

| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------|-----------------|---------------------------|---------------|----------|------|---------------------------|
| Project | Detailed Design on Port Reactivation Project in La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | BREASTING DOLPHIN | | | Pay Item No. (BOQ) | 2D-BD0103 | | | |
| Quantity Item | RIBBAND | | | Unit | Kg | | | |
| Calculation Procedure Applied <p style="margin-left: 40px;">Ribbon was computed for both Breasting Dolphin. The outside and inner side ribbon were computed.</p> | | | | | | | | |
| References, Calculation Base and Revisions <p style="margin-left: 40px;">References: Tender Drawings: DW-AW-02-006 Bar Arrangement for Breasting Dolphin</p> | | | | | | | | |
| Rev | Prepared | | No. of Pages | Checked | | Reviewed | | Superseded by Calc No. |
| | by | Date | | by | Date | by | Date | |
| 0 | Kish Goula | | | Mr. Inuma | | Mr. Ando | | |
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| 2 | | | | | | | | |
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Sect. C-C

Diagram showing a cross-section of a rectangular structure with dimensions and labels:

- Top horizontal dimension: 376200-7400
- Top left corner dimensions: 120, 180
- Top right corner dimensions: 180, 120
- Left vertical dimension: 200, 80
- Left vertical dimension (lower section): 84300-2400
- Bottom left corner dimensions: 110, 200
- Right vertical dimension: 120
- Right vertical dimension (lower section): 110, 200
- Labels: S1, D25 (top right), S2, D25 (bottom center), S3, D13 (bottom right)
- Section line: A-A
- Section line: B-B
- Note: Plate 12.6 2500

Technical drawing of a rectangular structure, likely a foundation or wall section. The drawing shows a grid of vertical and horizontal lines. Key dimensions and labels include:

- Top horizontal dimension: 376200=7400
- Right vertical dimension: 180120
- Left vertical dimension: 120180
- Bottom vertical dimension: 110200
- Internal vertical dimension: 64000=2400
- Internal horizontal dimension: 1000
- Labels: S1, S2, S3, S4, S5, S6, S7, S8, S9, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S21, S22, S23, S24, S25, S26, S27, S28, S29, S30, S31, S32, S33, S34, S35, S36, S37, S38, S39, S40, S41, S42, S43, S44, S45, S46, S47, S48, S49, S50, S51, S52, S53, S54, S55, S56, S57, S58, S59, S60, S61, S62, S63, S64, S65, S66, S67, S68, S69, S70, S71, S72, S73, S74, S75, S76, S77, S78, S79, S80, S81, S82, S83, S84, S85, S86, S87, S88, S89, S90, S91, S92, S93, S94, S95, S96, S97, S98, S99, S100

Technical drawing of a rectangular structure, likely a cross-section of a tunnel or pipe. The drawing shows a central rectangular area with two horizontal lines inside, labeled S1 and S2, both with a diameter of D13 6600. The top edge is labeled 396200-7800. The left side has vertical dimensions: 100, 200, 100, 2400, 1400, 100, 200, and 40. The right side has a vertical dimension of 100. The bottom edge is labeled 100. The drawing is labeled with A and B at the corners and S1, S2, and S3 at various points.

ribband (lower side)
FB (t=12mm, B=25mm)

ribband (outside)
FB (t=12mm, B=25mm)

500

lower reinforcement bar

Steel Pipe Pipe Ø1,100

Plate

P1-1070 9 x 1070

P2 (T) Ø13 x 4

1000

1500

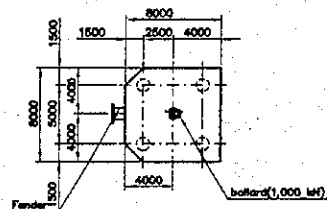
343

BAR SCHEDULE FOR BREASTING DOLPHIN

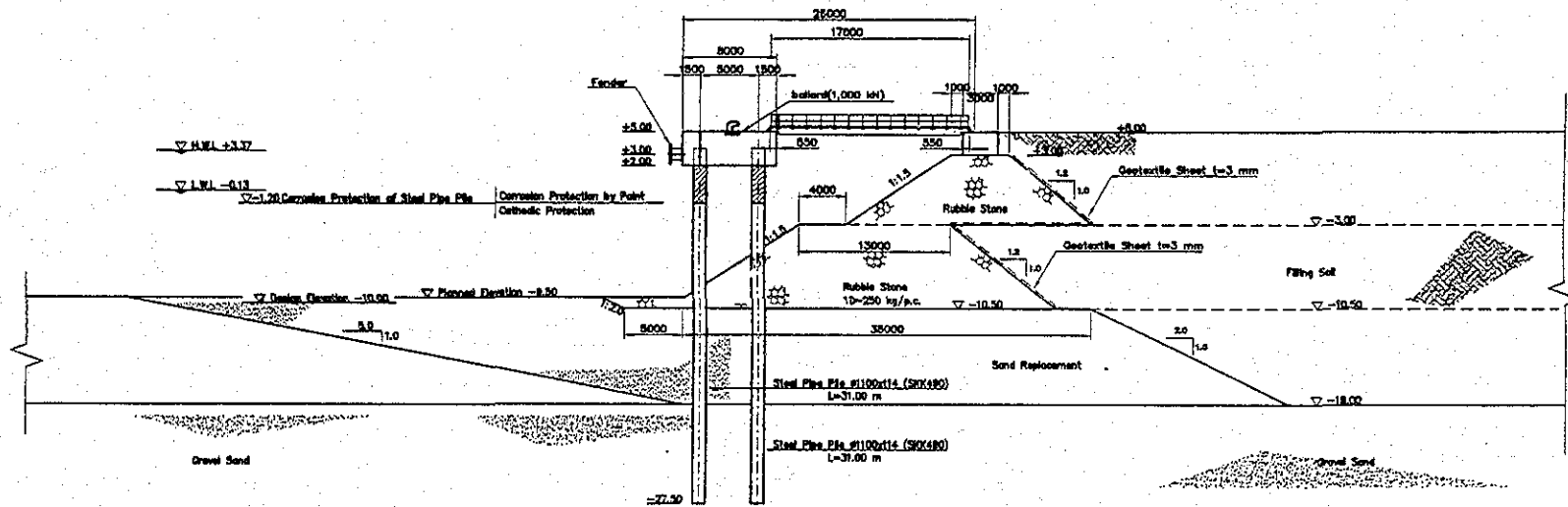
| BAR No. | DIA | LENGTH (mm) | UNIT WT. (kg/m) | Q.T.Y | WEIGHT (kg) | TOTAL WT. (kg) | SHAPE | REMARKS |
|-----------------|-----|-------------|-----------------|-------|-------------|----------------|-------|---------|
| S ₁ | 1 | D25 | 8,640 | 3.98 | 7 | 34.387 | 241 | ┌ |
| | 2 | " | 7,290 | " | 7 | 29.014 | 203 | └ |
| S ₂ | " | 3,900 | " | 20 | 15.522 | 310 | — | |
| | 1 | " | 7,790 | " | 17 | 31.004 | 527 | ┌ |
| | 2 | " | 6,440 | " | 17 | 25.631 | 436 | └ |
| S ₃ | 3 | " | 9,000 | " | 17 | 35.820 | 609 | — |
| | 1 | " | 6,460 | " | 16 | 25.711 | 411 | ┌ |
| S ₄ | 2 | " | 9,000 | " | 8 | 35.820 | 287 | — |
| | 1 | " | 8,160 | " | 3 | 32.477 | 97 | ┌ |
| S ₅ | 2 | " | 6,810 | " | 3 | 27.104 | 81 | └ |
| | 1 | " | 6,750 | " | 5 | 26.865 | 134 | ┌ |
| S ₆ | 2 | " | 5,400 | " | 5 | 21.492 | 107 | └ |
| | 3 | " | 6,920 | " | 5 | 27.542 | 138 | — |
| S ₇ | 1 | " | 8,600 | " | 4 | 34.228 | 137 | ┌ |
| | 2 | " | 7,250 | " | 4 | 28.855 | 115 | └ |
| | 1 | " | 7,750 | " | 12 | 30.845 | 370 | ┌ |
| S ₈ | 2 | " | 6,400 | " | 12 | 25.472 | 306 | └ |
| | 3 | " | 9,000 | " | 12 | 35.820 | 430 | — |
| | 1 | " | 6,600 | " | 8 | 26.268 | 210 | ┌ |
| S ₉ | 2 | " | 6,200 | " | 8 | 24.676 | 197 | └ |
| | 3 | " | 9,000 | " | 8 | 35.820 | 287 | — |
| S ₁₀ | 1 | " | 8,120 | " | 6 | 32.318 | 194 | ┌ |
| | 2 | " | 7,250 | " | 6 | 28.855 | 173 | └ |
| | 1 | " | 6,710 | " | 10 | 26.706 | 267 | ┌ |
| S ₁₁ | 2 | " | 6,400 | " | 10 | 25.472 | 255 | └ |
| | 3 | " | 7,960 | " | 10 | 31.681 | 317 | — |
| S ₁₂ | 1 | D13 | 5,740 | 0.995 | 9 | 5.711 | 51 | — |
| | 2 | " | 8,440 | " | 18 | 8.398 | 151 | ┌ |
| | 3 | " | 8,640 | " | 9 | 8.597 | 77 | └ |
| S ₁₃ | D13 | 8,200 | 0.995 | 14 | 8.159 | 114 | — | |
| | | | | | D25 | 6,840 | | |
| | | | | | D19 | 394 | | |
| | | | | | TOTAL | 7,234 | kg | |

| BAR No. | DIA | LENGTH (mm) | UNIT WT. (kg/m) | Q.T.Y | WEIGHT (kg) | TOTAL WT. (kg) | SHAPE | REMARKS |
|-----------------------|-----|-------------|-----------------|-------|--------------------------|--------------------------------|----------|---------|
| R ₁ | D19 | 6,530 | 2.25 | 198 | 14.693 | 2,909 | — | |
| | | | | | D19 | 2,909 | | |
| | | | | | TOTAL | 2,909 | kg | |
| R ₂ | D25 | 3,000 | 3.98 | 24 | 11,940 | 287 | — | |
| | | | | | D25 | 287 | | |
| | | | | | TOTAL | 287 | kg | |
| T O T A L | | | | | | D25 | 7,126 | kg |
| | | | | | | D19 | 2,909 | |
| | | | | | | D13 | 394 | |
| | | | | | | TOTAL | 10,430 | kg |
| | | | | | PLATE(SS400) | | | |
| | | | | | 105.5 kg x 4 pieces = | 422 | kg | |
| | | | | | ribband(SS400)outside | 2.36 kg/m x 3.46m x 8 pieces = | 65.3kg | |
| | | | | | ribband(SS400)inner side | 2.36 kg/m x 3.30m x 8 pieces = | 62.3kg | |
| | | | | | TOTAL | | 127.6 kg | |
| | | | | | CONCRETE VOLUME | 185.3 | m3 | |
| | | | | | FORM | 148.7 | m2 | |
| R ₃ | D13 | 2,375 | 0.995 | 16 | 2,363 | 38 | — | |
| | | | | | D13 | 38 | | |
| | | | | | TOTAL | 38 | kg | |
| | | | | | PLATE(SS400) | | | |
| | | | | | 63.5 kg x 4 pieces = | 254 | kg | |

| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------|--------|---------------------------|----------------|----------|------|-------------|
| Project | Detailed Design on Port Reactivation Project in La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | BREASTING DOLPHIN | | | Pay Item No. (BOQ) | 2D-BD0201 | | | |
| Quantity Item | CONCRETE | | | Unit | m ³ | | | |
| Calculation Procedure Applied <p style="font-style: italic;">Concrete volume was computed for both Breasting dolphin. Volume was computed using geometric formulas.</p> | | | | | | | | |
| References, Calculation Base and Revisions <p style="font-style: italic;">References: Tender Drawings: GWS - GWS - 02 - 004 Passenger Buik, Breasting Dolphin Plan & Typical cross section.</p> | | | | | | | | |
| Rev | Prepared | | No. of | Checked | | Reviewed | | Superseded |
| | by | Date | Pages | by | Date | by | Date | by Calc No. |
| 0 | Kaila Garcia | [Signature] | | Mr. Inuma | | Mr. Ando | | |
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |






