

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	STEEL PIPE PILE FOR CRANE DAIL FOUNDATION	Pay Item No. (BOQ)	2C-1301
Quantity Item	STEEL PIPE PILE	Unit	Nos

Calculation Procedure Applied

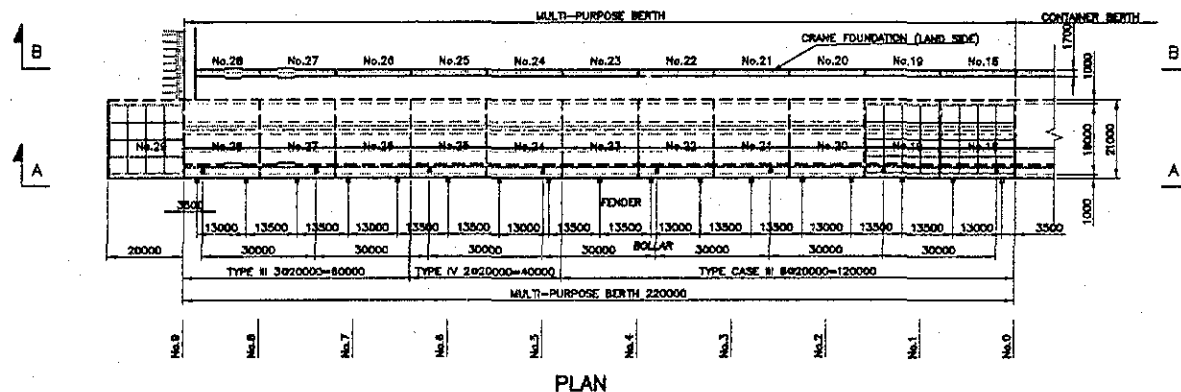
Pile length and weight was computed for each type of pile, including diameter and thickness.
length was computed by Intellid and multiplied to the total number of pile in Multipurpose Berth.
The unit and total weight for each type of pile was computed using Weight Tables.

References, Calculation Base and Revisions

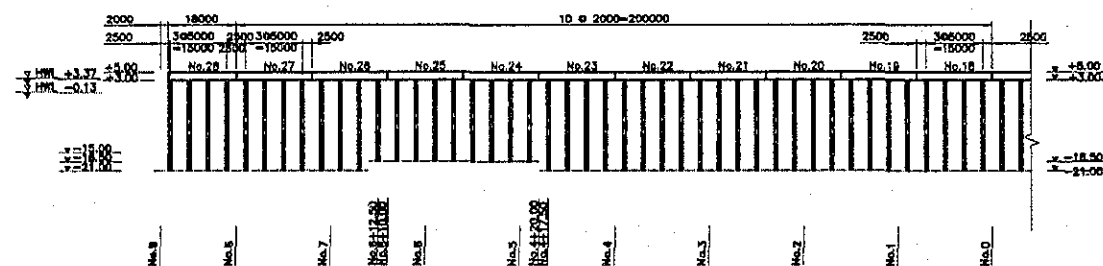
References: Tender Drawings:

- DW-QW-01-002 Plan and Profile Multipurpose Berth
- DW-QW-01-056 Crane Foundation (Land Side)

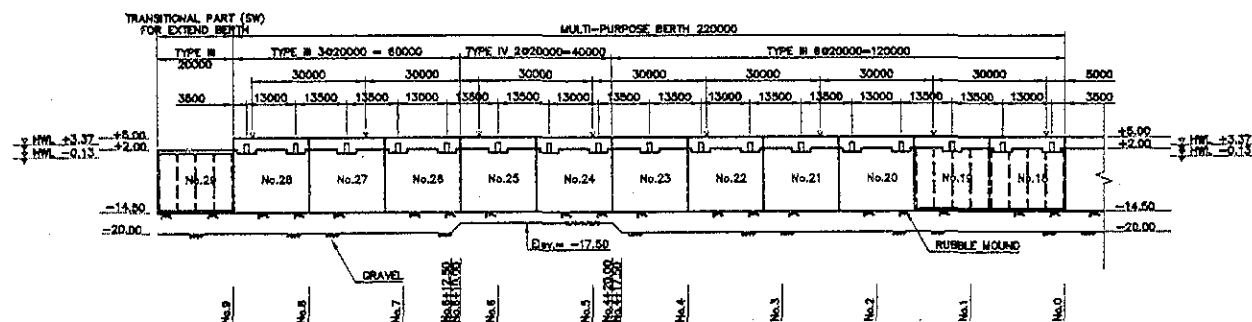
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla Garcia			Mr. Inoma		Mr. Ando		
1								
2								
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PLAN






PROFILE B-B



PROFILE A-A

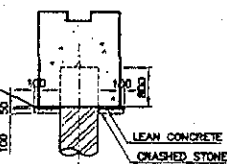
SCALE 1:1250



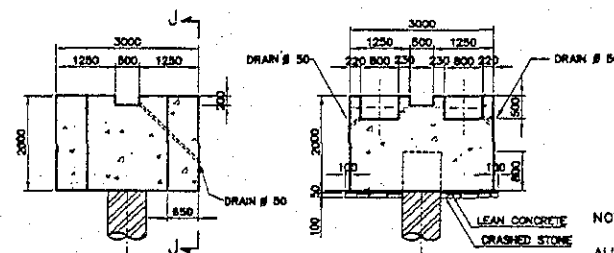
								JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)		DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR		DESIGNED BY : CHECKED BY : APPROVED BY :		SECTION : QUAYWALL WORK SUB-SECTION : CONTAINER AND MULTI-PURPOSE BERTH TITLE : PLAN AND PROFILE MULTI-PURPOSE BERTH		DATE : JULY/2002 SCALE : 1 : 1250 DRAWING NO : DW-QW-01-001	
								COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)		 NIPPON KOKI CO., LTD.							
REVISION	DATE	COORDINATE	BY	APPROVED	DATE												



	LENGTH (L)	a	b	c	d	X	Y	Z1	Z2	Z3
No.1	18000	—	—	—	—	1000	2000	5000	5000	5000
No.2	20000	—	—	—	—	2500	3000	5000	4500	5000
No.3~ No.13	20000	—	—	—	—	2500	2500	2500	2500	—
No.14	20000	8600	11400	2500	2500	—	—	—	—	—
No.15	20000	11400	8600	2500	2500	—	—	—	—	—
No.16	20000	8600	11400	2500	2500	—	—	—	—	—
No.17	20000	11400	8600	2500	2500	—	—	—	—	—
No.18~ No.26	20000	—	—	—	—	2500	2500	2500	2500	—
No.27	20000	8600	11400	2500	2500	—	—	—	—	—
No.28	18000	9400	8600	1000	2000	—	—	—	—	—



SECTION B-B
SCALE 1:100



SECTION F-F
SCALE 1:100

SECTION G-G
SCALE 1:100

NOTE:
ALL DIMENSIONS
ARE IN MILLIMETER.

[illegible]

JICA JAPAN INTERNATIONAL
COOPERATION AGENCY
(JICA)

CPA 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 :	QUAYWALL WORK
MAIN-SECTION :	CONTAINER AND MULTI-PURPOSE BERTH
TYPE :	CRANE FOUNDATION (LAND SIDE)

DATE 1	JULY/2002
SCALE 1	INDICATED
DRAWING NO	DW-QW-01

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	STEEL PIPE PILE FOR CRANE RAIL FOUNDATION	Calc. Index No.	
Subject	STEEL PIPE PILE	Page No.	Rev.

References/Notes	
<p>Multi-Purpose Bulk:</p> <p>No piles = 14 ; $\phi = 800 \text{ mm}$</p> <p>$L_1 = 24.00 \text{ m}$; $L_2 = 21.50 \text{ m}$; $t = 11 \text{ mm}$; $t_2 = 14 \text{ mm}$</p> <p>for $t = 11 \text{ mm}$; $\phi = 800 \text{ mm}$; $L_1 = 24.00 \text{ m}$; No piles = 29</p> <p>$\Rightarrow w = 214 \text{ kg/m}$</p> <p>$\Rightarrow \text{Unit weight} = (214 \text{ kg/m})(24.00 \text{ m}) = 5,136 \text{ kg}$</p> <p>$\Rightarrow W = (5,136 \text{ kg})(29) = 148,944 \text{ kg}$</p> <p>$\Rightarrow L = (24.00 \text{ m})(29) = 696 \text{ m}$</p>	
<p>No piles = 29</p> <p>$W = 148,944 \text{ kg}$</p> <p>$L = 696 \text{ m}$</p>	
<p>for $t = 11 \text{ mm}$; $\phi = 800 \text{ mm}$; $L_2 = 21.50 \text{ m}$; No piles = 9</p> <p>$\Rightarrow \text{Unit weight} = (214 \text{ kg/m})(21.50 \text{ m}) = 4,601 \text{ kg}$</p> <p>$\Rightarrow W = (4,601 \text{ kg})(9) = 41,409 \text{ kg}$</p> <p>$\Rightarrow L = (21.50 \text{ m})(9) = 193.50 \text{ m} \approx 194 \text{ m}$</p>	
<p>No piles = 9</p> <p>$W = 41,409 \text{ kg}$</p> <p>$L = 194 \text{ m}$</p>	
<p>for $t = 14 \text{ mm}$; $\phi = 800 \text{ mm}$; $L_1 = 24 \text{ m}$; No piles = 6</p> <p>$\Rightarrow w = 271 \text{ kg/m}$</p> <p>$\Rightarrow \text{Unit weight} = (271 \text{ kg/m})(24) = 6,504 \text{ kg}$</p> <p>$\Rightarrow W = (6,504 \text{ kg})(6) = 39,024 \text{ kg}$</p> <p>$\Rightarrow L = (24.00 \text{ m})(6) = 144 \text{ m}$</p>	
<p>No piles = 6</p> <p>$W = 39,024 \text{ kg}$</p> <p>$L = 144 \text{ m}$</p>	
<p>$W_T = 229,377 \text{ kg}$</p> <p>$L_T = 1,034 \text{ m}$</p>	

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	STEEL PIPE PILE FOR CRANE RAIL FOUNDATION	Pay Item No. (BOQ)	2C-1302
Quantity Item	STEEL PLATE	Unit	kg

Calculation Procedure Applied

Steel plates will be used for connection between steel pipe pile and re-bar.

