QUANTITY CALCULATION

BUILDING WORK

[3D;CONTAINER GATE]

AUGUST 2002

CALCULATION

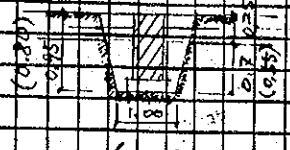
NIPPON KOEI CO.,LTD

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Earth Work (Container Gate)	Calc. Index No.	
Subject	3D0101 Excavation for Foundation	Page No. 115	Rev.

References/ Notes

FB1) (1.70)
FCB1) 2.00

$(1.00+2.00)\times 0.95\times 1/2 = 1.43\ m^2$



AXIS 1.4.5.6.9

$1.43 \times \overset{L}{26} \times 5^{NOS.} = 185.90$

(0.90) FB2

AXIS 2.3.7.8

$1.43 \times \overset{L}{(18+2+2.8\times 3.14\times 0.5)} \times 4^{NOS} = 139.54$ (24.40)

AXIS A.B.C.D

$1.43 \times \overset{L}{43.2} \times 4^{NOS} = 247.10$

AXIS 1~2, 8~9

$1.43 \times \overset{L}{4.83} \times 6^{NOS} = 41.44$

FB2)

$(0.90+1.70)\times 0.80\times 1/2 = 1.04\ m^2$

AXIS 4.5.6

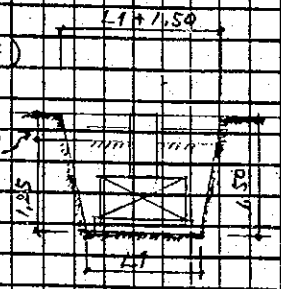
$1.04 \times \overset{L}{17.6} \times 6^{NOS} = 109.82$

AXIS B~C

$1.04 \times 3.15 \times 4 = 13.10$

Sub Total 736.92

F1)



$\alpha = (2L1+1.50)\times 1.50\times 1/2 \times (2L1+1.50)\times 1/2$

F1; L1 = 2.20, F2; L1 = 2.40, F3; L1 = 2.75

F1(α) ×10 NOS + F2(α) ×2 NOS + F3(α) ×4 NOS.

$= (2\times 2.20+1.50)\times 1.50\times 1/2\times(2\times 2.20+1.50)\times 1/2 \times 10$
$+ (2\times 2.40+1.50)\times 1.50\times 1/2\times(2\times 2.40+1.50)\times 1/2 \times 2$
$+ (2\times 2.75+1.50)\times 1.50\times 1/2\times(2\times 2.75+1.50)\times 1/2 \times 4$
$= 130.5+332.36+73.50 = 531.36$

$\therefore 531.36\times 75\% = 398.52$

S2)
S3)

$\{(4.83\times 2.6\times 12)\times 0.35+(3.15\times 5.6\times 6)\times 0.25\}\times 25\% = 19.80$

Total $736.92+398.52+19.80 = 1,155.24\ m^3$

Prepared by		Checked by	
Y. Fujikawa.	16 th Aug. 2002	M. Morizika	1 /200

NIPPON KOEI CO.,LTD.

CALCULATION

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Earth Work (Container Gate)	Calc. Index No.	
Subject	3D0102. Backfilling	Page No. 116	Rev.

References/ Notes

FB1) FCB1) $(1.00+1.70)\times0.70\times1/2 - 0.4\times0.7 = 0.67\ m^2$

AXIS-1.4.5.6.9

$0.67\times26\times5 = 87.10$

AXIS-2.3.7.8

$0.67\times24.40\times4 = 65.39$

AXIS-A.B.C.D

$0.67\times43.2\times4 = 115.78$

AXIS-1~2.8~9

$0.67\times4.83\times6 = 19.42$

FB2) $(0.90+1.60)\times0.55\times1/2 - 0.3\times0.55 = 0.24\ m^2$

AXIS-4.5.6

$0.24\times17.6\times6 = 25.34$

AXIS-B~C

$0.24\times3.15\times4 = 3.02$

Sub Total $316.05\ m^3$

F) F1) $(2\times2.20+1.20)\times1.25\times1/2\times(2\times2.20+1.20)\times1/2 - 0.70\times1.70\times1.70$
$= 7.28\ m^3$