PLAN BREASTING DOLPHIN




TYPICAL CROSS SECTION

SCALE 1:400 0 5.0 10.0 15.0 20.0 25.0 30.0

| | | | | | | |
|-------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| SHEET NO. DATE | COORDINATE BY APPROVED DATE |  JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)  COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA) | DETAILED DESIGN OF PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR  NIPPON KOKI CO., LTD. | DESIGNED BY : CHECKED BY : APPROVED BY : | SECTION : QUAYWALL WORK SUB-SECTION : PASSENGER BERTH TITLE : PASSENGER BERTH BREASTING DOLPHIN PLAN & TYPICAL CROSS SECTION | DATE : JULY/2002 SCALE : 1 : 400 DRAWING NO. : DW-QW-02-004 |
|-------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|

BAR SCHEDULE FOR BREASTING DOLPHIN

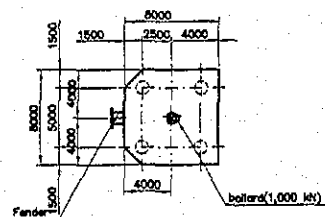
| BAR No. | DIA | LENGTH (mm) | UNIT WT. (kg/m) | Q.T.Y | WEIGHT (kg) | TOTAL WT. (kg) | SHAPE | REMARKS |
|---------|-----|-------------|-----------------|-------|-------------|----------------|-------|---------|
| S1 | 1 | D25 | 8,640 | 3.98 | 7 | 34.387 | 241 | |
| | 2 | " | 7,290 | " | 7 | 29.014 | 203 | |
| S1 | " | 3,900 | " | 20 | 15.522 | 310 | | |
| | 1 | " | 7,790 | " | 17 | 31.004 | 527 | |
| S2 | 2 | " | 6,440 | " | 17 | 25.631 | 436 | |
| | 3 | " | 9,000 | " | 17 | 35.820 | 609 | |
| S2 | 1 | " | 6,460 | " | 16 | 25.711 | 411 | |
| | 2 | " | 9,000 | " | 8 | 35.820 | 287 | |
| S2 | 1 | " | 8,160 | " | 3 | 32.477 | 97 | average |
| | 2 | " | 6,810 | " | 3 | 27.104 | 81 | " |
| | 1 | " | 6,750 | " | 5 | 26.865 | 134 | " |
| S2 | 2 | " | 5,400 | " | 5 | 21.492 | 107 | " |
| | 3 | " | 6,920 | " | 5 | 27.542 | 138 | " |
| S2 | 1 | " | 8,600 | " | 4 | 34.228 | 137 | " |
| | 2 | " | 7,250 | " | 4 | 28.855 | 115 | " |
| | 1 | " | 7,750 | " | 12 | 30.845 | 370 | " |
| S2 | 2 | " | 6,400 | " | 12 | 25.472 | 306 | " |
| | 3 | " | 9,000 | " | 12 | 35.820 | 430 | " |
| S2 | 1 | " | 6,600 | " | 8 | 26.268 | 210 | " |
| | 2 | " | 6,200 | " | 8 | 24.676 | 197 | " |
| | 3 | " | 9,000 | " | 8 | 35.820 | 287 | " |
| S2 | 1 | " | 8,120 | " | 6 | 32.318 | 194 | average |
| | 2 | " | 7,250 | " | 6 | 28.855 | 173 | " |
| | 1 | " | 6,710 | " | 10 | 26.706 | 267 | " |
| S2 | 2 | " | 6,400 | " | 10 | 25.472 | 255 | " |
| | 3 | " | 7,960 | " | 10 | 31.681 | 317 | " |
| S2 | 1 | D13 | 5,740 | 0.995 | 9 | 5.711 | 51 | |
| | 2 | " | 8,440 | " | 18 | 8.398 | 151 | |
| | 3 | " | 8,640 | " | 9 | 8.597 | 77 | |
| S2 | D13 | 8,200 | 0.995 | 14 | 8.159 | 114 | | |
| | | | | | D25 | 6,840 | | |
| | | | | | D19 | 394 | | |
| | | | | | TOTAL | 7,234 | kg | |

| BAR No. | DIA | LENGTH (mm) | UNIT WT. (kg/m) | Q.T.Y | WEIGHT (kg) | TOTAL WT. (kg) | SHAPE | REMARKS |
|-------------------------|-----|-------------|-----------------|--------------------------------|-----------------------|----------------|-------------------------------------------------------------------------------------|---------|
| K1 | D19 | 6,530 | 2.25 | 198 | 14.693 | 2,909 |  | |
| | | | | | D19 | 2,909 | | |
| | | | | | TOTAL | 2,909 | kg | |
| H1 | D25 | 3,000 | 3.98 | 24 | 11.940 | 287 | — | |
| | | | | | D25 | 287 | | |
| | | | | | TOTAL | 287 | kg | |
| TOTAL | | | | | D25 | 7,126 | — | |
| | | | | | D19 | 2,909 | | |
| | | | | | D13 | 394 | | |
| | | | | | TOTAL | 10,430 | kg | |
| | | | | | PLATE(SS400) | | | |
| | | | | | 105.5 kg x 4 pieces = | 422 | kg | |
| ribbon(SS400)outside | | | | 2.36 kg/m x 3.46m x 8 pieces = | 65.3kg | | | |
| ribbon(SS400)inner side | | | | 2.36 kg/m x 3.30m x 8 pieces = | 62.3kg | | | |
| | | | | | TOTAL | | 127.6kg | |
| | | | | | CONCRETE VOLUME | 185.3 | m3 | |
| | | | | | FORM | 148.7 | m2 | |
| T1 | D13 | 2,375 | 0.995 | 16 | 2.363 | 38 | — | |
| | | | | | D13 | 38 | | |
| | | | | | TOTAL | 38 | kg | |
| | | | | | PLATE(SS400) | | | |
| | | | | | 63.5 kg x 4 pieces = | 254 | kg | |

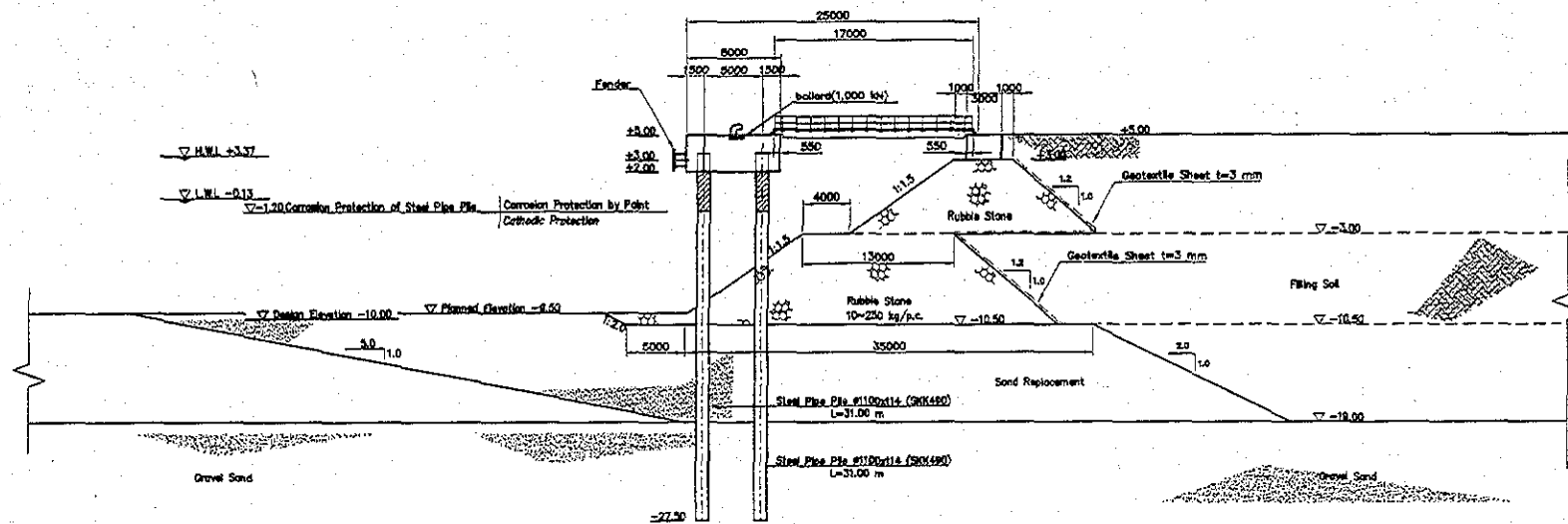
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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--|----------------------|------|
| Project | Detailed Design on Port Reactivation Project in La Union | | Calc. File No. | |
| Section | BREASTING DOLPHIN | | Calc. Index No. | |
| Subject | CONCRETE | | Page No. | Rev. |
| $A = (8\text{ m})(8\text{ m}) - \frac{(1.50\text{ m})(1.50\text{ m})}{2} (2)$ $A = 61.75\text{ m}^2$ $V = (61.75\text{ m}^2)(3\text{ m})$ $= 185.25\text{ m}^3 \approx 185.30\text{ m}^3$ $V_T = (185.30\text{ m}^3)(2) = 370.60\text{ m}^3$ $\approx \boxed{371\text{ m}^3}$ | | | 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 | BREASTING DOLPHIN | | | Pay Item No. (BOQ) | 2D-BD0202 | | | |
| Quantity Item | FORM | | | Unit | m ² | | | |
| Calculation Procedure Applied <div style="font-family: cursive; padding: 10px;"> Form area was computed for breasting dolphin. Area was computed by geometric formulas, multiplying the length by the width of the sections. </div> | | | | | | | | |
| References, Calculation Base and Revisions <div style="font-family: cursive; padding: 10px;"> References : Tender Drawings. DW-QW-02-02-004 Passenger Bulk Breasting Dolphin Plan & Typical Cross Section </div> | | | | | | | | |
| 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 | | | | | | | | |
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|-----------------------------------------------------------------------------|----------------------------------------------------------|----------------------|------|
| Project | Detailed Design on Port Reactivation Project In La Union | Calc. File No. | |
| Section | BREASTING DOLPHIN | Calc. Index No. | |
| Subject | FORM | Page No. | Rev. |
| | | References/ Notes | |
| $A_1 = (8m)(8m) - \frac{(1.5m)(1.5m)(2)}{2} - \pi(0.55)^2(9)$ $= 57.95 m^2$ | | | |
| $A_2 = (6.50)(3)(2) = 39 m^2$ | | | |
| $A_3 = (8m)(3m) = 24 m^2$ | | | |
| $A_4 = (5m)(3m) = 15 m^2$ | | | |
| $A_5 = (2.12m)(3m)(2) = 12.72 m^2$ | | | |
| $A = 148.67 m^2$ | | | |
| $A_T = (148.67 m^2)(2) = 297.34 m^2$ | | | |
| $\approx 298 m^2$ | | | |
| Prepared by | | Checked by | |
| / /200 | | / /200 | |



