

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project In La Union Province	Project Code	JC1N004/2N001
Work Section Title	R/R culvert 762 mm	Pay Item No. (BOQ)	2H-0301
Quantity Item	Excavation and Disposal	Unit	m ³

Calculation Procedure Applied

1. Average level of inlet level and outlet level
2. Average level minus base thickness
3. Average ground level
4. Calculation of effective height
5. Calculation of Area
6. Calculation of Volume : Area time length

References, Calculation Base and Revisions

See the item of excavation and disposal of 457mm
(2H-0301)

Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Kohji Goto	EA		Mr. Inuma		Mr. Ando		
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Pipe culvert 762 mm	Calc. Index No.	
Subject	Excavation and Disposal	Page No.	Rev.

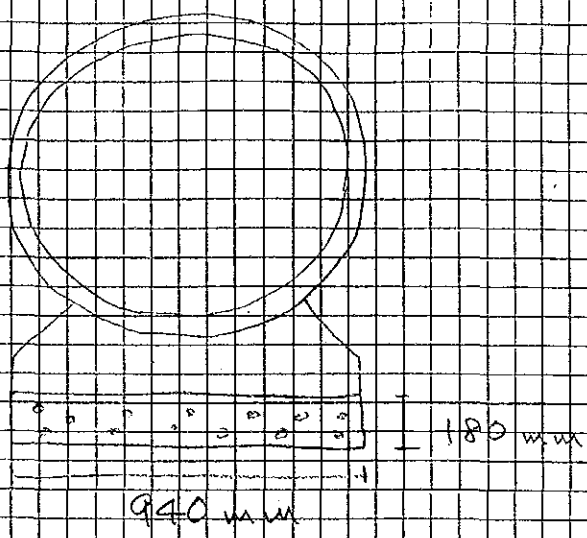
References/ Notes
<p>Diagram showing the excavation and disposal of a pipe culvert. The diagram includes a cross-section of the excavation and a side view showing the inlet level, outlet level, and the length of the excavation.</p> <p>Labels in diagram: D_{out}, D_{in}, H, D_{out}, L, Y_{in}, Y_{out}, $0.2m$, $0.2m$.</p> <p>Equations:</p> $L_{ac} = L - 0.2 \times 2$ $A = (2 D_{out} + H) \times H \div 2$ $V = A \times L_{ac}$

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Pipe Culvert集計

		D _{in} (m)	D _{out} (m)	t (m)	G (m)	Y _{in} (m)	Y _{out} (m)	H (m)	L (m)	Lao (m)	Vex (m3)	Vcs (m3)	Vlc (m3)	Vbf (m3)	Cmpot (m2)
1	CP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2	CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.5
3	CP-3	0.457	0.584	0.064	5.437	3.503	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4	CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5	CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	58
6	CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7	CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8	CP-7	0.457	0.584	0.064	5.682	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9	CP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.6	411	5.93	5.98	381	239
10	CP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11	CP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12	CP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13	CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14	CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15	DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.79	281	11.29	11.39	224	279.3
16	DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17	DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.368	24.13	23.73	100	2.08	2.1	90	70.1
18	DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.5
19	DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.628	18.25	17.85	90	1.57	1.58	82	57.4
20	DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21	DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22	EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23	EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24	EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25	EP-4-3	0.457	0.584	0.064	5.785	4.887	4.176	1.587	142.69	142.29	312	12.47	12.58	249	309
26	EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27	EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total									1,070		4450	92.5	93.3	3990	3080
1	AP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2	AP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3	AP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4	AP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5	AP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6	AP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7	AP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	91	1.69	1.88	82	47.9
8	AP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9	BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10	BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11	BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12	CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13	CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14	CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15	CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.06	4.54	173	109.6
16	CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17	CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18	DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	862	21.9	24.44	743	538.2
19	DP-5-1	0.61	0.762	0.076	5.34	3.087	3.066	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20	EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	261	7.5	8.37	221	173.8
21	EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22	EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23	EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24	EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total									810		5390	110	122	4810	2970
1	AP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.265	87.49	87.09	732	14.74	19.7	637	366.3
2	BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total									174		1620	29.2	39.1	1430	762
1	AP-6	0.914	1.118	0.102	4.82	2.134	1.952	3.269	93.6	93.2	839	18.76	28.14	701	408.9
2	BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3	CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4	DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5	DP-6	0.914	1.118	0.102	4.898	3.036	2.868	2.438	85.88	85.48	488	17.21	25.81	361	304
6	DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.6
7	DP-8	0.914	1.118	0.102	5.069	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8	DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9	EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total									866		6380	174	261	5100	3440
1	BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2	BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3	BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4	CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5	CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	640	426.2
6	DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	26.58	45.05	650	419
7	DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8	EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total									580		5720	170	288	4270	2700

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	250 culvert 1769.00m			Pay Item No. (BOQ)	2H - 0302			
Quantity Item	Crushed stone for foundation			Unit	m ³			
Calculation Procedure Applied <p style="margin-left: 40px;">Volume of crushed stone was computed by multiplying section area by actual length.</p>								
References, Calculation Base and Revisions <p style="margin-left: 40px;">See the item of excavation and disposal of material (2011.01.10)</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	K. G. Garcia	1/10/11		Mr. Inuma		Mr. Ando		
1								
2								
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Pipe culvert 762 mm	Calc. Index No.	
Subject	Crushed stone for foundation	Page No.	Rev.
		References/ Notes	
$V = 0.18 \times 0.94 \times L_{ac}$			
Prepared by		Checked by	
/ /200		/ /200	

Pipe Culvert集計

		D _{in} (m)	D _{out} (m)	t (m)	G (m)	Y _{in} (m)	Y _{out} (m)	H (m)	L (m)	Lac (m)	Vex (m3)	Vcs (m3)	Vlo (m3)	Vbf (m3)	Cmpot (m2)
1	CP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2	CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.6
3	CP-3	0.457	0.584	0.064	5.437	3.503	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4	CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5	CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	58
6	CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7	CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8	CP-7	0.457	0.584	0.064	5.682	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9	CP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.6	411	5.93	5.98	381	239
10	CP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11	CP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12	CP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13	CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14	CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15	DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.79	281	11.29	11.39	224	279.3
16	DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17	DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.368	24.13	23.73	100	2.08	2.1	90	70.1
18	DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.5
19	DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.628	18.25	17.85	90	1.57	1.58	82	57.4
20	DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21	DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22	EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23	EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24	EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25	EP-4-3	0.457	0.584	0.064	5.785	4.887	4.176	1.587	142.69	142.29	312	12.47	12.58	249	309
26	EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27	EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total									1.070		4450	92.5	93.3	3990	3080
1	AP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2	AP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3	AP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4	AP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5	AP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6	AP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7	AP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	91	1.69	1.88	82	47.9
8	AP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9	BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10	BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11	BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12	CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13	CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14	CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15	CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.06	4.54	173	109.6
16	CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17	CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18	DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	862	21.9	24.44	743	538.2
19	DP-5-1	0.61	0.762	0.076	5.34	3.087	3.066	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20	EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	261	7.5	8.37	221	173.8
21	EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22	EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23	EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24	EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total									810		5390	110	122	4810	2970
1	AP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.265	87.49	87.09	732	14.74	19.7	637	366.3
2	BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total									174		1620	29.2	39.1	1430	762
1	AP-6	0.914	1.118	0.102	4.82	2.134	1.952	3.269	93.6	93.2	839	18.76	28.14	701	408.9
2	BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3	CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4	DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5	DP-6	0.914	1.118	0.102	4.898	3.036	2.868	2.438	85.88	85.48	488	17.21	25.81	361	304
6	DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.6
7	DP-8	0.914	1.118	0.102	5.069	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8	DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9	EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total									866		6380	174	261	5100	3440
1	BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2	BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3	BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4	CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5	CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	840	426.2
6	DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	26.58	45.05	650	419
7	DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8	EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total									580		5720	170	288	4270	2700

