

INIPPON KOEI CO., LTD.

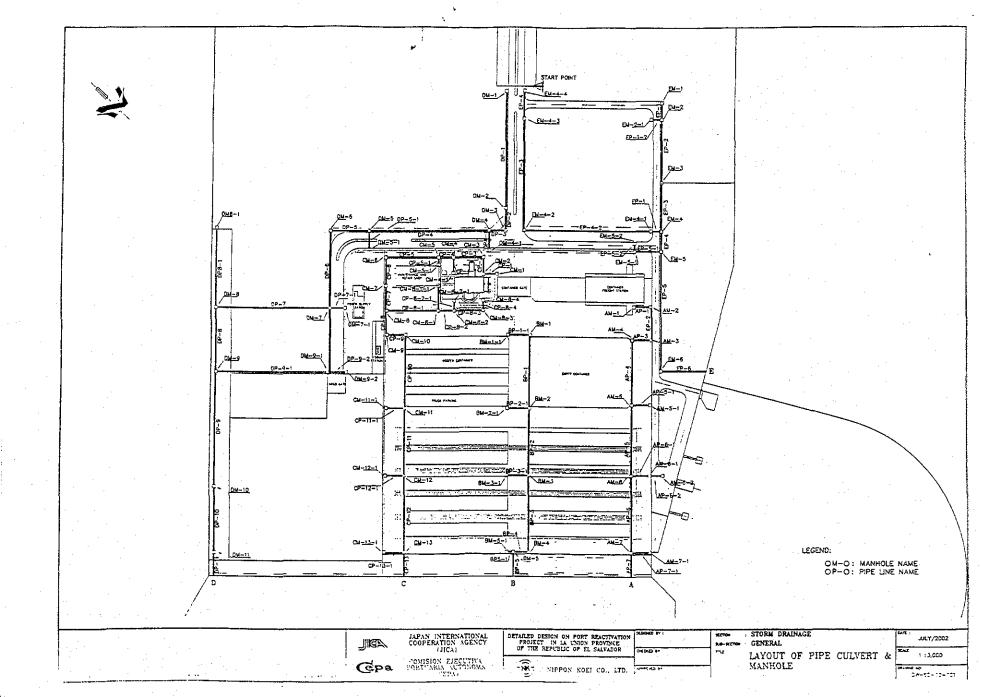
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Work S	ection Title	Manholp 15	Dum concrete	Pay Item No. (BOQ	2H-090!
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	2. Calc	ulation of vo	lume of exca	vation (Exc	el)
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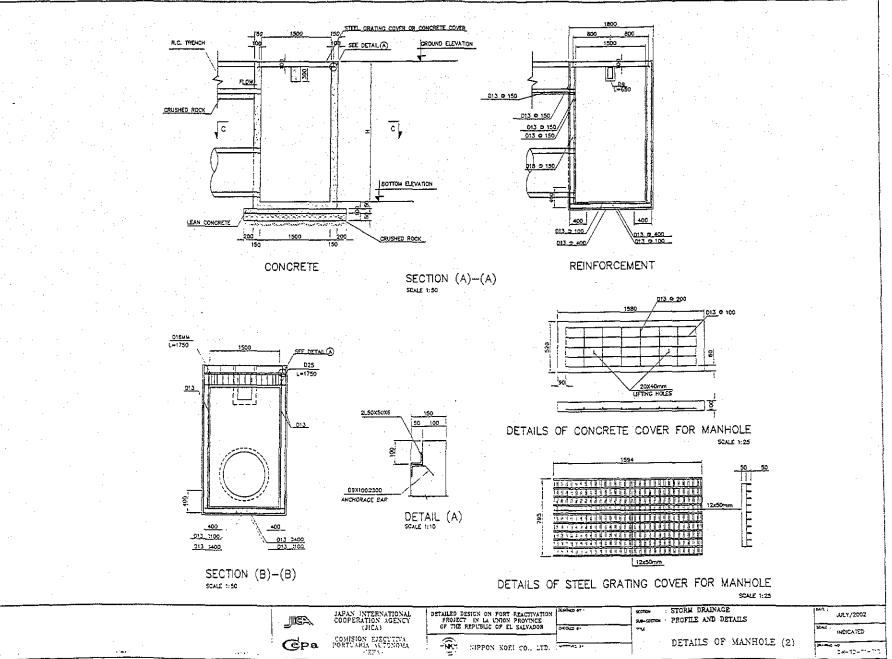
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INIPPON KCEI CO., LTD.

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oncrete cover	W (m)	a (m)	GL (m)	B.L. (m)	h (m)	Vex (m3)	Vcs (m3)	Vlo (m3)	Vbf (m3)	Cmpst (m2)	Form (m2)	Re-bar (kg)	Concrete (m3)
1 AM-1	1.2	1.9	5.522	2,444	3,478	49.6	0.55	0.37	42.4	26.7	38.47	840	3.16
2 CM-1	1.2	1.9	5.562	3,399	2,563	27.4	0,55	0.37	21.9	17.7	28.59	623	<u>2.42</u> 2.44
I <u>CM-2</u> I CM-3	1.2	1,9	5.537	3.3433.303	2.594	28 26.8	0.55	0.37	22.4	18	28,92 28,27	631 616	2.4
CM-3 CM-4	1,2	<u>1,9</u> 1,9	5.437 5.437	3.229	2.608	28.3	0.55	0.37	22.7	18.1	29.07	634	2,45
CM-4-1	1,2	1.9	5.537	3,269	2.668	29.5	0.55	0.37	23.8	18.7	29.72	649	2,5
CM-5	1.2	1.9	5,637	3.189	2.848	33.4	0.55	0.37	27.3	20.3	31,66	693	2.65
CM-5-1	1.2	1.9	5.637	3,205	2.832	33.1	0.55	0.37	27.1	20.2	31.49	689	2.64
CM-6	1.2	1,9	5.637	3.055	2.982	38.5	0,55	0.37	30.2	21.6	33,11	725	2.76
) CM-7	1.2	1.9	5.857	2,691	3.566	. 52.2	0.55	0.37	44.8	27.7	39.42	867	3,23
CM8-1	1,2	1.9	5.507	2,755	3,152	40.7	0.55	0,37	34.1	23.3	34,95 35,17	766 772	2.9
CM8-1-1 CM-8-2	1.2	<u>1.9</u> 1.9	<u>5.592</u> 5.507	2,819 2,795	3.173	39.7	0,55	0.37	33.2	22.9	34.51	757	2.86
CM-8-2-1	1.2	1.9	5.602	2,821	3.181	41.5	0.55	0.37	34.8	23.6	35.26	773	2.92
CM-8-3	1.2	1.9	5.507	2,258	3.649	54.7	0,55	0.37	47.2	28.6	40.31	887	3.3
CM-8-4	1.2	1.9	5.507	2.895	3.012	37.3	0,55	0.37	30,9	21.9	33.43	732	2.78
DM-1	1.2	1,9	6.25	4.797	1.853	15.4	0.55	0.37	11.2	11.9	20.92	451	1.84
DM-2	1.2	1.9	5.5	3.147	2,753	31.3	0,55	0.37	25.4	19.5	30.64	669	2.57
DM-3	1.2	1.9	5.2	3.045	2.555	27.2	0.55	0.37	21.7	17.6	28.5	621	2.41
DM-4	1.2	1.9	5.34	3.125	2.615	28.4	0.55	0.37	22.8	18.2	29.15	636	2,46
DM-4-1	1.2	<u>1.9</u>	5.34	3.047	2,693	30.1	0.55	0.37	24.3	18.9	29,99	655	2,52
DM-5 DM-5-1	1.2	<u>1.9</u> 1.9	<u>5.34</u> 5.34	2,865	2.875	33.6	0,55	0.37	28	20.6	31.95 31.72	<u>699</u> 694	2.67 2.65
DM-5-1 DM-7-1	1.2	1.9	5.17	2,683	2.853	34.3	0.55	0.37	27.5	20.4	32,08	702	2.68
UM~8-1	1.2	1.9	4.625	2,000	2.325	22.9	0.55	0.37	17.8	15.7	26,01	565	2.23
DM-9-1	1,2	1.9	5.01	2.546	2.864	33,8	0.55	0,37	27.7	20.5	31.84	696	2.66
DM-9-2	1.2	1.9	5.01	2,564	2.846	33.4	0.55	0.37	27.3	20.3	31.64	692	2.65
EM-1	1.2	1.9	6.06	3.897	2,563	27.4	0.55	0.37	21.9	17.7	28.59	623	2.42
EM-2	1.2	1.9	5.97	3.799	2.571	27.6	0.55	0.37	22	17.8	28.67	625	2.43
EM-2-1	1.2	1.9	5,97	3.808	2.562	27.4	0.55	0.37	21.9	17.7	28.57	623	2.42
EM-3	1.2	1.9	5.59	3,39	2.6	28.1	0.55	0.37	22.5	18 1 9	28.98		2.45 1.85
EM-4-2 EM-4-3	<u>1.2</u> 1.2	<u>1.9</u> 1.9	<u>5.43</u> 6.14	<u>3.972</u> 4.687	1.858 1.853	15.5	0.55	0.37	11.2	11.9	20.97	452	1.85
EM-4-3 EM-4-4	1.2	1.9	6.25	4,687 4,797	1.853	15.4	0.55	0.37	11.2	11.5	20.92	451	1.84
		1.0	0.20	4.707	1.000		0.00						
Total						1,090	18.7	12.6	883	662	1,040	22,600	87.0
crete cover	4 5	2.2	5,522	2,406	3.516	58.8	0,73	0.49	48.1	29.5	47.5	932	3.97
AM-2 AM-3	<u>1,5</u> 1,5	2.2	5.332	2,328	3.404	55.2	0.73	0.49	44.8	28.2	46,02	903	3,86
AM-5-1	1.5	2,2	5.132	2.158	3.374	54.2	0.73	0.49	43.8	27,9	45.62	895	3,83
AM-6-1	1.5	2,2	4,928	1.982	3.346	53.4	0.73	0.49	43.1	27.6	45.25	887	3.8
AM-6-2	1.5	2.2	4.928	2.007	3.321	52.6	0,73	0,49	42.4	27.3	44.92	881	3.78
AM-7-1	1.5	2.2	4.711	1.797	3.314	52.4	0.73	0.49	42.2	27.2	44.83	879	3.77
BM-4	1.5	2.2	4.711	1.395	3.716	65,5	0.73	0.49	54.2	31.8	50.14	985	4,17
BM-5-1	1.5	2.2	4.711	1.373	3.738	66.3	0.73	0.49	55	32.1	50,43	991	4,19
CM-11-1	1.5	2.2	5.132	2.379	3.153	47.6	0.73	0.49	37.8	25.5	42.7	836	3.61
CM-12-1	1.5	2.2	4.928	2.247	3.081	45.6	0.73	0.49		24.7	<u>41.75</u> 49.54	<u>817</u> 973	<u>3.54</u> 4.13
CM-13-1	1.5	2.2	4.711	<u>1,44</u> 2,62	3.671	<u>64</u> 51.6	0.73	0.49	<u>52.8</u> 41.5	26.9	44.47	872	3.75
CM-8 CM-9	1.5	2.2	<u>5.507</u> 5.332	2.55	3.287 3.182	48.5	0.73	0.49	38.7	25.8	43.09	844	3.64
DM-10	1.5	2.2	4.844	2.084	3.16	47.B	0.73	0.49	38	25.5	42.8	838	3 62
DM-6.	1.5	2.2	4.625	2.836	2.189	24.7	0.73	0.49	17.6	16.1	29.98	581	2.66
DM-7	1.5	2.2	5.17	2.665	2.905	40,8	0.73	0.49	31.7	22.9	39,43	770	3,37
DM-8	1.5	2,2	5.119	2,519	3	43.4	0.73	0.49	34.1	23.8	40.68	795	3.46
DM-9	1.5	2,2	5.019	2,739	2.68	35.2	0.73	0.49	26.7	20.6	36.46	711	3.14
EM-4	1.5	2.2	5.33	3.114	2.616	33.7	0.73	0.49	25.4	20	35.62	<u>694</u> 643	· 3.08 2.89
EM-4-1	1.5	2.2	5.33	3,306	2,424	29.5	0.73	0.49	21.7	18.2	<u>33.08</u> 35.95	700	<u>2.89</u> 3.11
EM-5 EM-5-1	<u>1.6</u> 1.5	2.2	5.22	<u>2.979</u> 3.001	2.641 2.619	34.3 33.8	0.73	0.49	25.5	20.2	35,66	695	3.08
EM-5-2	1.5	2.2	5.22	3,011	2.609	33.6	0.73	0.49	25.3	19.9	35.52	692	3.07
EM-6	1 <u>.5</u>	2,2	4.89	2.669	2.621	33.9	0.73	0.49	25.6	20.1	35.68	695	3.09
Total						1,110	17.6	11.8	880	600	1,000	19,600	85
ling cover	4 =	2.2	5,332	2.28	3,452	56.7	0.73	0.49	46.1	28,8	46.65	915	3.91
AM-4	<u>1.5</u> 1.5	2.2	<u></u>	2.28	3.452	55.8	0.73	0.49	45.3	28.4	46,27	908	3.88
AM-6	1.5	2.2	4.928	1.934	3,394	<u>54.9</u>	0.73	0.49	44.5	28.1	45.89	900	3.85
BM-1	1.5	2.2	5.332	1.881	3.851	70.4	0.73	0.49	58.7	33.4	51.92	1021	4.3
BM-1-1	1.5	2,2	5.332	1.929	3.803	\$8.5	0.73	0.49	57.1	32.8	51.28	1008	4.26
BM-2	1.5	2.2	5.132	1.71	3,822	69.3	0.73	0.49	57.7	33.1	51.54	1013	4.27
BM-2-1	1.5	2.2	5.132	1.758	3.774	67.6	0.73	0.49	56.2	32.5	50.9	1001	4.23
BM-3	1.5	2.2	4.928	1.534	3,794	68.3	0.73	0.49	56.8	32.7	51.17	1006	4.25
BM-3-1 CM-10	1.5	2.2	4.928	1,582	3.746	66.6	0.73	0.49	55.2	32,2	60.53	993	4.2
	1.5	2,2	5.332	2.502	3.23	49.9	0.73	0.49	39.9	26.3 26	43.72	<u>856</u> 849	3.69 3.66
CM-11	1.5	2.2	5.132	2.331	3.201	49	0.73	0.49	39.1	25.2	43.34	849	3.59
CM-12	<u>1.5</u>	2,2	4.928	2.199	3.129	46.9	0.73		37.2		42.39		
Total			:]	730	8.8	5.9	600	360	576	11,300	49
oil separator				0.000					60.0	417		4604	<u> </u>
AM-7	1.5	2.2	4.711	0.993	4.118	93,4	1,09	0.73	68.2	41.7	73.89	1504	9.30
BM-5	1.5	2.2	<u>. 4.711</u>	0.993	4.118	<u>93,4</u> 93,4	<u>1.09</u> 1.09	0.73 0.73	<u>68.2</u> 68.2	41.7	73.89	<u>1504</u> 1504	9.30 9.30
CM-13 DM-11	1.5	2.2	4.711	0.993	4.118	93.4	1.09	0.73	68,2	41.7	73.89	1504	9.30
Lenu II	<u>F.</u> U		<u></u>	0.000	1.10	50.7	1.02	0.10	00,2			1,004	3.00
Total						380	4,4	3,0	273	167	296	6,020	38

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INIPPON KOEI CO., LTD.

