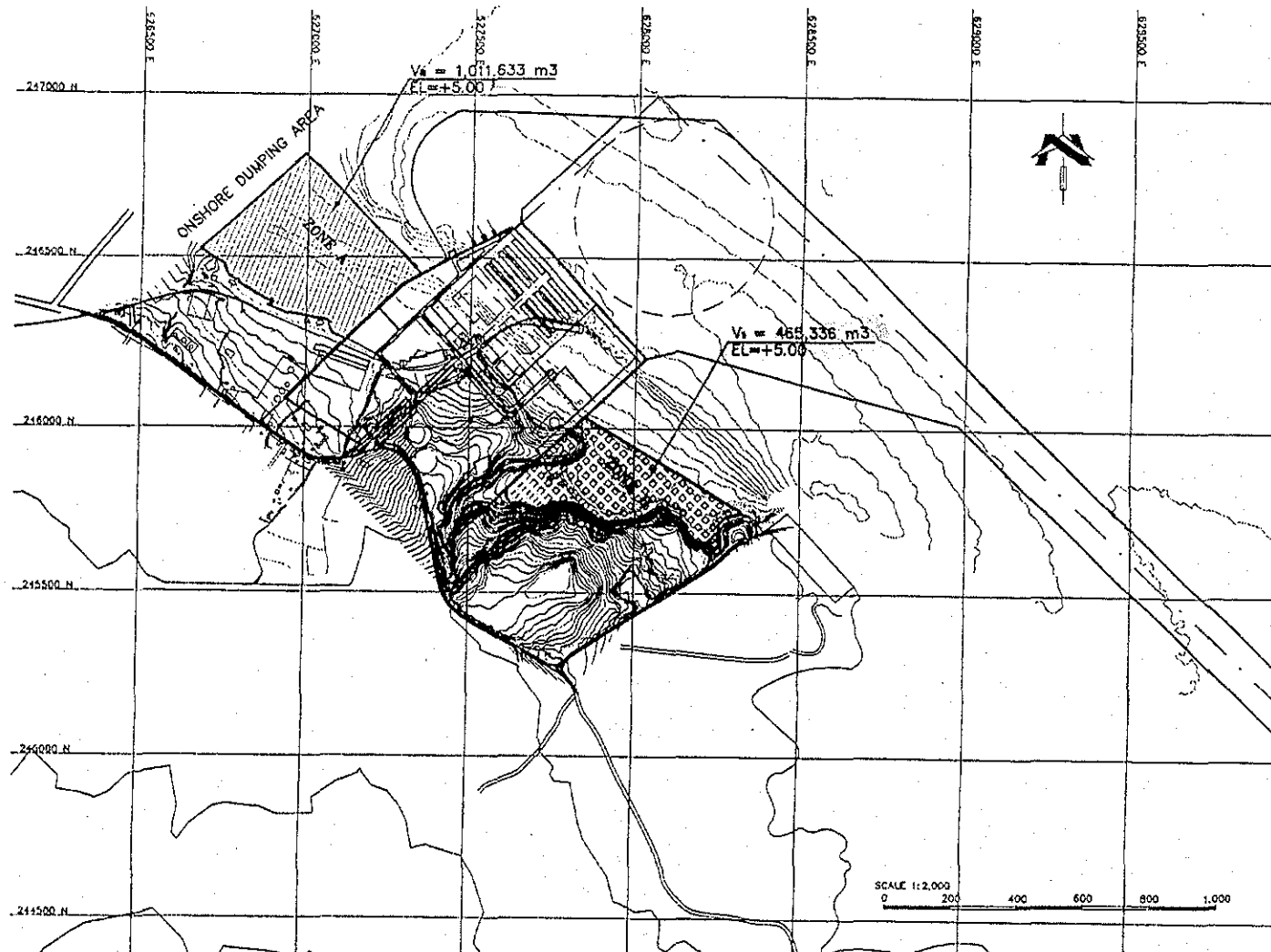
