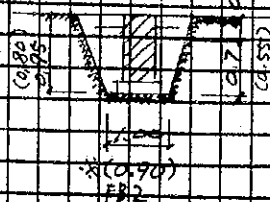


QUANTITY CALCULATION

BUILDING WORK

[3E;CARGO GATE]

AUGUST 2002

CALCULATION			
Project	Detailed Design on Port Reactivation Project in La Union		Calc. File No.
Section	Earth Work (Cargo Gate)		Calc. Index No.
Subject	3E 0101. Excavation for Foundation		Page No. 137 Rev.
FB1)	(1.20)		References/ Notes
FCB1)	2.00	$(1.00 + 2.00) \times 0.95 \times 1/2 = 1.43 \text{ m}^2$	
		AXIS 1, 6	
		$1.43 \times 26 \times 2 = 74.36$	
		AXIS 2, 3, 4, 5	
		$1.43 \times (18 + 2 + 2.8 + 3.4 \times 0.5) \times 4 = 139.54$	
		AXIS A, B, C, D	
		$1.43 \times 24.0 \times 4 = 137.28$	
		AXIS 1, 2, 5, 6	
		$1.43 \times 4.83 \times 6 = 41.44$	
FB2)		$(0.90 + 1.70) \times 0.80 \times 1/2 = 1.04 \text{ m}^2$	
		AXIS B ~ C	
		$1.04 \times 3.15 \times 4 = 13.10$	
		Sub Total	405.72 m³
F)	(F1)	(F2)	(F3)
	$13.05 \times 10 \text{ nos}$	$14.88 \times 10 \text{ nos}$	$18.37 \times 4 \text{ nos}$
	$= 352.80$	$\therefore 352.80 \times 75\%$	$= 264.60$
S2)			$= 19.80$
S3)			
Total	$405.72 + 264.60 + 19.80$	$= 690.12 \text{ m}^3$	
Prepared by		Checked by	
Y. Fujikawa 16 Aug 2000		A. M. M. M. 1 / 200	

CALCULATION

Project	Detailed Design on Port Reactivation Project in La Union		Calc. File No.	
Section	Earth Work (Cargo Gate)		Calc. Index No.	
Subject	3E0102. Backfilling.		Page No. 138	Rev.

FB1)	References/Notes
$(1.00 \times 1.70) \times 0.70 \times \frac{1}{2} - 0.4 \times 0.7 = 0.67 \text{ m}^2$ AXIS - 1.61. $0.67 \times 26 \times 2 = 34.84$	
$0.67 \times 24.40 \times 4 = 65.39$ AXIS - 2, 3, 4, 5. $0.67 \times 24 \times 4 = 64.32$	
$0.67 \times 4.83 \times 6 = 19.42$ AXIS - 1 ~ 2, 5 ~ 6. $0.24 \times 3.15 \times 4 = 3.02$	
Sub Total	186.99 m ³
FB2) $(0.90 + 1.60) \times 0.55 \times \frac{1}{2} - 0.3 \times 0.55 = 0.24 \text{ m}^2$ AXIS - B ~ C $0.24 \times 3.15 \times 4 = 3.02$	
F) $(F1) \quad (F2) \quad (F3)$ $(7.78 \times 10 + 8.72 \times 10 + 10.48 \times 4) \times 25\%$ $= 155.19 \text{ m}^3$	
Total	186.99 + 155.19 = 342.18 m ³

Prepared by	Checked by
T. Fujikawa 16 Aug 200	A. Murakawa 1 / 200

CALCULATION

Project	Detailed Design on Port Reactivation Project in La Union		Calc. File No.	
Section	Earth Work (Cargo Gate)		Calc. Index No.	
Subject	3E 0103. Rubble Stone Bedding 100 ^{mm} THK.		Page No. 139	Rev.

Item	Calculation	Result	Unit	References/Notes
F1, 2, 3)	$(2.00 \times 2.00 \times 10 + 2.20 \times 2.20 \times 10 + 2.55 \times 2.55 \times 4) \times 0.10$	11.44	m ³	
FB)	$(\text{Beam Width} + 0.30) \times \text{Beam Length} \times 0.10$	18.42	m ³	Refer to Concrete Calculation
Slab)	$\text{Slab Area} \times 0.10$	30.21	m ³	Refer to Concrete Calculation
	$(20.66 \div 0.15 + 37.67 \div 0.25 + 2.66 \div 0.15) \times 0.10$	30.21		
Total	$11.44 + 18.42 + 30.21$	60.07	m ³	

Prepared by		Checked by	
Y. Fujikawa	16 Aug/200	A. M. R. R. R.	1 / 200

SUMMARY OF ITEM BASE

[illegible]

CALCULATION			
Detailed Design			
on Port Reactivation Project			
in La Union Province			
CALC FILE No.:			
CALC INDEX No.:		PAGE 140	
	INITIAL	DATE	
PREPARED BY	G.F.	Jul. 02	
CHECKED BY	664	Aug 02	

[3E03 CONCRETE AND FORMWORK]

SUMMARY OF FL BASE (1)

[illegible]

FORMING (m2)															
Floor	Fundatlon	Foundation Beam	Foundation Slab	Column	Beam	Sub-Beam	Slab	Wall	Stair	Misc.			Total	Floor Area	m2/Floor Area
-1FL	99.00	423.00		32.00									554.00		
+1FL			103.65	317.44	143.20		80.64						644.93		
Total	99.00	423.00	103.65	349.44	143.2		80.64						1198.93		
m2/F Area															
m2/m3															

CALCULATION
 Detailed Design
 on Port Reactivation Project

CALCULATION		
Detailed Design		
on Port Reactivation Project		
in La Union Province		
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PREPARED BY	Y. F.	Jul. 02
CHECKED BY	CLH	August

NIPPON KOEI CO., LTD.
July 2002

SUMMARY OF FL BASE (1)

STEEL BAR (kg)								
Part	D10	D13	D16	D19	D22	D25	D29	D32
Foundation		1,442.5	0.0	0.0	1,941.2	745.1		4,128.8
Foundation Beam	410.0	3,436.8				10,564.9		14,411.7
Misc.	479.2	0.0	0.0					479.2
Column	438.2	4,443.8				13,754.1		18,636.1
Beam	398.1	707.8				3,376.9		4,482.9
Sub-Beam								
Slab	2,927.4	33.5						2,960.9
Wall								
Stair								
Total	4,652.9	10,064.5	0.0	0.0	1,941.2	28,440.9		45,099.5
Ratio(%)	10.3	22.3	0.0	0.0	4.3	63.1		100.0

CALCULATION

Detailed Design

on Port Reactivation Project

in La Union Province

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PREPARED BY <i>P.F.</i>	INITIAL	DATE
CHECKED BY <i>AK</i>		<i>Aug 02</i>

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Detail design on Port Reactivation Project in La Union Province

Quantity Calculation Sheet
Cargo Gate

FOUNDATION QUANTITY CALCULATION

	D10	D13	D16	D19	D22	D25	D29	D32
Hook	0.10	0.14	0.17	0.23	0.27	0.30	0.35	0.38
15d	0.15	0.20	0.24	0.29	0.33	0.38	0.44	0.48
25d	0.25	0.33	0.40	0.48	0.55	0.63	0.73	0.80
35d	0.35	0.46	0.56	0.67	0.77	0.88	1.02	1.12
40d	0.40	0.52	0.64	0.76	0.88	1.00	1.16	1.28

Symbol	CONCRETE					FORMING				STEEL BAR (m)												
	Width (m)	Length (m)	Thick (m)	Q'ty	Total (m3)	Width (m)	Length (m)	Q'ty	Total (m3)	Symbol	Dia (mm)	Length (m)	Nos	Q'ty	D10	D13	D16	D19	D22	D25	D29	D32
F-1	1.70	1.70	0.55	10	15.90	6.80	0.55	10	37.40	B.L	22	1.70	16	10					272.0			
										T.L	13	2.70	16	10		432.0						
										H.B	13	6.80	1	10		68.0						
F-2	1.90	1.90	0.55	10	19.86	7.60	0.55	10	41.80	B.L	22	1.90	18	10					342.0			
										T.L	13	2.90	18	10		522.0						
										H.B	13	7.60	1	10		76.0						
F-3	2.25	2.25	0.55	4	11.14	9.00	0.55	4	19.80	B.L	25	2.25	20	4						180.0		
										T.L	13	3.25	20	4		260.0						
										H.B	13	9.00	1	4		36.0						
Sub-Total					46.89				99.00					(m)		1394.0			614.0	180.0		
														(kg)		1387.0			1866.56	716.4		

