

**APPENDIX B**

**DETAILED CONSTRUCTION COST**

**CIVIL WORKS FOR LA ESPERANZA ~ POZA HONDA  
TRANSBASIN AND POZA HONDA ~ MANCHA GRANDE  
TRANSBASIN.**

SUMMARY OF BILL OF QUANTITIES

Description of Works	Foreign Currency (US\$) Amount	Local Currency (S/.) Amount	Equivalent Price (S/.) Amount
1. General Items	6,077,560.00	7,712,217,000	21,386,727,000
2. Severino Pumping station	5,027,651.06	8,529,714,460	19,841,929,345
3. Severino Penstock	212,001.61	328,296,465	805,300,088
4. Severino Head Tank	398,796.98	622,486,888	1,519,780,093
5. Severino Substation	106,200.81	170,943,224	409,895,042
6. Severino Open Channel	4,900,379.39	6,297,659,411	17,323,513,039
7. La Esperanza-Poza Honda Diversion Tunnel	22,571,528.34	21,131,014,271	71,916,953,036
8. Poza Honda-Mancha grande Diversion Tunnel	7,441,465.44	7,241,169,107	23,984,466,350
9. La Seca Work Adit	691,076.11	1,118,446,004	2,673,367,252
10. Los Cuyuyes Work Adit	228,412.39	357,001,420	870,929,298
11. Poza Honda Work Adit	277,499.66	442,120,704	1,066,494,939
12. Severino access Road	1,603,457.14	2,412,555,027	6,020,333,592
13. Cana Dulce Inlet Access Road	355,804.97	599,137,023	1,399,698,206
14. La Seca Access Road	311,392.90	632,417,807	1,333,051,832
15. Los Cuyuyes Access Road	1,951,647.94	3,995,672,719	8,386,880,587
16. Poza Honda Inlet Access Road	135,058.46	202,151,682	506,033,217
17. Daule Peripa 138 kV Switchgear Yard	9,908.18	16,799,435	39,092,849
Grand Total	52,299,841.38	61,809,802,647	179,484,445,765

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(\$US)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
GENERAL ITEMS									
/01	Construction,operation,maintenance and subsequent removal of the Contractor's offices,staff quarters,repair shop, stores,laboratory buildings,motor pools, labor camps,etc.,including drainage and adequate fencing	L.S.		747,820.00	2,147,638,000			3,830,233,500	
/02	Installation,operation,maintenance and subsequent removal of temporary water supply system for and in the Contractor's offices,laboratory,staff quarters,repair shops,motor pools,etc.,and construction site	L.S.		448,780.00	547,122,000			1,556,877,000	
/03	Installation,operation,maintenance and subsequent removal of temporary electric supply system to the Contractor's offices, laboratory,staff quarters,labor camps, repair shops,motor pools,etc.,and construction site	L.S.		461,770.00	238,480,000			1,277,462,500	
/04	Installation,operation,maintenance and subsequent removal of temporary telecommunication systems from the CRP's and supervisor's offices to the Contractor's offices,quarters,etc.,including wired telephone line,VHF radio communication system and handy talky	L.S.		178,450.00	6,286,000			407,798,500	

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
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/05	Construction, operation, maintenance and subsequent removal of the Contractor's temporary construction roads to the various working areas, maintenance of temporary and permanent access roads and maintenance of the existing roads including temporary supports to strengthen piers of the existing bridges, etc.	L.S.		441,920.00		495,139,000		1,489,459,000	
/06	Provision and maintenance of the laboratory equipment and furnitures including provision of necessary testing experts and labor to assist the supervision	Prov. Sum		345,000.00		590,813,000		1,367,063,000	
/07	Exploratory boring and excavation of test pits	Prov. Sum		0.00		73,600,000		73,600,000	
/08	Monument and memorial	Prov. Sum		0.00		112,500,000		112,500,000	
/09	Construction, operation, maintenance and subsequent hand over to CRM the supervision offices, first aid buildings, residence and housings including land clearing and development, water supply system, sewage and drainage system, electric power supply system, telecommunication system including telephone, fax and VHF radio system, and adequate fencing	L.S.		2,069,620.00		2,692,480,000		7,349,125,000	
/10	Provision, maintenance and subsequent hand over to CRM the supervision's office furnitures such as desks, tables, shelves, etc., office equipment such as computer, printer, etc., and survey equipment	Prov. Sum		125,350.00		129,375,000		411,412,500	

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				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/11	Provision,operation and maintenance of the first aid facilities and medicines including operation of medical services by one doctor,two nurses and one clerk	L.S.			50,000.00		292,770,000		405,270,000
/12	Provision,operation and maintenance of vehicles for CRM and Supervision	L.S.			1,208,850.00		386,014,000		3,105,926,500
	Total of item 1				6,077,560.00		7,712,217,000		21,386,727,000

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
2	SEVERINO PUMPING STATION				19,683.00		48,207,150		92,493,900
2.1	CARE OF RIVER AND CONTROL AND REMOVAL OF WATER								
	/01 Care of water during construction in open air construction site	U.S.							
	Subtotal of item 2.1				19,683.00		48,207,150		92,493,900
2.2	EARTHWORK								
/01	Clearing the site for the pumping station	m <sup>2</sup>	16,260	0.14	2,276.40	214	3,479,640	529	8,601,540
/02	Open-cut excavation, in common, in and around pumping station	m <sup>3</sup>	43,790	2.88	126,115.20	2988	130,844,520	9468	414,603,720
/03	Open-cut excavation, in weathered rock, in and around pumping station	m <sup>3</sup>	226,690	3.57	809,283.30	3573	809,963,370	11606	2,630,850,795
/04	Open-cut excavation, in rock, in and around pumping station	m <sup>3</sup>	56,670	8.18	463,560.60	8411	476,651,370	26816	1,519,662,720
/05	Trench excavation, all classes, for drain ditch, catch basin and foundation of wire net fence	m <sup>3</sup>	980	2.76	2,732.40	2942	2,912,580	9152	9,060,480
/06	Free drainage backfill	m <sup>3</sup>	244	14.34	3,498.96	25866	6,311,304	58131	14,183,964
/07	Backfilling for pumping station	m <sup>3</sup>	28,640	2.92	83,628.80	3001	85,948,640	9571	274,113,440
/08	Gravel bedding for drainage ditch and catch basin	m <sup>3</sup>	14	13.57	189.98	39654	555,156	70187	982,611
/09	Soil facing for cut slope protection	m <sup>2</sup>	2,240	0.03	67.20	4622	10,353,280	4690	10,504,480
	Subtotal of item 2.2				1,491,352.84		1,527,019,860		4,882,563,750

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
3.3	CONCRETE WORK								
/01	Concrete, class E, for bottom slab of inlet channel	m3	513	56.86	29,169.18	70304	36,065,952	198239	101,696,607
/02	Concrete, class B, for wall, in contact with ground	m3	12,920	60.23	778,171.60	75195	971,519,400	210713	2,722,605,500
/03	Concrete, class B, for column, in contact with ground	m3	713	60.23	42,943.99	75195	53,614,035	210713	150,238,013
/04	Concrete, class B, for slab and sump pit, in contact with ground	m3	3,860	60.23	232,487.80	75195	290,252,700	210713	813,350,250
/05	Concrete, class B, for wall	m3	1,530	60.23	92,151.90	75195	115,048,350	210713	322,390,125
/06	Concrete, class B, for column	m3	2,920	60.23	175,871.60	75195	219,569,400	210713	615,280,500
/07	Concrete, class B, for beam and slab	m3	2,650	60.23	159,609.50	75195	199,266,750	210713	558,388,125
/08	Concrete, class B, for crane girder	m3	198	60.23	11,925.54	75195	14,888,610	210713	41,721,075
/09	Concrete, class B, for wall of valve room and foundation of valve	m3	1,970	60.23	118,653.10	75195	148,134,150	210713	415,103,625
/10	2nd stage concrete, class A, for foundation of pump and motor	m3	827	67.16	55,541.32	85212	70,470,324	236322	195,438,294
/11	2nd stage concrete, class A, for blockout of gate, trashrack, girder and crane rail	m3	201	67.16	13,499.16	85212	17,127,612	236322	47,500,722
/12	Concrete, class E, for encasing of penstock pipe	m3	613	56.86	34,855.18	70304	43,095,352	198239	121,520,507
/13	Backfill concrete, class G	m3	1,580	50.49	79,774.20	64286	101,571,980	177889	281,063,830
/14	Concrete, class F, for drain ditch and catch basin	m3	362	59.57	21,564.34	74231	26,871,622	208264	75,391,387
/15	Concrete, class H, for levelling concrete for bottom slab of inlet channel, drain ditch and catch basin	m3	72	51.17	3,684.24	55640	4,726,080	180773	13,015,620
/16	Concrete, class G, for anchor block of trash boom and foundation concrete of wire net fence	m3	200	50.49	10,098.00	64286	12,857,200	177889	35,577,700
/17	Formwork, f1 finish, for concrete of items /01./02./03./04./07./12 and /13	m2	5,190	3.56	18,476.40	11519	59,783,610	19529	101,355,510

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Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/18	Formwork.F1 finish,for concrete of item /14	m2	1,320	0.25	330.00	15278	20,166,360	15841	20,909,450
/19	Formwork.F1 finish,for concrete of item /16	m2	164	3.56	583.84	11519	1,889,116	19529	3,202,756
/20	Formwork.F2 finish,for concrete of items /02,/05,/06,/07,/08,/09,/10 and /11	m2	12,830	4.37	56,067.10	15332	196,709,560	25165	322,860,535
/21	Formwork.F3 finish,for concrete of items /04,/05,/06,/10 and /11	m2	3,030	4.08	12,607.20	25668	79,314,420	34848	107,680,320
/22	Formwork.F3 finish,for concrete of item /14	m2	963	3.49	3,350.87	20350	19,597,050	28203	27,159,008
/23	Reinforcing bars for concrete work	ton	1,655.4	357.97	592,583.54	1054028	1,744,837,951	1859461	3,078,150,912
/24	P.V.C.waterstop,type A,w=300mm	m	76	33.62	2,555.12	9091	690,916	84736	6,439,936
/25	P.V.C.waterstop,type B,w=200mm	m	10	17.23	172.30	7248	72,480	46016	460,155
/26	Bituminous coating for contraction joint of bottom slab of inlet channel and penstock pipe	m2	267	0.03	8.01	3986	1,064,262	4054	1,082,285
/27	Joint filler,for expansion joint of substructure of pump house,t=10mm	m2	680	12.15	8,262.00	4408	2,997,440	31746	21,586,940
/28	Dowel bar,D.22mm,for bottom slab of inlet channel	ton	232.4	336.00	78,086.40	1076250	250,120,500	1832250	425,814,900
/29	anchor bar,D.25mm,for encasing concrete	m	324	13.54	4,386.96	7737	2,506,788	38202	12,377,448
/30	Shotcrete with wire mesh for cut slope protection,t=100mm	m2	10,120	16.05	162,426.00	17417	176,260,040	53530	541,718,540
/31	Contact grouting for penstock pipe	L.S.			990.00		814,200		3,941,700
/32	P.V.C.pipe,D.75mm,for weep holes in wing wall,including filter	m	244	8.16	1,991.04	1726	421,144	20086	4,900,984
/33	P.V.C.pipe D.50mm,for weep holes in shotcrete protection,including filter	m	350	4.17	1,459.50	1277	446,950	10660	3,730,825
/34	P.V.C.pipe D.100mm for drain	m	69	12.06	832.14	2164	149,316	29299	2,021,631
	Subtotal of item 2.3				2,805,179.07		4,882,922,820		11,194,575,723



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<b>2.4 ROAD WORK</b>									
/01	Asphaltic concrete surface course around pumping station at EL 70m	m <sup>3</sup>	157	17.31	2,717.67	145062	22,774,734	184010	28,889,492
/02	Asphalt stabilizes subbase course	m <sup>3</sup>	157	8.65	1,358.05	72531	11,387,367	91894	14,442,980
/03	Prime coat	lit	3,140	0.03	94.20	213	668,820	281	880,770
/04	Tack coat	lit	4,710	0.03	141.30	213	1,003,230	281	1,321,155
	Subtotal of item 2.4				4,311.22		35,834,151		45,534,396
<b>2.5 MISCELLANEOUS METAL WORK</b>									
/01	Embedded metal	kg	7,970	0.56	4,463.20	1198	9,548,060	2458	19,590,260
/02	Steel grating, for drain ditch	kg	6,540	3.61	23,970.40	813	5,398,320	8936	59,331,720
/03	Steel pipe Ø.100mm for air pipe	kg	1,690	1.33	2,247.70	1232	2,082,080	4225	7,139,405
/04	Checkered plate	kg	3,000	0.97	2,910.00	219	657,000	2402	7,204,500
/05	Steel pipes for water level gauge, 500mm	kg	1,830	1.48	2,708.40	279	510,570	3608	6,504,470
/06	Wire net fence with gate	kg	320	0.86	275.20	1037	331,840	2972	951,040
/07	Round bar, for step ladder	kg	60	0.65	39.00	415	24,900	1878	112,650
/08	Steel pipes for drainage, 50mm	kg	115	1.33	152.95	1232	141,680	4225	485,818
	Subtotal of item 2.5				36,766.85		18,694,450		101,419,863
<b>2.6 BUILDING WORKS</b>									
<b>2.6.1 PUMP HOUSE</b>									
<b>(1) Concrete Works</b>									
/01	Concrete, class C for superstructure	m <sup>3</sup>	822	58.41	48,013.02	72523	59,613,906	203946	167,643,201

BILL OF QUANTITIES

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				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/02	Concrete, class A for stair case at substructure and for secondary concrete around concrete block wall	m3	105	67.16	7,051.80	85212	8,947,260	236322	24,813,810
/03	Concrete, class H for covering concrete to roof	m3	122	51.17	6,242.74	65640	8,008,080	180773	22,054,245
/04	Formwork, F1 finish, for concrete of item /01	m2	3,300	4.68	15,444.00	42074	138,844,200	52604	173,593,200
/05	Formwork, F3 finish, for concrete of item /01	m2	2,360	4.68	11,044.80	42074	99,294,640	52604	124,145,440
/06	Formwork, F1 finish, for concrete of item /02	m2	509	4.68	4,254.12	42074	38,245,266	52604	47,817,036
/07	Formwork, F3 finish, for concrete of item /02	m2	155	4.68	725.40	42074	6,521,470	52604	8,153,520
/08	Reinforcement bar, deformed for concrete work	ton	102.0	357.97	36,512.94	1054028	107,510,856	1859461	189,664,971
/09	Welded mesh	m2	1,522	0.00	0.00	25944	39,486,768	25944	39,486,768
/10	Metal lath to water proof cement mortar	m2	438	0.00	0.00	25601	11,213,238	25601	11,213,238
/11	Foamed polyethylene 50mm thick to expansion joint	m2	17	0.00	0.00	15379	261,443	15379	261,443
(2) Waterproofing Works									
/12	3-ply built up asphalt roofing	m2	1,640	20.00	32,800.00	45000	73,800,000	90000	147,600,000
/13	2-ply built up asphalt roofing	m2	35	30.00	1,050.00	67500	2,362,500	135000	4,725,000
/14	Waterproof cement mortar to drainage gutter in substructure	m2	752	0.00	0.00	282566	212,489,632	282566	212,489,632
/15	Asphalt compound joint, t=25mm to the covering of roof	m	987	0.00	0.00	3037	2,997,519	3037	2,997,519
/16	Polysulfide caulking, t=20mm	m	285	9.27	2,641.95	1897	540,645	22755	6,485,033
/17	Polysulfide caulking to fixtures, 10x7mm	m	456	2.12	966.72	434	197,904	5204	2,373,024

BILL OF QUANTITIES

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		Unit	Price	Unit	Price	Unit	Price	Unit	Price
<b>(3) Masonry Works</b>									
/18	Concrete block masonry (fair faced)	m2	1,615	0.00	0.00	49608	80,116,920	49608	80,116,920
	a.150mm walling to substructure.incl. bonding and filling cement mortar								
	b.100mm walling to superstructure.incl. bonding and filling cement mortar	m2	93	0.00	0.00	46570	4,331,010	46570	4,331,010
<b>(4) Tile Works</b>									
/19	Grazes ceramic tile	m2	59	0.00	0.00	33616	1,983,344	33616	1,983,344
/20	Terrazzo tile to floor	m2	1,496	0.00	0.00	114008	170,555,968	114008	170,555,968
/21	Mosaic tile	m2	25	0.00	0.00	113382	2,834,550	113382	2,834,550
/22	PVC tile	m2	400	0.00	0.00	45176	18,070,400	45176	18,070,400
/23	Sprayed tile	m2	1,740	0.00	0.00	8716	15,165,840	8716	15,165,840
<b>(5) In-situ Finishing works</b>									
/24	Cement mortar trowelled,t=20mm,applied	m2	3,847	0.00	0.00	41240	158,650,280	41240	158,650,280
	a.Reinforced concrete wall	m2	1,614	0.00	0.00	41240	66,561,360	41240	66,561,360
	b.Concrete block wall	m	222	0.00	0.00	668	148,296	668	148,296
	c.Skirting,H=100mm	m	78	0.00	0.00	1135	88,530	1135	88,530
	c.Skirting,H=200mm	m	120	0.00	0.00	1602	192,240	1602	192,240
	c.Skirting,H=300mm	m							
/25	Cement mortar trowelled to,t=30mm applied	m2	1,496	0.00	0.00	8846	13,233,616	8846	13,233,616
	a.Reinforced concrete floor	m2	156	0.00	0.00	8645	1,348,620	8645	1,348,620
	b.Stair case	m2							
/26	Cement mortar screed to,t=20mm applied	m2	1,523	0.00	0.00	3054	4,651,242	3054	4,651,242
	a.Built up asphalt roofing	m2							
/27	Cement mortar bed,applied to:	m2	59	0.00	0.00	7552	445,568	7552	445,568
	a.Grazed ceramic tile	m2	1,496	0.00	0.00	11227	16,795,592	11227	16,795,592
	b.Terrazzo tile	m2	13	0.00	0.00	14903	193,739	14903	193,739
	c.Asphalt block tile	m2							

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	d.P.V.C. tile	m <sup>2</sup>	191	0.00	0.00	14903	2,846,473	14903	2,846,473
	e.Mosaic tile	m <sup>2</sup>	25	0.00	0.00	14903	372,575	14903	372,575
/28	Steel trowel finish to exposed concrete	m <sup>2</sup>	109	0.00	0.00	14008	1,526,872	14008	1,526,872
	a.Floor (class U3)	m <sup>2</sup>	1,523	0.00	0.00	14008	21,334,184	14008	21,334,184
	b.Covering concrete of floor (class U2)	m <sup>2</sup>	273	0.00	0.00	11401	3,112,473	11401	3,112,473
/29	Terrazzo border	m	502	0.00	0.00	11401	5,723,302	11401	5,723,302
/30	Terrazzo skirting,H=100mm	m	24	0.00	0.00	22802	547,248	22802	547,248
/31	Terrazzo to corner to elevator door	m <sup>2</sup>	2,766	0.00	0.00	2419	6,690,954	2419	6,690,954
/32	Coloured cement spray	m <sup>2</sup>	2,766	0.00	0.00	2419	6,690,954	2419	6,690,954
	(6) Interior Finishing Works								
/33	Asbestos cement sheet ceiling,t=6mm incl.wood ceiling suspension system	m <sup>2</sup>	35	0.00	0.00	22137	774,795	22137	774,795
/34	Acoustic rockwool tile ceiling,t=12mm including wood ceiling suspension system with gypsum board 9mm thick laid on acoustic rockwool tile	m <sup>2</sup>	308	0.00	0.00	34927	10,757,516	34927	10,757,516
/35	Acid proof asphalt block to floor to Battery Room	m <sup>2</sup>	18	0.00	0.00	44307	797,526	44307	797,526
	(7) Painting Works								
/36	Oil painte to:								
	a.Steel handrail	m <sup>2</sup>	300	0.00	0.00	3052	915,600	3052	915,600
	b.Caged ladder	m <sup>2</sup>	9	0.00	0.00	3052	27,468	3052	27,468
	c.Steel door leaves and frame	m <sup>2</sup>	159	0.00	0.00	3052	485,268	3052	485,268
	d.Wooden surface	m <sup>2</sup>	85	0.00	0.00	3052	259,420	3052	259,420
	e.Cupboard and shelf	m <sup>2</sup>	1	0.00	0.00	3052	3,052	3052	3,052
/37	Vinyl emulsion paint to:								
	a.Asbestos cement sheet ceiling	m <sup>2</sup>	35	0.00	0.00	5704	199,640	5704	199,640
	b.Cement mortar plastered wall,skirting	m <sup>2</sup>	5,438	0.00	0.00	5704	31,018,352	5704	31,018,352

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/38	Asid proof paint to: a.Cement mortar plastered wall & ceiling	m2	81	0.00	0.00	5704	462,024	5704	462,024
/39	Wooden doors and frames incl.required hardware and accessories	m2	19	0.00	0.00	119866	2,279,354	119866	2,279,354
/40	Cupboard and shelf	no.	1	0.00	0.00	429048	429,048	429048	429,048
/41	Blind box,155 x 150mm deep	m	20	0.00	0.00	243422	4,868,440	243422	4,868,440
(8) Steel Door									
/42	Steel door and louver incl.frames, required hardware and accessories	m2	54	0.00	0.00	714605	38,588,670	714605	38,588,670
/43	Motor driven rolling shutter(SSI) incl. guide rail,head box,hardware & accessories	no.	1	0.00	0.00	6824726	6,824,726	6824726	6,824,726
(9) Aluminium Door,window and Louver									
/44	Aluminium door leaves and frame incl.required hardware and accessories	m2	12	0.00	0.00	1237428	14,849,136	1237428	14,849,136
/45	Aluminium unidoor and frame incl.required hardware and accessories	m2	182	0.00	0.00	768826	139,926,332	768826	139,926,332
/46	Aluminium louver and frames incl.required hardware and accessories	m2	0.5	0.00	0.00	315480	157,740	315480	157,740
(10) Glazing Works									
/47	Clear wire glass,6.8mm incl.glazing bed	m2	144	40.12	5,777.28	9028	1,300,032	99298	14,298,912
/48	Figured sheet glass,4mm incl.glazing bed	m2	13	0.00	0.00	27054	351,702	27054	351,702
/49	Clear sheet glass 6mm	m2	11	0.00	0.00	38460	423,060	38460	423,060
(11) Miscellaneous Metal works									
/50	Steel pipe handrail incl.baluster								

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
a.Type A		m	120	0.00	0.00	64035	7,684,200	64035	7,684,200
b.Type B		m	37	0.00	0.00	38688	1,431,456	38688	1,431,456
c.Type C		m	152	0.00	0.00	122580	18,632,160	122580	18,632,160
d.Removable type		m	19	0.00	0.00	102941	1,955,879	102941	1,955,879
/51 Caged ladder		kg	1,500	0.00	0.00	3665	5,497,500	3665	5,497,500
/52 Steel made door mat.1500 x 600mm		no.	1	0.00	0.00	265910	265,910	265910	265,910
/53 Steel pipe embedded in concrete.D.100mm		m	100	16.29	1,629.00	15027	1,502,700	51630	5,167,950
/54 Parapet ring		no	15	73.80	1,107.00	18450	276,750	184500	2,767,500
/55 Grating steel hatch cover.2500mm long, 1500mm wide and 50mm deep		nos.	1	680.25	680.25	153056	153,056	1683619	1,683,619
/56 Expansion joint cover to roof,parapet, stainless steel plate 1.5mm thick,330mm wide incl.stiffener and anchored metal		m	6	0.00	0.00	182179	1,093,074	182179	1,093,074
/57 Stainless nosing to stairs		m	325	30.63	9,954.75	6892	2,239,900	75810	24,638,088
(12) Miscellaneous Works									
/58 P.V.C.rain water pipe,D.100mm		m	131	12.06	1,579.86	2164	283,484	29299	3,838,169
/59 Kitchen sink		set	1	0.00	0.00	351622	351,622	351622	351,622
/60 Wooden partition screen		m2	10	0.00	0.00	239247	2,392,470	239247	2,392,470
/61 Skylight with steel louvers		set	12	0.00	0.00	825169	9,902,028	825169	9,902,028
/62 Cast iron roof drain and floor drain		m	25	16.29	407.25	15027	375,675	51580	1,291,988
a.For superstructure,D.100mm,roof		m	2	10.57	21.14	4766	9,532	28549	57,097
b.For substructure,0.75mm,floor		m	5	4.17	20.85	1277	6,385	10660	53,299
/63 P.V.C.drain pipe,D.50mm from door mat		nos	18	0.00	0.00	283323	5,099,814	283323	5,099,814
/64 Fire extinguisher,4.5kg CO2		nos	17	0.00	0.00	75748	1,287,716	75748	1,287,716
/65 Door signs									
(12) Elevator Equipment									
/70 Elevator		L.S.			33,750.00		8,437,500		84,375,000
Subtotal of item 2.6.1					221,674.87		1,732,434,235		2,231,202,693

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
2.6.2	PLUMBING WORK								
	(1) Water Supply Works								
/01	Pressed steel sectional raw water storage tank, size 12m <sup>3</sup> complete with cover, inlet, outlet and overflow connections and internal partition	set	1	5337.50	5,337.50	3602813	3,602,813	15612188	15,612,188
/02	Pressed steel sectional treated water storage tank, size 4m <sup>3</sup> complete with cover, inlet, outlet and overflow connections and internal partition	set	1	2912.50	2,912.50	1965938	1,965,938	8519063	8,519,063
/03	Centrifugal pump, horizontal axle Q=66 lit/min, H=43m, D=32mm dia., P=3kW, 220V, 60Hz, 3-phases	no	2	2937.50	5,875.00	660938	1,321,876	7270313	14,540,626
/04	Air compressor pumps Pmin=6 atm, Q=3800 lit/hour, P=1.5kW, 220V, 60Hz, 3-phases	no	1	912.50	912.50	205313	205,313	2258438	2,258,438
/05	Water filter unit Rapid force feed type unit with back-washable sand filtering medium contained in a steel tank with piping, valves, flow meter, pressure gauges, manholes, inspection windows, water feed pump (centrifugal) and manual, 4-way valve for filtering	set	1	5981.25	5,981.25	2691563	2,691,563	16149376	16,149,376
/06	Chlorinator, with hypochlorite solution retention tank (50 lit) and a chemical feed pump (diaphragm pump) with feed pipe and valves	set	1	2012.50	2,012.50	452213	452,813	4980938	4,980,938
/07	Galvanizes steel pipes incl. fittings, supports and accessories ø.65mm dia.	m	130	14.91	1,938.30	5710	872,300	40258	5,233,475

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
	b.50mm dia.	m	43	10.38	445.34	4671	200,853	28026	1,205,118
	c.40mm dia.	m	253	7.58	1,917.74	3411	862,983	20466	5,177,898
	d.32mm dia.	m	59	6.59	388.81	2865	174,935	17793	1,049,758
	e.25mm dia.	m	12	4.96	59.52	2232	26,784	13392	160,704
	f.20mm dia.	m	145	3.54	513.30	1593	230,985	9558	1,385,910
/08	Bronze gate valve								
	a.65mm dia.	no.	3	197.95	593.85	44539	133,617	489927	1,489,780
	b.40mm dia.	no.	1	51.09	51.09	11495	11,495	126448	126,448
	c.32mm dia.	no.	7	38.79	271.53	8728	61,096	96006	672,039
	d.20mm dia.	no.	13	16.85	219.05	3791	49,283	41704	542,146
/09	Flexible joint								
	a.65mm dia.	no.	2	18.06	36.12	8123	16,246	48758	97,516
	b.50mm dia.	no.	1	9.43	9.43	4244	4,244	25462	25,462
	c.40mm dia.	no.	2	6.22	12.44	2799	5,598	16794	33,588
	d.32mm dia.	no.	1	4.88	4.88	2196	2,196	13175	13,175
/10	UPVC pipes soil waste water and vent pipe incl.fittings,supports,hangers and earth work								
	a.110mm dia.	m	517	0.00	0.00	104948	54,258,116	104948	54,258,116
	b.75mm dia.	m	36	0.00	0.00	94924	3,417,264	94924	3,417,264
	c.50mm dia.	m	91	0.00	0.00	43692	3,975,972	43692	3,975,972
/11	Floor trap,50mm dia.	no.	5	0.00	0.00	12383	61,915	12383	61,915
/12	Floor clean out,110mm dia.	no.	3	61.90	185.70	13928	41,784	153203	459,609
/13	Floor clean out,75mm dia.	no.	3	53.20	159.60	11970	35,910	131670	395,010
/14	Floor clean out,50mm dia.	no.	5	44.50	222.50	10013	50,065	110138	550,690
/15	Faucet,13mm dia.	no.	5	0.00	0.00	137456	687,280	137456	687,280
/16	Check valve								
	a.65mm dia.	no.	2	195.27	390.54	87872	175,744	527230	1,054,459
	b.40mm dia.	no.	1	58.45	58.45	19665	19,665	151178	151,178
	c.32mm dia.	no.	6	48.02	288.12	10805	64,830	118850	713,100



BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
(2) Plumbing Fixture									
/17	Water closet, wash down close coupled unit in vitreous china 9 litre cistern with plastic seat and cover with paper holder and accessories	no.	2	0.00	0.00	512668	1,025,336	512668	1,025,336
/18	Urinal, wall hung type heavy duty fireclay no. with integral cistern with trap complete	no.	2	0.00	0.00	131087	262,174	131087	262,174
/19	Lavatory sink with glass shelf and mirror, incl. accessories	no.	2	0.00	0.00	215120	430,240	215120	430,240
/20	Stop sink, incl. accessories	no.	1	212.00	212.00	47700	47,700	524700	524,700
/21	Shower set, incl. accessories	no.	1	0.00	0.00	137995	137,995	137995	137,995
/22	Towel rail 20mm dia. x 600mm long with CP brackets	no.	1	0.00	0.00	56546	56,546	56546	56,546
/23	Instantaneous electric water heater above sink, type 7 litre, 1.5kW	no.	2	1070.00	2,140.00	240750	481,500	2648250	5,296,500
/24	Septic tank incl. water level switch and chemical solution, 30 litres	set	1	3076.25	3,076.25	1384312	1,384,312	8305875	8,305,875
/25	Catch basin with concrete cover	set	14	68.20	954.80	212830	2,979,620	266280	5,127,920
/26	Cess pit with iron cover	set	1	66.83	66.83	179608	179,608	323976	329,976
/27	Portable fire extinguisher dry chemical powder, capacity 6 kg. 150PSI	no.	20	133.75	2,675.00	30094	601,880	331032	6,620,630
/28	Fire hydrant box fabricated from zintec steel plate painted red, size 900 x 850 x 250mm with hydrant valve 40mm dia. fire hose, nozzle and accessories	no.	13	466.13	6,085.69	105329	1,369,277	1158622	15,062,080
/29	Fire hydrant pump, centrifugal type (horizontal axle), Q=300 lit/min, H=60m, D=65mm dia., P=220V, 60Hz, 3-phases, 5.5kW	no.	1	8025.00	8,025.00	3611250	3,611,250	21667500	21,667,500
/30	Electric control panel for above pump with indicator lamps	set	2	306.25	612.50	68906	137,812	757969	1,515,937
/31	Flow meter, 50mm dia.	no.	1	655.38	655.38	147461	147,461	1622066	1,622,066