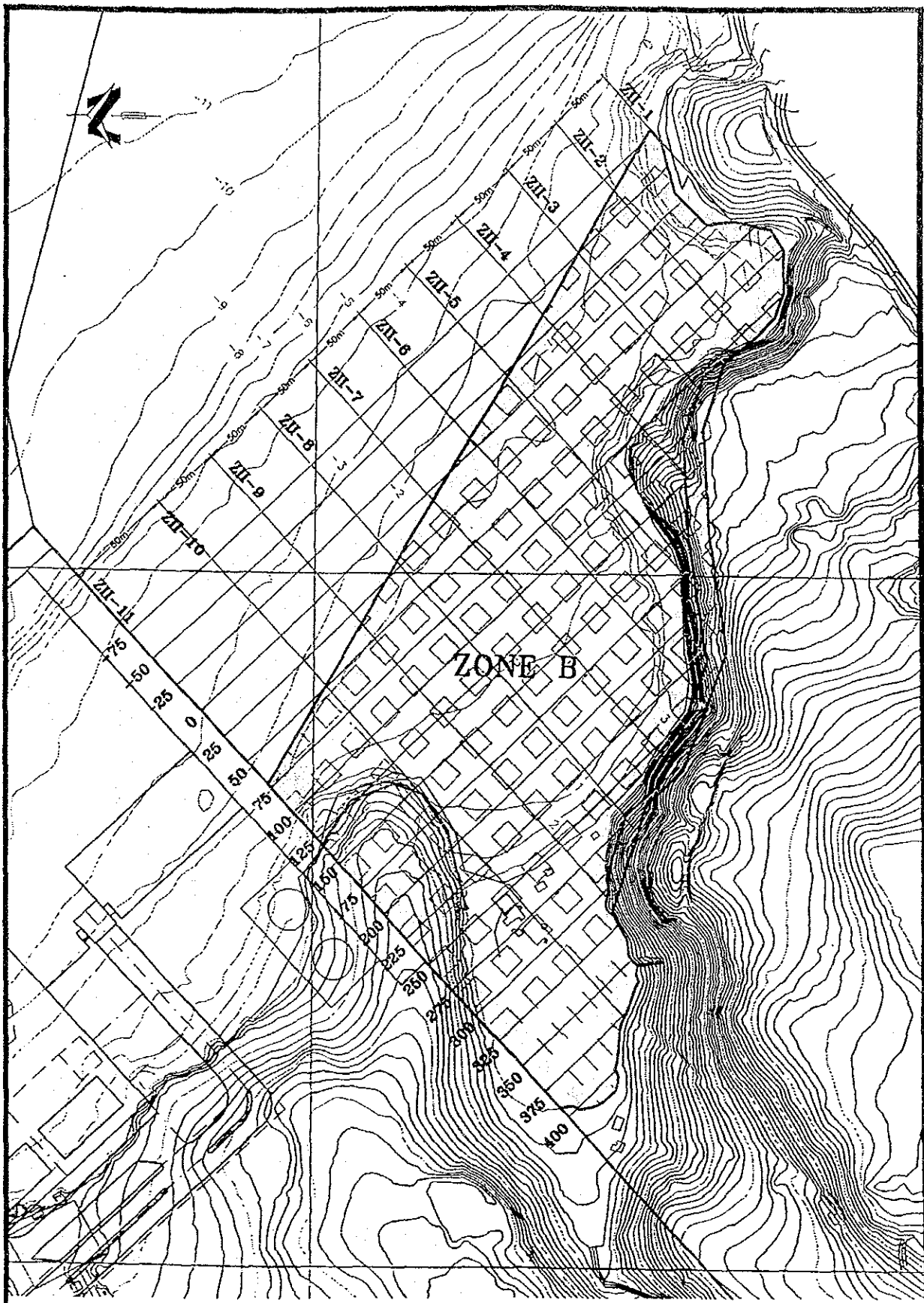