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Pipe culvert 762 mm			Pay Item No. (BOQ)	24-0303			
Quantity Item	Lean concrete			Unit	m ³			
Calculation Procedure Applied								
<p>Volume of lean concrete was computed by multiplying section area by actual length, manhole base was taken into consideration.</p>								
References, Calculation Base and Revisions								
<p>See the item of excavation and disposal of 457mm (24-0101)</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Kudo Goro			Mr. Inuma		Mr. Ando		
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Rip culvert 762 mm	Calc. Index No.	
Subject	Lean concrete	Page No.	Rev.
		References/ Notes	
$A = 0.19 \times 0.94 = 0.1786 \times 0.47 \div 2$ $= (0.47)^2 \times \pi$			
$V = A \times Lac$			
Prepared by		Checked by	
/ /200		/ /200	

Pipe Culvert集計

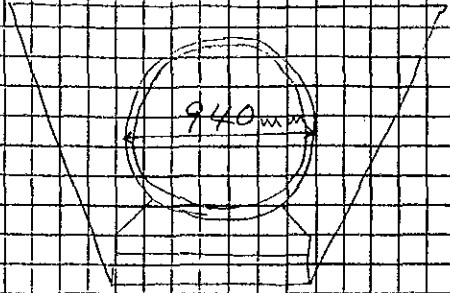
	D _{in} (m)	D _{out} (m)	t (m)	G (m)	Y _n (m)	Y _{out} (m)	H (m)	L (m)	Lac (m)	Vex (m3)	Vos (m3)	Vlc (m3)	Vbf (m3)	Empot (m2)
1 CP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2 CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.5
3 CP-3	0.457	0.584	0.064	5.437	3.503	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4 CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5 CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	58
6 CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7 CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8 CP-7	0.457	0.584	0.064	5.682	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9 CP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.6	411	5.93	5.98	381	239
10 CP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11 CP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12 CP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13 CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14 CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15 DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.79	281	11.29	11.39	224	279.3
16 DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17 DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.368	24.13	23.73	100	2.08	2.1	90	70.1
18 DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.5
19 DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.628	18.25	17.85	90	1.57	1.58	82	57.4
20 DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21 DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22 EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23 EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24 EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25 EP-4-3	0.457	0.584	0.064	5.785	4.887	4.176	1.587	142.69	142.29	312	12.47	12.58	249	309
26 EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27 EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total								1,070		4450	92.5	93.3	3990	3080
1 AP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2 AP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3 AP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4 AP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5 AP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6 AP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7 AP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	91	1.69	1.88	82	47.9
8 AP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9 BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10 BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11 BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12 CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13 CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14 CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15 CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.06	4.54	173	109.6
16 CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17 CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18 DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	862	21.9	24.44	743	538.2
19 DP-5-1	0.61	0.762	0.076	5.34	3.087	3.066	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20 EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	261	7.5	8.37	221	173.8
21 EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22 EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23 EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24 EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total								810		5390	110	122	4810	2970
1 AP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.265	87.49	87.09	732	14.74	19.7	637	366.3
2 BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total								174		1620	29.2	39.1	1430	762
1 AP-6	0.914	1.118	0.102	4.82	2.134	1.952	3.269	93.6	93.2	839	18.76	28.14	701	408.9
2 BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3 CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4 DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5 DP-6	0.914	1.118	0.102	4.898	3.036	2.868	2.438	85.88	85.48	488	17.21	25.81	361	304
6 DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.6
7 DP-8	0.914	1.118	0.102	5.069	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8 DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9 EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total								866		6380	174	261	5100	3440
1 BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2 BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3 BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4 CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5 CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	640	426.2
6 DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	26.58	45.05	650	419
7 DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8 EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total								580		5720	170	288	4270	2700

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Pipe culvert 762mm			Pay Item No. (BOQ)	2H-0304			
Quantity Item	Installation drainage pipe			Unit				
Calculation Procedure Applied <p style="font-size: 1.2em; margin-top: 10px;">Length of drainage pipe was computed for pipe culvert 762mm.</p>								
References, Calculation Base and Revisions <p style="font-size: 1.2em; margin-top: 10px;">See the item of excavation and disposal of 100mm (2H-0101)</p>								
Rev	Prepared		No. of	Checked		Reviewed		Superseded
	by	Date	Pages	by	Date	by	Date	by Calc No.
0	Kaila Gama			Mr. Inuma		Mr. Ando		
1								
2								
3								

Pipe Culvert集計

		D _{in} (m)	D _{out} (m)	t (m)	G (m)	Y _{in} (m)	Y _{out} (m)	H (m)	L (m)	Lac (m)	Vex (m3)	Vcs (m3)	Vlc (m3)	Vbf (m3)	Cmpot (m2)
1	CP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2	CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.5
3	CP-3	0.457	0.584	0.064	5.437	3.503	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4	CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5	CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	58
6	CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7	CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8	CP-7	0.457	0.584	0.064	5.682	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9	CP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.8	411	5.93	5.98	381	239
10	CP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11	CP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12	CP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13	CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14	CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15	DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.79	281	11.29	11.39	224	279.3
16	DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17	DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.368	24.13	23.73	100	2.08	2.1	90	70.1
18	DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.5
19	DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.628	18.25	17.85	90	1.57	1.58	82	57.4
20	DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21	DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22	EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23	EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24	EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25	EP-4-3	0.457	0.584	0.064	5.785	4.887	4.176	1.587	142.69	142.29	312	12.47	12.58	249	309
26	EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27	EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total									1,070		4450	92.5	93.3	3990	3080
1	AP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2	AP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3	AP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4	AP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5	AP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6	AP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7	AP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	91	1.69	1.88	82	47.9
8	AP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9	BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10	BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11	BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12	CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13	CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14	CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15	CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.06	4.54	173	109.6
16	CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17	CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18	DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	862	21.9	24.44	743	538.2
19	DP-5-1	0.61	0.762	0.076	5.34	3.087	3.066	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20	EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	261	7.5	8.37	221	173.8
21	EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22	EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23	EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24	EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total									810		5390	110	122	4810	2970
1	IAP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.265	87.49	87.09	732	14.74	19.7	637	366.3
2	BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total									174		1620	29.2	39.1	1430	762
1	AP-6	0.914	1.118	0.102	4.82	2.134	1.952	3.269	93.6	93.2	839	18.76	28.14	701	408.9
2	BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3	CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4	DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5	DP-6	0.914	1.118	0.102	4.898	3.036	2.868	2.438	85.88	85.48	488	17.21	25.81	361	304
6	DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.6
7	DP-8	0.914	1.118	0.102	5.069	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8	DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9	EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total									866		6380	174	261	5100	3440
1	BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2	BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3	BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4	CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5	CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	640	426.2
6	DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	26.58	45.05	650	419
7	DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8	EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total									580		5720	170	288	4270	2700

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Pipe culvert 762mm			Pay Item No. (BOQ)	2H-0305 01			
Quantity Item	Backfill sand			Unit	m ³			
Calculation Procedure Applied Volume of backfill sand was computed by excavation volume minus pipeculvert volume, lean concrete volume and crushed stone volume.								
References, Calculation Base and Revisions See the item of excavation and disposal of 150mm (2H-0305 01)								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Koko Garcia			Mr. Jauma		Mr. Ando		
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Pipe culvert 762 mm	Calc. Index No.	
Subject	Backfill sand	Page No.	Rev.
		References/ Notes	
			
Pipe culvert volume			
$V_p = (0.47)^2 \times \pi \times L$			
$V = V_{EX} - V_p - V_{IC} - V_{CS}$			
V_{EX} : Volume of excavation			
V_{IC} : Volume of lean concrete			
V_{CS} : Volume of crushed stone			
Prepared by		Checked by	
/ /200		/ /200	