$7.28\times10\times75\% = 58.35$

F2) $(2\times3.40+1.20)\times1.25\times1/2\times(2\times3.40+1.20)\times1/2 - 0.70\times1.90\times1.90$
$= 8.22\ m^3$

$8.22\times23\times75\% = 143.88$

F3) $(2\times2.75+1.70)\times1.25\times1/2\times(2\times2.75+1.20)\times1/2 - 0.70\times2.25\times2.25$ (4.03)
$= 10.48\ m^3$

$10.48\times4\times75\% = 31.44$

Sub Total $233.67\ m^3$

Total $316.05+1283.67 = 549.72\ m^3$

Prepared by		Checked by	
Y. Fujikawa	16/Aug/2002	A. Morishita	1/200

CALCULATION

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Earth Work (Container Gate)	Calc. Index No.	
Subject	3D0103. Rubble Stone Bedding 100mm THK.	Page No. 117	Rev.

References/ Notes

F1,2,3)

$(3.00 \times 2.00 \times 10 + 2.20 \times 2.20 \times 22 + 2.55 \times 2.55 \times 4) \times 0.1 = 17.25\ m^3$

FB) (Beam Width + 0.30) × Beam Length × 0.10 = 35.32 m^3

↳ Reffer to Concrete Calculation

Slab) Slab Area × 0.10 = 39.77 m^3

↳ Reffer to Concrete Calculation

$(20.06\ m^3 \div 0.15 + 37.67 \div 0.25 + 7.74 \div 0.12 + 7.32 \div 0.15)$

$\times 0.10 = 397.71\ m^2 \times 0.1$

Total $17.25 + 35.32 + 39.77 = 92.34\ m^3$

Prepared by		Checked by	
F. Fujikawa.	16 Aug/2002	Allbarracka	1 /200

FN: Calculation_Sheet

[3D03 CONTAINER GATE]

SUMMARY OF ITEM BASE

Page	Item	Concrete (m3)	Forming (m2)	Steel Bar (m) D10	D13	D16	D19	D22	D25	D29	D32	Total (ton)
1	Foundation	70.71	149.16		2111.6			1024.4	180			
2	Foundation Beam	125.18	633.25	1026.4	4984.8				3646.8			
3	Found. Sub Beam	25.80	171.99	1586.5	129.2				1266.6			
4	Misc.	13.84	165.56	1250.5								
5	Column (-1FL)	4.88	47.36	114.8	2235.2				1489.6			
6	Column (+1FL)	46.79	466.96	964.6	2750.4				2549.44			
7	Beam	17.52	148.60	921.2	684				870.0			
8	Foundation Slab	20.06		2747.2								
9	Foundation Slab	52.73		3581.0								
10	Slab(2F)	10.88	58.32	1606.2	32.4							
-1FL +1FL	Sub-Total	299.36 89.02	1225.63 615.56	13798.3	12927.6			1024.4	10002.4			
		Unit Weght (kg/m)		0.56	0.995	1.56	2.25	3.04	3.98	5.04	6.23	
		Net Weght (ton)		7.73	12.86			3.11	39.81			63.51
		Gross Weght including loss of 4%(ton)		8.04	13.38			3.24	41.40			66.05

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PREPARED BY	Y.F.	Jul.02
CHECKED BY	[illegible]	Aug'02

[3D03 CONCRETE AND FORMWORK]

SUMMARY OF FL BASE (1)

CONCRETE (m3)

Floor	Foundation	Foundation Beam	Miscellaneous	Column	Beam	Sub-Beam	Slab	Wall	Stair	Misc.			Total	Floor Area	m3/Floor Area
F	70.71	150.98	13.84	4.88			72.79						313.20		
1F~				46.79	17.52		10.88						75.18		
Total	70.71	150.98	13.84	51.67	17.52	0.00	83.67						388.38		
m3/F Area															

FORMING (m2)