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/32	Pressure vessel with diaphragm test pressure 10 bar.capacity 500 litres	no.	1	1100.00	1,100.00	247500	247,500	2722500	2,722,500
/33	Auto air release,15mm	no.	2	62.50	125.00	14063	28,126	154688	309,376
/34	Pressure gauge,0-10 bar	no.	3	125.00	375.00	28125	84,375	309375	928,125
/35	Hydrant test valve,40mm dia.	no.	3	58.85	176.55	13241	39,723	145654	436,961
	Subtotal of item 2.6.2				57,078.56		88,933,911		217,360,671
2.6.3 AIR CONDITIONING AND VENTILATION WORK									
/01	Packaged air conditioners,refrigeration capacity 45,600 kcal/h,9,460 CMH,heating capacity 16,340 kcal/h,built in electric heater 19 kW outdoor condensing units 220V,3 phase,60 Hz,prefilters 65% lavable	set	1	7482.50	7,482.50	841761	841,781	17677406	17,677,406
/02	Packaged air conditioners,refrigeration capacity 19,700 kcal/h,3,580 CMH,heating capacity 16,340 kcal/h,built in electric heater 7.5 kW outdoor condensing units 220V,3 phase,60 Hz,prefilters 65% lavable	set	1	3181.25	3,181.25	357891	357,891	7515704	7,515,704
/03	Multiblade fan,38,000 CMH x 50mm sq x 11 kW,220V,3 phase,60 Hz	no	2	2507.50	5,015.00	282094	564,188	5923969	11,847,938
/04	Propeller fan exhaste type,explosin proof D.250mm,1,020 CMH,220v,1 phase,60 Hz	no	1	858.75	858.75	96609	96,609	2028797	2,028,797
/05	Propeller fan exhaste type,D.250mm,1,020 CMH,220v,1 phase,60 Hz	no	1	630.00	630.00	70875	70,875	1488375	1,488,375
/06	Propeller fan exhaste type,D.250mm,540 CMH,220v,1 phase,60 Hz	no	1	543.75	543.75	61172	61,172	1284610	1,284,610
/07	Ventilating registers								

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
	a.UR-VHS 500 x 200,Q=500 CMH	no	6	52.50	315.00	5906	35,436	124031	744,186
	b.UR-VHS 400 x 200,Q=430 CMH	no	7	42.50	297.50	4781	33,467	100406	702,842
	c.UR-VHS 650 x 300,Q=1730 CMH	no	6	135.00	810.00	15188	91,128	318938	1,913,628
	d.UR-VHS 730 x 300,Q=1530 CMH	no	7	116.25	813.75	13078	91,546	274641	1,922,484
	e.UR-VHS 900 x 300,Q=2200 CMH	no	6	142.50	855.00	16031	96,186	336656	2,019,936
	f.UR-VHS 900 x 300,Q=1890 CMH	no	7	142.50	997.50	16031	112,217	336656	2,356,592
	g.UR-VHS 900 x 250,Q=1540 CMH	no	6	118.75	712.50	13359	80,154	280547	1,683,279
	h.UR-VHS 900 x 300,Q=1840 CMH	no	5	142.50	712.50	16031	80,155	336656	1,683,280
	i.UR-VHS 300 x 200,Q=300 CMH	no	12	31.25	375.00	3516	42,192	73829	885,942
/08	Return gullies								
	a.RG-950 x 400,Q=2020 CMH	no	3	77.50	232.50	8719	26,157	183094	549,282
	b.RG-900 x 400,Q=1825 CMH	no	1	73.75	73.75	8297	8,297	174235	174,235
	c.RG-750 x 300,Q=1069 CMH	no	2	45.00	90.00	5063	10,126	106313	212,626
	d.RG-750 x 300,Q=954 CMH	no	1	45.00	45.00	5063	5,063	106313	106,313
	e.RG-800 x 300,Q=1160 CMH	no	1	48.75	48.75	5484	5,484	115172	115,172
/09	Diffusers								
	Adjustable air discharge								
	a.AD D.250,Q=780	no	8	86.25	690.00	9703	77,624	203766	1,630,124
	b.AD D.250,Q=1020	no	1	86.25	86.25	9703	9,703	203766	203,766
	c.AD D.250,Q=1100	no	2	86.25	172.50	9703	19,406	203766	407,531
	d.AD D.250,Q=630	no	2	86.25	172.50	9703	19,406	203766	407,531
	e.AD D.250,Q=580	no	4	86.25	345.00	9703	38,812	203766	815,062
/10	Volume damper, 250 x 200	no	1	41.25	41.25	4641	4,641	97454	97,454
/11	Volume damper, 200 x 150	no	1	31.25	31.25	3516	3,516	73829	73,829
/12	Fire damper, 1100 x 350	no	1	118.75	118.75	13359	13,359	280547	280,547
/13	Fire damper, 500 x 350	no	1	81.25	81.25	9141	9,141	191954	191,954
/14	Louvers, 1800 x 2400, Q=37750 CMH	no	2	1950.00	3,900.00	219375	438,750	4606875	9,213,750
/15	Louvers, 400 x 200, Q=300 CMH	no	1	250.00	250.00	28125	28,125	590625	590,625
/16	Louvers, 450 x 200, Q=650 CMH	no	1	265.00	265.00	29813	29,813	626063	626,063
/17	Ventilation zineplated steel								
	a.Gage 22	kg	2,979	0.00	0.00	6500	19,363,500	6500	19,363,500
	b.Gage 24	kg	1,455	0.00	0.00	6500	9,457,500	6500	9,457,500

BILL OF QUANTITIES

Item No.	Description of Works	Unit Quantity		Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
		Unit	Quantity	Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/18	Air conditioning zinc plated steel								
	a. Gage 22	kg	345	0.00	0.00	7250	2,501,250	7250	2,501,250
	b. Gage 24	kg	506	0.00	0.00	7250	3,668,500	7250	3,668,500
/19	Refrigerant pipe for air conditioner								
	a. Dia. 19.05mm	m	24	8.13	195.12	915	21,960	19208	460,980
	b. Dia. 15.88mm	m	24	9.75	234.00	1097	26,328	23035	552,828
	Subtotal of item 2.6.3				30,672.87		38,441,458		107,455,416
2.6.4	DIESEL GENERATOR HOUSE								
	(1) Earthworks								
/01	Open-cut excavation, in rock	m3	50	8.18	409.00	8411	420,550	26816	1,340,800
/02	Random backfill	m3	19	2.92	55.48	3001	57,019	9571	181,849
/03	Gravel bedding	m3	2	13.57	27.14	39654	79,308	70187	140,373
	(2) Concrete works								
/04	Concrete, class C for structure	m3	66	58.41	3,855.06	72523	4,786,518	203946	13,460,403
/05	Concrete, class H for levelling concrete and plain concrete on asphalt roofing	m3	5	51.17	255.85	65640	328,200	180773	903,863
/06	Formwork, F1 finish, for concrete of items /04 and /05	m2	66	4.68	308.88	42074	2,776,884	52604	3,471,864
/07	Formwork, F3 finish, for concrete of item /04	m2	240	4.68	1,123.20	42074	10,097,760	52604	12,624,960
/08	Reinforcement bars for concrete work	ton	6.0	357.97	2,147.82	1054028	6,324,168	1859461	11,156,763
	(3) Masonry Works								
/09	Hollow concrete masonry to roof parapet, 100mm thick, incl. bonding cement mortar	m2	13	0.00	0.00	16205	210,665	16205	210,665

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/-)		Equivalent Price(S/-)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
<b>(4) Bituminous Waterproof Roofing</b>									
/10	3-ply built up asphalt roofing on roof incl.asphalt compound joint and required calking	m <sup>2</sup>	71	20.00	1,420.00	45000	3,195,000	90000	6,390,000
<b>(5) Plastering Works</b>									
/11	Cement mortar plaster on floor	m <sup>2</sup>	22	0.00	0.00	41197	906,334	41197	906,334
/12	Base cement mortar plaster,20mm thick for built up roofing on roof	m <sup>2</sup>	58	0.00	0.00	4669	270,802	4669	270,802
/13	Cement mortar plaster to interior skirting,H=100mm	m	20	0.00	0.00	467	9,340	467	9,340
/14	Cement mortar plaster to exterior skirting,H=200mm	m	24	0.00	0.00	934	22,416	934	22,416
/15	Cement mortar plaster to interior wall	m	72	0.00	0.00	41240	2,969,280	41240	2,969,280
/16	Waterproof cement mortar plaster to roof gutter incl.metal wire lath	m <sup>2</sup>	5	0.00	0.00	65488	327,440	65488	327,440
/17	Waterproof cement mortar plaster to roof parapet incl.metal lath	m <sup>2</sup>	24	0.00	0.00	271295	6,511,080	271295	6,511,080
/18	Concrete trowel finish on floor	m <sup>2</sup>	4	0.00	0.00	14008	56,032	14008	56,032
<b>(6) Spray Tile Finish</b>									
/19	Spray tile on exposed concrete	m <sup>2</sup>	350	0.00	0.00	2419	846,650	2419	846,650
<b>(7) Painting works</b>									
/20	Oil paint to metal surface	m <sup>2</sup>	8	0.00	0.00	3052	24,416	3052	24,416

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
<b>(8) Steel Doors</b>									
/21	Steel door leaves and frames incl. louvers,required hardware,accessories and calking to outside perimeter	m2	3.2	0.00	0.00	412266	1,319,251	412266	1,319,251
<b>(9) Aluminium Windows and Louvers</b>									
/22	Aluminium windows,louvers and frames incl.required hardware,accessories and calking to outside perimeter	m2	6.4	0.00	0.00	104028	665,779	104028	665,779
<b>(10) Grazing Works</b>									
/23	Figured wire glass,6.8mm thick incl. grazing bead	m2	27	41.06	1,108.62	9238	249,426	101623	2,743,821
<b>(11) Miscellaneous Metal works</b>									
/24	Roof drain,cast iron,100mm dia.	no.	2	52.00	104.00	29250	58,500	146250	292,500
/25	Steel hoist beam incl.base plate and anchor bolt	kg	340	0.88	299.20	397	134,980	2377	808,180
/26	Checkered steel plate,4.5mm thick incl. base angle,anchor bar and accessories	m2	4	181.37	725.48	40808	163,232	448891	1,795,562
<b>(12) Miscellaneous Works</b>									
/27	Polyvinyl chloride downspout,100mm dia. incl.required accessories	m	11	12.06	132.66	2164	23,804	29299	322,289
/28	Elastic joint filler,20mm thick incl. joint calking	m2	1.2	24.31	29.17	5776	6,931	60474	72,568

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
	Subtotal of item 2.6.4			12,001.56		42,841.766		68,345.289	
	Subtotal of item 2.6			321,427.86		1,902,651.070		2,525,864.959	
2.7	ELECTRICAL WORK								
2.7.1	PANEL								
/01	Lighting panel,A	set	1	0.00	0.00	395750	395,750	395750	395,750
/02	Lighting panel,B	set	1	0.00	0.00	241250	241,250	241250	241,250
/03	Lighting panel,C	set	1	0.00	0.00	210000	210,000	210000	210,000
	Subtotal of item 2.7.1			0.00	0.00	847,000	847,000	847,000	847,000
2.7.2	LIGHTING FIXTURES								
/01	Type A-1,FL 40 W x 2	set	60	401.25	24,075.00	90281	5,416,860	993094	59,585,610
/02	Type A-2,FL 40 W x 1	set	37	267.50	9,897.50	60188	2,226,956	662063	24,496,331
/03	Type B-1,FL 40 W x 2	set	2	334.38	668.76	75235	150,470	827590	1,655,180
/04	Type B-2,FL 40 W x 1	set	53	267.50	14,177.50	60188	3,189,964	662063	35,089,339
/05	Type C,FL 40 W x 1	set	32	133.75	4,280.00	30094	963,008	331032	10,593,008
/06	Type D-1,FL 40 W x 2	set	32	334.38	10,700.16	75236	2,407,552	827591	26,482,912
/07	Type D-2,FL 40 W x 1	set	11	267.50	2,942.50	60188	662,068	662063	7,282,683
/08	Type E,IL 60 W x 1	set	10	133.75	1,337.50	30094	300,940	331032	3,310,315
/09	Type F,IL 60 W x 1	set	48	200.63	9,630.24	45142	2,166,816	496560	23,834,856
/10	Type G,XL 400 W x 1	set	36	488.13	16,852.68	105329	3,791,844	1158622	41,710,374
/11	Type H,KL 400 W x 1	set	21	2675.00	56,175.00	601875	12,639,375	6620625	139,033,125
	Subtotal of item 2.7.2			150,736.84		33,915,853		373,073,743	
2.7.3	OTHERS								
/01	Convenience outlet,20 A - 127 V	set	50	0.00	0.00	13725	686,250	13725	686,250

BILL OF QUANTITIES

Item No.	Description of Works	Unit Quantity		Foreign Currency(US\$)		Local Currency(S/-)		Equivalent Price(S/-)	
		Unit	Price	Total	Price	Unit	Total	Unit	Total
/02	Tumbler switch,10 A - 127 V	set	60	0.00	0.00	11363	681,780	11363	681,780
/03	Threeway switch,10A-127 V	set	25	0.00	0.00	12286	307,150	12286	307,150
/03	Safety switch,3 P x 230 V x 50 A	set	3	20.06	60.18	9027	27,081	54152	162,486
	Subtotal of item 2.7.3				60.18		1,702,261		1,837,666
2.7.4 PIPING									
/01	Conduit pipe,16mm dia.(0.1/2")	m	2,900	2.14	6,206.00	4815	13,963,500	9630	27,927,000
/02	Conduit pipe,22mm dia.(0.3/4")	m	70	2.70	189.00	6075	425,250	12150	850,500
	Subtotal of item 2.7.4				6,395.00		14,388,750		28,777,500
2.7.5 WIRING AND CABLING									
/01	IV wire,2.0 mm2 (TW 14 AWG)	m	4,600	0.00	0.00	1120	5,152,000	1120	5,152,000
/02	IV wire,3.5 mm2 (TW 12 AWG)	m	1,050	0.00	0.00	1488	1,562,400	1488	1,562,400
/03	IV wire,5.5 mm2 (TW 10 AWG)	m	870	0.00	0.00	1862	1,619,940	1862	1,619,940
/04	CV cable,2c x 5.5 mm2 (2 x 10 AWG)	m	450	1.60	720.00	720	324,000	4320	1,944,000
/05	CV cable,4c x 3.5 mm2 (4 x 12 AWG)	m	24	2.07	49.68	932	22,368	5590	134,148
/06	CV cable,4c x 5.5 mm2 (4 x 10 AWG)	m	70	2.68	187.60	1206	84,420	7236	506,520
/07	CV cable,4c x 22mm2 (4 x 4 AWG)	m	85	7.73	657.05	3479	295,715	20872	1,774,078
	Subtotal of item 2.7.5				1,614.33		9,060,843		12,693,086
2.7.6 TELEPHONE FACILITIES									
/01	PABX sets	set	1	40125.00	40,125.00	9028125	9,028,125	99309375	99,309,375
/02	Battery and charger	set	1	2675.00	2,675.00	601875	601,875	6620625	6,620,625
/03	MOF sets	set	1	6687.50	6,687.50	1504688	1,504,688	16551563	16,551,563
/04	Telephone set	set	30	123.05	3,691.50	55373	1,661,190	332236	9,967,065
/05	Conduit pipe,16mm dia.	m	345	2.14	738.30	4815	1,661,175	9630	3,322,350



BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/06	Conduit pipe,22mm dia.	m	60	2.70	162.00	6075	364,500	12150	729,000
/07	Conduit pipe,28mm dia.	m	100	3.73	373.00	8393	839,300	16786	1,678,550
/08	Telephone wire,indoor	m	800	1.89	1,512.00	351	680,800	5104	4,082,800
/09	Telephone wire,outdoor	m	800	2.68	1,608.00	1206	723,600	7236	4,341,600
	Subtotal of item 2.7.6				57,572.30		17,065,253		146,602,928
2.7.7	EARTHING SYSTEM								
	(1) Earthing Conductor								
/01	HDCC 100 mm <sup>2</sup> (4/0 AWG)	m	3,200	5.35	17,120.00	2408	7,705,600	14446	46,225,600
/02	HDCC 38 mm <sup>2</sup> (2 AWG)	m	600	1.95	1,170.00	878	526,800	5266	3,159,300
	(2) Plate,Rod and Fittings								
/03	Copper plate,1 mm <sup>2</sup> x 3 mm(t)	no.	12	189.26	2,271.12	85167	1,022,004	511002	6,132,024
/04	Copper rod,D.19mm x 2.4m	no.	15	72.22	1,083.30	32499	487,485	194994	2,924,910
/05	Cramp for above,item /03-/04	no.	30	7.36	220.80	3312	99,360	19872	596,160
	(3) Civil Works								
/06	Open-cut excavation,in common	m <sup>3</sup>	570	2.76	1,573.20	2942	1,676,940	9152	5,216,640
/07	Random backfill	m <sup>3</sup>	570	2.92	1,664.40	3001	1,710,570	9571	5,455,470
	Subtotal of item 2.7.7				25,102.82		13,228,759		69,710,104
	Subtotal of item 2.7				241,481.47		90,208,719		633,542,027

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
2.8	MISCELLANEOUS								
/01	Trash boom	m	155	684.33	106,071.15	153974	23,865,970	1693717	262,526,058
/02	Staff gauge,h=25m,w=200mm	L.S.			1,377.60		309,970		3,409,570
	Subtotal of item 2.8				107,448.75		24,175,940		265,935,628
	Total of item 2				5,627,651.06		8,529,714,460		19,841,929,345

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
3	SEVERINO PENSTOCK								
3.1	EARTHWORK								
/01	Clearing the site for penstock	m <sup>2</sup>	2,420	0.14	338.80	214	517,880	529	1,280,180
/02	Open-cut excavation, in common, for penstock line	m <sup>3</sup>	5,770	2.54	14,655.80	2635	15,203,950	8350	48,179,500
/03	Open-cut excavation, in weathered rock, penstock line	m <sup>3</sup>	6,660	3.25	21,645.00	3233	21,531,780	10546	70,233,030
/04	Open-cut excavation, in rock, for penstock line	m <sup>3</sup>	350	7.80	2,730.00	8006	2,802,100	25556	8,944,600
/05	Trench excavation, in all class, for side ditch and catch basin	m <sup>3</sup>	154	2.76	425.04	2942	453,068	9152	1,409,408
/06	Sod facing for cut slope protection	m <sup>2</sup>	590	0.03	17.70	4622	2,725,980	4690	2,766,805
	Subtotal of item 3.1				39,812.34		43,235,758		132,813,523
3.2	CONCRETE WORK								
/01	Concrete, class E, for bottom slab and saddle block	m <sup>3</sup>	251	55.92	14,035.92	69323	17,400,073	195143	48,980,893
/02	Concrete, class E, for anchor block	m <sup>3</sup>	232	55.92	12,973.44	69323	16,082,936	195143	45,273,176
/03	Concrete, class E, foundation of surge tank and valves	m <sup>3</sup>	235	55.92	13,141.20	69323	16,290,905	195143	45,858,605
/04	Concrete, class E, for encasing of penstock pipe	m <sup>3</sup>	1,150	55.92	64,308.00	69323	79,721,450	195143	224,414,450
/05	Concrete, class F, for side ditch and catch basin along penstock line	m <sup>3</sup>	94	58.63	5,511.22	73250	6,885,500	205168	19,285,745
/06	Concrete, class F, for cable duct along penstock line	m <sup>3</sup>	18	58.63	1,055.34	73250	1,318,500	205168	3,693,015
/07	Concrete, class H, for levelling concrete of bottom slab, foundation of surge tank	m <sup>3</sup>	45	50.23	2,260.35	64659	2,909,655	177677	7,995,443

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
	and valves, side ditch, catch basin and cable duct along penstock line								
/08	Formwork, F1 finish, for concrete of items /01 and /05	m2	363	3.56	1,292.28	11519	4,181,397	19529	7,089,027
/09	Formwork, F2 finish, for concrete of items /01, /02, /03, /04 and /06	m2	833	3.49	2,907.17	20350	16,951,550	28203	23,492,683
/10	Formwork, F3 finish, for concrete of item /05	m2	264	4.08	1,077.12	25668	6,776,352	34848	9,199,872
/11	Bituminous coating for contraction joint of bottom slab and encasing concrete along penstock pipe	m2	196	0.03	5.88	3986	781,256	4054	794,486
/12	Reinforcing bars for concrete work	ton	91.0	357.97	32,575.27	1054028	95,916,548	1859461	189,210,906
/13	Dowel bar, D.22mm, round bar, for bottom slab of penstock line	ton	0.2	336.00	67.20	1076250	215,250	1832250	366,450
/14	Anchor bar, D.25mm, for encasing concrete	m	432	13.54	5,849.28	7737	3,342,384	38202	16,503,264
/15	Shotcrete with wire mesh for cut slope protection along penstock line, t=100mm	m2	350	16.05	5,617.50	17417	6,095,950	53530	18,735,325
/16	Shotcrete with wire mesh for cut slope protection along penstock line, t=50mm	m2	1,160	8.02	9,303.20	8709	10,102,440	26754	31,034,640
/17	P.V.C. pipe D.50mm for weep hole	m	48	4.17	200.16	1277	61,296	10660	511,656
	Subtotal of item 3.2				172,180.53		285,093,442		672,439,635
3.3	MISCELLANEOUS METAL WORK								
/02	Round bar, for step ladder	kg	19	0.46	8.74	1435	27,265	2470	46,930
	Subtotal of item 3.3				8.74		27,265		46,930
	Total of item 3				212,001.61		328,296,465		805,300,088

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
4	SEVERINO HEAD TANK								
4.1	CARE OF RIVER AND CONTROL AND REMOVAL OF WATER								
	/01 care of water during construction in open air construction site	L.S.			4,374.00		10,712,700		20,554,200
	Subtotal of item 4.1				4,374.00		10,712,700		20,554,200
4.2	EARTHWORK								
/01	Clearing the site for head tank	m <sup>2</sup>	2,410	0.14	337.40	214	515,740	529	1,274,890
/02	Open-cut excavation, in common, for head tank	m <sup>3</sup>	6,130	2.54	15,570.20	2635	16,152,550	8350	51,185,500
/03	Open-cut excavation, in weathered rock, head tank	m <sup>3</sup>	9,260	3.25	30,095.00	3233	29,937,580	10546	97,651,330
/04	Open-cut excavation, in rock, for head tank	m <sup>3</sup>	1,030	7.80	8,034.00	8006	8,246,180	25556	26,322,680
/05	Trench excavation, all classes, for underdrain, transverse drain, drainage pipe, drain ditch and foundation of fence	m <sup>3</sup>	171	2.76	471.96	2942	503,082	9152	1,564,992
/06	Free draining backfill	m <sup>3</sup>	463	14.34	6,639.42	25866	11,975,958	58131	26,914,653
/07	Backfilling for head tank	m <sup>3</sup>	4,350	2.92	12,702.00	3001	13,054,350	9571	41,633,850
/08	Embankment	m <sup>3</sup>	780	3.44	2,683.20	3067	2,392,260	10807	8,429,460
/09	Sand and gravel fill, for underdrain and transverse drain	m <sup>3</sup>	53	14.13	748.89	34659	1,836,927	68452	3,521,930
/10	Sod facing	m <sup>2</sup>	550	0.03	16.50	4622	2,542,100	4690	2,579,225
/11	Stone pitching for embankment slope	m <sup>2</sup>	556	4.24	2,357.44	13250	7,367,000	22790	12,671,240
/12	Gravel bedding for drain ditch	m <sup>3</sup>	4	13.57	54.28	39654	158,616	70187	280,746
	Subtotal of item 4.2				79,546.49		94,572,363		273,551,966

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
4.3	CONCRETE WORK								
/01	Concrete, class B, for head tank structure	m <sup>3</sup>	2,100	59.29	124,509.00	74214	155,849,400	207617	435,994,650
/02	Concrete, class E, for gravity wall	m <sup>3</sup>	1,220	55.92	68,222.40	63323	84,574,060	195143	238,074,460
/03	Concrete, class E, for encasement of penstock line	m <sup>3</sup>	247	55.92	13,812.24	63323	17,122,781	195143	48,200,321
/04	Concrete, class E, for stair	m <sup>3</sup>	5	55.92	279.60	63323	346,615	195143	975,715
/05	Concrete, class F, for drain ditch	m <sup>3</sup>	11	58.63	644.93	73250	805,750	205168	2,256,843
/06	Concrete, class G, for foundation concrete of wire net fence	m <sup>3</sup>	1	49.55	49.55	63304	63,304	174792	174,792
/07	Backfill concrete, class G, for underdrain and drainage pipe	m <sup>3</sup>	87	49.55	4,310.85	63304	5,507,448	174792	15,206,861
/08	Concrete, class H, for levelling concrete for bottom slab of head tank structure and drain ditch	m <sup>3</sup>	89	50.23	4,470.47	64659	5,754,651	177677	15,813,209
/09	Formwork, F1 finish, for concrete of items /01, /02, /03, /04, /05 and /06	m <sup>2</sup>	1,700	3.56	6,052.00	11519	19,582,300	19529	33,199,300
/10	Formwork, F2 finish, for concrete of items of /02 and /04	m <sup>2</sup>	106	3.49	369.94	20350	2,157,100	28203	2,989,465
/11	Formwork, F3 finish, for concrete of items /01, /02 and /05	m <sup>2</sup>	1,940	3.49	6,770.60	20350	39,479,000	28203	54,712,850
/12	P.V.C. waterstop, type A, 300mm	m	228	33.62	7,665.36	9091	2,072,748	84736	19,319,808
/13	Bituminous coating for contraction joint	m <sup>2</sup>	85	0.03	2.55	3986	338,810	4054	344,548
/14	Joint filler, for expansion joint, t=20mm	m <sup>2</sup>	207	24.31	5,032.17	5776	1,195,632	60474	12,518,015
/15	Reinforcing bars for concrete work	ton	156.0	357.97	55,843.32	1054028	164,428,368	1859461	290,075,838
/16	Anchor bar, D. 25mm	m	240	13.54	3,249.60	7737	1,856,880	38202	9,168,480
	Subtotal of item 4.3				301,284.58		501,134,847		1,179,025,152

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
4.4	DRAINAGE								
/01	Perforated concrete pipe,D.150mm for underdrain	m	150	7.23	1,084.50	43055	6,458,250	59323	8,898,375
/02	Concrete pipe,D.300mm for underdrain	m	35	12.86	450.10	66248	2,318,680	95183	3,331,405
	Subtotal of item 4.4				1,534.60		8,776,930		12,229,780
4.5	ROAD WORK								
/01	Graded crushed stone subbase	m <sup>3</sup>	109	16.52	1,800.68	21186	2,309,274	58356	6,360,804
	Subtotal of item 4.5				1,800.68		2,309,274		6,360,804
4.6	MISCELLANEOUS METAL WORK								
/01	Steel pipe with valve,100mm dia.,for drainage of head tank	kg	745	1.33	990.85	1232	917,840	4225	3,147,253
/02	Steel handrail	kg	2,080	1.81	3,764.80	1057	2,198,560	5130	10,669,360
/03	Round bar,for step ladder	kg	376	0.46	172.96	1435	539,560	2470	928,720
/04	Wire net fence with gate	kg	312	0.86	268.32	1037	323,544	2972	927,264
/05	Staff gauge,h=11.8m,w=200mm,2nos	L.S.			1,300.50		292,610		3,218,735
/06	Steel pipe for water level gauge	kg	2,540	1.48	3,759.20	279	708,660	3609	9,166,860
	Subtotal of item 4.6				10,256.63		4,980,774		28,058,192
	Total of item 4				398,796.98		622,486,888		1,519,780,093

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
5	SEVERINO SUBSTATION								
5.1	EARTHWORK								
/01	Clearing the site for switchgear yard	m2	2,600	0.14	364.00	214	556,400	529	1,375,400
/02	Open-cut excavation, in common, for switchgear yard	m3	6,750	2.88	19,440.00	2988	20,169,000	9468	63,909,000
/03	Open-cut excavation, in weathered rock, switchgear yard	m3	2,040	3.57	7,282.80	3573	7,288,920	11606	23,675,220
/04	Open-cut excavation, in common, for cable culvert	m3	380	2.76	1,048.80	2942	1,117,960	9152	3,477,760
/05	Trench excavation, all classes, for foundation of equipment	m3	1,260	2.76	3,477.60	2942	3,706,920	9152	11,531,520
/06	Trench excavation, all classes, for cable duct, drain ditch, catch basin and foundation of wire net fence	m3	470	2.76	1,297.20	2942	1,382,740	9152	4,301,440
/07	Backfilling for earthwork of items /04, /05 and /06	m3	1,170	2.92	3,416.40	3001	3,511,170	9571	11,198,070
/08	Gravel bedding, for foundation of equipment, cable duct, drain ditch and catch basin	m3	116	13.57	1,574.12	39654	4,599,864	70187	8,141,634
/09	Gravel surfacing	m3	222	14.13	3,136.86	34659	7,594,298	66452	14,752,233
/10	Sod facing, for cut slope protection	m2	500	0.03	15.00	4622	2,311,000	4690	2,344,750
	Subtotal of item 5.1				41,052.78		52,338,272		144,707,027
5.2	CONCRETE WORK								
/01	Concrete, class E, for foundation of equipment	m3	342	56.86	19,446.12	70304	24,043,968	198239	67,797,738
/02	Concrete, class E, for cable culvert	m3	86	56.86	4,889.96	70304	6,046,144	198239	17,048,554
/03	Concrete, class F, for cable duct, drain ditch and catch basin	m3	162	59.57	9,650.34	74231	12,025,422	208264	33,738,687



BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/-)		Equivalent Price(S/-)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/04	Concrete, class G, for foundation of wire net fence	m3	8	50.49	403.92	64286	514,288	177889	1,423,108
/05	Concrete, class H, for levelling of foundation of equipment, cable duct, drain ditch and catch basin	m3	60	51.17	3,070.20	65640	3,938,400	180773	10,846,350
/06	Formwork, F1 finish, for concrete of item /01	m2	739	3.56	2,630.84	11519	3,512,541	19529	14,431,931
/07	Formwork, F1 finish, for concrete of item /02	m2	183	3.56	651.48	11519	2,107,977	19529	3,573,807
/08	Formwork, F1 finish, for concrete of items /03 and /04	m2	874	3.56	3,111.44	11519	10,087,806	19529	17,068,346
/09	Formwork, F2 finish, for concrete of item /02	m2	147	3.49	513.03	20350	2,991,450	28203	4,145,768
/10	Formwork, F2 finish, for concrete of item /03	m2	279	3.49	973.71	20350	5,677,550	28203	7,868,498
/11	Formwork, F3 finish, for concrete of item /03	m2	224	4.08	913.92	25668	5,749,632	34848	7,805,952
/12	Bituminous coating for contraction joint of cable duct	m2	3	0.03	0.09	3986	11,958	4054	12,161
/13	Reinforcing bars for concrete work	ton	26.4	357.97	9,450.41	1054028	27,825,339	1859461	49,089,757
/14	P.V.C. waterstop, type B, 200mm	m	9	17.23	155.07	7248	65,232	46016	414,140
/15	Dowel bar, D22mm (round bar) for cable duct	ton	0.1	336.00	33.60	1076250	107,625	1832250	183,225
	Subtotal of item 5.2				55,894.13		109,686,232		235,448,020
5.3	ROAD WORK								
/01	Graded crushed stone subbase	m3	15	16.52	247.80	21186	317,790	58356	875,340
	Subtotal of item 5.3				247.80		317,790		875,340

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
5.4	MISCELLANEOUS METAL WORK								
/01	Embedded metal	kg	2,580	0.56	1,444.80	1198	3,090,840	2458	6,341,540
/02	Wire net fence with gate	kg	4,500	0.86	3,870.00	1037	4,666,500	2972	13,374,000
/03	Round bar for step ladder	kg	38	0.65	24.70	415	15,770	1878	71,345
/02	Checkered plate, for cable duct	kg	3,780	0.97	3,666.60	219	827,820	2402	9,077,670
	Subtotal of item 5.4				9,006.10		8,600,930		28,864,655
	Total of item 5				106,200.81		170,943,224		409,895,042

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
6	SEVERING OPEN CHANNEL								
6.1	CARE OF RIVER AND CONTROL AND REMOVAL OF WATER								
/01	Construction and removal of temporary coffering	L.S.		4,770.00		4,497,300		15,229,800	
/02	Care of water during construction in open air construction site	L.S.		17,496.00		42,850,800		82,216,800	
	Subtotal of item 6.1			22,266.00		47,348,100		97,446,600	
6.2	EARTHWORK								
/01	Clearing the site along open channel	m <sup>2</sup>	177,400	0.14	24,836.00	214	37,963,600	529	93,844,600
/02	Open-cut excavation, in common, for open channel	m <sup>3</sup>	211,900	2.54	538,226.00	2635	558,356,500	8350	1,769,365,000
/03	Open-cut excavation, in common, for structures	m <sup>3</sup>	22,300	2.76	61,548.00	2942	65,606,600	9152	204,089,600
/04	Open-cut excavation, in weathered rock, open channel	m <sup>3</sup>	28,300	3.25	91,975.00	3233	91,493,900	10546	288,437,650
/05	Open-cut excavation, in weathered rock, structures	m <sup>3</sup>	23,600	4.14	97,704.00	4414	104,170,400	13729	324,004,400
/06	Open-cut excavation, in rock, for open channel	m <sup>3</sup>	6,780	7.80	52,884.00	8006	54,280,680	25556	173,269,680
/07	Open-cut excavation, in rock, for structures	m <sup>3</sup>	730	2.81	2,051.30	22979	16,774,670	29302	21,390,095
/08	Trench excavation, all classes, for underdrain	m <sup>3</sup>	570	2.76	1,573.20	2942	1,676,940	9152	5,216,640
/09	Trench excavation, all classes, for drain ditch, catch basin and foundation of wire net fence	m <sup>3</sup>	5,780	2.76	15,952.80	2942	17,004,760	9152	52,898,560

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/10	Embankment for open channel	m3	209,900	3.23	677,977.00	2926	614,167,400	10194	2,139,615,650
/11	Backfilling for structures	m3	9,790	2.92	28,586.80	3001	28,379,790	9571	93,700,090
/12	Sand and gravel bedding for open channel lining	m3	1,960	13.57	26,597.20	39854	77,721,840	70187	137,565,540
/13	Gravel bedding for structures	m3	766	13.57	10,394.62	39854	30,374,964	70187	53,762,859
/14	Cabion mattress, t=500mm	m3	7,190	62.71	450,884.90	32550	234,753,500	173748	1,249,244,525
/15	Sod facing	m2	76,200	0.03	2,286.00	4622	352,196,400	4690	357,339,900
	Subtotal of item 6.2				2,083,476.82		2,285,921,944		6,973,744,789
6.3	CONCRETE WORK								
/01	Concrete class A, for pedestrian bridge slab and girders	m3	68	68.07	4,628.76	86162	5,869,016	239320	16,273,726
/02	Concrete class A, for blackout	m3	8	68.07	544.56	86162	689,296	239320	1,914,556
/03	Concrete class B, for syphon structure	m3	6,130	61.14	374,788.20	76146	466,774,980	213711	1,310,048,430
/04	Concrete class B, for valve box of syphon	m3	38	61.14	2,323.32	76146	2,893,548	213711	8,121,018
/05	Concrete class E, for open and closed transition structure	m3	860	57.77	49,682.20	71254	61,278,440	201237	173,063,390
/06	Concrete class E, for drainage culvert and wing wall	m3	1,460	57.77	84,344.20	71254	104,030,840	201237	293,805,290
/07	Concrete class E, for pedestrian bridge abutment wall	m3	70	57.77	4,043.90	71254	4,987,780	201237	14,086,555
/08	Concrete class F, for lining concrete for open channel	m3	9,390	60.48	567,907.20	75182	705,958,960	211262	1,983,750,180
/09	Concrete class F, for drain ditch and catch basin	m3	1,870	60.48	113,097.60	75182	140,590,340	211262	395,059,940
/10	Concrete class G, for foundation of wire net fence	m3	14	51.40	719.60	65236	913,304	180886	2,532,404
/11	Concrete class H, for levelling concrete	m3	627	52.08	32,654.16	66590	41,751,930	183770	115,223,790
/12	Formwork, F1 finish, for concrete of items /03./04./05./06 and /07	m2	10,890	3.56	38,768.40	11519	125,441,910	19529	212,670,810

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/-)		Equivalent Price(S/-)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/13	Formwork,F1 finish,for concrete of item /08	m2	1,650	3.56	5,874.00	11519	19,006,350	19529	32,222,850
/14	Formwork,F1 finish,for concrete of items /09 and /10	m2	9,540	3.56	33,962.40	11519	109,891,260	19529	186,306,660
/15	Formwork,F2 finish,for concrete of items /01,/02,/04 and /07	m2	1,050	4.37	4,588.50	15333	16,099,650	25166	26,423,775
/16	Formwork,F3 finish,for concrete of items /02,/03,/05 and /06	m2	11,020	4.08	44,961.60	25668	282,861,350	34848	384,024,960
/17	Formwork,F3 finish,for concrete of item /08,open channel	m2	48,240	12.21	589,010.40	17620	849,988,800	45093	2,175,262,200
/18	Formwork,F3 finish,for concrete of item /09	m2	6,300	4.08	25,704.00	25668	161,708,400	34848	219,542,400
/19	Reinforcing bars for open channel	ton	155.0	357.97	55,485.35	1054028	163,374,340	1859461	288,216,378
/20	Reinforcing bars for structures	ton	222.0	357.97	79,469.34	1054028	233,994,216	1859461	412,800,231
/21	Dowel bars,D16mm,round bar for open channel	ton	2.5	336.00	840.00	1076250	2,690,625	1832250	4,580,625
/22	Dowel bars,D16mm,round bar for structures	ton	6.4	336.00	2,150.40	1076250	6,888,000	1832250	11,726,400
/23	P.V.C.waterstop,type C,for structure w=200mm	m	1,540	17.23	26,534.20	7248	11,161,920	46016	70,863,870
/24	P.V.C.waterstop,type C,for open channel w=150mm	m	10,530	13.63	143,523.90	6843	72,056,790	37511	394,985,565
/25	Bituminous coating for contraction joints of open channel and structure	m2	2,350	0.03	70.50	3986	9,367,100	4054	9,525,725
/26	Joint filler for expansion joint, for pedestrian bridge,t=20mm	m2	5,890	24.31	143,185.90	5776	34,020,640	60474	356,188,915
/27	Joint filler for culvert and wall, t= 10mm	m2	85	12.15	1,032.75	4408	374,680	31746	2,698,368
/28	Shotcrete with wire mesh for cut slope protection,t=100mm	m3	2,870	16.05	46,063.50	17417	49,986,790	53530	153,629,665
/29	P.V.C.pipe,D50mm for weephole	m	1,440	4.17	6,004.80	1277	1,838,880	10660	15,349,680
	Subtotal of item 6.3				2,481,963.64		3,686,480,165		9,270,898,355

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
<b>6.4 DRAINAGE</b>									
/01	P.V.C. perforated pipes, D. 100mm for underdrain	m	5,780	22.74	131,437.20	5116	29,570,480	56281	325,304,180
/02	Pre-cast concrete pipe, D. 800mm	m	282	36.31	10,239.42	184213	51,948,066	265911	74,966,761
/03	Pre-cast concrete pipe, D. 1000mm	m	351	47.58	16,700.58	224410	78,767,910	331465	116,344,215
	Subtotal of item 6.4				158,377.20		160,286,456		516,635,156
<b>6.5 ROAD WORK</b>									
/01	Compacting original ground	m <sup>2</sup>	17,390	0.17	2,956.30	164	2,851,960	547	9,503,635
/02	Improved subgrade material, not less than corrected CBR 12	m <sup>3</sup>	1,080	4.72	5,097.60	4991	5,390,280	15611	16,859,880
/03	Graded crushed stone subbase, not less than corrected CBR 60	m <sup>3</sup>	3,420	16.52	56,498.40	21186	72,456,120	58356	199,577,520
	Subtotal of item 6.5				64,552.30		80,698,360		225,941,035
<b>6.6 MISCELLANEOUS METAL WORK</b>									
/01	Steel drain pipe, D. 200mm with valve	kg	5,370	1.43	7,679.10	599	3,216,630	3817	20,494,605
/02	Trashrack	kg	8,680	5.40	46,872.00	1350	11,718,000	13500	117,180,000
/03	Steel handrail for pedestrian bridge and open transition structure	kg	8,310	1.81	15,041.10	1057	8,783,670	5130	42,626,145
/04	wire net fence with gate	kg	9,870	0.86	8,488.20	1037	10,235,190	2972	29,333,640
/05	Elastameric bearing pad for pedestrian bridge	nos	44	262.42	11,546.48	59044	2,597,936	649489	28,577,516
/04	Anchor rods with steel pipe, D. 32mm for pedestrian bridge	kg	315	0.37	116.55	1184	372,960	2017	635,198
	Subtotal of item 6.6				89,743.43		36,924,386		238,847,104
	Total of item 6				4,900,379.39		6,297,659,411		17,000,000,000

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
7	LA ESPERANZA - POZA HONDA DIVERSION TUNNEL								
7.1	CARE OF RIVER AND CONTROL AND REMOVAL OF WATER								
/01	Construction and removal of temporary coffer	L.S.			2,120.00		1,998,800		6,768,800
/02	Care of water during construction in open air construction site	L.S.			4,374.00		10,712,700		20,554,200
	Subtotal of item 7.1				6,494.00		12,711,500		27,323,000
7.2	EARTHWORK								
/01	Clearing the site for inlet and outlet structures	m2	4,870	0.14	681.80	214	1,042,180	529	2,576,230
/02	Open-cut excavation, in common, for inlet and outlet structures	m3	11,800	2.54	29,972.00	2635	31,093,000	8350	98,530,000
/03	Open-cut excavation, in weathered rock, inlet and outlet structures	m3	12,500	3.25	40,625.00	3233	40,412,500	10546	131,818,750
/04	Open-cut excavation, in rock, for inlet and outlet structures	m3	560	7.80	5,148.00	8006	5,283,960	25556	16,866,960
/05	Underground excavation, all classes, in tunnel	m3	198,360	43.08	8,545,348.80	45153	8,956,549,080	142083	28,183,583,880
/06	Trench excavation, all classes, for drain ditch and catch basin	m3	100	2.76	276.00	2942	294,200	9152	915,200
/07	Permanent steel support, H-125 x 125	ton	117	1223.55	143,155.35	138414	16,194,438	2891402	338,293,976
/08	D.25mm rock bolts in tunnel	m	161,740	20.26	3,276,832.40	16196	2,619,541,040	61781	9,992,458,940
/09	Backfilling for inlet and outlet structures	m3	6,300	2.92	18,396.00	3001	18,906,300	9571	60,297,300
/10	Gabion mattress, t=500mm	m3	422	62.71	26,463.62	32650	13,778,300	173748	73,321,445
/11	Sod facing	m2	439	0.03	13.17	4622	2,029,058	4690	2,058,691
	Subtotal of item 7.2				12,086,932.14		11,705,124,056		38,900,721,371

BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
<b>7.3 DRILLING AND GROUTING WORK</b>									
/01	D.45mm drain holes in tunnel	m	8,680	9.13	79,248.40	20217	175,483,560	40760	353,792,460
/02	Backfill grouting, in tunnel	m3	1,540	66.91	103,041.40	30879	47,553,660	181427	279,396,810
/03	D.50mm steel pipes for backfill grouting in tunnel	kg	4,850	1.32	6,402.00	906	4,394,100	3876	18,798,600
Subtotal of item 7.3					188,691.80		227,431,320		651,987,870
<b>7.4 CONCRETE WORK</b>									
/01	Concrete, class B, for inlet culvert	m3	689	61.29	41,003.01	76083	50,899,527	213986	143,156,300
/02	Concrete, class D, for tunnel lining	m3	65,880	69.99	4,610,941.20	83151	5,477,987,880	240629	15,852,605,580
/03	Concrete, class E, for concrete facing walls of inlet and outlet structures	m3	136	57.86	7,868.96	71121	9,672,456	201306	27,377,616
/04	Concrete, class F, for drain ditch and catch basin	m3	15	60.62	909.30	75113	1,126,695	211508	3,172,620
/05	Concrete, class H, for levelling concrete of inlet culvert, drain ditch and catch basin	m3	39	52.17	2,034.63	66456	2,591,784	183839	7,169,702
/06	Formwork, F1 finish, for concrete of items /01 and /03	m2	809	3.56	2,880.04	11519	9,318,871	19529	15,798,961
/07	Formwork, F1 finish, for concrete of item /04	m2	29	0.25	7.25	15279	443,091	15842	459,404
/08	Formwork, F3 finish, for concrete of item /03	m2	370	4.08	1,509.60	25668	9,497,160	34848	12,893,760
/09	Formwork, F3 finish, for concrete of item /01	m2	841	4.08	3,431.28	25668	21,586,788	34848	29,307,168
/10	Formwork, F3 finish, for concrete of item /04	m2	73	4.08	297.84	25668	1,873,764	34848	2,543,904
/11	Formwork, F4 finish, for concrete of item /02, tunnel	m2	96,670	21.98	2,124,806.60	5080	491,083,600	54535	5,271,898,450



BILL OF QUANTITIES

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/12	Reinforcing bars for concrete work	ton	58.0	357.97	20,762.26	1054028	61,133,624	1859461	107,848,709
/13	Shotcrete in tunnel	m3	16.480	149.58	2,465,078.40	125679	2,071,189,920	462234	7,617,616,320
/14	Steel wire mesh, for item /13	m2	129.620	3.97	514,591.40	2060	267,017,200	10993	1,424,847,850
/15	Shotcrete with wire mesh, for slope protection, t=100mm	m2	700	16.05	11,235.00	17417	12,191,900	53530	37,470,650
/16	Shotcrete with wire mesh, for slope protection, t=50mm	m2	341	8.02	2,734.82	8709	2,989,769	26754	9,123,114
/17	P.V.C. waterstop, type B, 200mm	m	141	17.23	2,429.43	7248	1,021,968	46016	5,488,186
/18	Anchor bars, D.25mm dia for concrete facing wall	m	150	13.54	2,031.00	7737	1,160,550	38202	5,730,300
/19	Dowel bars, D.22mm round bar, for inlet culvert	ton	0.9	335.00	302.40	1076250	868,625	1832250	1,649,025
/20	Bituminous coating for contraction joint	m2	95	0.03	2.85	3986	378,670	4054	385,083
/21	P.V.C. pipe D.50mm, for weep hole	m	89	4.17	371.13	1277	113,653	10660	948,696
	Subtotal of item 7.4				9,815,228.40		8,494,227,495		30,578,491,395
7.5	CONVERGENCY MEASUREMENT								
/01	Measurement of horizontal convergence	nos	6,400	14.00	89,600.00	11980	76,672,000	43480	278,272,000
/02	Measurement of diagonal convergence	nos	6,400	14.00	89,600.00	11980	76,672,000	43480	278,272,000
/03	Measurement of roof settlement	nos	6,400	0.00	0.00	30000	192,000,000	30000	192,000,000
/04	Measurement of invert upheaval	nos	6,400	0.00	0.00	30000	192,000,000	30000	192,000,000
/05	Stress measurement of rock bolts	nos	1,350	28.50	38,475.00	21750	29,382,500	85875	115,931,250
/06	Stress measurement of shotcrete	nos	1,350	189.30	255,555.00	91860	124,011,000	517785	699,009,750
/07	Stress measurement of steel support	nos	40	23.80	952.00	20060	802,400	73610	2,944,400
	Subtotal of item 7.5				474,182.00		691,519,900		1,758,429,400
	Total of item 7				22,571,528.34		21,131,014,271		71,916,953,036

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
8	POZA HONDA - MANCHA GRANDE DIVERSION TUNNEL								
8.1	CARE OF RIVER AND CONTROL AND REMOVAL OF WATER								
/01	Construction and removal of temporary coffering	L.S.		1,060.00	999,400		3,384,400		
/02	Care of water during construction in open air construction site	L.S.		4,374.00	10,712,700		20,554,200		
	Subtotal of item 8.1			5,434.00	11,712,100		23,938,600		
8.2	EARTHWORK								
/01	Clearing the site for inlet and outlet structures	m2	12,800	0.14	1,806.00	214	2,760,600	529	6,824,100
/02	Open-cut excavation, in common, for inlet and outlet structures, outlet channel and anchor block of trash boom	m3	58,000	2.11	122,380.00	2182	126,556,000	6830	401,911,000
/03	Open-cut excavation, in weathered rock, for inlet and outlet structures, outlet channel and anchor block of trash boom	m3	51,700	2.93	151,481.00	2891	149,464,700	9484	490,296,950
/04	Open-cut excavation, in rock, for inlet and outlet structures, outlet channel and anchor block of trash boom	m3	900	7.80	7,020.00	8066	7,205,400	25556	23,000,400
/05	Underground excavation, all classes, in tunnel and inlet structures	m3	51,190	50.96	2,608,642.40	53922	2,760,267,180	168582	8,629,712,580

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/06	Trench excavation.all classes,for drain ditch,catch basin and foundation of wire net fence	m3	290	2.76	800.40	2942	853,180	9152	2,654,080
/07	Permanent steel support,H-125x125	ton	26	1223.55	31,812.30	138414	3,598,764	2891402	75,176,439
/08	Permanent steel support,H-250x250	ton	57	1095.76	62,458.32	220099	12,545,643	2685559	152,076,863
/09	D.25mm rock bolt	m	38,510	20.26	780,212.60	16196	623,707,960	61781	2,379,186,310
/10	Backfilling for inlet and outlet structures and anchor block of trash boom	m3	670	2.92	1,956.40	3001	2,010,670	9571	6,412,570
/11	Gravel surfacing for inlet structure	m3	132	14.13	1,865.16	34659	4,574,988	66452	8,771,598
/12	Gravel bedding for drain ditch and catch basin	m3	17	13.57	230.69	39654	674,118	70187	1,193,171
/13	Sod facing for inlet and outlet structures	m2	5,920	0.03	177.60	4622	27,362,240	4690	27,761,840
Subtotal of item 8.2					3,770,842.87		3,721,581,443		12,205,977,901
8.3	DRILLING AND GROUTING WORK								
/01	D.45mm drain holes in tunnel	m	3,110	9.13	28,394.30	20217	62,874,870	40760	126,762,045
/02	Backfill grouting in tunnel and inlet structures	m3	432	66.91	28,905.12	30879	13,339,728	181427	78,376,248
/03	Contact grouting for concrete plug	kg	112	0.43	48.16	354	39,648	1322	148,008
/04	D.50mm steel pipes for backfill grouting in tunnel and inlet structures	kg	1,800	1.32	2,376.00	906	1,630,800	3876	6,976,800
/05	D.40mm steel pipes for contact grouting	kg	160	2.06	329.60	386	61,760	5021	803,360
/03	D.25mm steel pipes for contact grouting	kg	33	2.16	71.28	446	14,718	5306	175,098
Subtotal of item 8.3					60,124.46		77,961,524		213,241,559

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
3.4	CONCRETE WORK								
/01	Concrete, class A, for blackout concrete of inlet structure	m3	14	72.48	1,014.72	80168	1,262,352	253248	3,545,472
/02	Concrete, class C, for floor slab, beam and stair of inlet structure	m3	206	63.60	13,101.60	77288	15,923,388	220398	45,401,988
/03	Concrete, class D, for inlet structure	m3	2,340	64.28	150,415.20	78285	183,186,900	222915	521,621,100
/04	Concrete, class D, for tunnel lining	m3	17,220	76.56	1,318,363.20	88075	1,516,651,500	260335	4,482,988,700
/05	Concrete, class E, for concrete facing walls of inlet and outlet structures	m3	487	57.74	28,119.38	70854	34,505,898	200769	97,774,503
/06	Concrete, class F, for drain ditch and catch basin	m3	93	60.53	5,629.29	74630	6,940,590	210823	19,506,493
/07	Concrete, class G, for plug in inlet structure	m3	360	55.68	20,044.80	89068	24,864,480	194348	69,965,280
/08	Concrete, class G, for anchor block of trash boom and foundation concrete of wire net fence	m3	201	55.68	11,191.68	89068	13,882,668	194348	39,063,948
/09	Concrete, class H, for levelling concrete of drain ditch and catch basin	m3	17	52.05	884.85	65942	1,121,014	183055	3,111,927
/10	Formwork, F1 finish, for concrete of items /03, /04, /05 and /07	m2	587	3.56	2,089.72	11519	6,761,653	19529	11,463,523
/11	Formwork, F1 finish, for concrete of item /06	m2	630	0.25	157.50	15279	9,625,770	15842	9,980,145
/12	Formwork, F1 finish, for concrete of item /08	m2	163	0.25	40.75	15279	2,490,477	15842	2,582,165
/13	Formwork, F2 finish, for concrete of items /02, /03, /05 and /07	m2	2,100	3.49	7,329.00	20350	42,735,000	28203	59,225,250
/14	Formwork, F3 finish, for concrete of items /01, /03, /05 and /07	m2	1,470	4.08	5,997.60	25668	37,731,960	34848	51,225,560
/15	Formwork, F3 finish, for concrete of item /06	m2	498	4.08	2,031.84	25668	12,782,664	34848	17,354,304
/16	Formwork, F4 finish, for concrete of item /04, tunnel	m2	24,770	25.09	621,479.30	5589	138,439,530	62042	1,536,767,955

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/17	Formwork.F4 finish.for concrete of item /03	m2	249	4.08	1,015.92	25668	6,391,332	34848	8,677,152
/18	Reinforcing bars for concrete work	ton	192.0	357.97	68,730.24	1054028	202,373,376	1859461	357,016,416
/19	Shotcrete in tunnel and inlet structure	m3	5,400	149.58	807,732.00	1256679	678,666,600	462234	2,496,063,600
/20	Steel wire mesh for item /18	m2	37,860	3.97	150,304.20	2060	77,991,600	10993	416,176,050
/21	Shotcrete with wire mesh for cut slope protection,t=100mm	m3	5,470	16.05	87,793.50	17417	95,270,990	53530	292,806,365
/22	Shotcrete with wire mesh for cut slope protection,t=50mm	m3	148	8.02	1,186.96	8709	1,288,932	26754	3,959,592
/23	Anchor bars.D.25mm for concrete facing wall	m	432	13.54	5,849.28	7737	3,342,384	38202	16,503,264
/24	P.V.C.waterstop.type B,w=200mm	m	73	17.23	1,257.79	7248	529,104	46016	3,359,132
/25	Bituminous coating for contraction joint	m2	98	0.03	2.94	3986	390,628	4054	397,243
/26	P.V.C.pipe D.50mm for weep hole	m	376	4.17	1,567.92	1277	480,152	10660	4,007,972
	Subtotal of item 8.4				3,313,331.18		3,115,630,942		10,570,626,097
8.5	MISCELLANEOUS METAL WORK								
/01	Embedded metal	kg	306	0.55	168.30	1198	366,588	2436	745,263
/02	Steel pipe handrail in inlet structure	kg	1,874	1.81	3,391.94	1057	1,930,813	5130	9,612,683
/03	Steel ladder with safety cage in inlet structure	kg	74	0.46	34.04	1435	106,190	2470	182,780
/04	Steel steps,round bar.in inlet structure	kg	229	0.65	148.85	415	95,035	1873	429,948
/05	Steel pipes for wter level gauge in inlet structure	kg	561	1.48	830.28	279	156,519	3609	2,024,649
/06	Grating and hatch cover in inlet structure	kg	3,809	3.61	13,750.49	813	3,096,717	8936	34,035,320
/07	Wire net fence with gate	kg	100	0.86	86.00	1037	103,700	2972	297,200
	Subtotal of item 8.5				18,408.90		5,905,567		47,327,842

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
8.6	CONVERGENCY MEASUREMENT								
/01	Measurement of horizontal convergence	nos.	2,100	14.00	29,400.00	11980	25,158,000	43480	91,308,000
/02	Measurement of diagonal convergence	nos.	2,100	14.00	29,400.00	11980	25,158,000	43480	91,308,000
/03	Measurement of roof settlement	nos.	2,100	0.00	0.00	30000	63,000,000	30000	63,000,000
/04	Measurement of invert upheaval	nos.	2,100	0.00	0.00	30000	63,000,000	30000	63,000,000
/05	Stress measurement of rock bolt	nos.	450	28.50	12,825.00	21750	9,787,500	85875	38,643,750
/06	Stress measurement of shotcrete	nos.	450	189.30	85,185.00	91860	41,337,000	517785	233,003,250
/07	Stress measurement of steel support	nos.	40	23.80	952.00	20060	802,400	73610	2,944,400
	Subtotal of item 8.6				157,762.00		228,242,900		583,207,400
8.7	BUILDING WORKS OF POZA HONDA INLET SUPERSTRUCTURE								
	(1) Concrete Work								
/01	Concrete, class C for structure	m3	57	63.60	3,625.20	77298	4,405,986	220398	12,562,686
/02	Concrete, class H for levelling	m3	5	56.38	281.90	70453	352,265	197308	886,540
/03	Formwork, f1 finish, for concrete of item /01	m2	134	4.68	627.12	42074	5,637,916	52604	7,048,936
/04	Formwork, F3 finish, for concrete of item /01	m2	215	4.68	1,006.20	42074	9,045,910	52604	11,309,860
/05	Reinforcing bars for concrete work	ton	4.3	357.97	1,539.27	1054028	4,532,320	1859461	7,995,680
	(2) Masonry works								
/06	Hollow concrete block masonry to roof parapet 100mm thick incl. bonding cement mortar	m2	6	0.00	0.00	16205	97,230	16205	97,230

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
<b>(3) Bituminous Waterproof Roofing</b>									
/07	3-ply built up asphalt roofing on roof incl.asphalt compound joint and required caulking	m <sup>2</sup>	72	20.00	1,440.00	45000	3,240,000	90000	6,480,000
<b>(4) Plastering Works</b>									
/08	Cement mortar plaster on floor	m <sup>2</sup>	33	0.00	0.00	41197	1,359,501	41197	1,359,501
/09	Base cement mortar plaster 20mm thick for built up roofing	m <sup>2</sup>	59	0.00	0.00	4669	275,471	4669	275,471
/10	Cement mortar plaster to interior skirting.H=100mm	m	31	0.00	0.00	467	14,477	467	14,477
/11	Cement mortar plaster to exterior skirting.H=200mm	m	25	0.00	0.00	934	23,350	934	23,350
/12	Cement mortar plaster to interior wall	m <sup>2</sup>	106	0.00	0.00	41240	4,371,440	41240	4,371,440
/13	Waterproof cement mortar plaster to roof gutter.incl.metal wire lath	m <sup>2</sup>	8	0.00	0.00	65488	523,904	65488	523,904
/14	Waterproof cement mortar plaster to roof parapet incl.metal wire lath	m <sup>2</sup>	12	0.00	0.00	271295	3,255,540	271295	3,255,540
/15	Cement mortar border to handrail.100x20	m	5	0.00	0.00	467	2,335	467	2,335
<b>(5) Spray Tile Finish</b>									
/16	Spray tile on exposed concrete	m <sup>2</sup>	167	0.00	0.00	2419	403,973	2419	403,973
<b>(6) Painting works</b>									
/17	Oil painting to metal surface	m <sup>2</sup>	46	0.00	0.00	3052	140,392	3052	140,392
<b>(7) Steel Doors</b>									
/18	Steel door leaves and frames incl.	m <sup>2</sup>	15	0.00	0.00	412266	6,183,990	412266	6,183,990

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
	louvers,required hardware,accessories & calking to outside perimeter								
	(8) Aluminium Windows and Louvers								
/19	Aluminium windows and frames incl. required hardware,accessories & calking	m2	4	0.00	0.00	104028	416.112	104028	416.112
/20	Aluminium louvers and frames incl. required hardware,accessories & calking	m2	2	0.00	0.00	96900	193.800	96900	193.800
	(9) Miscellaneous								
/21	Clear wired sheet glass,t=6.8mm	m2	5	41.06	205.30	9238	46.190	101623	508.115
	(9) Ventilation Work								
/22	Multiblade fan,15480 CMH x 27mm Aq, 2.3 kw,220 V,3 phase,60 hz	no	1	1875.00	1,875.00	210938	210.938	4429688	4,429,688
/23	Intake louver,outside,insect screen, inside resister filter,1200x1500mm Q=15480 CMH	no	1	812.50	812.50	91406	91.406	1919531	1,919,531
/24	Ventilating resisters								
	a.UR-VHS,400x200,Q=1180 CMH	no	12	42.50	510.00	4781	57.372	100406	1,204,872
	b.UR-VHS,200x150,Q=240 CMH	no	4	25.00	100.00	2813	11.252	59063	236,252
	c.UR-VHS,200x150,Q=180 CMH	no	2	25.00	50.00	2813	5.626	59063	118,126
/25	Ventilated zinc plated steel								
	a.Gage 22	kg	394	0.00	0.00	6500	2,561,000	6500	2,561,000
	b.Gage 24	kg	604	0.00	0.00	6500	3,926,000	6500	3,926,000
	Subtotal of item 8.7				12,072.49		51,365,696		78,548,801



BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
8.8 ELECTRICAL WORKS									
/01	Lighting panel	set	1	0.00	0.00	241,250	241,250	241,250	241,250
/02	Type A, FL 40 W x 2	set	7	401.25	2,808.75	90281	631,967	993084	6,951,665
/03	Type B-1, FL 40 W x 2	set	6	334.38	2,006.28	75235	451,410	827590	4,965,540
/04	Type B-2, FL 40 W x 1	set	24	267.50	6,420.00	60198	1,444,752	662073	15,889,752
/05	Type F, IL 60 W x 1	set	2	200.63	401.26	45142	90,284	496560	993,119
/06	Convenience outlet, 20 A - 127 V	set	7	0.00	0.00	13725	96,075	13725	96,075
/07	Tumbler switch, 10 A - 127 V	set	7	0.00	0.00	11363	79,541	11363	79,541
/08	Three way switch, 10A-127V	set	6	0.00	0.00	12286	73,716	12286	73,716
/09	Conduit pipe, 16mm dia. (1/2")	m	470	2.14	1,005.80	4815	2,263,050	9630	4,526,100
/10	Conduit pipe, 22mm dia. (3/4")	m	70	2.70	189.00	6075	425,250	12150	850,500
/11	IV wire, 2.0 mm2 (TW14AG)	m	960	0.00	0.00	1120	1,075,200	1120	1,075,200
/12	IV wire, 3.5 mm2 (TW12AG)	m	220	0.00	0.00	1488	327,360	1488	327,360
/13	CV cable, 4c x 3.5mm2 (4x12 AG)	m	60	2.07	124.20	932	55,920	5590	335,370
/14	Copper conductor, 50 mm2 (1/0 AG)	m	500	2.98	1,490.00	1341	670,500	8046	4,023,000
/15	Copper conductor, 38 mm2 (2 AG)	m	50	1.95	97.50	878	43,900	5266	263,275
Subtotal of item 8.8					14,542.79		7,970,175		40,691,453
8.9 MISCELLANEOUS									
/01	Trash boom	m	125	684.33	85,541.25	153974	19,246,750	1693717	211,714,563
/02	Staff gauge, 0100mm steel pipe, h=22mm	L.S.			3,404.50		1,532,010		9,192,135
Subtotal of item 8.9					88,945.75		20,778,760		220,906,698
Total of item 8					7,441,465.44		7,241,169,107		23,984,466,350

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
9	LA SECA WORK ADIT								
9.1	EARTHWORK								
/01	Clearing the site for adit portal	m2	1,380	0.14	193.20	214	295,320	529	730,020
/02	Open-cut excavation, in common, for adit portal	m3	2,520	2.54	6,400.80	2635	6,840,200	8350	21,042,000
/03	Open-cut excavation, in weathered rock, for adit portal	m3	2,320	3.25	7,540.00	3233	7,500,560	10546	24,465,560
/04	Open-cut excavation, in rock, for adit portal	m3	122	7.80	951.60	8006	976,732	25556	3,117,832
/05	Underground excavation, all classes, in adit	m3	9,590	28.64	274,657.60	83205	797,935,950	147645	1,415,915,550
/06	Trench excavation, all classes, for drain ditch and catch basin	m3	33	2.76	91.08	2942	97,086	9152	302,016
/07	Permanent steel support, H-125x125	ton	51	1223.55	62,401.05	138414	7,059,114	2891402	147,461,477
/08	D.25mm rock bolt in adit tunnel	m	7,530	20.26	152,557.80	16196	121,955,880	61781	465,210,930
/09	Backfilling for adit portal	m3	134	2.92	391.28	3001	402,134	9571	1,282,514
/10	Backfilling for drain ditch and catch basin	m3	13	2.92	37.96	3001	39,013	9571	124,423
/11	Gravel surfacing	m3	84	14.13	1,186.92	34659	2,911,356	66452	5,581,926
/12	Gravel bedding for drain ditch and catch basin	m3	2	13.57	27.14	39654	79,308	70187	140,373
/13	Wet rubble masonry	m3	10	56.52	565.20	126107	1,261,070	253277	2,532,770
/14	Sod facing	m2	340	0.03	10.20	4622	1,571,480	4690	1,594,430
	Subtotal of item 9.1				507,011.83		948,725,203		2,089,501,821
9.2	CONCRETE WORK								
/01	Concrete, class D, for lining of adit tunnel	m3	619	71.18	44,060.42	84746	52,457,774	244901	151,593,719

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/02	Concrete, class E, for concrete facing walls and portal structure	m3	46	57.86	2,661.56	71121	3,271,566	201306	9,260,076
/03	Concrete, class F, for drain ditch and catch basin	m3	10	60.62	606.20	75113	751,130	211508	2,115,080
/04	Concrete, class H, for levelling concrete of drain ditch and catch basin	m3	2	52.17	104.34	66456	132,912	183839	367,677
/05	Formwork, F1 finish, for concrete of item /02	m2	9	3.56	32.04	11519	103,671	19529	175,761
/06	Formwork, F1 finish, for concrete of item /03	m2	89	0.25	17.25	15279	1,054,251	15842	1,093,064
/07	Formwork, F2 finish, for concrete of item /02	m2	152	3.49	530.48	20350	3,093,200	28203	4,286,780
/08	Formwork, F3 finish, for concrete of item /03	m2	45	4.08	183.60	25668	1,155,060	34848	1,568,160
/09	Formwork, F4 finish, for concrete of item /01, tunnel	m2	808	14.95	13,574.60	12350	11,213,800	45988	41,756,650
/10	Reinforcing bars for concrete work	ton	2.0	357.97	715.94	1054028	2,108,056	1859461	3,718,921
/11	Shotcrete in adit tunnel	m3	651	149.58	97,376.58	125679	81,817,029	462234	300,914,334
/12	Steel wire mesh for item /11	m2	5,910	3.97	23,462.70	2060	12,174,600	10993	64,965,675
/13	Anchor bars, D.25mm for concrete facing wall	m	45	13.54	609.30	7737	348,165	38202	1,719,090
/14	P.V.C. pipe D.50mm for weep hole	m	31	4.17	129.27	1277	39,587	10660	330,445
Subtotal of item 9.2					184,064.28		169,720,801		583,865,431
Total of item 9					681,076.11		1,118,446,004		2,673,367,252

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
10	LOS CUYVES WORK ADIT								
10.1	EARTHWORK								
/01	Clearing the site for adit portal	m2	1.050	0.14	147.00	214	224.700	529	555.450
/02	Open-cut excavation, in common, for adit portal	m3	2.240	2.54	5,689.60	2635	5,902.400	8350	18,704,000
/03	Open-cut excavation, in weathered rock, for adit portal	m3	2.750	3.25	8,937.50	3233	8,890.750	10546	29,000,125
/04	Open-cut excavation, in rock, for adit portal	m3	150	7.80	1,170.00	8006	1,200.900	25556	3,833,400
/05	Underground excavation, all classes, in adit	m3	2,680	25.64	68,715.20	78142	209,420.560	135832	364,029,760
/06	Trench excavation, all classes, for drain ditch and catch basin	m3	45	2.76	124.20	2942	132.390	9132	411,840
/07	Permanent steel support, H-125x125	ton	11	1223.55	13,459.05	138414	1,522.554	2891402	31,805,417
/08	D.25mm rock bolt in adit tunnel	m	1,870	20.26	37,886.20	16196	30,286.520	61781	115,530,470
/09	Backfilling for adit portal	m3	134	2.92	391.28	3001	402.134	9571	1,282,514
/10	Backfilling for drain ditch and catch basin	m3	18	2.92	52.56	3001	54.018	9571	172,278
/11	Gravel surfacing	m3	49	14.13	692.37	34659	1,698.281	66452	3,256,124
/12	Gravel bedding for drain ditch and catch basin	m3	3	13.57	40.71	39654	118.962	70187	210,560
/13	Wet rubble masonry	m3	10	56.52	565.20	126107	1,261.070	253277	2,532,770
/14	Sod facing	m2	350	0.03	10.50	4622	1,617.700	4630	1,641,325
	Subtotal of item 10.1				137,881.37		262,732.949		572,966,032
10.2	CONCRETE WORK								
/01	Concrete, class D, for lining of adit tunnel	m3	603	70.02	42,222.06	83206	50,173.218	240751	145,172,853

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/-)		Equivalent Price(S/-)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/02	Concrete, class E, for concrete facing walls and portal structure	m3	28	56.82	1,590.96	70034	1,960,952	197879	5,540,612
/03	Concrete, class F, for drain ditch and catch basin	m3	11	59.58	655.38	74026	814,286	208081	2,288,891
/04	Concrete, class H, for levelling concrete of drain ditch and catch basin	m3	2	51.13	102.26	66369	130,738	180412	360,823
/05	Formwork, F1 finish, for concrete of item /02	m2	3	3.56	10.68	11519	34,557	19529	58,587
/06	Formwork, F1 finish, for concrete of item /03	m2	88	0.25	22.00	15279	1,344,552	15842	1,394,052
/07	Formwork, F2 finish, for concrete of item /02	m2	97	3.49	338.53	20350	1,973,950	28203	2,735,643
/08	Formwork, F3 finish, for concrete of item /03	m2	51	4.08	208.08	25668	1,309,068	34848	1,777,248
/09	Formwork, F4 finish, for concrete of item /01	m2	873	14.95	13,141.05	12350	10,855,650	45988	40,423,013
/10	Reinforcing bars for concrete work	ton	1.0	357.97	357.97	1054028	1,054,028	1859461	1,859,461
/11	Shotcrete in adit tunnel	m3	188	149.58	25,129.44	125579	21,114,072	462234	77,655,312
/12	Steel wire mesh for item /011	m2	1,560	3.97	6,193.20	2060	3,213,600	10993	17,148,300
/13	Anchor bars, D.25mm for concrete facing wall	m	33	13.54	446.82	7737	255,321	38202	1,260,666
/14	P.V.C. pipe D.50mm for weep hole	m	27	4.17	112.59	1277	34,479	10660	287,807
Subtotal of item 10.2					90,531.02		94,268,471		297,963,266
Total of item 10					228,412.39		357,001,420		870,929,298

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
11	POZA HONDA WORK ADIT								
11.1	EARTHWORK								
/01	Clearing the site for adit portal	m2	1,570	0.14	219.80	214	335,980	529	830,530
/02	Open-cut excavation, in common, for adit portal	m3	3,690	2.54	9,372.60	2635	9,723,150	8350	30,811,500
/03	Open-cut excavation, in weathered rock, for adit portal	m3	2,010	3.25	6,532.50	3233	6,498,330	10546	21,196,455
/04	Open-cut excavation, in rock, for adit portal	m3	106	7.80	826.80	8006	848,636	25556	2,708,936
/05	Underground excavation, all classes, in adit	m3	3,340	26.07	87,073.80	79137	284,317,580	137795	450,223,630
/06	Trench excavation, all classes, for drain ditch and catch basin	m3	36	2.76	99.36	2942	105,912	9152	329,472
/07	Permanent steel support, H-125x125	ton	10	1223.55	12,235.50	138414	1,384,140	2891402	28,914,015
/08	D.25mm rock bolt in adit tunnel	m	2,430	20.26	49,231.80	15196	39,356,280	61781	150,127,830
/09	Backfilling for adit portal	m3	134	2.92	391.28	3001	402,134	9571	1,282,514
/10	Backfilling for drain ditch and catch basin	m3	14	2.92	40.88	3001	42,014	9571	133,994
/11	Gravel surfacing	m3	75	14.13	1,059.75	34659	2,599,425	66452	4,983,863
/12	Gravel bedding for drain ditch and catch basin	m3	2	13.57	27.14	39654	79,308	70187	140,373
/13	Wet rubble masonry	m3	10	56.52	565.20	126107	1,261,070	253277	2,532,770
/14	Sod facing	m2	520	0.03	15.60	4622	2,403,440	4690	2,438,540
	Subtotal of item 11.1				167,692.01		329,357,399		706,664,422
11.2	CONCRETE WORK								
/01	Concrete, class D, for lining of adit tunnel	m3	610	81.49	49,708.90	93370	56,955,700	276723	168,800,725

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/02	Concrete, class E, for concrete facing walls and portal structure	m3	48	62.07	2,979.36	75616	3,629,568	215274	10,333,128
/03	Concrete, class F, for drain ditch and catch basin	m3	10	64.86	648.60	79141	791,410	225076	2,250,760
/04	Concrete, class H, for levelling concrete of drain ditch and catch basin	m3	2	56.38	112.76	70453	140,906	197308	394,616
/05	Formwork, F1 finish, for concrete of item /02	m2	2	3.56	7.12	11519	23,038	19529	39,058
/06	Formwork, F1 finish, for concrete of item /03	m2	74	0.25	18.50	15279	1,130,646	15842	1,172,271
/07	Formwork, F2 finish, for concrete of item /02	m2	161	3.49	561.89	20350	3,276,350	28203	4,540,603
/08	Formwork, F3 finish, for concrete of item /03	m2	48	4.08	195.84	25668	1,232,064	34848	1,672,704
/09	Formwork, F4 finish, for concrete of item /01	m2	890	14.95	13,305.50	12350	10,991,500	45988	40,928,875
/10	Reinforcing bars for concrete work	ton	2.0	357.97	715.94	1054028	2,108,056	1859461	3,718,921
/11	Shotcrete in adit tunnel	m3	209	149.58	31,262.22	125679	26,266,911	462234	96,806,906
/12	Steel wire mesh for item /11	m2	1,980	3.97	7,860.60	2060	4,078,800	10993	21,765,150
/13	Anchor bars, D.25mm for concrete facing wall	m	54	13.54	731.16	7737	417,798	38202	2,062,908
/14	P.V.C. pipe D.50mm for weep hole	m	38	4.17	158.46	1277	48,526	10860	405,061
/15	Shotcrete with wire mesh for cut slope protection, t=100mm	m2	96	16.05	1,540.80	17417	1,672,032	53330	5,138,832
Subtotal of item 11.2					109,807.65		112,763,305		359,830,518
Total of item 11					277,499.66		442,120,704		1,066,494,939

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(\$/.)		Equivalent Price(\$/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
12	SEVERING ACCESS ROAD								
12.1	EARTHWORK								
/01	Clearing the site along access road	m2	169,200	0.14	23,688.00	214	36,208,800	529	89,506,800
/02	Open-cut excavation, in common, including weathered rock	m3	6,800	2.57	17,476.00	2586	17,584,800	8369	56,905,800
/03	Open-cut excavation, in rock	m3	100	7.42	742.00	7607	760,700	24302	2,430,200
/04	Embankment (excavated material to embankment portion, incl. transportation upto 500m)	m3	158,000	3.08	480,480.00	2764	431,184,000	9694	1,512,264,000
/05	Embankment (Excavated material to embankment portion, incl. transportation more than 500m)	m3	142,300	3.53	502,319.00	3242	461,336,600	11185	1,591,554,350
/06	Compaction original ground	m2	3,290	0.17	559.30	164	539,560	547	1,797,985
/07	Sod facing	m2	57,800	0.03	1,734.00	4622	267,151,600	4690	271,053,100
/08	Gabion for slope protection	m3	0	62.71	0.00	32650	0	173748	0
	Subtotal of item 12.1				1,026,998.30		1,214,766,060		3,525,512,235
12.2	EXCAVATION AND FILLING FOR STRUCTURE								
	BRIDGE								
/01	Open-cut excavation, all classes	m3	0	2.76	0.00	2942	0	9152	0
/02	Backfill with selected material	m3	0	2.92	0.00	3001	0	9571	0
/03	Free drainage backfill	m3	0	14.34	0.00	25866	0	58131	0
/04	Gravel bedding	m3	0	13.57	0.00	39654	0	70187	0
	SOX CULVERT								
/05	Open-cut excavation, all classes	m3	244	2.76	673.44	2942	717,848	9152	2,233,088



BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/06	Backfill with selected material	m3	117	2.92	341.64	3001	351,117	9571	1,119,807
/07	Free drainage backfill	m3	187	14.34	2,681.58	25866	4,836,942	58131	10,870,497
/08	Gravel bedding	m3	13	13.57	176.41	39654	515,502	70187	912,425
RETAINING WALL									
/09	Open-cut excavation, all classes	m3	1,360	2.76	3,753.60	2942	4,001,120	9152	12,446,720
/10	Backfill with selected material	m3	220	2.92	642.40	3001	660,220	9571	2,105,620
/11	Free drainage backfill	m3	221	14.34	3,169.14	25866	5,716,386	58131	12,846,951
/12	Gravel bedding	m3	93	13.57	1,262.01	39654	3,687,822	70187	6,527,345
Subtotal of item 12.2					12,700.22		20,486,957		49,062,452
12.3 CULVERT AND DRAINAGE WORK									
/01	Open-cut excavation, all classes	m3	3,210	2.76	8,859.60	2942	9,443,820	9152	29,377,920
/02	Backfill with selected material	m3	1,660	2.92	4,847.20	3001	4,981,660	9571	15,887,860
/03	Crushed stone bedding	m3	152	14.34	2,179.68	25066	3,931,632	58131	8,835,912
/04	Reinforced concrete pipe, D.600mm	m	783	25.15	19,692.45	129682	101,541,006	186270	145,849,019
/05	Reinforced concrete pipe, D.800mm	m	49	36.31	1,779.19	184213	9,026,437	263911	13,029,615
/06	Reinforced concrete pipe, D.1000mm	m	0	47.58	0.00	224410	0	331465	0
/07	Perforated drain pipe, D.200mm	m	4,010	9.15	36,691.50	51509	206,551,090	72097	289,106,965
/08	Free drainage material for subdrain	m3	837	14.34	12,002.58	25866	21,649,842	58131	48,655,647
/09	Concrete, class E, for pipe culvert and wing walls	m3	388	57.77	22,414.76	71254	27,646,552	201237	78,079,762
/10	Concrete, class F, for side ditch and catch basin	m3	1,340	60.48	81,043.20	75182	100,743,880	211262	283,091,080
/11	Concrete, class H, for levelling concrete	m3	30	52.08	1,562.40	66590	1,997,700	183770	5,513,100
/12	Formwork, F1 finish, for concrete of items /09, /10 and /11	m2	1,840	3.56	6,550.40	11519	21,194,960	19529	35,933,360
/13	Formwork, F3 finish, for concrete of items /09 and /10	m2	10,910	3.49	38,075.90	20350	222,018,500	28203	307,689,275

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/14	Reinforcing bars for concrete work	ton	32.0	357.97	11,455.04	1054028	33,728,896	1859451	59,502,736
/15	Gabion mattress, t=500mm	m3	237	62.71	14,862.27	32650	7,738,050	173748	41,178,158
/16	Joint filler, 10mm	m2	0	12.15	0.00	4408	0	31746	0
/17	Bituminous coating for contraction joint	m2	0	0.03	0.00	3986	0	4054	0
Subtotal of item 12.3					262,016.17		772,194,025		1,361,730,408
12.4	CONCRETE WORK								
/01	Concrete, class A, for bridge slab and girders	m3	0	68.07	0.00	86162	0	239320	0
/02	Concrete, class B, for bridge abutment and piers	m3	0	57.77	0.00	71254	0	201237	0
/03	Concrete, class E, for box culvert	m3	305	57.77	17,619.85	71254	21,732,470	201237	61,377,133
/04	Concrete, class H, for levelling concrete	m3	25	52.08	1,302.00	56590	1,664,750	183770	4,594,250
/05	Rubble concrete for retaining wall (concrete class E and rubble/boulder)	m3	2,020	37.26	75,265.20	46397	93,721,940	130232	263,068,640
/06	Formwork, F1 finish, for concrete of items /02, /03, /04 and /05	m2	1,900	3.56	6,764.00	11518	21,884,200	19528	37,103,200
/07	Formwork, F2 finish, for concrete of items /01, /02 and /05	m2	435	4.37	1,900.85	15333	6,669,855	25166	10,946,993
/08	Formwork, F3 finish, for concrete of items /02 and /03	m2	518	3.49	1,807.82	20350	10,541,300	28203	14,608,895
/09	Reinforcing bars for concrete work	ton	23.0	357.97	8,233.31	1054028	24,242,644	1859451	42,767,592
/10	Joint filler, for culvert, t=10mm	m2	16	12.15	194.40	4408	70,528	31746	507,928
/11	Joint filler for expansion joint of bridge, t=20mm	m2	0	24.31	0.00	5776	0	60474	0
/12	Bituminous coating for contraction joint	m2	110	0.03	3.30	3986	438,460	4054	445,885
Subtotal of item 12.4					113,090.83		180,966,147		435,420,515

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
<b>12.5 PAVEMENT</b>									
/01	Improved subgrade material, not less than corrected CBR 12	m3	8,620	4.72	40,686.40	4891	43,022,420	15611	134,566,820
/02	Graded crushed stone subbase, not less than corrected CBR 60	m3	8,290	16.52	136,950.80	21186	175,631,940	56356	483,771,240
/03	Transportation of improved subgrade materials	m3	4,310	0.47	2,025.70	499	2,156,690	1557	5,708,515
Subtotal of item 12.5					179,662.90		220,805,050		625,046,575
<b>12.6 MISCELLANEOUS</b>									
/01	Guardrail	m	0	73.56	0.00	33103	0	198613	0
/02	Warning signs	nos	36	120.38	4,333.68	54169	1,950,084	325024	11,700,864
/03	Bearing, fixed type	nos	0	262.42	0.00	59044	0	649489	0
/04	Bearing, movable type	nos	0	262.42	0.00	59044	0	649489	0
/05	Steel handrails for bridge deck	kg	0	1.81	0.00	1057	0	5130	0
/06	P.V.C. drain pipes, D.100mm	m	0	12.06	0.00	2164	0	29299	0
/07	P.V.C. pipe, D.75mm for weep hole	m	554	8.16	4,520.64	1726	956,204	20086	11,127,644
/08	Dowel bars, round bar, D.22mm	ton	0.4	335.00	134.40	1076250	430,500	1832250	732,900
/09	Anchor rods with steel pipes, 32mm dia., for bridge shoe	kg	0	0.37	0.00	1184	0	2017	0
Subtotal of item 12.6					8,988.72		3,336,788		23,561,408
Total of item 12					1,603,457.14		2,412,555,027		6,020,333,592

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
13	CANA DULCE ACCESS ROAD								
13.1	EARTHWORK								
/01	Clearing the site along access road	m2	40,100	0.14	5,614.00	2.4	8,581,400	529	21,212,900
/02	Open-cut excavation, in common, including weathered rock	m3	10,300	2.57	26,471.00	2586	26,635,800	8369	86,195,550
/03	Open-cut excavation, in rock	m3	100	7.42	742.00	7607	760,700	24302	2,430,200
/04	Embankment (Excavated material to embankment portion, incl. transportation upto 500m)	m3	38,000	3.08	117,040.00	2764	105,032,000	9694	368,372,000
/05	Embankment (Excavated material to embankment portion, incl. transportation more than 500m)	m3	20,700	3.23	66,861.00	2926	60,568,200	10194	211,005,450
/06	Compaction original ground	m2	670	0.17	113.90	164	109,880	547	366,155
/07	Sod facing	m2	21,100	0.03	633.00	4622	97,524,200	4690	98,948,450
/08	Gabion for slope protection	m3	0	62.71	0.00	32650	0	173748	0
	Subtotal of item 13.1				217,474.90		399,212,180		788,530,705
13.2	EXCAVATION AND FILLING FOR STRUCTURE								
	BRIDGE								
/01	Open-cut excavation, all classes	m3	0	2.76	0.00	2942	0	9152	0
/02	Backfill with selected material	m3	0	2.92	0.00	3001	0	9571	0
/03	Free drainage backfill	m3	0	14.34	0.00	25866	0	58131	0
/04	Gravel bedding	m3	0	13.57	0.00	39654	0	70187	0
	BOX CULVERT								
/05	Open-cut excavation, all classes	m3	433	2.76	1,195.08	2942	1,273,886	9152	3,962,816

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/06	Backfill with selected material	m3	112	2.92	327.04	3001	336,112	9571	1,071,952
/07	Free drainage backfill	m3	179	14.34	2,566.86	25866	4,630,014	58131	10,405,449
/08	Gravel bedding	m3	13	13.57	176.41	39654	515,502	70187	912,425
RETAINING WALL									
/09	Open-cut excavation, all classes	m3	0	2.76	0.00	2942	0	9152	0
/10	Backfill with selected material	m3	0	2.92	0.00	3001	0	9571	0
/11	Free drainage backfill	m3	0	14.34	0.00	25866	0	58131	0
/12	Gravel bedding	m3	0	13.57	0.00	39654	0	70187	0
Subtotal of item 13.2					4,265.39		6,755,514		16,352,642
13.3 CULVERT AND DRAINAGE WORK									
/01	Open-cut excavation, all classes	m3	572	2.76	1,576.72	2942	1,682,924	9152	5,234,944
/02	Backfill with selected material	m3	220	2.92	642.40	3001	660,220	9571	2,105,620
/03	Crushed stone bedding	m3	13	14.34	186.42	25866	336,258	58131	755,703
/04	Reinforced concrete pipe, D.600mm	m	64	25.15	1,609.60	129682	8,299,648	186270	11,921,248
/05	Reinforced concrete pipe, D.800mm	m	16	36.31	580.96	184213	2,947,408	265911	4,254,568
/06	Reinforced concrete pipe, D.1000mm	m	0	47.58	0.00	224410	0	331465	0
/07	Perforated drain pipe, D.200mm	m	1,200	9.15	10,980.00	51509	61,810,800	72097	86,515,800
/08	Free drainage material for subdrain	m3	251	14.34	3,589.34	25866	6,492,366	58131	14,590,881
/09	Concrete, class E, for pipe culvert and wing walls	m3	33	57.77	4,734.91	71254	5,914,082	201237	16,702,630
/10	Concrete, class F, for side ditch and catch basin	m3	346	60.48	20,926.08	75182	26,012,972	211262	73,096,652
/11	Concrete, class H, for levelling concrete	m3	10	52.08	520.80	66590	665,900	183770	1,837,700
/12	Formwork, F1 finish, for concrete of items /09, /10 and /11	m2	266	3.56	911.36	11519	2,948,864	19529	4,999,424
/13	Formwork, F3 finish, for concrete of items /09 and /10	m2	2,930	3.49	10,225.70	20350	59,625,500	28203	82,633,325

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/14	Reinforcing bars for concrete work	ton	6.0	357.97	2,147.82	1054028	6,324,168	1859461	11,156,763
/15	Gabion mattress,t=500mm	m3	181	62.71	11,350.51	32650	5,909,650	173748	31,448,298
/16	Joint filler,t=10mm	m2	0	12.15	0.00	4408	0	31746	0
/17	Bituminous coating for contraction joint	m2	0	0.03	0.00	3986	0	4054	0
Subtotal of item 13.3					70,954.62		189,630,660		347,253,555
<b>13.4 CONCRETE WORK</b>									
/01	Concrete,class A,for bridge slab and girders	m3	0	68.07	0.00	86162	0	239320	0
/02	Concrete,class B,for bridge abutment and piers	m3	0	57.77	0.00	71254	0	201237	0
/03	Concrete,class E,for box culvert	m3	260	57.77	15,020.20	71254	18,566,040	201237	52,321,490
/04	Concrete,class H,for levelling concrete	m3	25	52.08	1,302.00	66590	1,664,750	183770	4,594,250
/05	Rubble concrete for retaining wall (concrete classE and rubble/boulder)	m3	0	37.26	0.00	46397	0	130232	0
/06	Formwork,F1 finish,for concrete of items /02,/03,/04 and /05	m2	483	3.56	1,719.48	11518	5,563,194	19528	9,432,024
/07	Formwork,F2 finish,for concrete of items /01 and /02	m2	0	4.37	0.00	15333	0	25166	0
/08	Formwork,F3 finish,for concrete of items /02 and /03	m2	535	3.49	1,867.15	20350	10,887,350	28203	15,088,338
/09	Reinforcing bars for concrete work	ton	22.0	357.97	7,875.34	1054028	23,188,616	1859461	40,908,131
/10	Joint filler,for culvert,t=10mm	m2	16	12.15	194.40	4408	70,528	31746	507,928
/11	Joint filler for expansion joint of bridge,t=20mm	m2	0	24.31	0.00	5776	0	60474	0
/12	Bituminous coating for contraction joint	m2	17	0.03	0.51	3986	67,762	4054	68,916
Subtotal of item 13.4					27,979.08		59,968,140		122,821,070

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
13.5	PAVEMENT								
/01	Improved subgrade material, not less than corrected CBR 12	m3	1,610	4.72	7,599.20	4991	8,035,510	15611	25,133,710
/02	Graded crushed stone subbase, not less than corrected CBR 60	m3	1,610	16.52	26,597.20	21186	34,109,460	58356	93,953,160
/03	Transportation of improved subgrade materials	m3	800	0.47	376.00	499	399,200	1557	1,245,200
	Subtotal of item 13.5				34,572.40		42,544,170		120,332,070
13.6	MISCELLANEOUS								
/01	Guardrail	m	0	73.56	0.00	33103	0	188613	0
/02	Warning signs	nos	11	120.38	1,324.18	54169	595,859	325024	3,575,264
/03	Bearing, fixed type	nos	0	262.42	0.00	59044	0	649489	0
/04	Bearing, movable type	nos	0	262.42	0.00	59044	0	649489	0
/05	Steel handrails for bridge deck	kg	0	1.81	0.00	1057	0	5130	0
/06	P.V.C. drain pipes, D.100mm	m	0	12.06	0.00	2164	0	29299	0
/07	P.V.C. pipe, D.75mm for weep hole	m	0	8.16	0.00	1726	0	20086	0
/08	Dowel bars, round bar, D.22mm	ton	0.4	336.00	134.40	1076250	430,500	1832250	732,900
/09	Anchor rods with steel pipes, 32mm dia., for bridge shoe	kg	0	0.37	0.00	1184	0	2017	0
	Subtotal of item 13.6				1,458.58		1,026,359		4,308,164
	Total of item 13				355,804.97		599,137,023		1,399,698,206