Pipe Culvert集計

		D _{in} (m)	D _{out} (m)	t (m)	G (m)	Y _{in} (m)	Y _{out} (m)	H (m)	L (m)	Lac (m)	V _{ex} (m3)	V _{es} (m3)	V _{lo} (m3)	V _{bf} (m3)	Cmpot (m2)
1	CP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2	CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.5
3	CP-3	0.457	0.584	0.064	5.437	3.503	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4	CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5	CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	58
6	CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7	CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8	CP-7	0.457	0.584	0.064	5.882	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9	CP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.6	411	5.93	5.98	381	239
10	CP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11	CP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12	CP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13	CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14	CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15	DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.79	281	11.29	11.39	224	279.3
16	DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17	DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.368	24.13	23.73	100	2.08	2.1	90	70.1
18	DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.5
19	DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.828	18.25	17.85	90	1.57	1.58	82	57.4
20	DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21	DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22	EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23	EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24	EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25	EP-4-3	0.457	0.584	0.064	5.785	4.887	4.176	1.587	142.69	142.29	312	12.47	12.58	249	309
26	EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27	EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total									1,070		4450	92.5	93.3	3990	3080
1	AP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2	AP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3	AP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4	AP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5	AP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6	AP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7	AP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	91	1.69	1.88	82	47.9
8	AP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9	BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10	BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11	BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12	CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13	CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14	CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15	CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.06	4.54	173	109.6
16	CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17	CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18	DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	862	21.9	24.44	743	538.2
19	DP-5-1	0.61	0.762	0.076	5.34	3.087	3.066	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20	EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	261	7.5	8.37	221	173.8
21	EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22	EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23	EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24	EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total									810		5390	110	122	4810	2970
1	AP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.265	87.49	87.09	732	14.74	19.7	637	366.3
2	BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total									174		1620	29.2	39.1	1430	762
1	AP-6	0.914	1.118	0.102	4.82	2.134	1.952	3.269	93.6	93.2	839	18.76	28.14	701	408.9
2	BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3	CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4	DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5	DP-6	0.914	1.118	0.102	4.898	3.036	2.868	2.438	85.88	85.48	488	17.21	25.81	361	304
6	DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.6
7	DP-8	0.914	1.118	0.102	5.069	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8	DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9	EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total									866		6380	174	261	5100	3440
1	BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2	BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3	BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4	CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5	CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	640	426.2
6	DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	26.58	45.05	650	419
7	DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8	EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total									580		5720	170	288	4270	2700

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	Pipe culvert 762 mm	Pay Item No. (BOQ)	2H-030502
Quantity Item	Compaction	Unit	m ²

Calculation Procedure Applied

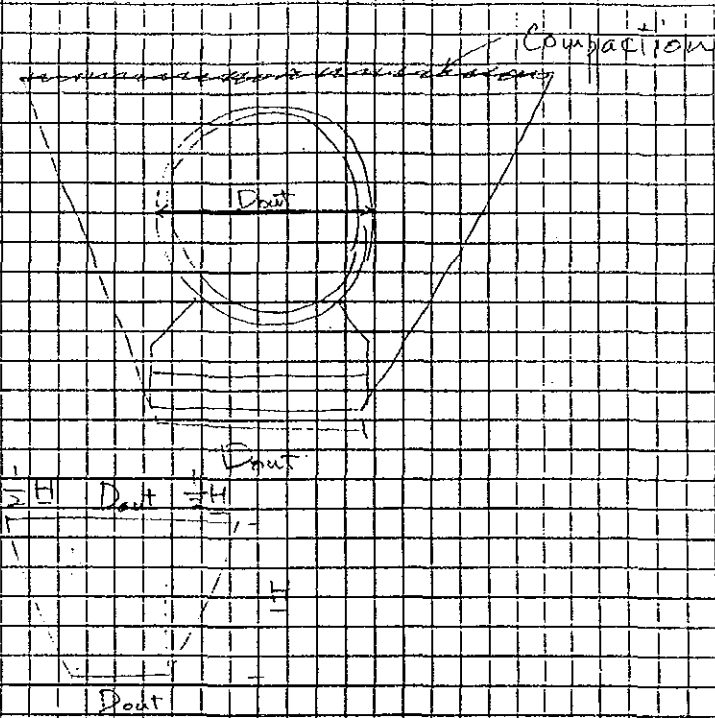
Area of compaction was computed by multiplying compaction length by actual length.

References, Calculation Base and Revisions

See the item of excavation and diameter of 57mm.

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

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Dred solvent 762 mm	Calc. Index No.	
Subject	Compaction	Page No.	Rev.

References/Notes
 <p>Compaction length</p> $L = \frac{1}{2}H + D_{out} + \frac{1}{2}H$ $= H + D_{out}$ <p>Compaction area</p> $A = (H + D_{out}) \times L_{ac}$

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Pipe Culvert集計

		D _{in} (m)	D _{out} (m)	t (m)	G (m)	Y _n (m)	Y _{out} (m)	H (m)	L (m)	Lac (m)	Vex (m3)	Vcs (m3)	Vlo (m3)	Vbf (m3)	Cmpct (m2)
1	CP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2	CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.5
3	CP-3	0.457	0.584	0.064	5.437	3.503	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4	CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5	CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	58
6	CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7	CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8	CP-7	0.457	0.584	0.064	5.682	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9	CP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.6	411	5.93	5.98	381	239
10	CP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11	CP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12	CP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13	CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14	CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15	DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.79	281	11.29	11.39	224	279.3
16	DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17	DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.368	24.13	23.73	100	2.08	2.1	90	70.1
18	DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.5
19	DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.628	18.25	17.85	90	1.57	1.58	82	57.4
20	DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21	DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22	EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23	EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24	EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25	EP-4-3	0.457	0.584	0.064	5.785	4.887	4.176	1.587	142.69	142.29	312	12.47	12.58	249	309
26	EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27	EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total									1,070		4450	92.5	93.3	3990	3080
1	AP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2	AP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3	AP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4	AP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5	AP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6	AP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7	AP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	91	1.69	1.88	82	47.9
8	AP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9	BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10	BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11	BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12	CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13	CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14	CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15	CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.06	4.54	173	109.6
16	CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17	CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18	DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	862	21.9	24.44	743	538.2
19	DP-5-1	0.61	0.762	0.076	5.34	3.087	3.066	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20	EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	261	7.5	8.37	221	173.8
21	EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22	EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23	EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24	EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total									810		5390	110	122	4810	2970
1	IAP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.265	87.49	87.09	732	14.74	19.7	637	366.3
2	BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total									174		1620	29.2	39.1	1430	762
1	AP-6	0.914	1.118	0.102	4.82	2.134	1.952	3.269	93.6	93.2	839	18.76	28.14	701	408.9
2	BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3	CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4	DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5	DP-6	0.914	1.118	0.102	4.898	3.036	2.868	2.438	85.88	85.48	488	17.21	25.81	361	304
6	DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.6
7	DP-8	0.914	1.118	0.102	5.069	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8	DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9	EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total									866		6380	174	261	5100	3440
1	BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2	BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3	BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4	CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5	CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	640	426.2
6	DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	26.58	45.05	650	419
7	DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8	EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total									580		5720	170	288	4270	2700

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	R/R Culvert 914mm			Pay Item No. (BOQ)	2H-09-01			
Quantity Item	Excavation and Disposal			Unit	m ³			
Calculation Procedure Applied								
<ol style="list-style-type: none"> 1. Average level of inlet level and outlet level 2. Average level minus base thickness 3. Average ground level 4. Calculation of effective height 5. Calculation of Area 6. Calculation of Volume : Area time length 								
References, Calculation Base and Revisions								
<p style="font-size: 1.2em;">See the item of excavation and disposal</p> <p style="text-align: right; margin-right: 50px;">2H-09-01</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	K. G. G. G.			Mr. Inuma		Mr. Ando		
1								
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Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Pipe Culvert 914 mm	Calc. Index No.	
Subject	Excavation and Disposal	Page No.	Rev.