CALCULATION

Detailed Design

on Port Reactivation Project
in La Union Province

CALC FILE No.:

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INITIAL DATE

PREPARED BY Y-F Jul. 02

CHECKED BY LAA Arjun

NIPPON KOEI CO., LTD.
July 2002

FOUNDATION BEAM QUANTITY CALCULATION

	D10	D13	D15	D19	D22	D25	D29	D32
Hook	0.10	0.14	0.17	0.23	0.27	0.30	0.35	0.35
150	0.15	0.20	0.24	0.29	0.33	0.38	0.44	0.48
250	0.25	0.33	0.40	0.48	0.55	0.63	0.73	0.80
350	0.35	0.46	0.56	0.67	0.77	0.88	1.02	1.12
400	0.40	0.52	0.64	0.76	0.88	1.00	1.16	1.28

Symbol	CONCRETE					FORMING				Symbol	STEEL BAR											
	Width (m)	Length (m)	Thick (m)	Q'ty	Total (m3)	Width (m)	Length (m)	Q'ty	Total (m2)		Dia (mm)	Length (m)	Nos	Q'ty	D10	D13	D15	D19	D22	D25	D29	D32
FB-1	0.40	0.80	5.56	6	10.68	1.60	5.60	6	53.76	T.B	25	22.60	4	2						180.8		
FCB-1	0.40	0.80	2.80	4	3.58	1.60	3.20	4	20.48	B.B	25	22.60	4	2						180.8		
1.6m										T.B	25	1.70	3	4						20.4		
		23.35								B.B	25	1.70	3	4						20.4		
		7.84								STR	13	2.40	121	2		580.8						
										W.B	10	24.00	2	2	96.0							
										Tie	10	0.40	25	2	20.0							
FB-1	0.40	0.80	5.6	12	21.50	1.60	5.60	12	107.52	T.B	25	19.60	4	4						313.6		
2,3,4,5,6	0.40	0.80	7.88	4	10.09	1.60	7.88	4	50.43	B.B	25	19.60	4	4						313.6		
										STR	13	2.40	29	12		835.2						
		47.04								W.B	10	5.60	2	12	134.4							
		22.06								Tie	10	0.40	7	12	33.6							
										T.B	25	9.88	4	4						158.1		
										B.B	25	9.88	4	4						158.1		
										STR	13	2.40	41	4		393.6						
										W.B	10	10.20	2	4	81.6							
										Tie	10	0.40	9	4	14.4							
FB-1	0.40	0.80	4.83	8	12.36	1.60	4.83	8	61.82	T.B	25	23.60	4	4						377.6		
A,B,C,D	0.40	0.80	4.05	4	5.18	1.60	4.05	4	25.92	B.B	25	23.60	4	4						377.6		
	0.40	0.80	3.15	8	8.06	1.60	3.15	8	40.32	STR	13	2.40	105	4		1008.0						
										W.B	10	22.00	2	4	176.0							
										Tie	10	0.40	23	4	36.8							
		27.05																				
		11.34																				
		17.64																				
FB-1	0.40	0.80	4.83	6	9.27	1.60	4.83	6	46.37	T.B	25	6.83	4	6						163.9		
1-2&5-6m										B.B	25	6.83	4	6						163.9		
										STR	13	2.40	26	6		374.4						
										W.B	10	5.23	2	6	62.8							
		20.29								Tie	10	0.40	8	6	14.4							
Sub-Total					80.74				406.62						(m)	670.0	3192.0			2428.8		
															(kg)	375.2	3176.0			9666.6		

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CALCULATION

Detailed Design
on Port Reactivation Project
in La Union Province

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PREPARED BY P.F. Jul.02

CHECKED BY B.M. Aug.02

FOUNDATION BEAM QUANTITY CALCULATION

	D10	D13	D16	D19	D22	D25	D29	D32
Reek	0.10	0.14	0.17	0.23	0.27	0.30	0.35	0.38
15d	0.15	0.20	0.24	0.29	0.33	0.38	0.44	0.48
25d	0.25	0.33	0.40	0.48	0.55	0.63	0.73	0.80
35d	0.35	0.46	0.56	0.67	0.77	0.88	1.02	1.12
40d	0.40	0.52	0.64	0.76	0.88	1.00	1.16	1.28

[illegible]

CALCULATION		
Detailed Design on Port Reactivation Project in La Union Province		
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CHECKED BY	LC64	Aug. 01

NIPPON KOEI CO., LTD.
July 2002

COLUMN QUANTITY CALCULATION

CALCULATION

Detailed Design
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INITIAL DATE

PREPARED BY

Y.F. Jul. 02

CHECKED BY

G.H. August

	D10	D13	D16	D19	D22	D25	D29	D32
Hook	0.10	0.14	0.17	0.23	0.27	0.30	0.35	0.38
15d	0.15	0.20	0.24	0.29	0.33	0.38	0.44	0.48
25d	0.25	0.33	0.40	0.48	0.55	0.63	0.73	0.80
35d	0.35	0.46	0.56	0.67	0.77	0.88	1.02	1.12
40d	0.40	0.52	0.64	0.76	0.88	1.00	1.16	1.28

Symbol	CONCRETE					FORMING				STEEL BAR												
	Width (m)	Length (m)	Thick (m)	Q'ty	Total (m ³)	Width (m)	Length (m)	Q'ty	Total (m ²)	Symbol	Dia (mm)	Length (m)	Nos	Q'ty	D10	D13	D16	D19	D22	D25	D29	D32
C1	0.40	0.40	0.80	16	2.05	1.60	0.80	16	20.48	M.B	25	4.70	8	28						1052.8		
										Hoop	13	1.60	38	28		1702.4						
										Tie	10	0.40	8	28	89.6							
C2	0.45	0.45	0.8	8	1.30	1.80	0.80	8	11.52	M.B	25	4.55	12	8						436.8		
										Hoop	13	1.80	37	8		532.8						
										Tie	10	0.45	7	8	25.2							
1FL					3.34				32.00					(m)	114.8	2235.2				1489.6		
Sub-total														(kg)	64.3	2224.0				5928.6		
C1	0.40	0.40	6.55	16	16.77	1.60	6.55	16	167.68	M.B	25	4.61	8	16						590.1		
	0.30	0.30	1.65	16	2.38	1.20	1.65	16	31.68	M.B	25	2.85	8	16						364.8		
										Hoop	13	1.60	36	16		921.6						
										Hoop	10	1.40	17	16	380.8							
										Tie	10	0.40	6	16	38.4							
										Tie	10	0.35	3	16	16.8							
C2	0.45	0.45	8.20	8	13.28	1.80	8.20	8	118.08	M.B	25	9.15	12	8						878.4		
										Hoop	13	1.80	79	8		1137.6						
										Tie	10	0.45	56	8	201.6							
+FL					32.43				317.44					(m)	637.6	2059.2				1833.3		
Sub-Total														(kg)	357.1	2048.9				7296.5		