PLAN BREASTING DOLPHIN



TYPICAL CROSS SECTION

SCALE 1:400 0 5.0 10.0 15.0 20.0 25.0 30.0

| | | | | | | | | | | |
|----------|------|------------|----|----------|------|-------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| REV. NO. | DATE | COORDINATE | BY | APPROVED | DATE | JICA JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) | COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA) | DESIGNED BY: _____ CHECKED BY: _____ APPROVED BY: _____ | SECTION: QUAYWALL WORK SUB-SECTION: PASSENGER BERTH TITLE: PASSENGER BERTH BREASTING DOLPHIN PLAN & TYPICAL CROSS SECTION | DATE: JULY/2002 SCALE: 1:400 DRAWING NO: DW-DW-02-004 |
|----------|------|------------|----|----------|------|-------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|

QUANTITY CALCULATION COVER SHEET

| | | | |
|---------------------------|----------------------------------------------------------------------|---------------------------|---------------|
| Project | Detailed Design on Port Reactivation Project In La Union Province | Project Code | JC1N004/2N001 |
| Work Section Title | BREASTING DOLPHIN | Pay Item No. (BOQ) | 2D-BD0203 |
| Quantity Item | REINFORCEMENT | Unit | ton |

Calculation Procedure Applied

Reinforcement was computed for breasting dolphin. It was computed summing all bar length and multiplied by the weight.

References, Calculation Base and Revisions

References: Tender Drawings:

DW-QW-02-006 Bar Arrangement for Breasting Dolphin

DW-QW-02-020 Bar Bending Schedule for Breasting Dolphin

| 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 | | | | | | | | |
| 3 | | | | | | | | |

BAR BENDING SCHEDULE FOR BREASTING DOLPHIN

4850 3800
① 7-025x6640 ② 7-025x7290
780
2840 2840
850 3800 850
③ 20-025x3900

4850 3800
④ 17-025x7790 ⑤ 17-025x6440
780
2840 2840
850 7800 850
⑥ 17-025x9000

3020 3020
⑦ 16-025x6460 ⑧
800
2840 2840
850 7800 850
⑨ 3-025x9000

4710 3360
⑩ 3-025x8150(average) ⑪ 3-025x8100(average)
780
2840 2840
810 810
⑫ 5-025x8750(average) ⑬ 5-019x510(average)
780
2840 2840
850 8720 850
⑭ 5-025x8920(average)

4850 3800
⑯ 4-025x6800 ⑰ 4-025x7250
780
2840 2840
850 850
⑱ 6-025x6200 ⑲ 6-025x6200
7800 7800
⑳ 8-025x6000

4710 3800
㉑ 6-025x8120(average) ㉒ 6-025x7250(average)
780
2840 2840
810 850
㉓ 10-025x7710(average) ㉔ 10-025x6400(average)
780
2840 2840
850 850
㉕ 10-025x7950(average)




3810 3800
㉖ 9-013x2140 ㉗ 9-013x6640
780
2840 2840
850 850
㉘ 10-013x2440 ㉙ 10-013x2440
7800 7800
㉚ 14-013x2200

2844
① 180-019x8530
400
180 180
② 24-025x3900
3000

Rate=12.0 SS400
1800
1800
100
100
③ 16-013x375

BAR SCHEDULE FOR BREASTING DOLPHIN

| BAR No. | DIA | LENGTH (mm) | UNIT WT. (kg/m) | Q.T.Y | WEIGHT (kg) | TOTAL WT. (kg) | SHAPE | REMARKS |
|---------|-----|-------------|-----------------|-------|-------------|----------------|-------|---------|
| S1 | 1 | D25 | 8,640 | 3.98 | 7 | 34,387 | 241 | |
| | 2 | " | 7,290 | " | 7 | 29,014 | 203 | |
| S2 | " | " | 3,900 | " | 20 | 15,522 | 310 | |
| | 1 | " | 7,790 | " | 17 | 31,004 | 527 | |
| S3 | 2 | " | 6,440 | " | 17 | 25,631 | 436 | |
| | 3 | " | 9,000 | " | 17 | 35,820 | 609 | |
| S4 | 1 | " | 6,460 | " | 16 | 25,711 | 411 | |
| | 2 | " | 9,000 | " | 8 | 35,820 | 287 | |
| S5 | 1 | " | 8,160 | " | 3 | 32,477 | 97 | average |
| | 2 | " | 6,810 | " | 3 | 27,104 | 81 | |
| S6 | 1 | " | 6,750 | " | 5 | 26,865 | 134 | |
| | 2 | " | 5,400 | " | 5 | 21,492 | 107 | |
| S7 | 3 | " | 6,920 | " | 5 | 27,542 | 138 | |
| | 1 | " | 8,600 | " | 4 | 34,228 | 137 | |
| | 2 | " | 7,250 | " | 4 | 28,855 | 115 | |
| S8 | 1 | " | 7,750 | " | 12 | 30,845 | 370 | |
| | 2 | " | 6,400 | " | 12 | 25,472 | 306 | |
| | 3 | " | 9,000 | " | 12 | 35,820 | 430 | |
| S9 | 1 | " | 6,600 | " | 8 | 25,268 | 210 | |
| | 2 | " | 6,200 | " | 8 | 24,676 | 197 | |
| | 3 | " | 9,000 | " | 8 | 35,820 | 287 | |
| S10 | 1 | " | 8,120 | " | 6 | 32,318 | 194 | average |
| | 2 | " | 7,250 | " | 6 | 28,855 | 173 | |
| S11 | 1 | " | 6,710 | " | 10 | 26,706 | 267 | |
| | 2 | " | 6,400 | " | 10 | 25,472 | 255 | |
| | 3 | " | 7,960 | " | 10 | 31,681 | 317 | |
| S12 | 1 | D13 | 5,740 | 0.995 | 9 | 5,711 | 51 | |
| | 2 | " | 8,440 | " | 18 | 8,398 | 151 | |
| | 3 | " | 8,540 | " | 9 | 8,597 | 77 | |
| S13 | 1 | D13 | 8,200 | 0.995 | 14 | 8,159 | 114 | |
| | | | | | D25 | 6,840 | | |
| | | | | | D13 | 394 | | |
| | | | | | TOTAL | 7,234 | kg | |

| BAR No. | DIA | LENGTH (mm) | UNIT WT. (kg/m) | Q.T.Y | WEIGHT (kg) | TOTAL WT. (kg) | SHAPE | REMARKS |
|--------------------------|-----|-------------|-----------------|--------------------------------|-----------------------|----------------|-------------------------------------------------------------------------------------|---------|
| K1 | D19 | 6,530 | 2.25 | 198 | 14,693 | 2,909 |  | |
| | | | | | D19 | 2,909 | | |
| | | | | | TOTAL | 2,909 | kg | |
| H1 | D25 | 3,000 | 3.98 | 24 | 11,940 | 287 |  | |
| | | | | | D25 | 287 | | |
| | | | | | TOTAL | 287 | kg | |
| TOTAL | | | | | D25 | 7,126 | 7 | |
| | | | | | D19 | 2,909 | | |
| | | | | | D13 | 394 | | |
| | | | | | TOTAL | 10,430 | kg | |
| | | | | | PLATE(SS400) | | | |
| | | | | | 105.5 kg x 4 pieces = | 422 | kg | |
| ribband(SS400)outside | | | | 2.36 kg/m x 3.46m x 8 pieces = | 65.3kg | | | |
| ribband(SS400)inner side | | | | 2.36 kg/m x 3.30m x 8 pieces = | 62.3kg | | | |
| | | | | | TOTAL | | 127.6 kg | |
| | | | | | CONCRETE VOLUME | 185.3 | m3 | |
| | | | | | FORM | 148.7 | m2 | |
| T1 | D13 | 2,375 | 0.995 | 16 | 2,363 | 38 |  | |
| | | | | | D13 | 38 | | |
| | | | | | TOTAL | 38 | kg | |
| | | | | | PLATE(SS400) | | | |
| | | | | | 63.5 kg x 4 pieces = | 254 | kg | |



JAPAN INTERNATIONAL
COOPERATION AGENCY
(JICA)



COMISION DIRECTIVA
PORTO AUTONOMA

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






ARCHITECT: [blank]

BAR SCHEDULE FOR

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|-------------------------------------------------------------------------------------------|----------------------------------------------------------|----------------------|------|
| Project | Detailed Design on Port Reactivation Project in La Union | Calc. File No. | |
| Section | BREASTING DOLPHIN | Calc. Index No. | |
| Subject | REINFORCEMENT | Page No. | Rev. |
| | | References/ Notes | |
| $D25 = 9,840 \text{ kg} + 287 \text{ kg} = 10,127 \text{ kg}$ $\approx 10.20 \text{ ton}$ | | | |
| $D19 = 2,909 \text{ kg} \approx 3.00 \text{ ton}$ | | | |
| $D13 = 394 \text{ kg}$ | | | |
| $W = 10,127 \text{ kg} + 2,909 \text{ kg} + 394 \text{ kg} =$ $= 13,430 \text{ kg}$ | | | |
| $W_T = (13,430 \text{ kg})(2) = 26,860 \text{ kg}$ $\approx 27.00 \text{ ton}$ | | | |
| Prepared by | | Checked by | |
| / /200 | | / /200 | |