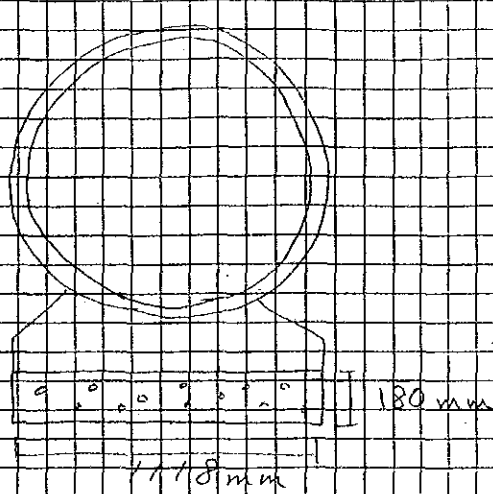
References/ Notes
<p> $L_{ac} = L - 0.2 \times 2$ $A = \frac{(2 D_{out} + H) \times H}{2}$ $V = A \times L_{ac}$ </p>

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Pipe Culvert集計

		D _m (m)	D _{out} (m)	t (m)	G (m)	Y _m (m)	Y _{out} (m)	H (m)	L (m)	Lao (m)	Vex (m3)	Vcs (m3)	Vlc (m3)	Vbf (m3)	Cmpot (m2)
1	CP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2	CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.5
3	CP-3	0.457	0.584	0.064	5.437	3.603	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4	CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5	CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	58
6	CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7	CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8	CP-7	0.457	0.584	0.064	5.682	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9	CP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.6	411	5.93	5.98	381	239
10	CP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11	CP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12	CP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13	CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14	CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15	DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.79	281	11.29	11.39	224	279.3
16	DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17	DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.368	24.13	23.73	100	2.08	2.1	90	70.1
18	DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.6
19	DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.628	18.25	17.85	90	1.57	1.58	82	57.4
20	DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21	DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22	EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23	EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24	EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25	EP-4-3	0.457	0.584	0.064	5.785	4.887	4.176	1.587	142.69	142.29	312	12.47	12.58	249	309
26	EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27	EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total									1,070		4450	92.5	93.3	3990	3080
1	AP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2	AP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3	AP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4	AP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5	AP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6	AP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7	AP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	91	1.69	1.88	82	47.9
8	AP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9	BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10	BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11	BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12	CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13	CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14	CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15	CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.06	4.54	173	109.6
16	CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17	CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18	DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	862	21.9	24.44	743	538.2
19	DP-5-1	0.61	0.762	0.076	5.34	3.087	3.066	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20	EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	261	7.5	8.37	221	173.8
21	EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22	EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23	EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24	EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total									810		5390	110	122	4810	2970
1	AP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.265	87.49	87.09	732	14.74	19.7	637	366.3
2	BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total									174		1620	29.2	39.1	1430	762
1	AP-6	0.914	1.118	0.102	4.82	2.134	1.952	3.269	93.6	93.2	839	18.76	28.14	701	408.9
2	BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3	CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4	DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5	DP-6	0.914	1.118	0.102	4.898	3.036	2.868	2.438	85.88	85.48	488	17.21	25.81	361	304
6	DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.8
7	DP-8	0.914	1.118	0.102	5.089	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8	DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9	EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total									866		6380	174	261	5100	3440
1	BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2	BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3	BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4	CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5	CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	640	426.2
6	DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	26.58	45.05	650	419
7	DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8	EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total									580		5720	170	288	4270	2700

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Pipe culvert 914 mm			Pay Item No. (BOQ)	24-0402			
Quantity Item	Crushed stone for foundation			Unit	m ³			
Calculation Procedure Applied								
<p>Volume of crushed stone was computed by multiplying cross area by actual length.</p>								
References, Calculation Base and Revisions								
<p>See the item of excavation and foundation.</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Kela Goria			Hr. Torma		Hr. Ando		
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Pipe culvert 914 mm	Calc. Index No.	
Subject	Crushed stone for foundation	Page No.	Rev.
		References/ Notes	
$V = 0.18 \times 1.118 \times L_{ac}$			
Prepared by		Checked by	
/ /200		/ /200	

Pipe Culvert集計

		D _{in} (m)	D _{out} (m)	t (m)	G (m)	Y _{in} (m)	Y _{out} (m)	H (m)	L (m)	Lac (m)	Vex (m ³)	Ves (m ³)	Vlc (m ³)	Vbf (m ³)	Cmpet (m ²)
1	CP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2	CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.5
3	CP-3	0.457	0.584	0.064	5.437	3.503	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4	CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5	CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	59
6	CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7	CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8	CP-7	0.457	0.584	0.064	5.682	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9	CP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.6	411	5.93	5.98	381	239
10	CP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11	CP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12	CP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13	CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14	CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15	DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.79	281	11.29	11.39	224	279.3
16	DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17	DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.368	24.13	23.73	100	2.08	2.1	90	70.1
18	DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.5
19	DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.628	18.25	17.85	90	1.57	1.58	82	57.4
20	DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21	DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22	EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23	EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24	EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25	EP-4-3	0.457	0.584	0.064	5.785	4.887	4.176	1.587	142.69	142.29	312	12.47	12.58	249	309
26	EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27	EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total									1,070		4450	92.5	93.3	3990	3080
1	AP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2	AP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3	AP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4	AP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5	AP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6	AP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7	AP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	91	1.69	1.88	82	47.9
8	AP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9	BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10	BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11	BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12	CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13	CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14	CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15	CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.06	4.54	173	109.6
16	CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17	CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18	DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	862	21.9	24.44	743	538.2
19	DP-5-1	0.61	0.762	0.076	5.34	3.087	3.066	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20	EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	261	7.5	8.37	221	173.8
21	EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22	EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23	EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24	EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total									810		5390	110	122	4810	2970
1	AP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.265	87.49	87.09	732	14.74	19.7	637	366.3
2	BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total									174		1620	29.2	39.1	1430	762
1	AP-6	0.914	1.118	0.102	4.82	2.134	1.952	3.269	93.6	93.2	839	18.76	28.14	701	408.9
2	BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3	CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4	DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5	DP-6	0.914	1.118	0.102	4.898	3.036	2.868	2.438	85.88	85.48	488	17.21	25.81	361	304
6	DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.6
7	DP-8	0.914	1.118	0.102	5.069	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8	DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9	EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total									866		6380	174	261	5100	3440
1	BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2	BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3	BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4	CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5	CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	640	426.2
6	DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	26.58	45.05	650	419
7	DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8	EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total									580		5720	170	288	4270	2700

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Reinforced concrete pile			Pay Item No. (BOQ)	2H-0403			
Quantity Item	Lean concrete			Unit	m ³			
Calculation Procedure Applied <p style="margin-left: 40px;">Volume of concrete was calculated by area by actual length.</p>								
References, Calculation Base and Revisions <p style="margin-left: 40px;">Concrete pile was calculated by actual length.</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Koda Gorio	12/1		Mr. Inuma		Mr. Ando		
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Rip culvert 914mm	Calc. Index No.	
Subject	Lean concrete	Page No.	Rev.