	QUANTITY	CALCULAT	TION C	OVER SHE	ET	
Project	Detailed Design on f in La Un	Port Reactivation	n Project	Project Code	JC	1N004/2N001
Work Section Title	Manhale 15	00mm con	crete	Pay Item No. (I	300) 그는	-0902
Quantity Item	Crushed -	TOUR		Unit		w ² · · ·
Calculation Procedu	re Applied					
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References, Calculat	tion Base and Revisio			·····		
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Concrete cove	r .							•					Manhole
	W (m)	a (m)	ац (m)	B,L (m)	h (m)	Vex (m3)	Vos (m3)	Vic (m3)	Vbf (m3)	Ompot (m2)	Form (m2)	Re-bar (kg)	Concrete (m3)
1 AM-1	1.2	1.9	5.522	2.444	3.478	49,6	0.55	0.37	42.4	26.7	38.47	846	3.16
2 CM-1	1.2	1.9	5.562	3.399	2,583	27.4	0.55	0.37	21.9	17.7	28.59	623	2.42
3 CM-2	1.2	1.9	5.537	3.343	2.594	28	0,55	0.37	22.4	18	28,92	631	2.44
_4 CM-3	1,2	1.9	5.437	3,303	2.534	26.8	0,55	0.37	21.3	17.5	28,27	616	2.4
5 CM-4 6 CM-4-1	1,2	<u>1.9</u> 1.9	<u>5.437</u> 5.537	<u>3.229</u> 3.269	2,608	28.3 29.5	0.55	0.37	22.7 23.8	18.1 18.7	<u>29.07</u> 29.72	<u>634</u> 649	2,45
7 CM-5	1.2	1.9	5.637	3.189	2.848	33.4	0.55	0.37	27,3	20.3	31.66	693	2.65
8 CM-5-1	1.2	1.9	5.637	3,205	2,832	33.1	0,55	0.37	27.1	20.2	31.49	689	2,64
9 CM-6	1.2	1.9	5.637	3.055	2,982	36,5	0,55	0.37	30,2	21.6	33,11	725	2.76
10 CM-7	1.2	1.9	5.857	2.691	3,566	52.2	0,55	0.37	44.8	27.7	39,42	867	3.23
11 CM8-1	1.2	1.9	5.507	2.755	3,152	40.7	0,55	0.37	34.1	23.3	34.95	766	2,9
12 CM8-1-		1.9	5.592	2.819	3,173	41.3	0,55	0.37	34.6	23.5	35.17	772	2,91
13 CM-8-2 14 CM-8-2	1.2	<u>1.9</u> 1.9	<u>5.507</u> 5.602	2.795	3,112 3,181	<u>39.7</u> 41.5	0.55	0.37	<u>33.2</u> 34.8	22,9 23.6	34.51 35.26	<u>757</u> 773	2,86
15 CM-8-3	1.2	1.9	5.507	2,258	3.649	54.7	0.55	0.37	47.2	28,6	40.31	887	3.3
16 CM-8-4	1,2	1.9	5,507	2,895	3,012	37,3	0,55	0.37	30,9	21.9	33.43	732	2.78
17 DM-1	1.2	1.9	6.25	4.797	1.853	15.4	0.55	0.37	11.2	11.9	20.92	451	1.84
18 DM-2	1.2	1.9	5.5	3.147	2,753	31.3	0.55	0.37	25.4	19.5	30.64	669	2.57
19 DM-3	1.2	1.9	5.2	3.045	2,555	27,2	0,55	0.37	21.7	17.6	28.5	621	2,41
20 DM-4	1.2	1.9	5.34	3,125	2,615	28,4	0.55	0.37	22.8	18.2	29.15	636	2.46
21 DM-4-1 22 DM-5	1.2	1.9	5.34	3.047	2,693	<u>30,1</u> 34,1	0.55	0.37	24.3	18.9	29.99	655 699	2,52
22 DM-5 23 DM-5-1	1.2	<u>1.9</u> 1.9	5.34 5.34	2,865 2,887	2.875 2.853	33.8	0.55 0.55	0.37	27.5	20.6 20.4	<u>31.95</u> 31.72	694	2.67 2.65
24 DM-7-1	1,2	1.9	5,17	2.683	2,887	34,3	0.55	0.37	28,2	20.7	32.08	702	2.68
25 DM-8-1	1.2	1.9	4.625	2.7	2,325	22.9	0.55	0.37	17,8	15.7	26.01	565	2.23
26 DM-9-1	1,2	1.9	5.01	2.546	2,864	33.8	0.55	0.37	27.7	20,5	31.84	696	2.66
27 DM-9-2	1.2	1.9	5.01	2,564	2,846	33.4	0.55	0,37	27.3	20.3	31.64	692	2,65
28 EM-1	1.2	1.9	8.06	3.897	2,563	27.4	0.55	0.37	21.9	17.7	28.59	623	2.42
29 EM-2	1.2	1.9	5.97	3.799	2.571	27.6	0.55	0.37	22	17.8	28.87	625	2.43
30 EM-2-1	1.2	1.9	5.97	3.808	2.562	27.4	0.55	0.37	21.9	17.7	28.57	623	2.42
31 EM-3 32 EM-4-2	1,2	<u>1.9</u> 1.9	<u>5.59</u> 5.43	3,39 3,972	2.6 1.858	28,1 15.5	0.55	0.37	22.5 11.2.	18 11.9	<u>28.98</u> 20.97	632 452	2.45
33 EM-4-3	1.2	1.9	6.14	4.687	1.853	15.4	0.55	0.37	11.2	11.9	20.92	451	1.84
34 EM-4-4	1.2	1.9	6.25	4.797	1.853	15.4	0,55	0.37	11.2	11.9	20.92	451	1.84
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Total						1,090	18.7	12.6	883	662	1,040	22,600	87.0
_													
Concrete cove			5 5 6 6	0.400	0.040			0.10			47.0		
1 AM-2 2 AM-3	1.5	2,2	5,522 5,332	2,406 2,328	3.518 3.404	58.8 55.2	0.73	0.49	48.1	29.5 28.2	47.5	932 903	3.97
3 AM-5-1	1.5	2,2	5,132	2.158	3.374	54.2	0.73	0.49	43.8	27.9	45,62	895	3.83
4 AM-6-1	1.5		4.928	1.982	3.346	53.4	0,73	0.49	43.1	27.6	45.25	887	3.8
5 AM-8-2	1.5		4.928	2,007	3.321	52.6	0.73	0,49	42.4	27,3	44.92	881	3.78
6 AM-7-1	1.5	2.2	4.711	1.797	3.314	52.4	0.73	0.49	42.2	27.2	44.83	879	3.77
7 BM-4	1.5	2.2	4.711	1.395	3.718	65.5	0,73	0.49	54.2	31.8	50,14	985	4.17
8 BM-5-1	1.5		4.711	1.373	3.738	66.3	0.73	0.49	55	32.1	50.43	991	4.19
9 CM-11- 10 CM-12-		2.2	5.132	2.379 2.247	3,153 3.081	47.6	0.73	0.49	37.8	25.5	42,7	<u>836</u> 817	3,61
10 CM-12-		2,2	4.928	1.44	3.671	<u>45.0</u> 64	0.73	0.49	36 52.8	24.7	41,75 49,54	973	3.54
12 CM-8	1.5	2,2	5,507	2.62	3.287	51.6	0.73	0.49	41.5	26.9	44.47	872	3.75
13 CM-9	1.5	2.2	5.332	2.55	3,182	48,5	0.73	0.49	38.7	25,8	43.09	844	3.64
14 DM~10	1.5	2.2	4.844	2,084	3.16	47.8	0.73	0.49	38	25.5	42.8	838	3.62
15 DM-6	1.5	2.2	4.625	2.836	2.189	24.7	0.73	0.49	17.6	16.1	29,98	581	2.66
16 DM-7	1.5	2.2	5.17	2.665	2.905	40.8	0.73	0.49	31.7	22,9	39.43	770	3.37
17 DM-8 18 DM-9	1.5	2,2	5,119	2,519	2.68	43.4 35.2	0.73	0.49	34.1	23,8	40.68	795	3.46
19 EM-4	1.5	2.2	5.019	3,114	2.616	33.7	0.73	0.49	<u>26.7</u> 25.4	20.6	<u>36.46</u> 35.62	<u> </u>	3.14
20 EM-4-1	1.5	2.2	5.33	3.306	2,424	29.5	0.73	0.49	21.7	18.2	33.08	643	2.89
21 EM-5	1.5	2.2	5.22	2.979	2.641	34.3	0.73	0.49	25.9	20.2	35.95	700	3.11
22 EM-5-1	1.5	2,2	5.22	3.001	2.619	33.8	0.73	0.49	25,5	20	35.68	695	3.08
23 EM-5-2	1.5			3.011	2.609	33.6	0.73	0.49	25.3	19.9	35.52	692	3.07
24 EM-6	1.5	2.2	4.89	2,669	2.621	33.9	0.73	0,49	25.6	20.1	35.68	695	3.09
	-					1,110	17.6	11.0	880	600	1 000	10 000	85
Totai						1,110	17.0	11.8	000	600	1,000	19,600	85
Grating cover	1											· ·	I
1 AM-4	1.5	2,2	5,332	2.28	3.452	56.7	0.73	0.49	46.1	28.8	46.65	915	3,91
2 AM-5	1.5		5.132	2.105	3.423	55.8	0.73	0,49	45.3	28.4	46,27	908	3.88
3 AM-6	1.5		4.928	1.934	3,394	54.9	0.73	0.49	44.5	28.1	45.89	900	3.85
_ <u>4BM-1</u>	1.5			1.881	3.851	70.4	0.73	0.49	58.7	33.4	51.92	1021	4.3
5 BM-1-1	1.5		5.332	1.929	3.803	68.6	0.73	0.49	57.1	32.8	51.28	1008	4.26
6 BM-2 7 BM-2-1	1.5			1,71	3.822	69.3	0.73	0.49	57.7	33.1	51.54	1013	4.27
7 8M-2-1 8 8M-3	1.5		<u>5.132</u> 4.928	<u>1.758</u> 1.534	<u>3.774</u> 3.794	<u>67.6</u> 68.3	0.73	0.49	<u>56.2</u> 56.8	<u>32.5</u> 32.7	<u>50.9</u> 51.17	1001	4.23
9 BM-3-1	1.5			1.582	3.746	66.6	0.73	0.49	55.2	32.2	50.53	993	4.23
10 CM-10	1.5			2.502	3,23	49.9	0.73	0.49	39.9	26.3	43.72		3.69
11 CM-11	1.5			2.331	3.201	49	0.73	0.49	39.1	26	43.34	849	3.66
12 CM-12	1.5	2.2		2,199	3.129	46.9	0,73	0.49	37.2	25.2	42.39	830	3.59
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Total						730	8.8	5.9	600	360	576	11,300	49
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1 AM-7	ar 1.5	2.2	4.711	0.993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9.30
2 BM-5	1.5			0.993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9,30
3 CM-13	1.5			0.993	4.118	93,4	1.09	0.73	68.2	41.7	73.89	1504	9.30
4 DM-11	1.5			0,993	4.118	93.4	1.09	0.73	68,2	41.7	73.89	1504	9.30
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Total						380	4.4	3.0	273	167	296	6,020	38
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	Concrete cover	W	a	G.L.	BL	h	Vex	Vcs	Vic	Vbf	Cmpet	Form	Re-bar	Concrete
		(m)	(m)	(m)	(m)	(m)	(m3)	(m3)	(m3)	(m3)	(m2)	(m2)	(kg)	(m3)
	1 AM-1 2 CM-1	<u>1.</u> 1.		5.522 5.562	2.444 3.399	3.478 2.563	49.6	0.55	0.37	<u>42.4</u> 21.9	<u>26.7</u> 17.7	<u>38.47</u> 28.59	<u>846</u> 623	
	3 CM-2			5.537	3,343	2,594	28	0.55	0.37	22.4	18	28,92	631	2.44
	4 CM-3	1.	2 1.9	5.437	3,303	2.534	28.8	0.55	0.37	21.3	17.5	28.27	616	
	5 CM-4	1.3		5,437	3.229	2,608	28,3	0,55	0.37	22.7	18,1	29.07 29.72	<u>634</u> 649	2.45
	6 CM-4-1 7 CM-5	1.2 1.2		<u>5,537</u> 5,637	3,269 3,189	2,668 2,848	29.5	0.55	0.37	<u>23,8</u> 27,3	18.7	31.66	693	2.65
	8 CM-5-1	1.		5.637	3,205	2.832	33.1	0.55	0.37	27,1	20.2	31.49	689	2.64
	9 CM-6	1,4	2 1.9	5.637	3.055	2.982	36,5	0,55	0.37	30.2	21.6	33.11	725	
	10 CM~7	1.4		5,857	2,691	3.586	52,2	0.55	0.37	44.8	27.7	39.42	887	3.23
	11 CM8-1 12 CM8-1-1	1.1		5.507 5.592	2,755	<u>3.152</u> 3.173	40.7	0.55	0.37	<u>34.1</u> 34.6	23,3 23,5	<u>34,95</u> 35,17	772	
	13 CM-8-2			5,507	2,795	3.112	39.7	0.55	0.37	33,2	22.9	34.51	757	2,86
	14 CM-8-2-1	1,3	2 1.9	5.602	2,821	3.181	41.5	0.55	0.37	34.8	23.6	35.26	773	2.92
	15 CM-8-3	1.1		5.607	2,258	3.649	54.7	0,55	0.37	47.2	28.6	40.31	887 732	3.3
	16 CM-8-4 17 DM-1	<u>1.2</u> 1.2		5.507 6.25	2.895	3,012 1,853	<u>37.3</u> 15.4	0.55	0.37	30.9	21.9	33.43 20.92	451	1.84
	18 DM-2	1.2		5,5	3.147	2.753	31.3	0,55	0.37	25.4	19.5	30.64	669	2.57
	19 DM-3	1.2	1,9	5,2	3.045	2,555	27.2	0.55	0.37	21.7	17.6	28.5	621	2.41
	20 DM-4	1.2		5,34	3.125	2.615	28.4	0.55	0.37	22.8	18.2	29.15	636 855	2.46
	21 DM-4-1 22 DM-5	1.2 1.2		<u>5.34</u> 5.34	<u>3.047</u> 2.865	2.693 2.875	30.1	0.55	0.37	24.3	18.9 20.6	29.99 31.95	699	
	23 DM-5-1	13		5.34	2.887	2,853	33.6	0.55	0.37	27.5	20.4	31.72	694	2,65
	24 DM-7-1	1.1	2 1.9	5.17	2.683	2,887	34.3	0.55	0.37	28,2	20.7	32.08	702	
	25 DM-8-1 26 DM-9-1	1.4		4,625 5.01	2.7	2.325 2.864	22.9	0.55	0.37	<u>17.8</u> 27,7	15.7	26.01 	<u>565</u> 696	2.23
	28 DM-9-1 27 DM-9-2	1,2 1,2		5.01	2,540	2.846	33,8	0.55	0.37	27.3	20.3	31.64	692	2.65
	28 EM-1	1.2	1.9	6.06	3.897	2.663	27.4	0.55	0,37	21.9	17.7	28.59	623	2.42
	29 EM-2	1.2		5.97	3,799	2.571	27.6	0.55	0.37	22	17.8	28.67	625	
	30 EM-2-1 31 EM-3	<u>1.2</u> 1.2		5.97 5.59	<u>3.808</u> 3.39	2.562 2.6	27.4	0.55	0.37	21.9	<u>17.7</u> 18	28.57 28.98	<u>823</u> 632	2.42
	32 EM-4-2	13		5.43	3,972	1.858	15.5	0.55	0.37	11.2	11.9	20.97	452	1.85
	33 EM-4-3	1.2	2 1.9	6.14	4.687	1.853	15.4	0.55	0.37	11.2	11.9	20.92	451	1.84
	34 EM-4-4	1.3	2 1.9	6.25	4.797	1.853	15.4	0.55	0.37	11.2	11.9	20.92	451	1.84
÷	Total			·····			1,090	18.7	12.6	883	662	1,040	22,600	87.0
			1.1	· ·	1.							.		
	Concrete cover 1 AM-2	1.5	2,2	5.522	2,406	3,516	58.8	0.73	0.49	48.1	29.5	47.5	932	3.97
	2 AM-3	1.5	5 2,2	5,332	2,328	3.404	55.2	0.73	0.49	44.8	28,2	46.02	903	3.86
	3 AM-5-1	1.5		5.132	2.158	3.374	54.2	0.73	0.49	43.8	27.9	45.62 45.25	895 887	3.83
	4 AM-8-1 5 AM-8-2	<u>1.</u> 1.		4.928	1.982	3.346 3.321	53.4 52.6	0.73	<u>0.49</u> 0.49	43.1 42.4	27.8	45.20	881	3.78
	6 AM-7-1	1.5		4.711	1.797	3.314	52.4	0.73	0.49	42.2	27.2	44.83	879	3.17
	7 BM-4	1.3		4.711	1.395	3.716	65.5	0.73	0,49	54.2	31.8	50.14	985	
	8 BM-5-1 9 CM-11-1	1.5		<u>4.711</u> 5.132	1.373	3,738 3.153	66.3	0.73	0.49	55 37.8	<u>32.1</u> 25.5	<u>50.43</u> 42.7	991 836	4.19
	9 CM-11-1 10 CM-12-1	1.5		4.928	2.247	3.081	47.6	0.73	0.49	31.6	24.7	41.75	817	3.54
	11 CM-13-1	1.5		4.711	1.44	3.671	64	0,73	0.49	52.8	31.3	49.54	973	
	12 CM-8	1.5		5.507	2.62	3.287	51.6	0.73	0.49	41.5	26.9	44.47	872	3.75
	13 CM-9 14 DM-10	1.9 1.3		<u>5.332</u> 4.844	2,55	3,182 3.16	48.5	0.73	0.49	<u>38.7</u> 38	25.8 25.5	43.09 42.8	84 <u>4</u> 838	
	15 DM-6	1.		4.625	2.836	2.189	24.7	0.73	0.49	17.6	16.1	29.98	581	2.66
	16 DM-7	1.8		5.17	2.665	2,905	40.8	0.73	0.49	31.7	22,9	39.43	770	
	17 DM-8			<u>5,119</u> 5.019	2.519	3 2.68	43.4	0.73	0.49	<u>34.1</u> 26.7	23,8 20.6	40.68	795	
	18 DM-9 19 EM-4	<u>1.</u> 1.5		5,33	3.114	2.616	33.7	0.73	0.49	25.4	20.0	35.62	694	
	20 EM-4-1	1.6		5.33	3.306	2,424	29.5	0,73	0.49	21.7	18.2	33.08	643	2.89
	21 EM-5	1.1	5 2.2	5.22	2.979	2.641	34.3	0.73	0.49	25,9	20.2	35.95	700	
	22 EM-5-1 23 EM-5-2	13		<u>5.22</u> 5.22	3.001 3.011	2.619 2.609	33.8	0.73	0.49	25.5 25.3	20 19.9	35.66 35.52	<u>695</u> 692	
	24 EM-6	13		4.89	2,669	2.605	33.9	0.73	0.49	25.6	20.1	35.68	695	
	Total					· · · · · · · · · · · · · · · · · · ·	1,110	17.6	11.8	880	500)	1,000	19,600	85
	Grating cover			•					لمستعا					
	1 AM-4	1.9		5,332	2.28	3.452	56.7	0.73	0.49	46.1	28.8	46.65	915	
	2 AM-5	1.9		5,132	2,109	3.423	55.8	0.73	0.49	45.3	28.4	46.27	908 900	
	3 AM-6 4 BM-1	<u>1.</u> 1.3		<u>4.928</u> 5.332	1.934	3,394 3.851	54.9 70.4	0.73	0.49 0.49	<u>44.5</u> 58.7	<u>28,1</u> 33,4	<u>45.89</u> 51.92	1021	3.85
	5 9M-1-1	13		5.332	1.929	3.803	68.6	0.73	0.49	57.1	32,8	51.28	1008	
	6 BM-2	1.	5 2,2	5,132	1.71	3.822	69.3	0.73	0.49	57.7	33.1	51.54	1013	4.27
	7 BM-2-1	1.	5 2.2	5.132	1.758	3.774	67.6	0.73	0.49	56,2	32.5	50.9	1001	4.23
	8 BM-3-1	1.8		4,928	1.534 1.582	<u>3.794</u> 3.746	68.3	0.73	0.49	<u>56.8</u> 55.2	32.7 32.2	<u>51.17</u> 50.53	1006 993	
	9 BM-J-1	<u>1.8</u> 1.6		5.332	2.502	3,23	<u>66.6</u> 49,9	0.73	0.49	39.9	26.3	43.72	856	
	11 CM-11	1.5	j 2.2	5.132	2.331	3.201	49	0.73	0.49	39.1	26	43.34	849	3.66
	12 CM-12	1.		4.928	2.199	3.129	48.9	0.73	0.49	37.2	25.2	42.39	830	3.59
	Total				· ·		730	8.8	5.9	600	360	578	11,300	49
		L												L
	To oil separator	1.5	j 2.2	4.711	0,993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9.30
	2 BM-5	1.3		4.711	0.993	4.118	93.4	1.09	0.73	88.2	41.7	73.89	1504	9,30
	3 CM-13	1.1	5 2.2	4.711	0.993	4,118	93.4	1.09	0.73	68.2	41.7	73.89	1504	
	4_DM-11	1.1	5 2.2	4.711	0.993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9.30
	Tota!						380	4.4	3,0	273	167	296	6,020	38
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IPPON KOEI CO., LTD.

QUANTITY CALCULATION COVER SHEET Detailed Design on Port Reactivation Project Project Project Code JC1N004/2N001 in La Union Province Work Section Title Manhale 15 Num concrete Pay Item No. (BOQ) 24-0904 Quantity item Reinforcement Unit 60 Calculation Procedure Applied Weight of reinforcement was computed by multiplying Unit weight by the height. Unit weight was computed on assumption that the height was 2m. References. Calculation Base and Revisions See the item of excavation and disposed of 1500mm. (2H-0901) Prepared No. of Checked Rev Reviewed Superseded by Date Pages by Date by Date by Calc No. 0 hoila Garaía Hr. Journa Kr. Ando 1 2 3

FN : Calculation_Cover_Sheet_020504_seg cover

	T		<u> </u>	1		T
No.	D	L (m)	Qty	W/bar (kg)	W (kg)	Remarks
	H=2m, 150	1				
<u>A1</u>	D13	4.00	28	3.98	111.44	-
A2	D13	3.40	26	3.383	87.96	
B1	D13	2.55	48	2.53725	121.79	
B2	D13	2.40	44	2.388	105.07	
C1	D13	2,60	22	2.587	56.91	
C2	D13	2.30	20	2.2885	45.77	
				total	528.94	1 spot
					265	1 spot / m
Manhole (H=2m, 120	0)				
Al	D13	3.40	28	3.383	94.72	
A2	D13	2.80 -	26	2.786	72.44	
B1	D13	2.55	48	2.53725	121.79	
B2	D13	2.40	44	2.388	105.07	
Cl	D13	2.30	22 .	2.2885	50.35	
C2	D13	2.00	20	1.99	39.8	
· · · · · · · · · · · · · · · · · · ·				total	484.17	1 spot
	1.4°				243	1 spot/m
-						
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TABLE OF REINFORCEMENT (MANHOLE)