Floor	Foundation	Foundation Beam	Miscellaneous	Column	Beam	Sub-Beam	Slab	Wall	Stair	Misc.			Total	Floor Area	m2/Floor Area
F	149.16	805.24	165.56	47.36									1167.31		
1F~				466.96	148.60		58.32						673.88		
Total	149.16	805.24	165.56	514.32	148.6		58.32						1841.19		
m2/F Area															
m2/m3															

SUMMARY OF FL BASE (1)

STEEL BAR (kg)

Floor	Fundation	Foundation Beam	Miscellaneous	Column	Beam	Sub-Beam	Slab	Wall	Stair	Misc.			Total	Floor Area	kg/Floor Area
-1FL	6,168.9	27,151.2	728.3	8,545.6			4,654.5						47,248.5		
+1FL				13,960.5	4,845.2		0.0						18,805.8		
Total	6,168.9	27,151.2	728.3	22,506.1	4,845.2		4,654.5						66,054.3		
kg/F Area															
kg/m2															

STEEL BAR (kg)

Part	D10	D13	D16	D19	D22	D25	D29	D32		
Foundation		2,185.1	0.0	0.0	3,238.7	745.1				6,168.9
Foundation Beam	1,521.7	5,292.0	0.0	0.0	0.0	20,337.5				27,151.2
Misc.	728.3	0.0	0.0							728.3
Column	628.6	5,159.1				16,718.4				22,506.1
Beam	536.5	707.8				3,600.9				4,845.2
sub-Beam										
Slab	4,621.0	33.5								4,654.5
Wall										
Stair										
Total	8,036.1	13,377.5	0.0	0.0	3,238.7	41,401.9				66,054.3
Ratio(%)										

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CHECKED BY		

NIPPON KOEI CO., LTD.

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 (m^2)	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	22	43.68	7.60	0.55	22	91.96	B.L	22	1.90	18	22					752.4			
										T.L	13	2.90	18	22		1148.4						
										H.B	13	7.60	1	22		167.2						
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					70.71				149.16					(m)		2111.6			1024.4	180.0		
														(kg)		2101.0			3114.2	716.4		

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CHECKED BY		

FOUNDATION BEAM QUANTITY CALCULATION

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Detailed Design on Port Reactivation Project in La Union Province

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PREPARED BY	Y. F	Jul.02
CHECKED BY	Zoltz	Auger

	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
5d	0.15	0.20	0.24	0.29	0.33	0.38	0.44	0.48
5d	0.25	0.33	0.40	0.48	0.55	0.63	0.73	0.80
5d	0.35	0.46	0.56	0.67	0.77	0.88	1.02	1.12
0d	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 (m^2)	Symbol	Dia (mm)	Length (m)	Nos	Q'ty	D10	D13	D16	D19	D22	D25	D29	D32
FB-1	0.40	0.80	5.56	15	26.69	1.60	5.60	15	134.40	T.B	25	22.60	4	5						452.0		
FCB-1	0.40	0.80	2.80	10	8.96	1.60	3.20	10	51.20	B.B	25	22.60	4	5						452.0		
1,4,5,6,9通										T.B	25	1.70	3	10						51.0		
		58.38								B.B	25	1.70	3	10						51.0		
		19.6								STR	13	2.40	121	5		1452.0						
										W.B	10	24.00	2	5	240.0							
										Tie	10	0.40	25	5	50.0							
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		
2,3,7,8通	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	87	4		835.2						
		47.04								W.B	10	5.60	2	12	134.4							
		22.064								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	51	4		489.6						
										W.B	10	10.20	2	4	81.6							
										Tie	10	0.40	11	4	17.6							
FB-1	0.40	0.80	4.83	8	12.36	1.60	4.83	8	61.82	T.B	25	42.80	4	4						684.8		
A,B,C,D通	0.40	0.80	5.03	8	12.88	1.60	5.03	8	64.38	B.B	25	42.80	4	4						684.8		
	0.40	0.80	3.15	8	8.06	1.60	3.15	8	40.32	STR	13	2.40	191	4		1833.6						
	0.40	0.80	6.00	8	15.36	1.60	6.00	8	76.80	W.B	10	41.20	2	4	329.6							
										Tie	10	0.40	39	4	62.4							
		27.048																				
		28.168																				
		17.64																				
		33.6																				
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		
B-C通										B.B	25	6.83	4	6						163.9		
1-2&8-9間		20.286								STR	13	2.40	26	6		374.4						
										W.B	10	5.23	2	6	62.8							
										Tie	10	0.40	6	6	14.4							
小計					125.18				633.25					(m)	1026.4	4984.8				3646.8		
														(kg)	574.8	4959.9				14514.3		

