

**Independent Public Business Corporation
The Independent State of Papua New Guinea**

**DETAILED DESIGN (PHASE 2)
ON
PORT MORESBY SEWERAGE SYSTEM
UPGRADING PROJECT
IN
THE INDEPENDENT STATE OF
PAPUA NEW GUINEA**

FINAL REPORT

PART I: Design Report

Volume IV – Priced Bill of Quantity

December 2011

JAPAN INTERNATIONAL COOPERATION AGENCY

NJS CONSULTANTS CO., LTD.

BILL OF QUANTITIES

Bill Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section 1		Common						
	1	Section 1 General Requirements			7,433,100	-	7,433,100	-
Section 2		Trunk Sewer			7,333,129	232,174,811	7,333,129	232,174,811
Section 3		Branch Sewer			9,272,823	52,547,881	9,272,823	52,547,881
Section 4		Pump Station			5,387,288	7,597,372	5,387,288	7,597,372
Section 5		Sewage Treatment Plant			91,563,385	458,050,763	91,563,385	458,050,763
Section 6		Mechanical Work			8,674,552	1,226,732,000	8,674,552	1,226,732,000
Section 7		Electrical Work			-	737,164,000	-	737,164,000
Section 8		Pilot Project			444,222	3,044,081	444,222	3,044,081
Section 9		Procurement			-	124,854,700	-	124,854,700
Section 10		Social Development Program			300,000	-	300,000	-
Section 11		O&M Training			-	46,456,978	-	46,456,978
Section 12		Provisional Sum			6,133,215	-	6,133,215	-
Section 13		Daywork			-	-	-	-
GRAND SUMMARY							136,541,714	2,888,622,586

Section I
General Requirements

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₱	PNGK	₱	
		<u>Contractual Requirements</u>							
	1	All insurances in accordance with the Conditions of Contract	LS						
	2	Submission of Performance Bond	LS						
		<u>Specified Requirements</u>							
01500	3	Engineer's Main Office and Mobile Phone and removal on completion	LS	1	109,200		109,200	-	
							-	-	
01500	4	Maintain Engineer's Main Office and Mobile Phone	month	39	1,000		39,000	-	
							-	-	
01500	5	Engineer's Mobile Offices and removal on completion	LS	1	28500		28,500	-	
							-	-	
01500	6	Maintain Engineer's Mobile Offices	month	39	600		23,400	-	
							-	-	
01500	7	Provision of Vehicles	L.S.	1	600,000		600,000	-	
							-	-	
01500	8	Maintanance of Vehicles	veh.- month	117	9,000		1,053,000	-	
							-	-	
01500	9	Contractor's temporary site facilites and removal on completion	LS	1	70,500		70,500	-	
Carried forward to page collection								1,923,600	-

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
01380	10	Preparation of Initial Photograph Records	LS	1	-		-	-	
01380	11	Preparation of Monthly Progress Photographs	month	39	1,200		46,800	-	
01400	12	Inspection and testing of materials by the Engineer at Manufacturer's works	LS	1	2,000		2,000	-	
01600							-	-	
01300	13	Submission of As-built Drawings, Records and O&M Manuals	LS	1	1,755,000		1,755,000	-	
01700							-	-	
01350	14	Preparation and submission of the Environmental Management Programme	LS	1	31,200		31,200	-	
01350	15	Conduct Environmental Monitoring and preparation and submission of Reports	month	39	1,500		58,500	-	
01500	16	Mobilisation and demobilisation of Plant, Equipment and Labour to be used by the Contractors.	LS	1	15,000		15,000	-	
01043	17	Contractor's Project Management, Site Superintendence and Control	LS	1	1,600,000		1,600,000	-	
01400							-	-	
01500							-	-	
01500	18	Watching, Lighting and Guarding	LS	1	650,000		650,000	-	
01450	19	Health and Safety Requirement	LS	1	120,000		120,000	-	
Carried forward to page collection								4,278,500	-

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
01570	20	Signage and Traffic Diversion and Control -	LS	1	75,000		75,000	-	
01580		Project Sign Board, Road Safety					-	-	
		Signages and Warning Signages					-	-	
01050	21	Setting-out and Surveys (by Licensed Surveyor)	LS	1	100,000		100,000	-	
							-	-	
01050	22	Search for Utility Records and Conduct of Utility Detection Surveys	LS	1	56,000		56,000	-	
							-	-	
01050	23	Provision of Setting-out and Survey Instrument for Engineers Use	LS	1	85,000		85,000	-	
							-	-	
01050	24	Service of Chainman for Engineers Use	day	1	120,000		120,000	-	
							-	-	
01450	25	First Aid Facilities	LS	1	80,000		80,000	-	
							-	-	
01500	26	Site and Environmental Control Facilities	LS	1	65,000		65,000	-	
							-	-	
01670	27	Training for operators for one year after completion.	LS	1	100,000		100,000	-	
							-	-	
	28	Allow for all cost and works deemed necessary but not included in this section or elsewhere, for completion of the work according to the Specifications, Drawings, and Conditions of Contract.	LS	1			-	-	
Carried forward to page collection								681,000	-

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₱	PNGK	₱	
	29	Provisional Sum for payments of deposits, bank guarantees, all fees and other payments to Local Authorities, Government Bodies, and Utility Companies exclusively for approvals, wayleaves and permits.	PS	1	500,000		500,000	-	
							-	-	
							-	-	
							-	-	
							-	-	
							-	-	
	30	Contractor's profit and overhead, etc. on the above Provisional Sum item in __10__% except for work executed by the Contractor.	item	1	50,000		50,000	-	
							-	-	
							-	-	
							-	-	
							-	-	
	31	Provisional Sum for permanent diversion, support, protection or replacement of existing utilities services as directed by the Engineer	PS		500,000		-	-	
							-	-	
							-	-	
							-	-	
							-	-	
	32	Contractor's profit and overhead, etc. on the above Provisional Sum item in __10__% except for work executed by the Contractor.	item		50,000		-	-	
							-	-	
							-	-	
							-	-	
	33	Provisional Sum for additional soil investigations as directed by the Engineer	PS		500,000		-	-	
							-	-	
							-	-	
	34	Contractor's profit and overhead, etc. on the above Provisional Sum item in __10__% except for work executed by the Contractor.	item		50,000		-	-	
							-	-	
							-	-	
							-	-	
Carried forward to page collection								550,000	-

Section II
Trunk Sewer

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section Summary of Section 2								
	1	Total of Section 2.1			201,076	1,537,601	201,076	1,537,601
		Trunk Sewer No.1					-	-
		(from Page Collection)					-	-
							-	-
	2	Total of Section 2.2			170,886	1,400,084	170,886	1,400,084
		Trunk Sewer No.2					-	-
		(from Page Collection)					-	-
							-	-
	3	Total of Section 2.3			590,065	8,413,538	590,065	8,413,538
		Trunk Sewer No.3					-	-
		(from Page Collection)					-	-
							-	-
	4	Total of Section 2.4			506,609	13,040,870	506,609	13,040,870
		Trunk Sewer No.4					-	-
		(from Page Collection)					-	-
							-	-
	5	Total of Section 2.5			864,965	23,810,768	864,965	23,810,768
		Trunk Sewer No.5					-	-
		(from Page Collection)					-	-
							-	-
	6	Total of Section 2.6			131,522	1,297,135	131,522	1,297,135
		Trunk Sewer No.6					-	-
		(from Page Collection)					-	-
							-	-
	7	Total of Section 2.7			111,698	615,711	111,698	615,711
		Trunk Sewer No.7					-	-
		(from Page Collection)					-	-
							-	-
	8	Total of Section 2.8			100,752	2,356,058	100,752	2,356,058
		Trunk Sewer No.8					-	-
		(from Page Collection)					-	-
							-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section Summary of Section 2 (Continue)							-	-
							-	-
	9	Total of Section 2.9			123,305	5,256,325	123,305	5,256,325
		Trunk Sewer No.9					-	-
		(from Page Collection)					-	-
							-	-
	10	Total of Section 2.10			182,344	11,147,597	182,344	11,147,597
		Trunk Sewer No.10					-	-
		(from Page Collection)					-	-
							-	-
	11	Total of Section 2.11			1,377,925	52,598,667	1,377,925	52,598,667
		Trunk Sewer No.11					-	-
		(from Page Collection)					-	-
							-	-
	12	Total of Section 2.12			13,293	342,013	13,293	342,013
		Trunk Sewer No.12					-	-
		(from Page Collection)					-	-
							-	-
	13	Total of Section 2.13			462,231	11,710,814	462,231	11,710,814
		Trunk Sewer No.13					-	-
		(from Page Collection)					-	-
							-	-
	14	Total of Section 2.14			312,632	3,061,033	312,632	3,061,033
		Trunk Sewer No.14					-	-
		(from Page Collection)					-	-
							-	-
	15	Total of Section 2.15			351,855	2,294,154	351,855	2,294,154
		Trunk Sewer No.15					-	-
		(from Page Collection)					-	-
							-	-
	16	Total of Section 2.16			203,162	941,840	203,162	941,840
		Trunk Sewer No.16					-	-
		(from Page Collection)					-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.1 Trunk Sewer No.1								
		2.1 Trunk Sewer No.1						
	1	No.1_HDPE Pipe Installation						
		Pressure Pipe from Kanudi P.S to Idubada P.S						
		HDPE DN 110 L=1,100.10m						
		Air Valve 1 unit						
	1.1	DN110 (linside diameter 96mm)						
		Type A (Soil/Right of Way)						
	a)	Invert Level < 1.0m	m	241.42	77.38	874.00	18,681	211,001
	b)	1.0m =or< Invert Level < 2.0m	m	491.89	159.69	874.00	78,550	429,912
	c)	2.0m =or< Invert Level < 3.0m	m		245.28	874.00	-	-
							-	-
		Type B (Asphalt)					-	-
	a)	Invert Level < 1.0m	m	20.74	211.02	874.00	4,377	18,127
	b)	1.0m =or< Invert Level < 2.0m	m	346.05	285.01	874.00	98,628	302,448
	c)	2.0m =or< Invert Level < 3.0m	m		391.65	874.00	-	-
							-	-
	1.2	Precast Manhole					-	-
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr		8,692.00		-	-
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-
	e)	Manhole cover (Iron)	nr			65,780.00	-	-
							-	-
	1.3	Air Valve (Made in Japan)					-	-
	a)	Air Valve dia.75mm for sewage	nr	1		427,460.00	-	427,460
	b)	Air Valve box	nr	1	840.00	65,780.00	840	65,780
Carried forward to page collection								
							201,076	1,454,728

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.2 Trunk Sewer No.2									
		2.2 Trunk Sewer No.2							
	1	No.2_HDPE Pipe Installation							
		Pressure Pipe from Idubada P.S to Hagara P.S							
		HDPE DN 110 L=897.04m							
		Air Valve 1 unit							
	1.1	DN110 (linside diameter 96mm)							
		Type A (Soil/Right of Way)							
	a)	Invert Level < 1.0m	m	245.09	77.38	874.00	18,965	214,209	
	b)	1.0m =or< Invert Level < 2.0m	m	343.09	159.69	874.00	54,788	299,861	
	c)	2.0m =or< Invert Level < 3.0m	m	39.68	245.28	874.00	9,733	34,680	
							-	-	
		Type B (Asphalt)					-	-	
	a)	Invert Level < 1.0m	m	19.85	211.02	874.00	4,189	17,349	
	b)	1.0m =or< Invert Level < 2.0m	m	289.01	285.01	874.00	82,371	252,595	
	c)	2.0m =or< Invert Level < 3.0m	m		391.65	874.00	-	-	
							-	-	
	1.2	Precast Manhole					-	-	
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-	
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-	
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr		8,692.00		-	-	
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-	
	e)	Manhole cover (Iron)	nr			65,780.00	-	-	
							-	-	
	1.3	Air Valve (Made in Japan)					-	-	
	a)	Air Valve dia.75mm for sewage	nr	1		427,460.00	-	427,460	
	b)	Air Valve box	nr	1	840.00	65,780.00	840	65,780	
Carried forward to page collection								170,886	1,311,934

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.3 Trunk Sewer No.3 (Continue)									
	1.3	Air Valve (Made in Japan)							
	a)	Air Valve dia.75mm for sewage	nr	1		427,460.00	-	427,460	
	b)	Air Valve box	nr	1	840.00	65,780.00	840	65,780	
							-	-	
	1.4	Drain (Scour) Valve					-	-	
	a)	Sluce Valve dia. 100mm	nr	1	7,000.00		7,000	-	
	b)	Drain Valve box	nr	1	1,960.00	65,780.00	1,960	65,780	
							-	-	
	1.5	Ductile Cast Iron Tee for Air and Drain valve					-	-	
	a)	Dia.200x100	nr	1		33,319.00	-	33,319	
	b)	Dia.200x75	nr	1		39,181.00	-	39,181	
							-	-	
	1.6	Bend					-	-	
	a)	11.25 degree	nr	1		17,518.00	-	17,518	
	b)	22.5 degree	nr	2		24,088.00	-	48,176	
	c)	30 degree	nr			24,088.00	-	-	
	d)	45 degree	nr	2		23,847.00	-	47,694	
	e)	60 degree	nr			31,196.00	-	-	
	f)	90 degree	nr			30,884.00	-	-	
							-	-	
	1.7	Frangle adopter					-	-	
	a)	Frangle adapter for DN225 for Tee	nr	4			-	-	
	b)	Frangle adapter DN110 for Drain/P.S outlet	nr	2		7,131.00	-	14,262	
							-	-	
	1.8	Drain Pipe Connection to Branch Sewer							
	a)	HDPE DN 110 Asphalt h=1-2m	m	7					
	b)	DCI Dia.100 BEND 45 degree	nr	1					
	c)	Drainage Tank	LS	1					
Carried forward to page collection								9,800	759,170

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.3 Trunk Sewer No.3 (Continue)								
	1.9	HDPE PEDUCER at P.S outlet						
	a)	HDPE REDUCER 225x 110	nr	1			-	-
		No.3-2						
	2	No.3-2_HDPE Pipe Installation						
		Gravity Pipe from Receiving MH to Hanuabada P.S						
		HDPE DN 355 L= 529.90m						
		Manhole 12 unit						
	2.1	DN355 (inside diameter 312mm)						
		Type A (Soil/Right of Way)						
	a)	2.0m =or< Invert Level < 3.0m	m		308.00	8,409.00	-	-
	b)	4.0m =or< Invert Level < 5.0m	m	8.36	634.00	8,409.00	5,300	70,299
							-	-
		Type B (Asphalt)					-	-
	a)	Invert Level < 1.0m	m	26.45	284.00	8,409.00	7,512	222,418
	b)	1.0m =or< Invert Level < 2.0m	m	207.67	383.00	8,409.00	79,538	1,746,297
	c)	2.0m =or< Invert Level < 3.0m	m	111.69	492.00	8,409.00	54,951	939,201
	d)	3.0m =or< Invert Level < 4.0m	m	161.92	664.00	8,409.00	107,515	1,361,585
							-	-
		Type C (Concrete)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m		434.00	8,409.00	-	-
	b)	4.0m =or< Invert Level < 5.0m		6.61	771.00	8,409.00	5,096	55,583
							-	-
	2.2	Precast Manhole					-	-
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr	1	3,546.00		3,546	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr	5	5,734.00		28,670	-
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr	4	8,692.00		34,768	-
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr	2	10,868.00		21,736	-
Carried forward to page collection							348,632	4,395,383

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.3 Trunk Sewer No.3 (Continue)									
	e)	Dia. 1200 Precast Manhole, h<5.0m	nr	2					
	f)	Manhole cover (Iron)	nr	8		65,780.00	-	526,240	
							-	-	
	2.3	Air Valve (Made in Japan)					-	-	
	a)	Air Valve dia.75mm for sewage	nr			427,460.00	-	-	
	b)	Air Valve box	nr		840.00	65,780.00	-	-	
							-	-	
	2.4	Drain (Scour) Valve					-	-	
	a)	Sluce Valve dia. 100mm	nr		7,000.00		-	-	
	b)	Drain Valve box	nr		1,960.00	65,780.00	-	-	
							-	-	
	2.5	Ductile Cast Iron Tee for Air and Drain valve					-	-	
	a)	Dia.100x100	nr				-	-	
	b)	Dia.100x75	nr				-	-	
							-	-	
	2.6	Bend					-	-	
	a)	11.25 degree	nr			63,749.00	-	-	
	b)	22.5 degree	nr			72,528.00	-	-	
	c)	30 degree	nr			72,528.00	-	-	
	d)	45 degree	nr			71,803.00	-	-	
	e)	60 degree	nr			85,560.00	-	-	
	f)	90 degree	nr			84,704.00	-	-	
							-	-	
	2.7	Frange adopter					-	-	
	a)	Frange adopter for DN110	nr			20,929.00	-	-	
							-	-	
	2.8	Drain Pipe Connection to Branch Sewer					-	-	
	a)	HDPE DN 110	m				-	-	
	b)	DCI BEND 45 degree					-	-	
							-	-	
	2.9	HDPE PEDUCER					-	-	
	a)	HDPE REDUCER 125x 110				1,448.00	-	-	
Carried forward to page collection								-	526,240

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.4 Trunk Sewer No.4									
		2.4 Trunk Sewer No.4							
	1	No.4_HDPE Pipe Installation Pressure Pipe from Hanuabada P.S to Konedobu P.S HDPE DN 355 L=1,310.84 m Air Valve 1 unit Drainage 2 units, one to existing sewer another to drainage tank							
	1.1	DN 355 (inside diameter 312mm) Type A (Soil/Right of Way)							
	a)	1.0m =or< Invert Level < 2.0m	m	314.58	215.00	8,409.00	67,635	2,645,303	
	b)	3.0m =or< Invert Level < 4.0m	m	15.40	465.00	8,409.00	7,161	129,499	
							-	-	
		Type B (Asphalt)					-	-	
	a)	1.0m =or< Invert Level < 2.0m	m	685.84	383.00	8,409.00	262,677	5,767,229	
	b)	2.0m =or< Invert Level < 3.0m	m	324.50	492.00	8,409.00	159,654	2,728,721	
							-	-	
		Type C (Concrete)					-	-	
	a)	1.0m =or< Invert Level < 2.0m	m	10.88	434.00	8,409.00	4,722	91,490	
							-	-	
	1.2	Precast Manhole					-	-	
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-	
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-	
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr		8,692.00		-	-	
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-	
	e)	Manhole cover (Iron)	nr			65,780.00	-	-	
							-	-	
	1.3	Air Valve (Made in Japan)					-	-	
	a)	Air Valve dia.75mm for sewage	nr	1		427,460.00	-	427,460	
	b)	Air Valve box	nr	1	840.00	65,780.00	840	65,780	
Carried forward to page collection								502,689	11,855,482