Concrete cover	÷									. ¹			Manhole
	W (m)	a (m)	G.L. (m)	B.L. (m)	h (m)	Vex (m3)	Vcs (m3)	Vic (m3)	Vbf (m3)	Cmpct (m2)	Form (m2)	Re-bar (kg)	Concrete (m3)
1 AM-1	1.2	1.9	5,522	2.444	3,478	49.6	0.55	0.37	42.4	26,7	38,47	846	3.16
2 CM-1	1.2	1.9	5.562	3,399	2,563	27.4	0.55	0.37	21.9	17.7	28,59	623	2,42
3 CM-2	1.2	1.9	5.537	3,343	2,594	28	0.55	0.37	22.4	18	28.92	631	2.44
4 CM-3	1.2	1.9	5.437	3.303	2.534	26,8	0,55	0.37	21.3	17.5	28.27	616	2.4
5 CM-4	1.2	1.9	5,437	3.229	2,608	28.3	0.55	0.37	22.7	18,1	29.07	634	2,45
6 CM-4-1 7 CM-5	1.2	1.9	5.537	3.269	2,668	29.5	0.55	0.37	23,8	18.7	29.72	649	2,5
7 CM-5 8 CM-5-1	1.2	<u>1.9</u> 1.9	5.637 5.637	3,189 3,205	2.848 2.832	<u>33.4</u> 33.1	0.55	0.37	27,3 27,1	20.3	<u>31.66</u> 31.49	<u>693</u> 689	2.65
9 CM-6	1.2	1.9	5.637	3.055	2.982	36.5	0.55	0.37	30,2	20.2	33.11	725	2,76
10 CM-7	1.2	1.9	5.857	2.691	3.586	52.2	0.55	0.37	44.8	27,7	39.42	867	3,23
11 CM8-1	1,2	1.9	5,507	2,755	3.152	40.7	0,55	0.37	34.1	23,3	34,95	766	2.9
12 CM8-1-1	1.2	1,9	5.592	2,819	3.173	41,3	0.55	0.37	34.6	23.5	35.17	772	2,91
13 CM-8-2	1.2	1.9	5.507	2.795	3.112	39,7	0.55	0.37	33.2	22.9	34.51	757	2,86
14 CM-8-2-1	1.2	1.9	5,602	2,821	3.181	41.5	0.55	0.37	34.8	23.6	35.26	773	2.92
15 CM-8-3	1.2	1.9	5.507	2,258	3.649	54.7	0,55	0.37	47.2	28.6	40.31	887	3.3
16 CM-8-4	1.2	1.9	5,507	2,895	3.012	37,3	0.55	0.37	30,9	21.9	33.43	732	2.78
17 DM-1	- 1.2	1.9	6.25	4.797	1.853	15.4	0.55	0.37	11.2	11.9	20.92	451	1.84
18 DM-2	1.2	1.9	5.5	3.147	2,753	31.3	0.55	0.37	25.4	19,5	30.64	869	2.57
19 DM-3 20 DM-4	1.2	1.9	5,2	3.045	2,555	27.2	0.55	0.37	21.7		28.5	621	2.41
20 DM-4-1	1.2	<u>1.9</u> 1,9	<u> </u>	<u>3.125</u> 3.047	2,615	28.4	0,55	0.37	24.3	18.2	29.15	636 855	2.46
22 DM-5	1.2	1.9	5.34	2.865	2,055	34.1	0.55	0.37	24.5	20.6	31.95	699	2.52
23 DM-5-1	1.2	1.9	5.34	2.887	2,853	33,6	0.55	0.37	27.5	20.4	31.72	694	2,65
24 DM-7-1	1.2	1.9	5.17	2 683	2,887	34.3	0.55	0.37	28.2	20.7	32.08	702	2,68
25 DM-8-1	1.2	1.9	4.825	2.7	2.325	22.9	0.55	0.37	17.8	15.7	26.01	565	2.23
28 DM-9-1	1.2	1.9	5.01	2.546	2,864	33.8	0.55	0.37	27.7	20.5	31.84	695	2.66
27 DM-9-2	1.2	1.9	5.01	2,564	2,846	33,4	0,55	0.37	27.3	20,3	31.64	692	2,65
28 EM-1	1.2	1,9	6,06	3,897	2,563	27.4	0,55	0.37	21,9	17.7	28.59	623	2.42
29 EM-2	1.2	1.9	5.97	3.799	2,571	27.6	0.55	0.37	22	17.8	28.67	625	2,43
30 EM-2-1	1.2	1.9	5.97	3,808	2,562	27.4	0.55	0.37	21.9	17.7	28,57	623	2.42
31 EM-3	1.2	1.9	5.59	3.39	2,6	28,1	0.55	0.37	22.5	18	28.98	632	2.45
32 EM-4-2 33 EM-4-3	1.2	1.9	5.43	3,972	1.858	15.5	0,55	0.37	11.2	11.9	20,97	452	1.85
33 EM-4-3	1.2	<u>1.9</u> 1.9	<u>6,14</u> 6,25	<u>4.687</u> 4.797	<u>1,853</u> 1,853	<u>15.4</u> 15.4	0.55	0.37	11.2	<u>11.9</u> 11.9	20,92	451 451	1.84
	- <u> </u>	1.7	0,20	4.757	1.000	10,4	0.00	0.31			20,92	<u>491</u>	1,04
Total						1,090	18.7	12.8	883	662	1,040	22,600	87.0
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Concrete cover													
1 AM-2	1.5	2.2	5,522	2.406	3.516	58.8	0.73	0.49	48,1	29.5	47.5	932	3.97
2 AM-3	1.5	2.2	5.332	2,328	3.404	55.2	0.73	0,49	44.8	28.2	46.02	903	3.86
3 AM-5-1	1.5	2.2	5,132	2,158	3.374	54.2	0.73	0.49	43.8	27.9	45,62	895	3,83
4 AM-6-1 5 AM-6-2	1.5	2.2	4,928	<u>1.982</u> 2.007	3.346	53.4	0,73	0.49	43.1 42.4	27.6	45.25	887	3.8
6 AM-7-1	1.5	2.2	4.928	1.797	<u>3.321</u> 3.314	<u> </u>	0.73	0.49	42.9	27.3	44.92 44.83	881 879	<u>3.78</u> 3.77
7 BM-4	1.5	2,2	4.711	1,395	3.716	65,5	0.73	0.49	54.2	31.8	50.14	985	4.17
8 BM-5-1	1.5	2,2	4.711	1.373	3,738	66.3	0.73	0,49	55	32.1	50.43	991	4.19
9 CM-11-1	1.5	2,2	5,132	2,379	3.153	47.6	0.73	0.49	37.8	25.5	42.7	836	3.61
10 CM-12-1	1.5	2.2	4.928	2.247	3.081	45.6	0,73	0.49	36	24.7	41.75	817	3,54
11 CM-13-1	1.5	2.2	4.711	1.44	3.671	64	0.73	0.49	52.8	31.3	49.54	973	4.13
12 CM-8	1.5	2.2	5.507	2.62	3.287	51.6	0.73	0.49	41.5	26,9	44.47	872	3.75
13 CM-9	1.5	2.2	5,332	2,55	3.182	48.5	0.73	0.49	38.7	25.8	43.09	844	3.64
14 DM-10	1.5	2.2	4.844	2.084	3,16	47.8	0.73	0.49	38	25.5	42.8	838	3.62
15 DM-6. 16 DM-7	1.5 1.5	2.2	4.625	2.836	2.189	<u>24.7</u> 40.8	0.73	0.49	<u>17.6</u> 31.7	16.1	29.98	581	2.66
17 DM-8	1.5	2.2	<u>5.17</u> 5,119	2,519	2.505	43.4	0.73	0.49	34.1	22.9	39.43 40.68	770	3.37 3.46
18 DM-9	1.5	2,2	5.019	2,739	2.68	35.2	0.73	0.49	26.7	20.6	36.46	711	3.14
19 EM-4	1.5	2,2	5.33	3.114	2.616	33.7	0.73	0.49	25.4	20	35.82	694	3.08
20 EM-4-1	1.5	2.2	5.33	3,306	2.424	29,5	0.73	0.49	21.7	18.2	33.08	643	2.89
21 EM-5	1.5	2.2	5.22	2,979	2,641	34,3	0.73	0.49	25,9	20,2	35.95	700	3.11
22 EM-5-1	1.5	2.2	5.22	3.001	2,619	33,8	0.73	0.49	25.5	20	35.86	695	3.08
23 EM-5-2	1.5	2.2	5.22	3.011	2,609	33,6	0,73	0.49	25.3	19,9	35.52	692	3.07
24 EM-6	1.5	2.2	4.89	2.669	2.621	33.9	0,73	0.49	25.6	20.1	35.68	695	3.09
Total						1,110	17.6	11.8	880	600	1,000	19,600	85
10(a)	1					1,110	17.0	11.0	600	000	1,000	15,000	1°° 1
Grating cover								_					
1 AM-4	1.5	2.2	5.332	2.28	3.452	56.7	0.73	0.49	46.1	28.8	46,65	915	3.91
2 AM-5	1.5	2,2	5.132	2,109	3 423	55.8	0,73	0.49	45,3	28.4	48.27	908	3.88
3 AM-6	1.5	2.2	4.928	1.934	3,394	54.9	0,73	0.49	44.5	28,1	45.89	900	3.85
4 BM-1	1.5	2.2	5.332	1.881	3,851	70.4	0.73	0.49	58.7	33.4	51.92	1021	4.3
5 BM-1-1	1.5	2.2	5.332	1.929	3.803	68.6	0,73	0.49	57.1	32.8	51.28	1008	4.26
6 BM-2	1.5	2.2	5.132	1.71	3.822	69.3	0.73	0.49	57.7	33.1	51.54	1013	4.27
7 <u>BM-2-1</u> 8 BM-3	<u>1.5</u> 1.5	2.2	5.132	1.758	3.774	67.6	0,73	0.49	56.2	32.5	50.9	1001	4.23
9 BM-3-1	1.5	2.2	4.928 4.928	1.534	<u>3,794</u> 3,746	68.3 68.6	0.73	0.49	<u>56.8</u> 55.2	32.7	<u>51,17</u> 50.53	1006 993	4.25
10 CM-10	1.5	2,2	5.332	2.502	3.23	49.9	0.73	0.49	39.9	26.3	43.72	856	3.69
11 CM-11	1.5	2,2	5.132	2.331	3,201	49	0.73	0.49	39.1	20.5	43.34	849	3,66
12 CM-12	1.5	2,2	4.928	2.199	3.129	46.9	0.73	0.49	37.2	25.2	42.39	830	3.59
Total						730	8.8	5.9	600	- 360	576	11,300	49
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To oil separator	ł				I	•				19 C 1		1	۱ I
1 AM-7	1.5	2.2	4.711	0,993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9.30
2 8M-5	1.5	2.2	4.711	0,993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9.30
3 CM-13	1.5	2,2	4.711	0.993	4.118	93.4	1.09	0,73	68.2	41.7	73.89	1504	9.30
4 DM-11	1.5	2,2	4,711	0.993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9,30
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Total				-		380	4.4	3.0	273	167	296	6,020	38
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Manhole_集計

INIPPON KOEI CO., LTD.

	QUANTITY C	CALCULATION C	OVER SHEET	
Project		ort Reactivation Project on Province	Project Code	JC1N004/2N001
Work Section Title	Manhole 15	Dum concrete	Pay Item No. (BOQ)	24-0905
Quantity Item	Coner Ang	le	Unit	kg
Calculation Procedu	re Applied			
Weight	of corner a	ngle was corr	upated by ma	attiplying
unit we	ight by the	length.		
- 				
References, Calculat	tion Base and Revisio	ns		
				До При
See t	he item of	excavation	and dispes	al of
1500.	nim. (24-0901)	
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Prepare	d No. of	Checked	Destaur	
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Grating type

size (mm)	1594x795x	100x2		N≓	12	spots	
	Form (side) (m2)	Form (bottom (m2)	Re-bar (D13) (kg)	Concrete (m3)	L50x50x6 (m)	(kg)	Re-bar (D9) (kg)
spot					7.2	31.9	1.2
total	:	· · ·			86.4	383	14.4

Concrete type

size (mm) 1280 x 425 x 100 x 3 N= 34 spots

	· · · · · · · · · · · · · · · · · · ·				the state of the		· · · ·
	Form (side) (m2)	Form (bottom (m2)	Re-bar (D13) (kg)	Concrete (m3)	L50x50x6 (m)	(kg)	Re~bar (D9) (kg)
one	0.168	0.55	6.87	0.055	a strategie		
spot	0.504	1.65	20.61	0.165	6	26.6	1.0
total	17.2	56.1	701	5.61	204.0	905	34.0

size (mm) 1580 x 520 x 100 x 3

24 spots

	Form (side) (m2)	Form (bottom) (m2)	Re-bar (D13) (kg)	Concrete (m3)	L50x50x6 (m)	(kg)	Re-bar (D9) (kg)
one	0.42	0.83	10.15	0.083	to Marcha	a the second	
spot	1.26	2.49	30.45	0.249	7.2	31.9	
total	30.3	59.8	730.8	5.98	172.8	766	28.8

N=

N=

size (mm) 1580 x 520 x 100 x 2

4 spots

	Form (side) (m2)	Form (bottom (m2)	Re-bar (D13) (kg)	Cpncrete (m3)	L50x50x6 (m)	(kg)	Re-bar (D9) (kg)
one	0.42	0.83	10.15	0.083		and the file	
spot	0.84	1.66	20.3	0.166	7.2	31.9	1.2
total	3.4	6.7	81.2	0.7	28.8	128	4.8

IPPON KOEI CO., LTD.

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ect Project Code	JC1N004/2N001
e Pay Item No. (BOQ)	>H-090601
Unit	m ²
	e Pay Item No. (BOQ)

Calculation Procedure Applied

Area of form for manhale was computed by combining

inside with outside ,

References, Calculation Base and Revisions

See the item of excavation and disposed of 1500mm (2H-0901)

Rev	Prepa	ired	No. of	Chec	ked	Revie	wed	Superseded
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FN : Calculation_Cover_Sheet_020504_seg cover

INIPPON KOEI CO, LTD.