FOUNDATION BEAM 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											
	Width (m)	Length (m)	Thick (m)	Q'ty	Total (m3)	Width (m)	Length (m)	Q'ty	Total (m^2)	Symbol	Dia (mm)	Length (mm)	Nos	Q'ty	D10	D13	D16	D19	D22	D25	D29	D32
FB-2	0.30	0.65	3.15	4	2.46	1.30	3.15	4	16.38	T.B	25	5.15	3	4						61.8		
2-3,7-8間										B.B	25	5.15	3	4						61.8		
		7.56								STR	13	1.90	17	4		129.2						
										W.B	10	3.50	2	4	28.0							
										Tie	10	0.30	5	4	6.0							
FB-2	0.30	0.65	5.60	18	19.66	1.30	5.60	18	131.04	T.B	25	19.60	3	6						352.8		
4,5,6通										B.B	25	19.60	3	6						352.8		
A-D間		60.48								STR	10	1.90	29	18	991.8							
										W.B	10	5.90	2	18	212.4							
										Tie	10	0.30	7	18	37.8							
	0.30	0.65	0.70	27	3.69	1.30	0.70	27	24.57	T.B	25	2.70	3	27						218.7		
										B.B	25	2.70	3	27						218.7		
		11.34								STR	10	1.90	5	27	256.5							
										W.B	10	0.70	2	27	37.8							
										Tie	10	0.30	2	27	16.2							
		353.206																				
Sub-Total					25.80				171.99					(m)	1586.5	129.2				1266.6		
														(kg)	888.4	128.6				5041.1		

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PREPARED BY	Y_F	Jul.02
CHECKED BY	Coll	August

COLUMN 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											
	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
C1	0.40	0.40	0.80	28	3.58	1.60	0.80	28	35.84	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					4.88				47.36					(m)	114.8	2235.2				1489.6		
Sub-total														(kg)	64.3	2224.0				5928.6		
C1	0.40	0.40	6.55	28	29.34	1.60	6.55	28	293.44	M.B	25	4.61	8	28						1032.6		
	0.30	0.30	1.65	28	4.16	1.20	1.65	28	55.44	M.B	25	2.85	8	28						638.4		
										Hoop	13	1.60	36	28		1612.8						
										Hoop	10	1.40	17	28	666.4							
										Tie	10	0.40	6	28	67.2							
										Tie	10	0.35	3	28	29.4							
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					46.79				466.96					(m)	964.6	2750.4				2549.4		
Sub-Total														(kg)	540.2	2736.6				10146.8		

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PREPARED BY		Jul.02
CHECKED BY		

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PREPARED BY Y.F Jul.02
CHECKED BY Aug.

	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

BEAM QUANTITY CALCULATION

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
2F	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		
B-10										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	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-10										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	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		
B-5	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	0.30	0.30	1.00	14	1.26	0.90	1.00	14	12.60	T.B	25	2.05	2	14						57.4		
CB-10										B.B	25	1.64	3	14						68.9		
3,4,5,6通										STR	10	1.20	33	14	554.4							
A,C,D通																						
2F	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-12										B.B	25	6.80	3	4						81.6		
										STR	13	1.90	29	4		220.4						
Sub-Total					17.52				148.60					(m)	921.2	684.0				870.0		
														(kg)	515.9	680.6				3462.4		