References, Calculation Base and Revisions

References: Tender Drawings :
DW - QW - 01 - 057 Reinforcement of Crane Foundation (1)

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

REINFORCEMENT OF CRANE FOUNDATION (TYPICAL SECTION)

SCALE 1:1000

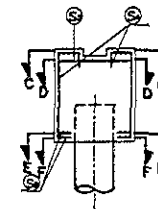
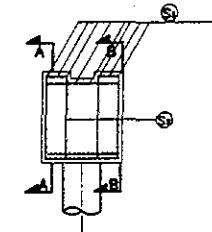
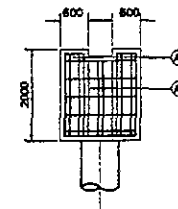
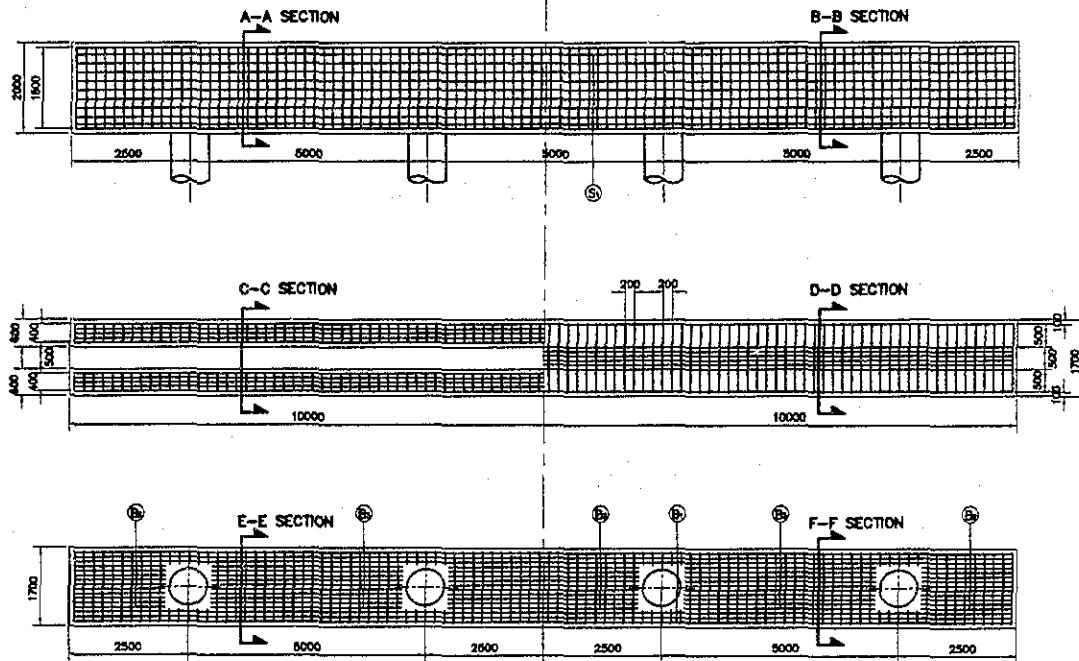
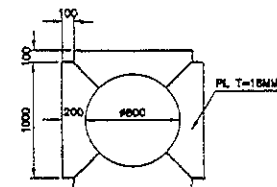




PLATE DETAIL
SCALE 1:40

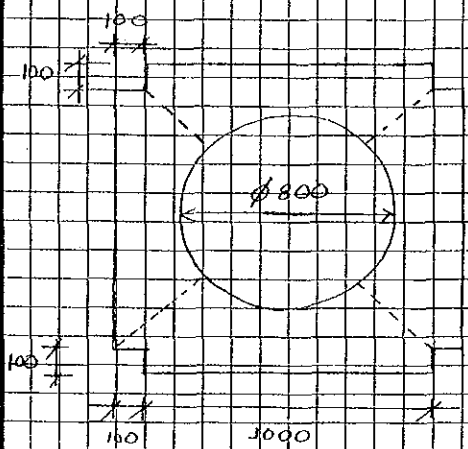


- NOTES:
- 1- ALL DIMENSIONS ARE IN MILLIMETER
 - 2- THIS REINFORCEMENT IS APPLIED TO TYPICAL SECTION, THOUGH ANOTHER SECTION WILL BE ALMOST SAME. SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR.
 - 3- JOIN POINTS OF REINFORCING BAR SHOULD BE TAKEN INTO ACCOUNT, AS THEY ARE NOT CONCENTRATED ON THE SMALL AREA.

SCALE 1:200

REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE		<p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)</p> <p>COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)</p>	<p>DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR</p> <p> NIPPON KOEI CO., LTD.</p>	<p>DESIGNED BY: _____</p> <p>CHECKED BY: _____</p> <p>APPROVED BY: _____</p>	<p>SECTION: QUAYWALL WORK</p> <p>SUB-SECTION: CONTAINER AND MULTI-PURPOSE BERTH</p> <p>FILE: REINFORCEMENT OF CRANE FOUNDATION (1)</p>	<p>DATE: JULY/2002</p> <p>SCALE: INDICATED</p> <p>DRAWING NO: DW-QW-01-057</p>
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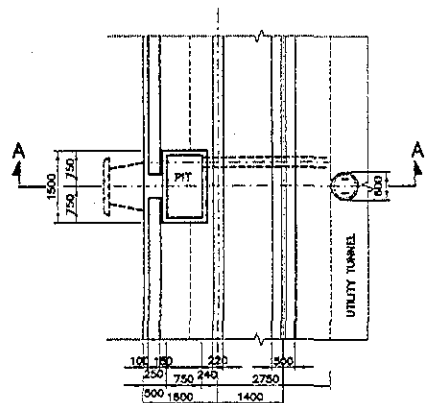
Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	STEEL PIPE PILE FOR GRAVE RAIL FOUNDATION	Calc. Index No.	
Subject	STEEL PLATE	Page No.	Rev.

 <p style="text-align: right; margin-right: 100px;">$t = 16 \text{ mm}$</p> $A = 1.20 \times 1.20 - 0.10 \times 0.10 \times 4$ $- (0.40)^2 \times \pi$ $= 0.8976$ $= 0.898$ $W = 0.898 \times 0.016 \times 7850$ $= 112.78$ $\approx 112.80 \text{ kg}$ $W_T = 112.80 \times 4 \times 11$ $= 4,963.20 \text{ kg}$ $\approx \boxed{4,970 \text{ kg}}$	References/ Notes
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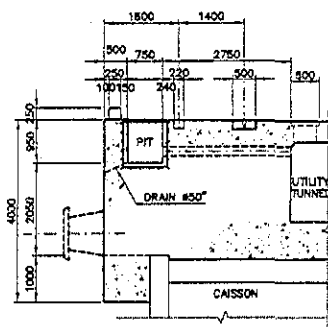
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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	CONCRETE FOR CRANE RAIL FOUNDATION			Pay Item No. (BOQ)	2C - 1401			
Quantity Item	Concrete (Multi-purpose berth)			Unit	m ³			
Calculation Procedure Applied <p style="margin-left: 40px;">Concrete volume of crane rail foundation was computed on each type. Crane accessories were considered in the calculation. See the attached summary.</p>								
References, Calculation Base and Revisions <p style="margin-left: 40px;">References: Tender Drawings:</p> <p style="margin-left: 40px;">DW-QW-01-045 Detail of Coping (1)</p> <p style="margin-left: 40px;">DW-QW-01-056 Crane foundation (land side)</p> <p style="margin-left: 40px;">DW-QW-01-059 Detail of Anchor - Jack up Plate</p> <p style="margin-left: 40px;">DW-QW-01-060 Detail of Crane End Stopper.</p>								
Rev	Prepared		No. of	Checked		Reviewed		Superseded
	by	Date	Pages	by	Date	by	Date	by Calc No.
0	Kokoro Gouza			Mr. Inuma		Mr. Ando		
1								
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WATER HAULANT & FIRE FIGHTING PIT CAISSON
No.3 No.7 No.11 No.15 No.19 No.23 No.27