Detail design on Port Reactivation Project in La Union Province

CALCULATION

Detailed Design
on Port Reactivation Project
in La Union Province

Quantity Calculation Sheet
Cargo Gate

BEAM QUANTITY CALCULATION

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PREPARED BY

INITIAL

DATE

CHECKED BY

STEEL BAR

Symbol	CONCRETE					FORMING				CHECKED BY		STEEL BAR											
	Width (m.)	Length (m.)	Thick (m.)	Q'ty	Total (m3)	Width (m.)	Length (m.)	Q'ty	Total (m ²)	Symbol	Dia (mm)	Length (m.)	Nos	Q'ty	D10	D13	D16	D19	D22	D25	D29	D32	
2F B-10	0.30	0.65	5.60	4	4.37	1.60	5.60	4	35.84	T.B	25	6.92	4	4							110.7		
										T.B	25	1.86	4	4							29.8		
										B.B	25	6.92	4	4							110.7		
										STR	13	1.90	39	4		296.4							
										W.B	10	5.90	2	4	47.2								
										Tie	10	0.30	7	4	8.4								
2F B-10	0.30	0.65	3.10	4	2.42	1.60	3.10	4	19.84	T.B	25	5.10	4	4							81.6		
										B.B	25	5.10	4	4							81.6		
										STR	13	1.90	22	4		167.2							
										W.B	10	3.10	2	4									
										Tie	10	0.30	4	4	4.8								
RF B-5	0.30	0.65	5.60	4	4.37	1.60	5.60	4	35.84	T.B	25	6.92	3	4							83.0		
	0.30	0.65	3.10	4	2.42	1.60	3.10	4	19.84	B.B	25	6.92	3	4							83.0		
										STR	10	1.90	33	4	250.8								
										W.B	10	5.90	2	4	47.2								
										Tie	10	0.30	7	4	8.4								
2F CB-10 3,4,5,6通 A,C,D通	0.30	0.30	1.00	8	0.72	0.90	1.00	8	7.20	T.B	25	2.05	2	8							32.8		
										B.B	25	1.64	3	8							39.4		
										STR	10	1.20	33	8	316.8								
2F B-12	0.30	0.40	5.60	4	2.69	1.10	5.60	4	24.64	T.B	25	6.80	3	4							81.6		
										B.B	25	6.80	3	4							81.6		
										STR	13	1.90	29	4		220.4							

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July 2002

CALCULATION		
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PREPARED BY	C-F	Jul 02

SLAB QUANTITY CALUCULATION

	D10	D13	D16	D19	D22	D25	D29	D32
Hook	0.10	0.14	0.17	0.23	0.27	0.30	0.35	0.38
15d	0.15	0.20	0.24	0.29	0.33	0.38	0.44	0.48
25d	0.25	0.33	0.40	0.48	0.55	0.63	0.73	0.80
35d	0.35	0.46	0.56	0.67	0.77	0.88	1.02	1.12
40d	0.40	0.52	0.64	0.76	0.88	1.00	1.16	1.28

Symbol	CONCRETE					FORMING				CHECKED BY		STEEL BAR											
	Width (m)	Length (m .)	Thick (m)	Q'ty	Total (m3)	Width (m)	Length (m .)	Qty	Total (m ²)	Symbol	Dia (mm)	Length (m)	Nos	Q'ty	D10	D13	D16	D19	D22	D25	D29	D32	
1F	3.15	5.60	0.15	4	10.58					S.Top	10	3.60	29	4	417.6								
S3										S.Bom	10	3.60	29	4	417.6								
2-3,4-5										L.Top	10	6.00	14	4	336.0								
										L.Bom	10	6.00	14	4	336.0								
	1.53	3.15	0.15	2	1.45					S.Top	10	2.00	17	2	68.0								
										S.Bom	10	2.00	17	2	68.0								
										L.Top	10	3.60	14	2	100.8								
										L.Bom	10	3.60	14	2	100.8								
	3.2	3.15	0.15	2	3.02					S.Top	10	3.60	17	2	122.4								
										S.Bom	10	3.60	17	2	122.4								
										L.Top	10	3.65	14	2	102.2								
										L.Bom	10	3.65	14	2	102.2								
	0.3	3.15	0.15	2	0.28					S.Top	10	0.80	17	2	27.2								
										S.Bom	10	0.80	17	2	27.2								
										L.Top	10	3.60	3	2	21.6								
										L.Bom	10	3.60	3	2	21.6								
	3.15	2.50	0.15	4	4.73					S.Top	10	2.90	17	2	98.6								
										S.Bom	10	2.90	17	2	98.6								
										L.Top	10	3.60	11	2	79.2								
										L.Bom	10	3.60	11	2	79.2								

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Detail design on Port Reactivation Project in La Union Province

Quantity Calculation Sheet
Cargo Gate

SLAB QUANTITY CALCULATION

CALCULATION		
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	D10	D13	D16	D19	D22	D25	D29	D32
Hook	0.10	0.14	0.17	0.23	0.27	0.30	0.35	0.38
15d	0.15	0.20	0.24	0.29	0.33	0.38	0.44	0.48
25d	0.25	0.33	0.40	0.48	0.55	0.63	0.73	0.80
35d	0.35	0.46	0.56	0.67	0.77	0.88	1.02	1.12
40d	0.40	0.52	0.64	0.76	0.88	1.00	1.16	1.28

Symbol	CONCRETE					FORMING					STEEL BAR												
	Width (m)	Length (m)	Thick (m)	Q'ty	Total (m3)	Width (m)	Length (m)	Q'ty	Total (m2)	Symbol	Dia (mm)	Length (m)	Nos	Q'ty	D10	D13	D16	D19	D22	D25	D29	D32	
1F S2 1-2-8-9	2.60	4.83	0.25	12	37.67					S.Top	13	18.64	34	1		633.8							
										S.Bom	13	18.64	34	1		633.8							
										L.Top	13	5.87	12	12		845.3							
										L.Bom	13	5.87	12	12		845.3							
1F CS1 1&6	0.30	24.00	0.15	2	2.16					S.Top	13	0.82	121	2		198.4							
										S.Bom	10	0.50	121	2	121.0								
										L.Top	10	24.00	5	2	240.0								
										L.Bom	10	24.00	5	2	240.0								
	0.30	2.80	0.15	4	0.50					S.Top	13	0.82	12	4		39.4							
										S.Bom	10	0.50	12	4	24.0								
										L.Top	10	3.00	2	4	24.0								
										L.Bom	10	3.00	2	4	24.0								
Sub-Total					40.34									(m) (kg)	673.0 376.9								
2F S3(CS1)	2.40	5.60	0.15	6	12.10	2.40	5.60	6	80.64	S.Top	10	2.70	19	6	307.8								
										S.Top	13	2.70	2	6	32.4								
										S.Bom	10	2.40	21	6	302.4								
										L.Top	10	4.35	11	6	287.1								
										L.Bom	10	4.35	11	6	287.1								
2F PC SLAB	3.55	6.00	0.05	2	2.13					S	10	6.90	17	2	234.6								
										L	10	3.90	24	2	187.2								
PC SLAB	3.55*6.0*2=42.60m																						
Sub-Total					14.23				80.64					(m) (kg)	1606.2 899.5	32.4 32.2							

NIPPON KOGI CO., LTD.
July 2002

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PREPARED BY	Y-F	Feb. 0

MISCELLANEOUS QUANTITY CALUCULATION

	D10	D13	D16	D19	D22	D25	D29	D32
Hook	0.10	0.14	0.17	0.23	0.27	0.30	0.35	0.38
15d	0.15	0.20	0.24	0.29	0.33	0.38	0.44	0.48
25d	0.25	0.33	0.40	0.48	0.55	0.63	0.73	0.80
35d	0.35	0.48	0.58	0.67	0.77	0.88	1.02	1.12
40d	0.40	0.52	0.64	0.76	0.88	1.00	1.16	1.28

[illegible]

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LA UNION PORT DEVELOPMENT PROJECT

Quantity Calculation Sheet
Concrete Work

[illegible]

CARGO GATE

No.1

1 of 4

ITEM	LOCATION	DISCRIPTION	Qty	UNIT	FL	CALCULATION	kg/m	Loss %	+Loss 5% TOTAL	MEMO
SUB BEAM	A~D通,1~6間 B4	C4x5.4 →[-100x40x5x8	658	kg	ROOF	(3.2+1.9)*2*6+2.8*2*3	8.03	5	657.7	
SUB BEAM	B~C間 B11	C10x25 →[-250x75x11×13	2075	kg	2F	4.93*4+3.3*5+4.15*2+3+5.6	37.2	5	2074.9	
SUB BEAM	B4	C4x5.4 →[-100x40x5x8	371	kg	ROOF	22*2	8.03	5	371.0	
	B4	C4x5.4 →[-100x40x5x8	253	kg	ROOF	3*5*2	8.03	5	252.9	
STAIR BEAM		C10x25 →[-250x75x11×13	1640.5	kg		(3.7+1.2+3.3+0.5)*4+1.8*4	37.2	5	1640.5	
C ;TOTAL			4997	kg						

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PREPARED BY	SP-F J. L. L.
CHECKED BY	COLA Sugar

LA UNION PORT DEVELOPMENT PROJECT
[3E04 STRUCTURE STEEL WORK]