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.4 Trunk Sewer No.4 (Continue)									
	1.4	Drain (Scour) Valve							
	a)	Sluce Valve dia. 200mm	nr	2			-	-	
	b)	Drain Valve box	nr	2	1,960.00	65,780.00	3,920	131,560	
							-	-	
	1.5	Ductile Cast Iron Tee for Air and Drain valve					-	-	
	a)	Dia.300x200	nr	2		74,539.00	-	149,078	
	b)	Dia.300x75	nr	1		66,858.00	-	66,858	
							-	-	
	1.6	Bend					-	-	
	a)	11.25 degree	nr	5		63,749.00	-	318,745	
	b)	22.5 degree	nr	5		72,528.00	-	362,640	
	c)	30 degree	nr			72,528.00	-	-	
	d)	45 degree	nr	1		71,803.00	-	71,803	
	e)	60 degree	nr			85,560.00	-	-	
	f)	90 degree	nr	1		84,704.00	-	84,704	
							-	-	
	1.7	Frang adopter					-	-	
	a)	Frang adopter DN355 for Tee/P.S outlet	nr	7			-	-	
	b)	Frang adopter for DN225 for dain	nr	2			-	-	
							-	-	
	1.8	Drain Pipe Connection to Branch Sewer					-	-	
	a)	HDPE DN 225 Asphalt h=1-2m	m	8.1			-	-	
	b)	DCI Dia.200 BEND 45 degree	nr	2			-	-	
	c)	Drainage Tank	LS	1			-	-	
							-	-	
	1.9	HDPE PEDUCER					-	-	
	a)	HDPE REDUCER 125x 110				1,448.00	-	-	
Carried forward to page collection								3,920	1,185,388

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.5 Trunk Sewer No.5								
		2.5 Trunk Sewer No.5						
	1	No.5-1_HDPE Pipe Installation						
		Pressure Pipe from Konedobu P.S to Receiving Well (2)						
		HDPE DN 450 L=1,361.85m						
		Air Valve 1 unit						
		Drainage 1 unit to existing Old Yacht Club P.S						
	1.1	DN450 (linside diameter 396mm)						
		Type A (Soil/Right of Way)						
	b)	2.0m =or< Invert Level < 3.0m	m		332.16	13,953.00	-	-
	d)	4.0m =or< Invert Level < 5.0m	m		684.28	13,953.00	-	-
							-	-
		Type B (Asphalt)					-	-
	a)	Invert Level < 1.0m	m	138.94	312.08	13,953.00	43,360	1,938,630
	b)	1.0m =or< Invert Level < 2.0m	m	602.47	421.50	13,953.00	253,941	8,406,264
	c)	2.0m =or< Invert Level < 3.0m	m	609.81	530.36	13,953.00	323,419	8,508,679
	d)	3.0m =or< Invert Level < 4.0m	m	213.51	716.33	1,395.00	152,944	297,846
							-	-
	1.2	Precast Manhole					-	-
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr		8,692.00		-	-
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-
	e)	Manhole cover (Iron)	nr			65,780.00	-	-
							-	-
	1.3	Air Valve (Made in Japan)					-	-
	a)	Air Valve dia.75mm for sewage	nr	1		427,460.00	-	427,460
	b)	Air Valve box	nr	1	840.00	65,780.00	840	65,780
					Carried forward to page collection		774,504	19,644,659

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.5 Trunk Sewer No.5 (Continue)									
	1.4	Drain (Scour) Valve							
	a)	Sluce Valve dia. 200mm	nr	1			-	-	
	b)	Drain Valve box	nr	1	1,960.00	65,780.00	1,960	65,780	
							-	-	
	1.5	Ductile Cast Iron Tee for Air and Drain valve					-	-	
	a)	Dia.400x200	nr	1			-	-	
	b)	Dia.400x75	nr	1		75,460.00	-	75,460	
							-	-	
	1.6	Bend					-	-	
	a)	11.25 degree	nr	5		142,461.00	-	712,305	
	b)	22.5 degree	nr	1		147,295.00	-	147,295	
	c)	30 degree	nr			147,295.00	-	-	
	d)	45 degree	nr			145,821.00	-	-	
	e)	60 degree	nr			162,959.00	-	-	
	f)	90 degree	nr	1		161,329.00	-	161,329	
							-	-	
	1.7	Frangle adopter					-	-	
	a)	Frangle adopter DN450 for Tee/P.S Outlet	nr	5			-	-	
	b)	Frangle adopter for DN225	nr	1			-	-	
	1.8	Drain Pipe Connection to Branch Sewer					-	-	
	a)	HDPE DN 225 Asphalt h=1-2 m	m	16			-	-	
	b)	DCI Dia.200 BEND 45 degree	nr	1			-	-	
							-	-	
	1.9	HDPE PEDUCER					-	-	
	a)	HDPE REDUCER 125x 110				1,448.00	-	-	
Carried forward to page collection								1,960	1,162,169

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.5 Trunk Sewer No.5 (Continue)									
	2.5	Drain (Scour) Valve							
	a)	Sluce Valve dia. 100mm	nr		7,000.00		-	-	
	b)	Drain Valve box	nr		1,960.00	65,780.00	-	-	
							-	-	
	2.6	Ductile Cast Iron Tee for Air and Drain valve					-	-	
	a)	Dia.100x100	nr				-	-	
	b)	Dia.100x75	nr				-	-	
							-	-	
	2.7	Bend					-	-	
	a)	11.25 degree	nr			142,461.00	-	-	
	b)	22.5 degree	nr			147,295.00	-	-	
	c)	30 degree	nr			147,295.00	-	-	
	d)	45 degree	nr			145,821.00	-	-	
	e)	60 degree	nr			162,959.00	-	-	
	f)	90 degree	nr			161,329.00	-	-	
							-	-	
	2.8	Frange adopter					-	-	
	a)	Frange adopter for DN110	nr			31,705.00	-	-	
							-	-	
	2.9	Drain Pipe Connection to Branch Sewer					-	-	
	a)	HDPE DN 110	m				-	-	
	b)	DCI BEND 45 degree	nr				-	-	
							-	-	
	2.10	HDPE PEDUCER					-	-	
	a)	HDPE REDUCER 125x 110				1,448.00	-	-	
							-	-	
	2.11	RECEIVING WELL(2)	LS	1			-	-	
							-	-	
	2.12	Pressure Reducing MH	LS	1			-	-	
Carried forward to page collection								-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.6 Trunk Sewer No.6								
		2.6 Trunk Sewer No.6						
	1	No.6_HDPE Pipe Installation						
		Pressure Pipe from Stanley Esplanade P.S to Ela Beach Road						
		HDPE DN 160 L=445.73 m						
		Air Valve 1 unit						
		Pipe DN is enlarged from DI 100 to DN 160 at the outlet of P.S						
	1.1	DN 160 (Iinside diameter 96mm)						
		Type A (Soil/Right of Way)						
	a)	Invert Level < 1.0m	m	23.72	83.00	1,733.00	1,969	41,107
	b)	2.0m =or< Invert Level < 3.0m	m		258.00	1,733.00	-	-
	c)	3.0m =or< Invert Level < 4.0m	m		390.00	1,733.00	-	-
	d)	4.0m =or< Invert Level < 5.0m	m		532.00	1,733.00	-	-
							-	-
		Type B (Asphalt)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m	422.01	305.00	1,733.00	128,713	731,343
	b)	2.0m =or< Invert Level < 3.0m	m		412.00	1,733.00	-	-
							-	-
	1.2	Precast Manhole					-	-
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr		8,692.00		-	-
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00	65,780.00	-	-
	e)	Manhole cover (Iron)	nr				-	-
							-	-
	1.3	Air Valve (Made in Japan)					-	-
	a)	Air Valve dia.75mm for sewage	nr	1		427,460.00	-	427,460
	b)	Air Valve box	nr	1	840.00	65,780.00	840	65,780
Carried forward to page collection								
							131,522	1,265,690

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.8 Trunk Sewer No.8									
		2.8 Trunk Sewer No.8							
	1	No.8_HDPE Pipe Installation							
		Gravity Pipe from the Receiving Manhole to No.9 Pipe							
		HDPE DN 355 L=241.07 m							
		Manhole 5 units							
	1.1	DN355 (linside diameter 312mm)							
		Type A (Soil/Right of Way)							
	a)	1.0m =or< Invert Level < 2.0m	m	118.73	215.00	8,409.00	25,527	998,401	
	b)	2.0m =or< Invert Level < 3.0m	m	122.34	308.00	8,409.00	37,681	1,028,757	
	c)	3.0m =or< Invert Level < 4.0m	m		465.00	8,409.00	-	-	
	d)	4.0m =or< Invert Level < 5.0m	m		634.00	8,409.00	-	-	
							-	-	
		Type B (Asphalt)					-	-	
	a)	1.0m =or< Invert Level < 2.0m	m		383.00	8,409.00	-	-	
	b)	2.0m =or< Invert Level < 3.0m	m		492.00	8,409.00	-	-	
							-	-	
	1.2	Precast Manhole					-	-	
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-	
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr	2	5,734.00		11,468	-	
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr	3	8,692.00		26,076	-	
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-	
	e)	Manhole cover (Iron)	nr	5		65,780.00	-	328,900	
							-	-	
	1.3	Air Valve (Made in Japan)					-	-	
	a)	Air Valve dia.75mm for sewage	nr			427,460.00	-	-	
	b)	Air Valve box	nr		840.00	65,780.00	-	-	
Carried forward to page collection									
							100,752	2,356,058	

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.8 Trunk Sewer No.8 (Continue)									
	1.4	Drain (Scour) Valve							
	a)	Sluce Valve dia. 100mm	nr		7,000.00		-	-	
	b)	Drain Valve box	nr		1,960.00	65,780.00	-	-	
							-	-	
	1.5	Ductile Cast Iron Tee for Air and Drain valve					-	-	
	a)	Dia.100x100	nr				-	-	
	b)	Dia.100x75	nr				-	-	
							-	-	
	1.6	Bend					-	-	
	a)	11.25 degree	nr			63,749.00	-	-	
	b)	22.5 degree	nr			72,528.00	-	-	
	c)	30 degree	nr			72,528.00	-	-	
	d)	45 degree	nr			71,803.00	-	-	
	e)	60 degree	nr			85,560.00	-	-	
	f)	90 degree	nr			84,704.00	-	-	
							-	-	
	1.7	Frange adopter					-	-	
	a)	Frange adopter for DN110	nr			20,929.00	-	-	
							-	-	
	1.8	Drain Pipe Connection to Branch Sewer					-	-	
	a)	HDPE DN 110	m				-	-	
	b)	DCI BEND 45 degree					-	-	
							-	-	
	1.9	HDPE PEDUCER					-	-	
	a)	HDPE REDUCER 125x 110				1,448.00	-	-	
Carried forward to page collection								-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.9 Trunk Sewer No.9								
		2.9 Trunk Sewer No.9						
	1	No.9_HDPE Pipe Installation						
		Gravity Pipe from Meeting Point of No.5-2 and No.8 Pipe to Davara P.S						
		HDPE DN 630 L=184.23 m						
		Manhole 6 units						
	1.1	DN 630 (Iinside diameter 554mm)						
		Type A (Soil/Right of Way)						
	a)	Invert Level < 1.0m	m		134.00	26,389.00	-	-
	b)	2.0m =or< Invert Level < 3.0m	m	176.07	378.00	26,389.00	66,554	4,646,311
	c)	3.0m =or< Invert Level < 4.0m	m		571.00	26,389.00	-	-
	d)	4.0m =or< Invert Level < 5.0m	m		779.00	26,389.00	-	-
							-	-
		Type B (Asphalt)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m	3.00	494.00	26,389.00	1,482	79,167
	b)	2.0m =or< Invert Level < 3.0m	m	5.16	604.00	26,389.00	3,117	136,167
							-	-
	1.2	Precast Manhole					-	-
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr	6	8,692.00		52,152	-
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-
	e)	Manhole cover (Iron)	nr	6		65,780.00	-	394,680
							-	-
	1.3	Air Valve (Made in Japan)					-	-
	a)	Air Valve dia.75mm for sewage	nr			427,460.00	-	-
	b)	Air Valve box	nr		840.00	65,780.00	-	-
Carried forward to page collection							123,305	5,256,325

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.9 Trunk Sewer No.9 (Continue)									
	1.4	Drain (Scour) Valve							
	a)	Sluce Valve dia. 100mm	nr		7,000.00		-	-	
	b)	Drain Valve box	nr		1,960.00	65,780.00	-	-	
							-	-	
	1.5	Ductile Cast Iron Tee for Air and Drain valve					-	-	
	a)	Dia.100x100	nr			12,637.00	-	-	
	b)	Dia.100x75	nr			15,214.00	-	-	
							-	-	
	1.6	Bend					-	-	
	a)	11.25 degree	nr			334,511.00	-	-	
	b)	22.5 degree	nr			386,731.00	-	-	
	c)	30 degree	nr			386,731.00	-	-	
	d)	45 degree	nr			382,864.00	-	-	
	e)	60 degree	nr			425,431.00	-	-	
	f)	90 degree	nr			421,176.00	-	-	
							-	-	
	1.7	Frange adopter					-	-	
	a)	Frange adopter for DN110	nr			73,769.00	-	-	
							-	-	
	1.8	Drain Pipe Connection to Branch Sewer					-	-	
	a)	HDPE DN 110	m				-	-	
	b)	DCI BEND 45 degree					-	-	
							-	-	
	1.9	HDPE PEDUCER					-	-	
	a)	HDPE REDUCER 125x 110				1,448.00	-	-	
Carried forward to page collection								-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.10 Trunk Sewer No.10								
		2.10 Trunk Sewer No.10						
	1	No.10_HDPE Pipe Installation						
		Pressure Pipe from Davara P.S to Lawes Road P.S						
		HDPE DN 450 L=745.75 m						
		Air Valve 1 unit						
		Pipe DN is enlarged from DI 350 to DN 450 at the outlet of P.S						
	1.1	DN 450 (Iinside diameter 396mm)						
		Type A (Soil/Right of Way)						
	a)	1.0m =or< Invert Level < 2.0m	m	709.27	236.17	13,953.00	167,508	9,896,444
	b)	2.0m =or< Invert Level < 3.0m	m	24.80	332.16	13,953.00	8,238	346,034
	c)	3.0m =or< Invert Level < 4.0m	m		501.43	13,953.00	-	-
	d)	4.0m =or< Invert Level < 5.0m	m		684.28	13,953.00	-	-
							-	-
		Type B (Asphalt)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m	13.66	421.50	13,953.00	5,758	190,598
	b)	2.0m =or< Invert Level < 3.0m	m		530.36	13,953.00	-	-
							-	-
	1.2	Precast Manhole					-	-
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr		8,692.00		-	-
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-
	e)	Manhole cover (Iron)	nr			65,780.00	-	-
							-	-
	1.3	Air Valve (Made in Japan)					-	-
	a)	Air Valve dia.75mm for sewage	nr	1		427,460.00	-	427,460
	b)	Air Valve box	nr	1	840.00	65,780.00	840	65,780
					Carried forward to page collection		182,344	10,926,316

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.10 Trunk Sewer No.10 (Continue)									
	1.4	Drain (Scour) Valve							
	a)	Sluce Valve dia. 100mm	nr		7,000.00		-	-	
	b)	Drain Valve box	nr		1,960.00	65,780.00	-	-	
							-	-	
	1.5	Ductile Cast Iron Tee for Air and Drain valve					-	-	
	a)	Dia.100x100	nr			12,637.00	-	-	
	b)	Dia.400x75	nr	1		75,460.00	-	75,460	
							-	-	
	1.6	Bend					-	-	
	a)	11.25 degree	nr			142,461.00	-	-	
	b)	22.5 degree	nr			147,295.00	-	-	
	c)	30 degree	nr			147,295.00	-	-	
	d)	45 degree	nr	1		145,821.00	-	145,821	
	e)	60 degree	nr			162,959.00	-	-	
	f)	90 degree	nr			161,329.00	-	-	
							-	-	
	1.7	Frangle adopter					-	-	
	a)	Frangle adopter for DN450	nr	2			-	-	
	b)	Frangle adopter for DN400 for outlet of P.S	nr	1			-	-	
							-	-	
	1.8	Drain Pipe Connection to Branch Sewer					-	-	
	a)	HDPE DN 110	m				-	-	
	b)	DCI BEND 45 degree					-	-	
							-	-	
	1.9	HDPE PEDUCER					-	-	
	a)	HDPE REDUCER 450x400	nr	1			-	-	
Carried forward to page collection								-	221,281

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.11 Trunk Sewer No.11								
		2.11 Trunk Sewer No.11						
	1	No.11_HDPE Pipe Installation						
		Pressure Pipe from Lawes Road P.S to Receiving Well (1)						
		HDPE DN 500 L= 2,708.22m						
		Air Valve 3 units						
		Drainage 3 units						
	1.1	DN 500 (Iinside diameter 440mm)						
		Type A (Soil/Right of Way)						
	a)	Invert Level < 1.0m	m		120.00	16,648.00	-	-
	b)	2.0m =or< Invert Level < 3.0m	m	7.96	345.00	16,648.00	2,746	132,518
	c)	3.0m =or< Invert Level < 4.0m	m		521.00	16,648.00	-	-
							-	-
		Type B (Asphalt)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m	1207.47	442.00	16,648.00	533,702	20,101,961
	b)	2.0m =or< Invert Level < 3.0m	m	1467.68	551.00	16,648.00	808,692	24,433,937
	b)	3.0m =or< Invert Level < 4.0m	m	4.55	744.00	16,648.00	3,385	75,748
							-	-
	1.2	Precast Manhole					-	-
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr		8,692.00		-	-
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-
	e)	Manhole cover (Iron)	nr			65,780.00	-	-
							-	-
	1.3	Air Valve (Made in Japan)					-	-
	a)	Air Valve dia.75mm for sewage	nr	3		427,460.00	-	1,282,380
	b)	Air Valve box	nr	3	840.00	65,780.00	2,520	197,340
Carried forward to page collection								
							1,351,045	46,223,884