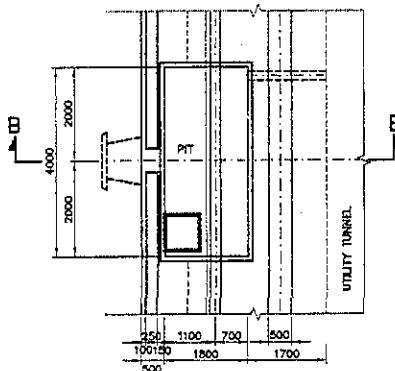


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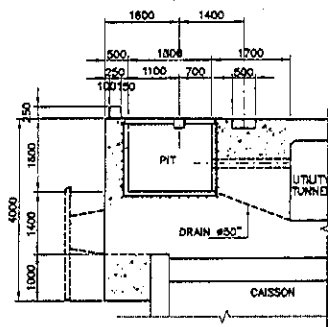


SECTION A-A

ELECTRIC CABLE JUNCTION PIT
CAISSON No.12 No.20

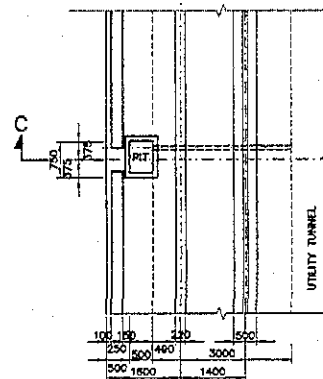


PLAN

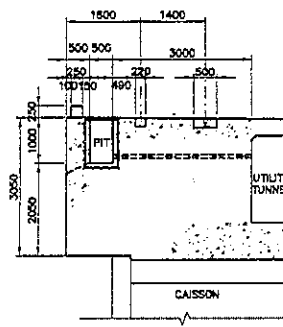


SECTION B-B

ELECTRIC SERVICE PIT CAISSON
No.2 No.14 No.16 No.26 No.28

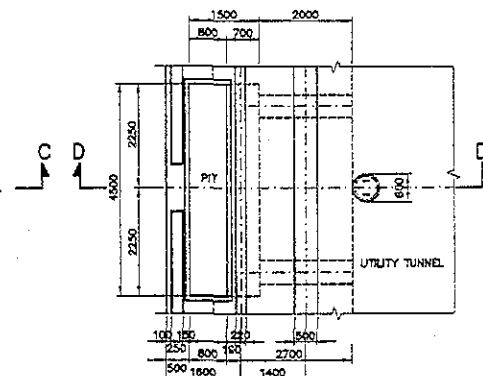


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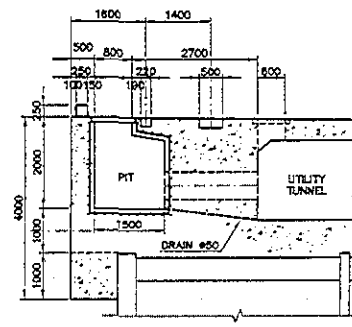


SECTION C-C

LOADING PIT (MULTI-PURPOSE BERTH)
CAISSON No.21 No.22 No.23 No.24 No.25



PLAN



SECTION D-D

NOTE:
-DETAIL OF ELECTRIC SERVICE PIT IS SHOWN IN DW-??
-DETAIL OF ELECTRIC CABLE JUNCTION IS SHOWN IN DW-??
-DETAIL OF WATER HYDRANT FIREFIGHTING IS SHOWN IN DW-??

<table><tr><td>REV.</td><td>NO.</td><td>DATE</td><td>COORDINATE</td><td>BY</td><td>APPROVED</td><td>DATE</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> 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Technical drawing of a rectangular box. The front view shows a box with a width of 180 mm and a height of 100 mm. The top surface is divided into three horizontal sections. The side view shows a box with a depth of 130 mm and a height of 220 mm. A section line A-A is indicated on the front view. The drawing is labeled with dimensions: 180, 100, 130, 220, and 10. A note '180x100x130' is present.

Technical drawing of a mechanical part, likely a bracket or support, showing dimensions in millimeters. The drawing includes a top view and a side view. Key dimensions include: overall width 220mm, overall height 380mm, central hole diameter 180mm, and various mounting hole positions and diameters.

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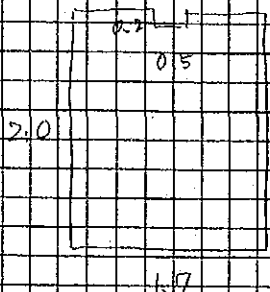
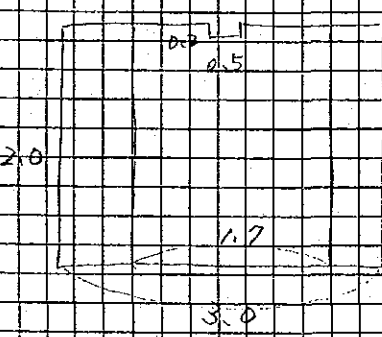
Plan view of the berth structure showing dimensions and components. The diagram includes labels for the BERTH LINE, CABLE TRENCH, SEA SIDE RAIL, LAND SIDE RAIL, ANCHOR SOCKET, and JACK UP PLATE. Dimensions are provided in feet and inches, including 172'00", 144'00", 7'00", 7'50", 6'00", 6'75", 5'00", 4'00", 3'00", 2'00", 1'00", 1'50", 2'50", 3'50", 4'50", 5'50", 6'50", 7'50", 8'50", 9'50", 10'50", 11'50", 12'50", 13'50", 14'50", 15'50", 16'50", 17'50", 18'50", 19'50", 20'50", 21'50", 22'50", 23'50", 24'50", 25'50", 26'50", 27'50", 28'50", 29'50", 30'50", 31'50", 32'50", 33'50", 34'50", 35'50", 36'50", 37'50", 38'50", 39'50", 40'50", 41'50", 42'50", 43'50", 44'50", 45'50", 46'50", 47'50", 48'50", 49'50", 50'50", 51'50", 52'50", 53'50", 54'50", 55'50", 56'50", 57'50", 58'50", 59'50", 60'50", 61'50", 62'50", 63'50", 64'50", 65'50", 66'50", 67'50", 68'50", 69'50", 70'50", 71'50", 72'50", 73'50", 74'50", 75'50", 76'50", 77'50", 78'50", 79'50", 80'50", 81'50", 82'50", 83'50", 84'50", 85'50", 86'50", 87'50", 88'50", 89'50", 90'50", 91'50", 92'50", 93'50", 94'50", 95'50", 96'50", 97'50", 98'50", 99'50", 100'50", 101'50", 102'50", 103'50", 104'50", 105'50", 106'50", 107'50", 108'50", 109'50", 110'50", 111'50", 112'50", 113'50", 114'50", 115'50", 116'50", 117'50", 118'50", 119'50", 120'50", 121'50", 122'50", 123'50", 124'50", 125'50", 126'50", 127'50", 128'50", 129'50", 130'50", 131'50", 132'50", 133'50", 134'50", 135'50", 136'50", 137'50", 138'50", 139'50", 140'50", 141'50", 142'50", 143'50", 144'50", 145'50", 146'50", 147'50", 148'50", 149'50", 150'50", 151'50", 152'50", 153'50", 154'50", 155'50", 156'50", 157'50", 158'50", 159'50", 160'50", 161'50", 162'50", 163'50", 164'50", 165'50", 166'50", 167'50", 168'50", 169'50", 170'50", 171'50", 172'50", 173'50", 174'50", 175'50", 176'50", 177'50", 178'50", 179'50", 180'50", 181'50", 182'50", 183'50", 184'50", 185'50", 186'50", 187'50", 188'50", 189'50", 190'50", 191'50", 192'50", 193'50", 194'50", 195'50", 196'50", 197'50", 198'50", 199'50", 200'50", 201'50", 202'50", 203'50", 204'50", 205'50", 206'50", 207'50", 208'50", 209'50", 210'50", 211'50", 212'50", 213'50", 214'50", 215'50", 216'50", 217'50", 218'50", 219'50", 220'50", 221'50", 222'50", 223'50", 224'50", 225'50", 226'50", 227'50", 228'50", 229'50", 230'50", 231'50", 232'50", 233'50", 234'50", 235'50", 236'50", 237'50", 238'50", 239'50", 240'50", 241'50", 242'50", 243'50", 244'50", 245'50", 246'50", 247'50", 248'50", 249'50", 250'50", 251'50", 252'50", 253'50", 254'50", 255'50", 256'50", 257'50", 258'50", 259'50", 260'50", 261'50", 262'50", 263'50", 264'50", 265'50", 266'50", 267'50", 268'50", 269'50", 270'50", 271'50", 272'50", 273'50", 274'50", 275'50", 276'50", 277'50", 278'50", 279'50", 280'50", 281'50", 282'50", 283'50", 284'50", 285'50", 286'50", 287'50", 288'50", 289'50", 290'50", 291'50", 292'50", 293'50", 294'50", 295'50", 296'50", 297'50", 298'50", 299'50", 300'50", 301'50", 302'50", 303'50", 304'50", 305'50", 306'50", 307'50", 308'50", 309'50", 310'50", 311'50", 312'50", 313'50", 314'50", 315'50", 316'50", 317'50", 318'50", 319'50", 320'50", 321'50", 322'50", 323'50", 324'50", 325'50", 326'50", 327'50", 328'50", 329'50", 330'50", 331'50", 332'50", 333'50", 334'50", 335'50", 336'50", 337'50", 338'50", 339'50", 340'50", 341'50", 342'50", 343'50", 344'50", 345'50", 346'50", 347'50", 348'50", 349'50", 350'50", 351'50", 352'50", 353'50", 354'50", 355'50", 356'50", 357'50", 358'50", 359'50", 360'50", 361'50", 362'50", 363'50", 364'50", 365'50", 366'50", 367'50", 368'50", 369'50", 370'50", 371'50", 372'50", 373'50", 374'50", 375'50", 376'50", 377'50", 378'50", 379'50", 380'50", 381'50", 382'50", 383'50", 384'50", 385'50", 386'50", 387'50", 388'50", 389'50", 390'50", 391'50", 392'50", 393'50", 394'50", 395'50", 396'50", 397'50", 398'50", 399'50", 400'50", 401'50", 402'50", 403'50", 404'50", 405'50", 406'50", 407'50", 408'50", 409'50", 410'50", 411'50", 412'50", 413'50", 414'50", 415'50", 416'50", 417'50", 418'50", 419'50", 420'50", 421'50", 422'50", 423'50", 424'50", 425'50", 426'50", 427'50", 428'50", 429'50", 430'50", 431'50", 432'50", 433'50", 434'50", 435'50", 436'50", 437'50", 438'50", 439'50", 440'50", 441'50", 442'50", 443'50", 444'50", 445'50", 446'50", 447'50", 448'50", 449'50", 450'50", 451'50", 452'50", 453'50", 454'50", 455'50", 456'50", 457'50", 458'50", 459'50", 460'50", 461'50", 462'50", 463'50", 464'50", 465'50", 466'50", 467'50", 468'50", 469'50", 470'50", 471'50", 472'50", 473'50", 474'50", 475'50", 476'50", 477'50", 478'50", 479'50", 480'50", 481'50", 482'50", 483'50", 484'50", 485'50", 486'50", 487'50", 488'50", 489'50", 490'50", 491'50", 492'50", 493'50", 494'50", 495'50", 496'50", 497'50", 498'50", 499'50", 500'50", 501'50", 502'50", 503'50", 504'50", 505'50", 506'50", 507'50", 5