QUANTITY CALCULATION SHEET
CARGO GATE

ITEM	LOCATION	DISCRIPTION	Qty	UNIT	FL	CALCULATION	kg/m	Loss %	+Loss 5% TOTAL	MEMO
BLASIN G	2~7通,-A~D-間 BR-1	N6 BAR →6φ	601	kg	ROOF	(3+2.3)*8+(3.6+3.2)*24+2.5*4+3.5*12	2.22	5	600.5	
PURLIN		C-4"*2"*3/64" POLIN	1408	kg	ROOF	(3.3+2)*4*24+2.9*2*24	2.07	5	1408.4	
RAFTE R		C-4"*2"*3/64" POLIN	304.3	kg	ROOF	(3.5*2+2.5*2+2)*2*5	2.07	5	304.3	
STUD		L-50*50*4	401.3	kg	BRIDGE WALK	1.2*91	3.5	5	401.3	
RB , C(LGS) ;TOTAL			2,715	kg						
SUB TOTAL			26,214	kg						
GUSSET PLATE H.T.Bolt ,etc			1,835	kg						
TOTAL			28,049	kg						

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CHECKED BY	CEH Aug 02

LA UNION PORT DEVELOPMENT PROJECT
[3E04 STRUCTURE STEEL WORK]

PAINTING ON STEEL

QUANTITY CALCULATION SHEET
CARGO GATE

ITEM	LOCATION	DISCRIPTION	Qty	UNIT	FL	CALCULATION	m ² /m	Loss %	+Loss 5% TOTAL	MEMO
COLU MN	(Axis)1-2,5-6 A~B C3	W8x31 →H-300x150x6.5x9	22.09	m2	1F	2.8*2+5.45+3.5*2+5.45	0.94		22.09	
BEAM	A~D通 2~5間 B1	W10x21	97.74	m2	ROOF	(3.85*2)*2*4+(3.7*2)*1*4	0.82		74.78	
	C,D通 1-2&2-5間 B1					(3.5*2)*2*2	0.82		22.96	
BEAM	1,6通 -B~C-間 B2	W12x40	142.34	m2	ROOF	11.6*2	1.28		29.70	
	2~5通 -A~D-間 B2				ROOF	22.0*4	1.28		112.64	
BEAM	-B,C-通,1-2&5-6間 B3	W8x18	114.38	m2	ROOF	(3.5*2)*2*2	0.68		19.04	
	-A,D-通,2~5間 B3				ROOF	(3.85*2)*2*2+(3.7*2)*3	0.68		36.04	
	1~6通,A~D間 B3				ROOF	5.9*(3*2+5)+1.91*3*2+2.71*2*2	0.68		59.30	
BEAM	A~D通,2~5間 B4	C4x5.4	22.36	m2	ROOF	(3.85*2)*2*3+(3.7*2)*3	0.27		18.47	
	B-C通,1-2&5-6間 B4				ROOF	3.6*2*2	0.27		3.89	
BEAM	3,4通,B-C間 B11	C10x25	52.02	m2	2F	4.6*2*2	0.90		16.56	
	1-2,5-6通,A-B間 B11				2F	0.8*2	0.90		1.44	
	B-通,2~5間 B11				2F	6.4*2*2+6.1*2	0.90		34.02	
							0.90			

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Project	Detailed Design on Port Reactivation Project in La Union		Calc. File No.	
Section	Masonry Work. (Cargo Gate)		Calc. Index No.	
Subject	3E0501 3E0502. Concrete Block Masonry.		Page No. 158	Rev.

References/ Notes
<p>① 3E0501. Concrete Block 200mm THK.</p> <p>Weigh Bridge Office, Duty Staff Room</p> $(5.55 + 3.10) \times 2 \times (8.0 - 0.65 \times 2) - \text{Opening} (18.96) = 96.95$ <p style="text-align: center;">(W2) (W3) (D2)</p> $\text{Opening} = 2.0 \times 1.2 \times 4 + 1.50 \times 1.0 \times 4 + 0.8 \times 2.1 \times 2$ $= 18.96 \text{ m}^2$ $96.95 \times 2 \text{ Nos} = 193.90 \text{ m}^2$
<p>② 3E0502. Concrete Block 150mm THK.</p> <p>Gate Office (1 Nos)</p> $(4.05 + 2.14) \times 2 \times (5.25 - 0.15) - \text{Opening} (12.49) = 53.30$ $\text{Opening} = 12.49$ $53.30 \times 2 \text{ Nos} = 106.60 \text{ m}^2$


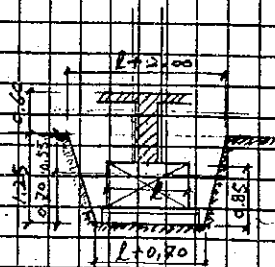
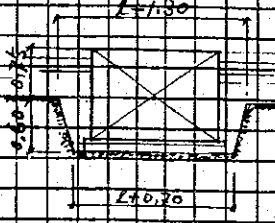
Prepared by		Checked by	
Y. Fujikawa	1 Jul 2000	A. Murakami	1 / 200

QUANTITY CALCULATION

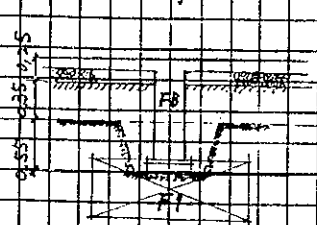
BUILDING WORK

[3F;POWER SUPPLY STATION]

AUGUST 2002

Project	Detailed Design on Port Reactivation Project in La Union		Calc. File No.		
Section	Earth Work (Power Supply Station)		Calc. Index No.		
Subject	3F0101 Excavation for Foundation		Page No. /59	Rev.	
FB1)		$Q = (1.10 + 1.20) \times 0.55 \times \frac{1}{2} = 0.77 \text{ m}^2$		References/Notes	
	AXIS A-B	$(1.10 + 1.20) \times 0.55 \times \frac{1}{2} \times 33.70 \times 2 = 51.90$			
	AXIS C	$0.77 \times 27.70 = 21.33$			
	A-B	$0.77 \times 15.70 = 12.09$			
		$0.77 \times 2.44 \times 2 = 3.76$			
	AXIS 1	$0.77 \times 6.20 = 4.77$			
	AXIS 2-B	$0.77 \times 13.2 \times 5 = 50.82$			
	Sub Total		189.87 m ³ (*)		
	F1)		$Q = (2.2 + 2.170) \times 1.25 \times \frac{1}{2} \times (2.1 + 1.35) = 7.50 \text{ m}^2$		
			$7.50 \times 12 \times 75\% = 95.63$		
F2)			$Q = (2.2 + 2.00) \times 4.60 \times \frac{1}{2} \times (2.1 + 1.0) = 12.87 \text{ m}^2$		
			$12.87 \times 2 \times 75\% = 19.30$		
		Total		$189.87 + 95.63 + 19.30 = 304.80 \text{ m}^3$	
Prepared by Y. Fujikawa.		Checked by			
Jul. 1200		A. MURATE	1 1200		

Project	Detailed Design on Port Reactivation Project In La Union	Calc. File No.	
Section	Earth Work (Power Supply Station)	Calc. Index No.	
Subject	3F0102 Backfilling for Pile cap & Slab	Page No. 160	Rev.

① 1st Step for Pile cap	References/Notes
<p>F1) Up to the Bottom Level of FB</p> <p>*D $(1.10 + 0.70 + 1.10 + 1.40) \times 0.70 \times \frac{1}{2} \times (1.10 + 1.05)$</p> <p>$- (1.10 \times 1.10 \times 0.70) = 2.39 \text{ m}^3$</p> <p>$2.39 \times 17 = 40.63 \text{ m}^3$</p>	
<p>② 2nd Step for Slab</p>  <p>(~L=±0)</p> <p>F1) *B - *D $\times 17 = 2.15 \times 1.10 \times 1.10 \times 17 = 0.35 \times 0.40 \times 4.6 \times 17$</p> <p>$= 26.57 \text{ m}^3$</p> <p>F2) *C - $2.39 \times 5.50 \times 0.60 \times 2$</p> <p>$= 16.12 \text{ m}^3$</p> <p>FB) *E (249/14) → Beam Length</p> <p>*A - $0.35 \times 0.55 \times (32.3 \times 2 + 26.3 \times 2 + 11.7 \times 7 + 4.8 \times 2 + 3.06 \times 4 + 6.3 \times 4 + 1.5 \times 2)$</p> <p>$= 141.91 \text{ m}^3$</p> <p>(L=±0 ~ ±0.35) Floor Area *F</p> <p>$(26.30 \times 11.70 + 6.0 \times 4.8) \times 0.35 = 0.35 \times 0.35 \times *E$</p> <p>$- (F2) 2.30 \times 5.50 \times 2 \times 0.35$</p> <p>$= 78.41$</p> <p>Sub Total 251.01 m^3</p> <p>Out Door Berm Slab</p> <p>$53.0 \times 1.50 \times 0.30$</p> <p>$= 23.85$</p> <p>Total $40.63 + 251.01 + 23.85$</p> <p>$= 315.49 \text{ m}^3$</p>	

Prepared by Y. Fujikawa	Checked by AMURAKI
1/20/2000	1/2000

Project	Detailed Design on Port Reactivation Project in La Union		Calc. File No.	
Section	Earth Work (Power Supply Station)		Calc. Index No.	
Subject	3FD103 Rubble Stone Bedding 100 ^{mm} THK		Page No. 161	Rev.