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
14	LA SECA ACCESS ROAD								
14.1	EARTHWORK								
/01	Clearing the site along access road	m2	55,100	0.14	7,714.00	214	11,791,400	529	29,147,900
/02	Open-cut excavation, in common, including weathered rock	m3	2,400	2.57	6,168.00	3586	6,206,400	8369	20,084,400
/03	Open-cut excavation, in rock	m3	100	7.42	742.00	7607	760,700	24302	2,430,200
/04	Embankment (Excavated material to embankment portion, incl. transportation upto 500m)	m3	41,900	3.08	129,052.00	2764	115,811,600	9694	406,178,600
/05	Embankment (Excavated material to embankment portion, incl. transportation more than 500m)	m3	1,760	3.23	5,684.60	2926	5,149,760	10194	17,940,560
/06	Compaction original ground	m2	1,000	0.17	183.60	164	177,120	547	590,220
/07	Sod facing	m2	25,200	0.03	756.00	4622	116,474,400	4690	118,175,400
/08	Gabion for slope protection	m3	0	62.71	0.00	32650	0	173748	0
	Subtotal of item 14.1				150,300.40		256,271,380		594,547,280
14.2	EXCAVATION AND FILLING FOR STRUCTURE								
	BRIDGE								
/01	Open-cut excavation, all classes	m3	0	2.76	0.00	2942	0	9152	0
/02	Backfill with selected material	m3	0	2.92	0.00	3001	0	9571	0
/03	Free drainage backfill	m3	0	14.34	0.00	35866	0	58131	0
/04	Gravel bedding	m3	0	13.57	0.00	39654	0	70187	0
	BOX CULVERT								
/05	Open-cut excavation, all classes	m3	207	2.76	571.32	2942	608,994	9152	1,894,464



BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/06	Backfill with selected material	m3	52	2.92	151.84	3001	156,052	9571	497,892
/07	Free drainage backfill	m3	83	14.34	1,190.22	25866	2,146,878	58131	4,824,873
/08	Gravel bedding	m3	6	13.57	81.42	39654	237,924	70187	421,119
	REMAINING WALL								
/09	Open-cut excavation, all classes	m3	0	2.76	0.00	2942	0	9152	0
/10	Backfill with selected material	m3	0	2.92	0.00	3001	0	9571	0
/11	Free drainage backfill	m3	0	14.34	0.00	25866	0	58131	0
/12	Gravel bedding	m3	0	13.57	0.00	39654	0	70187	0
	Subtotal of item 14.2				1,994.80		3,149,848		7,638,148
14.3	CULVERT AND DRAINAGE WORK								
/01	Open-cut excavation, all classes	m3	830	2.76	2,290.80	2942	2,441,860	9152	7,596,160
/02	Backfill with selected material	m3	259	2.92	756.28	3001	777,259	9571	2,478,889
/03	Crushed stone bedding	m3	16	14.34	229.44	25866	413,856	58131	930,096
/04	Reinforced concrete pipe, D. 600mm	m	52	25.15	1,307.60	129882	6,743,484	186270	9,686,014
/05	Reinforced concrete pipe, D. 800mm	m	46	36.31	1,670.26	184213	8,473,798	265911	12,231,883
/06	Reinforced concrete pipe, D. 1000mm	m	0	47.58	0.00	224410	0	331465	0
/07	Perforated drain pipe, D. 200mm	m	2,040	9.15	18,666.00	51509	105,078,360	72097	147,076,860
/08	Free drainage material for subdrain	m3	425	14.34	6,094.50	25866	10,993,050	58131	24,705,675
/09	Concrete, class E, for pipe culvert and wing walls	m3	84	56.82	4,772.88	70034	5,882,856	197879	16,621,836
/10	Concrete, class F, for side ditch and catch basin	m3	522	59.58	31,100.76	74026	38,641,572	208081	198,618,282
/11	Concrete, class H, for levelling concrete	m3	9	51.13	460.17	65368	588,321	180412	1,623,704
/12	Formwork, F1 finish, for concrete of items /09, /10 and /11	m2	328	3.56	1,167.58	11519	3,778,232	19529	6,405,512
/13	Formwork, F3 finish, for concrete of items /09 and /10	m2	4,370	3.49	15,251.30	20350	88,929,500	28203	123,244,925

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/-)		Equivalent Price(S/-)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/14	Reinforcing bars for concrete work	ton	8.0	357.97	2,147.82	1054028	6,324,188	1859461	11,156,763
/15	Gabion mattress, t=500mm	m3	154	62.71	9,657.34	32650	5,028,100	173748	26,757,115
/16	Joint filler, 10mm	m2	0	12.15	0.00	4408	0	31746	0
/17	Bituminous coating for contraction joint	m2	0	0.03	0.00	3986	0	4054	0
	Subtotal of item 14.3				95,573.03		284,094,396		499,133,714
14.4	CONCRETE WORK								
/01	Concrete, class A, for bridge slab and girders	m3	0	67.16	0.00	84997	0	236107	0
/02	Concrete, class B, for bridge abutment and piers	m3	0	58.82	0.00	70034	0	197879	0
/03	Concrete, class C, for box culvert	m3	123	56.82	6,988.86	70034	8,614,182	197879	24,339,117
/04	Concrete, class H, for levelling concrete	m3	12	51.13	613.56	65369	784,428	180412	2,164,938
/05	Rubble concrete for retaining wall (concrete class E and rubble/boulder)	m3	0	36.79	0.00	45786	0	128564	0
/06	Formwork, F1 finish, for concrete of items /02, /03, /04 and /05	m2	221	3.56	786.76	11518	2,545,478	19528	4,315,688
/07	Formwork, F2 finish, for concrete of items /01 and /02	m2	0	4.37	0.00	15333	0	25166	0
/08	Formwork, F3 finish, for concrete of items /02 and /03	m2	248	3.49	865.52	20350	5,046,800	28203	6,994,220
/09	Reinforcing bars for concrete work	ton	10.0	357.97	3,579.70	1054028	10,540,280	1859461	18,594,605
/10	Joint filler, for culvert, t=10mm	m2	7	12.15	85.05	4408	30,856	31746	222,219
/11	Joint filler for expansion joint of bridge, t=20mm	m2	0	24.31	0.00	5776	0	60474	0
/12	Bituminous coating for contraction joint	m2	14	0.03	0.42	3986	55,304	4054	56,749
	Subtotal of item 14.4				12,919.87		27,617,828		56,687,536

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
<b>14.5 PAVEMENT</b>									
/01	Improved subgrade material,not less than corrected CBR 12	m3	2,100	4.72	9,912.00	4991	10,481,100	15611	32,783,100
/02	Graded crushed stone subbase,not less than corrected CBR 50	m3	2,320	16.52	38,326.40	21186	49,151,520	58356	135,385,920
/03	Transportation of improved subgrade materials	m3	1,050	0.47	493.50	499	523,950	1557	1,634,325
Subtotal of item 14.5					48,731.90		60,156,570		169,803,345
<b>14.6 MISCELLANEOUS</b>									
/01	Guardrail	m	0	73.56	0.00	33103	0	198613	0
/02	Warning signs	nos	15	120.38	1,805.70	54169	812,535	325024	4,875,360
/03	Bearing, fixed type	nos	0	262.42	0.00	59044	0	649489	0
/04	Bearing, movable type	nos	0	262.42	0.00	59044	0	649489	0
/05	Steel handrails for bridge deck	kg	0	1.81	0.00	1057	0	5130	0
/06	P.V.C.drain pipes,Ø.100mm	m	0	12.06	0.00	2164	0	29299	0
/07	P.V.C.pipe,Ø.75mm for weep hole	m	0	8.16	0.00	1726	0	20086	0
/08	Dowel bars,round bar,Ø.22mm	ton	0.2	336.00	67.20	1076250	215,250	1832250	366,450
/09	Anchor rods with steel pipes,32mm dia., for bridge shoe	kg	0	0.37	0.00	1184	0	2017	0
Subtotal of item 14.6					1,872.90		1,027,785		5,241,810
Total of item 14					311,392.90		632,417,807		1,333,051,832

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(\$/.)		Equivalent Price(\$/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
15	LOS CUYYES ACCESS ROAD								
15.1	EARTHWORK								
/01	Clearing the site along access road	m2	220,500	0.14	30,870.00	214	47,167,000	529	116,944,500
/02	Open-cut excavation, in common, including weathered rock	m3	20,800	2.57	53,456.00	2686	53,788,800	8369	174,064,800
/03	Open-cut excavation, in rock	m3	200	7.42	1,484.00	7607	1,521,400	24302	4,850,400
/04	Embankment (excavated material to embankment portion, incl. transportation upto 500m)	m3	195,100	3.08	600,908.00	2764	539,256,400	9694	1,891,299,400
/05	Embankment (excavated material to embankment portion, incl. transportation more than 500m)	m3	41,700	3.23	134,691.00	2926	122,014,200	10194	425,068,950
/06	Compaction original ground	m2	5,600	0.17	952.00	164	918,400	547	3,060,400
/07	Sod facing	m2	95,900	0.03	2,877.00	4822	443,249,800	4690	449,723,050
/08	Gabion for slope protection	m3	741	62.71	46,468.11	32650	24,193,650	173748	128,746,898
	Subtotal of item 15.1				871,706.11		1,232,129,650		3,193,468,398
15.2	EXCAVATION AND FILLING FOR STRUCTURE								
	BRIDGE								
/01	Open-cut excavation, all classes	m3	1,830	2.76	5,050.80	2942	5,383,860	3152	16,748,160
/02	Backfill with selected material	m3	2,720	2.92	7,942.40	3001	8,162,720	9571	26,033,120
/03	Free drainage backfill	m3	62	14.34	889.08	26866	1,603,692	58131	3,604,122
/04	Gravel bedding	m3	27	13.57	366.39	39654	1,070,658	70187	1,895,036
	BOX CULVERT								
/05	Open-cut excavation, all classes	m3	1,120	2.76	3,091.20	2942	3,295,040	3152	10,250,240

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/06	Backfill with selected material	m3	309	2.92	902.28	3001	927,309	9571	2,957,439
/07	Free drainage backfill	m3	494	14.34	7,083.96	25866	12,777,804	58131	28,716,714
/08	Gravel bedding	m3	35	13.57	474.95	39654	1,387,890	79187	2,456,528
RETAINING WALL									
/06	Open-cut excavation, all classes	m3	0	2.76	0.00	2942	0	9152	0
/07	Backfill with selected material	m3	0	2.92	0.00	3001	0	9571	0
/08	Free drainage backfill	m3	0	14.34	0.00	25866	0	58131	0
/09	Gravel bedding	m3	0	13.57	0.00	39654	0	79187	0
Subtotal of item 15.2					25,801.06		34,608,973		92,661,358
15.3 CULVERT AND DRAINAGE WORK									
/01	Open-cut excavation, all classes	m3	9,050	2.76	24,978.00	2942	26,625,100	9152	82,825,600
/02	Backfill with selected material	m3	2,879	2.92	8,380.40	3001	8,612,870	9571	27,462,770
/03	Crushed stone bedding	m3	236	14.34	3,384.24	25866	6,104,376	58131	13,718,916
/04	Reinforced concrete pipe, D.600mm	m	1,125	25.15	28,293.75	129882	145,892,250	186270	209,553,188
/05	Reinforced concrete pipe, D.800mm	m	152	36.31	5,519.12	184213	28,000,376	265911	40,418,396
/06	Reinforced concrete pipe, D.1000mm	m	87	47.58	4,139.46	224410	19,523,970	331465	28,837,455
/07	Perforated drain pipe, D.200mm	m	21,480	9.15	196,542.00	51509	1,106,413,320	72097	1,548,632,820
/08	Free drainage material for subdrain	m3	4,490	14.34	64,243.20	25866	115,879,660	58131	260,426,880
/09	Concrete, class E, for pipe culvert and wing walls	m3	593	56.82	39,376.26	70034	48,533,562	197979	137,130,147
/10	Concrete, class F, for side ditch and catch basin	m3	2,020	59.58	120,351.60	74926	149,532,520	208981	420,323,620
/11	Concrete, class H, for levelling concrete	m3	47	51.13	2,403.11	65369	3,072,343	180412	8,479,341
/12	Formwork, F1 finish, for concrete of items /09, /10 and /11	m2	2,920	3.56	10,395.20	11519	33,635,480	19529	57,524,680
/13	Formwork, F3 finish, for concrete of items /09 and /10	m2	17,920	3.49	58,399.80	20350	346,357,000	28203	480,006,550

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/14	Reinforcing bars for concrete work	ton	38.0	357.97	13,602.86	1054028	40,653,064	1859461	70,659,499
/15	Gabion mattress, t=500mm	m3	711	62.71	44,586.81	32650	23,214,150	173748	133,534,473
/16	Joint filler, 10mm	m2	0	12.15	0.00	4408	0	31746	0
/17	Bituminous coating for contraction joint	m2	0	0.03	0.00	3986	0	4054	0
	Subtotal of item 15.3				625,595.81		2,101,449,761		3,509,040,324
15.4	CONCRETE WORK								
/01	Concrete, class A, for bridge slab and girders	m3	156	87.16	10,476.96	84997	13,259,532	236107	36,832,692
/02	Concrete, class E, for bridge abutment and piers	m3	452	56.82	25,682.64	79034	31,655,368	197879	89,441,308
/03	Concrete, class E, for box culvert	m3	742	56.82	42,169.44	70034	51,965,228	197879	146,826,218
/04	Concrete, class H, for levelling concrete	m3	84	51.13	4,294.92	65369	5,490,996	180412	15,154,566
/05	Rubble concrete for retaining wall (concrete class and rubble/boulder)	m3	0	36.79	0.00	45786	0	128564	0
/06	Formwork, F1 finish, for concrete of items /02, /03, /04 and /05	m2	1,630	3.56	5,802.80	11518	18,774,340	18528	31,830,640
/07	Formwork, F2 finish, for concrete of items /01 and /02	m2	778	4.37	3,399.86	15332	11,929,074	25166	18,578,759
/08	Formwork, F3 finish, for concrete of items /02 and /03	m2	1,430	3.49	4,990.70	30350	29,100,500	28203	40,329,575
/09	Reinforcing bars for concrete work	ton	113.3	357.97	40,558.00	1054028	119,421,372	1859461	210,876,875
/10	Joint filler, for culvert, t=10mm	m2	35	12.15	425.25	4408	154,280	31746	1,111,693
/11	Joint filler for expansion joint of bridge, t=20mm	m2	4	24.31	97.24	5776	23,104	60474	241,894
/12	Bituminous coating for contraction joint	m2	55	0.03	1.65	3986	219,230	4054	222,943
	Subtotal of item 15.4				137,890.46		281,393,024		592,246,562

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)		Equivalent Price(S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
15.5	PAVEMENT								
/01	Improved subgrade material, not less than corrected CBR 12	m3	12,380	4.72	58,480.80	4991	61,838,490	15611	192,420,280
/02	Graded crushed stone subbase, not less than corrected CBR 60	m3	12,870	16.52	212,612.40	21386	272,663,820	58356	751,041,720
/03	Transportation of improved subgrade materials	m3	9,190	0.47	2,909.30	499	3,088,810	1557	9,634,735
	Subtotal of item 15.5				274,002.50		337,591,120		354,096,745
15.6	MISCELLANEOUS								
/01	Guardrail	m	40	73.56	2,942.40	33103	1,324,120	198013	7,944,520
/02	Warning signs	nos	58	120.38	6,982.04	54169	3,141,802	325024	18,851,392
/03	Bearing, fixed type	nos	4	362.52	1,049.68	59044	236,176	649489	2,597,956
/04	Bearing, movable type	nos	4	262.42	1,049.68	59044	236,176	649489	2,597,956
/05	Steel handrails for bridge deck	kg	1,900	1.81	3,439.00	1057	2,008,300	5130	9,746,050
/06	P.V.C. drain pipes, D.100mm	m	4	12.06	48.24	2164	8,656	29299	117,196
/07	P.V.C. pipe, D.75mm for weep hole	m	111	8.16	905.76	1726	191,386	20086	2,229,546
/08	Dowel bars, round bar, D.22mm	ton	0.7	336.00	235.20	1076350	753,375	1832250	1,332,575
/09	Anchor rods with steel pipes, 32mm dia., for bridge shoe	kg	0	0.37	0.00	1184	0	2017	0
	Subtotal of item 15.6				16,652.00		7,300,191		45,367,191
	Total of item 15				1,951,647.94		3,995,672,719		8,386,880,587

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
16	POZA HONDA ACCESS ROAD								
16.1	EARTHWORK								
/01	Clearing the site along access road	m2	13,100	0.14	1,834.00	214	2,893,400	529	6,928,900
/02	Open-cut excavation, in common, including weathered rock	m3	4,640	2.57	11,924.80	3586	11,899,040	8369	38,829,840
/03	Open-cut excavation, in rock	m3	100	7.42	742.00	7807	760,700	24302	2,430,200
/04	Embankment (Excavated material to embankment portion, incl. transportation upto 500m)	m3	24,800	3.08	76,384.00	2784	88,547,200	9694	240,411,200
/05	Embankment (Excavated material to embankment portion, incl. transportation more than 500m)	m3	0	3.23	0.00	2926	0	10194	0
/06	Compaction original ground	m2	271	0.17	46.07	164	44,444	547	148,102
/07	Sod facing	m2	5,730	0.03	171.90	4622	38,484,060	4690	28,870,835
/08	Gabion for slope protection	m3	90	62.71	5,643.90	32650	2,838,500	173748	15,637,275
	Subtotal of item 16.1				96,746.67		112,577,344		331,257,352
16.2	EXCAVATION AND FILLING FOR STRUCTURE								
	BRIDGE								
/01	Open-cut excavation, all classes	m3	0	2.76	0.00	2942	0	9152	0
/02	Backfill with selected material	m3	0	2.92	0.00	3001	0	9571	0
/03	Free drainage backfill	m3	0	14.34	0.00	25866	0	58131	0
/04	Gravel bedding	m3	0	13.57	0.00	39654	0	79187	0
	BOX CULVERT								
/05	Open-cut excavation, all classes	m3	0	2.76	0.00	2942	0	9152	0



BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/06	Backfill with selected material	m3	0	2.92	0.00	3001	0	9571	0
/07	Free drainage backfill	m3	0	14.34	0.00	35866	0	58131	0
/08	Gravel bedding	m3	0	13.57	0.00	38654	0	70187	0
RETAINING WALL									
/09	Open-cut excavation, all classes	m3	0	2.76	0.00	2942	0	9152	0
/10	Backfill with selected material	m3	0	2.82	0.00	3001	0	9571	0
/11	Free drainage backfill	m3	0	14.34	0.00	25866	0	58131	0
/12	Gravel bedding	m3	0	13.57	0.00	38654	0	70187	0
Subtotal of item 16.2					0.00		0		0
16.3 CULVERT AND DRAINAGE WORK									
/01	Open-cut excavation, all classes	m3	289	2.76	797.64	2942	850,238	9152	2,644,928
/02	Backfill with selected material	m3	138	2.92	402.96	3001	414,138	9571	1,320,798
/03	Crushed stone bedding	m3	29	14.34	415.86	25866	750,114	58131	1,685,799
/04	Reinforced concrete pipe, D.600mm	m	133	25.15	3,344.95	129882	17,247,706	186270	24,773,844
/05	Reinforced concrete pipe, D.800mm	m	0	36.31	0.00	184213	0	265911	0
/06	Reinforced concrete pipe, D.1000mm	m	0	47.58	0.00	224410	0	331465	0
/07	Perforated drain pipe, D.200mm	m	267	9.15	2,443.05	51509	13,752,903	72097	19,249,766
/08	Free drainage material for subdrain	m3	56	14.34	803.04	25866	1,449,496	58131	2,255,336
/09	Concrete, class E, for pipe culvert and wing walls	m3	73	56.82	4,147.86	70034	5,112,482	187979	14,445,167
/10	Concrete, class F, for side ditch and catch basin	m3	96	59.58	5,719.68	74026	7,106,496	208081	19,975,776
/11	Concrete, class H, for levelling concrete	m3	2	51.13	102.26	65369	130,738	180412	360,823
/12	Formwork, F1 finish, for concrete of items /09, /10 and /11	m2	276	3.56	982.56	11519	3,179,244	19523	5,290,004
/13	Formwork, F3 finish, for concrete of items /09 and /10	m2	777	3.49	2,711.73	20350	15,811,950	28233	21,913,243

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
/14	Reinforcing bars for concrete work	ton	6.0	357.97	2,147.82	1054028	6,324,168	1859461	11,156,763
/15	Gabion mattress, t=500mm	m3	18	62.71	1,128.78	32650	587,700	173748	3,127,455
/16	Joint filler, 10mm	m2	0	12.15	0.00	4408	0	21746	0
/17	Bituminous coating for contraction joint	m2	0	0.03	0.00	3986	0	4054	0
Subtotal of item 16.3					25,148.19		72,716,373		129,289,801
16.4	CONCRETE WORK								
/01	Concrete, class A, for bridge slab and girders	m3	0	67.16	0.00	84997	0	236107	0
/02	Concrete, class E, for bridge abutment and piers	m3	0	56.82	0.00	70034	0	197879	0
/03	Concrete, class E, for box culvert	m3	0	56.82	0.00	70034	0	197879	0
/04	Concrete, class H, for levelling concrete	m3	0	51.13	0.00	55369	0	180412	0
/05	Rubble concrete for retaining wall (concrete class E and rubble/boulder)	m3	0	36.79	0.00	45796	0	128564	0
/06	Formwork, F1 finish, for concrete of items /02, /03, /04 and /05	m2	0	3.56	0.00	11518	0	19528	0
/07	Formwork, F2 finish, for concrete of items /01 and /02	m2	0	4.37	0.00	15333	0	25166	0
/08	Formwork, F3 finish, for concrete of items /02 and /03	m2	0	3.49	0.00	20350	0	28233	0
/09	Reinforcing bars for concrete work	ton	0.0	357.97	0.00	1054028	0	1859461	0
/10	Joint filler, for culvert, t=10mm	m2	0	12.15	0.00	4408	0	21746	0
/11	Joint filler for expansion joint of bridge, t=26mm	m2	0	24.31	0.00	5776	0	60474	0
/12	Bituminous coating for contraction joint	m2	0	0.03	0.00	3986	0	4054	0
Subtotal of item 16.4					0.00		0		0

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Equivalent Price (S/.)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
<b>16.5 PAVEMENT</b>									
/01	Improved subgrade material, not less than corrected CBR 12	m3	559	4.72	2,638.48	4991	2,789,969	15611	8,726,549
/02	Graded crushed stone subbase, not less than corrected CBR 60	m3	600	16.52	9,912.00	21186	12,711,600	58356	35,019,600
/03	Transportation of improved subgrade materials	m3	280	9.47	131.60	499	139,720	1557	425,820
Subtotal of item 16.5					12,682.08		15,641,289		44,175,969
<b>16.6 MISCELLANEOUS</b>									
/01	Guardrail	m	0	73.56	0.00	32103	0	198613	0
/02	Warning signs	nos	4	120.38	481.52	54169	216,676	325024	1,300,096
/03	Bearing, fixed type	nos	0	262.42	0.00	59044	0	649489	0
/04	Bearing, movable type	nos	0	262.42	0.00	59044	0	649489	0
/05	Steel handrails for bridge deck	kg	0	1.81	0.00	1057	0	5130	0
/06	P.V.C. drain pipes, Ø.100mm	m	0	12.06	0.00	2164	0	29299	0
/07	P.V.C. pipe, Ø.75mm for weep hole	m	0	8.16	0.00	1726	0	20086	0
/08	Dowel bars, round bar, Ø.22mm	ton	0.0	336.00	0.00	1076250	0	1832250	0
/09	Anchor rods with steel pipes, 32mm dia., for bridge shoe	kg	0	0.37	0.00	1184	0	2017	0
Subtotal of item 16.6					481.52		216,676		1,300,096
Total of item 16					135,052.46		202,151,682		506,033,217

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/-)		Equivalent Price(S/-)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
17	DAULE PERIPA 138 KV SWITCHGEAR YARD								
17.1	EARTHWORK								
/01	Trench excavation, all class, for foundation of equipment	m3	210	2.76	579.60	2942	617,820	9152	1,921,920
/02	Trench excavation, all class, for cable duct	m3	50	2.76	138.00	2942	147,100	9152	457,600
/03	Backfilling, for foundation of equipment and cable duct	m3	200	2.92	584.00	3001	600,200	9571	1,914,200
/04	Gravel bedding, for foundation of equipment and cable duct	m3	19	13.57	257.83	39554	753,426	70187	1,333,544
	Subtotal of item 17.1				1,559.43		2,118,546		5,627,264
17.2	CONCRETE WORK								
/01	Concrete, class E, for foundation of equipment	m3	63	56.86	3,582.18	70304	4,429,152	198239	12,489,057
/02	Concrete, class F, for cable duct	m3	16	59.57	953.12	74231	1,187,696	208254	3,332,216
/03	Concrete, class H, for levelling concrete of foundation of equipment and cable duct	m3	10	51.17	511.70	65640	656,400	180773	1,807,725
/04	Formwork, F1 finish, for concrete of item /01	m2	185	3.56	658.60	11519	2,131,015	19529	3,612,865
/05	Formwork, F1 finish, for concrete of item /02	m2	81	3.56	288.36	11519	933,039	19529	1,581,849
/06	Formwork, F2 finish, for concrete of item /02	m2	52	3.49	181.48	20350	1,058,200	28203	1,466,530
/07	Reinforcing bars, for concrete work	ton	3.2	357.97	1,145.50	1054028	3,372,890	1859461	5,950,274
	Subtotal of item 17.2				7,320.94		13,768,392		30,240,516

BILL OF QUANTITIES

Item No.	Work	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/-)		Equivalent Price(S/-)	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
17.3	MISCELLANEOUS METAL WORK								
/01	Embedded metal	kg	635	0.56	355.60	1198	760.730	2458	1,560,830
/02	Checkered plate, for cable duct	kg	693	0.97	672.21	219	151,767	2402	1,664,240
	Subtotal of item 17.3				1,027.81		912,497		3,225,070
	Total of item 17				9,908.18		16,799,435		39,082,849
	Grand total of Package 2				52,299,841.39		61,809,802,647		179,484,445,762

**APPENDIX C**

**DETAILED CONSTRUCTION COST**

**ELECTRICAL AND MECHANICAL WORKS FOR DAULE-  
PERIPA ~ LA ESPERANZA, LA ESPERANZA ~ POZA  
HONDA AND POZA HONDA ~ MANCHA GRANDE  
TRANSBASINS.**

BILL OF QUANTITIES

Item No.	Work	Unit Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Total (S/.) Amount
			Unit Rate	Amount	Unit Rate	Amount	
<b>Section-1 Severini Pumping Station</b>							
1	Main Pumps and Valves (Subsection-4)						
1(a)	3.2m <sup>3</sup> /s volute type main pump with short pipe and accessories, 6 sets	L.S.	3,541,600.00		307,800,000		8,276,400,000
1(b)	Non-return valve, 6 sets	L.S.	813,170.00		70,672,500		1,900,305,000
1(c)	Guard valve, 6 sets	L.S.	372,800.00		32,400,000		871,200,000
1(d)	Mandatory spare parts	L.S.	72,333.00		3,750,000		166,499,250
	Subtotal Item-1		4,799,903.00		414,622,500		11,214,404,250
2	Electric Motors (Subsection-8)						
2(a)	Electric motors with accessories, 6 sets	L.S.	2,634,842.00		559,762,500		6,488,157,000
2(d)	Mandatory spare parts	L.S.	10,850.00		1,350,000		25,762,500
	Subtotal Item-2		2,645,692.00		561,112,500		6,513,919,500
3	Transformers (Subsection-C)						
3(a)	10,000kVA, 138/4.16kV, three phase transformers, 2 sets	L.S.	500,950.00		106,425,000		1,233,562,500
3(b)	1,000kVA, 4.15/13.8kV, three phase transformers	L.S.	50,095.00		10,642,500		123,356,250
3(c)	300kVA, 13.8kV/220-127kV, three phase transformers	L.S.	60,580.00		12,870,000		149,175,000
3(d)	Mandatory spare parts	L.S.	4,521.00		562,500		10,734,750
	Subtotal Item-3		616,146.00		130,500,000		1,516,828,500

BILL OF QUANTITIES

Item No.	Work	Unit Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Total (S/.) Amount
			Unit Rate	Amount	Unit Rate	Amount	
4	Static Condensers (Section-D)						
4(a)	800kVA static condenser sets, 4 sets	L.S.		320,375.00		68,062,500	788,906,250
	Subtotal Item-4			320,375.00		68,062,500	788,906,250
5	Switchgear Equipment and Control Equipment (Subsection-E)						
5(a)	138kV switchgear	L.S.		1,549,450.00		329,175,000	3,815,437,500
5(b)	13.8kV switchgear	L.S.		75,725.00		16,087,500	186,468,750
5(c)	4.16kV switchgear	L.S.		340,180.00		72,270,000	837,675,000
5(d)	Low tension switchgear	L.S.		90,870.00		19,305,000	223,762,500
5(e)	Control switchgear	L.S.		1,472,560.00		312,840,000	3,626,100,000
5(f)	Water level and flow indicators	L.S.		163,100.00		14,175,000	381,150,000
5(g)	Mandatory spare parts	L.S.		9,223.00		1,147,500	21,899,250
	Subtotal Item-5			3,701,108.00		765,000,000	9,092,483,000
6	Ancillary Equipment (Subsection-F)						
6(a)	Overhead travelling cranes, 2 sets	L.S.		640,750.00		55,687,500	1,497,375,000
6(b)	Drainage pumps	L.S.		259,795.00		22,578,750	607,117,500
6(c)	Machines and tools for repair shop	L.S.		168,459.00		14,640,750	383,673,500
6(d)	Storage battery set	L.S.		40,193.00		8,538,750	98,973,000
6(e)	Oil handling and purifying equipment	L.S.		100,190.00		21,285,000	246,712,500
6(f)	Diesci engine generator set	L.S.		170,080.00		36,135,000	418,837,500
6(g)	Mandatory spare parts	L.S.		13,562.00		1,587,500	32,202,000
	Subtotal Item-6			1,393,039.00		160,553,250	3,294,891,000



BILL OF QUANTITIES

Item No.	Work	Unit Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Total (S/.)	
			Unit Rate	Amount	Unit Rate	Amount	Unit Rate	Amount
7	Miscellaneous Materials (Subsection-G)							
7(a)	Electrical conductors and fitting	L.S.	206,205.00		43,807.500		507,768,750	
7(b)	Insulators and fitting	L.S.	19,223.00		4,083,750		47,335,500	
7(c)	Steel structures and towers	L.S.	450,855.00		95,782,500		1,110,206,250	
7(d)	Other materials	L.S.	119,995.00		25,492,500		295,481,250	
	Subtotal Item-7		786,278.00		169,166,250		1,960,791,750	
8	13.8kV Distribution Lines and Receiving Facilities (Subsection-H)							
8(a)	Distribution line	L.S.	118,830.00		25,245,000		292,612,500	
8(b)	Receiving facilities	L.S.	58,415.00		12,622,500		146,306,250	
8(c)	Mandatory spare parts	L.S.	4,557.00		567,000		10,820,250	
	Subtotal Item-8		182,802.00		38,434,500		449,739,000	
9	138kVA Transmission Lines (Subsection-I)							
9(a)	Tower design test	L.S.	120,000.00		0		270,000,000	
9(b)	Material supply for 138kVA transmission line	L.S.	1,030,434.00		51,946,875		2,370,423,375	
9(c)	Electrical works for 138kVA transmission line	L.S.	1,380,000.00		2,821,824,060		5,926,824,060	
9(d)	Mandatory spare parts	L.S.	4,557.00		567,000		10,820,250	
	Subtotal Item-9		2,534,991.00		2,874,337,935		8,578,067,685	
10	Power Line carrier Telephone System (Subsection-J)							