Technical drawing of a rectangular plate with dimensions 450x300. The plate has a central rectangular hole with dimensions 200x175. The hole is positioned such that there are 100 units of material on the left and right sides, and 25 units of material on the top and bottom edges. The drawing includes a top view and a side view.

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Concrete Volume of Crane Rail Foundation

		anchoring frame	socket block	stopper	Volume
Container Berth	No.1	56.3		0.73	55.6
	No.2	66			66.0
	No.3	66			66.0
	No.4	66			66.0
	No.5	66			66.0
	No.6	66			66.0
	No.7	66			66.0
	No.8	66			66.0
	No.9	66			66.0
	No.10	66			66.0
	No.11	66			66.0
	No.12	66			66.0
	No.13	66			66.0
	No.14	79.4	1.68	0.14	77.6
	No.15	79.4	1.68	0.14	77.6
	No.16	79.4	1.68	0.14	77.6
	No.17	79.4	1.68	0.14	76.9
	Total				1,160 m3
Multi-purpose Berth	No.18	66			66.0
	No.19	66			66.0
	No.20	66			66.0
	No.21	66			66.0
	No.22	66			66.0
	No.23	66			66.0
	No.24	66			66.0
	No.25	66			66.0
	No.26	66			66.0
	No.27	79.4	1.68	0.14	77.6
	No.28	79.4	1.68	0.14	76.9
	Total				750 m3

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	CONCRETE FOR CRANE RAIL FOUNDATION	Calc. Index No.	
Subject	Concrete (multi-purpose berth)	Page No. /	Rev.
		References/	Notes
<p>No. 18 ~ No. 26</p>  <p>2.0 × 1.7 × 20.0 = 68.0 m³</p> <p>Rail pit</p> <p>0.2 × 0.5 × 20.0 = 2.0 m³</p> <p>68.0 - 2.0 = 66.0 m³</p>			
<p>No. 27</p>  <p>2.0 × 1.7 × 14.2</p> <p>+ 4.5 × 3.0 × 2.0</p> <p>+ (1.7 + 3.0) × 0.65 ÷ 2 × 2.0 × 2</p> <p>= 81.4 m³</p> <p>Rail pit</p> <p>0.2 × 0.5 × 20 = 2.0 m³</p> <p>Anchoring frame</p> <p>0.8 × 0.25 × 1.4 × 21 = 1.68 m³</p> <p>Socket block</p> <p>0.45 × 1.0 × 0.3 × 11 = 0.135</p> <p>≈ 0.14 m³</p>			
Prepared by		Checked by	
/ /200		/ /200	

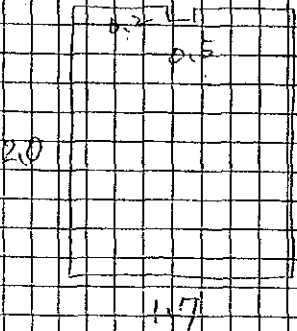
Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	CONCRETE FOR CRANE RAIL FOUNDATION	Calc. Index No.	
Subject	Concrete (Multi-purpose berth)	Page No.	2 Rev.

<div style="border: 1px solid black; padding: 2px; display: inline-block;">N/O. 28</div> $2.0 \times 1.7 \times 12.2 + 4.5 \times 3.0 \times 2.0$ $+ (1.7 + 3.0) \times 0.65 \div 2 \times 2.0 \times 2$ $= 77.6 \text{ m}^3$ <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">Roll pit</div> <div style="border: 1px solid black; padding: 5px;"> $0.2 \times 0.5 \times 18 = 1.8 \text{ m}^3$ </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">Anchoring frame</div> <div style="border: 1px solid black; padding: 5px;"> 1.68 m^3 </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">Socket block</div> <div style="border: 1px solid black; padding: 5px;"> 0.14 m^3 </div> </div> <div style="display: flex; align-items: center;"> <div style="margin-right: 20px;">Stopper</div> <div style="border: 1px solid black; padding: 5px;"> $0.8 \times 1.4 \times 0.65 \times = 0.75 \text{ m}^3$ </div> </div>	References/ Notes
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	/ /200		/ /200

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	CONCRETE FOR CRANE RAIL FOUNDATION			Pay Item No. (BOQ)	2C-1402			
Quantity Item	Elas Tigh Board (Multi-purpose berth)			Unit	m ²			
Calculation Procedure Applied <div style="font-family: cursive;"> Elas tigh board will be used for construction joints. This calculation was computed for Multi-purpose berth based on every 20 m pitch. </div>								
References, Calculation Base and Revisions <div style="font-family: cursive;"> References: Tender Drawings: DW-AW-01-056 Crane Foundation (Land Side) (Same as "Concrete" (Concrete for Crane Rail foundation)) </div>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Yola Gerto	[Signature]		Mr. Inuma		Mr. Ando		
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	CONCRETE FOR CRANE RAIL FOUNDATION	Calc. Index No.	
Subject	Elae Tigh Board (Multi-purpose berth)	Page No.	Rev.

$L = 220 \text{ m.}$ $220 \div 20 = 11$ 	$A = 2.0 \times 1.7 = 0.5 \times 0.2$ $= 3.3 \text{ m}^2$ $3.3 \times 10 = 33.0 \text{ m}^2$	References/ Notes
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	/ /200		/ /200

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	CONCRETE FOR CRANE RAIL FOUNDATION			Pay Item No. (BOQ)	2C - 1403			
Quantity Item	Reinforcement (Unit-duraspert)			Unit	t			
Calculation Procedure Applied <p style="margin-left: 40px;">Total weight of reinforcement for crane rail foundation was computed by using Excel.</p> <p style="margin-left: 40px;">This calculation was carried out based on typical section.</p>								
References, Calculation Base and Revisions <p style="margin-left: 40px;">References: Tender Drawings</p> <p style="margin-left: 40px;">DW - QVI - 01 - 057 Reinforcement of Crane Foundation (2)</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Koko Garcia	[Signature]		Mr. Truma		Mr. Ando		
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REINFORCEMENT OF CRANE FOUNDATION (TYPICAL SECTION) SCALE 1:1000