References/ Notes
<p>Lean concrete</p> <p>Crushed stone</p> <p>210</p> <p>914mm</p> <p>1118mm</p> <p>559</p> <p>210</p> <p>1118mm</p> <p> $A = 0.21 \times 1.18 + 1.118 \times 0.559 \div 2 + (0.559)^2 \times \pi$ $V = A \times 1.00$ </p>

Prepared by	Checked by
/ /200	/ /200

Pipe Culvert集計

		D _{in} (m)	D _{out} (m)	t (m)	G (m)	Y _{in} (m)	Y _{out} (m)	H (m)	L (m)	Lac (m)	Vex (m3)	Ves (m3)	Vlc (m3)	Vbf (m3)	Cmpet (m2)
1	CP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2	CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.5
3	CP-3	0.457	0.584	0.064	5.437	3.503	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4	CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5	CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	58
6	CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7	CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8	CP-7	0.457	0.584	0.064	5.682	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9	CP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.6	411	5.93	5.98	381	239
10	CP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11	CP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12	CP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13	CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14	CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15	DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.79	281	11.29	11.39	224	279.3
16	DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17	DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.368	24.13	23.73	100	2.08	2.1	90	70.1
18	DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.5
19	DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.628	18.25	17.85	90	1.57	1.58	82	57.4
20	DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21	DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22	EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23	EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24	EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25	EP-4-3	0.457	0.584	0.064	5.785	4.887	4.176	1.587	142.89	142.29	312	12.47	12.58	249	309
26	EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27	EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total									1,070		4450	92.5	93.3	3990	3080
1	AP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2	AP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3	AP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4	AP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5	AP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6	AP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7	AP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	91	1.69	1.88	62	47.9
8	AP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9	BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10	BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11	BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12	CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13	CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14	CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15	CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.06	4.54	173	109.6
16	CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17	CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18	DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	862	21.9	24.44	743	538.2
19	DP-5-1	0.61	0.762	0.076	5.34	3.087	3.066	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20	EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	261	7.5	8.37	221	173.8
21	EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22	EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23	EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24	EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total									810		5390	110	122	4810	2970
1	AP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.285	87.49	87.09	732	14.74	19.7	637	366.3
2	BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total									174		1620	29.2	39.1	1430	762
1	AP-6	0.914	1.118	0.102	4.82	2.134	1.952	3.269	93.6	93.2	839	18.76	28.14	701	408.9
2	BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3	CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4	DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5	DP-6	0.914	1.118	0.102	4.898	3.036	2.868	2.438	85.88	85.48	488	17.21	25.81	361	304
6	DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.6
7	DP-8	0.914	1.118	0.102	5.069	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8	DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9	EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total									866		6380	174	261	5100	3440
1	BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2	BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3	BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4	CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5	CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	640	426.2
6	DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	28.58	45.05	650	419
7	DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8	EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total									580		5720	170	288	4270	2700

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Pipe culvert 914 mm			Pay Item No. (BOQ)	2H-0404			
Quantity Item	Installation drainage pipe			Unit	M			
Calculation Procedure Applied								
<p>Length of drainage pipe was computed for take over 2.4 m.</p>								
References, Calculation Base and Revisions								
<p>See the item of excavation and disposal (2H-0101)</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Koda Genio			Mr. Torma		Mr. Ando		
1								
2								
3								

	D _n (m)	D _{out} (m)	t (m)	G (m)	Y _n (m)	Y _{out} (m)	H (m)	L (m)	Lac (m)	Vex (m3)	Vos (m3)	Vlo (m3)	Vbf (m3)	Cmpct (m2)
1 CP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2 CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.5
3 CP-3	0.457	0.584	0.064	5.437	3.503	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4 CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5 CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	58
6 CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7 CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8 CP-7	0.457	0.584	0.064	5.682	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9 CP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.6	411	5.93	5.98	381	239
10 CP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11 CP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12 CP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13 CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14 CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15 DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.79	281	11.29	11.39	224	279.3
16 DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17 DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.368	24.13	23.73	100	2.08	2.1	90	70.1
18 DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.5
19 DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.628	18.25	17.85	90	1.57	1.58	82	57.4
20 DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21 DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22 EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23 EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24 EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25 EP-4-3	0.457	0.584	0.064	5.785	4.867	4.176	1.587	142.69	142.29	312	12.47	12.58	249	309
26 EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27 EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total								1,070		4450	92.5	93.3	3990	3080
1 AP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2 AP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3 AP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4 AP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5 AP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6 AP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7 AP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	91	1.69	1.83	82	47.9
8 AP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9 BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10 BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11 BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12 CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13 CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14 CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15 CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.06	4.54	173	109.6
16 CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17 CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18 DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	862	21.9	24.44	743	538.2
19 DP-5-1	0.61	0.762	0.076	5.34	3.087	3.066	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20 EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	261	7.5	8.37	221	173.8
21 EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22 EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23 EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24 EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total								810		5390	110	122	4810	2970
1 AP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.265	87.49	87.09	732	14.74	19.7	637	366.3
2 BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total								174		1620	29.2	39.1	1430	762
1 AP-6	0.914	1.118	0.102	4.82	1.735	1.599	3.74	93.6	93.2	839	18.76	28.14	701	408.9
2 BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3 CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4 DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5 DP-6	0.914	1.118	0.102	4.898	3.036	2.868	2.438	85.88	85.48	488	17.21	25.81	381	304
6 DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.6
7 DP-8	0.914	1.118	0.102	5.069	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8 DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9 EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total								866		6380	174	261	5100	3440
1 BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2 BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3 BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4 CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5 CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	640	426.2
6 DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	28.58	45.05	650	419
7 DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8 EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total								580		5720	170	288	4270	2700

QUANTITY CALCULATION COVER SHEET

Project	Detailed Design on Port Reactivation Project in La Union Province	Project Code	JC1N004/2N001
Work Section Title	Pipe culvert 914 mm	Pay Item No. (BOQ)	2H-06050
Quantity Item	Backfill sand	Unit	m ³

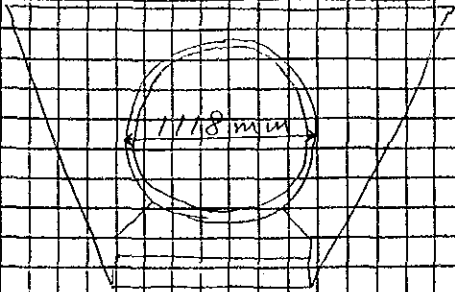
Calculation Procedure Applied

Volume of backfill sand was computed by excavation volume minus pipe culvert volume, lean concrete volume and crushed stone volume.

References, Calculation Base and Revisions

See the item of excavation and disposal of 457 mm.
(2H-0101).

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

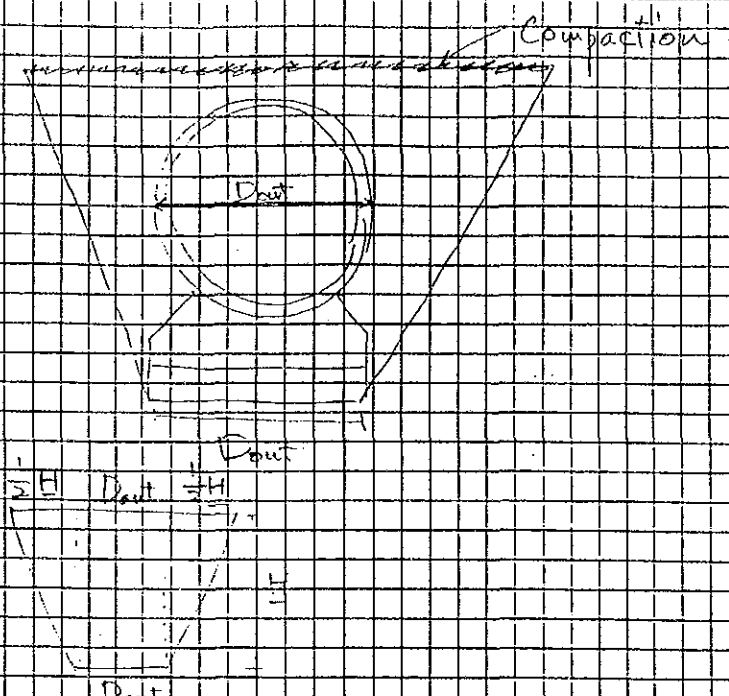
Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Ripe culvert 914 mm	Calc. Index No.	
Subject	Backfill sand	Page No.	Rev.
		References/Notes	
			