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	0.46	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
W20	0.20	0.40	18.4	4	5.89	0.80	18.60	4	59.52	HB	10	18.40	3	4	220.8							
										VB	10	0.76	93	4	282.7							
W15	0.15	0.70	7.88	4	3.31	1.40	7.88	4	44.13	HB	10	8.68	4	4	138.9							
										VB	10	1.10	41	4	180.4							
W15	0.15	0.70	7.37	6	4.64	1.40	7.37	6	61.91	HB	10	7.37	4	6	176.9							
										VB	10	1.10	38	6	250.8							
														m2當	3907.75							
Sub-Total					13.84				165.56					(m)	1250.5							
														(kg)	700.3							

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CHECKED BY	[illegible]	[illegible]

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 Width (m)	Length (m)	Thick (m)	Q'ty	Total (m3)	FORMING Width (m)	Length (m)	Q'ty	Total (m^2)	STEEL BAR 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							
2-3,7-8										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							
														m2当	38.93							
Sub-Total					20.06									(m)	2747.2							
														(kg)	1538.4							

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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 Width (m)	Length (m)	Thick (m)	Q'ty	Total (m3)	FORMING Width (m)	Length (m)	Q'ty	Total (m2)
1F	2.60	4.83	0.25	12	37.67				
S2									
1-2,8-9									
1F	0.70	5.60	0.12	3	1.41				
S1	0.70	1.25	0.12	15	1.58				
3-,A~D	0.70	4.05	0.12	3	1.02				
-4-,A~D	0.70	3.40	0.12	12	3.43				
-5-,A~D	0.70	0.30	0.12	12	0.30	7.74			
-6,A~D									
1F	1.00	1.80	0.15	12	3.24				
CS1	1.00	3.14	0.15	3	1.41				
4,5,6通									
-A&D-									
1F	0.30	24.00	0.15	2	2.16				
CS1									
1&9									
	0.30	2.80	0.15	4	0.50	7.32			
Sub-Total					52.73				

Symbol	Dia (mm)	Length (m)	Nos	Q'ty	STEEL BAR D10	D13	D16	D19	D22	D25	D29	D32
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						
	10	3.92	35.34	3	415.6							
	10	0.88	35.34	15	463.8							
	10	2.84	35.34	3	300.6							
	10	2.38	35.34	12	1009.3							
	10	0.21	35.34	12	89.1							
		(面積)										
S.Top	13	1.67	5	20		167.0						
S.Top	13	1.33	5	20		133.0						
S.Bom	10	1.15	5	20	115.0							
S.Bom	10	0.81	5	20	81.0							
S.	13	0.52	10	20		104.0						
S.	10	0.40	10	20	80.0							
L.Top	10	2.01	4	20	160.8							
L.Top	13	3.41	1	20		68.2						
L.Bom	10	1.61	4	20	128.8							
L.Bom	13	2.77	1	20		55.4						
L	10	0.40	4	20	32.0							
L	13	0.52	2	20		20.8						
L	10	0.40	4	20	32.0							
L	13	0.52	2	20		20.8						
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							
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							
				(m)	3581.0							
				(kg)	2005.3							

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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				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	2.40	4.05	0.15	6	8.75	2.40	4.05	6	58.32	S.Top	10	2.70	19	6	307.8							
S3(CS1)										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	3.55	6.00	0.05	2	2.13					S	10	6.90	17	2	234.6							
PC SLAB										L	10	3.90	24	2	187.2							
PC SLAB	3.55*6.0*2=42.60m																					
Sub-Total					10.88				58.32					(m)	1606.2	32.4						
														(kg)	899.5	32.2						

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LA UNION PORT DEVELOPMENT PROJECT

Quantity Calculation Sheet
Concrete Work

	DISCRIPTION & LOCATION	TOTAL Qty	SUB TOTAL	CALCULATION
	CONTAINER GATE			
	S3 PRECAST PRESTRESS DECK t=150 & CONCRETE TOPPING t=50	64.98	m2	
	2F	64.98		
			64.98	5.7 * 5.7 * 2

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LA UNION PORT DEVELOPMENT PROJECT
[3D04 STRUCTURE STEEL WORK]

QUANTITY CALCULATION SHEET
CONTAINER GATE

ITEM	LOCATION	DISCRIPTION	Qty	UNIT		FL	CALCULATION	kg/m	Loss %	+Loss 5% TOTAL	MEMO
COLUMN	(Axis)1-2,7-8 A～B C3	W8x31 →H-203x203x7x11	968	kg	1F		3.0*7	46.1	5	968.1	