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.11 Trunk Sewer No.11 (Continue)								
	1.4	Drain (Scour) Valve						
	a)	Sluce Valve dia. 200mm	nr	3	7,000		21,000	-
	b)	Drain Valve box	nr	3	1,960	65,780	5,880	197,340
							-	-
							-	-
	1.5	Ductile Cast Iron Tee for Air and Drain valve					-	-
	a)	Dia.450x200	nr	3			-	-
	b)	Dia.450x75	nr	3			-	-
							-	-
	1.6	Bend					-	-
	a)	11.25 degree	nr	13		196,392	-	2,553,096
	b)	22.5 degree	nr	13		169,392	-	2,202,096
	c)	30 degree	nr			196,392	-	-
	d)	45 degree	nr	5		194,429	-	972,145
	e)	60 degree	nr			227,326	-	-
	f)	90 degree	nr	2		225,053	-	450,106
							-	-
	1.7	Frang adopter					-	-
	a)	Frang adopter for DN500 forTee/P.S outlet	nr	13			-	-
	a)	Frang adopter for DN225 of drainage pipe	nr	3			-	-
	1.8	Drain Pipe Connection to Branch Sewer					-	-
	a)	HDPE DN 225	m	49.25			-	-
	b)	DCI Dia. 200mm BEND 45 degree	nr	3			-	-
							-	-
	1.9	HDPE PEDUCER					-	-
	a)	HDPE REDUCER 125x 110				1,448	-	-
Carried forward to page collection							26,880	6,374,783

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.12 Trunk Sewer No.12								
		2.12 Trunk Sewer No.12						
	1	No.12_HDPE Pipe Installation						
		Pressure Pipe from New Koki P.S to the existing pressure pipe						
		HDPE DN 225 L=71.47m						
		Connection to existing DI 250 pressure pipe						
	1.1	DN225 (linside diameter 96mm)						
		Type A (Soil/Right of Way)						
	a)	1.0m =or< Invert Level < 2.0m	m	71.47	186.00	3,444.00	13,293	246,143
	b)	2.0m =or< Invert Level < 3.0m	m		275.00	3,444.00	-	-
	c)	3.0m =or< Invert Level < 4.0m	m		415.00	3,444.00	-	-
	d)	4.0m =or< Invert Level < 5.0m	m		566.00	3,444.00	-	-
							-	-
		Type B (Asphalt)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m		331.00	3,444.00	-	-
	b)	2.0m =or< Invert Level < 3.0m	m		439.00	3,444.00	-	-
							-	-
	1.2	Precast Manhole					-	-
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr		8,692.00		-	-
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-
	e)	Manhole cover (Iron)	nr			65,780.00	-	-
							-	-
	1.3	Air Valve (Made in Japan)					-	-
	a)	Air Valve dia.75mm for sewage	nr			427,460.00	-	-
	b)	Air Valve box	nr		840.00	65,780.00	-	-
							-	-
Carried forward to page collection								
							13,293	246,143

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.12 Trunk Sewer No.12 (Continue)									
	1.4	Drain (Scour) Valve							
	a)	Sluce Valve dia. 100mm	nr		7,000.00		-	-	
	b)	Drain Valve box	nr		1,960.00	65,780.00	-	-	
							-	-	
	1.5	Ductile Cast Iron Tee for Air and Drain valve					-	-	
	a)	Dia.100x100				12,637.00	-	-	
	b)	Dia.100x75				15,214.00	-	-	
							-	-	
	1.6	HDPE DN 225 Bend					-	-	
	a)	11.25 degree	nr			17,518.00	-	-	
	b)	22.5 degree	nr	2		24,088.00	-	48,176	
	c)	30 degree	nr			24,088.00	-	-	
	d)	45 degree	nr	2		23,847.00	-	47,694	
	e)	60 degree	nr			31,196.00	-	-	
	f)	90 degree	nr			30,884.00	-	-	
							-	-	
	1.7	Frange adopter					-	-	
	a)	Frange adopter DN225 for P.S outlet/connecting	nr	2			-	-	
							-	-	
	1.8	Drain Pipe Connection to Branch Sewer					-	-	
	a)	HDPE DN 110	m				-	-	
							-	-	
	1.9	Connection to existing pressure pipe					-	-	
	a)	All Dlanged Tee (DCI) Dia 250x200	nr	1			-	-	
	b)	Blind Flange (DCI) Dia.250	nr	1			-	-	
	c)	All Dlanged Tee (DCI) Dia 250x200	nr	1			-	-	
	d)	One Dlanged Short Piece (DCI) Dia. 250 L=600mm	nr	1			-	-	
	e)	Collar (DCI) Dia 250	nr	1			-	-	
	f)	DCI 250 Pipe cutting	nr	2			-	-	
Carried forward to page collection								-	95,870

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.13 Trunk Sewer No.13								
		2.13 Trunk Sewer No.13						
	1	No.13_HDPE Pipe Installation						
		Pressure Pipe from Badili P.S to Receiving Well (1)						
		HDPE DN 400 L= 1,161.84m						
		Air Valve 1 unit						
		Flow Meter Chamber 1 unit						
	1.1	DN400 (linside diameter 352mm)						
		Type A (Soil/Right of Way)						
	a)	1.0m =or< Invert Level < 2.0m	m	16.99	225.00	10,686.00	3,823	181,555
	b)	2.0m =or< Invert Level < 3.0m	m		319.00	10,686.00	-	-
	c)	3.0m =or< Invert Level < 4.0m	m		482.00	10,686.00	-	-
							-	-
		Type B (Asphalt)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m	275.48	401.00	10,686.00	110,467	2,943,779
	b)	2.0m =or< Invert Level < 3.0m	m	575.43	510.00	10,686.00	293,469	6,149,045
	c)	3.0m =or< Invert Level < 4.0m	m	77.84	689.00	10,686.00	53,632	831,798
							-	-
	1.2	Precast Manhole					-	-
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr		8,692.00		-	-
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-
	e)	Manhole cover (Iron)	nr			65,780.00	-	-
							-	-
	1.3	Air Valve (Made in Japan)					-	-
	a)	Air Valve dia.75mm for sewage	nr	1		427,460.00	-	427,460
	b)	Air Valve box	nr	1	840.00	65,780.00	840	65,780
Carried forward to page collection								
							462,231	10,599,417

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.13 Trunk Sewer No.13 (Continue)									
	1.4	Drain (Scour) Valve							
	a)	Sluce Valve dia. 100mm	nr		7,000.00		-	-	
	b)	Drain Valve box	nr		1,960.00	65,780.00	-	-	
							-	-	
	1.5	Ductile Cast Iron Tee for Air and Drain valve					-	-	
	a)	Dia.100x100	nr			12,637.00	-	-	
	b)	Dia.350x75	nr			116,484.00	-	-	
							-	-	
	1.6	Bend					-	-	
	a)	11.25 degree	nr	1		93,194.00	-	93,194	
	b)	22.5 degree	nr	3		93,194.00	-	279,582	
	c)	30 degree	nr			93,194.00	-	-	
	d)	45 degree	nr	3		92,263.00	-	276,789	
	e)	60 degree	nr			116,625.00	-	-	
	f)	90 degree	nr	4		115,458.00	-	461,832	
							-	-	
	1.7	Frange adopter					-	-	
	a)	Frange adopter DN400 for Tee/P.S outlet	nr	3			-	-	
							-	-	
	1.8	Drain Pipe Connection to Branch Sewer					-	-	
	a)	HDPE DN 110	m				-	-	
	b)	DCI BEND 45 degree					-	-	
							-	-	
	1.9	HDPE PEDUCER					-	-	
	a)	HDPE REDUCER 125x 110				1,448.00	-	-	
							-	-	
	1.10	FLOW METER BOX					-	-	
	a)	FLOW METER BOX	LS	1			-	-	
Carried forward to page collection								-	1,111,397

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.14 Trunk Sewer No.14 (Continue)									
		No.14-2							
	2	No.14-2_HDPE Pipe Installation							
		Gravity Pipe from Receiving MH to Konebada P.S							
		HDPE DN 225 L=432.32m							
		Manhole 9 units							
	2.1	DN 225 (Iinside diameter 198 mm)							
		Type A (Soil/Right of Way)							
	a)	Invert Level < 1.0m	m	39.80	90.00	3,444.00	3,582	137,071	
	b)	2.0m =or< Invert Level < 3.0m	m	181.26	275.00	3,444.00	49,847	624,259	
	c)	3.0m =or< Invert Level < 4.0m	m	6.00	415.00	3,444.00	2,490	20,664	
							-	-	
		Type B (Asphalt)					-	-	
	a)	1.0m =or< Invert Level < 2.0m	m	281.23	331.00	3,444.00	93,087	968,556	
	b)	2.0m =or< Invert Level < 3.0m	m	101.14	439.00	3,444.00	44,400	348,326	
	c)	3.0m =or< Invert Level < 4.0m	m	43.95	592.00	3,444.00	26,018	151,364	
							-	-	
	2.2	Precast Manhole					-	-	
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-	
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr	6	5,734.00		34,404	-	
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr	1	8,692.00		8,692	-	
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr	2	10,868.00		21,736	-	
	e)	Manhole cover (Iron)	nr	9		65,780.00	-	592,020	
							-	-	
	2.3	Air Valve (Made in Japan)					-	-	
	a)	Air Valve dia.75mm for sewage	nr			427,460.00	-	-	
	b)	Air Valve box	nr		840.00	65,780.00	-	-	
Carried forward to page collection								284,256	2,842,260

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.15 Trunk Sewer No.15								
		2.15 Trunk Sewer No.15						
		No.15-1						
	1	No.15-1_HDPE Pipe Installation Pressure Pipe from Konebada P.S to Receiving MH HDPE DN 110 L=214.19m						
	1.1	DN110 (linside diameter 96mm) Type A (Soil/Right of Way)						
	a)	Invert Level < 1.0m	m	10.03	77.38	874.00	776	8,766
	b)	1.0m =or< Invert Level < 2.0m	m	4.70	159.69	874.00	751	4,108
							-	-
		Type B (Asphalt)					-	-
	a)	Invert Level < 1.0m	m		211.02	874.00	-	-
	b)	1.0m =or< Invert Level < 2.0m	m	380.56	285.01	874.00	108,463	332,609
	c)	2.0m =or< Invert Level < 3.0m	m	142.87	391.65	874.00	55,955	124,868
	d)	3.0m =or< Invert Level < 4.0m	m	7.37	528.98	874.00	3,899	6,441
							-	-
	1.2	Precast Manhole					-	-
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr		8,692.00		-	-
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-
	e)	Manhole cover (Iron)	nr			65,780.00	-	-
							-	-
	1.3	Air Valve (Made in Japan)					-	-
	a)	Air Valve dia.75mm for sewage	nr			427,460.00	-	-
	b)	Air Valve box	nr		840.00	65,780.00	-	-
							-	-
Carried forward to page collection								
							169,844	476,792

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.15 Trunk Sewer No.15 (Continue)								
		No.15-2						
	2	No.15-2_HDPE Pipe Installation						
		Gravity Pipe from Receiving MH to Babutu P.S						
		HDPE DN 225 L=330.84m						
		Manhole 10 units						
	2.1	DN225 (linside diameter 96mm)						
		Type A (Soil/Right of Way)						
	a)	1.0m =or< Invert Level < 2.0m	m	69.83	186.00	3,444.00	12,988	240,495
	b)	2.0m =or< Invert Level < 3.0m	m	23.7	275.00	3,444.00	6,518	81,623
	c)	3.0m =or< Invert Level < 4.0m	m	7.37	415.00	3,444.00	3,059	25,382
	d)	4.0m =or< Invert Level < 5.0m	m		566.00	3,444.00	-	-
							-	-
		Type B (Asphalt)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m	133.64	331.00	3,444.00	44,235	460,256
	b)	2.0m =or< Invert Level < 3.0m	m	87.11	439	3,444.00	38,241	300,007
							-	-
		Type C (Concrete)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m	9.19	375.00	3,444.00	3,446	31,650
							-	-
	2.2	Precast Manhole					-	-
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr	6	5,734.00		34,404	-
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr	2	8,692.00		17,384	-
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr	2	10,868.00		21,736	-
	e)	Manhole cover (Iron)	nr	10		65,780.00	-	657,800
Carried forward to page collection							182,011	1,797,213

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.15 Trunk Sewer No.15 (Continue)									
	2.3	Air Valve (Made in Japan)							
	a)	Air Valve dia.75mm for sewage	nr			427,460.00	-	-	
	b)	Air Valve box	nr		840.00	65,780.00	-	-	
							-	-	
	2.4	Drain (Scour) Valve					-	-	
	a)	Sluce Valve dia. 100mm	nr		7,000.00		-	-	
	b)	Drain Valve box	nr		1,960.00	65,780.00	-	-	
							-	-	
	2.5	Ductile Cast Iron Tee for Air and Drain valve					-	-	
	a)	Dia.100x100	nr			12,637.00	-	-	
	b)	Dia.100x75	nr			15,214.00	-	-	
							-	-	
	2.6	Bend					-	-	
	a)	11.25 degree	nr			17,518.00	-	-	
	b)	22.5 degree	nr			24,088.00	-	-	
	c)	30 degree	nr			24,088.00	-	-	
	d)	45 degree	nr			23,847.00	-	-	
	e)	60 degree	nr			31,196.00	-	-	
	f)	90 degree	nr			30,884.00	-	-	
							-	-	
	2.7	Frangle adopter					-	-	
	a)	Frangle adopter for DN110	nr			7,131.00	-	-	
							-	-	
	2.8	Drain Pipe Connection to Branch Sewer					-	-	
	a)	HDPE DN 110	m				-	-	
	b)	DCI BEND 45 degree					-	-	
							-	-	
	2.9	HDPE PEDUCER					-	-	
	a)	HDPE REDUCER 125x 110				1,448.00	-	-	
Carried forward to page collection								-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.16 Trunk Sewer No.16								
		2.16 Trunk Sewer No.16						
	1	No.16_HDPE Pipe Installation						
		Pressure Pipe from Gabutu P.S to Receiving Well (1)						
		HDPE DN 125 L=735.65m						
		Pipe DN is enlarged from DI 100 to DN 125 at the outlet of P.S						
	1.1	DN125 (linside diameter 110mm)						
		Type A (Soil/Right of Way)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m	18.52	163.00	1,096.00	3,019	20,298
	b)	2.0m =or< Invert Level < 3.0m	m	58.65	249.00	1,096.00	14,604	64,280
							-	-
		Type B (Asphalt)					-	-
	a)	Invert Level < 1.0m	m	331.94	215.00	1,096.00	71,367	363,806
	b)	1.0m =or< Invert Level < 2.0m	m	248.70	291.00	1,096.00	72,372	272,575
	c)	2.0m =or< Invert Level < 3.0m	m		398.00	1,096.00	-	-
	d)	3.0m =or< Invert Level < 4.0m	m	77.84	537.00	1,096.00	41,800	85,313
							-	-
	1.2	Precast Manhole					-	-
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr		8,692.00		-	-
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-
	e)	Manhole cover (Iron)	nr			65,780.00	-	-
							-	-
	1.3	Air Valve (Made in Japan)					-	-
	a)	Air Valve dia.75mm for sewage	nr			427,460.00	-	-
	b)	Air Valve box	nr		840.00	65,780.00	-	-
Carried forward to page collection								
							203,162	806,272

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.16 Trunk Sewer No.16 (Continue)								
	1.4	Drain (Scour) Valve						
	a)	Sluce Valve dia. 100mm	nr		7,000.00		-	-
	b)	Drain Valve box	nr		1,960.00	65,780.00	-	-
							-	-
	1.5	Ductile Cast Iron Tee for Air and Drain valve					-	-
	a)	Dia.100x100	nr			12,637.00	-	-
	b)	Dia.100x75	nr			15,214.00	-	-
							-	-
	1.6	Bend					-	-
	a)	11.25 degree	nr	5		12,636.00	-	63,180
	b)	22.5 degree	nr	3		12,636.00	-	37,908
	c)	30 degree	nr			12,636.00	-	-
	d)	45 degree	nr	1		12,509.00	-	12,509
	e)	60 degree	nr			16,190.00	-	-
	f)	90 degree	nr	1		16,028.00	-	16,028
							-	-
	1.7	Frangle adopter					-	-
	a)	Frangle adopter for DN110 P.S outlet	nr	1		4,495.00	-	4,495
							-	-
	1.8	Drain Pipe Connection to Branch Sewer					-	-
	a)	HDPE DN 110	m				-	-
	b)	DCI BEND 45 degree					-	-
							-	-
	1.9	HDPE PEDUCER					-	-
	a)	HDPE REDUCER 125x 110	nr	1		1,448.00	-	1,448
Carried forward to page collection							-	135,568

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.17 Trunk Sewer No.17								
		2.17 Trunk Sewer No.17						
	1	No.17_HDPE Pipe Installation						
		Gravity Pipe from Receiving Well (1) to Kaugere P.S						
		HDPE DN 710 L=627.30m						
		Manhol 11 units						
		Receiving Well (1) is included in this section						
	1.1	DN710 (linside diameter 624mm)						
		Type A (Soil/Right of Way)						
	a)	Invert Level < 1.0m	m		143.00	33,547.00	-	-
	b)	2.0m =or< Invert Level < 3.0m	m	18.54	399.00	33,547.00	7,397	621,961
	c)	3.0m =or< Invert Level < 4.0m	m		602.00	33,547.00	-	-
							-	-
		Type B (Asphalt)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m		526.00	33,547.00	-	-
	b)	2.0m =or< Invert Level < 3.0m	m	160.34	636.00	33,547.00	101,976	5,378,926
	c)	3.0m =or< Invert Level < 4.0m	m	423.97	860.00	33,547.00	364,614	14,222,922
							-	-
	1.2	Precast Manhole					-	-
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr	6	8,692.00		52,152	-
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr	5	10,868.00		54,340	-
	e)	Manhole cover (Iron)	nr	11		65,780.00	-	723,580
							-	-
	1.3	Air Valve (Made in Japan)					-	-
	a)	Air Valve dia.75mm for sewage	nr			427,460.00	-	-
	b)	Air Valve box	nr		840.00	65,780.00	-	-
Carried forward to page collection								
							580,479	20,947,389