Ripe culvert volume			
$V_p = (0.559)^2 \times \pi \times 4$			
$V = V_{Ex} - V_p - V_{lc} - V_{cs}$			
V_{Ex} : Volume of excavation			
V_{lc} : Volume of lean concrete			
V_{cs} : Volume of crushed stone			
Prepared by		Checked by	
/ /200		/ /200	

Pipe Culvert集計

		D _{in} (m)	D _{out} (m)	t (m)	G (m)	Y _{in} (m)	Y _{out} (m)	H (m)	L (m)	Lac (m)	Vex (m3)	Vcs (m3)	Vlc (m3)	Vbf (m3)	Cmpot (m2)
1	GP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2	CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.5
3	CP-3	0.457	0.584	0.064	5.437	3.503	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4	CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5	CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	58
6	CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7	CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8	CP-7	0.457	0.584	0.064	5.682	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9	GP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.6	411	5.93	5.98	381	239
10	GP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11	GP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12	GP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13	CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14	CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15	DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.79	281	11.29	11.39	224	279.3
16	DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17	DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.368	24.13	23.73	100	2.08	2.1	90	70.1
18	DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.5
19	DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.628	18.25	17.85	90	1.57	1.58	82	57.4
20	DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21	DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22	EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23	EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24	EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25	EP-4-3	0.457	0.584	0.064	5.785	4.887	4.176	1.587	142.69	142.29	312	12.47	12.58	249	309
26	EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27	EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total									1,070		4450	92.5	93.3	3990	3080
1	AP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2	AP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3	AP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4	AP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5	AP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6	AP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7	AP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	91	1.69	1.88	82	47.9
8	AP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9	BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10	BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11	BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12	CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13	CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14	CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15	CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.06	4.54	173	109.6
16	CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17	CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18	DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	862	21.9	24.44	743	538.2
19	DP-5-1	0.61	0.762	0.076	5.34	3.087	3.068	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20	EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	261	7.5	8.37	221	173.8
21	EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22	EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23	EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24	EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total									810		5390	110	122	4810	2970
1	AP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.265	87.49	87.09	732	14.74	19.7	637	366.3
2	BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total									174		1620	29.2	39.1	1430	762
1	AP-6	0.914	1.118	0.102	4.82	2.134	1.952	3.269	93.6	93.2	839	18.76	28.14	701	408.9
2	BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3	CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4	DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5	DP-6	0.914	1.118	0.102	4.898	3.036	2.868	2.438	85.88	85.48	488	17.21	25.81	361	304
6	DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.6
7	DP-8	0.914	1.118	0.102	5.069	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8	DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9	EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total									866		6380	174	261	5100	3440
1	BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2	BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3	BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4	CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5	CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	640	426.2
6	DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	26.58	45.05	650	419
7	DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8	EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total									580		5720	170	288	4270	2700

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Pipe culvert 914 mm			Pay Item No. (BOQ)	2H-040502			
Quantity Item	Compaction			Unit	m ²			
Calculation Procedure Applied <div style="font-family: cursive; padding: 10px;"> Area of compaction was computed by multiplying horizontal length by actual length. </div>								
References, Calculation Base and Revisions <div style="font-family: cursive; padding: 10px;"> See the form of calculation and drawing attached. (2H-040502) </div>								
Rev	Prepared		No. of	Checked		Reviewed		Superseded
	by	Date	Pages	by	Date	by	Date	by Calc No.
0	K. Garcia			H. Inuma		H. Ino		
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Dred culvert 914 mm	Calc. Index No.	
Subject	Compaction	Page No.	Rev.

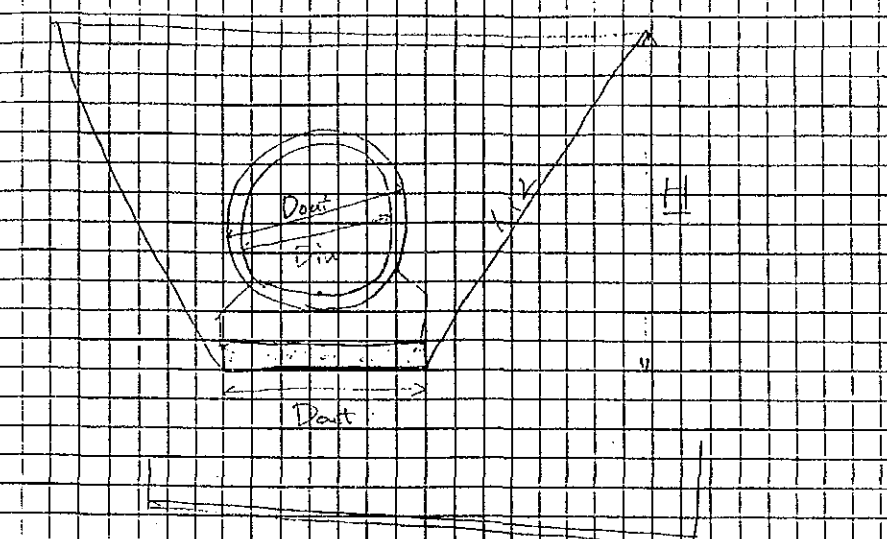
References/ Notes
 <p>Compaction length</p> $L = \frac{1}{2}H + D_{out} + \frac{1}{2}H$ $= H + D_{out}$ <p>Compaction area</p> $A = (H + D_{out}) \times L_{ac}$

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		D _{in} (m)	D _{out} (m)	t (m)	G (m)	Y _{in} (m)	Y _{out} (m)	H (m)	L (m)	Lac (m)	Vex (m3)	Vcs (m3)	Vlc (m3)	Vbf (m3)	Cmpct (m2)
1	CP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2	CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.5
3	CP-3	0.457	0.584	0.064	5.437	3.503	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4	CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5	CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	58
6	CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7	CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8	CP-7	0.457	0.584	0.064	5.682	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9	CP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.6	411	5.93	5.98	381	239
10	CP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11	CP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12	CP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13	CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14	CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15	DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.79	281	11.29	11.39	224	279.3
16	DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17	DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.368	24.13	23.73	100	2.08	2.1	90	70.1
18	DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.5
19	DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.628	18.25	17.85	90	1.57	1.58	82	57.4
20	DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21	DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22	EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23	EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24	EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25	EP-4-3	0.457	0.584	0.064	5.785	4.887	4.176	1.587	142.69	142.29	312	12.47	12.58	249	309
26	EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27	EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total									1,070		4450	92.5	93.3	3990	3080
1	IAP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2	IAP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3	IAP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4	IAP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5	IAP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6	IAP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7	IAP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	51	1.89	1.88	82	47.9
8	IAP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9	BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10	BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11	BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12	CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13	CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14	CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15	CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.06	4.54	173	109.6
16	CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17	CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18	DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	862	21.9	24.44	743	538.2
19	DP-5-1	0.61	0.762	0.076	5.34	3.087	3.066	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20	EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	261	7.5	8.37	221	173.8
21	EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22	EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23	EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24	EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total									810		5390	110	122	4810	2970
1	AP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.265	87.49	87.09	732	14.74	19.7	637	366.3
2	BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total									174		1620	29.2	39.1	1430	762
1	AP-6	0.914	1.118	0.102	4.82	2.134	1.952	3.269	93.6	93.2	839	18.76	28.14	701	408.9
2	BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3	CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4	DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5	DP-6	0.914	1.118	0.102	4.898	3.036	2.868	2.438	85.88	85.48	488	17.21	25.81	361	304
6	DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.6
7	DP-8	0.914	1.118	0.102	5.069	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8	DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9	EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total									866		6380	174	261	5100	3440
1	BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2	BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3	BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4	CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5	CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	640	426.2
6	DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	26.58	45.05	650	419
7	DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8	EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total									580		5720	170	288	4270	2700

QUANTITY CALCULATION COVER SHEET							
Project	Detailed Design on Port Reactivation Project in La Union Province		Project Code	JC1N004/2N001			
Work Section Title	RDe culvert 1219 mm		Pay Item No. (BOQ)	2H-0501			
Quantity Item	Excavation and Disposal		Unit	m ³			
Calculation Procedure Applied <ol style="list-style-type: none"> 1. Average level of inlet level and outlet level 2. Average level minus base thickness 3. Average ground level 4. Calculation of effective height 5. Calculation of Area 6. Calculation of volume : Area times length 							
References, Calculation Base and Revisions <p style="text-align: center; font-style: italic;">See the item of excavation and disposal of 2H-0501</p>							
Rev	Prepared		No. of Pages	Checked		Reviewed	Superseded
	by	Date		by	Date	by	Date
0	Mr. Garcia			Mr. Inuma		Mr. Ando	
1							
2							
3							

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Pipe culvert 1219 mm	Calc. Index No.	
Subject	Excavation and Disposal	Page No.	Rev.