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LA UNION PORT DEVELOPMENT PROJECT
[3D04 STRUCTURE STEEL WORK]

QUANTITY CALCULATION SHEET
CONTAINER GATE

ITEM	LOCATION	DISCRIPTION	Qty	UNIT		FL	CALCULATION	kg/m	Loss %	+Loss 5% TOTAL	MEMO
BEAM	1～2 , 8～9間 B1	W10x21 →H-200x100x5.5x8	6812	kg	ROOF		3.3*2*8	32.7	5	1812.9	
	2～3 , 7～8間 B1						2*2*8	32.7	5	1098.7	
	3～4 , 6～7間 B1						3.3*2*8	32.7	5	1812.9	
	4～5 , 5～6間 B1						3.8*2*8	32.7	5	2087.6	
BEAM	1～9 通 B2	W12x40 →外H-300x200x7.5x13	13326	kg	ROOF		23.7*9	59.5	5	13325.9	
BEAM	A,D通 B3	W8x18 →H-206x133x6x8	7924	kg	ROOF		3.3*2*4+2*2*4+3.3*2*4+3.8*2*4	26.8	5	2790.4	
	1-9通 B3				ROOF		2.63*2*8+5.85*3*8	26.8	5	5133.1	
BEAM	STAIR	W8x31 →H-203x203x7x11	387	kg			1.6*5	46.1	5	387.2	
STUD	C4 ROOF	W5*19→H-130*127*7*11	713	kg	ROOF		1.5*8*2	28.30	5	713.16	
	H ;TOTAL		30130	kg							

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ITEM	LOCATION	DISCRIPTION	Qty	UNIT		FL	CALCULATION	kg/m	Loss %	+Loss 5% TOTAL	MEMO
BEAM	A～D通,1～9間 B4	C4x5.4 →[-100x40x5x8	1214	kg	ROOF		(3.2+1.9+3.2+3.7)*2*6	8.03	5	1214.1	
BEAM	B-C間 B11	C10x25 →[-250x75x11×13	5064	kg	2F		4.93*4+3.3*4+5.13*4+6.1*4	37.2	5	3040.4	
	2,4,5,6,8通 B11				2F		5.7*2+4.4*7+3.3*2+3*1	37.2	5	2023.3	
SUB BEAM	B4	C4x5.4 →[-100x40x5x8	694.8	kg	ROOF		41.2*2	8.03	5	694.8	
	B4	C4x5.4 →[-100x40x5x8	404.7	kg	ROOF		3*8*2	8.03	5	404.7	
SUB BEAM	STAIR	C10x25 →[-250x75x11×13	3906.0	kg			5*4*5	37.2	5	3906.0	
	C ;TOTAL		11283	Kg							

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LA UNION PORT DEVELOPMENT PROJECT
[3D04 STRUCTURE STEEL WORK]

QUANTITY CALCULATION SHEET
CONTAINER GATE

ITEM	LOCATION	DISCRIPTION	Qty	UNIT		FL	CALCULATION	kg/m	Loss %	+Loss 5% TOTAL	MEMO
BLASING	2～7通,-A～D-間 BR-1	N6 BAR →6 φ	1052	kg	ROOF		(3+2.3+3.2+3.5)*8+(3.6+3.2+3.8+4.2)*24	2.22	5	1051.7	
PURLIN		C-4"*2"*3/64" POLIN	2587.3	kg	ROOF		(3.3+2+3.3+3.8)*4*24	2.07	5	2587.3	
RAFTER		C-4"*2"*3/64" POLIN	486.9	kg	ROOF		(3.5*2+2.5*2+2)*2*8	2.07	5	486.9	
STUD	Itv.450mm	L－50*50*4 @500	696.8		BRIDGE WALK		1.2*158	3.50	5	696.8	
	RB ,C(LGS) ;TOTAL		4,823	kg							
	SUB TOTAL		46,236	kg							
	GUSSET PLATE H.T.Bolt ,etc	*7%	3,236	kg							
	TOTAL		49,472	kg							