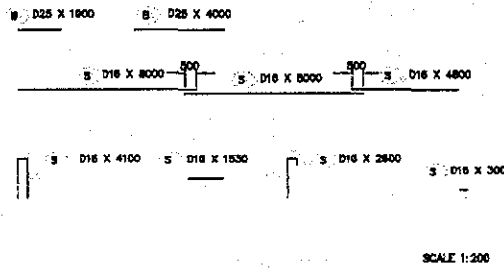
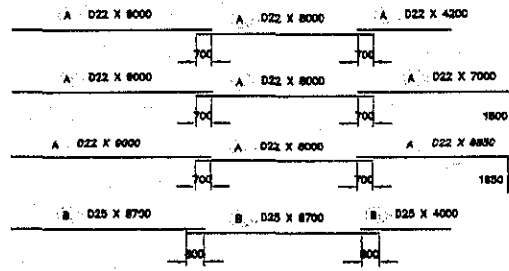
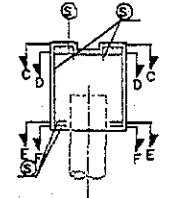
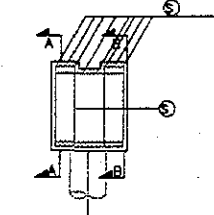
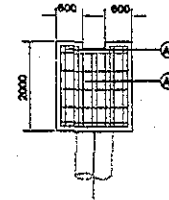
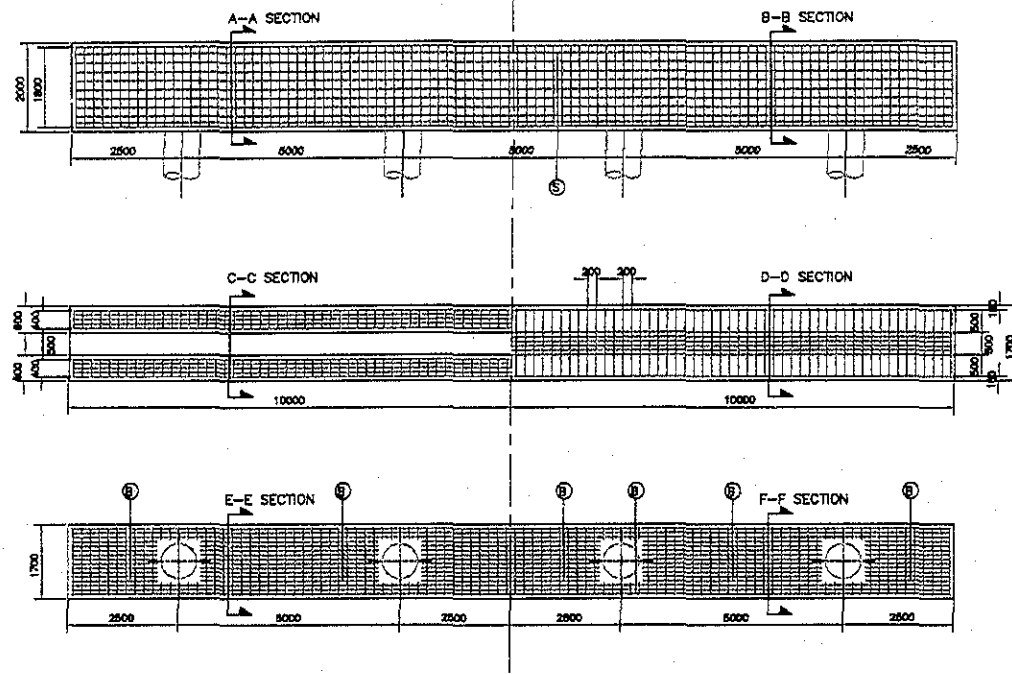
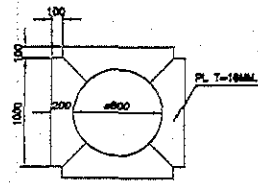


PLATE DETAIL SCALE 1:40



- NOTES:
- 1- ALL DIMENSIONS ARE IN MILLIMETER
 - 2- THIS REINFORCEMENT IS APPLIED TO TYPICAL SECTION, THOUGH ANOTHER SECTION WILL BE ALMOST SAME. SHOP DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR.
 - 3- JOIN POINTS OF REINFORCING BAR SHOULD BE TAKEN INTO ACCOUNT, AS THEY ARE NOT CONCENTRATED ON THE SMALL AREA.

SCALE 1:200

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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	CONCRETE FOR CRANE RAIL FOUNDATION			Pay Item No. (BOQ)	2C-1404			
Quantity Item	Form (Multi-purpose berth)			Unit	m ²			
Calculation Procedure Applied								
<p>Form for crane rail foundation was computed in every type of Multi-purpose berth. Crane accessories were considered in the calculation. (Refer to attached summary.)</p>								
References, Calculation Base and Revisions								
<p>References: Tender Documents:</p> <p>LN-2N-01-045 Detail of Coving (4)</p> <p>LN-2N-01-053 Crane Foundation (Land Site)</p> <p>LN-2N-01-053 Detail of Anchor-Jack up Plate & Socket Block</p> <p>LN-2N-01-053 Details of Crane End Sill</p> <p>(Same as "Concrete" (Concrete for Crane Rail foundation))</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla Garcia			Mr. Inuma		Mr. Ando		
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Form of Crane Rail Foundation

		anchoring frame	socket block	Stopper	sqm
Container Berth	No.1	77.5		2.86	80.4
	No.2	88			88
	No.3	88			88
	No.4	88			88
	No.5	88			88
	No.6	88			88
	No.7	88			88
	No.8	88			88
	No.9	88			88
	No.10	88			88
	No.11	88			88
	No.12	88			88
	No.13	88			88
Multi-purpose Berth	No.14	90.2	8.68	0.87	99.8
	No.15	90.2	8.68	0.87	99.8
	No.16	90.2	8.68	0.87	99.8
	No.17	90.2	8.68	0.87	102.6
	End Block				0
	Total				1,540 m2
	No.18	88			88
	No.19	88			88
	No.20	88			88
	No.21	88			88
	No.22	88			88
	No.23	88			88
	No.24	88			88
	No.25	88			88
	No.26	88			88
	No.27	90.2	8.68	0.87	99.8
	No.28	82.5	8.68	0.87	94.9
	End Block				0
	Total				990 m2

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	CONCRETE FOR CRANE RAIL FOUNDATION	Calc. Index No.	
Subject	Form (Multi-purpose berth)	Page No.	Rev.

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> No. 18 ~ No. 26 </div> <p>side $2.0 \times 20.0 \times 2 = 80.0 \text{ m}^2$</p> <p>Rail pit $0.2 \times 20.0 \times 2 = 8.0 \text{ m}^2$</p> <p style="text-align: right;">Total 88.0 m^2</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> No. 27 </div> <p>side $(14.2 + 0.92 + 4.5) \times 2.0 \times 2$ $= 82.2 \text{ m}^2$</p> <p style="text-align: right;">$> 90.2 \text{ m}^2$</p> <p>Rail pit $0.2 \times 20.0 \times 2 = 8.0 \text{ m}^2$</p> <p>Anchoring frame $(0.8 \times 2 + 0.75 \times 2) \times 1.4 \times 2$ $= 8.68 \text{ m}^2$</p> <p>Socket block $(0.45 \times 2 + 1.0 \times 2) \times 0.3 \times 1$ $= 0.87 \text{ m}^2$</p> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> No. 28 </div> <p>side $2.0 \times 18.0 \times 2 = 72.0 \text{ m}^2$</p> <p>Rail pit $0.2 \times 18.0 \times 2 = 7.2 \text{ m}^2$</p> <p>End $2.0 \times 1.7 - 0.2 \times 0.5 = 3.3 \text{ m}^2$</p> <p style="text-align: right;">Total 82.5 m^2</p> <p>Anchoring frame 8.68 m^2</p> <p>Socket block 0.87 m^2</p> <p>Stepper $(0.8 \times 2 + 1.4 \times 2) \times 0.65 = 2.96 \text{ m}^2$</p>	References/Notes
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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	CONCRETE FOR CRANE RAIL FOUNDATION			Pay Item No. (BOQ)	2C - 1405			
Quantity Item	Crushed Stone			Unit	m ³			
Calculation Procedure Applied <p style="margin-left: 40px;">Volume of crushed stone for crane rail foundation was computed based on 10cm thick.</p>								
References, Calculation Base and Revisions <p style="margin-left: 40px;">References: Tender Drawings: DW-QW-01-056 Crane Foundation (land side) (Same as Concrete (Concrete for Crane Rail foundation))</p>								
Rev	Prepared		No. of	Checked		Reviewed		Superseded
	by	Date	Pages	by	Date	by	Date	by Calc No.
0	Karla Gorio			Mr. Inuma		Mr. Ando		
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	CONCRETE FOR CRANE RAIL FOUNDATION	Calc. Index No.	
Subject	Crushed Stone	Page No.	Rev.
		References/Notes	

10cm
10cm
Lean Concrete
Crushed Stone

1650 4500 650
5800

$$L = 220 - 2 = 218 \text{ m}$$

Width $5.8 \times 4 = 23.2 \text{ m}$
(3m)

Normal $218 - 23.2 = 194.8 \text{ m}$
(1.9m)

$$A_1 = 194.8 \times 1.9 = 370.2 \text{ m}^2$$

$$A_2 = \{ 4.5 \times (3 + 0.2) + (1.9 + 3.2) \times 0.65 \} \times 4$$

$$= 20.9 \text{ m}^2$$

reduction

Steel pipe $N = 44$

$$A_3 = \pi \times (0.4)^2 \times 44 = 22.1 \text{ m}^2$$

$$A = 370.2 + 20.9 - 22.1 = 419 \text{ m}^2$$

$$V = 419 \times 0.1 = 41.9 \text{ m}^3$$

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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	CONCRETE FOR CRANE RAIL FOUNDATION			Pay Item No. (BOQ)	20 - 1906			
Quantity Item	Leveling of Crushed Stone			Unit	m ²			
Calculation Procedure Applied <p style="font-style: italic;">As area of leveling of crushed stone was the same as crushed stone, calculation was omitted in this part.</p>								
References, Calculation Base and Revisions <p style="font-style: italic;">References: Tender Drawings : DW - aW - 01 - 050 Crane Foundation (Land Side) (Same as "Concrete" (Concrete for Crane Rail Foundation));</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	CONCRETE FOR CRANE RAIL FOUNDATION			Pay Item No. (BOQ)	2C-1407			
Quantity Item	Lean Concrete			Unit	m ³			
Calculation Procedure Applied <p style="margin-top: 10px;">Volume of lean concrete was computed by using the same area as crushed stone.</p> <p style="margin-top: 10px;">Thickness was to be 5cm.</p>								
References, Calculation Base and Revisions <p style="margin-top: 10px;">References: Tender Drawings:</p> <p style="margin-left: 20px;">DW-12W-01-056 Crane Foundation (Land Side)</p> <p style="margin-left: 20px;">(Same as "Concrete" (Concrete for Crane Rail Foundation))</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Crane Rail Foundation	Calc. Index No.	
Subject	Lean Concrete	Page No.	Rev.
$A = 419 \text{ m}^2$ $t = 0.05 \text{ m}$ $V = 419 \times 0.05 = 20.95$ $\approx 21.0 \text{ m}^3$		References/ Notes	
Prepared by		Checked by	
/ /200		/ /200	