References/ Notes
 <p>Inlet Level Y_{in}</p> <p>Outlet Level Y_{out}</p> <p>0.2m</p> <p>0.2m</p> <p>L_{ac} = L - 0.2 × 2</p> <p>D_{out} + H</p> <p>H</p> <p>D_{out}</p> <p>A = (2 D_{out} + H) × H ÷ 2</p> <p>V = A × L_{ac}</p>

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	/ /200		/ /200

Pipe Culvert集計

		D _{in} (m)	D _{out} (m)	t (m)	G (m)	Y _{in} (m)	Y _{out} (m)	H (m)	L (m)	Lac (m)	Vex (m3)	Vos (m3)	Vlc (m3)	Vbf (m3)	Ompct (m2)
1	CP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2	CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.5
3	CP-3	0.457	0.584	0.064	5.437	3.503	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4	CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5	CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	58
6	CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7	CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8	CP-7	0.457	0.584	0.064	5.682	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9	CP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.6	411	5.93	5.98	381	239
10	CP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11	CP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12	CP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13	CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14	CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15	DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.79	281	11.29	11.39	224	279.3
16	DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17	DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.388	24.13	23.73	100	2.08	2.1	90	70.1
18	DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.5
19	DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.628	18.25	17.85	90	1.57	1.58	82	57.4
20	DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21	DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22	EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23	EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24	EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25	EP-4-3	0.457	0.584	0.064	5.785	4.887	4.176	1.587	142.69	142.29	312	12.47	12.58	249	309
26	EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27	EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total									1,070		4450	92.5	93.3	3990	3080
1	AP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2	AP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3	AP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4	AP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5	AP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6	AP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7	AP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	91	1.69	1.88	82	47.9
8	AP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9	BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10	BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11	BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12	CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13	CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14	CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15	CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.08	4.54	173	109.6
16	CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17	CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18	DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	882	21.9	24.44	743	538.2
19	DP-5-1	0.61	0.762	0.076	5.34	3.087	3.066	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20	EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	261	7.5	8.37	221	173.8
21	EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22	EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23	EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24	EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total									810		5390	110	122	4810	2970
1	AP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.265	87.49	87.09	732	14.74	19.7	637	366.3
2	BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total									174		1620	29.2	39.1	1430	762
1	AP-6	0.914	1.118	0.102	4.82	2.134	1.952	3.269	93.6	93.2	839	18.76	28.14	701	408.9
2	BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3	CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4	DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5	DP-6	0.914	1.118	0.102	4.898	3.036	2.868	2.438	85.88	85.48	488	17.21	25.81	361	304
6	DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.6
7	DP-8	0.914	1.118	0.102	5.069	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8	DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9	EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total									866		6380	174	261	5100	3440
1	BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2	BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3	BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4	CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5	CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	840	426.2
6	DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	26.58	45.05	850	419
7	DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8	EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total									580		5720	170	288	4270	2700

QUANTITY CALCULATION COVER SHEET								
Project	Detailed Design on Port Reactivation Project in La Union Province			Project Code	JC1N004/2N001			
Work Section Title	Pipe culvert 1219mm			Pay Item No. (BOQ)	2H-0502			
Quantity Item	Crushed stone for foundation			Unit	m ³			
Calculation Procedure Applied <p style="margin-left: 40px;">Volume of crushed stone was computed by multiplying section area by actual length.</p>								
References, Calculation Base and Revisions <p style="margin-left: 40px;">See the item of excavation and disposal of 457mm. (2H-0101).</p>								
Rev	Prepared		No. of Pages	Checked		Reviewed		Superseded by Calc No.
	by	Date		by	Date	by	Date	
0	Karla G. Gato			Mr. Inuma		Mr. Ando		
1								
2								
3								

Project	Detailed Design on Port Reactivation Project in La Union	Calc. File No.	
Section	Pipe culvert 1219 mm	Calc. Index No.	
Subject		Page No.	Rev.

<p>1219 mm</p> <p>1473 mm</p> <p>200 mm</p> <p>$V = 0.20 \times 1.473 \times L_{ac}$</p>	References/ Notes