BILL OF QUANTITIES

Item No.	Work	Unit Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Total (S/.) Amount
			Unit Rate	Amount	Unit Rate	Amount	
10(a)	Power line carrier terminal equipment 2 sets	L.S.	200,380.00		42,570,000		493,425,000
10(b)	Line trap, 2 sets	L.S.	121,160.00		25,740,000		298,350,000
10(c)	Coupling capacitor device, 2 sets	L.S.	121,150.00		25,740,000		298,350,000
10(d)	Coupling device, 2 sets	L.S.	60,580.00		12,870,000		149,175,000
10(e)	Power supply equipment, 2 sets	L.S.	80,385.00		17,077,500		197,943,750
10(f)	Mandatory spare parts	L.S.	13,563.00		1,687,500		32,204,250
	Subtotal Item-10		597,228.00		125,685,000		1,469,448,000
11	Intake Trashracks and Rake (Subsection-X)						
11(a)	Intake trashracks, 6 sets	L.S.	754,920.00		65,610,000		1,764,180,000
11(b)	Trash rake	L.S.	58,250.00		5,062,500		136,125,000
11(c)	Embedded guide frame for rake, 6 sets	L.S.	132,810.00		11,542,500		310,365,000
11(d)	Mandatory spare parts	L.S.	7,270.00		376,875		16,734,375
	Subtotal Item-11		953,250.00		82,591,875		2,227,404,375
12	Intake Gates and Gantry Crane (Subsection-L)						
12(a)	Gate leaf, 2 sets	L.S.	372,800.00		32,400,000		871,200,000
12(b)	Embedded guide frame, 6 sets	L.S.	471,825.00		41,006,250		1,102,612,500
12(c)	Gantry crane	L.S.	479,980.00		41,715,000		1,121,670,000
12(d)	Lifting beam	L.S.	9,320.00		810,000		21,780,000
12(e)	Dogging device, 2 sets	L.S.	2,330.00		202,500		5,445,000
12(f)	Mandatory spare parts	L.S.	2,170.00		112,500		4,995,000
	Subtotal Item-12		1,338,425.00		116,246,250		3,127,702,500
13	Discharge Penstocks (Subsection-N)						
13(a)	Discharge penstocks, 2-lanes	L.S.	2,441,623.00		212,201,100		5,705,852,850

BILL OF QUANTITIES

Item No.	Work	Unit Quantity	Foreign Currency (US\$)		Local Currency (S/.)		Total (S/.)	
			Unit Rate	Amount	Unit Rate	Amount	Unit Rate	Amount
13(b)	Mandatory spare parts	L.S.		723.00		37,500		1,664,250
	Subtotal Item-13			2,442,346.00		212,238,600		5,707,517,100
	Subtotal (Section-1)			22,321,583.00		5,718,551,160		55,942,112,910
Section-2 Conguillo Inlet								
14	Outlet Facilities (Subsection-N)							
14(a)	Sleeve valves, 2 sets	L.S.		537,065.00		46,676,250		1,255,072,500
14(b)	Butterfly valves, 1400mm x 4 nos, 800mm x 2 nos.	L.S.		465,301.00		40,439,250		1,087,366,500
14(c)	Steel pipes, 1400mm x 2 nos, 800mm x 1 no.	L.S.		562,986.00		48,929,063		1,315,647,563
14(d)	Drain pump	L.S.		11,650.00		1,012,500		27,225,000
14(e)	Water level detector	L.S.		46,600.00		4,050,000		108,900,000
14(f)	Portable generator set	L.S.		45,047.00		9,570,000		110,925,750
14(g)	Mandatory spare parts	L.S.		3,617.00		187,500		8,325,750
	Subtotal Item-14			1,672,266		150,864,563		3,913,463,063
	Subtotal (Section-2)			1,672,266		150,864,563		3,913,463,063
Section-3 Poza Honda Inlet								
15	Outlet Facilities (Subsection-O)							
15(a)	Fixed trashrack	L.S.		36,115.00		3,128,750		84,397,500
15(b)	Sleeve valve, 2 sets	L.S.		349,733.00		30,395,250		817,294,500
15(c)	Butterfly valve, 2 sets	L.S.		126,053.00		10,955,250		294,574,500
15(d)	Steel pipe, 2 lanes	L.S.		73,162.00		6,358,500		170,973,000
15(e)	Drain pump	L.S.		11,650.00		1,012,500		27,225,000
15(f)	Water level detector	L.S.		46,600.00		4,050,000		108,900,000

BILL OF QUANTITIES

Item No.	Work	Foreign Currency (US\$)		Local Currency (S/.)		Total (S/.)	
		Unit Rate	Amount	Unit Rate	Amount	Unit Rate	Amount
15(g)	Portable generator set	L.S.	45,047.00		9,570,000		110,925,750
15(h)	Mandatory spare parts	L.S.	3,616.00		187,500		8,323,500
	Subtotal Item-15		691,976		65,667,750		1,622,613,750
	Subtotal (Section-3)		691,976		65,667,750		1,622,613,750
	Supply						
16	GS10.1 Mandatory Maintenance Tools (Schedule III-A)	L.S.	126,222.00		6,543,750		290,543,250
17	GS11.4 Employer's Shop Inspection (Schedule-IV)	L.S.	72,000.00		0		162,000,000
18	GS11.5 Instruction to Project Staff (Schedule-V)	L.S.	83,500.00		0		187,875,000
19	GS10.1 and GS10.2 Recommendation Maintenance Tools (Schedule II-B) and Spare parts (Schedule II-B)	L.S.	78,000.00		0		175,500,000
	Total		25,045,547.00		5,941,627,223		62,294,107,973

**UNIT PRICE LIST**

## CONTENT

A	GENERAL ITEM (PACKAGE 1)
B	GENERAL ITEM (PACKAGE 2)
C	UNIT PRICE LIST (PACKAGE 1)
D	UNIT PRICE LIST (PACKAGE 2)
E	EARTHWORK (1)
F	EARTHWORK (2)
G	EARTHWORK (3)
H	EARTHWORK (4)
I	CONCRETE WORK (1)
J	CONCRETE WORK (2)
K	CONCRETE WORK (3)
L	CONCRETE WORK (4)
M	CONCRETE WORK (5)
N	MISCELLANEOUS (1)
O	MISCELLANEOUS (2)
P	MISCELLANEOUS (3)
Q	MISCELLANEOUS (4)
R	TUNNEL WORK (1)
S	TUNNEL WORK (2)
T	BUILDING WORK (1)
U	BUILDING WORK (2)
V	BUILDING WORK (3)

A GENERAL ITEM (PACKAGE 1)

PACKAGE 1  
 CIVIL WORKS FOR DAULE PERIPA - LA ESPERANZA TRANSBASTI  
 GENERAL ITEMS

Exchange rate:US\$1=100Yen  
 :US\$1=2250S/

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/01 Construction,operation,maintenance and subsequent removal of the Contractor's offices,staff quarters,repair shops,stores laboratory buildings,motor pools,labor camps,etc.,including land clearing, drainage and adequate fencing							
1.	Temporary building 499,500 US\$				149,850.00		786,712,500
2.	Civil works						
	(1) Site clearance	m2	12,600	0.14	1,764.00	214	2,636,400
	(2) Excavation/levelling						
	Excavation,200m	m3	25,200	2.14	53,928.00	2054	51,760,800
	Levelling	m2	12,600	0.15	1,890.00	166	2,931,600
	(3) Gravel surface	m3	378	17.92	6,773.00	39526	14,940,828
	(4) Drain ditch	m3	1,120	0.92	1,030.00	953	1,067,360
	(5) Stone pitching	m2	1,689	4.25	7,140.00	13250	22,260,000
	(6) Grouted mortar	m2	1,689	3.08	5,171.00	6882	11,561,760
	Total				77,699.00		106,378,748
3.	Sewage/sanitary						
	30 persons septic tank	no	10	7000.00	70,000.00	1575000	15,750,000
	RC pipe,200mm	m	224	8.37	1,875.00	47885	10,726,240
	Total				71,875.00		26,476,240
4.	Fence	m	756	23.21	17,547.00	28160	21,288,960
	Total (1-4)				316,971.00		940,856,448
5.	Maintenance,removal (10%)				31,697.00		94,085,645
	Total				348,668.00		1,034,942,093
	Total(round)				348,670.00		1,034,942,000
****							
Temporary building							
1.	Hembrillo site						
	Main office	m2	220	200.00	44,000.00		
	Contractor's quarter	m2	250	250.00	62,500.00		
	Labor quarter	m2	400	150.00	60,000.00		
	Concrete plant	m2	100	150.00	15,000.00		
	Laboratory	m2	100	150.00	15,000.00		



GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)	
				Unit Price	Total Price	Unit Price	Total Price
	Cement warehouse	m2	100	100.00	10,000.00		
	Repair shop, tunnel	m2	50	150.00	7,500.00		
	Site warehouse	m2	100	100.00	10,000.00		
	Repair shop, motor pool	m2	200	200.00	40,000.00		
	Generator house	m2	50	150.00	7,500.00		
	Battery house	m2	20	150.00	3,000.00		
	Magazine	m2	30	150.00	4,500.00		
	Rest house	m2	50	200.00	10,000.00		
	Winch house	m2	30	150.00	4,500.00		
	Total				293,500.00		
2.	El Guasmo site						
	Contractor's office Nil						
	Labor quarter	m2	320	150.00	48,000.00		
	Repair shop, tunnel	m2	50	150.00	7,500.00		
	Generator house	m2	50	150.00	7,500.00		
	Battery house	m2	20	150.00	3,000.00		
	Site warehouse	m2	100	100.00	10,000.00		
	Rest house	m2	50	200.00	10,000.00		
	Winch house	m2	30	150.00	4,500.00		
	Total				90,500.00		
3.	Conguillo site						
	Contractor's office, available						
	Labor quarter	m2	320	150.00	48,000.00		
	Repair shop, tunnel	m2	50	150.00	7,500.00		
	Generator house	m2	50	150.00	7,500.00		
	Battery house	m2	20	150.00	3,000.00		
	Site warehouse	m2	100	100.00	10,000.00		
	Rest house	m2	50	200.00	10,000.00		
	Winch house	m2	30	150.00	4,500.00		
	Concrete plant	m2	100	150.00	15,000.00		
	Cement warehouse	m2	100	100.00	10,000.00		
	Total				115,500.00		
	Total				499,500.00		
	Remarks: Package 1 Area						
	Mentrillo 6,300m2						
	El Guasmo 2,500m2						
	Conguillo 3,300m2						

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/02 Installation, operation, maintenance and subsequent removal of temporary water system for and in the contractor's offices, laboratory, staff quarters, repair shops, motor pools, etc., and construction site							
1. Water pump							
(1)	Membrillo Well drilling Well pump, 3.7kW, drinking Pump, 7.5kW				4,000.00 5,000.00		112,500,000
(2)	El Guasmo Pump, 3.7kW				4,000.00		
(3)	Congulio Pump, 5.5kW				4,500.00		
(4)	Others, 5nos				5,000.00		
(5)	Spare parts/maintenance, 30%				13,500.00		
(6)	Installation, 20%						10,125,000
	Total (1)				36,000.00		122,625,000
2. Concrete work							
(1)	Intake concrete Concrete Formwork, 30%	m <sup>3</sup>	60	60.74	3,644.00 1,093.00	75735	4,544,100 1,363,230
(2)	Concrete head tank 20m <sup>3</sup> water tank, concrete Formwork, 30%	m <sup>3</sup>	10	60.74	607.00 182.00	75735	757,350 227,205
	Total (2)				5,526.00		6,891,885
3. Pipeline							
(1)	Dia. 100mm	m	500	12.41	6,205.00	1396	698,000
(2)	Dia. 100mm, tunnel	m	6,000	12.41	74,460.00	1396	8,376,000
(3)	Dia. 50mm, camp Suiyage, 50%	m	600	5.46	3,276.00 41,970.00	614	368,400 4,721,200
(4)	Install/maintenance				0.00		37,773,450
	Total (3)				41,970.00		42,494,650

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)	
				Unit Price	Total Price	Unit Price	Total Price
4.	Electric	kwh	352,512	0.07	24,676.00	289	101,875,968
5.	Purification 100 persons, 3sets, 20,000 US\$				60,000.00		13,500,000
	Total (1-5)				168,172.00		287,387,503
6.	Overhead, 25%				42,043.00		71,346,876
	Total				210,215.00		359,234,379
	Total(round)				210,220.00		359,234,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/03 Installation, operation, maintenance and subsequent removal of temporary electric system to the contractor's offices, laboratory, staff quarters, labor camps, repair shops, motor pools, etc., and construction site							
1.	Distribution line						
	From generator	m	600	8.56	5,136.00	1926	1,155,600
	Tunnel	m	6,000	8.56	51,360.00	1926	11,556,000
	Total (1)				56,496.00		12,711,600
2.	Transformer						
	300 kVA, 6nos				86,670.00		
	150 kVA, 1nos				8,421.00		
	100 kVA, 1nos				6,548.00		
	50 kVA, 1no				4,141.00		
	20 kVA, 5nos				12,145.00		
	Suivage, 50%				58,963.00		
	Repair, maintenance, 30%				35,373.00		
	Inland transportation, 5%						13,266,563
	Installation, 20%						53,066,250
	Total (2)				94,341.00		66,332,813
3.	Control panel, 14nos				37,450.00		16,852,500
4.	Lighting arrester, 14nos				4,494.00		2,022,300
5.	Control switch				4,494.00		2,022,300
6.	Lighting fixture with mercury lamp, 20nos				6,420.00		2,889,000
7.	Wooden pole, 40nos					50000	2,000,000
8.	Search light, 10nos				7,490.00		3,370,500
9.	Wire, base camp, 3km				6,420.00		2,889,000
	Total (1-9)				217,605.00		111,090,013
10.	Overhead, 25%				54,401.00		27,772,503
	Total				272,006.00		138,862,516
	Total(round)				272,010.00		138,863,000

GENERAL ITEMS

Item No.	Description of works	Unit	Quantity	Foreign Currency:(US\$)		Local Currency:(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/04 Installation,operation,maintenance and subsequent removal of temporary telecommunication system from the CRM's and supervision's offices to the contractor's offices,quarters,etc.,including wire telephone line,VHF radio communication system and handy talky							
1.	Radio communication,2 sets Membrillo,Conguillo to CRM office				94,056.00		
2.	Telephone sets	set	10	123.05	1,230.00	55373	553,730
3.	Telephone cable	m	12,000	2.68	32,160.00	1206	14,472,000
4.	Telephone post	nos	300		0.00	50000	15,000,000
5.	PABX				10,700.00		2,407,500
6.	Transceiver,10 sets				2,500.00		0
7.	PAX machine				2,500.00		0
	Subtotal				143,146.00		32,433,230
8.	Overhead,15%				21,472.00		4,864,985
	Total				164,618.00		37,298,215
	Total(round)				164,620.00		37,298,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/05 Construction, operation, maintenance and subsequent removal of the Contractor's temporary construction roads to the various working areas, maintenance of temporary and permanent access roads, and maintenance of the existing roads including temporary supports to strengthen piers of the existing bridges, etc.							
1. Temporary access road							
	Clearing	m <sup>2</sup>	15,000	0.14	2,100.00	214	3,210,000
	Excavation	m <sup>3</sup>	3,750	0.65	2,438.00	615	2,306,250
	Excavation, 500m spoil	m <sup>3</sup>	3,750	2.05	7,687.00	2117	7,939,750
	Gravel/subbase	m <sup>3</sup>	975	21.24	20,709.00	27261	26,579,475
	Total (1)				32,934.00		40,034,475
2. Maintenance							
	Motor grader, sprinkler				222,360.00		173,862,000
	Crossing, 20nos						
	RC pipe	m	360	47.58	17,129.00	224410	80,787,600
	H-steel bridge	ton	21	1096.00	23,016.00	220098	4,622,058
	Permanent access						
	Subbase	m <sup>3</sup>	2,160	21.24	45,878.00	32261	58,883,760
	Clearing, repair, drainage				0.00		42,039,000
	Total (2)				308,383.00		360,194,418
	Total				341,317.00		400,228,893
	Total(round)				341,320.00		400,229,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/06 Provision and maintenance of the laboratory equipment and furnitures including provision of necessary testing experts and labor to assist the supervision							
1.	Accomodation, table, desk, shelf						22,500,000
2.	Concrete test and road			200,000.00			
3.	Maintenance						
	Test staff						144,000,000
	Skilled labor						120,000,000
	Subtotal			200,000.00			286,500,000
4.	Overhead, 15%			30,000.00			42,975,000
	Total			230,000.00			329,475,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/07 Exploratory boring and excavation of pits							
1.	Boring,50m				0.00		25,000,000
2.	Pit,10nos				0.00		3,600,000
	Total				0.00		28,600,000



GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/08 Monument and memorial							
	Conguillo inlet and Access road beginning point				0.00		45.000.000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/09 Construction, operation, maintenance and subsequent hand over to CRM the supervision office, first aid buildings, including land clearing and development, water supply system, sewage and drainage system, electric power supply system, telecommunication system and adequate fencing							
1.	Building				30,370.00		93,941,000
2.	Water supply 5% of Package 2				4,540.00		10,861,000
3.	Power supply 5% of Package 2				15,550.00		40,739,000
4.	Telecommunication Nil, included in Package 2				0.00		0
Total					50,460.00		145,541,000
1. CRM and Supervision, Buildings							
1.	Temporary buildings 45,000 US\$				13,500.00		70,875,000
2.	Civil works						
	(1) Site clearance	m <sup>2</sup>	750	0.14	105.00	214	160,500
	(2) Excavation	m <sup>3</sup>	1,500	2.14	3,210.00	2054	3,081,000
	Levelling	m <sup>2</sup>	750	0.15	113.00	166	124,500
	(3) Gravel surface	m <sup>3</sup>	23	17.92	412.00	39526	909,098
	(4) Drain ditch	m <sup>3</sup>	108	0.92	99.00	953	102,924
	(5) Stone pitching	m <sup>2</sup>	162	4.25	688.00	13250	2,146,500
	(6) Grouted mortar	m <sup>2</sup>	162	3.08	499.00	6882	1,114,884
	Total				5,126.00		7,639,406
3.	Sewage/sanitary						
	Septic tank, 10 person, 2nos				5,200.00		1,170,000
	RC pipe, 200mm	m	30	8.37	251.00	47885	1,436,550
	Total				5,451.00		2,606,550
4.	Fence	m	152	23.21	3,528.00	28160	4,280,320
Total (1-4)					27,605.00		85,401,276

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
5.	Maintenance, removal, 10%				2,761.00		8,540,128
	Total				30,388.00		93,941,404
	Total(round)				30,370.00		93,941,000
Remarks:							
	Branch office						
	Membrillo	m2	100	300.00	30,000.00		
	Conguillo	m2	50	300.00	15,000.00		
	Total				45,000.00		

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/10 Provision, maintenance and subsequent hand over to CRN the supervision office furnitures such as desks, tables, shelves, etc., office equipment such as computer, printer, etc., and survey equipment							
1.	Office furniture						45,000,000
2.	Computer, etc.				15,500.00		
	Computer, Ino, US\$7,000						
	Printer, Ino, US\$5,000						
	Stabilizer, Ino, US\$1,500						
	Software, US\$2,000						
3.	Survey equipment				40,000.00		
	Total (1-3)				55,500.00		45,000,000
4.	Overhead, 15%				8,325.00		6,750,000
	Total				63,825.00		51,750,000
	Total(round)				63,830.00		51,750,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price

/11 Provision,operation and maintenance of the first aid facilities and medicines including operation of medical services by one doctor,two nurses and one clerk

This item is included in Package 2.

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/. )	
				Unit Price	Total Price	Unit Price	Total Price

GENERAL ITEMS

/12 Provision, operation and maintenance of vehicles for CRN and the supervision

This item is included in Package 2.



B GENERAL ITEM (PACKAGE 2)





PACKAGE 2  
 CIVIL WORKS FOR LA ESPERANZA - POZA RONDA TRANSBASIN  
 AND POZA ROND - MANCHA GRANDE TRANSBASIN  
 GENERAL ITEMS

Exchange rate:US\$1=100Yen  
 :US\$1=2250S/

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/01 Construction,operation,maintenance and subsequent removal of the Contractor's offices,staff quarters,repair shops,stores laboratory buildings,motor pools,labor camps,etc.,including land clearing, drainage and adequate fencing							
1.	Temporary building 1,034,500 US\$				310,350.00		1,629,337,500
2.	Civil works						
	(1) Site clearance	m2	25,800	0.14	3,612.00	214	5,521,200
	(2) Excavation/levelling						
	Excavation,200m	m3	51,600	2.14	110,424.00	2054	105,986,400
	Levelling	m2	25,800	0.15	3,870.00	166	4,282,800
	(3) Gravel surface	m3	774	17.92	13,870.00	39526	30,593,124
	(4) Drain ditch	m	2,240	0.92	2,061.00	953	2,134,720
	(5) Stone pitching	m2	3,360	4.25	14,280.00	13250	44,520,000
	(6) Grouted mortar	m2	3,360	3.08	10,349.00	6882	23,123,520
	Total				158,466.00		216,161,764
3.	Sewage/sanitary						
	30 persons septic tank	no	24	7000.00	168,000.00	1575000	37,800,000
	RC pipe,200mm	m	448	8.37	3,750.00	47885	21,452,480
	Total				171,750.00		59,252,480
4.	Fence	m	1,692	23.21	39,271.00	28160	47,646,720
	Total (1-4)				679,837.00		1,952,398,464
5.	Maintenance,removal (10%)				67,984.00		195,239,846
	Total				747,821.00		2,147,638,310
	Total(round)				747,820.00		2,147,638,000
****							
Temporary building							
	1. Severino site						
	Main office	m2	320	200.00	44,000.00		
	Contractor's quarter	m2	430	250.00	107,500.00		
	Labor quarter	m2	1,160	150.00	174,000.00		
	Concrete plant	m2	100	150.00	15,000.00		

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)	
				Unit Price	Total Price	Unit Price	Total Price
	Laboratory	m2	100	150.00	15,000.00		
	Cement warehouse	m2	200	100.00	20,000.00		
	Site warehouse	m2	200	100.00	20,000.00		
	Repair shop, motor pool	m2	200	200.00	40,000.00		
	Formwork, reinforcement	m2	200	100.00	20,000.00		
	Rest house	m2	100	200.00	20,000.00		
	Total				475,500.00		
2.	Cana Dulce site						
	Labor quarter	m2	280	150.00	42,000.00		
	Repair shop, tunnel	m2	50	150.00	7,500.00		
	Generator house	m2	50	150.00	7,500.00		
	Battery house	m2	20	150.00	3,000.00		
	Site warehouse	m2	100	100.00	10,000.00		
	Rest house	m2	50	200.00	10,000.00		
	Total				80,000.00		
3.	La Seca adit site						
	Labor quarter	m2	320	150.00	48,000.00		
	Repair shop, tunnel	m2	50	150.00	7,500.00		
	Generator house	m2	50	150.00	7,500.00		
	Battery house	m2	20	150.00	3,000.00		
	Site warehouse	m2	100	100.00	10,000.00		
	Rest house	m2	50	200.00	10,000.00		
	Winch house	m2	30	150.00	4,500.00		
	Explosive	m2	30	150.00	4,500.00		
	Concrete plant	m2	100	150.00	15,000.00		
	Laboratory	m2	100	150.00	15,000.00		
	Cement warehouse	m2	200	100.00	20,000.00		
	Total				145,000.00		
4.	Los cuyues site						
	Labor quarter	m2	320	150.00	48,000.00		
	Repair shop, tunnel	m2	50	150.00	7,500.00		
	Generator house	m2	50	150.00	7,500.00		
	Battery house	m2	20	150.00	3,000.00		
	Site warehouse	m2	100	100.00	10,000.00		
	Rest house	m2	50	200.00	10,000.00		
	Winch house	m2	30	150.00	4,500.00		
	Total				90,500.00		
5.	Poza Honda inlet site						
	Contractor's branch office	m2	100	200.00	20,000.00		
	Labor quarter	m2	280	150.00	42,000.00		
	Generator house	m2	50	150.00	7,500.00		
	Battery house	m2	20	150.00	3,000.00		
	Site warehouse	m2	100	100.00	10,000.00		

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
	Rest house	m2	50	200.00	10,000.00		
	Winch house	m2	30	150.00	4,500.00		
	Repair shop	m2	50	150.00	7,500.00		
	Total				104,500.00		
6.	Mancha Grande outlet site						
	Contractor's branch office	m2	50	200.00	10,000.00		
	Labor quarter	m2	240	150.00	36,000.00		
	Generator house	m2	50	150.00	7,500.00		
	Battery house	m2	20	150.00	3,000.00		
	Site warehouse	m2	100	100.00	10,000.00		
	Rest house	m2	50	200.00	10,000.00		
	Concrete plant	m2	100	150.00	15,000.00		
	Repair shop	m2	50	150.00	7,500.00		
	Total				99,000.00		
7.	Motor pool for access road						
	Repair shop, motor pool	m2	200	200.00	40,000.00		
	Total				1,034,500.00		
Remarks: Package 2 Area :25,800m2							
Severino 11,600m2							
Cana Dulce 2,200m2							
La Seca 4,200m2							
Los Cuyuyes 2,500m2							
Poza Honda 2,700m2							
Mancha Grande 2,600m2							

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/02 Installation, operation, maintenance and subsequent removal of temporary water system for and in the contractor's offices, laboratory, staff quarters, repair shops, motor pools, etc., and construction site							
1. Water pump							
(1)	Severino Well drilling						112,500,000
	Well pump, 5.5kW, drinking			4,500.00			
	Pump, 7.5kW			5,000.00			
(2)	Cana Dulce Pump, 3.7kW			4,000.00			
(3)	La Seca Pump, 5.5kW			4,500.00			
(4)	Los Cuyuyes Pump, 3.7kW			4,000.00			
(5)	Poza Honda Pump, 3.7kW			4,000.00			
(5)	Mancha Grande Pump, 5.5kW			4,500.00			
(4)	Others, 10nos			10,000.00			
(5)	Spare parts/maintenance, 60%			24,300.00			
(6)	Installation, 20%						18,225,000
	Total (1)			64,800.00			130,725,000
2. Concrete work							
(1)	Intake concrete	m3	120	60.74	7,289.00	75735	9,088,200
	Concrete Formwork, 30%				2,187.00		2,726,460
(2)	Concrete head tank	m3	30	60.74	1,822.00	75735	2,272,050
	20m3 water tank, concrete Formwork, 30%				547.00		681,615
	Total (2)				11,845.00		14,768,325

GENERAL ITEMS

Item No.	Description of works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
3. Pipeline							
	(1) Dia.100mm	m	2,000	12.41	24,820.00	1396	2,792,000
	(2) Dia.100mm,tunnel	m	10,000	12.41	124,100.00	1396	13,960,000
	(3) Dia.50mm,camp Salvage,50%	m	2,000	5.46	10,920.00	614	1,228,000
	(4) Install/maintenance				0.00		71,928,000
	Total (3)				79,920.00		80,918,000
4.	Electric	kwh	606,528	0.07	42,457.00	289	175,286,592
5.	Purification 100 persons,8sets,20,000 US\$				160,000.00		36,000,000
	Total (1-5)				359,022.00		437,697,917
6.	Overhead,25%				89,756.00		109,424,479
	Total				448,778.00		547,122,396
	Total(round)				448,780.00		547,122,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/03 Installation, operation, maintenance and subsequent removal of temporary electric system to the contractor's offices, laboratory, staff quarters, labor camps, repair shops, motor pools, etc., and construction site							
1.	Distribution line						
	From generator	m	1,200	8.56	10,272.00	1926	2,311,200
	Tunnel	m	10,000	8.56	85,600.00	1926	19,260,000
	Total (1)				95,872.00		21,571,000
2.	Transformer						
	300 kVA, 8nos				115,560.00		
	150 kVA, 2nos				16,842.00		
	100 kVA, 2nos				13,097.00		
	50 kVA, 1no				4,141.00		
	30 kVA, 3nos				9,373.00		
	20 kVA, 10nos				24,289.00		
	Sulvage, 50%				91,651.00		
	Repair, maintenance, 30%				54,991.00		
	Inland transportation, 5%						20,621,475
	Installation, 20%						82,485,900
	Total (2)				146,642.00		103,107,375
3.	Control panel, 26nos				69,550.00		31,297,500
4.	Lighting arrester, 26nos				8,346.00		3,755,700
5.	Control switch				8,346.00		3,755,700
6.	Lighting fixture with mercury lamp, 40nos				12,840.00		5,778,000
7.	Wooden pole, 180nos					50000	9,000,000
8.	Search light, 20nos				14,980.00		6,741,000
9.	Wire, base camp, 6km				12,840.00		5,778,000
	Total (1-9)				369,416.00		190,784,275
10.	Overhead, 25%				92,354.00		47,696,069
	Total				461,770.00		238,480,344
	Total (round)				461,770.00		238,480,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/04 Installation,operation,maintenance and subsequent removal of temporary telecommunication system from the CRH's and supervision's offices to the contractor's offices,quarters,etc.,including wire telephon line,VHF radio communication system and handy talky							
1.	Radio communication,3 sets Main office,Poza Honda,Mancha Grande				141,084.00		
2.	Telephone sets	set	10	123.05	1,230.00	55373	553,730
3.	Telephone cable	m	2,000	2.68	5,360.00	1206	2,412,000
4.	Telephone post	nos	50		0.00	50000	2,500,000
5.	PABX,CRH				0.00		0
6.	Transceiver,20 sets				5,000.00		0
7.	PAX mashine				2,500.00		0
	Subtotal				155,174.00		5,465,730
8.	Overhead,15%				23,276.00		819,860
	Total				178,450.00		6,285,590
	Total(round)				178,450.00		6,286,000



GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/05 Construction, operation, maintenance and subsequent removal of the Contractor's temporary construction roads to the various working areas, maintenance of temporary and permanent access roads, and maintenance of the existing roads including temporary supports to strengthen piers of the existing bridges, etc.							
1. Temporary access road							
	Clearing	m <sup>2</sup>	115,000	0.14	16,100.00	214	24,610,000
	Excavation	m <sup>3</sup>	28,750	0.65	18,687.00	615	17,681,250
	Excavation, 500m spoil	m <sup>3</sup>	28,750	2.05	58,937.00	2117	60,853,750
	Gravel/subbase	m <sup>3</sup>	4,550	16.52	75,166.00	21186	96,396,300
	Total (1)				168,890.00		199,551,300
2. Maintenance							
	Motor grader, sprinkler Crossing, 20nos				222,360.00		170,862,000
	30 pipe	m	90	47.58	4,282.00	224410	20,196,900
	Permanent access Subbase	m <sup>3</sup>	2,808	16.52	46,388.00	21186	59,490,288
	Clearing, repair, drainage				0.00		42,039,000
	Total (2)				273,030.00		295,588,188
	Total				441,920.00		495,139,488
	Total (round)				441,920.00		495,139,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/06	Provision and maintenance of the laboratory equipment and furnitures including provision of necessary testing experts and labor to assist the supervision						
1.	Accomodation,table,desk,shelf						33,750,000
2.	Concrete test and road				300,000.00		
3.	Maintenance						
	Test staff						240,000,000
	Skilled iabor						240,000,000
	Subtotal				300,000.00		513,750,000
4.	Overhead,15%				45,000.00		77,062,500
	Total				345,000.00		590,812,500