Figure 11.2.1b Proposed Reclamation for the Port Site and to Dispose of Dredged Material (Zones A and B)



SCALE 1:4,000

Japan International Cooperation Agency (JICA)	Figure	Title
Detailed Design on Port Reactivation Project in La Unión Province of the Republic of El Salvador	-	RECLAMATION ZONE-B

VOLUME RECLAMATION ZONE B; 26 JUNE 2002

ELEVATION: +5.00 mt

SECTION N°	AREA	AVERAGE AREA OF 2 SECTIONS	DISTANCE BETWEEN SECTIONS	VOLUME
ZII-1	299.70			
		509.23	50.00	25,461
ZII-2	718.75			
		673.85	50.00	33,693
ZII-3	628.95			
		616.35	50.00	30,818
ZII-4	603.75			
		746.58	50.00	37,329
ZII-5	889.40			
		1,108.26	50.00	55,413
ZII-6	1,327.13			
		1,291.26	50.00	64,563
ZII-7	1,255.40			
		1,225.95	50.00	61,298
ZII-8	1,196.50			
		1,151.15	50.00	57,558
ZII-9	1,105.80			
		989.78	50.00	49,489
ZII-10	873.75			
		621.45	80.00	49,716
ZII-11	369.15			

VOLUME RECLAMATION ZONE B: 465,336 m³

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

Section N°
ZII-1

distance	a	b	c	c'	d	e
-75	-1.00	5.00	6.00			
				3.00	25.00	75.00
-50	5.00	5.00	0.00			
				0.00	25.00	0.00
-25	5.00	5.00	0.00			
				1.45	25.00	36.25
0	2.10	5.00	2.90			
				3.35	25.00	83.75
25	1.20	5.00	3.80			
				3.10	25.00	77.50
50	2.60	5.00	2.40			
				1.70	16.00	27.20
66	4.00	5.00	1.00			

AREA OF SECTION: 299.70 m²

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

Section N°
ZII-2

distance	a	b	c	c'	d	e
-62.5	-1.20	5.00	6.20			
				6.10	12.50	76.25
-50	-1.00	5.00	6.00			
				5.80	25.00	145.00
-25	-0.60	5.00	5.60			
				5.40	25.00	135.00
0	-0.20	5.00	5.20			
				5.10	25.00	127.50
25	0.00	5.00	5.00			
				4.90	25.00	122.50
50	0.20	5.00	4.80			
				3.90	25.00	97.50
75	2.00	5.00	3.00			
				1.50	10.00	15.00
85	5.00	5.00	0.00			

AREA OF SECTION: 718.75 m²

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

Section N°
ZII-3

distance	a	b	c	c'	d	e
-44	-1.20	5.00	6.20			
				6.15	23.00	141.45
-25	-1.10	5.00	6.10			
				5.85	25.00	146.25
0	-0.60	5.00	5.60			
				5.50	25.00	137.50
25	-0.40	5.00	5.40			
				4.50	25.00	112.50
50	1.40	5.00	3.60			
				3.65	25.00	91.25
75	1.30	5.00	3.70			
100						
125						

AREA OF SECTION: 628.95 m²

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

Section N°
ZII-4

distance	a	b	c	c'	d	e
-34	-1.30	5.00	6.30			
				6.25	9.00	56.25
-25	-1.20	5.00	6.20			
				6.05	25.00	151.25
0	-0.90	5.00	5.90			
				5.75	25.00	143.75
25	-0.60	5.00	5.60			
				5.55	25.00	138.75
50	-0.50	5.00	5.50			
				4.55	25.00	113.75
75	1.40	5.00	3.60			
100						
125						

AREA OF SECTION: 603.75 m²

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

Section N°
ZII-5

distance	a	b	c	c'	d	e
-19	-1.50	5.00	6.50			
				6.35	19.00	120.65
0	-1.20	5.00	6.20			
				6.15	25.00	153.75
25	-1.10	5.00	6.10			
				5.85	25.00	146.25
50	-0.60	5.00	5.60			
				5.55	25.00	138.75
75	-0.50	5.00	5.50			
				4.55	25.00	113.75
100	1.40	5.00	3.60			
				3.50	25.00	87.50
125	1.60	5.00	3.40			
				2.90	25.00	72.50
150	2.60	5.00	2.40			
				2.25	25.00	56.25
175	2.90	5.00	2.10			
200						
225						