Project	Detailed Design on Po	rt Reactivation Project	in La Union	Calc, File No.	1
Section	والمحافظ والمنابلات ومرزده فبستان والمتعال المحاف والمحاف	1500mm conc		Calc. Index No.	
Subject	Fan Pan	Maulala		Page No.	Rev.
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$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		(m)	(m)	(m)	<u>(m)</u>	(m)	(m3)	(m3)	(m3)	(m3)	(m2)	(m2)	(kg)	(m3)	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														3.16	
$ \begin{array}{ c c c c } \hline 1 & 2 & 1.9 & 5.437 & 3503 & 22.94 & 76.4 & 0.65 & 0.37 & 27.3 & 1.72 & 76.2 & 78.7 & 0.01 & 55.7 & 1.0 & 2.001 & 55.7 & 1.0 & 2.001 & 55.7 & 1.0 & 2.001 & 55.7 & 1.0 & 2.001 & 55.7 & 1.0 & 2.001 & 55.7 & 1.0 & 2.001 & 55.7 & 1.0 & 2.001 & 55.7 & 1.0 & 2.001 & 55.7 & 1.0 & 2.001 & 55.7 & 1.0 & 2.001 & 55.7 & 1.0 & 3.001 & 1.0 & 0.05 & 0.02 & 0.021 & 0.021 & 0.011 & 1.0 & 0.05 & 0.02 & 0.021 & 0.021 & 0.011 & 1.0 & 0.05 & 0.02 & 0.021 & 0.021 & 0.011 & 1.0 & 0.05 & 0.02 & 0.021 & 0.021 & 0.011 & 1.0 & 0.05 & 0.021 & 0.0$														2.42	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $														2.44	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														<u>2.4</u> 2.45	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $														2.5	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $														2.65	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $														2.64	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $														2.76	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			1,9		2.691	3,566	52,2	0.55	0.37	44.8		39.42		3.23	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	CM8-1	1.2	1,9	5.507	2.755	3,152	40.7	0,55	0.37	34.1	23.3			2.9	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		1.2	1.9		2,819									2.91	
CHE-63 1.2 1.9 5.007 2.28 3.640 E47 0.55 0.37 47.2 22.6 40.31 887 CME-64 1.2 1.9 5.02 2.855 0.055 0.37 0.12 1.12 0.9 6.33 3.343 732 DM-7 1.2 1.9 6.21 0.147 1.12 0.9 3.343 732 DM-7 1.2 1.9 5.2 0.147 0.15 0.11 0.12 0.9 0.14 0.95 0.37 2.44 1.02 0.9 0.9 0.9 0.9 0.1 0.25 0.37 2.43 0.9 2.99 0.9 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2.86</td>														2.86	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														2,92	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$														3.3	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $														2.78	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $														<u>1,84</u> 2,57	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														2.41	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														2.46	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														2,52	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														2,67	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$												31.72		2.65	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$						2.887						32.08	702	2,68	
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$		1,2	1,9	4.625	2.7									2,23	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														2.66	
$\begin{array}{ $														2.65	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														2.42	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														2.43	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														2.42 2.45	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														1.85	
EM-4-4 1.2 1.9 6.25 4.197 1.63 16.4 0.35 0.37 11.2 11.5 20.92 451 Total 1.090 18.7 12.6 883 662 1.040 22.800 CM-2 1.5 2.2 5.522 2.406 3.516 58.8 0.73 0.49 48.1 29.5 44.02 903 AM-3 1.5 2.2 5.522 2.406 3.516 58.8 0.73 0.49 43.8 27.8 45.2 893 AM-5-1 1.5 2.2 4.928 1.982 3.346 53.4 0.73 0.49 43.4 2.76 45.25 893 AM-7-1 1.5 2.2 4.711 1.97 3.314 52.6 0.73 0.49 3.21 55.14 895 DM-71 1.5 2.2 4.711 1.43 3.671 6.40 0.73 0.49 3.82 2.47 1.75 836 DM-71														1.83	
Total 1,090 16.7 12.6 683 662 1,040 22,660 creft cover 1.5 2.2 5.522 2,406 3,516 58.8 0.73 0.49 48.1 23.5 410.5 592 AM-3 1.5 2.2 5,532 2,328 3,404 552 0.73 0.49 43.8 28.2 40.2 903 AM-5-1 1.5 2.2 4,928 1.98 3,344 54.2 0.73 0.49 43.1 27.6 45.2 897 AM-6-1 1.5 2.2 4,928 2.007 3,321 52.4 0.73 0.49 42.2 27.2 44.83 878 AM-71 1.5 2.2 4,711 1.393 3.716 65.3 0.73 0.49 37.8 45.2 2.73 44.92 3.24 7.17.8 64.3 2.05 3.24 7.17.8 64.3 2.043 3.14 45.6 2.73 0.49 3.14 5.43														1.84	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Total						1,090	18.7	12.6	883	662	1,040	22,600	87.0	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		15	22	5 522	2 406	3516	58.8	0.73	0.49	48.1	29.5	47.5	932	3.97	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														3.86	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $													895	3.83	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $							53.4			43.1	27.6	45.25	887	3.8	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	AM-8-2	1.5	2.2	4.928	2.007		52.6	0.73	0.49	42.4				3.78	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $														3.77	
CbM-11-1 1.5 2.2 5.132 2.247 3.053 47.6 0.73 0.49 37.8 25.5 42.7 836 CM-12-1 1.5 2.2 4.924 3.061 45.6 0.73 0.49 36 24.7 41.75 81.7 CM-13-1 1.5 2.2 4.711 1.44 3.671 64 0.73 0.49 52.8 31.3 49.54 973 CM-8 1.5 2.2 5.507 2.25 3.182 48.5 0.73 0.49 38.2 25.5 42.8 838 DM-6 1.5 2.2 4.424 2.044 3.16 47.6 0.73 0.49 38.2 25.5 42.8 838 DM-7 1.5 2.2 5.117 2.865 2.805 40.8 0.73 0.49 31.7 22.9 39.43 770 DM-8 1.5 2.2 5.17 2.86 35.2 0.73 0.49 21.7 16.3														4.17	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $														4.19	
$\begin{array}{c cm+13-1} 15 & 2.2 & 4.711 & 1.44 & 3.671 & 64 & 0.73 & 0.49 & 52.8 & 31.3 & 49.64 & 9.73 \\ \hline CM+8 & 1.5 & 2.2 & 5.507 & 2.62 & 3.287 & 51.6 & 0.73 & 0.49 & 36.7 & 25.6 & 43.09 & 644 \\ \hline DM+10 & 1.5 & 2.2 & 5.332 & 2.55 & 3.182 & 48.6 & 0.73 & 0.49 & 36.7 & 25.6 & 43.09 & 644 \\ \hline DM+10 & 1.5 & 2.2 & 4.625 & 2.836 & 2.189 & 2.47 & 0.73 & 0.49 & 38 & 25.5 & 42.8 & 838 \\ \hline DM+7 & 1.5 & 2.2 & 4.625 & 2.836 & 2.189 & 2.47 & 0.73 & 0.49 & 36.7 & 25.6 & 43.09 & 644 \\ \hline DM+7 & 1.5 & 2.2 & 5.17 & 2.665 & 2.905 & 40.8 & 0.73 & 0.49 & 34.1 & 23.8 & 40.66 & 795 \\ \hline DM+8 & 1.5 & 2.2 & 5.17 & 2.665 & 2.905 & 40.8 & 0.73 & 0.49 & 34.1 & 23.8 & 40.66 & 795 \\ \hline DM+8 & 1.5 & 2.2 & 5.019 & 2.739 & 2.68 & 35.2 & 0.73 & 0.49 & 25.4 & 20 & 35.62 & 694 \\ \hline EM-4 & 1.5 & 2.2 & 5.33 & 3.104 & 2.616 & 33.7 & 0.73 & 0.49 & 25.4 & 20 & 35.62 & 694 \\ \hline EM-5 & 1.5 & 2.2 & 5.22 & 2.979 & 2.641 & 34.3 & 0.73 & 0.49 & 25.5 & 20 & 35.66 & 695 \\ \hline EM-5-1 & 1.5 & 2.2 & 5.22 & 3.001 & 2.619 & 33.8 & 0.73 & 0.49 & 25.5 & 20 & 35.66 & 695 \\ \hline EM-5-1 & 1.5 & 2.2 & 5.22 & 3.001 & 2.619 & 33.8 & 0.73 & 0.49 & 25.5 & 20 & 35.66 & 695 \\ \hline EM-6 & 1.5 & 2.2 & 5.32 & 3.001 & 2.619 & 33.8 & 0.73 & 0.49 & 25.5 & 20 & 35.66 & 695 \\ \hline EM-6 & 1.5 & 2.2 & 5.32 & 3.001 & 2.619 & 33.8 & 0.73 & 0.49 & 25.5 & 20 & 35.66 & 695 \\ \hline EM-6 & 1.5 & 2.2 & 4.89 & 2.669 & 2.821 & 33.9 & 0.73 & 0.49 & 45.3 & 28.4 & 46.27 & 906 \\ \hline AM-6 & 1.5 & 2.2 & 6.132 & 2.103 & 3.423 & 65.8 & 0.73 & 0.49 & 45.3 & 28.4 & 46.27 & 906 \\ \hline AM-6 & 1.5 & 2.2 & 6.132 & 2.103 & 3.423 & 65.8 & 0.73 & 0.49 & 45.3 & 28.4 & 46.27 & 906 \\ \hline AM-6 & 1.5 & 2.2 & 5.332 & 1.881 & 3.861 & 70.4 & 0.73 & 0.49 & 45.3 & 28.4 & 46.27 & 906 \\ \hline AM-6 & 1.5 & 2.2 & 6.132 & 1.71 & 3.822 & 56.7 & 0.73 & 0.49 & 56.7 & 3.34 & 51.92 & 10021 \\ \hline BM-1 & 1.5 & 2.2 & 5.332 & 1.882 & 3.746 & 67.8 & 0.73 & 0.49 & 57.1 & 32.8 & 51.47 & 10020 \\ \hline BM-3 & 1.5 & 2.2 & 4.928 & 1.594 & 3.746 & 67.8 & 0.73 & 0.49 & 57.1 & 32.8 & 51.47 & 1006 \\ \hline BM-3 & 1.5 & 2.2 & 4.928 & 1.594 & 3.746 & 64.8 & 0.73 & 0.49 & 57.2 & 32.5 & 50.9 & 1$														3.61	
$ \begin{array}{c} 2 \mbox{ CM-8} & 1.5 & 2.2 & 5.07 & 2.62 & 3.287 & 51.6 & 0.73 & 0.49 & 41.5 & 26.9 & 44.47 & 87.2 \\ \mbox{ CM-9} & 1.5 & 2.2 & 5.302 & 2.55 & 3.182 & 48.5 & 0.73 & 0.49 & 38.7 & 25.8 & 43.09 & 844 \\ \mbox{ DM-10} & 1.5 & 2.2 & 4.844 & 2.084 & 3.16 & 47.6 & 0.73 & 0.49 & 38 & 25.5 & 42.8 & 338 \\ \mbox{ DM-6} & 1.5 & 2.2 & 4.844 & 2.084 & 3.16 & 47.8 & 0.73 & 0.49 & 17.6 & 16.1 & 29.98 & 561 \\ \mbox{ DM-7} & 1.5 & 2.2 & 5.17 & 2.655 & 2.805 & 40.8 & 0.73 & 0.49 & 31.7 & 22.3 & 34.3 & 770 \\ \mbox{ DM-8} & 1.5 & 2.2 & 5.119 & 2.519 & 3 & 43.4 & 0.73 & 0.49 & 34.1 & 23.8 & 40.68 & 795 \\ \mbox{ DM-7} & 1.5 & 2.2 & 5.019 & 2.739 & 2.68 & 35.2 & 0.73 & 0.49 & 25.4 & 20 & 35.62 & 694 \\ \mbox{ DM-4} & 1.5 & 2.2 & 5.33 & 3.114 & 2.618 & 33.7 & 0.73 & 0.49 & 25.4 & 20 & 35.62 & 694 \\ \mbox{ EM-4-1} & 1.5 & 2.2 & 5.33 & 3.306 & 2.424 & 29.5 & 0.13 & 0.49 & 25.4 & 20 & 35.62 & 694 \\ \mbox{ EM-5-1} & 1.5 & 2.2 & 5.22 & 3.001 & 2.619 & 33.8 & 0.73 & 0.49 & 25.5 & 20 & 35.66 & 695 \\ \mbox{ EM-5-1} & 1.5 & 2.2 & 5.22 & 3.001 & 2.619 & 33.8 & 0.73 & 0.49 & 25.5 & 20 & 35.66 & 695 \\ \mbox{ EM-5-1} & 1.5 & 2.2 & 5.22 & 3.001 & 2.619 & 33.8 & 0.73 & 0.49 & 25.5 & 20 & 35.66 & 695 \\ \mbox{ EM-6} & 1.5 & 2.2 & 5.32 & 3.012 & 2.692 & 3.6.67 & 0.73 & 0.49 & 25.5 & 20 & 35.66 & 695 \\ \mbox{ Total } & 1.110 & 17.6 & 11.8 & 880 & 600 & 1.000 \\ \mbox{ Ing cover} & 1.1110 & 17.6 & 11.8 & 880 & 600 & 1.000 \\ \mbox{ Ing cover} & 1.15 & 2.2 & 5.32 & 2.283 & 3.452 & 56.7 & 0.73 & 0.49 & 45.3 & 28.4 & 46.52 & 908 \\ \mbox{ AM-6} & 1.5 & 2.2 & 6.132 & 2.109 & 3.452 & 50.7 & 0.73 & 0.49 & 45.3 & 28.4 & 46.52 & 908 \\ \mbox{ AM-6} & 1.5 & 2.2 & 5.32 & 2.189 & 3.662 & 0.73 & 0.49 & 45.1 & 28.8 & 46.65 & 915 \\ \mbox{ AM-6} & 1.5 & 2.2 & 5.32 & 2.189 & 3.662 & 0.73 & 0.49 & 56.3 & 32.7 & 51.9 & 1006 \\ \mbox{ BM-7} & 1.5 & 2.2 & 5.32 & 1.828 & 3.642 & 0.73 & 0.49 & 56.7 & 33.4 & 51.92 & 1021 \\ \mbox{ BM-2} & 1.5 & 2.2 & 5.32 & 1.892 & 3.74 & 67.8 & 0.73 & 0.49 & 56.7 & 33.4 & 51.92 & 1021 \\ \mbox{ BM-2} & 1.5 & 2.2 & 5.32 & 1.892 & 3.746 & 67.8 &$														3.54	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$														3.75	
DM-10 15 2.2 4.844 2.084 3.16 4.7.8 0.73 0.49 3.8 25.5 42.8 838 DM-6. 1.5 2.2 4.025 2.836 2.189 24.7 0.73 0.49 17.6 16.1 29.39 43.4 DM-7 1.5 2.2 5.119 2.619 3 43.4 0.73 0.49 34.1 23.8 40.68 795 DM-8 1.5 2.2 5.319 2.618 33.7 0.73 0.49 25.4 20.8 35.62 694 EM-4 1.5 2.2 5.33 3.306 2.424 29.5 0.73 0.49 25.4 20 35.52 694 EM-5 1.5 2.2 5.22 3.001 2.619 34.8 0.73 0.49 25.5 20 35.66 695 EM-5 1.5 2.2 5.22 3.011 2.809 3.26 0.73 0.49 25.6														3.64	
DM-6. 1.5 2.2 4.825 2.836 2.185 24.7 0.73 0.49 1.6 16.1 29.88 5811 DM-7 1.5 2.2 5.17 2.865 2.905 40.8 0.73 0.49 31.7 22.9 39.43 770 DM-9 1.5 2.2 5.119 2.514 2.618 35.2 0.73 0.49 34.1 23.8 40.68 795 DM-9 1.5 2.2 5.33 3.314 2.618 33.7 0.73 0.49 25.4 20 35.62 694 EM-4-1 1.5 2.2 5.33 3.306 2.424 29.5 0.73 0.49 25.9 20.2 35.65 700 EM-5 1.5 2.2 5.22 3.011 2.609 33.6 0.73 0.49 25.5 20 35.66 695 EM-5 1.5 2.2 5.322 2.801 33.89 0.73 0.49 25.6														3.62	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $												29,98	581	2.66	
DM-9 1.5 2.2 5.019 2.739 2.68 35.2 0.73 0.49 25.7 20.6 38.46 711 EM-4 1.5 2.2 5.33 3.114 2.616 33.7 0.73 0.49 25.4 20 35.62 694 EM-4-1 1.5 2.2 5.22 2.979 2.641 34.3 0.73 0.49 25.5 20.2 35.95 700 EM-5-1 1.5 2.2 5.22 3.011 2.603 38.6 0.73 0.49 25.5 20.2 35.95 700 EM-5-1 1.5 2.2 5.22 3.011 2.603 38.6 0.73 0.49 25.5 19.9 35.52 692 EM-5 1.5 2.2 4.89 2.663 2.821 33.9 0.73 0.49 25.8 20.1 35.68 695 Total 1 1.10 17.6 11.8 860 600 10000 19.600	DM-7		2,2		2.865	2,905	40,8	0.73	0.49	31.7	22.9	39.43	770	3.37	
EM-4 1.5 2.2 5.33 3.114 2.616 33.7 0.73 0.49 25.4 20 35.62 694 EM-4-1 1.5 2.2 5.33 3.306 2.424 29.5 0.73 0.49 25.4 20.308 643 EM-5 1.5 2.2 5.22 3.001 2.619 33.8 0.73 0.49 25.5 20 35.96 695 EM-5-1 1.5 2.2 5.22 3.011 2.609 33.6 0.73 0.49 25.5 20 35.66 695 EM-6 1.5 2.2 4.89 2.669 2.621 33.9 0.73 0.49 25.6 201 35.66 695 Ing cover 1.110 17.6 11.8 880 600 1.000 19.600 Ing cover 1.5 2.2 5.332 2.28 3.452 56.7 0.73 0.49 45.3 2.64 46.27 906 AM-4						3								3.46	
EM-4-1 1.5 2.2 5.33 3.306 2.424 29.5 0.73 0.49 21.7 18.2 33.08 643 EM-5 1.5 2.2 5.22 2.979 2.641 34.3 0.73 0.49 25.9 20.2 35.65 700 EM-5-1 1.5 2.2 5.22 3.011 2.609 33.8 0.73 0.49 25.5 20.35.66 895 EM-6 1.5 2.2 5.22 3.011 2.609 33.6 0.73 0.49 25.6 20.1 35.68 695 Total 1,110 17.6 11.8 880 600 1.000 19,600 ting cover 1,110 17.6 11.8 880 600 1.000 19,600 AM-6 1.5 2.2 5.332 2.28 3.452 56.7 0.73 0.49 46.1 28.8 46.65 915 AM-6 1.5 2.2 5.332 1.843 3.														3.14	
LM-5 1.5 2.2 5.22 2.9/3 2.641 34.3 0.73 0.49 25.5 20.2 33.56 100 EM-5-1 1.5 2.2 5.22 3.011 2.609 33.6 0.73 0.49 25.5 20 35.66 695 EM-6 1.5 2.2 5.22 3.011 2.609 33.6 0.73 0.49 25.5 20 35.66 695 EM-6 1.5 2.2 4.89 2.663 2.821 33.9 0.73 0.49 25.6 20.1 35.66 695 Total 1,110 17.6 11.8 880 600 1.000 19.600 Ling cover 1 1,110 17.6 11.8 880 600 1.000 19.600 Img cover 1.5 2.2 5.332 2.103 3.423 65.8 0.73 0.49 45.1 28.4 46.55 915 AM-6 1.5 2.2 5.332 1.821 3.861 70.4 0.73 0.49 45.1 28.9 10.01 <td>EM-4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>3.08</td>	EM-4													3.08	
EM-5 1.5 2.2 5.22 2.5/19 2.641 34.3 0.13 0.49 25.5 20.2 33.56 100 EM-5-1 1.5 2.2 5.22 3.01 2.609 33.6 0.73 0.49 25.5 20 35.66 695 EM-6 1.5 2.2 5.22 3.011 2.609 33.6 0.73 0.49 25.5 20 35.66 695 EM-6 1.5 2.2 4.89 2.663 2.821 33.9 0.73 0.49 25.6 20.1 35.68 695 Total 1,110 17.6 11.8 880 600 1.000 19.600 ting cover	10M-4-1													2.89	
EM-5-2 1.5 2.2 3.21 2.609 33.6 0.73 0.49 25.3 19.9 35.52 692 EM-6 1.5 2.2 4.89 2.663 2.621 33.9 0.73 0.49 25.6 20.1 35.68 695 Total 1.110 17.6 11.8 880 600 1.000 19.600 Ing cover 1.110 17.6 11.8 880 600 1.000 19.600 AM-4 1.5 2.2 5.332 2.28 3.452 56.7 0.73 0.49 46.1 28.8 46.65 915 AM-5 1.5 2.2 6.132 2.103 3.423 65.8 0.73 0.49 45.3 28.4 46.27 908 AM-6 1.5 2.2 5.332 1.881 3.851 70.4 0.73 0.49 58.7 33.4 51.92 1021 BM-7 1.5 2.2 5.332 1.929 3.803<														<u>3.11</u> 3.08	
EM-8 1.5 2.2 4.89 2.669 2.621 33.9 0.73 0.49 25.8 20.1 35.68 695 Total 1,110 17.6 11.8 860 600 1,000 19,600 AM-4 1.5 2.2 5.332 2.28 3.452 56.7 0.73 0.49 46.1 28.8 46.65 915 AM-4 1.5 2.2 6.132 2.103 3.423 55.8 0.73 0.49 46.1 28.8 46.65 915 AM-6 1.5 2.2 6.132 2.103 3.423 65.8 0.73 0.49 45.3 28.1 45.83 900 BM-1 1.5 2.2 5.332 1.929 3.804 61.73 0.49 57.1 32.8 1.52 1021 BM-2 1.5 2.2 5.132 1.71 3.822 69.3 0.73 0.49 56.2 32.5 50.9 1001 BM-2														3,08	
Total 1,110 17.6 11.8 880 600 1.000 19,600 Ing cover AM-4 1.5 2.2 5.332 2.28 3.452 56.7 0.73 0.49 46.1 28.8 46.65 915 AM-5 1.5 2.2 5.332 2.103 3.423 56.6 0.73 0.49 46.1 28.8 46.67 908 AM-6 1.5 2.2 5.332 1.881 3.894 54.9 0.73 0.49 45.3 28.4 46.27 908 BM-1 1.5 2.2 5.332 1.881 3.851 70.4 0.73 0.49 58.7 33.4 51.92 1021 BM-1 1.5 2.2 5.132 1.73 822 89.3 0.73 0.49 57.1 32.8 51.28 1008 BM-2-1 1.5 2.2 5.132 1.758 3.774 67.6 0.73 0.49 56.2 32.2 50.53 90														3.09	
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AM-7 1.5 2.2 4.711 0.993 4.118 93.4 1.09 0.73 68.2 41.7 73.89 1504 BM-5 1.5 2.2 4.711 0.993 4.118 93.4 1.09 0.73 68.2 41.7 73.89 1504 BM-5 1.5 2.2 4.711 0.993 4.118 93.4 1.09 0.73 68.2 41.7 73.89 1504 CM-13 1.5 2.2 4.711 0.993 4.118 93.4 1.09 0.73 68.2 41.7 73.89 1504	Total	<u> </u>			·········.		730	8.8	5.9	600	360	576	11,300	49	
AM-7 1.5 2.2 4.711 0.993 4.118 93.4 1.09 0.73 68.2 41.7 73.89 1504 BM-5 1.5 2.2 4.711 0.993 4.118 93.4 1.09 0.73 68.2 41.7 73.89 1504 BM-5 1.5 2.2 4.711 0.993 4.118 93.4 1.09 0.73 68.2 41.7 73.89 1504 CM-13 1.5 2.2 4.711 0.993 4.118 93.4 1.09 0.73 68.2 41.7 73.89 1504	oil sensenter!	·		-		<u>لہ</u> ۱				<u> </u>	ل <u>ہ</u> ۔۔۔۔۔ ۱	لہ ۔ ۔ ا	رر ۱		
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	10M-11	1.5	2,2	4.711	0.993	4.118	93,4	1.09	0.73	68.2	41.7	73.89	1504	9,30	
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1 AM-1	(m) 1.2	(m) 1.9	(m) 6.522	(m) 2,444	(m) 3.478	(m3) 49.6	(m3) 0.55	(in3) 0.37	<u>(m3)</u> 42,4	(m2) 26.7	(m2) 38.47	(kg) 846	(m3) 3.16
2 CM-1	1.2	1.9	5.562	3,399	2.563	27.4	0,55	0.37	21.9	17.7	28.59	623	2,42
3 CM-2	1.2	1.9	5,537	3.343	2.594	28	0,55	0.37	22,4	18	28.92	831	2,44
4 CM-3	1.2	1.9	5.437	3.303	2.534	26.8	0.55	0.37	21,3	17.5	28.27	616	2.4
5 CM-4 6 CM-4-1	1.2	<u>1.9</u> 1.9	<u>5,437</u> 5,537	<u>3,229</u> 3,269	2.608 2.668	28.3 29.5	0.55	0.37	22.7	<u>18,1</u> 18,7	29.07 29.72	<u>634</u> 649	2.45 2.5
7 CM-5	1.2	1,9	5,637	3.189	2.848	33.4	0.55 0,55	0.37	27.3	20.3	31.66	693	2.65
8 CM-5 1	1.2	1.9	5,637	3,205	2.832	33.1	0.55	0.37	27.1	20,2	31.49	689	2,64
9 CM-6	1,2	1.9	5.637	3,055	2.982	38,5	0,55	0.37	30,2	21.6	33.11	725	2.76
10 CM-7	1,2	1.9	5.857	2,691	3.566	52.2	0.55	0.37	44.8	27.7	39.42	867	3.23
11 CM8-1	1.2	1.9	5.507	2.755	3,152	40.7	0.55	0.37	34.1	23,3.	34.95	766	2.9
12 CM8-1-1 13 CM-8-2	1.2	<u>1.9</u> 1.9	5.592 5.507	<u>2.819</u> 2,795	3.173	41.3	0.55	0.37	<u>34.8</u> 33.2	23,5 22,9	35.17 34.51	<u>772</u> 757	2.91
14 CM-8-2-1	1.2	1.9	5.602	2,821	3,181	41.5	0.55	0,37	34.8	23.6	35.26	773	2.92
15 CM-8-3	1.2	1.9	5.507	2.258	3,649	54.7	0.55	0.37	47.2	28.6	40.31	887	3.3
16 CM-8-4	1.2	1,9	5.507	2,895	3,012	37.3	0.55	0.37	30.9	21.9	33,43	732	2.78
17 DM-1	1.2	1.9	6,25	4.797	1.853	15.4	0.55	0.37	11.2	11.9	20,92	451	1.84
18 DM-2 19 DM-3	1.2	<u>1.9</u> 1.9	<u> </u>	3.147	2,753	31.3	0.55	0.37	25.4	19.5	30.64	669	2.57
20 DM-4	1.2	1.9	<u>5.2</u> 5,34	<u>3.045</u> 3.125	2.555 2.615	27.2	0.55	0.37	21.7	17.6 18.2	28,5 29,15	<u>621</u> 636	2.41
21 DM-4-1	1.2	1.9	5.34	3.047	2.693	30,1	0.55	0.37	24.3	18,9	29.99	655	2.52
22 DM-5	1.2	1.9	5.34	2.865	2.875	34,1	0.55	0.37	28	20,6	31.95	699	2.67
23 DM-5-1	1.2	1.9	5.34	2.887	2,853	33.6	0,55	0.37	27,5	20.4	31.72	694	2.65
24 DM-7-1	1.2	1.9	517	2.683	2,887	34.3	0,55	0.37	28,2	20,7	32.08	702	2.68
25 DM-8-1 28 DM-9-1	<u>1.2</u> 1.2	1.9	4.625	2.7	2,325	22.9	0.55	0.37	17.8	<u>15.7</u> 20.5	26.01	565	2,23
26 DM-9-1 27 DM-9-2	1.2	1.9	5.01	2.540	2.864	<u></u>	0.55	0.37	27.7	20.5	<u>31.84</u> 31.64	<u>696</u> 692	2.66
28 EM-1	1.2	1.9	8.06	3.897	2.563	27.4	0.55	0.37	21.9	17.7	28.59	623	2.42
29 EM-2	1,2	1.9	5.97	3.799	2.571	27.6	0.55	0.37	22	17.8	28.87	625	2.43
30 EM-2-1	1.2	1.9	5.97	3.808	2,562	27.4	0.55	0.37	21.9	17.7	28.57	623	2.42
31 EM-3 32 EM-4-2	1.2	1.9	5,59	3.39	2,6	28.1	0.55	0.37	22.5	18	28,98	632	2.45
32 EM-4-2 33 EM-4-3	1.2	1.9	<u>5.43</u> 6.14	<u>3,972</u> 4.687	1.858	<u>15.5</u> 15.4	0.55	0.37	11.2	<u>11.9</u> 11.9	20.97 20.92	452 451	1.85 1.84
34 EM-4-4	1.2	1.9	6.25	4.797	1.853	15.4	0.55	0.37	11.2	11.9	20.92	451	1.84
Total						1,090	18,7	12.6	883	662	1,040	22,600	87.0
oncrete cover													
1 AM-2 2 AM-3	1.5 1.5	2.2	5.522 5.332	2,406	3.516	58.8	0.73	0.49	48.1	29.5	47.5	932 903	3,97
3 AM-5-1	1.5	2.2	5,132	2,328 2.158	3.404 3.374	<u>55.2</u> 54.2	0,73	0.49	<u>44.8</u> 43.8	28.2 27.9	46.02 45.62	895	3.86 3.83
4 AM-6-1	1.5	2.2	4.928	1.982	3,346	53.4	0.73	0.49	43.1	27.6	45.25	887	3.8
5 AM-8-2	1.5	_ 2,2	4.928	2.007	3.321	52.6	0.73	0.49	42.4	27.3	44.92	881	3.78
6 AM-7-1	1.5	2.2	4.711	1.797	3.314	52.4	0,73	0.49	42,2	27.2	44.83	879	3.77
7 BM-4 8 BM-5-1	1.5 1.5	2.2	4.711	1.395	3.716 3.738	65.5	0.73	0.49	54.2	31.8	50.14	985	4.17
9 CM-11-1	1.5	2.2	5,132	2.379	3,153	<u> </u>	0.73	0.49	55 37.8	32.1 25.5	50.43 42.7	<u>991</u> 836	3.61
0 CM-12-1	1.5	2.2	4,928	2.247	3.081	45.6	0.73	0,49	36	24.7	41.75	817	3.54
11 CM-13-1	1,5	2.2	4.711	1.44	3.671	64	0.73	0.49	52.8	31.3	49.54	973	4.13
12 CM-8	1.5	2.2	5.507	2.62	3.287	51.6	0.73	0.49	41.5	26.9	44.47	872	3.75
13 CM-9 14 DM-10	1.5	2.2	5.332	2.55	3,182	48.5	0.73	0.49	38.7	25.8	43.09	844	3.84
4 DM-10 5 DM-6	1.5 1.5	2.2	4.844	2,084	3.16 2.189	47.8	0.73	0.49	38	25.5 16.1	42.8 29.98	<u>838</u> 581	3.62
6 DM-7	1.5	2.2	5.17	2.665	2,905	40.8	0.73	0.49	31.7	22.9	39.43	770	3.37
7 DM-8	1.5	2.2	5.119	2.519	3	43.4	0.73	0.49	34.1	23.8	40.68	795	3.46
18 DM-9	1.5	2,2	5.019	2,739	2.68	35.2	0.73	0.49	26.7	20,6	36.46	711	3,14
9 EM-4 0 EM-4-1	<u>1.5</u> 1.5	2,2	5.33	3,114	2.616	33.7	0.73	0.49	25.4	20	35,62	694	- 3.08
20 EM-4-1 21 EM-5	1.5	2.2	<u>5.33</u> 5.22	3.306	2.424	29,5 34.3	0,73	0.49	21.7	18.2 20.2	<u>33.08</u> 35.95	643 700	2.89
2 EM-5-1	1.5	2.2	5.22	3.001	2,619	33.8	0.73	0.49	25.5	20.2	35.66	695	3,08
23 EM-5-2	1.5	2.2	5.22	3,011	2.609	33.6	0.73	0.49	25,3	19.9	35.52	692	3.07
24 EM-6	1.5	2.2	4.89	2,669	2,621	33.9	0.73	0.49	25.8	20.1	35.68	695	3.09
Totał						1,110	17.6	11.8	880	600	1,000	19,600	85
ating cover													
1 AM-4	1.5	2.2	5.332	2.28	3,452	56.7	0.73	0,49	46.1	28.8	46.65	915	3.91
2 AM-5	1.5	2.2	5.132	2,109	3.423	55.8	0.73	0.49	45.3	28.4	46.27	908	3,88
3 AM-6	1.5	2.2	4.928	1,934	3.394	54.9	0.73	0.49	44.5	28.1	45.89	900	3.85
4 BM-1	1.5	2.2	5.332	1.881	3.851	70.4	0.73	0.49	58.7	33.4	51.92	1021	4.3
5 BM-1-1 6 BM-2	<u>1.5</u> 1.5	2.2	<u>5.332</u> 5.132	1.929	3.803 3.822	68,6	0.73	0.49	<u>57.1</u> 57.7	32.8 33.1	<u>51,28</u> 51,54	1008	4.26
7 BM-2-1	1.5	2,2	5,132	1.758	3.774	67.6	0.73	0.49	56.2	32.5	50.9	1013	4.27
3 BM-3	1.5	2.2	4.928	1.534	3.794	68.3	0.73	0.49	56.8	32.7	51.17	1006	4.25
9 BM-3-1	1.5	2.2	4,928	1.582	3.746	66.6	0.73	0.49	55.2	32.2	50.53	993	4.2
0 CM-10	1.5	2.2	5.332	2.502	3.23	49.9	0.73	0.49	39.9	26,3	43.72	856	
11 CM-11 12 CM-12	1.5	2,2	<u>5.132</u> 4.928	2,331 2,199	3.201 3.129	49 46.9	0.73	0.49	<u>39,1</u> 37,2	26	<u>43.34</u> 42.39	<u>849</u> 830	
	1,0			2,132	0.125								
Total			<u>.</u>			730	8.8	5.9	600	360	576	11,300	49
o oil separator					1			-		ا ا	· · ·		/
1 AM-7	1.5	2.2	4.711	0.993	4.118	93,4	1.09	0.73	68.2	41.7	73.89	1504	9.30
2 BM-5	1.5	2.2	4.711	0.993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	
3 CM-13	1.5	2.2	4,711	0.993	4.118	93.4	1,09	0.73	68.2	41.7	73.89	1504	9.30
4 DM-11	1.5	2.2	4.711	0.993	4.118	93,4	1,09	0.73	68.2	41.7	73.89	1504	9.30
Total	<u> </u>					380	4.4	3.0	273	167	296	6,020	38
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Manhole_集計