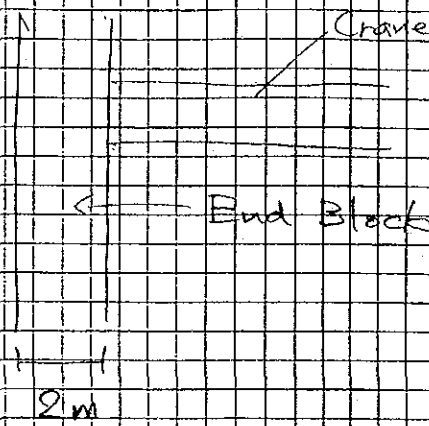
QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	CONCRETE FOR CRANE RAIL FOUNDATION			Pay Item No. (BOQ)	2C - 1408			
Quantity Item	CRANE DRAIN PIPE			Unit	Lm			
<p>Calculation Procedure Applied</p> <p>Crane drain pipe was computed multiplying the length of crane pipe to the number of pipe contained in one crane and multiplied to the total of cranes in Container and multipurpose Berth. The length was computed with zero decimal for total.</p>								
<p>References, Calculation Base and Revisions</p> <p>Reference: Tender Drawing DW-QW-01-03/56 Crane foundation (load side) (Same as "Concrete" (Concrete for Crane Rail foundation))</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Kaila Garcia	07 June 2012		Mr. Inuma		Mr. Ando		
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	CONCRETE FOR CRANE RAIL FOUNDATION	Calc. Index No.	
Subject	C&A/E DRAIN PIPE	Page No.	Rev.

Container Length:	References/Notes
$L_1 = 0.85 \text{ m}$	$L_1 = N_o = 47$
$L_2 = 1.76 \text{ m}$	$L_2 = N_o = 4$
$L_3 = 0.31 \text{ m}$	$L_3 = N_o = 8$
No 1:	
$L = (0.85 \text{ m})(3) = 2.55 \text{ m}$	
No 2 - 13	
$L = (0.85 \text{ m})(2)(12) = 30.6 \text{ m}$	
No 14 - 17	
$L = [(0.85 \text{ m})(2) + 1.76 \text{ m} + (0.31 \text{ m})(2)](4) = 16.92 \text{ m}$	
$L = 49.47 \text{ m} \approx 50 \text{ m}$	$L = 50 \text{ m}$
Multipurpose Bath:	
No 18 - 26	
$L = (0.85 \text{ m})(3)(9) = 22.95 \text{ m}$	$L_1 = N_o = 31$
No 27	$L_2 = N_o = 2$
$L = (0.85 \text{ m})(2) + 1.76 \text{ m} + (0.31 \text{ m})(2) = 4.08 \text{ m}$	$L_3 = N_o = 4$
No 28	
$L = (0.85 \text{ m})(2) + 1.76 \text{ m} + (0.31 \text{ m})(2) = 4.08 \text{ m}$	
$L = 31.1 \text{ m} \approx 32 \text{ m}$	$L = 32 \text{ m}$
Container + Multipurpose:	
	$L_1 = N_o = 78$
	$L_2 = N_o = 6$
	$L_3 = N_o = 12$
	$L_T = 82 \text{ m}$

Prepared by	Checked by
/ /200	/ /200

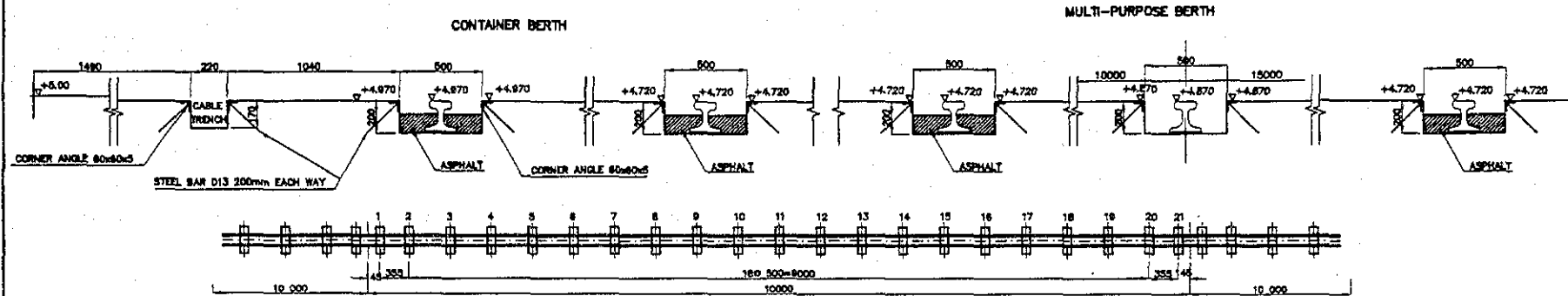
QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Crane Rail with Accessories			Pay Item No. (BOQ)	2C-1501			
Quantity Item	Crane Rail with Accessories			Unit	m.			
Calculation Procedure Applied <div style="font-family: cursive; font-size: 1.2em; padding: 10px;"> Length of crane rail was computed for Multi-purpose Berth. </div>								
References, Calculation Base and Revisions <div style="font-family: cursive; font-size: 1.2em; padding: 10px;"> References : Tender Drawings : DW-AW-01-044. Detail of Coping (3) </div>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Koko Goto			Mr. Inuma		Mr. Ando		
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Crane Rail with Accessories	Calc. Index No.	
Subject	Crane Rail with Accessories	Page No.	Rev.
<p>No. 28</p>  <p>Crane Rail Foundation</p> <p>End Block</p> <p>2m</p> <p>$L = 220 \times 3 + 2 = 658 \text{ m}$</p>		References/Notes	
Prepared by		Checked by	
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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Crane Rail with Accessories			Pay Item No. (BOQ)	2C-1502			
Quantity Item	Asphalt Mixture			Unit	m ³			
Calculation Procedure Applied								
<p>Volume of asphalt mixture was computed by multiplying typical section area by length.</p>								
References, Calculation Base and Revisions								
<p>References. Tender Drawings: DW - a w - 01 - 058 Detail of Crane Rail</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla Garcia			Mr. Inuma		Mr. Ando		
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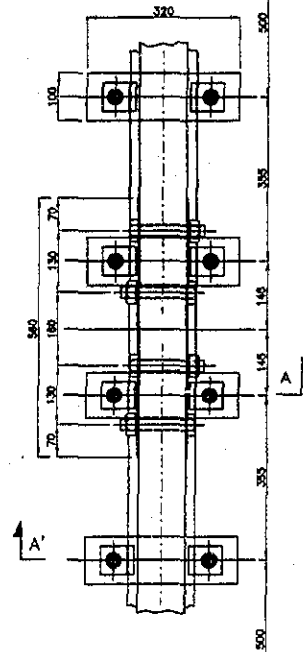
PLAN OF RAIL AND DECK ELEVATION

SCALE 1:25



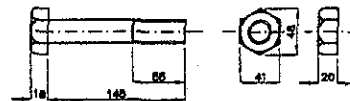
PLAN OF JOINT

SCALE 1:100



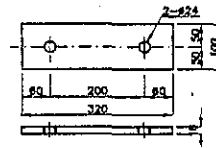
⑤ HEX. BOLT & NUT

SCALE 1:5



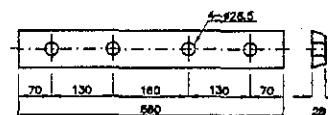
③ BASE PLATE

SCALE 1:10



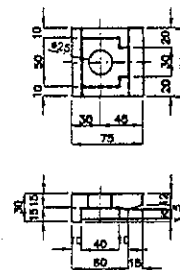
④ JOINT PLATE

SCALE 1:10



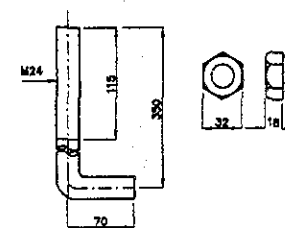
① RAIL CLIP

SCALE 1:5



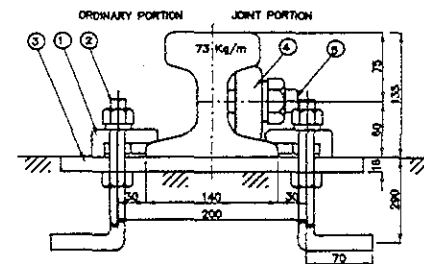
② ANCHOR BOLT & NUT




SCALE 1:5



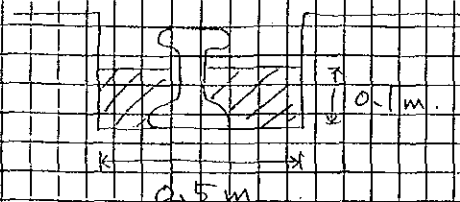
SECTION A'-A

SCALE 1:10




REV. NO.	DATE	COORDINATE	BY	APPROVED	DATE	 <p>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)</p>  <p>COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA)</p>	<p>DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR</p>  <p>NIPPON KOKI CO., LTD.</p>	<p>DESIGNED BY: _____</p> <p>CHECKED BY: _____</p> <p>APPROVED BY: _____</p> <p>SECTION: QUAYWALL WORK</p> <p>SUB-SECTION: CONTAINER AND MULTI-PURPOSE BERTH</p> <p>W.K.</p> <p>DETAIL OF CRANE RAIL</p>	<p>DATE: JULY/2002</p> <p>SCALE: INDICATED</p> <p>DRAWING NO: DW-QW-01-058</p>
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Crane Rail with Accessories	Calc. Index No.	
Subject	Asphalt Mixture	Page No.	Rev.