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/07 Exploratory boring and excavation of pits							
1.	Boring,140m				0.00		70,000,000
2.	Pit,10nos				0.00		3,600,000
	Total				0.00		73,600,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency (US\$)		Local Currency (S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/08 Monument and memorial							
	Pumping station, Base camp, Access road (Severino), Poza Honda inlet, Access road (Poza Honda)				0.00		112,500,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit	Total	Unit	Total
GENERAL ITEMS							
/09 Construction,operation,maintenance and subsequent hand over to CRM the supervision office,first aid buildings,including land clearing and development,water supply system,sewage and drainage system,electric power supply system,telecommunication system and adequate fencing							
1.	Building				401,770.00		1,660,471,000
2.	Water supply				90,770.00		217,223,000
3.	Power supply				310,910.00		814,786,000
4.	Telecommunication				1,266,170.00		0
	Total				2,069,620.00		2,692,480,000
1. CRM and Supervision,buildings							
	1. Temporary buildings				262,050.00		1,375,762,500
	873,500 US\$						
	2. Civil works						
	(1) Site clearance	m2	20,000	0.14	2,800.00	214	4,280,000
	(2) Excavation	m3	4,000	2.14	8,560.00	2054	8,216,000
	Levelling	m2	20,000	0.15	3,000.00	166	3,320,000
	(3) Gravel surface	m3	600	17.92	10,752.00	39526	23,715,600
	(4) Drain ditch	m3	1,692	0.92	1,557.00	953	1,612,476
	(5) Stone pitching	m2	2,538	4.25	10,786.00	13250	33,628,500
	(6) Grouted mortar	m2	2,538	3.08	7,817.00	6882	17,466,516
	Total				45,272.00		92,239,092
	3. Sewage/sanitary						
	Septic tank,10 person,6nos				42,000.00		9,450,000
	RC pipe,200mm	m	338	8.37	2,829.00	47885	16,185,130
	Total				44,829.00		25,635,130
	4. Fence	m	564	23.21	13,090.00	28160	15,882,240
	Total (1-4)				365,241.00		1,509,518,962
	5. Maintenance,removal,10%				36,524.00		150,951,896
	Total				401,765.00		1,660,470,858
	Total(round)				401,770.00		1,660,471,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
Remarks:							
Buildings,CRH and Supervision							
	Main office,CRH	m2	250	300.00	75,000.00		
	Main office,Supervision	m2	200	200.00	40,000.00		
	Branch office						
	Poza Honda	m2	100	300.00	30,000.00		
	Mancha Grande	m2	50	300.00	15,000.00		
	Housing						
	CRH	m2	960	300.00	288,000.00		
	Supervision	m2	960	200.00	192,000.00		
	20 bedroom x 10m2 + 60m2	m2	260	200.00	52,000.00		
	Medical center	m2	120	200.00	24,000.00		
	Kindergarten,elementary school	m2	100	150.00	15,000.00		
	Social hall	m2	100	200.00	20,000.00		
	Club house	m2	120	200.00	24,000.00		
	Guard house	m2	20	150.00	3,000.00		
	Church	m2	100	150.00	15,000.00		
	Stores	m2	150	150.00	22,500.00		
	Recreation facilities,	m2	2,900	20.00	58,000.00		
	Total				873,500.00		

Remarks:

Water supply,CRH base camp

1.Well and pump

    Well

    Pump,5.5kW

2.Pump,5.5kW

3.Water treatment

4.Reservoir tank

5.Pipe network

    Dia.50mm

    Dia.25mm

    Installation,20%

    Subtotal

6.Electric

    Total

7.Overhead,25%

    Total

Total(round)

112,500,000

4,500.00

4,500.00

40,000.00

780.00

984,550

m 1,000 5.46 5,460.00 614 614,000

m 1,000 4.07 4,070.00 458 458,000

4,288,500

9,530.00

5,360,500

kkh 190,080 0.07 13,306.00 289 54,933,120

72,616.00

173,778,170

18,154.00

43,444,543

90,770.00

217,222,713

90,770.00

217,223,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
Remarks:							
Power supply, CRH base camp							
1. Diesel generator							
	a. 150kVA, 1no.				56,070.00		
	b. Repair, maintenance, 30%				16,821.00		
	c. Inland transportation, 5%						6,307,875
	d. Installation, 20%						25,231,500
	e. Operation, maintenance	kWh	2,102,400	0.07	147,168.00	289	607,593,600
	Subtotal				220,059.00		639,132,975
2. Distribution line							
	Main cable	m	1,000	8.56	8,560.00	1926	1,926,000
	Wire, low	m	2,000	1.98	3,960.00	891	1,782,000
3. Pole							
		no	40			50000	2,000,000
4. Transformer							
	Transformer, 50kVA, 3nos				12,423.00		
	Repair, maintenance, 30%				3,727.00		
	Inland transportation, 5%						1,397,588
	Installation, 20%						5,590,350
	Total(1-4)				248,729.00		651,828,913
5. Overhead, 25%							
					62,182.00		162,957,228
	Total				310,911.00		814,786,141
	Total(round)				310,910.00		814,786,000

Remarks:

Telecommunication system

1. Telephone system

Equipment	551,640.00
Installation, 10%	55,164.00
Spareparts, 10%	55,164.00
Subtotal	661,968.00

2. Radio communication

Equipment	503,500.00
Installation, 10%	50,350.00
Spareparts, 10%	50,350.00
Subtotal	604,200.00

Total 1,266,168.00

Total(round) 1,266,170.00

GENERAL ITEMS

Item No.	Description of works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price

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Telephone system

At telecom.company

Digital radio relay equip.	50,900.00
Antenna system	13,790.00
PCM multiplex terminal equip.	11,320.00
Telephone repeater equip.	20,060.00
Charger rectifier	47,080.00
Installation material	5,170.00
Antenna tower	15,490.00
Subtotal	163,710.00

At main office,CRH

Digital radio relay equip.	101,630.00
Antenna system	33,670.00
Muti function digital aux equip.	66,720.00
PCM multiplex terminal equip.	8,800.00
Rural radio telephone system	87,500.00
Antenna system	5,240.00
Charger rectifier	76,340.00
Telephone set,13nos.	2,860.00
Installation material	5,170.00
Subtotal	387,930.00

Total 551,640.00

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Radio communication

Repeater station

Digital radio relay equip.	50,900.00
Antenna system	19,880.00
PCM multiplex terminal equip.	7,300.00
Telephone repeater equip.	8,900.00
Charger rectifier	47,080.00
Installation material	5,170.00
Antenna tower	15,490.00
Base station	28,800.00
Steel rack	270.00
Battery,generator	50,000.00
Subtotal	233,790.00

Hembrillo station

39,190.00

Conquillo station

39,190.00

Poza Honda station

39,190.00

Mancha Grande station

39,190.00

Portoviejo station

37,650.00

CRH station

37,650.00

Head office station

37,650.00

Total 503,500.00



GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/10	Provision, maintenance and subsequent hand over to CRH the supervision office furnitures such as desks, tables, sheives, etc., office equipment such as computer, printer, etc., and survey equipment						
1.	Office furniture						112,500,000
2.	Computer, etc.				69,000.00		
	Computer, 6nos x US\$7,000						
	Printer, 2nos x US\$5,000						
	Stabilizer, 2nos x US\$1,500						
	Software, US\$2,000						
	Blue printer, 1no x US\$2,000						
	Zerox copy machine, 2nos x US\$5,000						
3.	Survey equipment				40,000.00		
	Total (1-3)				109,000.00		112,500,000
4.	Overhead, 15%				16,350.00		16,875,000
	Total				125,350.00		129,375,000
	Total(round)				125,350.00		129,375,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/11	Provision,operation and maintenance of the first aid facilities and medicines including operation of medical services by one doctor,two nurses and one clerk						
	1.Cost of medical center building is included in the CRM base camp building.						
	2.Medical facilities and accommodation						
	(1) Bed,table,desk,sheif,chair,etc.						22,500,000
	(2) Medical equipment			50,000.00			
	(3) Ambulance car(included item/12,vehicles)						121,500,000
	(4) Medicine,consumable						
	Subtotal			50,000.00			144,000,000
	3.Medical services						
	Doctor,1 person,54 months						62,640,000
	Nurse,2 persons x 54 months						46,980,000
	Administrator,1 person,54 months						39,150,000
	4.Overhead (Nil)						
	Total				50,000.00		292,770,000

GENERAL ITEMS

Item No.	Description of Works	Unit	Quantity	Foreign Currency(US\$)		Local Currency(S/.)	
				Unit Price	Total Price	Unit Price	Total Price
/12 Provision, operation and maintenance of vehicles for CRM and the supervision							
i. Supply of vehicles to CRM							
a.	4 wheel drive station wagon cars						
	2,500cc, imported, 16nos. x US\$39,000				624,000.00		
	4,000cc, Ecuador, 4nos. x US\$39,000				156,000.00		
b.	Twin cab pick-up, 4nos. x US\$36,000				144,000.00		
c.	Micro bus, 11 persons, 4nos. x US\$17,000				68,000.00		
d.	Insurance, Ecuador, 1no. x US\$39,000				39,000.00		
	Total (1)				1,031,000.00		
2. Maintenance cost (without drivers)							
a.	Fuel consumption						335,664,000
	2500km/month x 28nos x 54 months						
	=3780000km/5km x S/.444						
b.	Maintenance, spareparts, 15%				154,650.00		
	Total (2)				154,650.00		335,664,000
3. Overhead, 15%							
	For item 2 of maintenance				23,198.00		50,349,600
Total					1,208,848.00		386,013,600
Total(round)					1,208,850.00		386,014,000

C UNIT PRICE LIST (PACKAGE 1)



## Unit Price List, Package 1

August 1994  
1US\$=100Yen=2250S/.

work item	Unit	FC,US\$	FC,J.Yen	LC,S/.	LC,Tax	LC,Total	Total,S/.	Equiv,US\$
Package 1								
Daule-Espe Div.Tunnel								
Clearing	m2	0.14	14	213	1	214	529	0.24
Excav common	m3	2.54	254	2,607	28	2,635	8,350	3.71
Excav weather	m3	3.25	325	3,198	35	3,233	10,546	4.69
Excav rock	m3	7.80	780	7,318	188	8,096	25,556	11.36
Tunnel excav/inlet	m3	43.46	4,346	43,144	400	43,544	141,329	62.81
Trench excav	m3	2.76	276	2,913	29	2,942	9,152	4.07
Steel support,H-125	ton	1,223.55	122,355	135,949	2,465	138,414	2,891,402	1,285.07
Steel support,H-300,250	ton	1,095.76	109,576	217,796	2,303	220,099	2,685,559	1,193.58
D25mm rock bolt	m	20.26	2,026	16,155	41	16,196	61,781	27.46
Backfill	m3	2.92	292	2,975	26	3,001	9,571	4.25
Gravel surface	m3	17.92	1,792	33,977	5,549	39,526	79,846	35.49
Gravel bedding	m3	17.36	1,736	38,971	5,549	44,520	83,580	37.15
Sod facing	m2	0.03	3	4,622	0	4,622	4,690	2.08
D45mm drain hole	m	9.13	913	20,166	51	20,217	40,760	18.12
Backfill grout	m3	66.91	6,691	27,247	3,632	30,879	181,427	80.63
D50mm steel pipe	m	1.32	132	906	0	906	3,876	1.72
Conc A,blockout	m3	69.32	6,932	71,218	17,003	88,221	244,191	108.53
Conc C,inlet	m3	60.74	6,074	61,238	14,497	75,735	212,400	94.40
Conc D,inlet	m3	61.41	6,141	62,022	14,696	76,718	214,891	95.51
Conc D,tunnel	m3	73.82	7,382	73,544	14,720	88,264	254,359	113.05
Conc E,wall	m3	59.17	5,917	59,468	14,334	73,802	206,635	91.84
Conc F,ditch	m3	61.83	6,183	62,557	14,811	77,368	216,486	96.22
Conc G,plug	m3	52.81	5,281	54,681	12,909	67,590	186,413	82.85
Conc G,anchor	m3	52.81	5,281	54,681	12,909	67,590	186,413	82.85
Conc H,level	m3	53.47	5,347	55,699	13,130	68,829	189,137	84.06
Form F1,wall	m2	3.56	356	11,314	295	11,609	19,529	8.68
Form F1,ditch	m2	0.25	25	15,901	277	16,178	15,841	7.04
Form F1,anchor	m2	3.56	356	11,314	205	11,519	19,529	8.68
Form F2,wall	m2	3.49	349	20,140	211	20,351	28,204	12.53
Form F3,inlet	m2	4.08	408	25,379	290	25,669	34,849	15.49
Form F3,ditch	m2	4.08	408	25,379	290	25,669	34,849	15.49
Form F4,tunnel lining	m2	23.38	2,338	5,312	45	5,357	57,962	25.76
Reinforcing bar	ton	357.37	35,737	943,005	111,023	1,054,028	1,859,461	826.43
Shotcrete,tunnel	m3	154.65	15,465	112,087	19,323	131,410	478,023	212.45
Steel wire mesh	m2	3.97	397	1,929	131	2,060	10,993	4.89
Shotcrete w/mesh,100mm	m2	16.65	1,665	15,715	1,702	17,417	53,530	23.79
Shotcrete w/mesh,50mm	m2	8.62	862	7,358	851	8,209	26,754	11.89
Anchor bar,25mm	m	13.54	1,354	7,177	559	7,736	38,201	16.98
Waterstop,type 8,200mm	m	17.23	1,723	7,248	0	7,248	46,016	20.45
Bitumen coating	m2	0.63	63	3,945	41	3,986	4,054	1.80
PVC 50mm,weephole	m	4.17	417	1,277	0	1,277	10,660	4.74
PVC 75mm,drain	m	8.16	816	1,726	0	1,726	20,086	8.93
PVC 150mm,drain	m	23.19	2,319	4,932	0	4,932	57,110	25.38
Embedded metal	kg	0.56	56	1,121	77	1,198	2,458	1.09
Steel pipe handrail	kg	1.81	181	1,057	0	1,057	5,130	2.28
Steel ladder	kg	0.46	46	1,300	135	1,435	2,470	1.10
Steel step	kg	0.65	65	408	7	415	1,878	0.83
Steel pipe,water level	kg	1.48	148	278	1	279	3,609	1.60

## Unit Price List, Package 1

August 1994

1US\$=100Yen=2250S/.

Work Item	Unit	FC.US\$	FC.J.Yen	LC.S/.	LC.Tax	LC.Total	Total.S/.	Equiv.US\$
Grating, hatch cover	kg	3.61	361	813	0	813	8,235	3.97
Wire net fence w/gate (Measurement)	kg	9.86	86	935	102	1,037	2,972	1.32
Convergence, horizontal	no	14.00	1,400	11,980	0	11,980	43,480	19.32
Convergence, diagonal	no	14.00	1,400	11,980	0	11,980	43,480	19.32
Roof settlement	no	0.00	0	30,000	0	30,000	30,000	13.33
Invert upheaval	no	0.00	0	30,000	0	30,000	30,000	13.33
Stress, rock bolt	no	28.50	2,850	21,750	0	21,750	85,875	38.17
Stress, shotcrete	no	189.30	18,930	91,860	0	91,860	517,785	230.13
Stress, steel support (Building)	no	23.80	2,380	20,060	0	20,060	73,610	32.72
Conc C	m3	60.74	6,074	61,238	14,497	75,735	212,400	94.40
Conc H	m3	53.47	5,347	55,699	13,130	68,829	189,137	84.36
Form F1	m2	4.67	467	40,074	1,999	42,073	52,581	23.37
Form F2	m2	4.67	467	40,074	1,999	42,073	52,581	23.37
Reinforcement	ton	357.97	35,797	943,035	111,023	1,054,028	1,859,461	826.43
Hollow conc. masonry, 100mm	m2	0.00	0	16,205	0	16,205	16,205	7.20
3-ply asphalt roofing	m2	20.00	2,000	45,000	0	45,000	90,000	40.00
Mortar plaster, floor	m2	0.00	0	41,197	0	41,197	41,197	18.31
Base mortar plaster, 20mm	m2	0.00	0	4,669	0	4,669	4,669	2.08
Mortar plaster, 100mm	m	0.00	0	467	0	467	467	0.21
Mortar plaster, 200mm	m	0.00	0	934	0	934	934	0.42
Mortar plaster, inter. wall	m2	0.00	0	41,240	0	41,240	41,240	18.33
Waterproof mortar	m2	0.00	0	65,488	0	65,488	65,488	29.11
Waterproof mortar	m2	0.00	0	271,295	0	271,295	271,295	120.58
Conc trowel finish	m2	0.00	0	14,008	0	14,008	14,008	6.23
Excavation	m3	2.76	276	29	2,342	2,371	9,181	4.08
Backfill	m3	3.09	309	3,090	26	3,116	10,069	4.47
Gravel bedding	m3	13.57	1,357	35,321	4,333	39,654	70,187	31.19
Spray tile	m2	0.00	0	2,419	0	2,419	2,419	1.08
Oil paint	m2	0.00	0	3,052	0	3,052	3,052	1.36
Steel door	m2	0.00	0	412,266	0	412,266	412,266	183.23
Aluminium window	m2	0.00	0	104,028	0	104,028	104,028	46.23
Aluminium lower	m2	0.00	0	96,900	0	96,900	96,900	43.07
Grazing wire glass, 6.8mm (Ventilation)	m2	41.06	4,106	9,238	0	9,238	101,623	45.17
Multi fan, 20160	no	2,125.00	0	239,063	0	239,063	5,020,313	2,231.25
Intake louver, 1800x1000	no	1,015.00	0	114,188	0	114,188	2,397,938	1,065.75
Ventilation resistor								
UR-VRS 400x200	no	42.50	0	4,781	0	4,781	100,406	44.62
UR-VRS 200x150	no	25.00	0	2,813	0	2,813	59,063	26.25
UR-VRS 200x150	no	25.00	0	2,813	0	2,813	59,063	26.25
Venti zinc stell (Electrical)	kg	0.00	0	6,500	0	6,500	6,500	2.89
AC panel	set	0.00	0	241,250	0	241,250	241,250	107.22
Light type A	set	401.25	40,125	90,281	0	90,281	993,994	441.57
Light type B	set	267.50	26,750	60,198	0	60,198	682,373	294.25
Light type F	set	290.93	29,093	45,142	0	45,142	496,560	220.69
Outlet	set	0.00	0	13,725	0	13,725	13,725	6.10
Switch, tumblers	set	0.00	0	11,363	0	11,363	11,363	5.05

## Unit Price List, Package 1

August 1994

1US\$=100Yen=2250S/.

work item	Unit	FC,US\$	FC,J.Yen	LC,S/.	LC,Tax	LC.Total	Total,S/.	Equiv.US\$
Switch, three way	set	0.00	0	11,286	0	11,286	11,286	5.02
Conduit pipe, 16mm	m	2.14	214	4,815	0	4,815	2,630	4.28
Conduit pipe, 22mm	m	2.70	270	6,075	0	6,075	12,150	5.40
IV wire, 2mm <sup>2</sup>	m	0.00	0	1,120	0	1,120	1,120	0.50
IV wire, 3.5mm <sup>2</sup>	m	0.00	0	1,488	0	1,488	1,488	0.66
CV cable, 2c 8mm <sup>2</sup>	m	1.98	198	891	0	891	5,346	2.38
Conductor, 50mm <sup>2</sup>	m	2.98	298	1,341	0	1,341	8,046	3.58
Copper plate	sq	189.26	18,926	85,167	0	85,167	511,002	227.11
Excavation	m <sup>3</sup>	2.76	276	2,913	29	2,942	9,152	4.07
Backfill	m <sup>3</sup>	3.09	309	3,090	26	3,116	10,069	4.47
Trash boom	m	684.33	68,433	153,974	0	153,974	1,693,717	752.76
Dredging, Conguillo	m <sup>3</sup>	84.36	8,436	7,508	0	7,508	197,318	87.70
Staff gauge	L.S.	264.00	26,400	79,596	0	79,596	673,596	299.38
Conguillo Work dit								
Clearing	m <sup>2</sup>	0.14	14	213	1	214	529	0.24
Excav common	m <sup>3</sup>	2.54	254	2,607	28	2,635	8,350	3.71
Excav weather	m <sup>3</sup>	3.25	325	3,198	35	3,233	10,546	4.69
Excav rock	m <sup>3</sup>	7.80	780	7,818	188	8,006	25,556	11.36
Excav tunnel in adit	m <sup>3</sup>	25.64	2,564	75,266	2,876	78,142	135,832	60.37
Trench excav	m <sup>3</sup>	2.76	276	2,913	29	2,942	9,152	4.07
H-125 steel support	ton	1,223.55	122,355	135,949	2,465	138,414	2,891,402	1,285.07
D25mm rock bolt	m	20.26	2,026	16,155	41	16,196	61,781	27.46
Backfilling for portal	m <sup>3</sup>	2.92	292	2,975	26	3,001	9,571	4.25
Gravel surfacing	m <sup>3</sup>	17.92	1,792	33,977	5,549	39,526	79,846	35.49
Gravel bedding	m <sup>3</sup>	17.36	1,736	38,971	5,549	44,520	83,580	37.15
Wet rubble masonry	m <sup>3</sup>	56.52	5,652	110,461	15,646	126,107	253,277	112.57
Sod facing	m <sup>2</sup>	0.03	3	4,622	0	4,622	4,690	2.08
Conc D, tunnel lining	m <sup>3</sup>	72.41	7,241	72,013	14,792	86,715	249,638	110.95
Conc E, wall	m <sup>3</sup>	59.17	5,917	59,468	14,034	73,502	206,635	91.84
Conc F, drain ditch	m <sup>3</sup>	61.83	6,183	62,557	14,811	77,368	216,486	96.22
Conc H, levelling	m <sup>3</sup>	53.47	5,347	55,699	13,130	68,829	189,137	84.06
Form F1, wall	m <sup>2</sup>	3.56	356	11,314	205	11,519	19,529	8.68
Form F1, drain	m <sup>2</sup>	0.25	25	15,001	277	15,278	15,841	7.04
Form F2, wall	m <sup>2</sup>	3.49	349	20,140	211	20,351	28,204	12.53
Form F3, drain	m <sup>2</sup>	4.08	408	25,379	290	25,669	34,849	15.49
Form F3, tunnel	m <sup>2</sup>	14.95	1,495	12,268	82	12,350	45,988	20.44
Reinforcement	ton	357.97	35,797	943,065	111,023	1,054,028	1,859,461	826.43
Steel wire mesh	m <sup>2</sup>	3.97	397	1,929	131	2,060	10,993	4.89
Anchor bar, 25mm	m	13.54	1,354	7,177	559	7,736	38,201	16.98
PVC pipe, 50mm, weephole	m	4.17	417	1,277	0	1,277	10,660	4.74
El Guasno Work Adit								
Excav common	m <sup>3</sup>	2.22	222	2,264	24	2,288	7,283	3.24
Excav weather	m <sup>3</sup>	2.92	292	2,854	31	2,885	9,455	4.20
Excav rock	m <sup>3</sup>	7.42	742	7,424	183	7,607	24,302	10.80
Excav tunnel in adit	m <sup>3</sup>	27.35	2,735	78,484	2,909	81,393	142,931	63.52
Trench excav	m <sup>3</sup>	2.76	276	2,913	29	2,942	9,152	4.07
Backfilling for portal	m <sup>3</sup>	2.92	292	2,975	26	3,001	9,571	4.25



## Unit Price List, Package 1

August 1994

1US\$=1001en=2250S/.

work item	Unit	FC,US\$	FC,J.Yen	LC,S/.	LC,Tax	LC>Total	Total,S/.	Equip.US\$
Conc D,tunnel lining	m3	77.13	7,713	77,119	14,762	91,881	265,424	117.97
Conc E,wall	m3	63.81	6,381	64,246	14,085	78,331	221,934	98.62
Conc F,drain ditch	m3	66.47	6,647	67,334	14,862	82,196	231,754	103.00
Conc H,levelling	m3	58.11	5,811	60,477	13,187	73,664	204,412	90.85
<b>Membrillo Work Adit</b>								
Excav common	m3	2.54	254	2,607	28	2,635	8,350	3.71
Excav weather	m3	3.25	325	3,198	35	3,233	10,546	4.69
Excav rock	m3	7.80	780	7,818	188	8,006	25,556	11.36
Excav tunnel in adit	m3	25.84	2,584	25,266	2,876	28,142	135,832	60.37
Trench excav	m3	2.76	276	2,913	29	2,942	9,152	4.07
Backfilling for portal	m3	2.92	292	2,975	26	3,001	9,571	4.25
Conc D,tunnel lining	m3	72.41	7,241	72,013	14,702	86,715	249,638	110.95
Conc E,wall	m3	60.11	6,011	60,439	14,045	74,484	209,732	93.21
Conc F,drain ditch	m3	62.77	6,277	63,528	14,821	78,349	219,582	97.59
Conc H,levelling	m3	54.42	5,442	56,670	13,140	69,810	192,255	85.45
<b>Congullo Access Road</b>								
Clearing	m2	0.14	14	213	1	214	529	0.24
Excav common/weather	m3	3.87	387	3,927	45	3,972	12,680	5.64
Excav rock	m3	8.96	896	9,032	204	9,236	29,396	13.66
Embank,500m	m3	3.08	308	2,737	27	2,764	9,694	4.31
Embank,more than 500m	m3	3.23	323	2,896	30	2,926	10,194	4.53
Compact original ground	m3	0.58	58	543	2	545	1,850	0.82
Sod facing	m2	0.03	3	4,622	0	4,622	4,690	2.08
Gabion,slope protect	m3	62.71	6,271	30,023	2,627	32,650	173,748	77.22
Excav all class	m3	2.76	276	2,913	29	2,942	9,152	4.07
Backfill,selected mat'l	m3	2.92	292	2,975	26	3,001	9,571	4.25
Free drain backfill	m3	18.13	1,813	25,183	5,550	30,733	71,526	31.79
Gravel bedding	m3	17.36	1,736	38,971	5,549	44,520	83,589	37.15
Crushed stone bedding	m3	18.13	1,813	25,183	5,550	30,733	71,526	31.79
RC pipe,600mm	m	25.15	2,515	125,884	3,798	129,682	186,270	82.79
RC pipe,800mm	m	36.31	3,631	178,265	5,948	184,213	265,911	118.18
RC pipe,1000mm	m	47.58	4,758	216,340	8,070	224,410	331,465	147.32
Perforated pipe,200mm	m	9.15	915	50,221	1,288	51,509	72,097	32.04
Free drain,subdrain	m3	18.13	1,813	25,183	5,550	30,733	71,526	31.79
Conc E,pipe,wall	m3	61.03	6,103	61,379	14,055	75,434	212,752	94.56
Conc F,side ditch	m3	63.69	6,369	64,468	14,831	79,299	222,602	98.93
Conc H,levelling	m3	55.33	5,533	57,610	13,150	70,760	195,253	86.78
Form F1	m2	3.56	356	11,314	295	11,519	19,529	8.68
Form F3	m2	3.49	349	20,139	211	20,350	28,203	12.53
Reinforcing bar	ton	357.97	35,797	943,095	111,023	1,054,028	1,859,461	826.43
Gabion mattress,500mm	m3	62.71	6,271	30,023	2,627	32,650	173,748	77.22
Joint filler,10mm	m2	12.15	1,215	4,408	0	4,408	31,746	14.11
Bitumen coating	m2	0.63	63	3,945	41	3,986	4,054	1.80
Conc A,bridge	m3	71.18	7,118	73,129	17,023	90,152	250,307	111.25
Conc E,abutment	m3	61.03	6,103	61,379	14,055	75,434	212,752	94.56
Conc E,box culvert	m3	61.03	6,103	61,379	14,055	75,434	212,752	94.56
Conc H,levelling	m3	55.33	5,533	57,610	13,150	70,760	195,253	86.78
Rubble conc	m3	40.29	4,029	40,117	10,170	50,287	140,940	62.64

## Unit Price List, Package 1

August 1994

1US\$=100Yen=225GS/.

work Item	Unit	FC,US\$	FC,J.Yen	LC,S/.	LC,Tax	LC.Total	Total,S/.	Equip.US\$
Form F1	m2	3.56	356	11,314	205	11,519	19,529	8.68
Form F2	m2	4.37	437	15,230	102	15,332	25,165	11.18
Form F3	m2	3.49	349	20,139	211	20,350	28,203	12.53
Joint filler,20mm	m2	24.31	2,431	5,776	0	5,776	60,474	26.89
Joint filler,10mm	m2	12.15	1,215	4,408	0	4,408	31,746	14.11
Improved subgrade mat'l	m3	4.72	472	4,935	56	4,991	15,611	6.94
Graded crushed stone	m3	21.24	2,124	20,616	6,645	27,261	75,351	33.36
Impot subgrade	m3km	0.47	47	493	6	499	1,557	0.69
Guardrail	m	73.56	7,356	33,103	0	33,103	198,613	88.27
Warning sign	no	120.38	12,038	54,169	0	54,169	325,024	144.46
Bearing, fixed	no	262.42	26,242	59,044	0	59,044	649,489	288.66
Bearing, movable	no	262.42	26,242	59,044	0	59,044	649,489	288.66
Steel handrail	kg	1.81	181	1,057	0	1,057	5,130	2.28
PVC drain pipe,100mm	m	12.06	1,206	2,164	0	2,164	29,299	13.02
PVC 75mm weephole	m	8.16	816	1,726	0	1,726	20,086	8.93
Dowel bar	ton	336.00	33,600	959,970	116,550	1,076,520	1,832,520	814.45
Anchor rod	kg	0.37	37	1,056	128	1,184	2,017	0.90
<b>El Guasmo Access Road</b>								
Excav common/weather	m3	2.57	257	27	2,586	2,613	8,396	3.73
Excav rock	m3	7.42	742	7,424	183	7,607	24,302	10.80
Embank,500m	m3	3.08	308	2,737	27	2,764	9,694	4.31
Embank,more than 500m	m3	3.82	382	3,517	38	3,555	12,150	5.40
<b>Meabrillo Access Road</b>								
Excav common/weather	m3	2.57	257	27	2,586	2,613	8,396	3.73
Excav rock	m3	7.42	742	7,424	183	7,607	24,302	10.80
Embank,500m	m3	3.08	308	2,737	27	2,764	9,694	4.31
Embank,more than 500m	m3	3.23	323	2,896	30	2,926	10,194	4.53