NIPPON KOEI CO., LTD.

QUANTITY CALCULATION COVER SHEET Detailed Design on Port Reactivation Project Project Project Code JC1N004/2N001 in La Union Province Work Section Title Manhole 1500 mm concrete Pay Item No. (BOQ) 2H-090603 Quantity Item Form for concrete cover Unit m^2 Calculation Procedure Applied Area of form for concrete cover was computed by unit area by the number. References, Calculation Base and Revisions See the item of excavation and disposal of 1500 mm. (2H-0901) Prepared No. of Checked Reviewed Superseded Rev by Date Pages by Date by Date by Calc No. halla Gora . 0 Mr. Jourg Mr. Ando 1 2 3

FN : Calculation_Cover_Sheet_020504_seg cover

Project Detailed Design on Port Reactivation Project in La Union Calc. File No. Section Manhole 1500mm concrete cover Calc. Index No. Subject Form for concrete Page No. cover Rev. ţ ì References/ 1 ; i ł í ł ł Notes Ł ÷ Ŋ 8 ł 6 4 ÷ 1 1 : 0.15 58 2 t × È kβ Х İ 10,49 m botto н 1 8.Bw 2 \$12 171 01 ⋬ í 1 45 8 В X 2 <u>A</u> \cap b Ū 0 70 जा/ 4 ł 1 1 ÷ ì. i í. Т Ť. i ł ļ 1 ł İ. ţ i i 1 1 ł ÷ ł. 1 4 1 ï ł Prepared by Checked by 1 /200 I /200

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INIPPON KOEI CO., LTD.

INIPPON KOEI CO., LTD.

	QUANTITY C	CALCULATION C	OVER SHEET	
Project		ort Reactivation Project on Province	Project Code	JC1N004/2N001
Work Section Title	Manhole 1	500mm concrete	Pay Item No. (BOQ)	2H-090604
Quantity Item	Reinforcement	for concrete	Unit	kg_
Calculation Procedu		1 Cover		
Weight	of reinforcem	ent was compl	ited by multi	plying
unit weig	ght by the le	ngth.		
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See th	le item of	excavation a	nd disposal	51
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Rev Prepare	· · · · · · · · · · · · · · · · · · ·	Checked	Reviewed	Superseded
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O Kaila García	x	Hr. Jnuma	Mr. Ando	
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No.	D	L (m)	Qty	W/bar (kg)	W (kg)	Remarks
Manhole co	ver (1500t	ype)				
Al	D13	1.40	5	1.393	6.97	
A2	D13	0.40	8	0.398	3.18	
				total	10.15	1580x520x100
	· · · .			total/spot	30.45	
						-,
L50x50x6		7.20		·	31.9	per spot
Re-bar	D9	0.10	24	0.05	1.2	per spot
		· ·		·	,	
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Manhole co				· · · · · · · · · · · · · · · · · · ·		
A1	D13	1.20	4	1.194	4.78	
A2	D13	0.30	7	0.2985	2.09	
·	· · · · · · · · · · · · · · · · · · ·					
·			· .	total	6.87	1280x425x100
				total/spot	20.61	
· · ·						-
L50x50x6		6.00			26.6	per spot
Re-bar	D9	0.10	20	0.05	1.0	per spot
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TABLE OF REINFORCEMENT (MANHOLE COVER)

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IPPON KOEI CO., LTD.

QUANTITY CALCULATION COVER SHEET Detailed Design on Port Reactivation Project Project Project Code JC1N004/2N001 in La Union Province Manhole 1500mm coverete Work Section Title Pay Item No. (BOQ) 2H-090605 Quantity Item Concrete for concrete envor Unit Calculation Procedure Applied Concrete volume for concrete cover was computed by multiplying unit volume by the number. References. Calculation Base and Revisions See the item of examption and disposal of (2H- 0901) 1500 mm. Prepared No. of Checked Reviewed Rev Superseded bγ Date Pages by Date þγ Date by Calc No. horig Goria 0 Hr. Jnuma Hr. Ando 1 2 3

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Project		ort Reactivation Project	Project Code	JC1N004/21	V 001
Work Section Title	Manhole 15	olinim concrete	Pay Item No. (BOC	2) 2H-0907	01
Quantity Item	Bockfill san		Unit	m ³	
Calculation Procedu	re Applied				
Volume	of backfills	and was com	puted by de	duction of	
crushed s	stone, lean e	ioncrete and	manhole fr	om the exca	<i>sti</i>
volume.			ſ	,	
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Project	Detailed Design on Po	rt Reactivation Pr	oject in La Union	Calc. File No.	
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AM-1		1.2	1.9	5.522	2.444	3.478	49.6	0.55	0.37	42.4	26.7	38.47	846	3.
2 CM-1		1.2	1.9	5.562	3.399	2.563	27.4	0.55	0.37	21.9	17.7	28,69	B23	2.
3 CM-2		1.2	1.9	5.537	3,343	2.594	28	0.55	0.37	22,4	18	28.92	631	2.
1 <u>CM-3</u>		1.2	1.9	5,437	3.303	2,534	26.8	0.55	0.37	21.3	17.5	28.27	616	
5 CM-4		1.2	1.9	5.437	3.229	2.608	28.3	0.55	0.37	22.7	18.1	29.07	634	2,
) CM-4-1		1,2	1.9	5.537	3.269	2.668	29.5	0.55	0.37	23.8	18.7	29.72	649	2
1 CM-5		1.2	1.9	5,637	3.189	2.848	33,4	0.55	0.37	27.3	20.3	31.66	693	2,
CM-5-1		1.2	1.9	5.637	3,205	2.832	33,1	0,55	0,37	27.1	20.2	31.49	689	2.
) CM-6		1.2	1.9	5.637	3,055	2.982	36.5	0,55	0.37	30.2	21.6	33.11	725	2
0 CM-7		1.2	1.9	5.857	2.691	3.566	52.2	0.55	0.37	44.8	27.7	39.42	887	3.
I CM8-1		1,2	1.9	5.507	2.755	3.152	40,7	0.55	0.37	34.1	23.3	34.95	766	
2 CM8-1-	-1	1.2	1.9	5,592	2.819	3.173	41.3	0.55	0.37	34.6	23.5	35.17	772	2.
3 CM-8-2		1.2	1.9	5.507	2.795	3,112	39,7	0.55	0.37	33,2	22.9	34.51	757	2.
4 CM-8-2		1.2	1.9	5.602	2.821	3,181	41.5	0.55	0.37	34.8	23.6	35.26	773	2.
5 CM-8-3		1.2	1.9	5,507	2.258	3.649	54.7	0.55	0.37	47.2	28.6	40.31	887	
6 CM-8-4		1.2	1.9	5,507	2.895	3,012	37.3	0.55	0.37	30.9	21.9	33.43	732	2
/ DM-1		1.2	1,9	6.25	4.797	1,853	15.4	0.55	0.37	11.2	11.9	20,92	451	1
3 DM-2		1.2	1.9	5.5	3.147	2.753	31.3	0.55	0.37	25.4	19,5	30,64	669	2,
DM-3		1.2	1.9	5.2	3.045	2.555	27.2	0.55	0.37	21.7	17.6	28,5	621	2
DM-4		1.2	1.9	5.34	3.125	2.615	28.4	0.55	0.37	22,8	18.2	29,15	636	2
1 DM-4-1		1.2	1.9	5.34	3.047	2,693	30.1	0.55	0.37	24.3	18.9	29,99	655	2.
2 DM-5		1.2	1.9	5.34	2,865	2,875	34.1	0.55	0.37	28	20.6	31.95	699	2
		1.2								27,5	20.4	31.72	694	
B DM-5-1		1.2	1.9	5.34	2,887	2.853	33.6 34.3	0.55	0,37	28.2	20.7	32.08	702	- 2.
5 DM-8-1		1.2	1.9	5,17		2,887		0.55		17.8		26.01	565	
				4,625	2,7		22.9		0.37		15.7	31.84	696	2
3 DM-9-1 7 DM-9-2		1.2	1.9	5,01	2,546	2,864	33.8	0.55	0.37	27.7	20.5			2
		1.2	1.9	5.01	2.564	2.846	33.4	0.55	0.37	27.3	20,3	31.64	692	2
B EM-1		1.2	1.9	6.06	3.897	2.563	27.4	0.55	0.37	21.9	<u>17.7</u>	28.59	623	2.
EM-2		1.2	1.9	5,97	3.799	2,571	27.6	0.55	0.37	22	17.8	28.67	625	2
EM-2-1		1.2	1.9	5.97	3.808	2.562	27.4	0.55	0.37	21.9	17.7	28.57	623	2.
EM-3		1.2	1.9	5,59	3.39	2.6	28,1	0.55	0.37	22.5	18	28,98	632	. 2
EM-4-2		1.2	1.9	5.43	3.972	1.858	15.5	0,55	0.37	11.2	11.9	20.97	452	1.
3 EM-4-3		1.2	1.9	6,14	4.687	1.853	15,4	0.55	0.37	11.2	11.9	20.92	451	!
1 EM-4-4	L.	1.2	1.9	6.25	4.797	1.853	15.4	0.55	0.37	11.2	11.9	20.92	451	1.
Total	+			<u> </u>			1,090	18.7	12.6	883	662	1,040	22,600	8
ncrete cov														
AM-2		1.5	2.2	5.522	2.406	3.516	58.8	0.73	0.49	48.1	29.5	47.5	932	3.
AM-3		1.5	2.2	5.332	2,328	3.404	55.2	0,73	0.49	44.8	28.2	46.02	903	3.
AM-5-1		1.5	2,2	5.132	2.158	3.374	54,2	0.73	0,49	43.8	27.9	45.62	895	<u>Э</u> .
AM-6-1		1.5	2.2	4.928	1.982	3.346	53.4	0,73	0.49	43,1	27.6	45,25	887	
AM-8-2		1.5	2.2	4.928	2.007	3.321	52.6	0.73	0.49	42.4	27.3	44.92	881	3
AM-7-1		1.5	2.2	4.711	1.797	3,314	52.4	0.73	0.49	42.2	27.2	44.83	879	3
BM-4		1.5	2,2	4.711	1.395	3.716	65.5	0.73	0.49	54.2	31.8	50.14	985	4.
BM-5-1		1.5	2.2	4.711	1.373	3.738	66.3	0.73	0.49	55	32.1	50.43	991	4
CM-11-		1,5	2.2	5.132	2,379	3,153	47.6	0.73	0.49	37.8	25.5	42.7	836	3
) CM-12-		1.5	2.2	4.928	2.247	3.081	45.6	0.73	0.49	36	24.7	41.75	817	3
CM-13-		1.5	2.2	4.711	1.44	3.671	64	0.73	0.49	52.8	31.3	49.54	973	4.
2 CM-8		1.5	2.2	5.507	2.62	3.287	51.6	0,73	0.49	41.5	26,9	44.47	872	3,
CM-9		1.5	2.2	5.332	2,55	3.182	48.5	0.73	0.49	38,7	25.8	43.09	844	3.
DM-10		1.5	2.2	4.844	2.084	3.16	47.8	0.73	0.49	38	25.5	42,8	838	3.
DM-6		1.5	2,2	4.625	2.836	2.189	24.7	0.73	0.49	17.6	16,1	29.98	581	2.
DM-7		1.5	2,2	5.17	2.865	2,905	40.8	0.73	0.49	31.7	22,9	39,43	770	3.
DM-8		1.5	2.2	5.119	2.519	3	43.4	0.73	0.49	34.1	23.8	40,68	795	3.
DM-9		1.5	2.2	5.019	2,739	2.68	35.2	0.73	0.49	26.7	20.6	36,46	711	3.
EM-4		1.5	2.2	5,33	3.114	2.616	33.7	0.73	0.49	25.4	20	35.62	694	. 3,
EM-4-1		1.5	2,2	5.33	3,306	2.424	29.5	0.73	0,49	21.7	18.2	33,08	643	2.
EM-5		1.5	2.2	5.22	2.979	2.641	34.3	0.73	0.49	25.9	20.2	35.95	700	3.
EM-5-1		1.5	2,2	5.22	3.001	2.619	33.8	0.73	0.49	25,5	20	35.66	695	3
EM-5-2		1.5	2.2	5.22	3.011	2.609	33.6	0.73	0.49	25.3	19.9	35.52	692	3.
EM-6		1.5	2.2	4.89	2.669	2.621	33.9	0.73	0.49	25.6	20.1	35,68	695	3
Total							1,110	17.6	11.8	880	800	1,000	19,600	
ting cover		1.5	2.2	5.332	2.28	3,452	56.7	0.73	0.49	46.1	28.8	46.65	915	3.
AM-5		1.5	2.2	5,132	2.109	3.423	55.8	0.73	0.49	45.3	28.4	46.27	908	<u> </u>
AM-6		1.5	2.2	4.928	1.934	3.394	54.9	0.73	0.49	44.5	28.1	45.89	900	3
BM-1-1		1.5	2.2	5.332	1.881	3.851	70.4	0.73	0.49	58.7	33.4	51.92	1021	
		1.5	2.2	5.332	1.929	3.803	68.6	0.73	0.49	57.1	32.8	51.28	1008	4
BM-2		1.5	2.2	5.132	1.71	3.822	69.3	0.73	0.49	57.7	33.1	51.54	1013	4
BM-2-1		1.5	2.2	5,132	1.758	3.774	67.6	0.73	0.49	56.2	32.5	50.9	1001	4
BM-3		1,5	2.2	4.928	1.534	3.794	68.3	0.73	0.49	56.8	32.7	61.17	1006	4.
BM-3-1		1.5	2.2	4,928	1.582	3.746	66.6	0.73	0.49	55.2	32.2	50.53	993	
CM-10		1.5	2.2	5.332	2.502	3.23	49.9	0,73	0.49	39.9	26.3	43.72	856	3
CM-11		1.5	2.2	5.132	2.331	3.201	49	0.73	0.49	39.1	26	43.34	849	3
CM-12		1.5	2.2	4.928	2.199	3.129	46.9	0.73	0.49	37.2	25.2	42.39	830	3.
Tota!							730	8.8	5.9	600	360	576	11,300	
oil separat					/									
AM-7		1.5	2.2	4.711	0.993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9.
BM-5		1.5	2.2	4.711	0.993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9
CM-13		1.5	2.2	4.711	0,993	4.118	93.4	1.09	0.73	68,2	41.7	73.89	1504	9
DM-11		1.5	2,2	4.711	0.993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9
												, 2,40		
Total	1	•					380	4.4	3.0	273	167	296	6,020	
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Manhole,集計

IPPON KOEI CO., LTD.