References/ Notes
<p>Typical Section</p>  <p> $A = 0.5 \times 0.1 = 0.05 \text{ m}^2$ $L = 658 \text{ m}$ $V = 0.05 \times 658 = 32.9 \text{ m}^3$ </p>

Prepared by		Checked by	
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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Crane Rail with Accessories			Pay Item No. (BOQ)	2C-1503			
Quantity Item	Corner Angle			Unit	kg			
Calculation Procedure Applied								
<p>Weight of corner angle for crane rail was computed by multiplying unit weight by length.</p>								
References, Calculation Base and Revisions								
<p>References: Tender Drawings:</p> <p>DW-AN-01-058 Detail of Crane Rail</p> <p>(Same as "Asphalt Mixture" (Crane Rail with Accessories))</p>								
Rev	Prepared		No. of	Checked		Reviewed		Superseded
	by	Date	Pages	by	Date	by	Date	by Calc No.
0	Kata Geria			Mr. Inuma		Mr. Ando		
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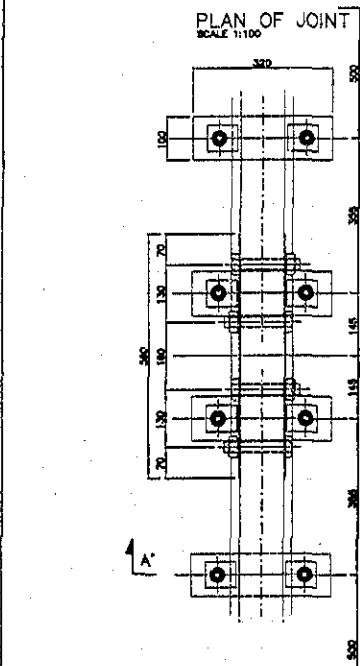
Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Crane Rail with Accessories	Calc. Index No.	
Subject	Corner Angle	Page No.	Rev.
		References/Notes	
<p>Crane rail pit.</p> <p>$L = 658 \text{ m}$</p>  <p>$L = 60 \times 60 \times 5$</p> <p>unit weight 4.55 kg/m</p> <p>$L = 658 \times 2 = 1316 \text{ m}$</p> <p>$W = 4.55 \times 1316$</p> <p>$= \boxed{5990} \text{ kg}$</p>			
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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Crane Rail with Accessories			Pay Item No. (BOQ)	2C-1504			
Quantity Item	Re-Bar			Unit	kg			
Calculation Procedure Applied <p style="margin-left: 40px;">Weight of re-bar for crane rail was computed by multiplying unit weight by total length. Re-Bar was to be welded with corner angle.</p>								
References, Calculation Base and Revisions <p style="margin-left: 40px;">Reference: Tender Drawings: DW-QW-01-058 Detail of crane Rail (Same as "Asphalt Mixture" (Crane Rail with Accessories))</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Crane Rail with Accessories	Calc. Index No.	
Subject	Re-Bar.	Page No.	Rev.
		References/ Notes	
<p>Corner angle $L = 1316 \text{ m}$</p> <p>Re-Bar pitch 20 cm</p> <p>$a = 0.25 \text{ cm}$</p> <p>$N = 1316 \div 0.2 = 6580$</p> <p>$L = 0.25 \times 6580 = 1645 \text{ m}$</p> <p>D13 0.999 kg/m</p> <p>$W = 0.995 \times 1645 = 1636.8$</p> <p>$\approx \boxed{1640} \text{ kg}$</p>			
Prepared by		Checked by	
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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Cable Trench			Pay Item No. (BOQ)	2C-1601			
Quantity Item	Corner Angle			Unit	kg.			
Calculation Procedure Applied <p style="font-size: 1.2em;">Weight of corner angle for cable trench was computed by multiplying unit weight by total length.</p>								
References, Calculation Base and Revisions <p style="font-size: 1.2em;">References: Tender Drawings:</p> <p style="font-size: 1.1em;">DW-QW-01-042 Detail of Capping (+)</p> <p style="font-size: 1.1em;">DW-QW-01-058 Detail of Crane Roll</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla Garcia			Mr. Inoma		Mr. Ando		
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SCALE 1:25



PLAN OF JOINT
SCALE 1:100

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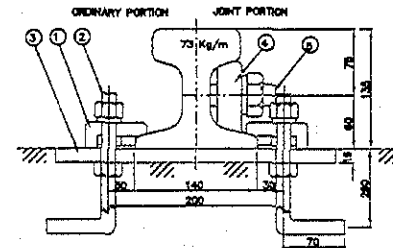
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- Technical drawing of a shaft with dimensions and a keyway. The shaft has a total length of 300. The dimensions from left to right are: 70, 130, 100, 130, and 70. A keyway is shown on the right end with a width of 4-20.5. The drawing includes a cross-section view of the keyway on the right.


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SECTION A-A
SCALE 1:10



Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Cable Trench	Calc. Index No.	
Subject	Corner Angle	Page No.	Rev.

References/ Notes
$L = 658 \times 2 = 1316 \text{ m}$  $L 60 \times 60 \times 5$ unit weight 4.55 kg/m $W = 4.55 \times 1316 = 5988$ $\approx \boxed{5990} \text{ kg}$

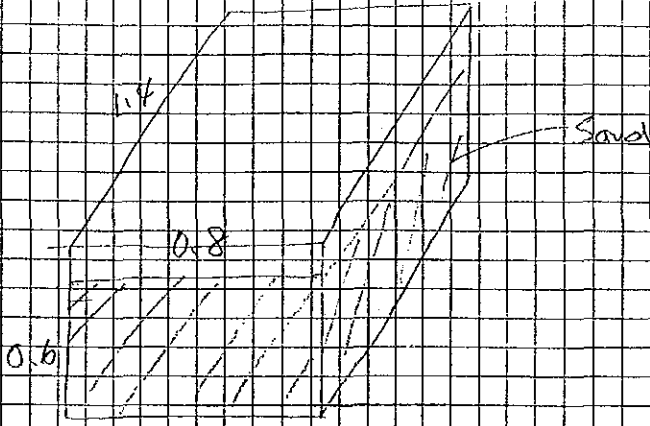
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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Cable Trench			Pay Item No. (BOQ)	20-1602			
Quantity Item	Re-Bar			Unit	Ft			
Calculation Procedure Applied Weight of re-bar for cable trench was computed by multiplying unit weight by total length. Re-bar was to be welded with corner angle.								
References, Calculation Base and Revisions References : Tender Drawings : DW - QW - 01 - 058 Detail of Crane Rail (Same as Corner Angle (Cable Trench))								
Rev	Prepared		No. of	Checked		Reviewed		Superseded
	by	Date	Pages	by	Date	by	Date	by Calc No.
0	K. Garcia			Mr. Inuma		Mr. Ando		
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Cable Trench	Calc. Index No.	
Subject	Re - Bar	Page No.	Rev.
		References/ Notes	
$L = 1316 \text{ m}$ $N = 1316 \div 0.2 = 6580$ D13 unit weight 0.995 kg/m $a = 0.25 \text{ m}$ $W = 0.995 \times 0.25 \times 6580$ $= 1636 \text{ kg}$ $\pm \boxed{1640} \text{ kg}$			
Prepared by		Checked by	
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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	End Stopper			Pay Item No. (BOQ)	2C - 1701			
Quantity Item	Sand "			Unit	m ³			
Calculation Procedure Applied <div style="font-family: cursive; font-size: 1.2em;"> 2 holes were to be prepared for End Stopper and to be filled with sand until End stopper will be set. </div>								
References, Calculation Base and Revisions <div style="font-family: cursive; font-size: 1.2em;"> References : Tender Drawings : DW - 2W - 01 - 060 Details of Crane End Stopper </div>								
Rev	Prepared		No. of	Checked		Reviewed		Superseded
	by	Date	Pages	by	Date	by	Date	by Calc No.
0	Kota Goria			Mr. Inuma		Mr. Ando		
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	End Stopper	Calc. Index No.	
Subject	Sand	Page No.	Rev.



$$V_1 = 0.8 \times 1.4 \times 0.6$$

$$= 0.672$$

$$\approx 0.68 \text{ m}^3$$

$$N = 2$$


$$V = 0.68 \times 2 = 1.36 \text{ m}^3$$

References/
Notes

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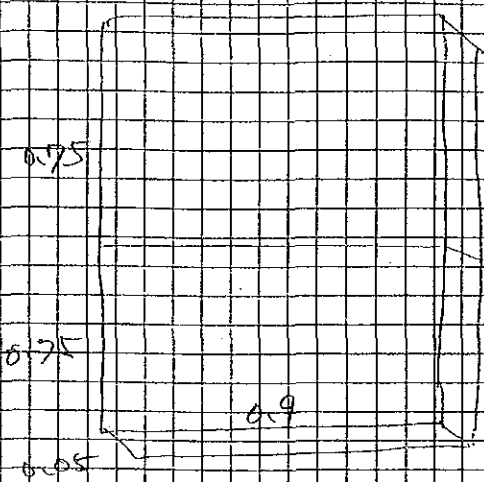
QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	End Stopper			Pay Item No. (BOQ)	20-1702			
Quantity Item	Form for cover			Unit	m ²			
Calculation Procedure Applied								
<p>Area of form for cover was computed. This cover was to be separated into 2 parts.</p>								
References, Calculation Base and Revisions								
<p>References : Tender Drawings : DW-QW-01-060 Details of Crane End Stopper (Same as Sand (End stopper))</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla Garcia			Mr. Inuma		Mr. Ando		
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	End Stopper	Calc. Index No.	
Subject	Form for Cover	Page No.	Rev.