			References/ Notes
A1.)	$(1.40 \times 1.40 \times 17 + 2.6 \times 5.8 \times 2) \times 0.1$	$= 6.35$	
A2.)			
AB.)	$\Sigma E \times 0.65 \times 0.1$	$= 16.19$	
Slab)	$369.07 \text{ m}^2 \times 0.1$	$= 36.91$	
Total		59.45 m³	

Prepared by Y. Fujikawa		Checked by	
	1 Jul 2000	A. M. K. K.	1 / 200

LA UNION PORT DEVELOPMENT PROJECT
BUILDING WORK

Quantity Calculation Sheet
Piling Work

PAY ITEM NO	DISCRIPTION	TOTAL Qty	UNIT SUB TOTAL	CALCULATION		
3F02	POWER SUPPLY STATION					
* P1	400*400	21	Nos			
• CONCRETE		23.52	m3	23.52	1.12 * 21	
• STRAND ROPE (6-φ 1/2")		882.00	m	882.00	42.0 * 21	
• D16		639.45	Kg	639.45	30.45 * 21	
• D10 (SPIRAL)		1900.50	Kg	1900.50	90.5 * 21	

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CHECKED BY	DAW	Aug.02

PILE

SUMMARY OF CONCRETE/FORMING/REINFORCEMENT BAR ITEM BASE

[3F03 CONCRETE AND FORMWOF]

CONCRETE FORMWORK			REINFORCEMENT BAR (m)								
ITEM	(m ³)	(m ²)	D10	D13	D16	D19	D22	D25	D29	D32	TOTAL
1 FOUNDATION	44.76	89.80		655.60	896.60						
2 FOUNDATION BEAM	54.56	311.78	1647.58	325.90	120.86		2059.60				
3 SUB BEAM	31.12	207.46	1892.29	181.20	78.12		662.68				
4 COLUMN (-FL)	3.44	30.60	841.50				582.08				
5 COLUMN (+FL)	15.84	140.76	566.10				418.88				
6 BEAM	35.77	334.68	2794.55	480.00	735.16	136.92	1192.96				
7 SLAB (-1FL)	55.36		4109.24	2601.94							
8 SLAB (+1FL)	40.21	335.12	6016.00	1688.00							
-FL +FL	SUB TOTAL	189.24 91.82	1450.20	17867.26	5932.64	1830.74	136.92	4916.20			
		Unit Weight(Kg/m)	0.56	0.995	1.56	2.25	3.04	3.98	5.04	6.23	
		Weight NET (ton)	10.01	5.90	2.86	0.31	14.95				34.02
		Weight+Loss 4%(ton)	10.41	6.14	2.97	0.32	15.54				35.38

CALCULATION

Detailed
on Port Reactor
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CHECKED BY		6/14	Aug

SUMMARY OF CONCRETE/FORMING/RE-BAR FL Base (1)

[3F03 CONCRETE AND FORMWORK]

[illegible]

FORMING (m ²)													TOTAL
	FOUNDATION	FOUNDATION BEAM	FOUNDATION SUB BEAM	COLUMN (-FL)	COLUMN (+FL)	BEAM	SLAB (-1FL)	SLAB (+1FL)					
-1FL	89.80	311.78	207.46	30.60									639.64
+1FL					140.76	334.68		335.12					810.56
TOTAL	89.80	311.78	207.46	30.60	140.76	334.68	0.00	335.12					1450.20

CALCULATION
Detailed Design
on Port Reactivation Project

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[3F03 CONCRETE AND FORMWORK]

	D10	D13	D16	D19	D22	D25	D29	D32	TOTAL
FOUNDATION	0.0	678.4	1,454.6	0.0	0.0				2,133.1
FOUNDATION BEAM	959.5	337.2	196.1	0.0	6,511.6				8,004.5
FOUNDATION SUB BEAM	1,102.1	187.5	126.7	0.0	2,095.1				3,511.4
COLUMN (-FL)	490.1	0.0	0.0	0.0	1,840.3				2,330.4
COLUMN (+FL)	329.7	0.0	0.0	0.0	1,324.3				1,654.0
BEAM SLAB (-1FL)	1,627.5	496.7	1,192.7	320.4	3,771.7				7,409.0
SLAB (-1FL)	2,393.2	2,692.5	0.0	0.0	0.0				5,085.7
SLAB (+1FL)	3,503.7	1,746.7	0.0	0.0	0.0				5,250.5
TOTAL	10,405.9	6,139.1	2,970.2	320.4	15,543.1	0.0	0.0		35,378.6

RE-BAR (kg)

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Detailed Design
on Port Reactivation Project
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PREPARED BY: *J.F.* INITIAL: *J.F.* DATE: *Feb. 02*

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CHECKED BY	Lat	Aug 0	

Taking-Off Sheet																					
[3F03 CONCRETE AND FORMWORK]																					
CONCRETE						FORMING				RE-BAR											
Symbol	Width	Length	Thk	Qty	m3	Width	Length	Qty	m2	Symbol	Dia	Length	Nos	Qty	D10	D13	D16	D19	D22	D25	D29
POWER SUPPLY STATION																					
Base					44.76				89.80						0.00	655.60	896.60	0.00	0.00	0.00	
FG					54.56				311.78						1647.58	325.90	120.86	0.00	2059.60	0.00	0.00
FB					31.12				207.46						1892.29	181.20	78.12	0.00	662.68	0.00	0.00
FG+FB			85.68				519.24								3539.87	507.10	198.98	0.00	2722.28	0.00	0.00
C(-1FL)					3.44				30.60						841.50	0.00	0.00	0.00	582.08	0.00	0.00
C(+1FL)					15.84				140.76						566.10	0.00	0.00	0.00	418.88	0.00	0.00
C SUM			19.28				171.36								1407.6	0.0	0.0	0.0	1001.0	0.0	0.0
RG(2G)					16.73				119.91						1405.25	290.00	0.00	0.00	1192.96	0.00	0.00
RB(2B)					19.04				214.77						1389.30	190.00	735.16	136.92	0.00	0.00	0.00
RG+RB			35.77				334.68								2794.6	480.0	735.2	136.9	1193.0	0.0	0.0
1F Slab					55.36				0.00						4109.24	2601.94	0.00	0.00	0.00	0.00	0.00
RF Slab					40.21				335.12						6016.00	1688.00	0.00	0.00	0.00	0.00	0.00
TOTAL		0.00			281.06				1450.20					m	17867	5932.6	1830.7	136.9	4916.2	0.0	
		Slab(outer)			4.04									Kg	10005.7	5903.0	2856.0	308.1	14945.2	0.0	
														x1.04							
														35.38	ton	10.406	6.139	2.970	0.320	15.543	0.000

CALCULATION

Detailed Design
on Port Reactivation Project
in La Union Province

CALC FILE No.:

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INITIAL DATE

PREPARED BY

P.F. Jul.02

CHECKED BY

Lett Augor

LA UNION PORT DEVELOPMENT PROJECT

Quantity Calculation Sheet

Power Supply Station

CONCRETE						FORMING				RE-BAR					D10	D13	D16	D19	D22	D25	D29
Symbol	Width	Length	Thk	Qty	m3	Width	Length	Qty	m2	Symbol	Dia	Length	Nos	Qty							
* Base																					
F1	1.10	1.10	0.70	17	14.40	4.40	0.70	17	52.36	B.L	16	1.10	7	17			130.9				
										B.L	16	1.10	7	17			130.9				
										T.L	13	2.1	12	17		428.4					
										S.B	13	4.0	2	17		136.0					
F2	2.30	5.50	1.20	2	30.36	15.60	1.20	2	37.44	B.L	16	2.20	27	2			118.8				
										B.L	16	5.40	11	2			118.8				
										T.L	16	4.3	27	2			232.2				
										T.L	16	7.5	11	2			165.0				
										S.B	13	15.2	3	2		91.2					
Base SUM					44.76				89.80						0.00	655.60	896.60	0.00	0.00	0.00	0.00
* FG																					
ABO FB1	0.35	1.00	5.55	8	15.54	2.00	5.55	8	88.80	TB	22	3.15	10	8				252.0			
										TB	22	2.77	3	8				66.5			
										BB	22	3.15	8	8				201.6			
										BB	22	2.77	3	8				66.5			
										STR	10	1.9	24	8	364.8						
										WB	13	5.75	2	8		92.0					
										Tie	10	0.35	7	8	19.6						
FB1	0.35	1.00	6.55	2	4.59	2.00	6.55	2	26.20	TB	22	3.4	10	2				68.0			
										TB	22	3.27	3	2				19.6			
										BB	22	3.4	8	2				54.4			
										BB	22	3.27	3	2				19.6			
										STR	10	1.9	28	2	106.4						
										WB	13	6.75	2	2		27.0					
										Tie	10	0.35	8	2	5.6						

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	CONCRETE						FORMING				RE-BAR					D10	D13	D16	D19	D22	D25	D29	
	Symbol	Width	Length	Thk	Qty	m3	Width	Length	Qty	m2	Symbol	Dia	Length	Nos	Qty								
	FB1	0.35	1.00	6.43	2	4.50	2.00	6.43	2	25.72	TB	22	3.36	10	2						67.2		
											TB	22	3.23	3	2						19.4		
											BB	22	3.36	8	2						53.8		
											BB	22	3.23	3	2						19.4		
											STR	10	1.9	27	2	102.6							
											WB	13	6.63	2	2		26.5						
											Tie	10	0.35	7	2	4.9							
4'6"	FB1	0.35	1.00	6.65	2	4.66	2.00	6.65	2	26.60	TB	22	3.42	8	2						54.7		
											TB	22	3.33	3	2						20.0		
											BB	22	3.42	8	2						54.7		
											BB	22	3.33	3	2						20.0		
											STR	10	1.9	28	2	106.4							
											WB	13	6.85	2	2		27.4						
											Tie	10	0.35	8	2	5.6							
	FB1	0.35	1.00	6.58	2	4.61	2.00	6.58	2	26.32	TB	22	3.41	8	2						54.6		
											TB	22	3.28	3	2						19.7		
											BB	22	3.41	8	2						54.6		
											BB	22	3.28	3	2						19.7		
											STR	10	1.9	28	2	106.4							
											WB	13	6.85	2	2		27.4						
											Tie	10	0.35	8	2	5.6							
	FB1	0.35	1.00	1.67	2	1.17	2.00	1.67	2	6.68	TB	22	2.55	8	2						40.8		
											BB	22	2.55	8	2						40.8		
											STR	10	1.9	7	2	26.6							
											WB	13	1.87	2	2		7.5						
											Tie	10	0.35	3	2	2.1							
1'6"	FB1	0.35	1.00	3.93	6	8.25	2.00	3.93	6	47.16	TB	22	2.78	10	6						166.8		
											TB	22	2.01	3	6						36.2		
											BB	22	2.78	8	6						133.4		
											BB	22	2.01	3	6						36.2		
											STR	10	1.9	18	6	205.2							
											WB	13	4.3	2	6		51.6						
											Tie	10	0.35	5	6	10.5							

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CHECKED BY Leth Angor

LA UNION PORT DEVELOPMENT PROJECT

Quantity Calculation Sheet

Power Supply Station

	CONCRETE						FORMING				RE-BAR					D10	D13	D16	D19	D22	D25	D29
	Symbol	Width	Length	Thk	Qty	m3	Width	Length	Qty	m2	Symbol	Dia	Length	Nos	Qty							
2-6	FB1	0.35	1.00	6.43	5	11.25	2.00	6.43	5	64.30	TB	22	3.37	10	5						168.5	
											TB	22	3.21	3	5						48.2	
											BB	22	3.37	8	5						134.8	
											BB	22	3.21	3	5						48.2	
											STR	10	1.9	27	5	256.5						
											WB	13	6.65	2	5		66.5					
											Tie	10	0.35	8	5	14.0						
	Additional Re-Bar on FB2											16	60.43	2	1			120.9				
											10	1.74	175	1	1	304.8						
	FG	SUM				54.56				311.78						1647.58	325.90	120.86	0.00	2059.60	0.00	0.00
*	FB																					
A-B	FB2	0.30	1.00	4.13	3	3.72	2.00	4.13	3	24.78	TB	22	2.79	6	3						50.2	
											TB	22	2.06	2	3						12.4	
											BB	22	2.79	6	3						50.2	
											BB	22	2.06	2	3						12.4	
											STR	10	1.9	18	3	102.6						
											WB	13	4.4	2	3		26.4					
											Tie	10	0.35	6	3	6.3						
	FB2	0.30	1.00	3.06	3	2.75	2.00	3.06	3	18.36	TB	22	2.53	6	3						45.5	
											TB	22	1.53	2	3						9.2	
											BB	22	2.53	6	3						45.5	
											BB	22	1.53	2	3						9.2	
											STR	10	1.9	14	3	79.8						
											WB	13	3.4	2	3		20.4					
											Tie	10	0.35	4	3	4.2						
B-C	FB2	0.30	1.00	6.58	2	3.95	2.00	6.58	2	26.32	TB	22	3.4	6	2						40.8	
											TB	22	3.29	2	2						13.2	
											BB	22	3.4	6	2						40.8	
											BB	22	3.29	2	2						13.2	
											STR	10	1.9	28	2	106.4						
											WB	13	6.6	2	2		27.2					
											Tie	10	0.35	8	2	5.6						

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CONCRETE						FORMING				RE-BAR											
Symbol	Width	Length	Thk	Qty	m3	Width	Length	Qty	m2	Symbol	Dia	Length	Nos	Qty	D10	D13	D16	D19	D22	D25	D29
FB2	0.30	1.00	2.35	4	2.82	2.00	2.35	4	18.80	TB	22	2.35	6	4					56.4		
										TB	22	1.18	2	4					9.4		
										BB	22	2.35	6	4					56.4		
										BB	22	1.18	2	4					9.4		
										STR	10	1.9	11	4	83.6						
										WB	13	6.8	2	4		54.4					
										Tie	10	0.35	4	4	5.6						
FB2	0.30	1.00	6.30	4	7.56	2.00	6.30	4	50.40	TB	22	3.34	6	4					80.2		
										TB	22	3.15	2	4					25.2		
										BB	22	2.35	6	4					56.4		
										BB	22	3.34	2	4					26.7		
										STR	10	1.9	27	4	205.2						
										WB	13	6.6	2	4		52.8					
										Tie	10	0.35	8	4	11.2						
Additional Re-Bar on FB2											16	39.06	2	1			78.1				
											10	1.74	90	1	156.0						
Cable Trench										HZ Bar	10	87.00	6	1	522.0						
	0.15	0.40	172.00	1	10.32	0.80	88.00	1	88.80	VT Bar	13	1.75	345	1	603.8						
FB	SUM				31.12				207.46						1892.29	181.20	78.12	0.00	662.68	0.00	0.00
* C(-FL)																					
C1	0.45	0.45	1.00	17	3.44	1.80	1.00	17	30.60	MB	22	4.28	8	17					582.08		
										Hoop	10	1.80	24	17	734.40						
										Tie	10	0.45	14	17	107.10						
C(-FL) SUM					3.44				30.60						841.50	0.00	0.00	0.00	582.08	0.00	0.00
* C(1F)																					
C1	0.45	0.45	4.60	17	15.84	1.80	4.60	17	140.76	MB	22	3.08	8	17					418.88		
										Hoop	10	1.80	16	17	489.60						
										Tie	10	0.45	10	17	76.50						
C(1F) SUM					15.84				140.76						566.10	0.00	0.00	0.00	418.88	0.00	0.00