QUANTITY CALCULATION COVER SHEET Detailed Design on Port Reactivation Project Project Project Code JC1N004/2N001 in La Union Province Work Section Title Manhole 1500mm concrete Pay Item No. (BOQ) 24-090702 M2 Quantity Item Compartion Unit Calculation Procedure Applied Compaction area was to be the surface of excavation area. References, Calculation Base and Revisions See the item of excavation and disposal of 1500 mm. (2H-0901). Prepared No. of Checked Reviewed Superseded Rev by Date Pages by Date by Date by Calc No. hosla Garia 0 Hr. Jhoma Ando Mr. 1 2 3

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Project

Section	Manhole	1500mm	concrete cover	Calc. Index No.	
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Detailed Design on Port Reactivation Project in La Union

INIPPON KCEI CO, LTD.

Calc. File No.

Concrete cover													Manhole
	W (m)	a (m)	G.L. (m)	B.L. (m)	h (m)	Vex (m3)	Vos (m3)	Vio (m3)	Vbf (m3)	Cmpot (m2)	Form (m2)	Re≕bar (kg)	Concrete (m3)
1 AM-1	1.2	1.9	5.522	2.444	3.478	49.6	0.65	0.37	42.4	26.7	38,47	846	3.16
2 CM-1	1.2	1.9	5.562	3,399	2.563	27.4	0.55	0.37	21.9	17.7	28,59	623	2.42
3 CM-2	1.2	<u>1.9</u>	5.537	3.343	2.594	28	0.55	0.37	22.4	18	28,92	631	2.44
4 CM-3 5 CM-4	1.2	<u>1.9</u> _1.9	<u>5.437</u> 5.437	3.303	2,534	28.8 28.3	0,55	0.37	21,3 22,7	17.5 18,1	28.27 29.07	616 634	2.4
6 CM-4-1	1,2	1.9	5,537	3.269	2.668	29.5	0,55	0.37	23,8	18.7	29.72	649	2.45
7 CM-5	1.2	1.9	5,637	3.189	2.848	33,4	0.55	0.37	27.3	20.3	31.66	693	2.65
8 CM-5-1	1.2	1.9	5,637	3.205	2.832	33.1	0.55	0.37	27.1	20.2	31.49	689	2.64
9 CM-6	1.2	1,9	5,637	3.055	2,982	36.5	0,65	0.37	30.2	21.6	33.11	725	2.76
10 CM-7 11 CM8-1	1.2	1.9	5.857	2.691	3.568 3.152	<u>52,2</u> 40.7	0.55	0.37	<u>44.8</u> 34.1	27.7	<u>39,42</u> 34,95	867 766	3.23
11 CM8-1 12 CM8-1-1	1.2	<u>1.9</u> 1.9	5.592	2.819	3.173	41.3	0.55	0.37	34.6	23.5	35,17	772	2.91
13 CM-8-2	1.2	1.9	5.507	2.795	3.112	39.7	0,55	0.37	33.2	22.9	34.51	757	2,86
14 CM-8-2-	1 1.2	1.9	5,602	2,821	3,181	41.5	0.55	0.37	34.8	23.6	35.26	773	2,92
15 CM-8-3	1.2	1.9	5,507	2,258	3,649	54.7	0.55	0.37	47.2	28.6	40.31	887	3.3
16 CM-8-4	1.2	1.9	5.507	2.895	3.012	37.3	0.55	0.37	30.9	21.9	33.43	732	2.78
17 DM-1 18 DM-2	1.2	1.9	<u>6.25</u> 5,5	<u>4.797</u> 3.147	1.853 2.753	<u>15.4</u> <u>3</u> 1.3	0.55 0.55	0.37	11.2 25.4	<u>11.9</u> 19.5	20.92	451 669	<u>1.84</u> 2.57
19 DM-3	1.2	1.9	5.2	3.045	2.555	27.2	0.55	0.37	21.7	17.6	28.5	621	2.41
20 DM-4	1.2	1.9	5.34	3 1 2 5	2.615	28,4	0.55	0.37	22.8	18.2	29.15	638	2.46
21 DM-4-1	1.2	1.9	5.34	3.047	2,693	30,1	0.55	0.37	24.3	18.9	29,99	655	2.52
22 DM-5	1.2	1.9	5.34	2,865	2.875	34.1	0.55	0.37	28	20.6	31.95	699	2.67
23 DM-5-1	1.2	1.9	5.34	2,887	2,853	33.6	0.55	0.37	27.5	20.4	31.72	<u>694</u> 702	2.65
24 DM-7-1 25 DM-8-1	<u> </u>	<u>1.9</u> 1,9	<u>5.17</u> 4.625	2.683	2.887	<u>34.3</u> 22.9	0.55	0.37	28,2	20.7	32.08 26.01	565	2,68
28 DM-9-1	1.2	1.9	5.01	2.546	2.864	33.8	0.55	0.37	27.7	20.5	31.84	696	2,66
27 DM-9-2	1.2	1.9	5.01	2.564	2.846	33,4	0,55	0.37	27.3	20,3	31.64	692	2,65
28 EM-1	1.2	1.9	6.06	3.897	2,583	27,4	0.55	0.37	21.9	17.7	28.59	623	2,42
29 EM-2	1.2	1.9	5,97	3.799	2,571	27.6	0.55	0.37	22	17.8	28.67	625	2.43
30 EM-2-1 31 EM-3	1.2	1.9	<u>5.97</u> 5,59	<u>3.808</u> 3.39	2,562	27.4	0.55	0.37	21.9 22.5	17.7	28.57 28.98	<u>623</u> 632	2.42 2.45
31 EM-3 32 EM-4-2	1.2	1.9	5.43	3.972	1.858	15.5	0.55	0.37	11.2	11.9	28.98	452	1.85
33 EM-4-3	1.2	1.9	6.14	4.687	1.853	15,4	0.55	0.37	11.2	11.9	20.92	451	1.84
34 EM-4-4	1.2	1.9	6.25	4.797	1.853	15.4	0.55	0.37	11.2	11.9	20.92	451	1.84
													<u> </u>
Total						1,090	18.7	12.6	883	662	1,040	22,600	87,0
Concrete cover													
1 AM-2	1.5	2.2	5,522	2.406	3.516	58.8	0.73	0.49	48,1	29.5	47.5	932	3.97
2 AM-3	1.5	2.2	5,332	2.328	3.404	55.2	0.73	0.49	44.8	28.2	46.02	903	3,86
3 AM-5-1	1.5	2,2	5.132	2.158	3,374	54.2	0,73	0.49	43.8	27.9	45.62	895	3.83
4 AM-6-1	1.5	2.2	4.928	1.982	3.346	53,4	0.73	0.49	43.1 42.4	27.6	45,25	<u>887</u> 881	<u>3.8</u> 3.78
5 AM-6-2 6 AM-7-1	1.5 1.5	2.2	4.928	2,007	3.321 3.314	<u>52.6</u> 52.4	0.73	0.49	42.4	27.3	<u>44.92</u> 44.83	879	3.76
7 BM-4	1.5	2.2	4.711	1.395	3.716	85.5	0.73	0.49	54.2	31.8	50.14	985	4.17
8 8M-5-1	1.5	2.2	4.711	1.373	3.738	66.3	0.73	0.49	55	32.1	50,43	991	4.19
9 CM-11-1	1.5	2.2	5.132	2.379	3.153	47.6	0.73	0.49	37.8	25.5	42.7	836	3.61
10 CM-12-1	1.5	2.2	4.928	2.247	3.081	45.6	0.73	0.49	36	24.7	41.75	817	3.54
11 CM-13-1 12 CM-8	1.5 1.5	2,2	4.711 5.507	1.44	3.671	<u>64</u> 51.6	0.73	0.49	<u> </u>	<u>31.3</u> 28.9	49.54	<u>973</u> 872	<u>4.13</u> 3.75
13 CM-9	1.5	2.2	5.332	2.55	3.182	48.5	0.73	0.49	38.7	25.8	43.09	844	3.64
14 DM-10	1.5	2.2	4.844	2.084	3.16	47.8	0.73	0.49	38	25,5	42.8	838	3.62
15 DM-6	1,5	2.2	4.625	2.836	2.189	24.7	0.73	0.49	17.6	16.1	29.98	581	2.66
16 DM-7	1.5	2.2	5.17	2.665 .	2.905	40.8	0.73	0.49	31.7	22.9	39.43	770	3.37
17 DM-8 18 DM-9	<u>1.5</u> 1.5	2.2	5.119 5.019	2,519 2,739	2.68	43.4 35.2	0.73	0.49	<u>34.1</u> 26.7	23.8 20.6	40.68 36.46	795	3.46
19 EM-4	1.5	2,2	5.33	3.114	2.618	33.7	0.73	0.49	25.4	20.0	35.62	694	3.08
20 EM-4-1	1.5	2.2	5.33	3,306	2,424	29.5	0.73	0.49	21.7	18.2	33.08	643	2.89
21 EM-5	1.5	2.2	5.22	2,979	2.641	34.3	0.73	0.49	25.9	20.2	35.95	700	3.11
22 EM-5-1	1.5	2,2	5.22	3.001	2.619	33.8	0.73	0.49	25.5	20	35.66	695	3.08
23 EM-5-2	1.5	2.2	5.22	3,011	2.609	33.6	0.73	0.49	25.3	19.9	35.52	692	3.07
24 EM-6	1.5	2,2	4.89	2.669	2.621	33.9	0.73	0.49	25.6	20.1	35.68	695	3.03
Total						1,110	17.6	11.8	880	600	1.000	19,600	85
Grating cover	 		<u> </u>										I
1 AM-4	1.5	2,2	5.332	2.28	3.452	56.7	0.73	0.49	46.1	28,8	46.65	915	3.91
2 AM-5	1.5	2.2	5,132	2,109	3.423	55.8	0.73	0.49	45.3	28.4	46.27 45.89	<u></u>	<u>3.88</u> 3.85
3 AM-6 4 BM-1	1.5	2.2	<u>4.928</u> 5.332	<u>1.934</u> 1.881	3.394 3.851	<u>54.9</u> 70.4	0.73	0.49	<u>44.5</u> 58.7	28.1 33.4	45.89	1021	J.85 4.3
5 BM-1-1	1.5	2,2	5.332	1.929	3.803	68.6	0.73	0.49	57.1	32.8	51.28	1008	4.26
6 BM-2	1.5	2,2	5.132	1.71	3.822	69.3	0.73	0.49	57.7	33.1	51.54	1013	4,27
7 9M-2-1	1.5	2,2	5.132	1,758	3.774	67.6	0.73	0.19	56.2	32.5	50,9	1001	4.23
8 8M-3	1.5	2,2	4.928	1.534	3.794	68.3	0.73	0.49	56.8	32.7	51.17	1006	4.25
9 BM-3-1 10 CM-10	1.5	2,2	4.928	<u>1.582</u> 2,502	3,746	66.6 49.9	0.73	<u>0.49</u> 0.49	<u>55.2</u> 39.9	32.2 26.3	50,53 43,72	<u>993</u> 856	4.2
11_CM-11	1.5	2.2	5,132	2.502	3,23	49.9	0.73	0.49	39.9	26.3	43.72	850	3.69
12 CM-12	1.5		4.928	2.199	3,129	46.9	0.73	0.49	37.2	25.2	42.39	830	3.59
Total						730	8.8	5.9	600	360	578	11,300	49
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To oil separator													
1 AM-7	1.5	2.2	4.711	0.993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9.30
2 BM-5 3 CM-13	<u>1.5</u> 1.5	2.2	4.711 4.711	0,993	4.118	93.4	<u>1.09</u> 1.09	0.73	68,2 68,2	<u>41.7</u> 41.7	73.89 73.89	<u>1504</u> 1504	9.30 9.30
3 CM-13 4 DM-11	1.5	2.2	4.711	0.993	4.118 4.118	<u>93.4</u> 93.4	1.09	0.73	68.2	41.7	73.89	1504	9.30
	1	4.2		0.000		50.4	1.05	0.10			70.05	1004	3.00
Total				·		380	4.4	3.0	273	167	296	6,020	38
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Manhole_集計

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INIPPON KOEI CO., LTD.

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increte cover	W		GL.	BL]	h	Vex	Vos	Vic	Vbf	Cmpct	Form	Re-bar	Manhole Concrete
	(m)	a (m)	(m)	ູໜີ	(m)	(m3)	(m3)	(m3)	(m3)	(m2)	(m2)	(kg)	(m3)
I AM~1	1.2	1.9	5.522	2.444	3.478	49,6	0.55	0.37	42.4	26.7	38.47	846	3.16
CM-1 CM-2	1,2	1.9	5,562	3.399	2.563	27.4	0,55	0.37	21,9	17.7	28.59	623	2.42
	1.2	1.9	5.537	3,343	2.594	28	0,55	0.37	22,4	18	28,92	631	2.44
CM-3 CM-4	1.2	<u>1.9</u> 1.9	5.437	<u>3,303</u> 3,229	2.534 2.608	26.8	0,55 0,55	0.37	21.3	17.5 18.1	28.27	616 634	2.4
CM-4-1	1.2	1.9	5,537	3.269	2,668	29.5	0.55	0.37	22.7 23.8	18.7	29.72	649	2,45
CM~5	1.2	1.9	5,637	3.189	2.848	33,4	0.55	0.37	27.3	20,3	31.66	693	2.65
CM~5-1	1.2	1.9	5.637	3,205	2.832	33,1	0.55	0.37	27.1	20.2	31,49	689	2.64
CM-6	1.2	1.9	5.637	3,055	2,982	36.5	0.55	0.37	30.2	21.6	33.11	725	2,76
CM-7	1.2	1.9	5,857	2,691	3.566	52.2	0.55	0.37	44.8	27.7	39.42	867	3.23
CM8-1	1,2	1.9	5.507	2,755	3,152	40.7	0.55	0.37	34.1	23,3	34.95	766	2.9
CM8-1-1	1.2	1.9	5.592	2,819	3.173	41.3	0,55	0.37	34.6	23.5	35,17	772	2.91
CM-8-2	1.2	1.9	5.507	2.795	3.112	39.7	0.55	0,37	33.2	22,9	34.51	757	2,86
CM-8-2-1	1.2	1.9	5.602	2.821	3,181	41.5	0.55	0,37	34.8	23.6	35,26	773	2.92
CM-8-3	1.2	1.9	5,507	2.258	3,649	54.7	0.55	0.37	47.2	28.6	40.31	887	3.3
<u>CM-8-4</u> DM-1	1.2	<u>1.9</u>	5,507	2.895	3,012	<u>37.3</u> 15.4	0.55	0.37	30,9	21.9 11.9	33.43	732	2.78
DM-2	1.2	<u>1.9</u> 1.9	<u>6,25</u> 5,5	4.797	1.853	31.3	0,55	0.37	<u>11.2</u> 25.4	19.5	20.92	451 689	<u>1.84</u> 2.57
DM-3	1.2	1.9	5,2	3.045	2,555	27.2	0.55	0,37	21.7	17.6	30.64	621	2.41
DM-4	1,2	1.9	5,34	3.125	2.615	28.4	0,55	0.37	22,8	18,2	29,15	636	2.46
DM-4-1	1,2	1.9	5.34	3,047	2.693	30.1	0.55	0.37	24,3	18.9	29.99	855	2,52
DM-5	1.2	1.9	5.34	2,865	2.875	34.1	0,55	0.37	28	20.6	31.95	699	2.87
DM-5-1	1.2	1.9	5.34	2.887	2.853	33.6	0.55	0.37	27.5	20.4	31.72	694	2.65
DM-7-1	1.2	1.9	5.17	2,683	2.887	34.3	0.55	0.37	28.2	20.7	32,08	702	2.68
DM-8-1	1.2	1.9	4.625	2.7	2.325	22.9	0,55	0.37	17.8	15.7	26.01	565	2.23
DM-9-1	1.2	1.9	5.01	2.546	2,864	<u>33.8</u>	0.55	0.37	27.7	20.5	31,84	696	2,66
DM-9-2	1.2	1.9	5.01	2.564	2.846	33.4	0.55	0.37	27.3	20.3	31.64	692	2.65
	1,2	1.9	6.06	3.897	2.563	27.4	0.55	0.37	21,9	17.7	28.59	623	2.42
EM~2 EM~2-1	1.2	1.9	<u> </u>	3.799	2.571	27.6	0.55	0.37	22	17.8	28.67	625	2.43
EM-2-1 EM-3	1.2	<u>1.9</u> 1.9	<u>5.97</u> 5.59	3.808	2,562	27.4	0.55	0.37	21.9 22.5	17.7	28,57	623 632	2.42
EM-4-2	1.2	1.9	5.43	3.972	1.858	15.5	0.55	0.37	11.2	11.9	28.98	452	1.85
EM~4-3	1.2	1.9	6,14	4.687	1.853	15.4	0.55	0.37	11.2	11.9	20.92	451	1.84
EM-4-4	1.2	1.9	6,25	4.797	1.853	15.4	0.55	0.37	11.2	11.9	20.92	451	1.84
Total						1,090	18.7	12.6	883	662	1,040	22,600	87.0
crete cover	. I												
AM-2	1.5	2.2	5.522	2.406	3.516	56.8	0,73	0.49	48,1	29,5	47.5	932	3.97
AM-3	1.5	2.2	5.332	2.328	3.404	55.2	0.73	0.49	44.8	28.2	46.02	903	3,86
AM-5-1	1.5	2.2	5.132	2,158	3.374	54.2	0.73	0.49	43.8	27.9	45.62	895	3.83
AM-6-1	1.5	2,2	4.928	1,982	3.346	53.4	0.73	0.49	43.1	27.6	45.25	887	3,8
AM-6-2	1.5	2.2	4.928	2.007	3.321	52,6	0.73	0.49	42.4	27.3	44.92	881	3.78
AM-7-1	1.5	2,2	4.711	1.797	3.314	52.4	0.73	0,49	42.2	27.2	44.83	879	3.77
<u>8M-4</u>	1,5	2.2	4.711	1.395	3.716	65.5	0.73	0,49	54.2	31.8	50,14	985	4.17
BM~5-1	1.5	2.2	4.711	1.373	3.738	66.3	0.73	0.49	55	32.1	50,43	991	4.19
CM-11-1	1.5	2.2	5.132	2.379	3.153	47.6	0.73	0.49	37.8	25.5	42.7	836	3.61
CM-12-1	1.5	2,2	4.928	2.247	3.081	45.6	0.73	0.49	36	24.7	41.75	817	3.54
CM-13-1 CM-8	1.5	2.2	4.711	1.44	<u>3.671</u> 3.287	<u>64</u> 51.6	0.73	0.49	52.8	31.3 26.9	49.54	973	4.13
CM-9	<u>1.5</u> 1.5	2.2	5.332	2.55	3.182	48.5	0.73	0.49	41.5 38.7	25.8	44.47	872 844	<u>3.75</u> 3.64
DM-10	1.5	2.2	4.844	2.084	3.16	47.8	0.73	0.49	38	25.5	42.8	838	3.62
DM-6	1.5	2.2	4.625	2.836	2.189	24.7	0.73	0.49	17.6	16.1	29,98	581	2.66
DM-7	1.5	2,2	5,17	2.665	2,905	40.8	0.73	0.49	31.7	22.9	39.43	770	3.37
DM-8	1.5	2.2	5.119	2.519	3	43.4	0.73	0,49	34.1	23.8	40.68	795	3,46
DM-9	1.5	2.2	5.019	2.739	2.68	35.2	0.73	0,49	26.7	20.6	36.46	711	3.14
EM~4	1.5	2.2	5.33	3.114	2,616	33.7	0.73	0.49	25.4	20	35.62	694	3.08
EM~4-1	1.5	2.2	5.33	3.306	2.424	29.5	0.73	0.49	21.7	18,2	33.08	643	2,89
EM-5	1.5	2,2	5.22	2.979	2.641	34.3	0.73	0,49	25.9	20.2	35.95	700	3.11
EM-5-1 EM-5-2	1.5	2.2	5.22	3.001	2.619	33.8	0.73	0.49	25.5	20	35.66	695	3.08
EM~6	1.5	2.2	5,22	2.669	2.609	<u>33.6</u> 33.9	0.73	0.49	25.3	19.9 20.1	35.52	692 695	3.07
	1.0	<u> </u>	-1.00	2.003		00.0	0.10	0.43	29.0	20,1	35.68	093	3.03
Total						1,110	17.6	11.8	880	600	1,000	19,600	85
AM-4	1.5	2.2	5,332	2.28	3.452	56.7	0.73	0.49	46.1	28.8	40.05	915	204
AM-5	1.5	2.2	5,132	2.28	3.452	55.8	0.73	0.49	46.1	28.8	46.65	915	<u>3.91</u> 3.88
AM-6	1.5	2.2	4,928	1.934	3.394	54.9	0,73	0.45	44.5	28.1	45.89	900	3.85
BM-1	1.5	2.2	5,332	1.881	3.851	70.4	0.73	0,49	58.7	33.4	51.92	1021	4.3
BM-1-1	1.5	2.2	5.332	1.929	3.803	68,6	0.73	0.49	57.1	32.8	51.28	1008	4.26
BM-2	1.5	2,2	5,132	1.71	3.822	69,3	0.73	0.49	57.7	33.1	51.54	1013	4.27
BM-2-1	1.5	2.2	5,132	1.758	3.774	67.6	0.73	0.49	56.2	32.5	50.9	1001	4.23
BM-3	1.5	2,2	4.928	1.534	3.794	68,3	0,73	0.49	56.8	32,7	51.17	1006	4.25
BM-3-1	1.5	2.2	4.928	1.582	3.746	66.6	0.73	0.49	55.2	32.2	50.53	993	4.2
CM-10	1.5	2,2	5,332	2.502	3.23	49.9	0,73	0.49	39.9	26.3	43.72	856	3.89
CM-11 CM-12	1.5	2.2	5,132	2.331	3.201	49	0.73	0.49	39.1	26	43.34	849	3.66
CM-12	1.5	2.2	4.928	2.199	3.129	46.9	. 0,73	0.49	37.2	25.2	42,39	830	3.59
						730	8.8	5.9	600	360	576	11,300	49
Total										1			
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oil separator	1.5	2.2	4.711	0.993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9,30
oil separator AM-7 BM-5		2.2	4.711	0.993	4.118	93.4 93.4	1.09	0.73	68.2 68.2	41.7	73.89	1504	9,30
AM-7 BM-5 CM-13	1.5 1.5 1.5	2.2 2.2	4.711 4.711			93.4 93.4	1.09 1.09	0.73 0.73		41.7 41.7			
oil separator AM-7 BM-5	1.5 1.5	2.2	4.711	0.993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9,30
oil separator AM-7 BM-5 CM-13	1.5 1.5 1.5	2.2 2.2	4.711 4.711	0.993	4.118 4.118	93.4 93.4	1.09 1.09	0.73 0.73	68.2 68.2	41.7 41.7	73.89 73.89	1504 1504	9,30 9.30