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.17 Trunk Sewer No.17 (Continue)									
	1.4	Drain (Scour) Valve							
	a)	Sluce Valve dia. 100mm	nr		7,000.00		-	-	
	b)	Drain Valve box	nr		1,960.00	65,780.00	-	-	
							-	-	
	1.5	Ductile Cast Iron Tee for Air and Drain valve					-	-	
	a)	Dia.100x100	nr			12,637.00	-	-	
	b)	Dia.100x75	nr			15,214.00	-	-	
							-	-	
	1.6	Bend					-	-	
	a)	11.25 degree	nr			481,116.00	-	-	
	b)	22.5 degree	nr			593,655.00	-	-	
	c)	30 degree	nr			593,655.00	-	-	
	d)	45 degree	nr			588,564.00	-	-	
	e)	60 degree	nr			616,884.00	-	-	
	f)	90 degree	nr			638,542.00	-	-	
							-	-	
	1.7	Frangle adopter					-	-	
	a)	Frangle adopter for DN110	nr			101,815.00	-	-	
							-	-	
	1.8	Drain Pipe Connection to Branch Sewer					-	-	
	a)	HDPE DN 110	m				-	-	
	b)	DCI BEND 45 degree					-	-	
							-	-	
	1.9	HDPE PEDUCER					-	-	
	a)	HDPE REDUCER 125x 110				1,448.00	-	-	
							-	-	
	1.10	RECEIVING WELL					-	-	
	a)	RECEIVING WELL (1)	nr	1			-	-	
Carried forward to page collection								-	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.18 Trunk Sewer No.18									
		2.18 Trunk Sewer No.18							
	1	No.18 HDPE Pipe Installation							
		Pressure Pipe from Kaugere P.S to Kila Kila STP							
		HDPE DN 710 L=1,933.91m							
		including 385m of in-plant pipe installation							
		Air Valve 1 unit							
		Drainage 1 unit							
		Pipe DN is enlarged from DI 400 to HDPE 710							
		at the outlet of P.S							
	1.1	DN 710 (inside diameter 624 mm)							
		Type A (Soil/Right of Way)							
	a)	1.0m =or< Invert Level < 2.0m	m	457.58	295.00	33,547.00	134,986	15,350,436	
	b)	2.0m =or< Invert Level < 3.0m	m	423.77	399.00	33,547.00	169,084	14,216,212	
	c)	3.0m =or< Invert Level < 4.0m	m	27.81	602.00	33,547.00	16,742	932,942	
	d)	4.0m =or< Invert Level < 5.0m	m		821.00	33,547.00	-	-	
							-	-	
		Type B (Asphalt)					-	-	
	a)	1.0m =or< Invert Level < 2.0m	m	304.67	526.00	33,547.00	160,256	10,220,764	
	b)	2.0m =or< Invert Level < 3.0m	m	501.75	636.00	33,547.00	319,113	16,832,207	
	c)	3.0m =or< Invert Level < 4.0m	m	115.89	860.00	33,547.00	99,665	3,887,762	
							-	-	
	1.2	Precast Manhole					-	-	
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-	
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-	
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr		8,692.00		-	-	
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-	
	e)	Manhole cover (Iron)	nr			65,780.00	-	-	
Carried forward to page collection								899,846	61,440,323

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.18 Trunk Sewer No.18 (Continue)								
	1.3	Air Valve (Made in Japan)						
	a)	Air Valve dia.75mm for sewage	nr	1		427,460.00	-	427,460
	b)	Air Valve box	nr	1	840.00	65,780.00	840	65,780
							-	-
	1.4	Drain (Scour) Valve						
	a)	Sluce Valve dia. 100mm	nr	1	7,000.00		7,000	-
	b)	Drain Valve box	nr	1	1,960.00	65,780.00	1,960	65,780
							-	-
	1.5	Ductile Cast Iron Tee for Air and Drain valve						
	a)	Dia.600x200	nr	1			-	-
	b)	Dia.600x75	nr	1			-	-
							-	-
	1.6	Bend						
	a)	11.25 degree	nr	1		481,116.00	-	481,116
	b)	22.5 degree	nr	4		593,655.00	-	2,374,620
	c)	30 degree	nr			593,655.00	-	-
	d)	45 degree	nr	5		588,564.00	-	2,942,820
	e)	60 degree	nr			616,884.00	-	-
	f)	90 degree	nr	1		638,542.00	-	638,542
							-	-
	1.7	Frang adopter						
	a)	Frang adopter DN710 for Tee	nr	4			-	-
	a)	Frang adopter DN 450 for P.S outlet	nr	4			-	-
	b)	Frang adopter for DN225 for Drain	nr	1			-	-
							-	-
	1.8	Drain Pipe Connection to Branch Sewer						
	a)	HDPE DN 225	m	18			-	-
	b)	DCI Dia.200mm BEND 45 degree	nr	1			-	-
							-	-
	1.9	HDPE PEDUCER						
	a)	HDPE REDUCER 710x 450	nr	1			-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Carried forward to page collection							9,800	6,996,118

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
2.19 Trunk Sewer No.19									
		2.19 Trunk Sewer No.19							
	1.1	DN225 (inside diameter 198mm) Type A (Soil/Right of Way)							
	a)	Invert Level < 1.0m	m	231.5	90.00	3,444.00	20,835	797,286	
	b)	1.0m =or< Invert Level < 2.0m	m	574.83	186.00	3,444.00	106,918	1,979,715	
	c)	2.0m =or< Invert Level < 3.0m	m	23.92	275.00	3,444.00	6,578	82,380	
	d)	4.0m =or< Invert Level < 5.0m	m		566.00	3,444.00	-	-	
		Type B (Asphalt)					-	-	
	a)	Invert Level < 1.0m	m		245.00	3,444.00	-	-	
	b)	1.0m =or< Invert Level < 2.0m	m	13.15	331.00	3,444.00	4,353	45,289	
							-	-	
	1.2	Precast Manhole					-	-	
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr		3,546.00		-	-	
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr		5,734.00		-	-	
	c)	Dia. 1200 Precast Manhole, h<3.0m	nr		8,692.00		-	-	
	d)	Dia. 1200 Precast Manhole, h<4.0m	nr		10,868.00		-	-	
	e)	Manhole cover (Iron)	nr			65,780.00	-	-	
							-	-	
	1.3	Air Valve (Made in Japan)					-	-	
	a)	Air Valve dia.75mm for sewage	nr			427,460.00	-	-	
	b)	Air Valve box	nr		840.00	65,780.00	-	-	
							-	-	
	1.4	Drain (Scour) Valve					-	-	
	a)	Sluce Valve dia. 100mm	nr		7,000.00		-	-	
	b)	Drain Valve box	nr		1,960.00	65,780.00	-	-	
							-	-	
Carried forward to page collection								138,684	2,904,670

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
2.19 Trunk Sewer No.19 (Continue)								
	1.5	Ductile Cast Iron Tee for Air and Drain valve						
	a)	Dia.100x100	nr				-	-
	b)	Dia.100x75	nr				-	-
	1.6	Bend					-	-
	a)	11.25 degree	nr			17,518.00	-	-
	b)	22.5 degree	nr	1		24,088.00	-	24,088
	c)	30 degree	nr			24,088.00	-	-
	d)	45 degree	nr			23,847.00	-	-
	e)	60 degree	nr			31,196.00	-	-
	f)	90 degree	nr	1		30,884.00	-	30,884
	1.7	Frangle adopter					-	-
	a)	Frangle adopter DN110 for P.S outlet	nr	1		7,131.00	-	7,131
	1.8	Drain Pipe Connection to Branch Sewer					-	-
	a)	HDPE DN 110	m				-	-
	b)	DCI BEND 45 degree					-	-
	1.9	HDPE PEDUCER					-	-
	a)	HDPE REDUCER 225x 110	nr	1			-	-
Carried forward to page collection							-	62,103

Section III
Branch Sewer

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section Summary of Section 3 Branch Sewer								
	1	Total of Section 3.1			299,467	1,505,970	299,467	1,505,970
		Idubada Area					-	-
		(from Page Collection)					-	-
	2	Total of Section 3.2			581,105	2,934,101	581,105	2,934,101
		Hanuabada Area					-	-
		(from Page Collection)					-	-
	3	Total of Section 3.3			227,624	1,118,174	227,624	1,118,174
		Ela Makana Area					-	-
		(from Page Collection)					-	-
	4	Total of Section 3.4			683,763	4,162,360	683,763	4,162,360
		Touaguba Area					-	-
		(from Page Collection)					-	-
	5	Total of Section 3.5			582,869	3,478,534	582,869	3,478,534
		Koki Area					-	-
		(from Page Collection)					-	-
	6	Total of Section 3.6			2,153,391	12,004,459	2,153,391	12,004,459
		Badili Area					-	-
		(from Page Collection)					-	-
	7	Total of Section 3.7			706,353	3,713,865	706,353	3,713,865
		Gabutu Area					-	-
		(from Page Collection)					-	-
	8	Total of Section 3.8			1,327,987	7,109,314	1,327,987	7,109,314
		Trunk Sewer No.8					-	-
		(from Page Collection)					-	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.1 Idubada Area									
		3.1 Idubada Area							
	1	ID1_uPVC Pipe Installation							
	1.1	150mm diameter							
		Type A (Soil/Right of Way)							
	a)	Invert Level < 1.0m	m	77.1	83.00	637.00	6,399	49,113	
	b)	Concrete Encasement	m	77.10	213.00		16,422	-	
	c)	1.0m =or< Invert Level < 2.0m	m	60.29	171.00	637.00	10,310	38,405	
	d)	2.0m =or< Invert Level < 3.0m	m	108.91	258.00	637.00	28,099	69,376	
	e)	3.0m =or< Invert Level < 4.0m	m	56.34	390.00	637.00	21,973	35,889	
		Type B (Asphalt)							
	f)	1.0m =or< Invert Level < 2.0m	m	94.88	305.00	637.00	28,938	60,439	
	g)	2.0m =or< Invert Level < 3.0m	m	43.45	412.00	637.00	17,901	27,678	
	1.2	Precast Manhole							
		Type A (Soil/Right of Way)							
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr	3	3,546.00		10,638	-	
	b)	Dia. 1200 Precast Manhole, h<3.0m	nr	2	8,692.00		17,384	-	
	c)	Dia. 1200 Precast Manhole, h<4.0m	nr	2	10,868.00		21,736	-	
	d)	Manhole cover (Iron)	nr	7		65,780.00	-	460,460	
		Type B (Asphalt)							
	e)	Dia. 1050 Precast Manhole, h<2.0m	nr	5	5,734.00		28,670	-	
	f)	Dia. 1200 Precast Manhole, h<4.0m	nr	2	10,868.00		21,736	-	
	g)	Manhole cover (Iron)	nr	7		65,780.00	-	460,460	
Carried forward to page collection								230,206	1,201,820

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.1 Idubada Area (Continue)									
	1.3	Connection from Existing Out fall							
	a)	Existing Manhole to New Manhole Piping	m	4.14	1,650.00		6,831	-	
	b)	Connection work to Existing Sewer	nr	2	1,650.00		3,300	-	
	c)	Cleaning of Existing Sewer and Manhole	nr	2	165.00		330	-	
	1.4	House Connection 100mm diameter							
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location)	m	70	840.00	4,345.00	58,800	304,150	
Carried forward to page collection								69,261	304,150

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section 3.2 Hanuabada Area (Continue)								
	2	H2_uPVC Pipe Installation						
	2.1	150mm diameter Type A (Soil/Right of Way)						
	a)	1.0m =or< Invert Level < 2.0m	m	100.5	171.00	637.00	17,186	64,019
	2.2	Precast Manhole Type A (Soil/Right of Way)						
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	4	5,734.00		22,936	-
	b)	Manhole cover (Iron)	nr	4		65,780.00	-	263,120
	2.3	Connection to Existing Sewer						
	a)	Connection work to Existing Sewer (including invert modification)	nr				-	-
	2.4	House Connection 100mm diameter						
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	20	840.00	4,345.00	16,800	86,900
					Carried forward to page collection		56,922	414,039

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.2 Hanuabada Area (Continue)									
	3	H3_uPVC Pipe Installation							
	3.1	150mm diameter Type B (Asphalt)							
	a)	1.0m =or< Invert Level < 2.0m	m	53.93	305.00	637.00	16,449	34,353	
	3.2	Precast Manhole Type B (Asphalt)							
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	1	5,734.00		5,734	-	
	b)	Manhole cover (Iron)	nr	1		65,780.00	-	65,780	
	3.3	Connection to Existing Sewer							
	a)	Connection work to Existing Sewer (including invert modification)	nr	-					
	3.4	House Connection 100mm diameter							
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	5	840.00	4,345.00	4,200	21,725	
Carried forward to page collection								26,383	121,858

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section 3.2 Hanuabada Area (Continue)								
	4	H4_uPVC Pipe Installation						
	4.1	150mm diameter						
		Type A (Soil/Right of Way)						
	a)	1.0m =or< Invert Level < 2.0m	m	63.54	171.00	637.00	10,865	40,475
		Type B (Asphalt)						
	a)	1.0m =or< Invert Level < 2.0m	m	143.53	305.00	637.00	43,777	91,429
	b)	2.0m =or< Invert Level < 3.0m	m	35.91	412.00	637.00	14,795	22,875
	4.2	Precast Manhole						
		Type A (Soil/Right of Way)						
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	1	5,734.00		5,734	-
		Type B (Asphalt)						
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr	4	5,734.00		22,936	-
	c)	Dia. 1200 Precast Manhole, h<2.0m	nr	1	6,390.00		6,390	-
	d)	Manhole Cover (Iron)	nr	6		65,780.00	-	394,680
	e)	Drop Pipe	m	1.33	420.00	1,944.00	559	2,586
	f)	Energy Dissipation (FRP) installation	nr	1	420.00	50,000.00	420	50,000
	4.3	Connection to Existing Sewer						
	a)	Connection Work to Existing Sewer (including invert modification)	nr	-				
	4.4	House Connection 100mm diameter						
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	30	840.00	4,345.00	25,200	130,350
Carried forward to page collection							130,676	732,395

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section 3.2 Hanuabada Area (Continue)								
	5	H5_uPVC Pipe Installation						
	5.1	150mm diameter						
		Type A (Soil/Right of Way)						
	a)	1.0m =or< Invert Level < 2.0m	m	9.42	171.00	637.00	1,611	6,001
		Type B (Asphalt)						
	a)	Invert Level < 1.0m	m	40	226.00	637.00	9,040	25,480
	b)	Concrete Encasement	m	40	213.00		8,520	-
	c)	1.0m =or< Invert Level < 2.0m	m	14.41	305.00	637.00	4,395	9,179
	d)	2.0m =or< Invert Level < 3.0m	m	49.13	412.00	637.00	20,242	31,296
	5.2	Precast Manhole						
		Type B (Asphalt)						
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	2	5,734.00		11,468	-
	b)	Manhole cover (Iron)	nr	2		65,780.00	-	131,560
	5.3	Connection from Existing Sewer						
	a)	Connection work from Existing Sewer (including invert modification)	nr	1	1,650.00		1,650	-
	b)	Cleaning of Existing Sewer and Manhole	nr	1	165.00		165	-
							-	-
	5.4	House Connection 100mm diameter						
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location)	m	10	840.00	4,345.00	8,400	43,450
		Total length should not be changed						

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Carried forward to page collection							65,491	246,966

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.3 Ela Makana Area									
	1	E1_uPVC Pipe Installation							
	1.1	150mm diameter Type A (Soil/Right of Way)							
	a)	1.0m =or< Invert Level < 2.0m	m	82.42	171.00	637.00	14,094	52,502	
	1.2	Precast Manhole Type A (Soil/Right of Way)					-	-	
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	4	5,734.00		22,936	-	
	b)	Manhole cover (Iron)	nr	4		65,780.00	-	263,120	
	1.3	Connection to Existing Sewer					-	-	
	a)	Connection work to Existing Sewer (including invert modification)	nr	1	1,650.00		1,650	-	
	b)	Cleaning of Existing Sewer and Manhole	nr	1	165.00		165	-	
	1.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	20	840.00	4,345.00	16,800	86,900	
Carried forward to page collection								55,645	402,522

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section 3.3 Ela Makana Area (Continue)								
	2	E2_uPVC Pipe Installation						
	2.1	150mm diameter Type B (Asphalt)						
	a)	1.0m =or< Invert Level < 2.0m	m	297.35	305.00	637.00	90,692	189,412
	2.2	Precast Manhole Type B (Asphalt)					-	-
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	8	5,734.00		45,872	-
	b)	Manhole cover (Iron)	nr	8		65,780.00	-	526,240
	2.3	Connection to Existing Sewer					-	-
	a)	Connection work to Existing Sewer (including invert modification)	nr	1	1,650.00		1,650	-
	b)	Cleaning of Existing Sewer	nr	1	165.00		165	-
	2.4	House Connection 100mm diameter					-	-
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	40	840.00	4,345.00	33,600	-
Carried forward to page collection							171,979	715,652

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.4 Touaguba Area (Continue)									
	2	T2_uPVC Pipe Installation							
	2.1	150mm diameter Type B (Asphalt)							
	a)	1.0m =or< Invert Level < 2.0m	m	164.51	171.00	637.00	28,131	104,793	
	2.2	Precast Manhole Type B (Asphalt)					-	-	
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	5	5,734.00		28,670	-	
	b)	Manhole cover (Iron)	nr	5		65,780.00	-	328,900	
	2.3	Connection to Existing Sewer					-	-	
	a)	Connection work to Existing Sewer (including invert modification)	nr				-	-	
	b)	Cleaning of Existing Sewer	nr				-	-	
	2.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	25	840.00	4,345.00	21,000	108,625	
Carried forward to page collection								77,801	542,318