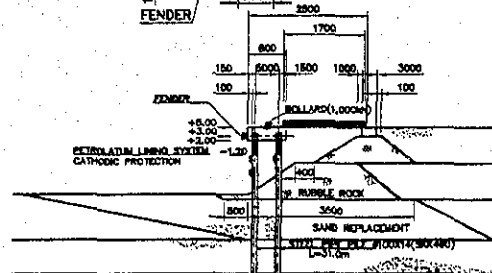
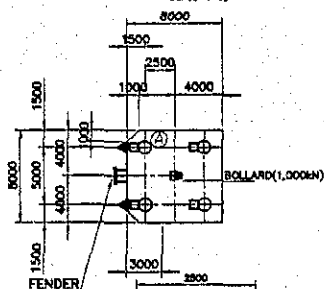
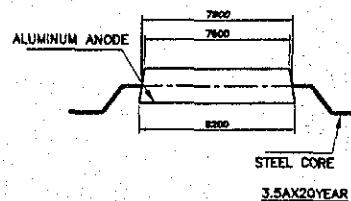
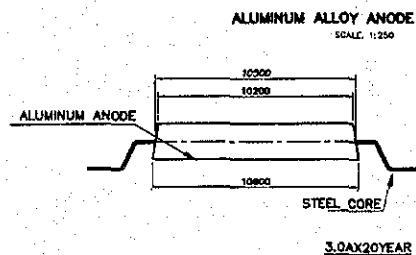
| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------|-----------------|---------------------------|---------------|----------|------|---------------------------|
| Project | Detailed Design on Port Reactivation Project In La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | BREASTING DOLPHIN | | | Pay Item No. (BOQ) | 2D-BD0204 | | | |
| Quantity Item | CORNER PROTECTION | | | Unit | m | | | |
| Calculation Procedure Applied <div style="font-family: cursive; padding: 10px;"> Corner protection lenght was computed for breasting dolphin. It was applied around the sides of the breasting dolphin. </div> | | | | | | | | |
| References, Calculation Base and Revisions <div style="font-family: cursive; padding: 10px;"> References Tender Drawings : QW - QW - 02 - 001 Plan and Profile of Passenger Bulk. </div> | | | | | | | | |
| 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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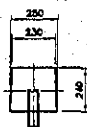
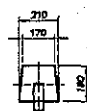
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|----------|------|------------|----|-----------------------------------------------------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------------------------------|--|------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------|--|
| | | | |  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 : PASSENGER BERTH TITLE : PLAN AND PROFILE OF PASSENGER BERTH | | DATE : JULY/2002 SCALE : 1 : 1,000 DRAWING NO. : QW-QW-02-DC1 | |
| | | | |  COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA) | |  NIPPON KOEI CO., LTD. | | | | | | | |
| REV. NO. | DATE | COORDINATE | BY | APPROVED | DATE | | | | | | | | |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|--|----------------------|------|
| Project | Detailed Design on Port Reactivation Project in La Union | | Calc. File No. | |
| Section | BREASTING DOLPHIN | | Calc. Index No. | |
| Subject | CORNER PROTECTION | | Page No. | Rev. |
| $L = (7\text{ m})(2) + 6\text{ m} + (1.41\text{ m})(2)$ $= 22.82\text{ m}$ $L_T = (22.82\text{ m})(2) = 45.64\text{ m}$ $\approx \boxed{46\text{ m}}$ | | | References/ Notes | |
| | | | | |
| Prepared by | | | Checked by | |
| / /200 | | | / /200 | |

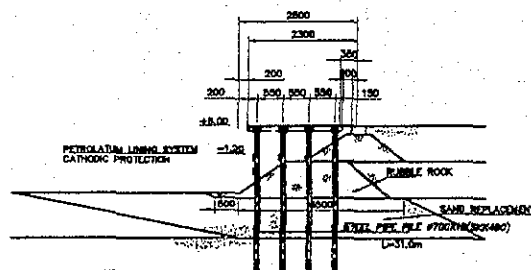
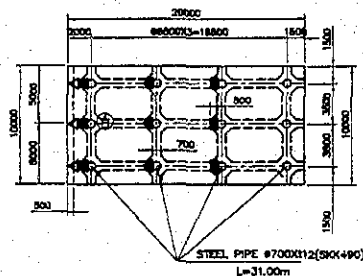
| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-------------|-----------------|---------------------------|---------------|----------|------|---------------------------|
| Project | Detailed Design on Port Reactivation Project in La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | CORROSION - PROOF | | | Pay Item No. (BOQ) | 2D-0301 | | | |
| Quantity Item | ALUMINIUM ANODE (3.0 A X 20 YEARS) | | | Unit | pcs | | | |
| Calculation Procedure Applied <div style="font-family: cursive; padding: 10px;"> Aluminium Anode was computed in Passenger Bulk. They were computed by the number of pieces in each platform and breasting dolphin. (See attached drawing). </div> | | | | | | | | |
| References, Calculation Base and Revisions <div style="font-family: cursive; padding: 10px;"> References: Tender Drawings: DW - QW - 02 - 032 Cathodic Protection System (1) </div> | | | | | | | | |
| Rev | Prepared | | No. of Pages | Checked | | Reviewed | | Superseded by Calc No. |
| | by | Date | | by | Date | by | Date | |
| 0 | Koika Garcia | [Signature] | | Mr. Inuma | | Mr. Ando | | |
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TYPICAL CROSS SECTION
SCALE 1:1000



PIER 1
SCALE 1-400

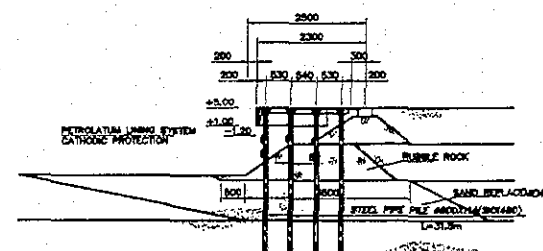
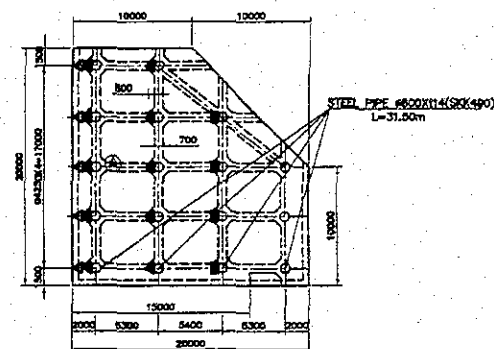


TYPICAL CROSS SECTION
SCALE: 1"=1000'

CATHODIC PROTECTION SYSTEM

| NAME | SYMBOL | INSTALLATION LEVEL | INSTALLATION | BREASTING DOLPHIN (2-LANES) | PIER-1 (1-LANE) | PIER-2 (1-LANE) | TOTAL |
|--------------------|--------|--------------------|-------------------------|-----------------------------|-----------------|-----------------|--------|
| ALUMINUM ANODE | | | | | | | |
| 3.5A/30YEAR | ▲ | -1.60 | VERTICAL INSTALLATION | — | 8 PCS ± 8 PCS | 10 PCS ± 10 PCS | 18 PCS |
| | △ | -4.00 | | — | 3 PCS ± 3 PCS | 5 PCS ± 5 PCS | 8 PCS |
| | ■ | -1.30 | HORIZONTAL INSTALLATION | — | 3 PCS ± 3 PCS | 4 PCS ± 4 PCS | 7 PCS |
| TOTAL | | | | | 12 PCS | 19 PCS | 31 PCS |
| 3.5A/30YEAR | □ | -1.60 | VERTICAL INSTALLATION | 4 PCS ± 4 PCS | — | — | 8 PCS |
| | △ | -4.00 | HORIZONTAL INSTALLATION | 2 PCS ± 2 PCS | — | — | 4 PCS |
| TOTAL | | | | 12 PCS | — | — | 16 PCS |
| MEASURING TERMINAL | ⊗ | | | 1 PC X 2 = 2 PCS | 1 PC X 1 = 1 PC | 1 PC X 1 = 1 PC | 4 PCS |

PIER 2
NEW 11400




TYPICAL CROSS SECTION
SCALE: 3/16"

[illegible]

JAPAN INTERNATIONAL
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(JICA)

COMISION EJECUTIVA
PORTUARIA AUTONOMA
(CEPA)

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



NIPPON KORI CO., LTD.

DEPOSED BY

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10/10/2010

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|-------------|-----------------------------------|
| SECTION | QUAYWALL WORK |
| SUB-SECTION | PASSENGER BERTH |
| FILE | CATHODIC PROTECTION SYSTEM (1) |

DATE: JULY/2002

NAME _____

DRAWING NO: DW-02-032

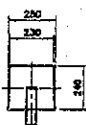
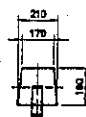
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|----------------|----------------------------------------------------------|-----------------|------|
| Project | Detailed Design on Port Reactivation Project in La Union | Calc. File No. | |
| Section | CORROSION - PROOF | Calc. Index No. | |
| Subject | ALUMINIUM ANODE (3.0A x 20 YEARS) | Page No. | Rev. |

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| <p>Platform 1 = 12 pcs</p> <p>Platform 2 = 19 pcs</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;">31 pcs</div> | <p>References/ Notes</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|

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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 | CORROSION - PROOF | | | Pay Item No. (BOQ) | 2D - 0302 | | | |
| Quantity Item | ALUMINIUM ANODE (3.5A x 20 YEARS) | | | Unit | pcs | | | |
| Calculation Procedure Applied | | | | | | | | |
| <p>Aluminium Anode was computed in Passenger Berth. They were computed by the number of pieces in each platform and breasting dolphin.</p> <p>(See attached drawing).</p> | | | | | | | | |
| References, Calculation Base and Revisions | | | | | | | | |
| <p>References: Tender Drawings:</p> <p>DW - QW - 02 - 022 Cathodic Protection System (1)</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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Diagram illustrating the cross-section of a steel core with an aluminum anode coating. The diagram shows a central steel core with a stepped profile. The coating thickness is indicated by dimension lines: 10500 at the top, 10300 in the middle, and 10800 at the bottom. Labels include "ALUMINUM ANODE" pointing to the coating and "STEEL CORE" pointing to the central core. A note at the bottom right states "3.0AX20YEAR".