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Project Detailed Design on Port Reactivation Project in La Union Calc. File No. Manhole 1500mm gratting cover Section Calc. Index No. Subject STONE Page No. Rev. Chushed References/ ; t Notes T ł ÷ ì. i 1 ļ I 1 Ł i 1 1 ì ì JЩ ₩ ٤ ì 1 1 Т i 111 i i 1 1 TT IT ÷ П i į ł Ш 1 1 : 0711 2 ţ i 1 I 11 ı Π ţ L ; le l ς 4111 Ъ. TITIM i IC. i 1 - T+ 1 ١ ١ i -1 1 ŧ. Ĩ î ŧ ŧ a ŧ. ĺ į 1 1 ł ł ł 1 1 1 Ì I ţ. 1 10 Q Í i L Т I. 1 ł 1 ł Ţ 1 i ł Ì ł 1 1 i ì ļ 1 ł í][į. į Ì. i. 1 11 1 i | | ١ ł 1 ļ ì ۱c 111 ł ł ł i í Į. 1 1 1 Ì. 11 i Į. 1 i ł ١ ì ł ł ŧ. İ. ţ I. O i í i i į. ł ŧ Ì ł Т Ł ł ł ÷ ÷ ţ t l ÷ l ł ÷. i. 1 ÷ I 6 ÷ ÷. i : 1 1 ÷ . 1 ţ 1 ł Ì 1 i ł ł ; . i. ţ 5 1 ٠ ÷ 1 1 , ł Ł t : 1 : 1 T ī 1 1 i ŝ ì ١. . Prepared by Checked by

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		W (m)	a (m)	0.L (m)	B.L. (m)	h (m)	Vex (m3)	Vos (m3)	Vlo (m3)	Vbf (m3)	Cmpct (m2)	Form (m2)	Re-bar (kg)	Concrete (m3)
	1 AM-1 2 CM-1	1.2	1.9	5,522	2,444	<u>3.478</u> 2.563	49.6 27.4	0.55	0.37	42.4	26.7	28.59	<u>846</u> 623	3.16
	3 CM-2	1.2	1.9	5,537	3.343	2.594	28	0.55	0.37	22.4	18	28.92	631	2.44
	4 CM-3 5 CM-4	1.2		<u>5.437</u> 5.437	3.303	2.534	26.8 28.3	0.55	0.37	21.3	17.5 18.1	28.27 29.07	<u>616</u> 634	2.4
	8 CM-4-	1 1.2	1.9	5.537	3,289	2.668	29.5	0.55	0.37	23.8	18.7	29.72	649	2.5
	7 CM-5 8 CM-5	1.2		<u>5,637</u> 5,637	<u>3,189</u> 3,205	2.84B 2.832	<u>33.4</u> <u>33.1</u>	0,55	<u>0.37</u> 0.37	<u>27.3</u> 27.1	20.3	<u>31.66</u> 31.49	<u>693</u> 689	2.84
	9 CM-6 10 CM-7	1.2		5.637 5.857	<u>3,055</u> 2,691	2,982 3,566	36.5 52,2	0,55 0.55	0.37	<u>30.2</u> 44.8	21.6 27.7	3 <u>3,11</u> 39,42	725 867	2.76
	11 CM8-1	1.2	1.9	5,507	2,755	3,152	40.7	0,55	0,37	34.1	23.3	34,95	766	2,9
	12 CM8-1 13 CM-8-			<u>5.592</u> 5.507	2,819 2,795	3.173 3.112	41.3	0.55	0.37	<u>34.6</u> 33.2	23.5 22.9	<u>35.17</u> 34.51	<u>772</u> 757	2.91
	14 CM-8-	2-1 1.2	1.9	5,602	2,821	3.181	41.5	0,55	0,37	34.8	23.6	35,26	773	2,92
	15 CM-8- 16 CM-8-			<u>5,507</u> 5,507	2,258	3.649 3.012	<u> </u>	0,55	0.37	<u>47.2</u> 30.9	28.6 21.9	<u>40,31</u> 33.43	<u>887</u> 732	3.3
	17 DM-1	1.2	1.9	<u>6.25</u> 5.5	4.797	1.853 2.753	<u>15,4</u> 31,3	0.55 0.55	0.37	11.2 25.4	<u>11.9</u> 19.5	20,92 30.64	451 669	1.84
	18 DM-2 19 DM-3	1.2	1.9	5.2	3.045	2.555	27.2	0.55	0.37	21.7	17.6	28.5	621	2.41
	20 DM-4 21 DM-4	1.2		<u>5.34</u> 5.34	<u>3.125</u> 3.047	2.615	28.4 30.1	0,55	0.37	22,8	18.2	29,15 29,99	<u>638</u> 655	2.46
	22 DM-5	1,2	1.9	5.34	2.865	2.875	34.1	0.55	0.37	28	20.6	31.95	699	2.67
	23 DM-5- 24 DM-7-			5.34	<u>2,887</u> 2,683	2.853	<u>33.6</u> 34.3	0,55	0.37	27.5	20.4	<u>31.72</u> 32.08	<u>694</u> 702	2,65
	25 DM-8-	1 1.2	1.9	4.625	2.7	2.325	22.9 33,8	0.55	0.37	17.8	15.7	26.01	565	2,23
	26 DM-9- 27 DM-9-	2 1.2	1.9	5.01 5.01	2,546 2.564	2.864 2.846	33.4	0.55	0.37	<u>27.7</u> <u>27.3</u>	20.5 20.3	31.84 31.64	696 692	2.65
	28 EM-1 29 EM-2	1.2		<u>6.06</u> 5,97	<u>3,897</u> 3,799	2.583 2.571	27.4 27.6	0,55 0,55	0.37	21.9 22	17,7 17.8	28.59 28.67	623 625	2,42
	30 EM-2-	1,2	1,9	5.97	3,808	2.562	27.4	0.55	0.37	21.9	17.7	28.57	623	2.42
	31 EM-3 32 EM-4-	2 1.2		5.59 5.43	<u>3.39</u> 3.972	2.6 1.858	28.1	0.55	0.37	<u>22.5</u> <u>11.2</u>	18 11.9	28.98 20.97	632 452	2.45 1.85
	33 EM-4- 34 EM-4-	3 1.2	1.9	6.14 6.25	4.687 4.797	1.853 1.853	<u>15,4</u> 15,4	0.55 0.55	0.37	<u>11.2</u> 11.2	11.9 11.9	20,92 20,92	451 451	1.84
		1.2		0.20	1.131	1.000								
	Total				· .		1,090	18.7	12.6	883	662	1,040	22,600	87.0
	Concrete co 1 AM-2	rer 1.5	2.2	5.522	2,406	3.516	58.8	0.73	0.49	48,1	29.5	47.5	932	3.97
	2 AM-3	1.5	2.2	5,332	2.328	3.404	55.2	0.73	0.49	44.8	28.2	46.02	903	3,86
	3 AM-5- 4 AM-6-			<u>5.132</u> 4.928	2.158	<u>3.374</u> 3.346	<u>54.2</u> 53.4	0.73	0.49	<u>43.8</u> 43.1	27,9 27.6	45.62	895	<u>3.83</u> 3.8
	5 AM-8- 6 AM-7-	2 1.5	2.2	4.928 4.711	2.007	<u>3.321</u> 3.314	52.8 52.4	0.73	0.49	42.4	27.3	44.92 44.83	<u>881</u> 879	3.78
	7 8M-4	1.5	2,2	4.711	1.395	3.718	65,5	0.73	0.49	54.2	31.8	50,14	985	4.17
	8 BM-5- 9 CM-11			4.711	<u>1.373</u> 2.379	<u>3.738</u> 3.153	<u>66.3</u> 47.6	0.73	0.49	<u>55</u> 37,8	32.1 25.5	50.43 42.7	<u>991</u> 836	4.19
۰.	10 CM-12	-1	2,2	4.928	2.247	3,081	45.8	0.73	0.49	36	24.7	41.75	817	3.54
	11 CM-13 12 CM-8	<u>1 1.5</u>		4.711 5.507	1.44	3.671 3.287	64 51.6	0.73	0.49	52.8 41.5	31,3 26.9	49.54 44.47	973 872	4.13
	13 CM-9 14 DM-10	1.5		5.332 4.844	2.55 2.084	3.182 3.16	48.5	0.73	0.49	<u>36.7</u> 38	25.8 25.5	43.09	844 838	3.64
	15 DM-6	1.5	2.2	4.825	2.836	2,189	24.7	0.73	0.49	17.6	16.1	29,98	581	2.66
	16 DM-7 17 DM-8	1.5		<u>5.17</u> 5.119	2,665	2,905	40.8	0.73	0.49	<u>31.7</u> 34.1	22.9	39.43 40.68	770	3.37
	18 DM-9 19 EM-4	1.5		5.019 5.33	2.739	2.68 2.616	35.2 33.7	0.73	0.49	26.7 25.4	20.6 20	36.46 35.62	711	3.14
	20 EM-4-	1.5	2.2	5,33	3.306	2.424	29.5	0.73	0.49	21.7	18.2	33.08	643	2.89
	21 EM-5 22 EM-5-	1.5		<u>5,22</u> 5,22	2.979	2.641	34.3 33.8	0,73	0.49	25.9 25.5	20.2	35.95	700	3.11
	23 EM-5-	1.5	2.2	5.22 4.89	3.011 2.669	2.609	<u>33.6</u> 33.9	0.73	0.49	25.3 25.6	19.9 20.1	35.52 35.68	692 695	3.07
	24 EM~6	1.5		4.05	2.005	2.021			0.49					
	[Total						1,110	17.6	11.8	880	600	1,000	19,600	85
	Grating cove 1 AM-4	. 1.5	2,2	5,332	2,28	3.452	56.7	0.73	0.49	46.1	28.8	46.65	915	3.91
	2 AM-5 3 AM-6	1.5	2.2	5,132 4,928	2.109	3.423 3.394	55.8 54.9	0,73	0.49 0.49	45.3 44.5	28.4	46.27 45.89	908 900	3.88
	4 BM-1	1.5	2.2	5.332	1.881	3.851	70.4	0.73	0.49	58.7	33.4	51.92	1021	4.3
	5 BM-1- 6 BM-2	1.5 1.5		<u>5.332</u> 5.132	<u>1.929</u> 1.71	3.803	68.6 69.3	0.73	0.49	<u>57.1</u> 57.7	32.8 33.1	51.28 51.54	1008	4.26
	7 BM-2-	1.5	2.2	5.132	1.758	3.774	67.6	0.73	0.49	56.2	32.5	50,9	1001	4.23
	8 BM-3 9 BM-3-	1.5		4.928	<u>1.534</u> 1.582	3.794 3.746	<u>68.3</u> 66.6	0.73	<u>0.49</u> 0.49	<u>56.8</u> 55.2	32.7 32.2	51.17 50.53	1006	4.25
	10 CM-10 11 CM-11	1.5	2,2	5.332 5,132	2.502	3.23 3.201	49.9 49	0.73	0.49	39.9 39.1	26.3 26	43.72 43.34	858 849	3,69
	12 CM-12			4.928	2.199	- 3.129	49	0.73	0.49	39.1	25.2	43.34	849	3.59
	Total						730	8,8	5.9	600	360	576	11,300	49
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	To oil separa			A 774.4	0.000			1.00	0.70	60.0		20.00		0.20
	1 AM-7 2 BM-5	1.5		4.711	0.993	4.1 <u>18</u> 4.118	93.4 93.4	1.09	0.73	<u>68.2</u> 68.2	41.7 41.7	73.89 73.89	1504 1504	9.30 9.30
	3 CM-13 4 DM-11	1.5	2.2	4.711 4.711	0.993	4.118	<u>93.4</u> 93.4	1.09	0.73	68.2 68.2	41.7	73.89	1504	9.30 9.30
-				1.111	0.333	4.118						73,89	1504	
	Total						380	4.4	3,0	273	167	296	6,020	38
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INIPPON KOEI CO., LTD.