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.4 Touaguba Area (Continue)									
	3	T3_uPVC Pipe Installation							
	3.1	150mm diameter Type B (Asphalt)							
	a)	1.0m =or< Invert Level < 2.0m	m	34.09	305.00	637.00	10,397	21,715	
	3.2	Precast Manhole Type B (Asphalt)					-	-	
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	1	5,734.00		5,734	-	
	b)	Manhole cover (Iron)	nr	1		65,780.00	-	65,780	
	3.3	Connection to Existing Sewer					-	-	
	a)	Connection work to Existing Sewer (including invert modification)	nr				-	-	
	b)	Cleaning of Existing Sewer	nr				-	-	
	3.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	5	840.00	4,345.00	4,200	21,725	
Carried forward to page collection								20,331	109,220

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section 3.4 Touaguba Area (Continue)								
	4	T4_uPVC Pipe Installation						
	4.1	150mm diameter						
		Type B (Asphalt)						
	a)	1.0m =or< Invert Level < 2.0m	m	14.94	305.00	637.00	4,557	9,517
		Type C (Concrete/Drain reserve near private area)					-	-
	b)	1.0m =or< Invert Level < 2.0m	m	115.54	146.00	637.00	16,869	73,599
							-	-
	4.2	Precast Manhole					-	-
		Type C (Concrete/Drain reserve near private area)					-	-
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	2	5,734.00		11,468	-
		Type B (Asphalt)					-	-
	b)	Dia. 1200 Precast Manhole, h<2.0m	nr	1	6,390.00		6,390	-
		Type C (Concrete/Drain reserve near private area)					-	-
	c)	Dia. 1200 Precast Manhole, h<2.0m	nr	1	6,390.00		6,390	-
	d)	Manhole cover (Iron)	nr	4		65,780.00	-	263,120
	e)	Energy Dissipation (FRP) installation	nr	1	420.00	50,000.00	420	50,000
							-	-
	4.3	Connection to Existing Sewer					-	-
	a)	Connection work to Existing Sewer (including invert modification)	nr				-	-
							-	-
	b)	Cleaning of Existing Sewer	nr				-	-
							-	-
	4.4	House Connection 100mm diameter					-	-
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	20	840.00	4,345.00	16,800	86,900
Carried forward to page collection							62,894	483,136

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.4 Touaguba Area (Continue)									
	5	T5_uPVC Pipe Installation							
	5.1	150mm diameter Type B (Asphalt)							
	a)	1.0m =or< Invert Level < 2.0m	m	391.02	305.00	637.00	119,261	249,080	
	5.2	Precast Manhole Type B (Asphalt)					-	-	
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	12	5,734.00		68,808	-	
	b)	Manhole cover (Iron)	nr	12		65,780.00	-	789,360	
	5.3	Connection to Existing Sewer					-	-	
	a)	Connection work to Existing Sewer (including invert modification)	nr				-	-	
	b)	Cleaning of Existing Sewer	nr				-	-	
	5.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	60	840.00	4,345.00	50,400	260,700	
Carried forward to page collection								238,469	1,299,140

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.4 Touaguba Area (Continue)									
	6	T6_uPVC Pipe Installation							
	6.1	150mm diameter Type B (Asphalt)							
	a)	1.0m =or< Invert Level < 2.0m	m	64.12	305.00	637.00	19,557	40,844	
	6.2	Precast Manhole Type B (Asphalt)					-	-	
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	2	5,734.00		11,468	-	
	b)	Manhole cover (Iron)	nr	2		65,780.00	-	131,560	
	6.3	Connection to Existing Sewer					-	-	
	a)	Connection work to Existing Sewer (including invert modification)	nr				-	-	
	b)	Cleaning of Existing Sewer	nr				-	-	
	6.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	10	840.00	4,345.00	8,400	43,450	
Carried forward to page collection								39,425	215,854

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.4 Touaguba Area (Continue)									
	7	T7_uPVC Pipe Installation							
	7.1	150mm diameter Type B (Asphalt)							
	a)	1.0m =or< Invert Level < 2.0m	m	56.32	305.00	637.00	17,178	35,876	
		Type C (Concrete/Drain reserve in private area)					-	-	
	b)	1.0m =or< Invert Level < 2.0m	m	141.32	146.00	637.00	20,633	90,021	
							-	-	
	7.2	Precast Manhole Type B (Asphalt)					-	-	
	a)	Dia. 1200 Precast Manhole, h<2.0m	nr	1	6,390.00		6,390	-	
		Type C (Concrete/Drain reserve in private area)					-	-	
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr	3	5,734.00		17,202	-	
	c)	Dia. 1200 Precast Manhole, h<2.0m	nr	2	6,390.00		12,780	-	
	d)	Manhole cover (Iron)	nr	6		65,780.00	-	394,680	
	e)	Energy dissipation FRP Form installation	nr	2	420.00	50,000.00	840	100,000	
							-	-	
	7.3	Connection to Existing Sewer					-	-	
	a)	Connection work to Existing Manhole (including invert modification)	nr	1	1,650.00		1,650	-	
							-	-	
	b)	Cleaning of Existing Sewer	nr	1	165.00		165	-	
							-	-	
	7.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	30	840.00	4,345.00	25,200	130,350	
Carried forward to page collection								102,038	750,927

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.5 Koki Area									
	1	KK1_uPVC Pipe Installation							
	1.1	150mm diameter							
		Type A (Soil/Right of Way)							
	a)	1.0m =or< Invert Level < 2.0m	m	208.42	171.00	637.00	35,640	132,764	
		Type B (Asphalt)					-	-	
	b)	1.0m =or< Invert Level < 2.0m	m	8.34	305.00	637.00	2,544	5,313	
							-	-	
	1.2	Precast Manhole					-	-	
		Type A (Soil/Right of Way)					-	-	
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	3	5,734.00		17,202	-	
	b)	Dia. 1200 Precast Manhole, h<2.0m	nr	2	6,390.00		12,780	-	
		Type B (Asphalt)					-	-	
	c)	Dia. 1050 Precast Manhole, h<2.0m	nr	1	5,734.00		5,734	-	
	d)	Manhole cover (Iron)	nr	6		65,780.00	-	394,680	
	e)	Energy dissipation FRP form installation	nr	2	420.00	50,000.00	840	100,000	
							-	-	
	1.3	Connection to Existing Sewer					-	-	
	a)	Connection work to Existing Sewer (including invert modification)	nr	1	1,650.00		1,650	-	
							-	-	
	b)	Cleaning of Existing Sewer and Manhole	nr	1	165.00		165	-	
							-	-	
	1.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	30	840.00	4,345.00	25,200	130,350	
Carried forward to page collection								101,755	763,107

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.5 Koki Area (Continue)									
	3	KK3_uPVC Pipe Installation							
	3.1	225mm diameter Type B (Asphalt)							
	a)	1.0m =or< Invert Level < 2.0m	m	200.11	336.00	1,884.00	67,237	377,007	
	b)	2.0m =or< Invert Level < 3.0m	m	13.67	443.00	1,884.00	6,056	25,754	
							-	-	
		Type C (Concrete/ Open Channel)					-	-	
	c)	1.0m =or< Invert Level < 2.0m	m	4.73	380.00	1,884.00	1,797	8,911	
							-	-	
	3.2	Precast Manhole Type B (Asphalt)					-	-	
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	6	5,734.00		34,404	-	
		Type A (Soil/ Right of way)					-	-	
	b)	Replace 1050 Precast Manhole, h<2.0m_	nr	1	5,734.00		5,734	-	
	c)	Manhole cover (Iron)	nr	7		65,780.00	-	460,460	
	d)	Drop Pipe	m	1.02	420.00	1,944.00	428	1,983	
							-	-	
	3.3	Connection to Existing Sewer					-	-	
	a)	Connection work from and to Existing Sewer (including invert modification)	nr	2	1,650.00		3,300	-	
							-	-	
	b)	Cleaning of Existing Sewer and Manhole	nr	1	165.00		165	-	
							-	-	
							-	-	
	3.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	35	840.00	4,345.00	29,400	152,075	
Carried forward to page collection								148,521	1,026,190

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.5 Koki Area (Continue)									
	4	KK4_uPVC Pipe Installation							
	4.1	150mm diameter Type B (Asphalt)							
	a)	1.0m =or< Invert Level < 2.0m	m	158.72	171.00	637.00	27,141	101,105	
	4.2	Precast Manhole Type B (Asphalt)					-	-	
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	3	5,734.00		17,202	-	
	b)	Manhole cover (Iron)	nr	3		65,780.00	-	197,340	
	c)	Drop Pipe	m	3.27	420.00	1,944.00	1,373	6,357	
	4.3	Connection to Existing Sewer					-	-	
	a)	Connection work from and to Existing Sewer (including invert modification)	nr	1	1,650.00		1,650	-	
	4.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	15	840.00	4,345.00	12,600	65,175	
Carried forward to page collection								59,966	369,977

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.5 Koki Area (Continue)									
	5	KK5_uPVC Pipe Installation							
	5.1	150mm diameter Type B (Asphalt)					-	-	
	a)	1.0m =or< Invert Level < 2.0m	m	313.05	305.00		95,480	-	
	5.2	Precast Manhole Type B (Asphalt)					-	-	
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	8	5,734.00		45,872	-	
	b)	Manhole cover (Iron)	nr	8		65,780.00	-	526,240	
	5.3	Connection to Existing Sewer					-	-	
	a)	Connection work from and to Existing Sewer (including invert modification)	nr				-	-	
	5.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	40	840.00	4,345.00	33,600	173,800	
Carried forward to page collection								174,952	700,040

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.6 Badili Area (continue)									
	10	B10_uPVC & HDPE Pipe Installation							
	10.1	225mm diameter							
		Type B (Asphalt)							
	a)	1.0m =or< Invert Level < 2.0m	m	14.40	336.00	1,884.00	4,838	27,130	
		Type C (Concrete/Walkway)					-	-	
	b)	1.0m =or< Invert Level < 2.0m	m	222.90	380.00		84,702	-	
							-	-	
	10.2	Precast Manhole					-	-	
		Type B (Asphalt)					-	-	
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	1	5,734.00		5,734	-	
		Type C (Concrete/Walkway)					-	-	
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr	6	5,734.00		34,404	-	
	c)	Manhole cover (Iron)	nr	7		65,780.00	-	460,460	
							-	-	
	10.3	Connection to Existing Sewer					-	-	
	a)	Connection work to Existing Sewer (including invert modification)	nr				-	-	
	b)	Cleaning of Existing Sewer and Manhole	nr				-	-	
							-	-	
	10.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location)	m	35	840.00	4,345.00	29,400	152,075	
		Total length should not be changed					-	-	
							-	-	
	10.5	DN225 (Inside dia.197.6) HDPE					-	-	
		Type B (Asphalt, Heavy Traffic = Highway)					-	-	
	a)	1.0m =or< Invert Level < 2.0m	m	26.55	331.00	3,444.00	8,788	91,438	
Carried forward to page collection								167,866	731,103

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Page Collection 3-32 to 3-46								
		Sum of Page 3-32			59,800	409,153	59,800	409,153
							-	-
		Sum of Page 3-33			221,153	1,425,312	221,153	1,425,312
							-	-
		Sum of Page 3-34			40,042	243,398	40,042	243,398
							-	-
		Sum of Page 3-35			450,401	2,407,835	450,401	2,407,835
							-	-
		Sum of Page 3-36			304,243	1,570,025	304,243	1,570,025
							-	-
		Sum of Page 3-37			111,933	613,305	111,933	613,305
							-	-
		Sum of Page 3-38			76,486	351,575	76,486	351,575
							-	-
		Sum of Page 3-39			59,488	257,756	59,488	257,756
							-	-
		Sum of Page 3-40			80,041	544,211	80,041	544,211
							-	-
		Sum of Page 3-41			167,866	731,103	167,866	731,103
							-	-
		Sum of Page 3-42			115,513	642,009	115,513	642,009
							-	-
		Sum of Page 3-43			80,497	545,598	80,497	545,598
							-	-
		Sum of Page 3-44			116,758	652,876	116,758	652,876
							-	-
		Sum of Page 3-45			168,362	888,045	168,362	888,045
							-	-
		Sum of Page 3-46			100,808	722,258	100,808	722,258
Carried forward to Section Summary							2,153,391	12,004,459

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.7 Gabutu Area (Continue)									
	5	G5_uPVC Pipe Installation							
	5.1	150mm diameter Type B (Asphalt, Hard rock soil)							
	a)	Invert Level < 1.0m	m	131.88	226.00	637.00	29,805	84,008	
	5.2	Precast Manhole Type B (Asphalt, Hard rock soil)					-	-	
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr	4	3,546.00		14,184	-	
	b)	Manhole cover (Iron)	nr	4	5,734.00		22,936	-	
	5.3	Connection to Existing Sewer					-	-	
	a)	Connection work to Existing Sewer (including invert modification)	nr				-	-	
	b)	Cleaning of Existing Sewer and Manhole	nr				-	-	
	5.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	20	840.00	4,345.00	16,800	86,900	
Carried forward to page collection								83,725	170,908

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.7 Gabutu Area (Continue)									
	6	G6_uPVC Pipe Installation							
	6.1	150mm diameter Type B (Asphalt, Hard rock soil)							
	a)	Invert Level < 1.0m	m	48.66	226.00	637.00	10,997	30,996	
	b)	1.0m =or< Invert Level < 2.0m	m	37.68	305.00	637.00	11,492	24,002	
	6.2	Precast Manhole Type B (Asphalt, Hard rock soil)					-	-	
	a)	Dia. 1050 Precast Manhole, h<1.0m	nr	1	3,546.00		3,546	-	
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr	1	5,734.00		5,734	-	
	c)	Manhole cover (Iron)	nr	2		65,780.00	-	131,560	
	6.3	Connection to Existing Sewer					-	-	
	a)	Connection work to Existing Sewer (including invert modification)	nr				-	-	
	b)	Cleaning of Existing Sewer and Manhole	nr				-	-	
	6.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	10	840.00	1,680.00	8,400	16,800	
Carried forward to page collection								40,169	203,358

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section 3.8 Kaugere Area								
		5.8 Kaugere Area						
	1	KG1_uPVC Pipe Installation						
	1.1	100mm diameter Type C (Concrete/Stairs)						
	a)	Invert Level < 1.0m	m	70.62	267.00	637.00	18,856	44,985
	1.2	150mm diameter Type B (Asphalt)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m	152.01	305.00	637.00	46,363	96,830
		Type C (Concrete/Stairs)					-	-
	b)	1.0m =or< Invert Level < 2.0m	m	11.04	146.00	637.00	1,612	7,032
	1.3	Precast Manhole Type B (Asphalt)					-	-
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	5	5,734.00		28,670	-
		Type C (Concrete/Stairs)					-	-
	b)	Dia. 1050 Precast Manhole, h<2.0m	nr	1	5,734.00		5,734	-
	c)	Manhole cover (Iron)	nr	6		65,780.00	-	394,680
	1.4	Connection to Existing Sewer					-	-
	a)	Connection work to Existing Sewer (including invert modification)	nr	1	1,650.00		1,650	-
							-	-
	b)	Cleaning of Existing Sewer and Manhole	nr	1	165.00		165	-
	1.5	House Connection 100mm diameter					-	-
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location, fittings are included in this)	m	30	840.00		25,200	-
		Total length should not be changed						
Carried forward to page collection							128,250	543,527

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
Section 3.8 Kaugere Area (Continue)									
	4	KG4_uPVC Pipe Installation							
	4.1	150mm diameter Type B (Asphalt)							
	a)	1.0m =or< Invert Level < 2.0m	m	171.34	305.00	637.00	52,259	109,144	
	4.2	Precast Manhole Type B (Asphalt)					-	-	
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	5	5,734.00		28,670	-	
	b)	Manhole cover (Iron)	nr	5		65,780.00	-	328,900	
	4.3	Connection to Existing Sewer					-	-	
	a)	Connection work to Existing Sewer (including invert modification)	nr				-	-	
	b)	Cleaning of Existing Sewer and Manhole	nr				-	-	
	4.4	House Connection 100mm diameter					-	-	
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	25	840.00	4,345.00	21,000	108,625	
	4.5	Errosion Prevention & Drain					-	-	
	a)	Barrier Kerb to prevent errosion Type B	m	55	85.00		4,675	-	
	b)	U-type Side Ditch (Drain)	m	40	151.45		6,058	-	
Carried forward to page collection								112,662	546,669

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section 3.8 Kaugere Area (Continue)								
	6	KG6_uPVC Pipe Installation						
	6.1	150mm diameter						
		Type A (Soil/Private area)						
	a)	1.0m =or< Invert Level < 2.0m	m	23.40	171.00	637.00	4,001	14,906
		Type B (Asphalt)					-	-
	b)	1.0m =or< Invert Level < 2.0m	m	19.57	305.00	637.00	5,969	12,466
		Type C (Concrete/Storm Water Open Drain)					-	-
	c)	1.0m =or< Invert Level < 2.0m	m	2.82	146.00	637.00	412	1,796
	6.2	Precast Manhole					-	-
		Type B (Asphalt)					-	-
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	2	5,734.00		11,468	-
	b)	Manhole cover (Iron)	nr	2		65,780.00	-	131,560
	6.3	Connection to Existing Sewer					-	-
	a)	Connection work to Existing Sewer (including invert modification)	nr	1	1,650.00		1,650	-
	b)	Cleaning of Existing Sewer and Manhole	nr	1	165.00		165	-
	6.4	House Connection 100mm diameter					-	-
	a)	5m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	10	840.00	4,345.00	8,400	43,450
Carried forward to page collection							32,065	204,178