[illegible]

| NAME | SYMBOL | INSTALLATION LEVEL | INSTALLATION | BREASTING DOLPHIN (2-UNITS) | PIER-1 (1-UNIT) | PIER-2 (1-UNIT) | TOTAL |
|-------------------------------|--------|--------------------|----------------------------|-----------------------------|-----------------|-------------------|--------|
| ALUMINUM ANODE 3.0X0.0X0.0 | ▲ | -1.00 | VERTICAL INSTALLATION | — | 8 PCSX1 = 8 PCS | 10 PCSX1 = 10 PCS | 18 PCS |
| | △ | -4.00 | | | 3 PCSX1 = 3 PCS | 5 PCSX1 = 5 PCS | 8 PCS |
| | ■ | -1.30 | HORIZONTAL INSTALLATION | — | 3 PCSX1 = 3 PCS | 4 PCSX1 = 4 PCS | 7 PCS |
| TOTAL | | | | | 12 PCS | 19 PCS | 31 PCS |
| 3.0X0.0X0.0 | □ | -1.00 | VERTICAL INSTALLATION | 4 PCSX1 = 4 PCS | — | — | 8 PCS |
| | △ | -4.00 | HORIZONTAL INSTALLATION | 2 PCSX1 = 2 PCS | — | — | 4 PCS |
| TOTAL | | | | 12 PCS | | | 12 PCS |
| MEASURING TECHNICAL | ⊗ | | | 1 PC X 2 = 2 PCS | 1 PC X 1 = 1 PC | 1 PC X 1 = 1 PC | 4 PCS |


Technical drawing of a rectangular frame structure. The overall dimensions are 20000 (width) by 10000 (height). The inner frame has a width of 18500 and a height of 8500. The frame is composed of steel pipes with a diameter of 700mm. The spacing between the pipes is 1500mm. The frame is supported by a base of 800mm. The drawing includes a detailed view of the steel pipe connection, showing a 700mm diameter and a 12mm thick plate (12(S)C400). The total length of the frame is L=31.00m.

The diagram illustrates a typical cross-section of a pile foundation system. It shows three vertical piles driven into the ground. The ground surface is indicated by a horizontal line. Above the ground, there is a structure with dimensions: 2000 (total width), 3000 (width between piles), and 300 (width of each pile). The piles are spaced 200, 200, 200, and 150 units apart. The ground level is marked as ±8.00. Below the ground, the piles are shown with a diameter of 300 units. The ground is labeled as "PETROLAUM LINING SYSTEM CATHODIC PROTECTION". The piles are labeled as "STEEL PIPE PILE #700x96(200x400)". The ground is also labeled as "BUBBLE ROCK" and "SAND REPLACEMENT". The total length of the piles is indicated as L=31.5m.

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JAPAN INTERNATIONAL
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PORTUARIA AUTONOMA
(CEPA)

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

 NIPPON KOEI CO., LTD.

| |
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| DESIGNED BY : |
| CHECKED BY : |
| APPROVED BY : |

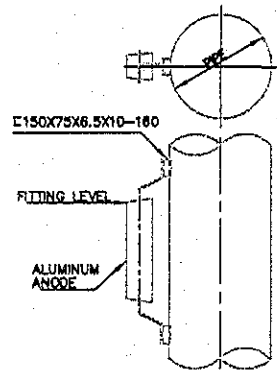
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| SECTION | QUAYWALL WORK |
| SUB-SECTION | PASSENGER BERTH |
| TYPE | CATHODIC PROTECTION SYSTEM (1) |

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| DATE : | JULY/2002 |
| SCALE : | INDICATED |
| DRAWING NO: | DW-QW-02-032 |

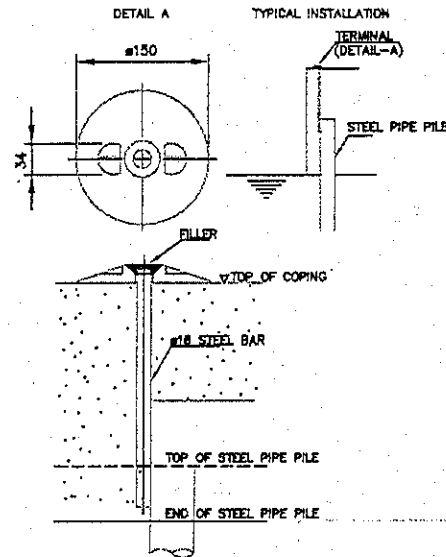
| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|----------|-----------------|---------------------------|---------------|----------|------|---------------------------|
| Project | Detailed Design on Port Reactivation Project in La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | CORROSION - PROOF | | | Pay Item No. (BOQ) | 2D - 0303 | | | |
| Quantity Item | MEASURING TERMINAL | | | Unit | pcs | | | |
| Calculation Procedure Applied | | | | | | | | |
| <p>Measuring terminals were computed for Passinger Berth. They were computed by number of pieces in each platform and breasting dolphin. (See attached drawing).</p> | | | | | | | | |
| References, Calculation Base and Revisions | | | | | | | | |
| <p>References : Tender Drawings : DW - GW - 02 - 032 Cathodic Protection System (1)</p> | | | | | | | | |
| Rev | Prepared | | No. of Pages | Checked | | Reviewed | | Superseded by Calc No. |
| | by | Date | | by | Date | by | Date | |
| 0 | Karla Garcia | 11/11/11 | | Mr. Truma | | Mr. Ando | | |
| 1 | | | | | | | | |
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| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | CORROSION - PROOF | | | Pay Item No. (BOQ) | 2D-0304 | | | |
| Quantity Item | FRP PROTECTION | | | Unit | m ² | | | |
| Calculation Procedure Applied <div style="text-align: center; font-family: cursive;"> Frp protection area was computed for Passenger Berth. It is applied to Breasting dolphing and Piers piles. (See attached drawing). </div> | | | | | | | | |
| References, Calculation Base and Revisions <div style="text-align: center; font-family: cursive;"> DW - GW - 02 - 033 Cathodic Protection System (2) </div> | | | | | | | | |
| Rev | Prepared | | No. of | Checked | | Reviewed | | Superseded |
| | by | Date | Pages | by | Date | by | Date | by Calc No. |
| 0 | Kenta Gorio | [Signature] | | Hi. Inuma | | Mr. Ando | | |
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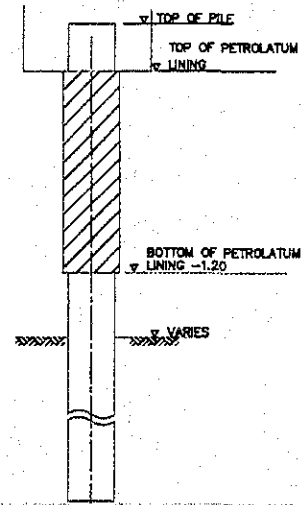
ANODE
VERTICAL INSTALLATION



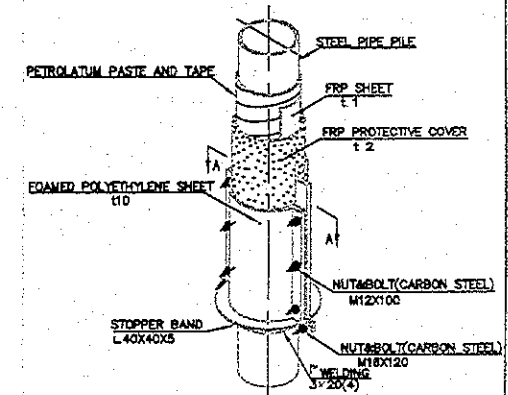
MEASURING TERMINAL



PETROLATUM LINING SYSTEM



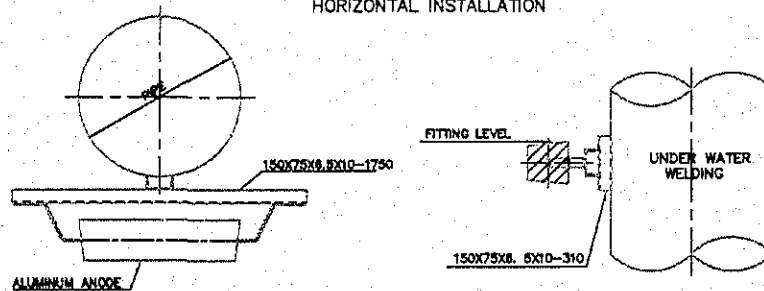
PETROLATUM LINING SYSTEM
DETAIL OF PETROLATUM LINING



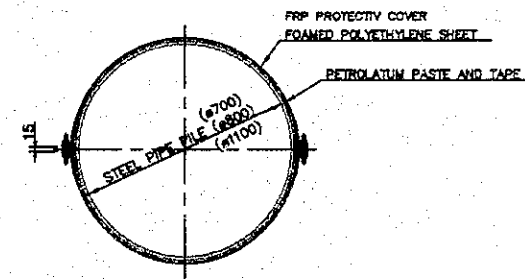
LIST OF STEEL PIPE PILES

| LOCATION | PIPE SIZE | NOS. | TOP OF PETROLATUM LINING | BOTTOM OF PETROLATUM LINING | No. OF STRUCTURE |
|-------------------|-----------------------|------|--------------------------|-----------------------------|------------------|
| BREASTING DOLPHIN | $\phi 1100 \times 14$ | 4 | +2.00 | -1.20 | 2-UNITS |
| PIER-1 | $\phi 700 \times 12$ | 12 | +3.50 | -1.20 | 1-UNITS |
| PIER-2 | $\phi 800 \times 14$ | 17 | +3.50 | -1.20 | 1-UNITS |

ANODE
HORIZONTAL INSTALLATION



TYPICAL CROSS SECTION A-A



| | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

FRP Protection

| | | Nos | Top Level | Bottom Level | Distance | Area |
|-------------------|-------------|-----|-----------|--------------|----------|-------|
| Platform 1 | ϕ 700 | 12 | 3.5 | -1.2 | 4.7 | 124.1 |
| Platform 2 | ϕ 800 | 17 | 3.5 | -1.2 | 4.7 | 200.9 |
| Breasting Dolphin | ϕ 1100 | 8 | 2.0 | -1.2 | 3.2 | 88.5 |

Total 414 m2

| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------|-----------------|---------------------------|---------------|----------|------|---------------------------|
| Project | Detailed Design on Port Reactivation Project in La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | CAT WALK | | | Pay Item No. (BOQ) | 2D-0401 | | | |
| Quantity Item | BASE STEEL | | | Unit | Kg | | | |
| Calculation Procedure Applied <div style="font-family: cursive;"> Base steel was computed for Passenger Berth. The result was multiplied by the total number of catwalk. (See attached drawing). </div> | | | | | | | | |
| References, Calculation Base and Revisions <div style="font-family: cursive;"> References: Tender Drawings: DW-QW-02 025 Detail of Catwalk </div> | | | | | | | | |
| 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 | CATWALK | Calc. Index No. | |
| Subject | BASE STEEL | Page No. | Rev. |

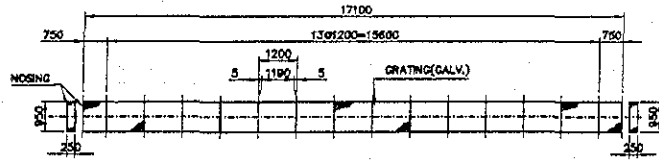
| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| <p>No catwalk = 2</p> <p>Base steel per 1 catwalk:</p> <p>$W = 4285.68 \text{ kg}$</p> <p>$W_T = (4285.68 \text{ kg})(2) = 8571.36 \text{ kg}$</p> <p align="center">$\approx 8,580 \text{ kg}$</p> | <p>References/ Notes</p> |
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| | / /200 | / /200 |