References/ Notes
 $A_1 = (0.75 \times 2 + 0.9 \times 2) \times 0.05 \times 2 + 0.9 \times 1.5 = 1.68 \text{ m}^2$ $N = 2 \times 2 = 4$ $A = 1.68 \times 4 = 6.72 \text{ m}^2$

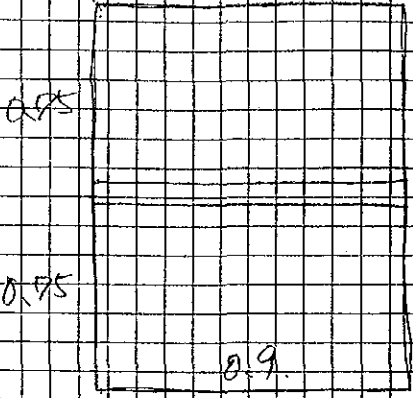
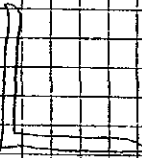
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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	End Stopper			Pay Item No. (BOQ)	20-1703			
Quantity Item	Concrete for Cover			Unit	m ³			
Calculation Procedure Applied								
<p style="font-size: 1.2em;">Volume of concrete for cover was computed.</p>								
References, Calculation Base and Revisions								
<p style="font-size: 1.2em;">References: Tender Drawings:</p> <p style="font-size: 1.2em;">DW-QW-01-060 Details of Cone End Stopper</p> <p style="font-size: 1.2em;">(Same as Sand (End Stopper))</p>								
Rev	Prepared		No. of	Checked		Reviewed		Superseded
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0	Karla Garcia			Mr. Inuma		Mr. Ando		
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	End Stopper	Calc. Index No.	
Subject	Concrete for Cover	Page No.	Rev.
		References/ Notes	
$V_1 = 0.75 \times 0.9 \times 0.05$ $= 0.034 \text{ m}^3$ $N = 2 \times 2 = 4$ $V = 0.034 \times 4 = 0.136$ $\approx \boxed{0.14} \text{ m}^3$			
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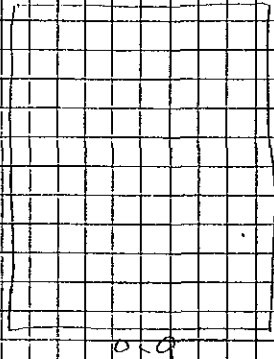
QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	End Stopper			Pay Item No. (BOQ)	2C-1704			
Quantity Item	Angle			Unit	kg			
Calculation Procedure Applied <p style="margin-left: 40px;">Weight of angle was computed for cover of End stopper hole by multiplying unit weight by length.</p>								
References, Calculation Base and Revisions <p style="margin-left: 40px;">References: Tender Drawings: DW-QW-01-060 Details of Crane End Stopper (Some Soud (End Stopper))</p>								
Rev	Prepared		No. of	Checked		Reviewed		Superseded
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0	Koda Garcia			Mr. Tama		Mr. Ando		
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	End Stopper	Calc. Index No.	
Subject	Angle	Page No.	Rev.

References/ Notes
 $L = 1.5 \times 2 + 0.9 \times 4 = 6.6 \text{ m.}$  $L 50 \times 50 \times 6 \quad 4.43 \text{ kg/m.}$ $W_1 = 4.43 \times 6.6 = 29.3 \text{ kg}$ $N = 2$ $W = 29.3 \times 2 = 58.6 \text{ kg}$

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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	End Stopper			Pay Item No. (BOQ)	20 - 1705			
Quantity Item	Re-Bar			Unit	kg			
Calculation Procedure Applied <p style="margin-top: 10px;">Weight of re-bar was computed by multiplying unit weight by length.</p>								
References, Calculation Base and Revisions <p style="margin-top: 10px;">References: Tender Drawings: DW-AW-01-060 Details of Crane End Stopper (Same as Sand (End Stopper))</p>								
Rev	Prepared		No. of	Checked		Reviewed		Superseded
	by	Date	Pages	by	Date	by	Date	by Calc No.
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	End Stopper	Calc. Index No.	
Subject	Re-Bar	Page No.	Rev.
<p>$L = 0.1 \text{ m} @ 200$</p> <p>$D \phi = 0.50 \text{ g/m}$</p>  <p>$L = 0.9 \times 2 + 1.5 \times 2 = 4.8 \text{ m}$</p> <p>$n = 4.8 \div 0.2 = 24$</p> <p>$W_1 = 0.50 \times 0.1 \times 24$ $= 1.2 \text{ kg}$</p> <p>$N = 2$</p> <p>$W = 1.2 \times 2 = 2.4 \text{ kg}$</p>		References/ Notes	
Prepared by		Checked by	
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QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Socket block			Pay Item No. (BOQ)	2C-1801			
Quantity Item	Sand			Unit	m ³			
Calculation Procedure Applied <div style="font-family: cursive; font-size: 1.2em;"> 4 holes were to be prepared for Socket block and to be filled with sand until saftydevice will be set. </div>								
References, Calculation Base and Revisions <div style="font-family: cursive; font-size: 1.2em;"> References: Tender Drawings : CW-QW-01-059 Detail of Anchor - Jack up Plate & Socket Block. </div>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
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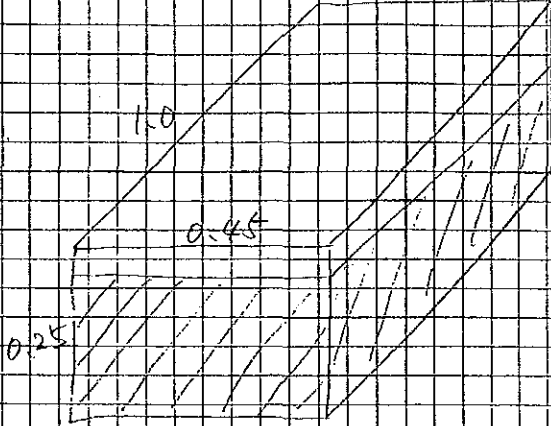
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Technical drawing of a rectangular box. The main drawing shows a front view with a width of 580 and a height of 400. The top edge is divided into three sections: 10, 580, and 10. The bottom edge is divided into three sections: 10, 580, and 10. A detail view on the right shows a cross-section of the box with a width of 130 and a height of 220. The detail view is labeled with dimensions 130, 220, and 400. The main drawing is labeled with dimensions 580, 400, 10, and 10. A detail view is shown on the right with dimensions 130, 220, and 400. A dimension line on the left indicates a total height of 850, with a dashed line at 450. A dimension line at the bottom indicates a total width of 180, with a dashed line at 50. A detail view of the bottom edge is shown with dimensions 180, 50, and 10.

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						 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)		DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR		DESIGNED BY : CHECKED BY : APPROVED BY :		SECTION : QUAYWALL WORK SUB-SECTION : CONTAINER AND MULTI-PURPOSE BERTH TITLE : DETAIL OF ANCHOR-JACK UP PLATE & SOCKET BLOCK		DATE : JULY/2002 SCALE : INDICATED DRAWING NO : ON-OW-01-058	
				 COMISION EJECUTIVA PORTUARIA AUTONOMA (CPA)		 NIPPON KOKI CO., LTD.									

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Socket block	Calc. Index No.	
Subject	Sand	Page No.	Rev.

References/ Notes
 $V_1 = 0.45 \times 1.0 \times 0.25$ $= 0.1125$ $\approx 0.12 \text{ m}^3$ $N = 4$ $V = 0.12 \times 4 = \boxed{0.48} \text{ m}^3$

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	Socket Block			Pay Item No. (BOQ)	20-1802			
Quantity Item	Form for cover			Unit	m ²			
<p><u>Calculation Procedure Applied</u></p> <p style="font-size: 1.2em;">Area of form for cover was computed. This cover was to be separated into 2 parts.</p>								
<p><u>References, Calculation Base and Revisions</u></p> <p style="font-size: 1.2em;">References: Tender Drawings: DW-QW-01-059 Detail of Anchor - Jack up Plate & Socket Block. (Same as Sand (Socket Block))</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla Garcia			Mr. Inuma		Mr. Ando		
1								
2								
3								