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
Section 3.9 Kila Kila Area								
	1	KL1_uPVC Pipe Installation						
	1.1	150mm diameter Type A (Soil/Right of Way)						
	a)	1.0m =or< Invert Level < 2.0m	m	281.15	171.00	637.00	48,077	179,093
	b)	2.0m =or< Invert Level < 3.0m	m	125.43	258.00	637.00	32,361	79,899
							-	-
		Type B (Asphalt)					-	-
	c)	1.0m =or< Invert Level < 2.0m	m	128.81	305.00	637.00	39,287	82,052
	d)	2.0m =or< Invert Level < 3.0m	m	10.09	412.00	637.00	4,157	6,427
							-	-
	1.2	Precast Manhole					-	-
		Type A (Soil/Right of Way)					-	-
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	4	5,734.00		22,936	-
	b)	Dia. 1200 Precast Manhole, h<3.0m	nr	3	8,692.00		26,076	-
		Type B (Asphalt)					-	-
	c)	Dia. 1050 Precast Manhole, h<2.0m	nr	2	5,734.00		11,468	-
	d)	Manhole cover (Iron)	nr	9		65,780.00	-	592,020
							-	-
	1.3	Connection to Existing Sewer					-	-
	a)	Connection work to Existing Sewer (including invert modification)	nr	1	1,650.00		1,650	-
							-	-
	b)	Cleaning of Existing Sewer and Manhole	nr	1	165.00		165	-
							-	-
	1.4	House Connection 100mm diameter					-	-
	a)	10m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	90	1,680.00	8,690.00	151,200	782,100
Total carried forward to Grand Summary							337,377	1,721,591

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
Section 3.9 Kila Kila Area (Continue)								
	2	KL2_uPVC Pipe Installation						
	2.1	150mm diameter Type A (Soil/Right of Way)						
	a)	1.0m =or< Invert Level < 2.0m	m	37.00	171.00	637.00	6,327	23,569
		Type B (Asphalt)					-	-
	b)	1.0m =or< Invert Level < 2.0m	m	249.17	305.00	637.00	75,997	158,721
							-	-
	2.2	225mm diameter Type B (Asphalt)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m	112.64	336.00	1,884.00	37,847	212,214
							-	-
	2.3	Precast Manhole Type A (Soil/Right of Way)					-	-
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	2	5,734.00		11,468	-
	b)	Dia. 1200 Precast Manhole, h<3.0m	nr	1	8,692.00		8,692	-
		Type B (Asphalt)					-	-
	c)	Dia. 1050 Precast Manhole, h<2.0m	nr	5	5,734.00		28,670	-
	d)	Manhole cover (Iron)	nr	8		65,780.00	-	526,240
	e)	Drop pipe	m	0.64	420.00	1,944.00	269	1,244
							-	-
	2.4	Connection to Existing Sewer					-	-
	a)	Connection work to Existing Sewer (including invert modification)	nr				-	-
	b)	Cleaning of Existing Sewer and Manhole	nr				-	-
							-	-
	2.5	House Connection 100mm diameter					-	-
	a)	10m uPVC Pipe per each Manhole (length will be arranged at each location) Total length should not be changed	m	80	1,680.00	20,200.00	134,400	1,616,000
Carried forward to page collection							303,670	2,537,988

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
Section 3.9 Kila Kila Area (Continue)								
	8	KL8_uPVC Pipe Installation						
	8.1	225mm diameter						
		Type A (Soil/Right of Way)						
	a)	2.0m =or< Invert Level < 3.0m	m	100.23	277.00	1,884.00	27,764	188,833
							-	-
		Type B (Asphalt)					-	-
	b)	2.0m =or< Invert Level < 3.0m	m	130.28	443.00	1,884.00	57,714	245,448
							-	-
	8.2	Precast Manhole					-	-
		Type A (Soil/Right of Way)					-	-
	a)	Dia. 1050 Precast Manhole, h<2.0m	nr	3	5,734.00		17,202	-
		Type B (Asphalt)					-	-
	b)	Dia. 1200 Precast Manhole, h<3.0m	nr	4	8,692.00		34,768	-
	c)	Manhole cover (Iron)	nr	7		65,780.00	-	460,460
							-	-
	8.3	Connection to Existing Sewer					-	-
	a)	Connection work to Existing Sewer (including invert modification)	nr	1	1,650.00		1,650	-
							-	-
	b)	Cleaning of Existing Sewer and Manhole	nr	1	165.00		165	-
							-	-
	8.4	House Connection 100mm diameter					-	-
	a)	10m uPVC Pipe per each Manhole (length will be arranged at each location)	m	70	1,680.00	20,200.00	117,600	1,414,000
		Total length should not be changed					-	-
							-	-
	8.5	DN355(ID:312mm) HDPE pipe					-	-
		Type A (Soil/Right of Way)					-	-
	a)	2.0m =or< Invert Level < 3.0m	m	11.97	308.00	8,409.00	3,687	100,656
Carried forward to page collection								
							260,550	2,409,397

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Page Collection 3-69 to 3-81								
		Sum of Page 3-69			337,377	1,721,591	337,377	1,721,591
		Sum of Page 3-70			303,670	2,537,988	303,670	2,537,988
		Sum of Page 3-71			205,534	1,073,374	205,534	1,073,374
		Sum of Page 3-72			153,338	860,798	153,338	860,798
		Sum of Page 3-73			92,444	550,849	92,444	550,849
		Sum of Page 3-74			59,617.00	359,556.00	59,617	359,556
		Sum of Page 3-75			405,357.00	2,188,881.00	405,357	2,188,881
		Sum of Page 3-76			260,550.00	2,409,397.00	260,550	2,409,397
		Sum of Page 3-77			246,991.00	1,257,102.00	246,991	1,257,102
		Sum of Page 3-78			198,387.00	1,052,551.00	198,387	1,052,551
		Sum of Page 3-79			130,802.00	762,205.00	130,802	762,205
		Sum of Page 3-80			147,202.00	707,606.00	147,202	707,606
		Sum of Page 3-81			168,995.00	1,039,206.00	168,995	1,039,206
Carried forward to Section Summary							2,710,264	16,521,104

Section IV

Pumping Stations

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
Section Summary of Section 4								
	1	Total of Section 4.1			202,514	615,057	202,514	615,057
		Kanudi Pumping Station (PS-1)					-	
		(from Page Collection)					-	
							-	
		Total of Section 4.2			238,843	252,419	238,843	252,419
		Idubada Pumping Station (PS-2)					-	
		(from Page Collection)					-	
							-	
		Total of Section 4.3			267,798	864,805	267,798	864,805
		Hagara Pumping Station (PS-3)					-	
		(from Page Collection)					-	
							-	
		Total of Section 4.4			421,998	1,096,805	421,998	1,096,805
		Hanuabada Pumping Station (PS-4)					-	
		(from Page Collection)					-	
							-	
		Total of Section 4.5			810,933	1,850,496	810,933	1,850,496
		Konedobu Pumping Station (PS-5)					-	
		(from Page Collection)					-	
							-	
		Total of Section 4.6			34,499	-	34,499	-
		Old Yacht Club Pumping Station (PS-6)					-	
		(from Page Collection)					-	
							-	
		Total of Section 4.7			1,164	-	1,164	-
		Stanley Esplanade Pumping Station (PS-7)					-	
		(from Page Collection)					-	
							-	
		Total of Section 4.8			1,335	-	1,335	-
		Sea Park Pumping Station (PS-8)					-	
		(from Page Collection)					-	

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section Summary of Section 4 (Continue)								
		Total of Section 4.9			1,254	-	1,254	-
		Davara Pumping Station (PS-9)					-	
		(from Page Collection)					-	
		Total of Section 4.10			409,794	279,270	409,794	279,270
		Lawes Road Pumping Station (PS-10)					-	
		(from Page Collection)					-	
		Total of Section 4.11			318,141	1,130,385	318,141	1,130,385
		Koki Pumping Station (PS-11)					-	
		(from Page Collection)					-	
		Total of Section 4.12			156,288	-	156,288	-
		Badili Pumping Station (PS-12)					-	
		(from Page Collection)					-	
		Total of Section 4.13			175,173	131,066	175,173	131,066
		Kila Police Pumping Station (PS-13)					-	
		(from Page Collection)					-	
		Total of Section 4.14			240,393	80,087	240,393	80,087
		Konebada Pumping Station (PS-14)					-	
		(from Page Collection)					-	
		Total of Section 4.15			224,586	340,644	224,586	340,644
		Gabutu Pumping Station (PS-15)					-	
		(from Page Collection)					-	
		Total of Section 4.16			260,098	294,744	260,098	294,744
		Horsecamp Pumping Station (PS-16)					-	
		(from Page Collection)					-	

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.1 Kanudi Pumping Station (PS-1) (continue)								
	3	Inlet Pipe & Overflow Pipe Works						
	3.1							
	3.1.1	Inlet Pipe uPVC 225mm diameter Type A (Soil/Right of Way) 1.0m =or< Invert Level < 2.0m	m	99.1	188.00	1,884	18,631	186,704
	3.2	Precast Manhole					-	-
	3.2.1	Dia. 1200 Precast Manhole, h<2.0m	nr	4	6,390		25,560	-
	3.2.2	Manhole cover (Iron)	nr	4		65,780	-	263,120
	3.3	Connection to Existing Sewer					-	-
	3.3.1	Connection work to Existing Sewer (including invert modification)	nr	2	1,650		3,300	-
	3.2.2	Cleaning of Existing Sewer and Manhole	nr		500		-	-
	3.4						-	-
	3.1.1	Overflow HDPE 225mm diameter Type A (Soil/Right of Way) 1.0m =or< Invert Level < 2.0m	m	38.7	186.00	3,444	7,198	133,283
	4	Miscellaneous Works					-	-
	4.1	Handrail, ladders and Stop Logs others					-	-
	4.1.1	Step Iron, Width=300mm, SS-304	no	10		3,195	-	31,950
	4.1.2	EDA RANU wave & fence (2.6m high)	m	36	910		32,760	-
	4.1.3	EDARANU wave & gate (2.6m high, 3.0m width)	no	2	10,315		20,630	-
	4.1.4	Water Reticulation Pipeworks :Mild Steel Pipe dia. 25 mm	m	30	76.41		2,292	-
	4.1.5	Supply material and lying flapgate :200dia	no	1	3,690		3,690	-
	4	Allow for all cost and works deemed necessary but not included in this section or elsewhere for the completion of the work according to the Specifications, Drawings and Condition of Contract	ls	1			-	-
Carried forward to page collection							114,061	615,057

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.2 Idubada Pumping Station (PS-2)								
		4.2 Idubada Pumping Station (PS-2)						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	190.3	36		6,851	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	187.78	150		28,167	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	132.68	220		29,190	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	190.3	144		27,403	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	187.78	20		3,756	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³		100		-	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	0.57	970		553	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	28.71	1,220		35,026	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	3.45	3,400		11,730	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Carried forward to page collection							142,676	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₱	PNGK	₱	
4.2 Idubada Pumping Station (PS-2) (continue)									
	2.4	Formworks							
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²		78		-	-	
	2.4.2	Formwork for structural concrete columns	m ²	3.06	85		260	-	
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-	
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-	
	2.5	Concrete Sundries					-	-	
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-	
	2.5.2	Plastic chairs	bags		50		-	-	
	2.6	Others					-	-	
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-	
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-	
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-	
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-	
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	52.6	26		1,368	-	
							-	-	
	3	Inlet Pipe & Overflow Pipe Works					-	-	
	3.1						-	-	
	3.1.1	Inlet Pipe uPVC 225mm diameter Type A (Soil/Right of Way)					-	-	
		1.0m =or< Invert Level < 2.0m	m	99.1	188.00	1,884	18,631	186,704	
Carried forward to page collection								20,259	

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.2 Idubada Pumping Station (PS-2) (continue)								
	3.2	Precast Manhole					-	-
	3.2.1	Dia. 1200 Precast Manhole, h<2.0m	nr	1	6,390		6,390	-
	3.2.2	Manhole cover (Iron)	nr	1		65,780	-	65,780
	3.3	Connection to Existing Sewer					-	-
	3.3.1	Connection work to Existing Sewer (including invert modification)	nr	1	1,650		1,650	-
	3.2.2	Cleaning of Existing Sewer and Manhole	nr		500		-	-
	3.4						-	-
	3.1.1	Overflow HDPE 225mm diameter Type A (Soil/Right of Way)					-	-
		1.0m =or< Invert Level < 2.0m	m	31	186.00	3,444	5,766	106,764
							-	-
	4	Miscellaneous Works					-	-
	4.1	Handrail, ladders and Stop Logs others					-	-
	4.1.1	Step Iron, Width=300mm, SS-304	no	25		3,195	-	79,875
	4.1.2	EDA RANU wave & fence (2.6m high)	m	39	910		35,490	-
	4.1.3	EDARANU wave & gate (2.6m high, 3.0m width)	no	2	10,315		20,630	-
	4.1.4	Water Reticulation Pipeworks :Mild Steel Pipe dia. 25 mm	m	30	76.41		2,292	-
	4.1.5	Supply material and lying flapgate :200dia	no	1	3,690		3,690	-
							-	-
	4	Allow for all cost and works deemed necessary but not included in this section or elsewhere for the completion of the work according to the Specifications, Drawings and Condition of Contract	ls	1			-	-
Carried forward to page collection							75,908	252,419

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
4.3 Hagara Pumping Station (PS-3)									
		4.3 Hagara Pumping Station (PS-3)							
	1	Excavation & Bedding							
	1.1	Excavation							
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	126.03	36		4,537	-	
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	241.97	150		36,296	-	
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	68.51	220		15,072	-	
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	126.03	144		18,148	-	
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	241.97	20		4,839	-	
	1.2	Bedding					-	-	
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³		100		-	-	
							-	-	
	2	Concrete Works					-	-	
	2.1	Concrete Blinding					-	-	
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	0.57	970		553	-	
	2.2	Concrete Supply					-	-	
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-	
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	28.18	1,220		34,380	-	
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-	
	2.3	Reinforcing Bars					-	-	
	2.3.1	Reinforcing bars and fabrication for reinforced c	t	3.38	3,400		11,492	-	
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-	
Carried forward to page collection								125,317	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
4.3 Hagara Pumping Station (PS-3) (continue)									
	2.4	Formworks							
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²		78		-	-	
	2.4.2	Formwork for structural concrete columns	m ²	78.16	85		6,644	-	
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-	
	2.4.4	Formwork for structural concrete with curved surface	m ²	122.13	150		18,320	-	
	2.5	Concrete Sundries					-	-	
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-	
	2.5.2	Plastic chairs	bags		50		-	-	
	2.6	Others					-	-	
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-	
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-	
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-	
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-	
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	184.14	26		4,788	-	
							-	-	
3		Inlet Pipe & Overflow Pipe Works					-	-	
	3.1						-	-	
	3.1.1	Inlet Pipe uPVC300mm diameter Type A (Soil/Right of Way)					-	-	
		1.0m =or< Invert Level < 2.0m	m	68	205	3,146	13,940	213,928	
	3.2	Precast Manhole					-	-	
	3.2.1	Dia. 1050 Precast Manhole, h<4.0m	nr	2	11,294		22,588	-	
	3.2.2	Manhole cover (Iron)	nr	2		65,780	-	131,560	
Carried forward to page collection								66,280	345,488

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.3 Hagara Pumping Station (PS-3) (continue)								
	3.3	Connection to Existing Sewer					-	-
	3.3.1	Connection work to Existing Sewer (including invert modification)	nr		1,650		-	-
	3.2.2	Cleaning of Existing Sewer and Manhole	nr	2	500		1,000	-
	3.4						-	-
	3.1.1	Overflow HDPE 280mm diameter Type A (Soil/Right of Way) 1.0m =or< Invert Level < 2.0m	m	73	198	5,268	14,454	384,564
							-	-
	4	Miscellaneous Works					-	-
	4.1	Handrail, ladders and Stop Logs others					-	-
	4.1.1	Step Iron, Width=300mm, SS-304	no	41		3,195	-	130,995
	4.1.2	EDA RANU wave & fence (2.6m high)	m	41.2	910		37,492	-
	4.1.3	EDARANU wave & gate (2.6m high, 3.0m width)	no	2	10,315		20,630	-
	4.1.4	Water Reticulation Pipeworks :Mild Steel Pipe dia. 25 mm	m	30	76.41		2,292	-
	4.1.5	Supply material and lying flapgate :200dia	no		3,690		-	-
	4.1.6	Pipe(DIP) 100mm dia	m	4.3	77.38	874	333	3,758
							-	-
	4	Allow for all cost and works deemed necessary but not included in this section or elsewhere for the completion of the work according to the Specifications, Drawings and Condition of Contract	ls	1			-	-
Carried forward to page collection							76,201	519,317

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.4 Hanuabada Pumping Station (PS-4)								
		4.4 Hanuabada Pumping Station (PS-4)						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	290.65	36		10,463	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	400.25	150		60,038	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	192.35	220		42,317	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	301.45	144		43,409	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	400.25	20		8,005	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³		100		-	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	1.78	970		1,727	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	88.25	1,220		107,665	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	10.59	3,400		36,006	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Total carried forward to Grand Summary							309,630	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
4.4 Hanuabada Pumping Station (PS-4) (continue)									
	2.4	Formworks							
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	24	78		1,872	-	
	2.4.2	Formwork for structural concrete columns	m ²	317.52	85		26,989	-	
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-	
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-	
	2.5	Concrete Sundries					-	-	
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-	
	2.5.2	Plastic chairs	bags		50		-	-	
	2.6	Others					-	-	
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-	
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-	
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-	
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-	
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	93	26		2,418	-	
							-	-	
	3	Inlet Pipe & Overflow Pipe Works					-	-	
	3.1						-	-	
	3.1.1	STORM WATER DRAIN HDPE 710mm diameter					-	-	
		Type A (Soil/Right of Way)					-	-	
		1.0m =or< Invert Level < 2.0m	m	21	295	33,547	6,195	704,487	
Carried forward to page collection								37,474	704,487