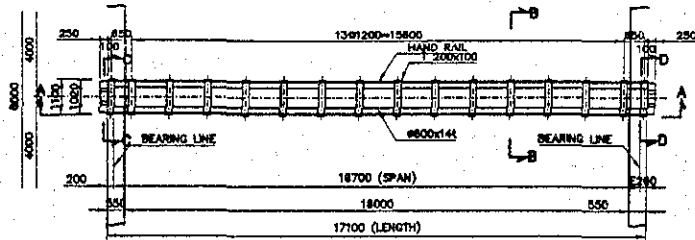
| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------|--------------|---------------------------|---------------|----------|------|------------------------|
| Project | Detailed Design on Port Reactivation Project In La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | CATWALK | | | Pay Item No. (BOQ) | 2D-0402 | | | |
| Quantity Item | PIPE RAIL | | | Unit | Kg | | | |
| Calculation Procedure Applied | | | | | | | | |
| <p>Pipe rail was computed for Passenger Berth, it was computed per one catwalk and the result multiplied by the total number of catwalk. (See attached drawing).</p> | | | | | | | | |
| References, Calculation Base and Revisions | | | | | | | | |
| <p>References: Tender Drawings: DW-BW-02-C25 Detail of catwalk</p> | | | | | | | | |
| Rev | Prepared | | No. of Pages | Checked | | Reviewed | | Superseded by Calc No. |
| | by | Date | | by | Date | by | Date | |
| 0 | Karla Garcia | | | Mr. Truma | | Mr. Ando | | |
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DETAIL OF CATWALK

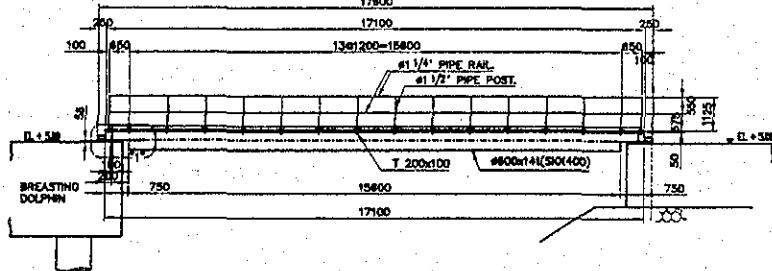
GRATING PLAN S-1/150



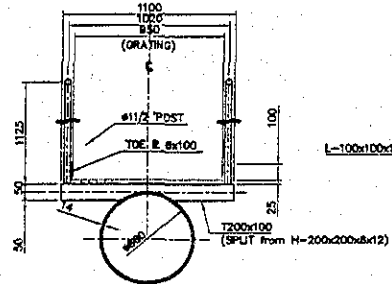
PLAN S-1/150



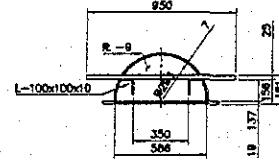
VIEW A-A S-1/130



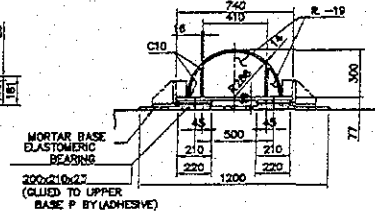
VIEW B-B 5-1/300



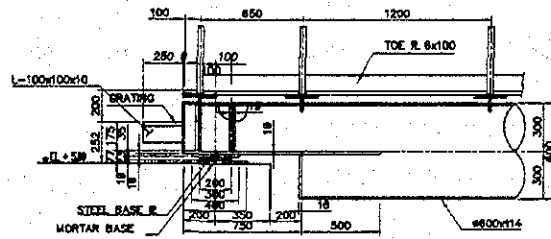
VIEW C-C S-1/300



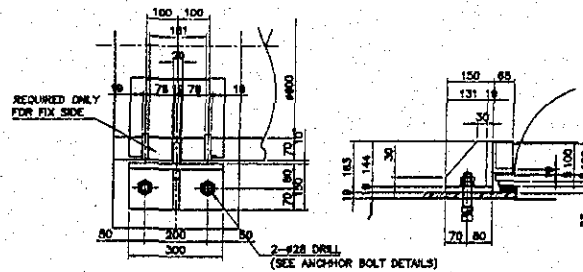
VIEW D-D S-1/300



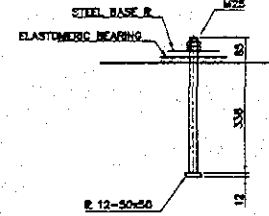
DETAIL "1" S-1/300



STOPPER DETAILS 5-1/5






ANCHOR BOLT DETAILS S-1/15



| COMPONENT | MEMO | MATERIAL | WEIGHT(KG) |
|-------------|---------------|----------|------------|
| PILE | #800x44 | SS400 | 3161.20 |
| | 150x200x10x12 | SS400 | 438.12 |
| PIPE RAIL | #1 1/4" | SQP | 226.48 |
| PIPE POST | #1 1/2" | SQP | 140.04 |
| GRATING | 15x25mm | SS400 | 746.42 |
| PLATE | Plu10x10 | SS400 | 159.20 |
| ANODE | 100x100x10 | SS400 | 14.90 |
| HALF-CIRCLE | R253 | SS400 | 18.08 |
| HALF-CIRCLE | R258 118 | SS400 | 64.08 |
| PLATE | 200x250x118 | SS400 | 76.07 |
| STOPPER | 118 | SS400 | 46.22 |
| BASE | 200x220x118 | SS400 | 72.81 |
| PLATE | 70x250x118 | SS400 | 255.06 |
| HALF-CIRCLE | R300 118 | SS400 | 33.17 |
| | | | 5403.63 |

Note.
Following items shall be galvanized in accordance with relevant specification.
?Grating
?Stopper
?Anchor bolt

All members of metal material without above items shall be coated in accordance with relevant specification.

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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 : PASSENGER BERTH TITLE : | | DATE : JULY/2002 SCALE : INDICATED | |
| | | |  COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA) | | |  NIPPON KOKI CO., LTD. | | | | | DETAIL OF CATWALK | | DRAWING NO : DW-CW-02-025 | |
| REV. NO. | DATE | DESCRIPTION | BY | APPROVED | DATE | | | | | | | | | |

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|----------------|----------------------------------------------------------|-----------------|------|
| Project | Detailed Design on Port Reactivation Project in La Union | Calc. File No. | |
| Section | CATWALK | Calc. Index No. | |
| Subject | PIPE RAIL | Page No. | Rev. |

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| <p>No catwalk = 2</p> <p>Pipe rail per 1 catwalk :</p> <p>W Pipe rail + pipe post = 228.49 kg + 140.04 kg</p> <p style="padding-left: 150px;">= 368.53 kg</p> <p>W_T = (368.53 kg) (2) = 737.06 kg</p> <p style="text-align: center; border: 1px solid black; padding: 5px; display: inline-block;">≈ 738 kg</p> | <p>References/ Notes</p> |
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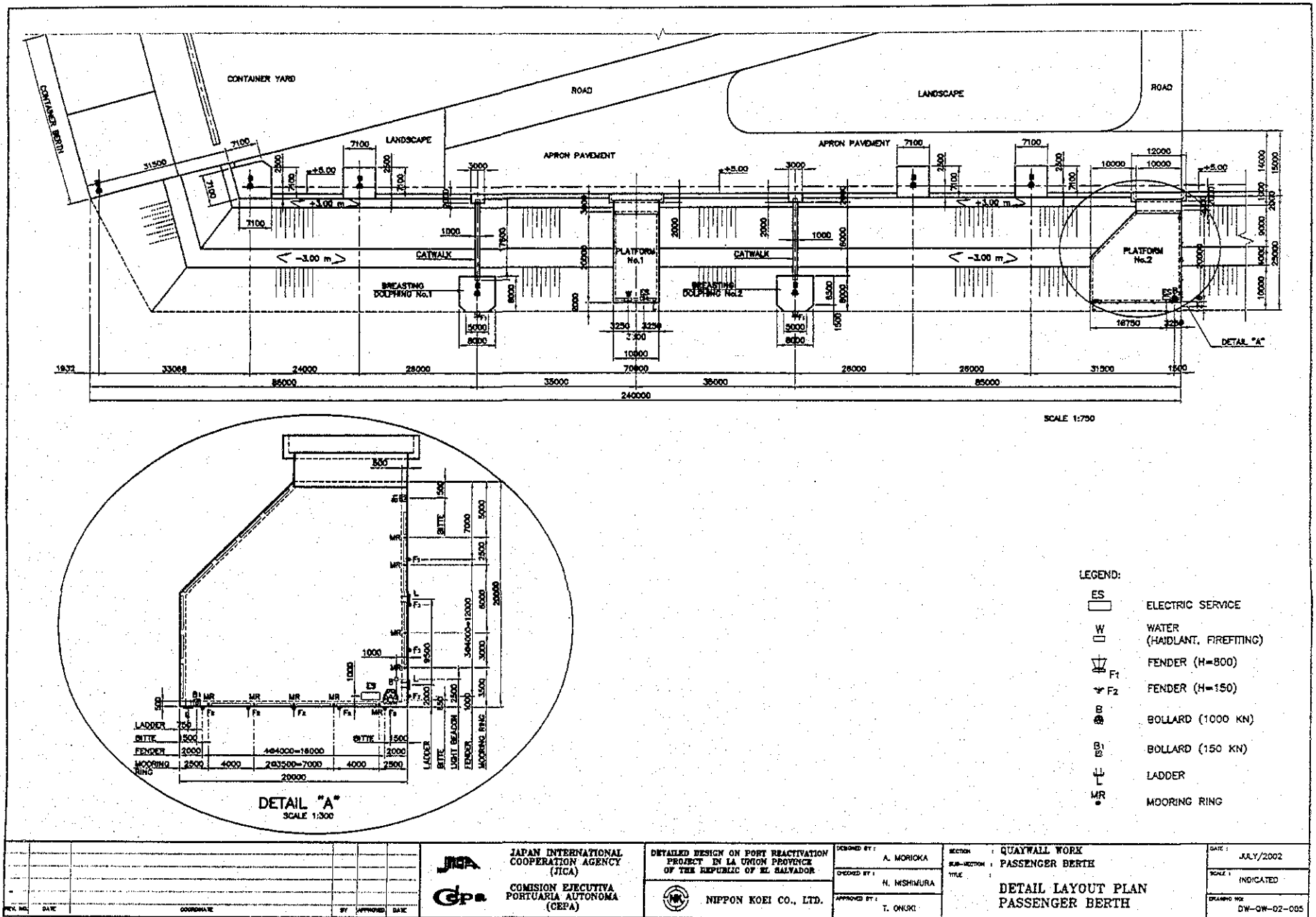
| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|------|--------------|---------------------------|---------------|----------|------|------------------------|
| Project | Detailed Design on Port Reactivation Project in La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | CATWALK | | | Pay Item No. (BOQ) | 2D-0403 | | | |
| Quantity Item | GRATING | | | Unit | Kg | | | |
| Calculation Procedure Applied <p style="font-family: cursive;">Grating was computed for Passenger Berth. The result was multiplied by the total number of catwalk. (See attached drawing).</p> | | | | | | | | |
| References, Calculation Base and Revisions <p style="font-family: cursive;">References: Tender Drawings: DW-QW-02-025 Detail of Catwalk</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 | CATWALK | Calc. Index No. | |
| Subject | GRATING | Page No. | Rev. |