AREA OF SECTION: 889.40 m²

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

Section N°
ZII-6

distance	a	b	c	c'	d	e
-20	-1.60	5.00	6.60			
0	-1.35	5.00	6.35	6.48	20.00	129.50
25	-1.80	5.00	6.80	6.58	25.00	164.38
50	-0.65	5.00	5.65	6.23	25.00	155.63
75	-0.40	5.00	5.40	5.53	25.00	138.13
100	-0.30	5.00	5.30	5.35	25.00	133.75
125	-0.20	5.00	5.20	5.25	25.00	131.25
150	0.00	5.00	5.00	5.10	25.00	127.50
175	0.10	5.00	4.90	4.95	25.00	123.75
200	0.20	5.00	4.80	4.85	25.00	121.25
225	2.60	5.00	2.40	3.60	25.00	90.00
235	5.00	5.00	0.00	1.20	10.00	12.00

AREA OF SECTION: 1,327.13 m²

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

Section N°
ZII-7

distance	a	b	c	c'	d	e
6	-1.70	5.00	6.70			
25	-1.50	5.00	6.50	6.60	19.00	125.40
50	-0.80	5.00	5.80	6.15	25.00	153.75
75	-0.40	5.00	5.40	5.60	25.00	140.00
100	-0.30	5.00	5.30	5.35	25.00	133.75
125	-0.10	5.00	5.10	5.20	25.00	130.00
150	0.00	5.00	5.00	5.05	25.00	126.25
175	0.00	5.00	5.00	5.00	25.00	125.00
200	0.20	5.00	4.80	4.90	25.00	122.50
225	0.50	5.00	4.50	4.65	25.00	116.25
250	2.90	5.00	2.10	3.30	25.00	82.50
275						
300						

AREA OF SECTION: 1,255.40 m²

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

Section N°
ZII-8

distance	a	b	c	c'	d	e
20	-1.80	5.00	6.80			
				6.75	5.00	33.75
25	-1.70	5.00	6.70			
				6.25	25.00	156.25
50	-0.80	5.00	5.80			
				5.60	25.00	140.00
75	-0.40	5.00	5.40			
				5.30	25.00	132.50
100	-0.20	5.00	5.20			
				5.15	25.00	128.75
125	-0.10	5.00	5.10			
				5.05	25.00	126.25
150	0.00	5.00	5.00			
				4.95	25.00	123.75
175	0.10	5.00	4.90			
				4.85	25.00	121.25
200	0.20	5.00	4.80			
				4.65	25.00	116.25
225	0.50	5.00	4.50			
				3.75	25.00	93.75
250	2.00	5.00	3.00			
				1.50	16.00	24.00
266	5.00	5.00	0.00			

AREA OF SECTION: 1,196.50 m²

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

Section N°
ZII-9

distance	a	b	c	c'	d	e
37	-1.70	5.00	6.70			
				6.60	13.00	85.80
50	-1.50	5.00	6.50			
				5.95	25.00	148.75
75	-0.40	5.00	5.40			
				5.30	25.00	132.50
100	-0.20	5.00	5.20			
				5.10	25.00	127.50
125	0.00	5.00	5.00			
				5.00	25.00	125.00
150	0.00	5.00	5.00			
				4.90	25.00	122.50
175	0.20	5.00	4.80			
				4.60	25.00	115.00
200	0.60	5.00	4.40			
				4.05	25.00	101.25
225	1.30	5.00	3.70			
				2.80	25.00	70.00
250	3.10	5.00	1.90			
				1.90	25.00	47.50
275	3.10	5.00	1.90			
				1.20	25.00	30.00
300	4.50	5.00	0.50			
325						
350						
375						

AREA OF SECTION: 1,105.80 m²

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

Section N°
ZII-10

distance	a	b	c	c'	d	e
50	-1.70	5.00	6.70			
				6.10	25.00	152.50
75	-0.50	5.00	5.50			
				5.35	25.00	133.75
100	-0.20	5.00	5.20			
				4.85	25.00	121.25
125	0.50	5.00	4.50			
				3.25	25.00	81.25
150	3.00	5.00	2.00			
				1.85	25.00	46.25
175	3.30	5.00	1.70			
				2.20	25.00	55.00
200	2.30	5.00	2.70			
				2.70	25.00	67.50
225	2.30	5.00	2.70			
				2.30	25.00	57.50
250	3.10	5.00	1.90			
				1.90	25.00	47.50
275	3.10	5.00	1.90			
				1.95	25.00	48.75
300	3.00	5.00	2.00			
				1.50	25.00	37.50
325	4.00	5.00	1.00			
				0.75	25.00	18.75
350	4.50	5.00	0.50			
				0.25	25.00	6.25
375	5.00	5.00	0.00			