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.4 Hanuabada Pumping Station (PS-4) (continue)								
	3.2	Precast Manhole						
	3.2.1	Dia. 1200 Precast Manhole, h<4.0m	nr	1	10,868		10,868	-
	3.2.2	Manhole cover (Iron)	nr	1		65,780	-	65,780
	3.3	Connection to Existing Sewer					-	-
	3.3.1	Connection work to Existing Sewer (including invert modification)	nr	1	1,650		1,650	-
	3.2.2	Cleaning of Existing Sewer and Manhole	nr		500		-	-
	3.4						-	-
	3.1.1	Overflow HDPE 400mm diameter Type A (Soil/Right of Way)					-	-
		1.0m =or< Invert Level < 2.0m	m	18	109	10,686	1,962	192,348
							-	-
	4	Miscellaneous Works					-	-
	4.1	Handrail, ladders and Stop Logs others					-	-
	4.1.1	Step Iron, Width=300mm, SS-304	no	42		3,195	-	134,190
	4.1.2	EDA RANU wave & fence (2.6m high)	m	41.2	910		37,492	-
	4.1.3	EDARANU wave & gate (2.6m high, 3.0m width)	no	2	10,315		20,630	-
	4.1.4	Water Reticulation Pipeworks :Mild Steel Pipe dia. 25 mm	m	30	76.41		2,292	-
	4.1.5	Supply material and lying flapgate :200dia	no		3,690		-	-
							-	-
	4	Allow for all cost and works deemed necessary but not included in this section or elsewhere for the completion of the work according to the Specifications, Drawings and Condition of Contract	ls	1			-	-
Carried forward to page collection							74,894	392,318

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.5 Konedobu Pumping Station (PS-5)								
		4.5 Konedobu Pumping Station (PS-5)						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³		36		-	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	1476.48	150		221,472	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	799.2	220		175,824	-
	1.1.4	Supply, spread & compact selected surplus	m ³		144		-	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	1476.48	20		29,530	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³		100		-	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	2.17	970		2,105	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	110.79	1,220		135,164	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	13.29	3,400		45,186	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Carried forward to page collection							609,281	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.5 Konedobu Pumping Station (PS-5) (continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	47.25	78		3,686	-
	2.4.2	Formwork for structural concrete columns	m ²	361.43	85		30,722	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-
	2.5.2	Plastic chairs	bags		50		-	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	148.05	26		3,849	-
							-	-
	3	Inlet Pipe & Overflow Pipe Works					-	-
	3.1						-	-
	3.1.1	Inlet Pipe HDPE 400mm diameter Type A (Soil/Right of Way) 5.0m< Invert Level < 6.0m	m	19.1	658	10,686	12,568	204,103
	3.2	Precast Manhole					-	-
	3.2.1	Dia. 1200 Precast Manhole, h<7.0m	nr	3	17,507		52,521	-
	3.2.2	Manhole cover (Iron)	nr	3		65,780	-	197,340
Carried forward to page collection							103,346	401,443

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.5 Konedobu Pumping Station (PS-5) (continue)								
	3.3	Connection to Existing Sewer						
	3.3.1	Connection work to Existing Sewer (including invert modification)	nr	2	1,650		3,300	-
	3.2.2	Cleaning of Existing Sewer and Manhole	nr		500		-	-
	3.4						-	-
	3.1.1	Overflow HDPE 560mm diameter Type B (Asphalt)					-	-
		1.0m =or< Invert Level < 2.0m	m	58	466	20,365	27,028	1,181,170
							-	-
	4	Miscellaneous Works					-	-
	4.1	Handrail, ladders and Stop Logs others					-	-
	4.1.1	Step Iron, Width=300mm, SS-304	no	67		3,195	-	214,065
	4.1.2	EDA RANU wave & fence (2.6m high)	m	48	910		43,680	-
	4.1.3	EDARANU wave & gate (2.6m high, 3.0m width)	no	2	10,315		20,630	-
	4.1.4	Water Reticulation Pipeworks :Mild Steel Pipe dia. 25 mm	m	30	76.41		2,292	-
	4.1.5	Supply material and lying flapgate :200dia	no		3,690		-	-
	4.1.6	Pipe(DIP)300mm dia	m	6.4	215	8,409	1,376	53,818
							-	-
	4	Allow for all cost and works deemed necessary but not included in this section or elsewhere for the completion of the work according to the Specifications, Drawings and Condition of Contract	ls	1			-	-
Carried forward to page collection							98,306	1,449,053

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
4.6 Old Yacht Club Pumping Station (PS-6)									
		4.6 Old Yacht Club Pumping Station (PS-6)							
	1	Excavation & Bedding							
	1.1	Excavation							
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³		36		-	-	
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150		-	-	
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220		-	-	
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³		144		-	-	
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³		20		-	-	
	1.2	Bedding					-	-	
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³		100		-	-	
							-	-	
	2	Concrete Works					-	-	
	2.1	Concrete Blinding					-	-	
	2.1.1	Blinding with Concrete 75mm Thick (Strength	m ³		970		-	-	
	2.2	Concrete Supply					-	-	
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-	
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³		1,220		-	-	
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-	
	2.3	Reinforcing Bars					-	-	
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t		3,400		-	-	
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-	
Carried forward to page collection								-	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
4.7 Stanley Esplanade Pumping Station (PS-7)									
		4.7 Stanley Esplanade Pumping Station (PS-7)							
	1	Excavation & Bedding							
	1.1	Excavation							
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³		36		-	-	
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150		-	-	
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220		-	-	
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³		144		-	-	
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³		20		-	-	
	1.1.6	Disposal of surplus soil to dumping site (10km distance)	m ³				-	-	
		Concrete Idemolition	m ³	4.2			-	-	
	1.2	Bedding					-	-	
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³		100		-	-	
							-	-	
	2	Concrete Works					-	-	
	2.1	Concrete Blinding					-	-	
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³		970		-	-	
	2.2	Concrete Supply					-	-	
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-	
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³		1,220		-	-	
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-	
Carried forward to page collection								-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.7 Stanley Esplanade Pumping Station (PS-7) (continue)								
	2.3	Reinforcing Bars						
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t		3,400		-	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
	2.4	Formworks					-	-
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²		78		-	-
	2.4.2	Formwork for structural concrete columns	m ²		85		-	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-
	2.5.2	Plastic chairs	bags		50		-	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	44.75	26		1,164	-
	3	Inlet Pipe & Overflow Pipe Works					-	-
Carried forward to page collection							1,164	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
4.8 Sea Park Pumping Station (PS-8)									
		4.8 Sea Park Pumping Station (PS-8)							
	1	Excavation & Bedding							
	1.1	Excavation							
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³		36		-	-	
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150		-	-	
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220		-	-	
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³		144		-	-	
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³		20		-	-	
	1.2	Bedding					-	-	
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³		100		-	-	
							-	-	
	2	Concrete Works					-	-	
	2.1	Concrete Blinding					-	-	
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³		970		-	-	
	2.2	Concrete Supply					-	-	
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-	
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³		1,220		-	-	
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-	
	2.3	Reinforcing Bars					-	-	
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t		3,400		-	-	
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-	
Total carried forward to Grand Summary								-	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
4.8 Sea Park Pumping Station (PS-8) (conrinue)									
	2.4	Formworks							
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²		78		-	-	
	2.4.2	Formwork for structural concrete columns	m ²		85		-	-	
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-	
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-	
	2.5	Concrete Sundries					-	-	
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-	
	2.5.2	Plastic chairs	bags		50		-	-	
	2.6	Others					-	-	
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-	
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-	
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-	
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-	
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	51.34	26		1,335	-	
							-	-	
3		Inlet Pipe & Overflow Pipe Works					-	-	
							-	-	
4		Miscellaneous Works					-	-	
	4.1	Handrail, ladders and Stop Logs others					-	-	
	4.1.1	Step Iron, Width=300mm, SS-304	no			3,195	-	-	
	4.1.2	EDA RANU wave & fence (2.6m high)	m		910		-	-	
							-	-	
Carried forward to page collection								1,335	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
4.9 Davara Pumping Station (PS-9)									
		4.9 Davara Pumping Station (PS-9)							
	1	Excavation & Bedding							
	1.1	Excavation							
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³		36		-	-	
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150		-	-	
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220		-	-	
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³		144		-	-	
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³		20		-	-	
	1.2	Bedding					-	-	
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³		100		-	-	
							-	-	
	2	Concrete Works					-	-	
	2.1	Concrete Blinding					-	-	
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³		970		-	-	
	2.2	Concrete Supply					-	-	
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-	
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³		1,220		-	-	
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-	
	2.3	Reinforcing Bars					-	-	
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t		3,400		-	-	
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-	
Total carried forward to Grand Summary								-	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
4.9 Davara Pumping Station (PS-9) (continue)									
	2.4	Formworks							
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²		78		-	-	
	2.4.2	Formwork for structural concrete columns	m ²		85		-	-	
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-	
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-	
	2.5	Concrete Sundries					-	-	
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-	
	2.5.2	Plastic chairs	bags		50		-	-	
	2.6	Others					-	-	
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-	
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-	
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-	
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-	
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	48.22	26		1,254	-	
							-	-	
	3	Inlet Pipe & Overflow Pipe Works					-	-	
							-	-	
	4	Miscellaneous Works					-	-	
	4.1	Handrail, ladders and Stop Logs others					-	-	
	4.1.1	Step Iron, Width=300mm, SS-304	no			3,195	-	-	
	4.1.2	EDA RANU wave & fence (2.6m high)	m		910		-	-	
							-	-	
Carried forward to page collection								1,254	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.10 Lawes Road Pumping Station (PS-10)								
		4.10 Lawes Road Pumping Station (PS-10)						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	810.61	36		29,182	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150		-	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220		-	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	544.64	144		78,428	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	265.97	20		5,319	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³	4.34	100		434	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	2.17	970		2,105	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	102.74	1,220		125,343	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	12.33	3,400		41,922	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Total carried forward to Grand Summary							282,733	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
4.10 Lawes Road Pumping Station (PS-10) (continue)									
	2.4	Formworks							
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	47.25	78		3,686	-	
	2.4.2	Formwork for structural concrete columns	m ²	319.38	85		27,147	-	
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-	
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-	
	2.5	Concrete Sundries					-	-	
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-	
	2.5.2	Plastic chairs	bags		50		-	-	
	2.6	Others					-	-	
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-	
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-	
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-	
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-	
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	129.15	26		3,358	-	
							-	-	
3		Inlet Pipe & Overflow Pipe Works					-	-	
	3.1						-	-	
	3.1.1	Inlet Pipe uPVC 300mm diameter Type A (Soil/Right of Way)					-	-	
		2.0m< Invert Level < 3.0m	m	31.3	297	3,146	9,296	98,470	
	3.2	Precast Manhole					-	-	
	3.2.1	Dia. 1200 Precast Manhole, h<3.0m	nr	1	8,692		8,692	-	
	3.2.2	Manhole cover (Iron)	nr	1		65,780	-	65,780	
Carried forward to page collection								52,179	164,250

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
4.10 Lawes Road Pumping Station (PS-10) (continue)									
	3.3	Connection to Existing Sewer							
	3.3.1	Connection work to Existing Sewer (including invert modification)	nr		1,650		-	-	
	3.2.2	Cleaning of Existing Sewer and Manhole	nr	2	500		1,000	-	
	3.4						-	-	
	3.1.1	Overflow HDPE 560mm diameter Type B (Asphalt) 1.0m =or< Invert Level < 2.0m	m	17.1			-	-	
							-	-	
	4	Miscellaneous Works					-	-	
	4.1	Handrail, ladders and Stop Logs others					-	-	
	4.1.1	Step Iron, Width=300mm, SS-304	no	36		3,195	-	115,020	
	4.1.2	EDA RANU wave & fence (2.6m high)	m	56	910		50,960	-	
	4.1.3	EDARANU wave & gate (2.6m high, 3.0m width)	no	2	10,315		20,630	-	
	4.1.4	Water Reticulation Pipeworks :Mild Steel Pipe dia. 25 mm	m	30	76.41		2,292	-	
	4.1.5	Supply material and lying flapgate	no		3,690		-	-	
	4.1.6	Pipe(DIP)450mm dia	m	5.4			-	-	
							-	-	
	4	Allow for all cost and works deemed necessary but not included in this section or elsewhere for the completion of the work according to the Specifications, Drawings and Condition of Contract	ls	1			-	-	
Carried forward to page collection								74,882	115,020

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.11 Koki Pumping Station (PS-11)								
		4.11 Koki Pumping Station (PS-11)						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	446.16	36		16,062	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150		-	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220		-	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	327.6	144		47,174	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	118.56	20		2,371	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³	2.74	100		274	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	1.37	970		1,329	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	56.94	1,220		69,467	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	6.83	3,400		23,222	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Total carried forward to Grand Summary							159,899	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.11 Koki Pumping Station (PS-11) (continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grd level	m ²	12	78		936	-
	2.4.2	Formwork for structural concrete columns	m ²	183.9	85		15,632	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-
	2.5.2	Plastic chairs	bags		50		-	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	66	26		1,716	-
							-	-
3		Inlet Pipe & Overflow Pipe Works					-	-
	3.1						-	-
	3.1.1	Inlet Pipe HDPE 355mm diameter Type B (Asphalt)					-	-
		1.0m =or< Invert Level < 2.0m	m	72.4	492	8,409	35,621	608,812
	3.2	Precast Manhole					-	-
	3.2.1	Dia. 1200 Precast Manhole, h<3.0m	nr	3	10,868		32,604	-
	3.2.2	Manhole cover (Iron)	nr	3		65,780	-	197,340
Carried forward to page collection							86,509	806,152

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
4.11 Koki Pumping Station (PS-11) (continue)									
	3.3	Connection to Existing Sewer							
	3.3.1	Connection work to Existing Sewer (including invert modification)	nr		1,650		-	-	
	3.2.2	Cleaning of Existing Sewer and Manhole	nr	2	500		1,000	-	
	3.4						-	-	
	3.1.1	Overflow HDPE 355mm diameter Type A (Soil/Right of Way) 1.0m =or< Invert Level < 2.0m	m	22.6	215	8,409	4,859	190,043	
							-	-	
	4	Miscellaneous Works					-	-	
	4.1	Handrail, ladders and Stop Logs others					-	-	
	4.1.1	Step Iron, Width=300mm, SS-304	no	42		3,195	-	134,190	
	4.1.2	EDA RANU wave & fence (2.6m high)	m	47.2	910		42,952	-	
	4.1.3	EDARANU wave & gate (2.6m high, 3.0m width)	no	2	10,315		20,630	-	
	4.1.4	Water Reticulation Pipeworks :Mild Steel Pipe dia. 25 mm	m	30	76.41		2,292	-	
	4.1.5	Supply material and lying flapgate	no		3,690		-	-	
							-	-	
	4	Allow for all cost and works deemed necessary but not included in this section or elsewhere for the completion of the work according to the Specifications, Drawings and Condition of Contract	ls	1			-	-	
Carried forward to page collection								71,733	324,233

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.12 Badili Pumping Station (PS-12)								
		4.12 Badili Pumping Station (PS-12)						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³		36		-	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150		-	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220		-	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³		144		-	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³		20		-	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³		100		-	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³		970		-	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	58.72	1,220		71,638	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	7.05	3,400		23,970	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Total carried forward to Grand Summary							95,608	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
4.12 Badili Pumping Station (PS-12) (continue)									
	2.4	Formworks							
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²		78		-	-	
	2.4.2	Formwork for structural concrete columns	m ²	191	85		16,235	-	
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-	
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-	
	2.5	Concrete Sundries					-	-	
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-	
	2.5.2	Plastic chairs	bags		50		-	-	
	2.6	Others					-	-	
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-	
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-	
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-	
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-	
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	42.19	26		1,097	-	
							-	-	
	3	Inlet Pipe & Overflow Pipe Works					-	-	
							-	-	
	4	Miscellaneous Works					-	-	
	4.1	Handrail, ladders and Stop Logs others					-	-	
	4.1.1	Step Iron, Width=300mm, SS-304	no			3,195	-	-	
	4.1.2	EDA RANU wave & fence (2.6m high)	m	36.3	910		33,033	-	
	4.1.3	EDARANU wave & gate (2.6m high, 3.0m width)	no	1	10,315		10,315	-	
Carried forward to page collection								60,680	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.13 Kila Police Pumping Station (PS-13)								
		4.13 Kila Police Pumping Station (PS-13)						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	169.73	36		6,110	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	82.32	150		12,348	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	44.58	220		9,808	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	169.73	144		24,441	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	82.32	20		1,646	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³		100		-	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	0.57	970		553	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	22.11	1,220		26,974	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	2.65	3,400		9,010	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Total carried forward to Grand Summary							90,890	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₱	PNGK	₱	
4.13 Kila Police Pumping Station (PS-13) (continue)									
	2.4	Formworks							
	2.4.1	Formwork for concrete slab, footings, etc. at grd level	m ²		78		-	-	
	2.4.2	Formwork for structural concrete columns	m ²	78.16	85		6,644	-	
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-	
	2.4.4	Formwork for structural concrete with curved surface	m ²	84.03	150		12,605	-	
	2.5	Concrete Sundries					-	-	
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-	
	2.5.2	Plastic chairs	bags		50		-	-	
	2.6	Others					-	-	
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-	
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-	
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-	
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-	
	2.6.5	Vinyl Ester Resin Lining for corrosion	m ²	32.97	26		857	-	
							-	-	
3		Inlet Pipe & Overflow Pipe Works					-	-	
	3.1						-	-	
	3.1.1	Inlet Pipe uPVC 225mm diameter Type A (Soil/Right of Way)					-	-	
		1.0m =or< Invert Level < 2.0m	m	3.7	188	1,884	696	6,971	
							-	-	
	3.2	Precast Manhole					-	-	
	3.2.1	Dia. 1200 Precast Manhole, h<2.0m	nr	1	6,390		6,390	-	
	3.2.2	Manhole cover (Iron)	nr	1		65,780	-	65,780	
Carried forward to page collection								27,192	72,751