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| <p>No. Catwalk = 2</p> <p>Grating per 1 catwalk:</p> <p>$W = 748.42 \text{ kg}$</p> <p>$W_T = (748.42 \text{ kg})(2) = 1,496.84 \text{ kg}$</p> <p style="text-align: center;">$\approx \boxed{1,500 \text{ kg}}$</p> | <p>References/ Notes</p> |
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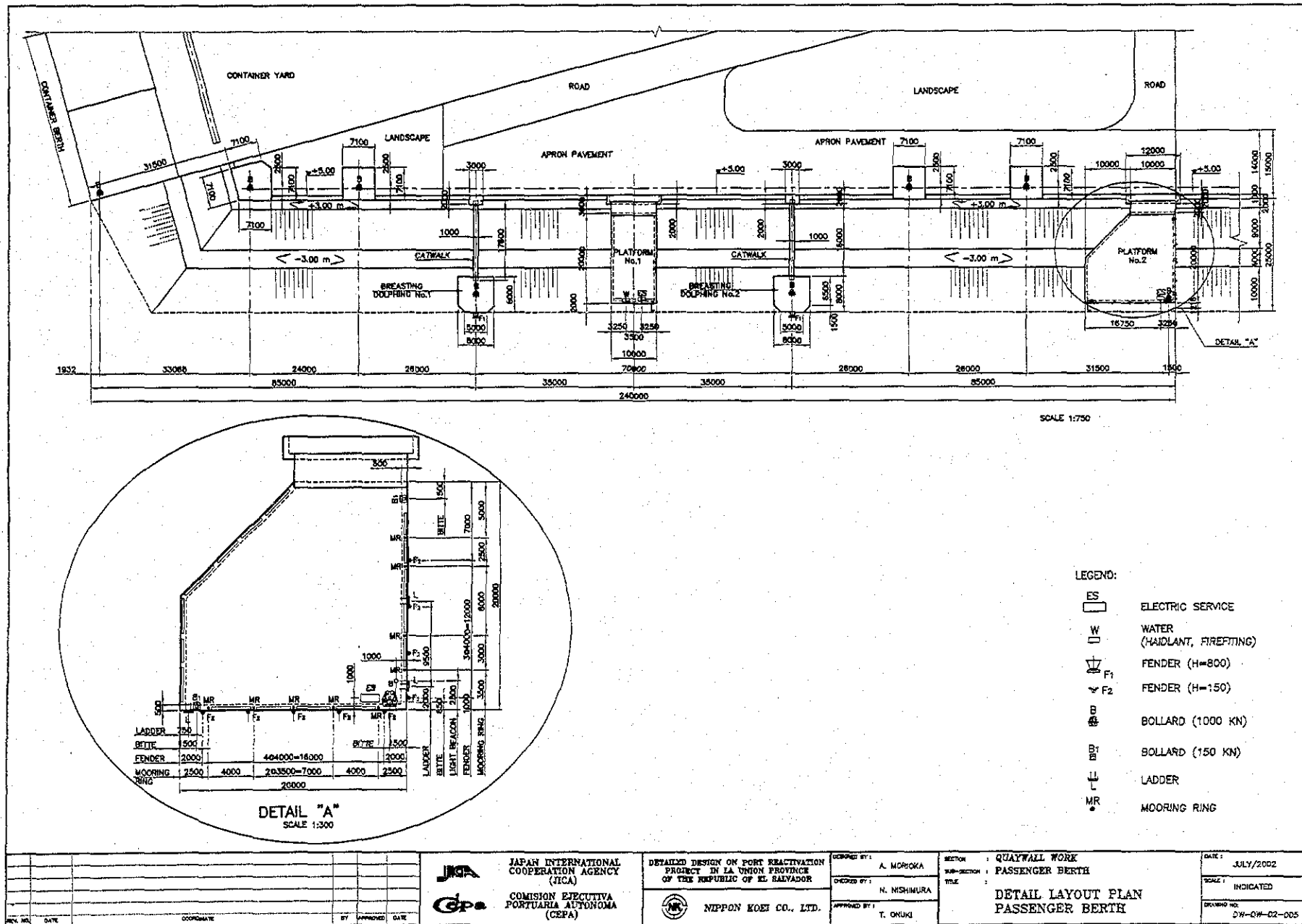
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| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | FENDER | | | Pay Item No. (BOQ) | 2D - 0501 | | | |
| Quantity Item | TYPE - B | | | Unit | Nos | | | |
| Calculation Procedure Applied <p style="font-size: 1.2em; margin-left: 40px;">Fender was computed per unit in Passenger Berth.</p> | | | | | | | | |
| References, Calculation Base and Revisions <p style="font-size: 1.2em; margin-left: 40px;">References : Tender Drawings : LW-QW-02-005 Detail layout Plan Passenger Berth</p> | | | | | | | | |
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| 0 | Karla Garcia | | | Mr. Inuma | | Mr. Ando | | |
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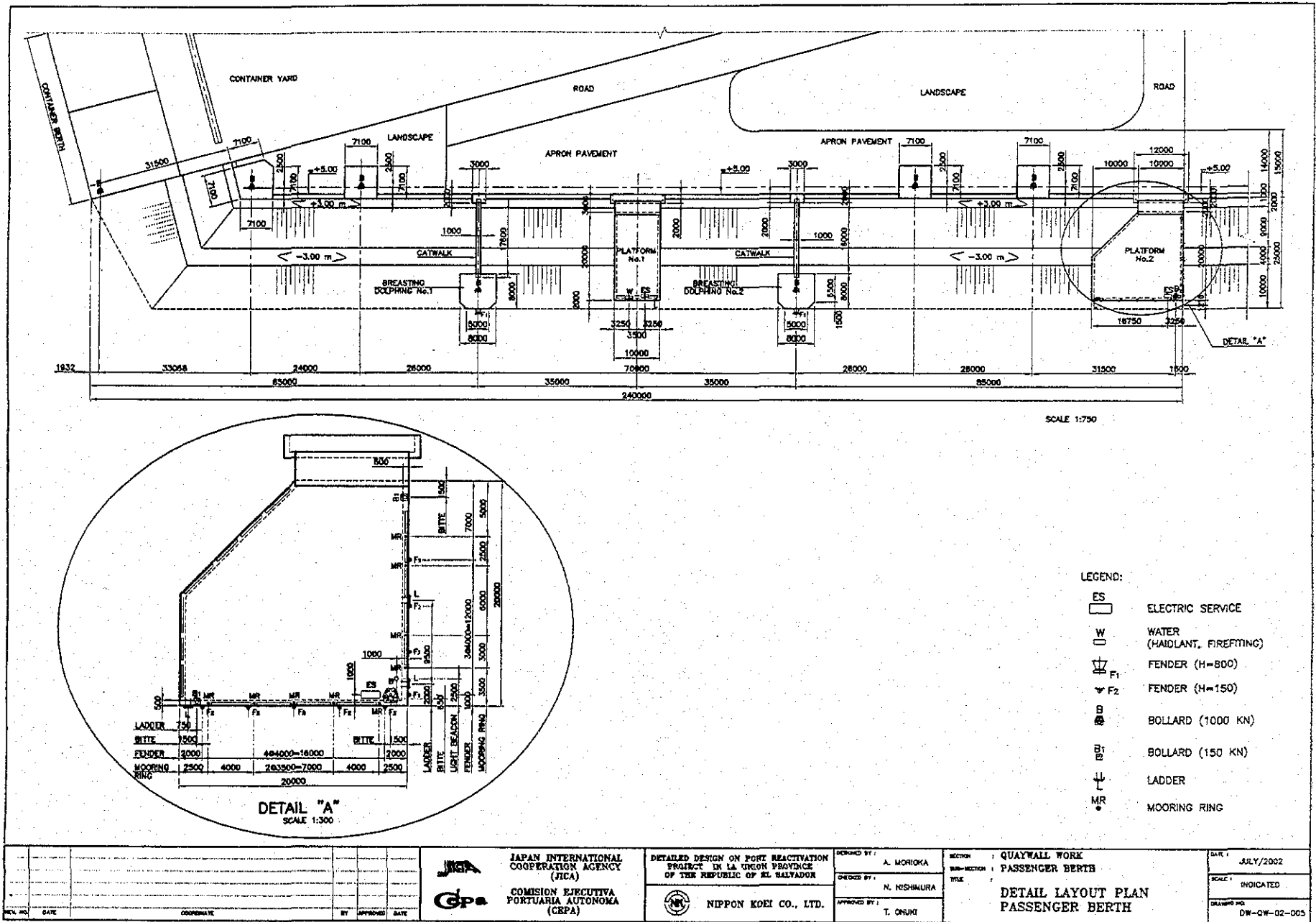