AREA OF SECTION: 873.75 m²

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

Section N°
ZII-11

distance	a	b	c	c'	d	e
71	-1.40	5.00	6.40			
				6.35	4.00	25.40
75	-1.30	5.00	6.30			
				5.85	25.00	146.25
100	-0.40	5.00	5.40			
				4.05	25.00	101.25
125	2.30	5.00	2.70			
				1.35	25.00	33.75
150	5.00	5.00	0.00			
				0.00	25.00	0.00
175	5.00	5.00	0.00			
				0.00	25.00	0.00
200	5.00	5.00	0.00			
				0.00	25.00	0.00
225	5.00	5.00	0.00			
				0.00	25.00	0.00
250	5.00	5.00	0.00			
				0.00	25.00	0.00
275	5.00	5.00	0.00			
				0.00	25.00	0.00
300	5.00	5.00	0.00			
				0.50	25.00	12.50
325	4.00	5.00	1.00			
				1.00	25.00	25.00
350	4.00	5.00	1.00			
				0.75	25.00	18.75
375	4.50	5.00	0.50			
				0.25	25.00	6.25
400	5.00	5.00	0.00			

AREA OF SECTION: 369.15 m²

April 2, 2002

NATURAL GROUND ELEVATIONS AREA OF RECLAMATION ZONE II (ZONE B)

SECTION N°	400	375	350	325	300	275	250	225	200	175	150	125	100	75	50	25	0	-25	-50	-75
ZII-1														4.00	2.60	1.20	2.10	5	5	-1
ZII-2													5.00	2.00	-0.20	0.00	-0.20	-0.6	-1	-1.3
ZII-3														1.30	1.40	-0.40	-0.60	-1.1	-1.2	-1.8
ZII-4														1.40	-0.50	-0.60	-0.90	-1.2	-1.6	-2.5
ZII-5									2.90	2.60	1.60	1.40	-0.50	-0.60	-1.10	-1.20	-1.8	-2.3	-2.9	
ZII-6							5.00	2.60	0.20	0.10	0.00	-0.20	-0.30	-0.40	-0.65	-1.80	-1.35	-2.1	-2.6	-3.2
ZII-7							2.90	0.50	0.20	0.00	0.00	-0.10	-0.30	-0.40	-0.80	-1.50	-1.80	-2.3	-2.8	-3.4
ZII-8						5.00	2.00	0.50	0.20	0.10	0.00	-0.10	-0.20	-0.40	-0.80	-1.70	-2.20	-2.6	-3.2	-3.5
ZII-9					4.50	3.10	3.10	1.30	0.60	0.20	0.00	0.00	-0.20	-0.40	-1.50	-1.90	-2.50	-2.9	-3.2	-3.4
ZII-10		5.00	4.50	4.00	3.00	3.10	3.10	2.30	2.30	3.30	3.00	0.50	-0.20	-0.50	-1.70	-2.20	-2.60	-3.1	-3.3	-3.6
ZII-11	5.00	4.50	4.00	4.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	2.30	-0.40	-1.30	-2.70	-2.90	-3.20	-3.4	-3.6	-4.1

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Land Reclamation	Calc. Index No.	
Subject	Temporary Revetment E	Page No.	Rev.
<p style="text-align: center;">Cross Section</p>			References/ Notes
$A = \frac{(3.5 + 11.9) \times 7.0}{2}$ $= 53.0 \text{ m}^2$			
$L = 55.5 \text{ m}$			
$V = 53.0 \times 55.5 = 2941.5$ $= 30,000 \text{ m}^3$			
Prepared by		Checked by	
/ /200		/ /200	

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Land Reclamation	Calc. Index No.	
Subject	East Canal	Page No.	Rev.
<p style="text-align: center;">Cross Section</p> <p style="text-align: center;"> $A = \frac{(3.5 + 10.7) \times 6.0}{2}$ $= 42.6 \text{ m}^2$ $L = 50 \text{ m}$ $V = 42.6 \times 50 = 2130 \text{ m}^3$ </p>			References/ Notes
Prepared by		Checked by	
/ /200		/ /200	