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CHECKED BY	<i>Lola Angon</i>	

LA UNION PORT DEVELOPMENT PROJECT

Quantity Calculation Sheet

Power Supply Station

	CONCRETE						FORMING				RE-BAR					D10	D13	D16	D19	D22	D25	D29
	Symbol	Width	Length	Thk	Qty	m3	Width	Length	Qty	m2	Symbol	Dia	Length	Nos	Qty							
*	RG(2G)																					
ABC	B2	0.30	0.40	5.55	8	5.33	0.86	5.55	8	38.18	TB	22	3.15	6	8					151.2		
1-4											TB	22	2.77	2	8					44.3		
											BB	22	2.35	6	8					112.8		
											BB	22	3.15	2	8					50.4		
											STR	10	1.4	38	8	425.6						
											WB	13	5.8	2	8		92.8					
											Tie	10	0.35	7	8	19.6						
ABC	B2	0.30	0.40	6.55	6	4.72	0.86	6.55	6	33.80	TB	22	3.4	6	6					122.4		
4-6											TB	22	3.27	2	6					39.2		
											BB	22	3.4	6	6					122.4		
											BB	22	3.27	2	6					39.2		
											STR	10	1.4	45	6	378.0						
											WB	13	5.8	2	6		69.6					
											Tie	10	0.35	9	6	18.9						
1-6	B1	0.30	0.40	3.93	6	2.63	0.86	3.93	6	20.28	TB	22	2.74	6	6					98.6		
A-B											TB	22	1.97	2	6					23.6		
											BB	22	2.74	6	6					98.6		
											BB	22	1.97	2	6					23.6		
											STR	10	1.4	27	6	226.8						
											WB	13	5.8	2	6		69.6					
											Tie	10	0.35	6	6	12.6						
2-6	B1	0.30	0.40	6.43	5	3.86	0.86	6.43	5	27.65	TB	22	3.37	6	5					101.1		
8-C											TB	22	3.21	2	5					32.1		
											BB	22	3.37	6	5					101.1		
											BB	22	3.21	2	5					32.1		
											STR	10	1.4	44	5	308.0						
											WB	13	5.8	2	5		58.0					
											Tie	10	0.35	9	5	15.8						
	RG(2G) SUM					16.73				119.91						1405.25	290.00	0.00	0.00	1192.96	0.00	0.00
*	CB1	0.20	0.35	0.90	21	1.32	0.90	0.70	21	13.23	TB	19	1.63	2	21					68.5		
											BB	19	1.63	2	21					68.5		
											STR	10	1.1	7	21	161.7						

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	CONCRETE						FORMING				RE-BAR					D10	D13	D16	D19	D22	D25	D29	
	Symbol	Width	Length	Thk	Qty	m3	Width	Length	Qty	m2	Symbol	Dia	Length	Nos	Qty								
	RB(2B)																						
1-6 A-B	B3	0.25	0.35	4.15	5	1.82	0.95	4.15	5	19.71	TB	16	5.43	2	5			54.3					
											BB	16	5.43	2	5			54.3					
											STR	10	1.2	29	5	174.0							
2-6 A-B	B3	0.25	0.35	6.65	4	2.33	0.95	6.65	4	25.27	TB	16	7.93	2	4			63.4					
											BB	16	7.93	2	4			63.4					
											STR	10	1.2	46	4	220.8							
2-4 B-C	B3	0.25	0.35	5.70	2	1.00	0.95	5.70	2	10.83	TB	16	6.98	2	2			27.9					
											BB	16	6.98	2	2			27.9					
											STR	10	1.2	39	2	93.6							
4-6 B-C	B3	0.25	0.35	6.70	2	1.17	0.95	6.70	2	12.73	TB	16	7.98	2	2			31.9					
											BB	16	7.98	2	2			31.9					
											STR	10	1.2	46	2	110.4							
	B4	0.20	0.60	95.00	1	11.40	1.40	95.00	1.00	133.00	TB	16	95.00	2	1			190.0					
											BB	16	95.00	2	1			190.0					
											STR	10	1.6	381	1	609.6							
											WB	13	95	2	1		190.0						
											Tie	10	0.20	96	1	19.2							
	RB(2B) SUM					19.04				214.77						1389.30	190.00	735.16	136.92	0.00	0.00	0.00	
*	1F Slab																						
1-2	S1t150	5.35	4.025	0.15	1	3.23					S.Top	10	26.3	8	1	210.4							
2-3	S1t150	5.40	4.025	0.15	1	3.26					S.Top	13	20.1	10	1		201.0						
		5.40	3.175	0.15	1	2.57					S.Top	13	20.1	18	1		361.8						
		5.40	3.10	0.15	1	2.51					S.Top	13	26.1	5	1		130.5						
											S.Top	13	32.3	20	1		646.0						
3-4	S1t150	5.35	4.025	0.15	1	3.23					S.Bom	10	26.3	8	1	210.4							
		5.35	3.175	0.15	1	2.55					S.Bom	10	20.1	28	1	562.8							
		5.35	3.10	0.15	1	2.49					S.Bom	10	26.1	5	1	130.5							
											S.Bom	10	32.3	20	1	646.0							
4-5	S1t150	6.35	4.025	0.15	1	3.83					L.Top	13	11.7	84	1		982.8						
		6.35	3.175	0.15	1	3.02					L.Top	13	3.76	24	1		90.2						
		6.35	3.10	0.15	1	2.95					L.Top	13	1.65	24	1		39.6						
											L.Top	13	6	25	1		150.0						

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LA UNION PORT DEVELOPMENT PROJECT

Quantity Calculation Sheet

Power Supply Station

	CONCRETE						FORMING				RE-BAR					D10	D13	D16	D19	D22	D25	D29
	Symbol	Width	Length	Thk	Qty	m3	Width	Length	Qty	m2	Symbol	Dia	Length	Nos	Qty							
5-6	S1t150	6.275	4.025	0.15	1	3.79					L.Bom	10	11.7	84	1	982.8						
		5.975	3.175	0.15	1	2.85					L.Bom	10	3.76	24	1	90.2						
		5.975	3.10	0.15	1	2.78					L.Bom	10	1.65	24	1	39.6						
											L.Bom	10	6	25	1	150.0						
	BERM	53.00	1.50	0.15	1	11.93					L. Slab	10	53	6	1	318.0						
	OutDoor	53.00	0.55	0.15	1	4.37					S. Slab	10	1.75	212	1	371.0						
											S. Wall	10	0.90	265	1	238.5						
											L. Wall	10	53	3	1	159.0						
	1F Slab SUM					55.36				0.00						4109.24	2601.94	0.00	0.00	0.00	0.00	0.00
	RF Slab																					
1-2	S2t120	5.70	4.225	0.12	1	2.89	5.70	4.225	1	24.08	S.Top	10	34	34	1	1156.0						
											S.Top	10	28	36	1	1008.0						
2-3	S2t120	5.775	4.225	0.12	1	2.93	5.775	4.225	1	24.40	S.Bom	10	34	34	1	1156.0						
		5.775	3.20	0.12	1	2.22	5.775	3.20	1	18.48	S.Bom	10	28	36	1	1008.0						
		5.775	3.15	0.12	1	2.18	5.775	3.15	1	18.19	L.Top	13	13.5	113	1		1525.5					
											L.Top	13	6.5	25	1		162.5					
3-4	S2t120	5.70	4.225	0.12	1	2.89	5.70	4.225	1	24.08	L.Bom	10	13.5	113	1	1525.5						
		5.70	3.20	0.12	1	2.19	5.70	3.20	1	18.24	L.Bom	10	6.5	25	1	162.5						
		5.70	3.15	0.12	1	2.15	5.70	3.15	1	17.96												
4-5	S2t120	6.70	4.225	0.12	1	3.40	6.70	4.225	1	28.31												
		6.70	3.20	0.12	1	2.57	6.70	3.20	1	21.44												
		6.70	3.15	0.12	1	2.53	6.70	3.15	1	21.11												
5-6	S2t120	6.65	4.225	0.12	1	3.37	6.65	4.225	1	28.10												
		6.65	3.20	0.12	1	2.55	6.65	3.20	1	21.28												
		6.65	3.15	0.12	1	2.51	6.65	3.15	1	20.95												
-A	S2t120	33.10	0.55	0.12	1	2.18	33.10	0.55	1	18.21												
B-C	S2t120	6.00	0.55	0.12	1	0.40	6.00	0.55	1	3.30												
C-	S2t120	27.10	0.55	0.12	1	1.79	27.10	0.55	1	14.91												
-1	S2t120	4.30	0.55	0.12	1	0.28	4.30	0.55	1	2.37												
1-2	S2t120	6.70	0.55	0.12	1	0.44	6.70	0.55	1	3.69												
6-	S2t120	11.00	0.55	0.12	1	0.73	11.00	0.55	1	6.05												
	RF Slab SUM					40.21				335.12						6016.00	1688.00	0.00	0.00	0.00	0.00	0.00

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Project	Detailed Design on Port Reactivation Project in La Union		Calc. File No.	
Section	Masonry Work (Power Supply Station)		Calc. Index No.	
Subject	3F05. Concrete Block Masonry		Page No. 174	Rev.