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| Project | Detailed Design on Port Reactivation Project in La Union | | Calc. File No. | |
| Section | FENDER | | Calc. Index No. | |
| Subject | TYPE - B | | Page No. | Rev. |
| <div style="border: 1px solid black; padding: 5px; display: inline-block;"> No = 2 </div> | | | References/Notes | |
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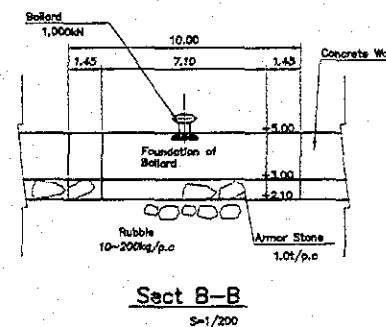
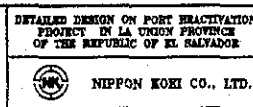
| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | FENDER | | | Pay Item No. (BOQ) | 2D - 0502 | | | |
| Quantity Item | TYPE - C | | | Unit | Nos | | | |
| Calculation Procedure Applied <p style="font-size: 1.2em; margin: 10px 0;">Fender was computed per unit in Passenger Bulb.</p> | | | | | | | | |
| References, Calculation Base and Revisions <p style="font-size: 1.2em; margin: 10px 0;">References : Tender Drawings :</p> <p style="margin: 10px 0;">DW - DW - 02 - 005 Detail Layout Plan Passenger Bulb.</p> | | | | | | | | |
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| | by | Date | | by | Date | by | Date | |
| 0 | Kenta Goria | [Signature] | | Mr. Inuma | | Mr. Ando | | |
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| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | BOLLARD | | | Pay Item No. (BOQ) | 2D-0601 | | | |
| Quantity Item | BOLLARD 100 t WITH ANCHOR BOLT | | | Unit | Sets. | | | |
| Calculation Procedure Applied <p style="margin-left: 40px;">Bollards 100 t were computed for Passenger Bulk. They were computed summarizing all sets included in passenger Bulk.</p> | | | | | | | | |
| References, Calculation Base and Revisions <p style="margin-left: 40px;">References: Tender Drawings: 001-QW-02-005 Detail Layout Plan Passenger Bulk</p> | | | | | | | | |
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| 0 | Koula Garcia | [Signature] | | Mr. Inuma | | Mr. Ando | | |
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| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | BOLLARD | | | Pay Item No. (BOQ) | 2D-0602 | | | |
| Quantity Item | FORM | | | Unit | m ² | | | |
| Calculation Procedure Applied <p>Form area was computed for base of bollard in Passenger Earth.</p> <p>Area was computed using geometric formulas, multiplying the length of the sides by the thickness of the base. The result was multiplied by the total number of bases.</p> | | | | | | | | |
| References, Calculation Base and Revisions <p>References: Tender Drawings:</p> <p style="margin-left: 40px;">DW - GW - 02 - 030 Arrangement and Structure of Foundation of Bollard</p> | | | | | | | | |
| Rev | Prepared | | No. of Pages | Checked | | Reviewed | | Superseded |
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| 0 | Karla Gorcia | | | Mr. Inuma | | Mr. Ando | | |
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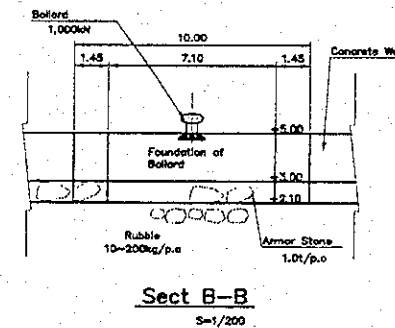
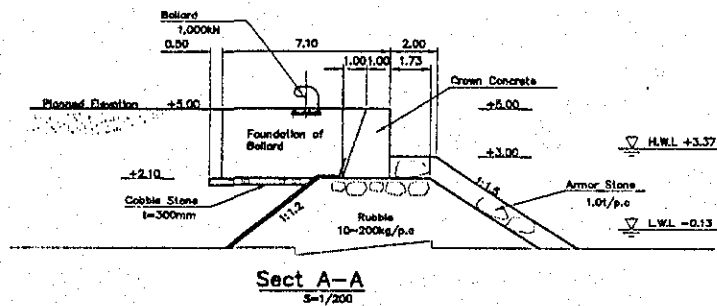
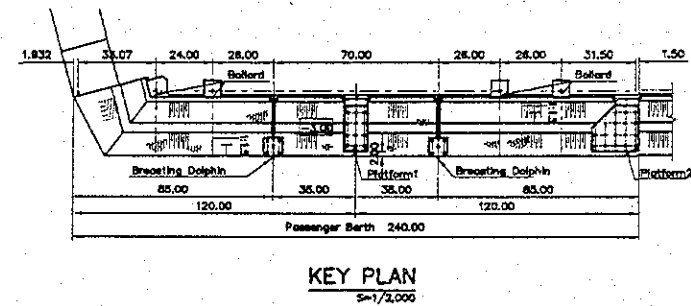
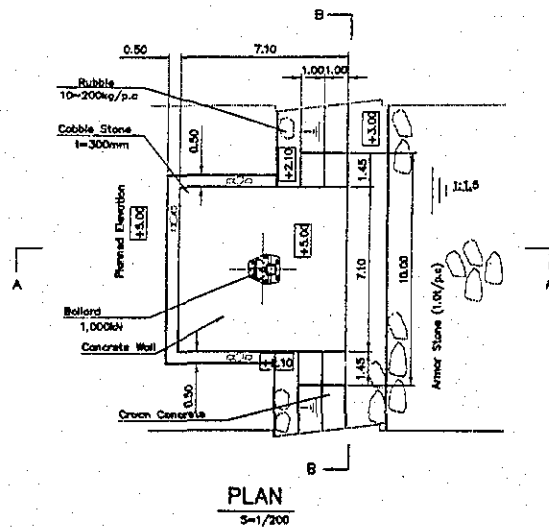


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| Project | Detailed Design on Port Reactivation Project in La Union | Calc. File No. | |
| Section | BOLLARD | Calc. Index No. | |
| Subject | FORM | Page No. | Rev. |

| References/ Notes |
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| <p>No Bases = 4</p> <p>Per 1 Base :</p> $A = (7.1 \text{ m}) (4) (2.9 \text{ m}) = 82.36 \text{ m}^2$ $\approx 82.40 \text{ m}^2$ $A_T = (82.40 \text{ m}^2) (4)$ $= 329.60 \text{ m}^2$ $\approx \boxed{330 \text{ m}^2}$ |

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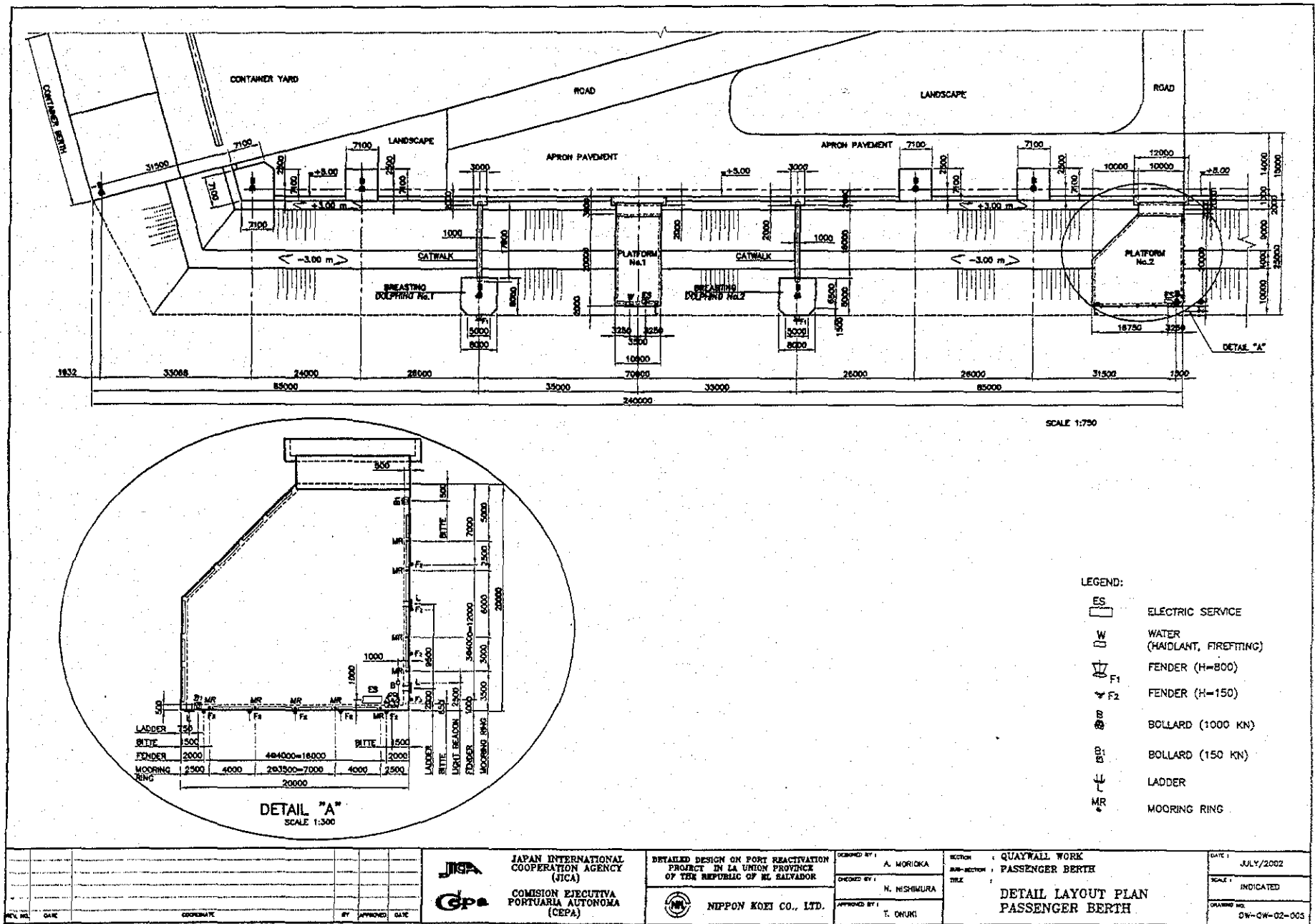
| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | BOLLARD | | | Pay Item No. (BOQ) | 2D-0603 | | | |
| Quantity Item | CONCRETE | | | Unit | m ³ | | | |
| Calculation Procedure Applied <p>Concrete volume was computed for base of bollard in Passenger Berth.</p> <p>Concrete volume was computed using geometric formulas, multiplying the area by the thickness of the base.</p> <p>The result was multiplied by the total number of bases.</p> | | | | | | | | |
| References, Calculation Base and Revisions <p>References : Tender Drawings :</p> <p style="margin-left: 40px;">DW-QW-02-C30 Arrangement and Structure of Foundation of Bollard</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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| REV. NO. | DATE | DESCRIPTION | BY | APPROVED | DATE | JICA | JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) | COMISION EJECUTIVA PORTUARIA AUTONOMA (CEPA) | DETAILED DESIGN ON PORT REACTIVATION PROJECT IN LA UNION PROVINCE OF THE REPUBLIC OF EL SALVADOR | DESIGNED BY: | SECTION: QUAYWALL | DATE: JULY/2002 |
| | | | | | | GPA | | | | CHECKED BY: | NON-SECTION: PASSENGER BERTH | SCALE: INDICATED |
| | | | | | | | | | | APPROVED BY: | STRUCTURE OF FOUNDATION OF BOLLARD | DRAWING NO: DW-QW-02-030 |

[illegible]

| QUANTITY CALCULATION COVER SHEET | | | | | | | | |
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| Project | Detailed Design on Port Reactivation Project in La Union Province | | | Project Code | JC1N004/2N001 | | | |
| Work Section Title | BOLLARD | | | Pay Item No. (BOQ) | 2D-0604 | | | |
| Quantity Item | BITTE 15 L | | | Unit | Sets | | | |
| Calculation Procedure Applied <p style="margin-left: 40px;">Bittes 15 L were computed for Passenger Bulb. They were computed summarizing all sets included in Passenger Bulb.</p> | | | | | | | | |
| References, Calculation Base and Revisions <p style="margin-left: 40px;">References: Tender Drawings: DW - GW - 02 - 005 Details layout Plan Passenger Bulb</p> | | | | | | | | |
| Rev | Prepared | | No. of | Checked | | Reviewed | | Superseded |
| | by | Date | Pages | by | Date | by | Date | by Calc No. |
| 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 | BOLLARD | Calc. Index No. | |
| Subject | BITTE 15t | Page No. | Rev. |
| <div>No = 2 Sets</div> <div>10</div> | | References/ Notes | |
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