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		W (m)	a (m)	G,L, (m)	B.L. (m)	ի (๓)	Vex (m3)	Ves (m3)	Vlc (m3)	Vbf (m3)	Cmpet (m2)	Form (m2)	Re-bar (kg)	Concrete (m3)
1	AM-1	1.2	1.9	5.522	2,444	3,478	49.6	0.55	0,37	42.4	28,7	38.47	846	3.1
2	CM-1	1.2	1.9	5,562	3,399	2.563	27.4	0,55	0.37	21.9	17.7	28,59	623	2,4
3	CM-2	1,2	1,9	6,537	3.343	2.594	28	0,55	0.37	22.4	18	28.92	631	2.4
4	CM-3	1.2	1.9	5.437	3.303	2.534	26.8	0.55	0.37	21.3	17,5	28,27	616	2.
5	CM-4	1.2	1,9	5.437	3,229	2,608	28.3	0.55	0.37	22.7	18,1	29,07	634	2.4
	CM-4-1	1.2	1.9	5,537	3,269	2.668	29.5	0.55	0.37	23,8	18.7	29.72	649	2.
7	CM-5	1.2	1.9	5,637	3.189	2.848	33.4	0.50	0.37	27.3	20.3	31.66	693	2,6
8	CM-5-1	1.2	1.9	5,637	3.205	2.832	33.1	0.55	0.37	27.1	20.2	31.49	689	2.6
	CM-6	1.2	1.9	5,637	3.055	2.982	36.5	0.55	0.37	30.2	21.6	33.11	725	2.7
	CM-7	1.2	1.9	5.857	2,691	3.566	52.2	0.55	0.37	44.8	27.7	39.42	867	3.2
	CM8-1						40.7	0.55	0.37	34.1	23,3	34,95	766	2.
		1.2	1.9	5.507	2.755	3.152						35,17	772	2,9
	CM8-1-1	1.2	1.9	5.592	2.819	3.173	41.3	0.65	0.37	34.6	23,5			
	CM-8-2	1.2	1.9	6.507	2,795	3.112	39.7	0.55	0.37	33.2	22,9	34.51	757	2.8
	CM-8-2-1	1.2	1,9	5.602	2.821	3.181	41.5	0.65	0.37	34.8	23.6	35,26		2.9
	CM-8-3	1.2	1.9	5.507	2,258	3.649	54.7	0.55	0.37	47,2	28.6	40,31	887	3.
16	CM-8-4	1.2	1,9	5.507	2.895	3.012	37.3	0,55	0.37	30.9	21.9	33,43	732	2.7
17	DM-1	1.2	1.9_	6.25	4.797	1.853	15.4	0,55	0.37	11.2	11.9	20.92	451	1.8
18	DM-2	1.2	1,9	5.5	3,147	2,753	31.3	0.55	0.37	25.4	19.5	30.64	669	2.5
19	DM⊣3	1.2	1,9	5,2	3,045	2,555	27.2	0,55	0.37	21.7	17.6	28,5	621	2.4
	DM-4	1.2	1.9	5,34	3,125	2.615	28.4	0.55	0.37	22,8	18,2	29,15	636	2.41
	DM-4-1	1.2	1.9	5,34	3,047	2.693	30.1	0,55	0.37	24.3	18,9	29.99	655	2.5
	DM-5	1.2		5.34		2.875	34.1	0,55	0.37	28	20.6	31.95	699	2.6
			1.9		2.865							31.55		2.6
	DM-5-1	1.2	1.9	5.34	2.887	2.853	33.6	0.55	0.37	27.5	20.4		694	
	DM-7-1	1.2	1.9	5.17	2,683	2.887	34.3	0.55	0.37	28.2	20.7	32.08	702	2,6
	DM-8-1	1.2	1.9	4,625	2,7	2.325	22.9	0.55	0.37	17.8	15.7	26,01	565	2.2
	DM-9-1	1.2	1.9	5.01	2.546	2.864	33.8	0.55	0.37	27.7	20.5	31.84	696	2.6
27	DM-9-2	1.2	1.9	5.01	2,564	2.846	33.4	0.55	0.37	27.3	20.3	31.64	692	2.6
28	EM-1	1.2	1.9	8.06	3,897	2.583	27.4	0,55	0.37	21,9	17.7	28,59	623	2.4
29	EM-2	1.2	1,9	5.97	3,799	2.571	27.6	0.55	0.37	22	17.8	28.67	625	2.4
30	EM-2-1	1,2	1.9	5.97	3.808	2,562	27.4	0.55	0.37	21.9	17.7	28.57	623	2.4
	EM-3	1.2	1.9	5.59	3,39	2.6	28.1	0.55	0.37	22,5	18	28.98	632	2.4
32	EM-4-2	1.2	1.9	5,43	3,972	1.858	15.5	0.55	0.37	11.2	11.9	20.97	452	1.8
33	EM-4-3	1.2	1.9	6.14	4.687	1.853	15.4	0,55	0.37	11.2	11.9	20.92	451	1.8
34						1.853	15.4	0.55	0.37	11.2	11.9	20.92	451	1.8
.04	Cm-4-4	1.2	1.9	6,25	4.797	1.055	10.4	0.00	0.57	11.2	- 11.3	20.52		
	Total						1,090	18.7	12.6	883	662	1,040	22,600	87.0
Conc	rete cover			<u> </u>										
1	AM-2	1.5	2,2	5.522	2,406	3.516	58.8	0.73	0.49	48.1	29.5	47.5	932	3.9
2	AM-3	1,5	2,2	5,332	2.328	3,404	55.2	0,73	0.49	44.8	28.2	46.02	903	3,8
3	AM-5-1	1.5	2.2	5.132	2,158	3.374	54.2	0.73	0.49	43.8	27.9	45.62	895	3.8
4	AM-6-1	1.5	2.2	4.928	1,982	3.346	53.4	0.73	0.49	43.1	27.6	45.25	887	3.0
5	AM-6-2	1,5	2.2	4,928	2,007	3.321	52,6	0.73	0.49	42.4	27.3	44.92	881	3.7
6	AM-7-1	1.5	2,2	4.711	1.797	3.314	52,4	0.73	0.49	42,2	27.2	44.83	879	3.7
7	BM-4		2.2		1.395			0.73	0.49	54,2	31.8	50.14	985	4.1
		1.5		4.711		3,716	<u>65.5</u>	0.73			31.0	50.43	991	4.1
	BM-5-1	1.5	2.2	4.711	1.373	3.738	66.3		0,49	55				
9	CM-11-1	1.5	2.2	5.132	2.379	3,153	47.6	0.73	0.49	37.8	25.5	42.7	836	3.6
10	CM-12-1	1.5	2.2	4.928	2.247	3.081	45.6	0.73	0.49	36	24.7	41.75	817	3.5
11	CM-13-1	1.5	2.2	4.711	1.44	3.671	64	0.73	0.49	52.8	31.3	49.54	973	4.1
12	CM-8	1.5	2.2	5.507	2.62	3.287	51.6	0.73	0.49	41.5	26.9	44.47	872	3.7
13	CM-9	1.5	2.2	5.332	2.55	~3.182	48.5	0,73	0.49	38,7	25.8	43.09	844	3.6
14	DM-10	1.5	2.2	4.844	2,084	3.16	47.8	0.73	0.49	38	25.5	42.8	838	3.6
15		1.5	2.2	4.625	2.836	2.189	24.7	0.73	0.49	17.6	16.1	29.98	581	2.6
16	DM-7	1.5	2,2	5.17	2.665	2,905	40.8	0.73	0.49	31.7	22,9	39.43	770	3.3
17	DM-8	1.5	2.2	5,119	2,519	Э	43.4	0.73	0.49	34.1	23.8	40.68	795	3.4
18	DM-9	1.5	2.2	5.019	2.739	2.68	35.2	0.73	0.49	26.7	20.6	36,46	711	3.1
	EM-4	1.5	2.2	5.33	3.114	2,616	33.7	0,73	0.49	25.4	20	35.62	694	. 3.0
	EM-4-1	1.5	2,2	5.33	3.306	2,424	29,5	0.73	0.49	21.7	18.2	33.08	643	2,8
	EM-5	1.5	2.2	5.22	2.979	2.641	34.3	0.73	0.49	25.9	20.2	35.95	700	
	EM-5-1	1.5	2.2	5,22	3.001	2.619	33.8	0.73	0.49	25.5	20	35.66	895	3.0
	EM-5-2		2.2	5.22	3.001	2.609	33.6	0.73	0.49	25.3	19.9	35.50	695	3.0
		1.5										35.68		3.0
<u> </u>	EM-6	1.5	2.2	4.89	2.669	2.621	33.9	0.73	0.49	25.6	20,1		695	
	Total						1,110	17.6	11.8	880	600	1,000	19,600	8
	AM-4	1.5	2,2	5.332	2.28	3.452	56.7	0.73	0.49	46.1	28.8	46.65	915	3.9
	AM-5	1.5	2.2	5,132	2.109	3.423	55.8	0.73	0.49	45.3	28.4	46.27	908	3.8
	AM-6	1.5	2.2	4,928	1.934	3.394	54.9	0.73	0.49	44.5	28.1	45.89	900	3.8
	BM-1	1.5	2.2	5.332	1.881	3,851	70.4	0.73	0.49	58.7	33.4	51.92	1021	4.
	BM-1-1	1.5	2.2	5.332	1.929	3.803	68.6	0.73	0.49	57.1	32.8	51.28	1008	4.2
							69.3	0,73	0.49		33.1	51.54		4.2
	BM-2	1.5	2.2	5.132	1.71	3.822				57.7				
	BM-2-1	1.5	2.2	5.132	1.758	3.774	67.6	0.73	0.49	56.2	32.5	50.9	1001	4.2
	BM-3	1.5	2.2	4.928	1.534	3.794	68.3	0.73	0.49	56.8	32,7	51.17	1006	4.2
	BM-3-1	1.5	2,2	4.928	1.582	3.746	88.6	0.73	0.49	55.2	32.2	50.53	993	4
	CM-10	1.5	2.2	5.332	2.502	3.23	49.9	0.73	0.49	39.9	26.3	43.72	856	
	CM-11	1.5	2.2	5.132	2,331	3,201	49	0.73	0.49	39.1	26	43.34	849	
	CM-12	1.5	2.2	4.928	2,199	3.129	46.9	0.73	0.49	37.2	25,2	42.39	830	3.(
I	Total						730	8.8	5.9 -	600	360	576	11,300	4
	Å											·	• I	•
	separator								~					
	AM-7	1.5	2.2	4.711	0.993	4.118	93.4	1.09	0.73	68.2	41.7	73.89		
	BM-5	1.5	2.2	4.711	0.993	4.118	93.4	1.09	0.73	68.2	41.7	73.89		
	CM-13	1.5	2.2	4.711	0,993	4.118	93,4	1.09	0.73	68,2	41.7	73.89	1504	
	DM-11	1.5	2.2	4.711	0,993	4.118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9.3
							380	4.4	3.0	273	167	296	6,020	3

NIPPON KOEI CO., LTD.

QUANTITY CALCULATION COVER SHEET Detailed Design on Port Reactivation Project Project Project Code JC1N004/2N001 in La Union Province Work Section Title Manhole 1500mm grating Pay Item No. (BOQ) 2H-1004 Quantity Item Reinforcement . Unit Calculation Procedure Applied Weight of reinforcement was computed by multiplying Unit weight by the height. Unit weight was computed on assumption that the height was 2m. References. Calculation Base and Revisions See the item of excavation and disposal of Koomm concrete cover, (2H-0901) Prepared No. of Checked Reviewed Rev Superseded bγ Date Pages Date by by . Date by Calc No. Karla Goria da 0 Иr. Juna Hr. Ando 1 2 3

FN: Calculation_Cover_Sheet_020504_seg cover in a star we we see the second

No.	D	L (m)	Qty	W/bar (kg)	W (kg)	Remarks
Manhole ((H=2m, 150	0)			· · · · · · · · · · · · · · · · · · ·	
A1	D13	4.00	28	3.98	111.44	
A2	D13	3.40	26	3.383	87.96	
B1	D13	2.55	48	2.53725	121.79	
B2	D13	2.40	44	2.388	105.07	
Cl	D13	2.60	22	2.587	56.91	
C2	D13	2.30	20	2.2885	45.77	
<u> </u>			· · ·			
				total	528.94	1 spot
					(265)	1 spot / m
Manhole ((H=2m, 120	0)				
A1	D13	3.40	28	3.383	94.72	
A2	D13	2.80	26	2.786	72.44	
B1	D13	2.55	48	2.53725	121.79	
B2	D13	2.40	44	2.388	105.07	
C1	D13	2.30	22	2.2885	50.35	
C2	D13	2.00	20	1.99	39.8	
···						
				total	484.17	1 spot
					243	l spot / m
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TABLE OF REINFORCEMENT (MANHOLE)

orota cover	W	a	aL	BL (w)	h	Vex	Ves	Vio	Vbf (m2)	Cmpot	Form		Concrete
IAM-1	(m) 1,2	(m) 1.9	(m) 5,522	(m) 2,444	(m) 3.478	(m3) 49.6	(m3) 0.55	(m3) 0.37	(m3) 42.4	(m2) 26.7	(m2) 38,47	(kg) 846	(m3) 3.16
CM-1	1.2	1,9	5,562	3.399	2.563	27.4	0.55	0.37	21.9	17.7	28,59	623	2.42
CM-2	1.2	1.9	5.537	3,343	2.694	28	0,55	0.37	22.4	18	28,92	631	2,44
CM-3	1.2	1.9	<u>5.437</u>	3,303	2,534	26.8	0.55	0.37	21.3	17.5	<u>28.27</u> 29.07	616 634	2,4
CM-4	1.2	<u>1.9</u> 1.9	<u>5.437</u> 5.537	3,229	2.608	28.3	0.55	0.37	23.8	<u>18,1</u> 18,7	29,72	649	2.45 2.5
CM-5	1.2	1.9	5.637	3.189	2,848	33.4	0,55	0,37	27.3	20.3	31,66	693	2,65
CM-5-1	1.2	1.9	5,637	3.205	2.832	33.1	0,55	0.37	27.1	20.2	31.49	689	2.64
CM-6	1.2	1.9	5.637	3.055	2.982	36.5	0.55	0.37	30.2	21.6	33.11	725	2.76
CM-7	1.2	1.9_	5.857	2.691	3.566	62,2	0.55	0.37	44.8	27.7	39.42	887	3.23
CM8-1	1.2	1.9	5.507	2,755	3.152	40.7	0.55	0.37 0.37	<u>34.1</u> 34.6	23.3 23.5	34.95 35.17	766	2,9 2,91
CM8-1-1 CM-8-2	1.2	<u>1.9</u> 1,9	<u>5.592</u> 5.507	2.819 2.795	3.173 3.112	41.3	0.55	0.37	33,2	22.9	34.51	757	2.86
CM-8-2-1	1,2	1,9	5.602	2.821	3.181	41.5	0.55	0.37	34.8	23.6	35,28	773	2.92
CM-8-3	1.2	1.9	5.507	2,258	3.649	54.7	0,55	0.37	47.2	28.6	40,31	887	3.3
CM~8-4	1.2	1.9	5.507	2,895	3.012	37.3	0,55	0.37	30.9	21.9	33,43	732	2.78
DM-1	1.2	1.9	6.25	4.797	1.853	15,4	0,55	0.37	11.2	11.9	20.92	451	1.84
DM-2 DM-3	1.2	<u>1.9</u> 1.9	<u>5.5</u> 5.2	<u>3.147</u> 3.045	2,753	27.2	0,55	0.37	25.4	19.5	<u>30.64</u> 28.5	669 621	2.57
DM-4	1.2	1.9	5.34	3.125	2.815	28,4	0,55	0.37	22.8	18.2	29,15	636	2.48
DM-4-1	1.2	1.9	5.34	3.047	2,693	30.1	0.55	0.37	24,3	18.9	29,99	655	2.52
DM-5	1.2	1,9	5.34	2.865	2,875	34.1	0.55	0,37	28	20.6	31,95	699	2.67
DM-5-1	1.2	1.9	5.34	2,887	2,853	33.6	0.55	0.37	27.5	20.4	31.72	694	2,65
DM-7-1	1.2	1.9	5,17	<u>2,683</u> 2,7	2.887	34.3	0,55	0,37 0,37	28.2	20.7	32.08 26.01	702	2,68
DM-8-1 DM-9-1	<u>1.2</u> 1.2	<u>1.9</u> 1.9	<u>4,625</u> 5.01	2.548	2,325	33.8	0.55	0.37	27.7	20.5	31.84	696	2,25
DM-9-2	1.2	1.9	5,01	2.564	2.846	33.4	0.55	0.37	27.3	20,3	31.64	692	2.65
EM-1	1.2	1,9	6.06	3,897	2.583	27.4	0.55	0.37	21.9	17.7	28.59	623	2.42
EM-2	1.2	1,9	5.97	3,799	2.571	27.6	0.55	0.37	22	17.8	28.67	625	2.43
EM-2-1	1.2	1.9	5.97	3.808	2.562	27.4	0.55	0.37	21.9 22.5	17.7	28,57 28,98	623 632	2.42
EM-3 EM-4-2	1.2	<u>1.9</u> 1.9	<u> </u>	<u>3.39</u> 3.972	2.6 1.858	28.1	0,55	0.37	11.2	18	28,98	452	2,45
EM-4-2	1.2	1.9	6.14	4.687	1.853	15.4	0.55	0.37	11.2	11.9	20.92	451	1.84
EM-4-4	1.2	1.9	6.25	4.797	1.853	15.4	0.55	0.37	11.2	11.9	20,92	451	1.84
Total		÷.				1,090	18.7	12.6	883	662	1,040	22,600	87.0
AM-2	1.5	2,2	5,522	2.406	3.516	58.8	0.73	0.49	48.1	29.5	47.5	932	3.97
AM-3	1.5	2.2	5,332	2.328	3.404	55.2	0.73	0.49	44.8	28.2	46.02	903	3,86
AM-5-1	1.5	2.2	5.132 4.928	2.158	3.374	<u>54.2</u> 53,4	0.73	0.49	43.8	27.9	45,62	895	<u>3.83</u> 3.8
AM-6-1 AM-6-2	<u>1.5</u> 1.5	2,2	4.928	2.007	3.321	52.6	0.73	0,49	42.4	27.3	44.92	881	3.78
AM-7-1	1.5	2.2	4.711	1.797	3.314	52.4	0.73	0.49	42.2	27.2	44.83	879	3.77
BM-4	1.5	2.2	4.711	1.395	3.716	65.5	0.73	0.49	54.2	31.8	50.14	985	4.17
BM-5-1	1.5	2.2	4.711	1.373	3.73B	66,3	0.73	0.49	55	32.1	50,43	991	4.19
CM-11-1	1.5	2.2	5,132	2.379	3.153	47.6	0.73	0.49	<u>37.8</u> 36	25.5 24.7	42.7 41.75	836	3.61
CM-12-1 CM-13-1	1.5	2.2	4,928	2.247	3.081 3.671	<u>45.6</u> 64	0.73	0.49	52.8	31.3	49.54	973	<u>3,54</u> 4,13
CM-8	1.5	2.2	5.507	2.62	3.287	51.6	0.73	0.49	41.5	26.9	44.47	872	3.75
CM-9	1.5	2.2	5,332	2.55	3,182	48.5	0,73	0.49	38.7	25.8	43.09	844	3.64
DM-10	1.5	2.2	4.844	2.084	3.16	47.8	0.73	0.49	38	25.5	42.8	838	3.62
DM-6.	1.5	2.2	4.625	2,836	2.189	<u>24.7</u> 40.8	0.73	<u>0.49</u> 0.49	17.6	16.1 22.9	29,98 39,43	581	2.66
DM-7 DM-8	<u>1.5</u> 1.5	2.2	5.119	2.519	2.503	43.4	0,73	0,49	34.1	23.8	40.68	795	3,46
DM-9	1.5	2.2	5.019	2,739	2.68	35.2	0.73	0.49	26.7	20.6	36.46	711	3.14
EM-4	1.5	2.2	5.33	3,114	2.616	33.7	0.73	0.49	25.4	20	35.62	694	3.08
EM-4-1	1.5	2.2	5.33	3.306	2.424	29.5	0,73	0.49	21.7	18.2	33.08	643	2.89
EM-5	1.5	2.2	<u>5.22</u> 5.22	2.979 3,001	2.641	<u>34.3</u> 33.8	0.73	0.49	<u>25.9</u> 25.5	20.2	<u>35.95</u> 35.86	700 695	<u>3.11</u> 3.08
EM-5-1 EM-5-2	<u>1.5</u> 1.5	2.2	5.22	3.001	2.61 <u>9</u> 2.609	33.6	0.73	0.49	25.3	19.9	35.52	693	3.08
EM-8	1.5	2.2	4.89	2.669	2.621	33.9	0.73	0.49	25.8	20.1	35.68	695	3.09
Total						1,110	17.6	11.8	880	600	1,000	19,600	85
ng cover													
AM-4	1.5	2.2	5.332	2,28	3.452	58.7	0.73	0.49	46.1	28.8	46.65	915	3.91
AM-5 AM-6	1.5	2.2	<u>5.132</u> 4.928	2,109	3,423	55.8	0.73	0.49	45.3 44.5	28.4	46.27 45.89	908 900	<u>3.88</u> 3.85
AM-6 8M-1	1.5	2.2	5.332	1.934	3,394	<u>54.9</u> 70.4	0.73	0.49	58.7	33.4	51.92	1021	4.3
BM-1-1	1.5	2.2	5.332	1.929	3.803	68.6	0.73	0.49	57,1	32.8	51.28	1008	4.28
BM-2	1.5	2.2	5,132	1.71	3.822	69.3	0.73	0.49	57.7	33.1	51.54	1013	4.27
BM-2-1	1.5	2.2	5.132	1.758	3.774	67.6	0.73	0.49	56.2	32.5	50.9	1001	4,23
BM-3	1.5	2.2	4.928	1.534	3.794	68.3	0.73	0.49	56.8	32.7	51.17	1006	4.25
BM-3-1	1.5	2.2	4.928 5.332	1.582	<u>3.746</u> 3.23	<u>66.6</u> 49,9	0.73	0.49	<u>55.2</u> 39.9	32.2	<u>50.53</u> 43.72	<u>993</u> 856	4.2 3.69
CM-10 CM-11	<u>1.5</u> 1.5	2.2	5.132	2.502	3.201	49,9	0.73	0.49	39.1	20.3	43.34	849	3.68
CM-12	1.5	2.2	4.928	2.199	3.129	46.9	0.73	0.49	37.2	25.2	42,39	830	3.59
Total						730	8.8	5.9	600	360	576	11,300	49
l separator			-										
AM-7	1.5	2,2	4.711	0.993	4,118	93.4	1.09	0.73	68.2	41.7	73.89	1504	9.30
BM-5	1.5	2.2	4.711	0,993	4.118	93.4	1.09	0.73	68,2	41.7	73.89	1504	9.30
CM-13 DM-11	<u>1.5</u> 1.5	2.2	4.711	0.993	4.118 4.118	93.4	1.09	0.73	<u>88.2</u> 68.2	41.7	<u>73.89</u> 73.89	1504	9.30 9.30
	1.0	<i></i>	1.111	0.000	<u>1.110</u>	<u>əo.4</u>	1.05	0,10			10.09		3.00
Total						380	4,4	3.0	273	167	296	6,020	38
			· · · ·							1			