① 3F0501 Concrete Block 200mm THK			References/ Notes
AXIS-A	$(32.33 - 0.45 \times 6) \times (4.15 - 0.40)$	$= 111.11$	
" B	$5.55 \times (4.15 - 0.4)$	$= 20.81$	
" C	$(26.35 - 0.45 \times 5) \times (4.15 - 0.40)$	$= 90.37$	
" 1	$(4.83 - 0.45 \times 2) \times (4.15 - 0.45)$	$= 14.54$	
" 2	$(7.33 - 0.45 \times 2) \times (4.15 - 0.45)$	$= 23.29$	
" 6	$(11.70 - 0.45 \times 3) \times (4.15 - 0.45)$	$= 38.29$	
Sub Total		$= 298.91$	
Opening			
(D1)	(D2)	(W1)	(W2)
$0.9 \times 2.1 \times 2$	$+ 2.0 \times 2.5 \times 6$	$+ 1.6 \times 1.1 \times 2$	$+ 0.8 \times 0.5 \times 1$
(W3)			
$+ 2.0 \times 1.0 \times 9$	$= 64.50$		
$298.91 - 64.50$		Total	234.41 m^2
② 3F0502 Concrete Block 150mm THK.			
AXIS-2	$(4.83 - 0.45 \times 2) \times (4.15 - 0.45)$	$= 14.54$	
" 4	$(11.7 - 0.45 \times 3) \times (4.15 - 0.45)$	$= 38.29$	
" B	$(12 - 0.45 \times 2) \times (4.15 - 0.40)$	$= 41.62$	
Sub Total		$= 94.45$	
Opening			
(D1)	$0.9 \times 2.1 \times 3$	$= 5.67$	
$94.45 - 5.67$		Total	88.78 m^2
③ 3F0503 Concrete Block 100mm THK			
$(2+1.3) \times 3.5 - \text{Opening (D3)} 0.7 \times 2.1$		$=$	10.08 m^2

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1 Jul 2000		A. M. Naka	
		1 / 200	

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Plastering Work (Power Supply Station)	Calc. Index No.	
Subject	3F.0801 Cement Mortar Plaster to Wall	Page No. 175	Rev.

Exterior)	References/ Notes
$H \quad 5.20 \times (11.7 + 32.33) \times 2 - \text{Opening } 64.50 = 393.41 \text{ m}^2$	
Interior) $\text{Office Rm. } (6 + 4.5) \times 2 \times 3.5 - \text{Opening } \textcircled{1} = 60.02$ $\text{The Others } (12 + 7 + 12 + 4.5 + 14 + 11.5) \times 2 \times 4$ $- \text{Opening } \textcircled{2} = 437.55$ $\text{Opening } \textcircled{1} = 13.48$ $\begin{array}{cccccc} W1 \times 2 & D1 \times 1 & D3 \times 1 & W3 & D2 & \\ 1.6 \times 1.1 \times 2 + 0.9 \times 2.1 + 0.7 \times 2.1 + 1.6 \times 1 + 2 \times 2.5 & & & & & \end{array}$ $\text{Opening } \textcircled{2} = 50.45$ $\begin{array}{cccccc} W1 \times 5 & W3 \times 7 & D1 \times 5 & D2 \times 5 & & \\ 1.6 \times 1.1 \times 5 + 1.6 \times 1 \times 7 + 0.9 \times 2.1 \times 5 + 2 \times 2.1 \times 5 & & & & & \end{array}$ $\text{Sub Total } 60.02 + 437.55 = 497.57 \text{ m}^2$	
$\text{Total } 890.98 \text{ m}^2$	

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Project	Detailed Design on Port Reactivation Project in La Union		Calc. File No.	
Section	Miscellaneous Metal Work (Power Supply Station)		Calc. Index No.	
Subject	3F/303 Cable Trench Cover		Page No. 126	Rev.
			References/Notes	
W 500	$(1.8 + 2.5 + 0.8 + 3.8 + 5.2 + 5 + 5.3) \times 0.5$	$= 14.70$		
W 300	$(4.3 + 1.8 \times 5 + 5.5 + 1.1) \times 0.3$	$= 8.94$		
W 250	6.5×0.25	$= 1.63$		
W 200	6.5×0.20	$= 1.30$		
		<u>Total 26.57 m²</u>		
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15 Jul 200		1 / 1200		

Project	Detailed Design on Port Reactivation Project in La Union		Calc. File No.	
Section	Outdoor Work (Power Supply Station)		Calc. Index No.	
Subject	3F1506 Concrete Foundation of Transformer and Equipments		Page No. 177	Rev.

① Item Number and Concrete Foundation Size of Equipments	References/Notes
(L) (W) (H)	
A: GCB 1000 x 1000 x 1000 4 NOS	
B: PT 1000 x 1000 x 1000 3 "	
C: CT 1850 x 1000 x 1000 2 "	
D: LA 600 x 600 x 820 9 "	
E: TR 3000 x 2000 x 650 1 "	

② Excavation

(A) (B) (C)

$$1.3 \times 1.3 \times 0.95 \times 4 + 1.3 \times 1.3 \times 0.95 \times 3 + 2.15 \times 1.3 \times 0.95 \times 2 +$$

(D) (E)

$$0.9 \times 0.9 \times 0.8 \times 9 + 3.3 \times 2.3 \times 0.7 \times 1 = 27.69 \text{ m}^3$$

③ Rubble Stone Bedding 100 mm THK

$$1.3 \times 1.3 \times 0.1 \times 7 + 2.15 \times 1.3 \times 0.1 \times 2 + 0.9 \times 0.9 \times 0.1 \times 9$$

$$+ 3.3 \times 3.3 \times 0.1 \times 1 = 3.56 \text{ m}^3$$

④ Lean Concrete. = 1.78 m³

⑤ Concrete

(A) (B) 2.565 (B) 2.384

$$(1.0 \times 1.0 \times 0.18 + 0.75 \times 0.75 \times 0.82) \times 4 + (1.0 \times 1.0 \times 0.18 + 0.75 \times 1.0 \times 0.82) \times 3$$

(C) (D) 1.634 (D) 1.422

$$+ (1.85 \times 1.0 \times 0.18 + 0.75 \times 1.66 \times 0.82) \times 2 + (0.6 \times 0.6 \times 0.15 + 0.4 \times 0.4 \times 0.65) \times 9$$

(E) 2.4

$$+ (3.0 \times 2.0 \times 0.15 + 2.5 \times 1.5 \times 0.4) \times 1 = 11.41 \text{ m}^3$$

⑥ Re-Bar

(A) (B) (C)

D16. $\{ (10 + 1.15 \times 12) \times 4 + (10 + 1.15 \times 14) \times 3 + (5 \times 1.85 + 9 + 1.15 \times 20) \times 2$

(D) 1.2 (E)

$$+ (8 \times 0.6 + 8 \times 0.95) \times 9 + (2 \times 1.3 + 3 \times 9) \} \times 1.56 = 656.14$$

D18 $(2.8 \times 11 + 3.8 \times 7 + 8 \times 1) \times 0.995 = 65.07$

(A) (B) (E) (D)

D10 $\{ (3 \times 4 + 3.5 \times 3 + 4.7 \times 2) \times 7 + 1.6 \times 0.9 \} \times 0.56 = 123.43$

Total = 0.89 ton

⑦ Back-filling

Excavation Concrete

$$27.69 - 11.41 = 16.28 \text{ m}^3$$

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1 Jul /200

Checked by

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