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ITEM	LOCATION	DISCRIPTION	Qty	UNIT		FL	CALCULATION	m²/m	Loss %	+Loss 5% TOTAL	MEMO
COLUMN	1-2,7-8通 A～B間 C3	W8x31	22.09	m2	1F		2.8*2+5.45+3.5*2+5.45	0.94		22.09	
BEAM	A～B通 2～7間 B1	W10x21	146.94	m2	ROOF		(3.85*2)*2*4+(3.7*2)*3*4	0.82		123.33	
	C,D通 1-2&7-8間 B1						(3.6*2)*2*2	0.82		23.62	
BEAM	1,8通 -B～C-間 B2	W12x40	198.66	m2	ROOF		11.6*2	1.28		29.70	
	2～7通 -A～D-間 B2				ROOF		22.0*6	1.28		168.96	
BEAM	-B,C-通,1-2&7-8間 B3	W8x18	159.28	m2	ROOF		(3.6*2)*2*2	0.68		19.58	
	-A,D-通,2～7間 B3				ROOF		(3.85*2)*2*2+(3.7*2)*3*2	0.68		51.14	
	1-～-8通,A～D間 B3				ROOF		5.9*(5*2+7)+1.91*5*2+2.71*2*2	0.68		88.56	
BEAM	A～D通,2～7間 B4	C4x5.4	34.34	m2	ROOF		(3.85*2)*2*3+(3.7*2)*3*3	0.27		30.46	
	B-C通,1-2&7-8間 B4				ROOF		3.6*2*2	0.27		3.89	
BEAM	3通,A-B間&6通,C-D間 B11	C10x25	111.33	m2	2F		6.1+5.6+5.7*2	0.90		20.79	
	3,4,5,6通,B-C間 B11				2F		4.6*2*4	0.90		33.12	
	1-2,7-8通,A-B間 B11				2F		0.8*2	0.90		1.44	
	B-通,2～7間 B11				2F		6.4*2*2+6.1*2*3	0.90		55.98	

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LA UNION PORT DEVELOPMENT PROJECT
[3D04 STRUCTURE STEEL WORK]

PAINTING ON STEEL

QUANTITY CALCULATION SHEET
CONTAINER GATE

ITEM	LOCATION	DISCRIPTION	Qty	UNIT		FL	CALCULATION	m^2/m	Loss %	+Loss 5% TOTAL	MEMO
BLASING	2～7通,-A～D-間 BR-1	N6 BAR →6φ	9.47	m2	ROOF		4.2*1.25*4*2*3+4.0*1.25*4*3*3+3.8*1.25*2*2*2+3.5*1.25*2*3*2	0.02		7.93	
	1～11通,-A&E-間 BR-1				ROOF		4.0*1.25*4*2+3.7*1.25*2*2*2	0.02		1.54	
	TOTAL PAINTING AREA OF MAIN FRAME		672.65	m^2							
	TOTAL PAINTING AREA OF SUB FRAME (PURLIN ,RAFTER ,GUSSET PLATE ,etc)		9.47	m^2							

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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Masonry Work (Container Gate)	Calc. Index No.	
Subject	3D0501 3D0502. Concrete Block Masonry.	Page No. 136	Rev.

References/ Notes

(1) 3D0501 Concrete Block 200mm THK

Weigh Bridge Office, Duty Staff Room

$(5.55+3.10)\times 2\times(8.0-0.65\times 2)$ − Opening (18.96) = 96.95

(W2) (W3) (D2)

Opening = $3.0\times 1.2\times 4 + 1.50\times 1.0\times 4 + 0.8\times 2.1\times 2$

= 18.96

96.95 × 2 Nos. = 193.90 m²

(2) 3D0502 Concrete Block 150mm THK

Gate Office (1 Nos)

$(4.95+2.7)\times 2\times(5.25+0.15)$ − Opening (12.49) = 53.30

(W1) (W3) (D1)

Opening = $3.25\times 1.4\times 2 + 1.50\times 1.0\times 1 + 0.9\times 2.1$

= 12.49

53.80 × 6 Nos = 319.80 m²

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