D UNIT PRICE LIST (PACKAGE 2)



## Unit Price List, Package 2

August 1994

1US\$=100Yen=2250S/.

work item	Unit	FC,US\$	FC,J.Yen	LC,S/.	LC,Tax	LC,Total	Total,S/.	Equiv.US\$
Package 2								
Caverino Pumping Station								
Clearing	m2	0.14	14	213	1	214	529	0.24
Excav common	m3	2.88	288	2,956	32	2,988	9,468	4.21
Excav weather	m3	3.57	357	3,533	39	3,572	11,605	5.16
Excav rock	m3	8.18	818	8,217	194	8,411	26,816	11.92
Trench excav	m3	2.76	276	2,913	29	2,942	9,152	4.07
Free drain backfill	ton	14.34	1,434	21,533	4,333	25,866	58,131	25.84
Backfill	m3	2.92	292	2,975	26	3,001	9,571	4.25
Gravel bedding	m3	13.57	1,357	35,321	4,333	39,654	70,187	31.19
Sod facing	m2	0.03	3	4,622	0	4,622	4,690	2.08
Conc E, bottom slab	m3	56.86	5,686	57,306	12,998	70,304	198,239	88.11
Conc B, wall	m3	60.23	6,023	61,211	13,984	75,195	210,713	93.65
Conc B, column	m3	60.23	6,023	61,211	13,984	75,195	210,713	93.65
Conc B, slab, pit	m3	60.23	6,023	61,211	13,984	75,195	210,713	93.65
Conc B, wall	m3	60.23	6,023	61,211	13,984	75,195	210,713	93.65
Conc B, column	m3	60.23	6,023	61,211	13,984	75,195	210,713	93.65
Conc B, beam, slab	m3	60.23	6,023	61,211	13,984	75,195	210,713	93.65
Conc B, crane girder	m3	60.23	6,023	61,211	13,984	75,195	210,713	93.65
Conc B, wall	m3	60.23	6,023	61,211	13,984	75,195	210,713	93.65
2nd stage conc A	m3	67.16	6,716	69,198	16,014	85,212	236,322	105.03
Conc A, blockout	m3	67.16	6,716	69,198	16,014	85,212	236,322	105.03
Conc E, encasement	m3	56.86	5,686	57,306	12,998	70,304	198,239	88.11
Conc G, backfill	m3	50.49	5,049	52,440	11,846	64,286	177,889	79.06
Conc F, drain ditch	m3	59.57	5,957	60,441	13,790	74,231	208,264	92.56
Conc H, levelling	m3	51.17	5,117	53,544	12,096	65,640	180,773	80.34
Conc G, anchor block	m3	50.49	5,049	52,440	11,846	64,286	177,889	79.06
Form F1	m2	3.56	356	11,314	205	11,519	19,529	8.68
Form F1, ditch	m2	0.25	25	15,901	277	15,278	15,841	7.04
Form F1, anchor	m2	3.56	356	11,314	205	11,519	19,529	8.68
Form F2	m2	4.37	437	15,230	102	15,332	25,165	11.18
Form F3	m2	4.98	498	25,378	290	25,668	34,848	15.49
Form F3, ditch	m2	3.49	349	20,139	211	20,350	28,203	12.53
Reinforcing bar	ton	357.97	35,797	943,005	111,023	1,054,028	1,959,461	826.43
Waterstop, A, 300mm	m	33.62	3,362	9,091	0	9,091	84,736	37.66
Waterstop, B, 200mm	m	17.23	1,723	7,248	0	7,248	46,016	20.45
Bitumen coating	m2	0.03	3	3,945	41	3,986	4,054	1.80
Joint filler, 10mm	m2	12.15	1,215	4,408	0	4,408	31,746	14.11
Dowel bar, 22mm	ton	336.00	33,600	959,790	116,550	1,076,250	1,832,250	814.33
Anchor bar, 25mm	m	13.54	1,354	7,177	559	7,736	38,201	16.98
Shotcrete w/mesh, 100mm	m2	16.95	1,695	15,715	1,702	17,417	53,530	23.79
Shotcrete w/mesh, 50mm	m2	8.02	802	7,858	851	8,709	26,754	11.89
Contact grout	LS	0.00	0	0	0	0	0	0.00
PVC 75mm weep hole	m	8.16	816	1,726	0	1,726	20,086	8.93
PVC 50mm weep hole	m	4.17	417	1,277	0	1,277	10,660	4.74
PVC 100mm drain	m	12.06	1,206	2,164	0	2,164	29,299	13.02
Asphalt concrete	m3	17.31	1,731	130,813	14,249	145,062	184,010	81.78
Aspha. stabilize subbase	m3	8.65	865	65,406	7,125	72,531	91,994	40.89
Prime coat	lit	0.03	3	192	21	213	281	0.12
Tack coat	lit	0.03	3	192	21	213	281	0.12

## Unit Price List, Package 2

August 1994

1US\$=100Yen=2250S/.

work item	Unit	FC,US\$	FC,J.Yen	LC,S/.	LC,Tax	LC,Total	Total,S/.	Equip.US\$
Embedded metal	kg	0.56	56	1,121	77	1,198	2,458	1.09
Rail gantry crane	kg	1.85	185	830	0	830	4,993	2.22
Rail overhead crane	kg	1.85	185	830	0	830	4,993	2.22
Steel grating	kg	3.61	361	813	0	813	8,936	3.97
Steel grating, drain ditch	kg	3.61	361	813	0	813	8,936	3.97
Steel pipe, 100mm	kg	1.33	133	1,232	0	1,232	4,225	1.88
Checkered plate, drain	kg	0.97	97	219	0	219	2,402	1.07
Steel pipe, level	kg	1.48	148	278	1	279	3,609	1.60
Wire net fence	kg	0.86	86	935	102	1,037	2,972	1.32
Steel step	kg	0.65	65	498	7	415	1,878	0.83
(Building work)								
Conc C, superstruct	m3	58.41	5,841	59,065	13,458	72,523	203,916	90.64
Conc A	m3	67.16	6,716	69,198	16,014	85,212	236,322	105.03
Conc H	m2	51.17	5,117	53,544	12,096	65,640	180,773	80.34
Form F1	m2	4.68	468	40,074	1,999	42,073	52,603	23.38
Form F3	m2	4.68	468	40,074	1,999	42,073	52,603	23.38
Form F1	m2	4.68	468	40,074	1,999	42,073	52,603	23.38
Reinforcing bar, deform	ton	357.97	35,797	943,005	111,023	1,054,028	1,859,461	826.43
Reinforcing bar, round	ton	357.97	35,797	943,005	111,023	1,054,028	1,859,461	826.43
Welded mesh	m2	0.00	0	25,944	0	25,944	25,944	11.53
Metal lath, waterproof	m2	0.00	0	26,601	0	26,601	26,601	11.82
Metal lath	m2	0.00	0	23,903	0	23,903	23,903	10.62
Foamed polyethylene	m2	0.00	0	15,379	0	15,379	15,379	6.84
3-ply asph roof	m2	20.00	2,000	45,000	0	45,000	90,000	40.00
2-ply asph roof	m2	30.00	3,000	67,500	0	67,500	135,000	60.00
Waterproof cement	m2	0.00	0	282,566	0	282,566	282,566	125.58
Asph parapet	m	0.00	0	46,867	0	46,867	46,867	20.83
Oil coating	m	0.00	0	2,597	0	2,597	2,597	1.15
Asph compound joint	m	0.00	0	3,037	0	3,037	3,037	1.35
Polysulfide coating, 20mm	m	9.27	927	1,897	0	1,897	22,755	10.11
Polysulfide coat, 10x7mm	m	2.12	212	434	0	434	5,204	2.31
Conc block, 200mm	m2	0.00	0	51,949	0	51,949	51,949	23.09
Conc block, 150mm	m2	0.00	0	49,608	0	49,608	49,608	22.05
Conc block, 100mm	m2	0.00	0	46,570	0	46,570	46,570	20.70
Grazed ceramic tile	m2	0.00	0	33,616	0	33,616	33,616	14.94
Terrazo	m2	0.00	0	114,008	0	114,008	114,008	50.67
Mosaic tile	m2	0.00	0	113,382	0	113,382	113,382	50.39
PVC tile	m2	0.00	0	45,176	0	45,176	45,176	20.08
Sprayed tile	m2	0.00	0	8,716	0	8,716	8,716	3.87
Mortar trowel, 20mm								
RC wall	m2	0.00	0	41,240	0	41,240	41,240	18.33
Block wall	m2	0.00	0	41,240	0	41,240	41,240	18.33
Skirting, 100mm	m	0.00	0	668	0	668	668	0.30
Skirting, 200mm	m	0.00	0	1,135	0	1,135	1,135	0.50
Skirting, 300mm	m	0.00	0	1,602	0	1,602	1,602	0.71
Mortal trowel, 30mm								
RC conc	m2	0.00	0	8,846	0	8,846	8,846	3.93
Staircase	m2	0.00	0	8,645	0	8,645	8,645	3.84
Cement screed, 20mm, roof	m2	0.00	0	3,054	0	3,054	3,054	1.36

## Unit Price List, Package 2

August 1994  
1US\$=100Yen=2250S/.

work Item	Unit	FC,US\$	FC,J.Yen	LC,S/.	LC,Tax	LC.Total	Total,S/.	Equiv.US\$
Cement bed								
Ceramic tile	m2	0.00	0	7,552	0	7,552	7,552	3.36
Terrazzo	m2	0.00	0	11,227	0	11,227	11,227	4.99
Asph tile	m2	0.00	0	14,903	0	14,903	14,903	6.62
PVC tile	m2	0.00	0	14,903	0	14,903	14,903	6.62
Mosaic	m2	0.00	0	14,903	0	14,903	14,903	6.62
Steel trowel finish								
Floor	m2	0.00	0	14,008	0	14,008	14,008	6.23
Roof	m2	0.00	0	14,008	0	14,008	14,008	6.23
Terrazzo border	m	0.00	0	11,401	0	11,401	11,401	5.07
Terrazzo skirting,100mm	m	0.00	0	11,401	0	11,401	11,401	5.07
Terrazzo to corner	m	0.00	0	22,802	0	22,802	22,802	10.13
Coloured spray	m2	0.00	0	2,419	0	2,419	2,419	1.08
Asbest ceiling	m2	0.00	0	22,137	0	22,137	22,137	9.84
Rockwool ceiling	m2	0.00	0	34,927	0	34,927	34,927	15.52
Acid proof block	m2	0.00	0	44,307	0	44,307	44,307	19.69
Oil paint								
Struct steel	m2	0.00	0	3,052	0	3,052	3,052	1.36
Handrail	m2	0.00	0	3,052	0	3,052	3,052	1.36
Ladder	m2	0.00	0	3,052	0	3,052	3,052	1.36
Steel door	m2	0.00	0	3,052	0	3,052	3,052	1.36
Wooden	m2	0.00	0	3,052	0	3,052	3,052	1.36
Shelf	m2	0.00	0	3,052	0	3,052	3,052	1.36
Vinyl emul paint								
Asbestos ceiling	m2	0.00	0	5,704	0	5,704	5,704	2.54
Cement wall	m2	0.00	0	5,704	0	5,704	5,704	2.54
Acid paint,cement wall	m2	0.00	0	5,704	0	5,704	5,704	2.54
Wooden door	m2	0.00	0	119,966	0	119,966	119,966	53.32
Cupboard/shelf	no	0.00	0	429,048	0	429,048	429,048	190.69
Blind box	m	0.00	0	243,422	0	243,422	243,422	108.19
Steel door/louwer	m2	0.00	0	714,605	0	714,605	714,605	317.60
Rolling shutter	no	0.00	0	6,824,726	0	6,824,726	6,824,726	3,033.21
Alumi door	m2	0.00	0	1,237,428	0	1,237,428	1,237,428	549.97
Alumi window	m2	0.00	0	768,826	0	768,826	768,826	341.70
Alumi louwer	m2	0.00	0	315,480	0	315,480	315,480	140.21
Clear wire grass	m2	40.12	4,012	9,028	0	9,028	99,298	44.13
Figured glass	m2	0.00	0	27,054	0	27,054	27,054	12.02
Clear sheet	m2	0.00	0	38,460	0	38,460	38,460	17.09
Steel pipe handrail,A	m	0.00	0	64,035	0	64,035	64,035	28.46
Steel pipe handrail,B	m	0.00	0	38,688	0	38,688	38,688	17.19
Steel pipe handrail,C	m	0.00	0	122,580	0	122,580	122,580	54.48
Steel handrail,remove	m	0.00	0	102,941	0	102,941	102,941	45.75
Caged ladder	kg	0.00	0	3,665	0	3,665	3,665	1.63
Steel door mat	no	0.00	0	265,910	0	265,910	265,910	118.18
Steel pipe embed,100mm	m	16.29	1,629	15,027	0	15,027	51,680	22.97
Steel pipe embed,125mm	m	17.93	1,793	8,095	0	8,095	48,573	21.59
Parapet ring	no	73.80	7,380	18,450	0	18,450	184,500	82.00
Grating hatch,2.5x1.5x50	no	680.25	68,025	153,056	0	153,056	1,683,619	748.27
Exp joint,1.5mm,339mm	m	0.00	0	182,179	0	182,179	182,179	80.97
Exp joint,0.5mm,91mm	m	0.00	0	84,037	0	84,037	84,037	37.35



## Unit Price List, Package 2

August 1991

1US\$=100Yen=2250S/.

work item	Unit	FC,US\$	FC,J.Yen	LC,S/.	LC,Tax	LC,Total	Total,S/.	Equiv.US\$
Exp joint,2.3m,130mm	m	0.00	0	84,037	0	84,037	84,037	37.35
Exp joint,3m,140mm	m	0.00	0	95,773	0	95,773	95,773	42.57
Stainless nosing to stair	m	30.63	3,063	6,892	0	6,892	75,810	33.69
PVC rain,100mm	m	12.06	1,206	2,164	0	2,164	29,299	13.02
Kitchen sink	no	0.00	0	351,622	0	351,622	351,622	156.28
Wooden partition	m2	0.00	0	239,247	0	239,247	239,247	106.33
Sky light	set	0.00	0	825,169	0	825,169	825,169	366.74
Cast iron drain,100mm	m	16.29	1,629	15,027	0	15,027	51,680	22.97
Cast iron pipe,75mm	m	10.57	1,057	4,766	0	4,766	28,549	12.69
PVC drain,50mm	m	4.17	417	1,277	0	1,277	10,660	4.74
Fire extinguisher	no	0.00	0	283,323	0	283,323	283,323	125.92
Door sign	no	0.00	0	75,748	0	75,748	75,748	33.67
Elevator	LS	33,750.00	3,375,000	8,437,500	0	8,437,500	84,375,000	37,500.00
Water tank,12m3	set	5,337.50	0	3,602,813	0	3,602,813	15,612,188	6,938.75
Water tank,4m3	set	2,912.50	0	1,965,938	0	1,965,938	8,519,663	3,786.25
Sentrifugal pump	no	2,937.50	0	660,938	0	660,938	7,270,313	3,231.25
Air compressor pump	no	912.50	0	205,313	0	205,313	2,258,438	1,003.75
Water treatment unit	set	5,981.25	0	2,691,563	0	2,691,563	16,149,376	7,177.50
Chlorinator	set	2,012.50	0	452,813	0	452,813	4,980,938	2,213.75
Galv pipe,80mm	m	17.86	1,786	8,037	0	8,037	48,222	21.43
Galv pipe,65mm	m	14.91	1,491	6,710	0	6,710	40,258	17.89
Galv pipe,50mm	m	10.38	1,038	4,671	0	4,671	28,026	12.46
Galv pipe,40mm	m	7.58	758	3,411	0	3,411	20,466	9.10
Galv pipe,32mm	m	6.59	659	2,965	0	2,965	17,793	7.91
Galv pipe,25mm	m	4.96	496	2,232	0	2,232	13,392	5.95
Galv pipe,20mm	m	3.54	354	1,593	0	1,593	9,558	4.25
Bronze galv valve								
65mm	m	197.95	19,795	44,539	0	44,539	489,927	217.75
50mm	m	75.17	7,517	16,913	0	16,913	186,046	82.69
40mm	m	51.09	5,109	11,495	0	11,495	125,448	56.20
32mm	m	38.79	3,879	8,728	0	8,728	96,006	42.67
25mm	m	23.01	2,301	5,177	0	5,177	56,950	25.31
20mm	m	16.85	1,685	3,791	0	3,791	41,704	18.53
Flex joint								
65mm	no	18.06	1,806	8,123	0	8,123	48,758	21.67
50mm	no	9.43	943	4,244	0	4,244	25,462	11.32
40mm	no	6.22	622	2,799	0	2,799	16,794	7.46
32mm	no	4.88	488	2,196	0	2,196	13,176	5.86
Lead pipe,75mm	m	16.65	1,665	7,448	0	7,448	44,911	19.96
Lead pipe,65mm	m	14.65	1,465	6,593	0	6,593	39,556	17.58
Lead pipe,30mm	m	7.02	702	3,159	0	3,159	18,954	8.42
Cast iron pipe,100mm	m	16.29	1,629	15,027	0	15,027	51,680	22.97
Cast iron pipe,50mm	m	9.04	904	4,068	0	4,068	24,408	10.85
uPVC pipe,100mm	m	0.00	0	104,948	0	104,948	104,948	46.64
uPVC pipe,75mm	m	0.00	0	94,924	0	94,924	94,924	42.19
uPVC pipe,65mm	m	0.00	0	69,308	0	69,308	69,308	30.80
uPVC pipe,50mm	m	0.00	0	43,692	0	43,692	43,692	19.42
Floor trap	no	0.00	0	12,383	0	12,383	12,383	5.50
Floor cleanout,100mm	no	61.90	6,190	13,928	0	13,928	153,203	68.09
Floor cleanout,75mm	no	53.20	5,320	11,970	0	11,970	131,670	58.52

## Unit Price List, Package 2

August 1994

1US\$=100Yen=2250S/.

work item	Unit	FC,US\$	FC,J.Yen	LC,S/.	LC,Tax	LC,Total	Total,S/.	Equip,US\$
Floor cleanout,50mm	no	44.50	4,450	10,013	0	10,013	110,138	48.95
Faucet,13mm	no	0.00	0	137,456	0	137,456	137,456	61.09
Check valve,65mm	no	195.27	19,527	87,872	0	87,872	527,230	234.32
Check valve,40mm	no	58.45	5,845	19,665	0	19,665	151,178	67.19
Check valve,32mm	no	48.02	4,802	10,805	0	10,805	118,850	52.82
Check valve,25mm	no	27.69	2,769	12,461	0	12,461	74,764	33.23
Water closet	no	0.00	0	512,668	0	512,668	512,668	237.85
Urinal	no	0.00	0	131,087	0	131,087	131,087	58.26
Lavatory sink	no	0.00	0	215,120	0	215,120	215,120	95.61
Slop sink	no	212.00	21,200	47,700	0	47,700	524,700	233.20
Shower set	no	0.00	0	137,995	0	137,995	137,995	61.33
Towel rail	no	0.00	0	56,546	0	56,546	56,546	25.13
Heater,electric	no	1,070.00	107,000	240,750	0	240,750	2,648,250	1,177.00
Septic tank	set	3,076.25	307,625	1,384,312	0	1,384,312	8,305,875	3,691.50
Catch basin	set	68.20	6,820	196,044	16,786	212,830	366,280	162.79
Cess pit	set	66.83	6,683	165,620	13,988	179,608	329,976	146.66
Portable extinguisher	no	133.75	13,375	30,094	0	30,094	331,032	147.13
Fire hyd box	no	468.13	46,813	105,329	0	105,329	1,158,622	514.94
Fire hyd pump	no	8,025.00	802,500	3,611,250	0	3,611,250	21,367,500	9,830.00
Elect cont panel	set	306.25	0	68,906	0	68,906	757,369	336.87
Flow meter,50mm	no	655.38	65,538	147,461	0	147,461	1,623,066	720.92
Pressure vessel,20 lit	no	1,100.00	0	247,500	0	247,500	2,722,500	1,210.00
Auto air release	no	62.50	0	14,063	0	14,063	154,688	68.75
Pressure gauge	no	125.00	0	28,125	0	28,125	309,375	137.50
Gate valve,65mm	no	197.95	19,795	44,539	0	44,539	489,927	217.75
Check valve 65mm	no	195.27	19,527	43,936	0	43,936	183,294	214.80
Test valve,40mm	no	58.85	5,885	13,241	0	13,241	145,654	64.73
(Air Conditioning & Ventilation Work)								
Air condition,45600 kcal	set	7,482.50	0	841,731	0	841,731	17,677,356	7,856.60
Air condition,19760 kcal	set	3,181.25	0	357,891	0	357,891	7,515,704	3,340.31
Fan,38000,50 Aq	no	2,507.50	0	282,094	0	282,094	5,923,969	2,632.88
Fan,exhaust,1020,	no	853.75	0	96,609	0	96,609	2,028,797	901.69
Fan,exhaust	no	630.00	0	70,785	0	70,785	1,488,285	661.46
Fan,exhaust	no	543.75	0	61,172	0	61,172	1,284,610	570.94
Ventilating resister								
500 CMH	no	52.50	0	5,906	0	5,906	124,031	55.12
430 CMH	no	42.50	0	4,781	0	4,781	160,406	44.62
1790 CMH	no	135.00	0	15,188	0	15,188	318,938	141.75
1530 CMH	no	116.25	0	13,078	0	13,078	274,641	122.06
2200 CMH	no	142.50	0	16,031	0	16,031	336,656	149.62
1890 CMH	no	142.50	0	16,031	0	16,031	336,656	149.62
1540 CMH	no	118.75	0	13,359	0	13,359	280,547	124.69
1840 CMH	no	142.50	0	16,031	0	16,031	336,656	149.62
300 CMH	no	31.25	0	3,516	0	3,516	73,829	32.81
Return gullees								
950	no	77.50	0	8,719	0	8,719	183,094	81.38
900	no	73.75	0	8,297	0	8,297	174,235	77.44
750	no	45.00	0	5,063	0	5,063	106,313	47.25
750	no	45.00	0	5,063	0	5,063	106,313	47.25

## Unit Price List, Package 2

August 1994

1US\$=100Yen=2250S/.

work Item	Unit	FC,US\$	FC,J.Yen	LC,S/.	LC,Tax	LC.Total	Total,S/.	Equiv,US\$
800	no	48.75	0	5,484	0	5,484	115,172	51.19
Diffusers								
780	no	86.25	0	9,703	0	9,703	203,766	90.56
1020	no	86.25	0	9,703	0	9,703	203,766	90.56
1100	no	86.25	0	9,703	0	9,703	203,766	90.56
630	no	86.25	0	9,703	0	9,703	203,766	90.56
580	no	86.25	0	9,703	0	9,703	203,766	90.56
Volume damper,850x200	no	41.25	0	4,641	0	4,641	97,454	43.31
Volume damper,200x150	no	31.25	0	3,516	0	3,516	73,829	32.81
Fire damper,1100x350	no	118.75	0	13,359	0	13,359	280,547	124.69
Fire damper,500x550	no	81.25	0	9,141	0	9,141	191,354	85.31
Louvers,37750	no	1,950.00	0	219,375	0	219,375	4,636,875	2,047.50
Louvers,300	no	250.00	0	28,125	0	28,125	590,625	262.50
Louvers,650	no	265.00	0	29,813	0	29,813	626,063	278.25
Zinc venti plate steel								
Cage 22	kg	0.00	0	6,500	0	6,500	6,500	2.89
Cage 24	kg	0.00	0	6,500	0	6,500	6,500	2.89
Air con zinc steel								
Cage 22	kg	0.00	0	7,250	0	7,250	7,250	3.22
Cage 24	kg	0.00	0	7,250	0	7,250	7,250	3.22
Refrigerant pipe								
19mm	m	6.13	0	915	0	915	19,208	8.54
16mm	m	9.75	0	1,097	0	1,097	23,035	10.24
(Diesel Generator House)								
Excav rock	m3	6.18	816	6,817	194	6,411	26,816	11.92
Random backfill	m3	2.92	292	2,975	30	3,001	9,571	4.25
Gravel bedding	m3	13.57	1,357	35,321	4,333	39,654	70,187	31.19
Cone C	m3	58.41	5,841	59,065	13,458	72,523	203,946	90.64
Cone R	m3	51.17	5,117	53,544	12,096	65,640	180,773	80.34
Form F1	m3	4.68	468	40,074	1,399	42,073	52,603	23.38
Form F2	m3	4.68	468	40,074	1,399	42,073	52,603	23.38
Reinforcing bar	ton	357.97	35,797	949,005	111,023	1,054,028	1,859,161	826.43
Hollow cone masonry,100mm	m2	0.00	0	16,205	0	16,205	16,205	7.20
3-ply asph roofing	m2	20.00	2,000	45,000	0	45,000	90,000	40.00
Cement plaster	m2	0.00	0	41,197	0	41,197	41,197	18.31
Base cement plaster	m2	0.00	0	4,669	0	4,669	4,669	2.08
Cement mortar								
Interior skirt,100mm	m	0.00	0	467	0	467	467	0.21
200mm	m	0.00	0	934	0	934	934	0.42
wall	m2	0.00	0	41,240	0	41,240	41,240	18.33
roof gutter	m2	0.00	0	65,488	0	65,488	65,488	29.11
Waterproof cement	m2	0.00	0	271,295	0	271,295	271,295	120.58
Cone trowel finish	m2	0.00	0	14,008	0	14,008	14,008	6.23
Spray tile	m2	0.00	0	2,419	0	2,419	2,419	1.08
Oil paint	m2	0.00	0	3,052	0	3,052	3,052	1.36
Steel door	m2	0.00	0	412,266	0	412,266	412,266	183.23
Alum window	m2	0.00	0	104,028	0	104,028	104,028	46.23
Alum louver	m2	0.00	0	96,900	0	96,900	96,900	43.07
Figured glass	m2	41.06	4,106	9,238	0	9,238	101,623	45.17
Roof drain 100mm iron	no	52.00	5,200	29,250	0	29,250	146,250	65.00

## Unit Price List, Package 2

August 1994

1US\$=100Yen=2250S/.

work item	Unit	FC,US\$	FC,J.Yen	LC,S/.	LC,Tax	LC>Total	Total,S/.	Equiv.US\$
Steel hoist beam, I	kg	0.88	88	397	0	397	2,377	1.06
Checker plate, 4.5mm	m <sup>2</sup>	181.37	18,137	40,808	0	40,808	148,592	199.51
Downspout, 100mm, PVC	m	12.06	1,206	2,164	0	2,164	29,299	13.02
Joint filler, 20mm	m <sup>2</sup>	24.31	2,431	5,776	0	5,776	60,474	26.88
<b>(Electrical work)</b>								
AC panel, A	set	0.00	0	295,750	0	295,750	295,750	131.44
AC panel, B	set	0.00	0	241,250	0	241,250	241,250	107.22
AC panel, C	set	0.00	0	210,900	0	210,900	210,900	93.33
Light, type A-1	set	401.25	40,125	90,281	0	90,281	893,094	441.37
Light, type A-2	set	267.50	26,750	60,188	0	60,188	662,063	294.25
Light, type B-1	set	334.38	33,438	75,235	0	75,235	827,590	367.82
Light, type B-2	set	267.50	26,750	60,198	0	60,198	662,073	294.25
Light, type C	set	133.75	13,375	30,094	0	30,094	331,032	147.13
Light, type D-1	set	334.38	33,438	75,236	0	75,236	827,591	367.82
Light, type D-2	set	267.50	26,750	60,188	0	60,188	662,063	294.25
Light, type E	set	133.75	13,375	30,094	0	30,094	331,032	147.13
Light, type F	set	200.63	20,063	45,142	0	45,142	496,560	220.69
Light, type G	set	468.13	46,813	105,329	0	105,329	1,158,622	514.94
Light, type H	set	2,675.00	267,500	601,875	0	601,875	6,620,625	2,942.50
Outlet	set	0.00	0	13,725	0	13,725	13,725	6.10
Switch tumbler	set	0.00	0	11,363	0	11,363	11,363	5.05
Switch safety	set	0.00	0	12,286	0	12,286	12,286	5.46
Switch three way	set	20.00	2,000	9,000	0	9,000	54,000	24.00
Conduit pipe, 16mm	m	2.14	214	4,815	0	4,815	9,630	4.28
22mm	m	2.70	270	6,075	0	6,075	12,150	5.40
28mm	m	3.73	373	8,393	0	8,393	16,786	7.46
42mm	m	5.48	548	12,330	0	12,330	24,660	10.36
54mm	m	7.93	793	17,843	0	17,843	35,686	15.86
LV wire, 2mm <sup>2</sup>	m	0.00	0	1,120	0	1,120	1,120	0.50
LV wire, 3.5mm <sup>2</sup>	m	0.00	0	1,488	0	1,488	1,488	0.66
LV wire, 5.5mm <sup>2</sup>	m	0.00	0	1,862	0	1,862	1,862	0.83
CV cable, 2c, 8mm <sup>2</sup>	m	1.38	138	891	0	891	5,346	2.38
2c, 22mm <sup>2</sup>	m	4.19	419	1,886	0	1,886	11,314	5.03
2c, 38mm <sup>2</sup>	m	6.51	651	2,930	0	2,930	17,578	7.81
4c, 22mm <sup>2</sup>	m	7.73	773	3,479	0	3,479	20,872	9.28
CV cable, 2c, 5.5mm <sup>2</sup>	m	1.60	160	720	0	720	4,320	1.92
4c, 3.5mm <sup>2</sup>	m	2.07	207	932	0	932	5,590	2.48
4c, 5.5mm <sup>2</sup>	m	2.68	268	1,206	0	1,206	7,236	3.22
PBX sets	set	40,125.00	4,012,500	9,028,125	0	9,028,125	99,309,375	44,137.50
Battery/charge	set	2,675.00	267,500	601,875	0	601,875	6,620,625	2,942.50
Telephone set	set	123.05	12,305	55,373	0	55,373	332,236	147.66
NDF sets	set	6,687.50	668,750	1,504,688	0	1,504,688	16,551,563	7,356.25
Telephone wire, indoor	m	1.89	189	851	0	851	5,104	2.27
Telephone wire, outdoor	m	2.68	268	1,206	0	1,206	7,236	3.22
Earthing conductor, 100mm <sup>2</sup>	m	5.35	535	2,408	0	2,408	14,446	6.42
Earthing conductor, 38mm <sup>2</sup>	m	1.35	135	878	0	878	5,268	2.34
Copper plate, 1x1m, 3mm	no	183.26	18,326	85,167	0	85,167	511,022	227.11
Copper rod, 14mm, 1.5m	no	27.69	2,769	12,461	0	12,461	74,764	33.23
Copper rod, 19mm, 2.4m	no	72.22	7,222	32,499	0	32,499	194,994	86.66