Prepared by		Checked by	
	/ /200		/ /200

Pipe Culvert集計

		D _{in} (m)	D _{out} (m)	t (m)	G (m)	Y _{in} (m)	Y _{out} (m)	H (m)	L (m)	Lac (m)	Vex (m ³)	Vcs (m ³)	Vlo (m ³)	Vbf (m ³)	Cmpot (m ²)
1	CP-1	0.457	0.584	0.064	5.55	3.599	3.545	2.312	17	16.6	67	1.46	1.47	60	48.1
2	CP-2	0.457	0.584	0.064	5.487	3.543	3.505	2.297	20	19.6	78	1.72	1.74	70	56.5
3	CP-3	0.457	0.584	0.064	5.437	3.503	3.431	2.304	35	34.6	139	3.04	3.06	124	100
4	CP-4	0.457	0.584	0.064	5.537	3.429	3.391	2.461	20	19.6	88	1.72	1.74	80	59.7
5	CP-4-1	0.457	0.584	0.064	5.487	3.469	3.431	2.371	20	19.6	83	1.72	1.74	75	58
6	CP-5	0.457	0.584	0.064	5.637	3.389	3.257	2.648	70	69.6	352	6.1	6.16	321	225
7	CP-5-1	0.457	0.584	0.064	5.637	3.405	3.391	2.573	8	7.6	37	0.67	0.68	34	24
8	CP-7	0.457	0.584	0.064	5.682	2.891	2.824	3.158	35	34.6	237	3.04	3.06	222	129.5
9	CP-8-1	0.457	0.584	0.064	5.507	2.955	2.824	2.951	68	67.6	411	5.93	5.98	381	239
10	CP-8-1-1	0.457	0.584	0.064	5.55	3.019	2.957	2.896	30	29.6	175	2.6	2.62	162	103.1
11	CP-8-2	0.457	0.584	0.064	5.507	2.995	2.957	2.865	20	19.6	114	1.72	1.74	106	67.7
12	CP-8-2-1	0.457	0.584	0.064	5.555	3.021	2.997	2.88	10	9.6	56	0.85	0.85	52	33.3
13	CP-8-3	0.457	0.584	0.064	5.507	3.069	2.997	2.808	35	34.6	194	3.04	3.06	179	117.4
14	CP-8-4	0.457	0.584	0.064	5.507	3.095	3.071	2.758	10	9.6	52	0.85	0.85	48	32.1
15	DP-1	0.457	0.584	0.064	5.875	4.997	4.253	1.584	129.19	128.78	281	11.29	11.39	224	279.3
16	DP-2	0.457	0.584	0.064	5.35	3.347	3.249	2.386	20.82	20.42	87	1.79	1.81	78	60.7
17	DP-3	0.457	0.584	0.064	5.27	3.245	3.226	2.368	24.13	23.73	100	2.08	2.1	90	70.1
18	DP-4-1	0.457	0.584	0.064	5.34	3.247	3.226	2.437	21.75	21.35	94	1.88	1.89	85	64.5
19	DP-7-1	0.457	0.584	0.064	5.17	2.883	2.868	2.628	18.25	17.85	90	1.57	1.58	82	57.4
20	DP-9-1	0.457	0.584	0.064	5.015	2.746	2.543	2.704	150	149.6	784	13.11	13.23	718	491.9
21	DP-9-2	0.457	0.584	0.064	5.01	2.764	2.748	2.588	18.25	17.85	87	1.57	1.58	79	56.7
22	EP-1	0.457	0.584	0.064	6.015	4.097	4.003	2.299	20	19.6	79	1.72	1.74	71	56.6
23	EP-2	0.457	0.584	0.064	5.78	3.997	3.596	2.317	81.47	81.07	328	7.11	7.17	292	235.2
24	EP-2-1	0.457	0.584	0.064	5.97	4.008	4.003	2.298	9.1	8.7	35	0.77	0.77	32	25.1
25	EP-4-3	0.457	0.584	0.064	5.785	4.887	4.176	1.587	142.69	142.29	312	12.47	12.58	249	309
26	EP-4-4	0.457	0.584	0.064	6.195	4.997	4.893	1.584	22	21.6	48	1.9	1.91	39	46.9
27	EP-5-2	0.457	0.584	0.064	5.22	3.211	3.205	2.346	9.1	8.7	36	0.77	0.77	33	25.5
Total									1,070		4450	92.5	93.3	3990	3080
1	AP-1	0.61	0.762	0.076	5.522	2.644	2.61	3.311	20	19.6	157	2.69	3.01	143	79.9
2	AP-2	0.61	0.762	0.076	5.427	2.606	2.532	3.274	40	39.6	312	5.44	6.07	283	159.9
3	AP-3	0.61	0.762	0.076	5.332	2.528	2.484	3.242	26	25.6	198	3.52	3.92	179	102.6
4	AP-4	0.61	0.762	0.076	5.232	2.48	2.313	3.251	85.78	85.38	663	11.72	13.08	600	342.7
5	AP-5-1	0.61	0.762	0.076	5.132	2.358	2.309	3.214	26	25.6	195	3.52	3.92	176	101.8
6	AP-6-1	0.61	0.762	0.076	4.928	2.182	2.138	3.184	26	25.6	192	3.52	3.92	173	101.1
7	AP-6-2	0.61	0.762	0.076	4.928	2.207	2.186	3.147	12.65	12.25	81	1.69	1.88	82	47.9
8	AP-7-1	0.61	0.762	0.076	4.711	1.997	1.952	3.152	26	25.6	189	3.52	3.92	170	100.2
9	BP-1-1	0.61	0.762	0.076	5.332	2.129	2.085	3.641	26	25.6	241	3.52	3.92	222	112.8
10	BP-2-1	0.61	0.762	0.076	5.132	1.958	1.914	3.612	26	25.6	238	3.52	3.92	219	112
11	BP-3-1	0.61	0.762	0.076	4.928	1.782	1.738	3.584	26	25.6	235	3.52	3.92	216	111.3
12	CP-11-1	0.61	0.762	0.076	5.132	2.579	2.535	2.991	26	25.6	173	3.52	3.92	154	96.1
13	CP-12-1	0.61	0.762	0.076	4.928	2.447	2.403	2.919	26	25.6	167	3.52	3.92	148	94.3
14	CP-13-1	0.61	0.762	0.076	4.711	1.64	1.596	3.509	26	25.6	227	3.52	3.92	208	109.4
15	CP-6	0.61	0.762	0.076	5.747	3.255	3.193	2.939	30	29.6	195	4.06	4.54	173	109.6
16	CP-8	0.61	0.762	0.076	5.42	2.82	2.754	3.049	35	34.6	242	4.75	5.3	216	131.9
17	CP-9	0.61	0.762	0.076	5.332	2.75	2.706	3.02	26	25.6	176	3.52	3.92	157	96.9
18	DP-4	0.61	0.762	0.076	5.34	3.225	3.066	2.61	160	159.6	862	21.9	24.44	743	538.2
19	DP-5-1	0.61	0.762	0.076	5.34	3.087	3.066	2.679	21.75	21.35	121	2.93	3.27	105	73.5
20	EP-3	0.61	0.762	0.076	5.46	3.59	3.321	2.42	55.01	54.61	281	7.5	8.37	221	173.8
21	EP-4	0.61	0.762	0.076	5.275	3.314	3.184	2.442	27.3	26.9	131	3.69	4.12	111	86.2
22	EP-4-1	0.61	0.762	0.076	5.33	3.506	3.499	2.243	9.1	8.7	37	1.2	1.34	31	26.2
23	EP-4-2	0.61	0.762	0.076	5.38	4.172	4.008	1.706	5.43	5.03	14	0.69	0.78	11	12.5
24	EP-5-1	0.61	0.762	0.076	5.22	3.201	3.184	2.443	15.3	14.9	73	2.05	2.29	62	47.8
Total									810		5390	110	122	4810	2970
1	AP-5	0.762	0.94	0.089	5.03	2.309	2.138	3.265	87.49	87.09	732	14.74	19.7	637	366.3
2	BP-1	0.762	0.94	0.089	5.232	2.081	1.914	3.693	85.78	85.38	879	14.45	19.31	786	395.6
Total									174		1620	29.2	39.1	1430	762
1	AP-6	0.914	1.118	0.102	4.82	2.134	1.952	3.269	93.6	93.2	839	18.76	28.14	701	408.9
2	BP-2	0.914	1.118	0.102	5.03	1.91	1.739	3.697	87.49	87.09	956	17.53	26.3	827	419.4
3	CP-10	0.914	1.118	0.102	5.232	2.702	2.535	3.105	85.78	85.38	708	17.19	25.78	581	360.6
4	DP-5	0.914	1.118	0.102	4.983	3.065	3.039	2.423	37.88	37.48	212	7.55	11.32	156	132.8
5	DP-6	0.914	1.118	0.102	4.898	3.036	2.888	2.438	85.88	85.48	488	17.21	25.81	361	304
6	DP-7	0.914	1.118	0.102	5.145	2.865	2.722	2.843	150	149.6	1081	30.11	45.17	859	592.6
7	DP-8	0.914	1.118	0.102	5.069	2.719	2.543	2.93	90	89.6	679	18.04	27.06	546	362.8
8	DP-8-1	0.914	1.118	0.102	4.872	2.9	2.722	2.553	90	89.6	548	18.04	27.06	415	329
9	EP-5	0.914	1.118	0.102	5.055	3.179	2.872	2.521	145	144.6	868	29.1	43.66	653	526.2
Total									866		6380	174	261	5100	3440
1	BP-3	1.219	1.473	0.127	4.82	1.735	1.599	3.74	93.6	93.2	1166	27.46	46.55	933	485.9
2	BP-4	1.219	1.473	0.127	4.711	1.595	1.564	3.718	20	19.6	243	5.78	9.79	194	101.8
3	BP-5-1	1.219	1.473	0.127	4.711	1.573	1.564	3.729	6	5.6	70	1.65	2.8	56	29.2
4	CP-11	1.219	1.473	0.127	5.03	2.531	2.403	3.15	87.49	87.09	837	25.66	43.5	619	402.7
5	CP-12	1.219	1.473	0.127	4.82	2.399	2.217	3.099	93.6	93.2	873	27.46	46.55	640	426.2
6	DP-10	1.219	1.473	0.127	4.778	2.284	2.101	3.172	90.6	90.2	876	26.58	45.05	650	419
7	DP-9	1.219	1.473	0.127	4.932	2.539	2.288	3.105	130.5	130.1	1223	38.33	64.98	898	595.6
8	EP-6	1.219	1.473	0.127	4.89	2.869	2.812	2.636	58	57.6	424	16.97	28.77	280	236.7
Total									580		5720	170	288	4270	2700