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.14 Konebada Pumping Station (PS-14)								
		4.14 Konebada Pumping Station (PS-14)						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	173.56	36		6,248	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	154.1	150		23,115	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	173.56	220		38,183	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	105.05	144		15,127	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	154.1	20		3,082	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³		100		-	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength	m ³	0.57	970		553	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	26.07	1,220		31,805	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	3.13	3,400		10,642	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Total carried forward to Grand Summary							128,755	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.14 Konebada Pumping Station (PS-14) (continue)								
		4.14 Konebada Pumping Station (PS-14)						
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²		78		-	-
	2.4.2	Formwork for structural concrete columns	m ²	78.16	85		6,644	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-
	2.4.4	Formwork for structural concrete with curved surface	m ²	110.41	150		16,562	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-
	2.5.2	Plastic chairs	bags		50		-	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	44.75	26		1,164	-
	3	Inlet Pipe & Overflow Pipe Works					-	-
	3.1						-	-
	3.1.1	Inlet Pipe uPVC 225mm diameter Type A (Soil/Right of Way) 1.0m =or< Invert Level < 2.0m	m		188	1,884	-	-
	3.2	Precast Manhole					-	-
	3.2.1	Dia. 1200 Precast Manhole, h<2.0m	nr		6,390		-	-
	3.2.2	Manhole cover (Iron)	nr			65,780	-	-
Carried forward to page collection							24,370	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.15 Gabutu Pumping Station (PS-15)								
		4.15 Gabutu Pumping Station (PS-15)						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	156.88	36		5,648	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	175.83	150		26,375	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	126.02	220		27,724	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	156.88	144		22,591	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	175.83	20		3,517	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³		100		-	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	0.57	970		553	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	26.33	1,220		32,123	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	3.16	3,400		10,744	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Total carried forward to Grand Summary							129,275	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.15 Gabutu Pumping Station (PS-15) (continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²		78		-	-
	2.4.2	Formwork for structural concrete columns	m ²	78.16	85		6,644	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-
	2.4.4	Formwork for structural concrete with curved surface	m ²	109.81	150		16,472	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-
	2.5.2	Plastic chairs	bags		50		-	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion	m ²	45.53	26		1,184	-
							-	-
	3	Inlet Pipe & Overflow Pipe Works					-	-
	3.1						-	-
	3.1.1	Inlet Pipe uPVC 225mm diameter Type A (Soil/Right of Way)					-	-
		1.0m =or< Invert Level < 2.0m	m		188	1,884	-	-
							-	-
	3.2	Precast Manhole					-	-
	3.2.1	Dia. 1200 Precast Manhole, h<2.0m	nr		6,390		-	-
	3.2.2	Manhole cover (Iron)	nr			65,780	-	-
Carried forward to page collection							24,300	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.16 Horsecamp Pumping Station (PS-16)								
		4.16 Horsecamp Pumping Station (PS-16)						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	290.3	36		10,451	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150		-	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220		-	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	248.03	144		35,716	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	84	20		1,680	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³	1.13	100		113	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	0.57	970		553	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	72.23	1,220		88,121	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	8.67	3,400		29,478	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Total carried forward to Grand Summary							166,112	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.16 Horsecamp Pumping Station (PS-16) (continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²		78		-	-
	2.4.2	Formwork for structural concrete columns	m ²	194.44	85		16,527	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-
	2.4.4	Formwork for structural concrete with curved surface	m ²	109.81	150		16,472	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-
	2.5.2	Plastic chairs	bags		50		-	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	28.26	26		735	-
							-	-
3		Inlet Pipe & Overflow Pipe Works					-	-
	3.1						-	-
	3.1.1	Inlet Pipe uPVC 225mm diameter Type A (Soil/Right of Way)					-	-
		1.0m =or< Invert Level < 2.0m	m		188	1,884	-	-
	3.2	Precast Manhole					-	-
	3.2.1	Dia. 1200 Precast Manhole, h<2.0m	nr		6,390		-	-
	3.2.2	Manhole cover (Iron)	nr			65,780	-	-
Carried forward to page collection							33,734	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
4.16 Horsecamp Pumping Station (PS-16) (continue)									
	3.3	Connection to Existing Sewer							
	3.3.1	Connection work to Existing Sewer (including invert modification)	nr		1,650		-	-	
	3.2.2	Cleaning of Existing Sewer and Manhole	nr		500		-	-	
	3.4						-	-	
	3.1.1	Overflow HDPE 355mm diameter Type A (Soil/Right of Way) 1.0m =or< Invert Level < 2.0m	m	6	215	8,409	1,290	50,454	
							-	-	
	4	Miscellaneous Works					-	-	
	4.1	Handrail, ladders and Stop Logs others					-	-	
	4.1.1	Step Iron, Width=300mm, SS-304	no	22		3,195	-	70,290	
	4.1.2	EDA RANU wave & fence (2.6m high)	m	34	910		30,940	-	
	4.1.3	EDARANU wave & gate (2.6m high, 3.0m width)	no	2	10,315		20,630	-	
	4.1.4	Water Reticulation Pipeworks :Mild Steel Pipe dia. 25 mm	m	30	76.41		2,292	-	
	4.1.5	Supply material and lying flapgate :300dia	no	1	5,100		5,100	-	
	4.1.6	PS-16 Temporary works	no	1		174,000	-	174,000	
							-	-	
	4	Allow for all cost and works deemed necessary but not included in this section or elsewhere for the completion of the work according to the Specifications, Drawings and Condition of Contract	ls	1			-	-	
Carried forward to page collection								60,252	294,744

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.17 Kaugere Pumping Station (PS-17)								
		4.17 Kaugere Pumping Station (PS-17)						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³		36		-	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	839.72	150		125,958	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	558.7	220		122,914	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³		144		-	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	839.72	20		16,794	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 150mm Thick	m ³		100		-	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	2.28	970		2,212	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	95.15	1,220		116,083	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	11.42	3,400		38,828	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Total carried forward to Grand Summary							422,789	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
4.17 Kaugere Pumping Station (PS-17) (continue)									
	2.4	Formworks							
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	47.25	78		3,686	-	
	2.4.2	Formwork for structural concrete columns	m ²	316.36	85		26,891	-	
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-	
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-	
	2.5	Concrete Sundries					-	-	
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-	
	2.5.2	Plastic chairs	bags		50		-	-	
	2.6	Others					-	-	
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-	
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-	
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-	
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-	
	2.6.5	Vinyl Ester Resin Lining for corrosion	m ²	141.12	26		3,669	-	
3		Inlet Pipe & Overflow Pipe Works					-	-	
	3.1						-	-	
	3.1.1	Inlet Pipe uPVC 225mm diameter Type A (Soil/Right of Way)					-	-	
		1.0m =or< Invert Level < 3.0m	m	3	188	1,884	564	5,652	
	3.1.2	Inlet Pipe HDPE 450mm diameter Type A (Soil/Right of Way)					-	-	
		1.0m =or< Invert Level < 3.0m	m	10	332	13,953	3,322	139,530	
Carried forward to page collection								38,132	145,182

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
4.17 Kaugere Pumping Station (PS-17) (continue)									
	3.2	Precast Manhole							
	3.2.1	Dia. 1200 Precast Manhole, h<3.0m	nr	2	8,692		17,384	-	
	3.2.2	Dia. 1800 Precast Manhole, h<4.0m	nr	1	18,394		18,394	-	
	3.2.3	Manhole cover (Iron)	nr	3		65,780	-	197,340	
							-	-	
	3.3	Connection to Existing Sewer					-	-	
	3.3.1	Connection work to Existing Sewer (including invert modification)	nr		1,650		-	-	
	3.2.2	Cleaning of Existing Sewer and Manhole	nr	1	500		500	-	
	3.4						-	-	
	3.1.1	Overflow HDPE 355mm diameter Type A (Soil/Right of Way) 1.0m =or< Invert Level < 2.0m	m	6	215	8,409	1,290	50,454	
	4	Miscellaneous Works					-	-	
	4.1	Handrail, ladders and Stop Logs others					-	-	
	4.1.1	Step Iron, Width=300mm, SS-304	no	34		3,195	-	108,630	
	4.1.2	EDA RANU wave & fence (2.6m high)	m	48	910		43,680	-	
	4.1.3	EDARANU wave & gate (2.6m high, 3.0m width)	no	2	10,315		20,630	-	
	4.1.4	Water Reticulation Pipeworks :Mild Steel Pipe dia. 25 mm	m	30	76.41		2,292	-	
	4.1.5	Supply material and lying flapgate	no				-	-	
	4.1.6	Pipe(DIP)710mm dia	m	4.7	295	34,040	1,387	159,988	
							-	-	
	4	Allow for all cost and works deemed necessary but not included in this section or elsewhere for the completion of the work according to the Specifications, Drawings and Condition of Contract	ls	1			-	-	
Carried forward to page collection								105,557	516,412

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.18 Generator House (20kVA)								
		4.18 Generator House (20kVA) [5 Nos.]						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	141.20	36		5,083	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150		-	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	59.40	220		13,068	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	59.40	144		8,554	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³		20		-	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³	7.20	100		720	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³		970		-	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	49.10	1,155		56,711	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³		1,220		-	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	36.00	1,091		39,276	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	2.30	3,400		7,820	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²	182.30	30		5,469	-
Carried forward to page collection							136,701	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.18 Generator House (20kVA) (continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	16.45	78		1,283	-
	2.4.2	Formwork for structural concrete columns	m ²		85		-	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²	182.30	3		547	-
	2.5.2	Plastic chairs	bags	5.00	50		250	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	5.00	30		150	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion	m ²		26		-	-
							-	-
3		Block Works					-	-
	3.1	Concrete Blockwork					-	-
	3.1.1	Supply 100mm thk blockwork to walls	m ²		173.79		-	-
	3.1.2	Supply 150mm thk blockwork to walls	m ²		209.30		-	-
	3.1.3	Supply 200mm thk blockwork to walls	m ²	187.90	229.86		43,191	-
	3.2	Masonry Reinforcement					-	-
	3.2.1	Supply reinforcing bars to blockwork in walls	tons	2.55	3,400		8,670	-
	3.3	Core Fill Concrete					-	-
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³	27.00	250		6,750	-
Carried forward to page collection							60,841	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.18 Generator House (20kVA) (continue)								
	4	Metal Works						
	4.1	Structural Steel Column & Beams						
	4.1.1	65 x 65 x 5.0 mm shs steel haus post at awning, prefab.	no	10.00			-	-
	4.1.2	50 x 50 x 3mm equal angle hood framing	tons	0.10	11,000		1,100	-
	4.1.3	Supply & install 40mm dia. Steel handrail fully	lm				-	-
	4.1.4	Install 50/40mm dia. steel escape ladder	item		4,485		-	-
	4.1.5	Allow for brackets, plates, bolts & nuts	item	1.00	5,232		5,232	-
							-	-
	5	Carpentry Works					-	-
	5.1	Stud wall Partitions					-	-
	5.1.1	75 x 50 hwd stud partition wall	lm		22.51		-	-
	5.2	Ceiling Framing					-	-
	5.2.1	75 x 50 hwd ceiling joist	lm		22.51		-	-
	5.2.2	50 x 50 hwd ceiling framing	lm	634.80	17.07		10,836	-
	5.2.3	Suspended metal ceiling grid system	m ²				-	-
	5.3	Roof Framing					-	-
	5.3.1	150 x 50 hwd rafters to main roof	lm	152.50	17		2,593	-
	5.3.2	75 x 50 hwd roof purlins at 900 crs to main and hood roof	lm	411.50	12		4,938	-
	5.3.3	100 x 50 hwd stiffener wall plate at awning roof & wall plates	lm	162.50	15		2,438	-
	5.3.4	200 x 50 hwd beam over at awning roof	lm	24.50			-	-
	5.3.5	200x38 hwd fascia board to main roof	lm	91.50	25		2,288	-
	5.3.6	200 x 75 hwd beam over	lm		35		-	-
	5.3.7	75 x 50 hwd struts & ties to truss	lm				-	-
	5.4	Stairs					-	-
	5.4.1	150 x 50 hwd hand rails to stairs	lm		17		-	-
	5.4.2	100 x 50 hwd hand rails to stairs	lm		15		-	-
Carried forward to page collection							29,425	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.18 Generator House (20kVA) (continue)								
	7	Roofing & Insulation						
	7.1	Metal Roofing						
	7.1.1	Colorbond corr. sheeting to roof	m ²	192.15	30		5,765	-
	7.1.2	Colorbond trimdek sheeting to roof	m ²	76.80	30		2,304	-
	7.1.3	Double sided sisalation to roof	m ²	122.50	4		490	-
	7.1.4	Galvanised strap bracing to roof	lm	66.00	4		264	-
	7.1.5	Chicken wire mesh to roof	m ²	122.50	3		368	-
	7.2	Roof Plumbing & Acessories					-	-
	7.2.1	Colorbond sheerline gutter to main roof	lm	30.50	40		1,220	-
	7.2.2	Colorbond barge mould to main roof	no	92.25	40		3,690	-
	7.2.3	Colorbond flashing to hood roof	lm	44.00	40		1,760	-
	7.2.4	100mm dia. PVC down pipe to mian roof, incl. dropper, clips, bends	lm	19.00	40		760	-
					59.8		-	-
	8	Doors & Windows					-	-
	8.1	Doors					-	-
	8.1.1	Steel security grill to external door D1 1800 x 2100 high	no		1,250		-	-
	8.1.2	Steel security grill to external door, DA2 1000 x 2100 high	no	5.00	1,200		6,000	-
	8.1.3	Roller door shutter to details, complete with fitting & acessories	no		5,500		-	-
	8.1.4	Timber door - Type D1 1800 x 2100 high, solid core 2 leaf	no		1,900		-	-
	8.1.5	Timber door - Type D2 1600 x 2100 high	no		1,700		-	-
	8.1.6	Timber door 900 x 2100 high, external solid core	no	5.00	1,050		5,250	-
Carried forward to page collection							27,871	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.18 Generator House (20kVA) (continue)								
	8.1.7	Timber door 730 x 2100 high, internal hollow core	no				-	-
	8.1.8	Timber door - Type D4 900 x 2100 high	no		842.38		-	-
	8.1.9	Timber door - Type D5 700 x 1850 high	no		600		-	-
	8.1.10	Sliding door - Type D6 1000 x 2000 high, including tracks & asesories	no		1,143.63		-	-
	8.1.11	Install 50 x 25mm hwd door architrave	lm	60.00	8		480	-
	8.2	Windows & Glazing					-	-
	8.2.1	Aluminium powder coat frame glass blocks, osbcure windows 1200 x 400 high	no	5.00	1,214		6,070	-
	8.2.2	Aluminium powder coat frame glass blocks, osbcure windows 1000 x 400 high	no	10.00	1,012		10,120	-
	8.2.3	Aluminium powder coat frame glass blocks, osbcure windows 600 x 400 high	no	10.00	607		6,070	-
	8.2.15	Install 50 x 25mm hwd window architrave	lm				-	-
	8.2.16	Install 25 x 25mm hwd window beads	lm		4		-	-
	8.2.17	Install 32 x 19mm hwd window cover strips	lm		3.5		-	-
	8.3	Door Hardware					-	-
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no	5.00	75		375	-
	8.3.2	Barrel lockset with indicators (to toilets)	no		150		-	-
	8.3.3	234 Series Brass padlock to security grill door	no	5.00	246.68		1,233	-
	8.3.4	401 Hydraulic door closer	no		35		-	-
	8.3.5	100mm steel butt hinges	pair	5.00	25		125	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no	5.00	25		125	-
Carried forward to page collection							24,598	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.18 Generator House (20kVA) (continue)								
	9	Painting Works						
	9.1	Painting						
	9.1.1	Supply & apply painting to block walls, both internal external faces	m ²	337.90	17.05		5,761	-
	9.1.2	Supply & apply painting to internal ceiling	m ²	103.50	33.59		3,477	-
	9.1.3	Supply & apply painting to doors & door frames, security grills, etc.	m ²	23.10	35.88		829	-
	9.1.4	Supply & apply painting to windows & window frames, security grills, etc	m ²	16.00	35.88		574	-
	9.1.5	Supply & apply painting to steel security grill to windows	m ²	14.00	35.88		502	-
	9.1.6	Supply & apply painting to windows & window frames	m ²		35.88		-	-
	9.1.7	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²		11.69		-	-
	9.1.8	Supply & apply painting to steel security grill doors	m ²		34.76		-	-
	9.1.9	Supply & apply painting to steel columns	m ²		34.76		-	-
	9.1.10	Supply & apply painting to stairs and hand rails	m ²		34.76		-	-
							-	-
	10	Miscellaneous Works						
	10.1	Handrail, ladders and Stop Logs						
	10.1.1	Handrail, Height=1100mm, Galvanised mild steel	m		257		-	-
	10.1.2	Ladders, Width=400mm, Galvanised mild steel	m			15,000	-	-
	10.1.3	Step Iron, Width=300mm, SS-304	no			3,195	-	-
	10.1.4	Stop logs with frame, Water depth less than 1.5m	m ²				-	-
Carried forward to page collection							11,143	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.19 Generator House (37.5kVA)								
		6.19 Generator House (37.5kVA)						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	30.05	36		1,082	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150		-	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	12.55	220		2,761	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	12.55	144		1,807	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³		20		-	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³	1.69	100		169	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³		970		-	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	12.01	1,155		13,872	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³		1,220		-	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	7.94	1,091		8,663	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	0.64	3,400		2,176	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²	39.66	30		1,190	-
Carried forward to page collection							26,070	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.19 Generator House (37.5kVA) (continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	2.00	78		156	-
	2.4.2	Formwork for structural concrete columns	m ²		85		-	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²	39.66	3		119	-
	2.5.2	Plastic chairs	bags	2.00	50		100	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	2.00	30		60	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion	m ²		26		-	-
							-	-
	3	Block Works					-	-
	3.1	Concrete Blockwork					-	-
	3.1.1	Supply 100mm thk blockwork to walls	m ²		173.79		-	-
	3.1.2	Supply 150mm thk blockwork to walls	m ²		209.30		-	-
	3.1.3	Supply 200mm thk blockwork to walls	m ²	77.18	229.86		17,741	-
	3.2	Masonry Reinforcement					-	-
	3.2.1	Supply reinforcing bars to blockwork in walls	tons	0.59	3,400		2,006	-
	3.3	Core Fill Concrete					-	-
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³	6.17	250		1,543	-
Carried forward to page collection							21,725	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
4.19 Generator House (37.5kVA) (continue)									
	4	Metal Works							
	4.1	Structural Steel Column & Beams							
	4.1.1	65 x 65 x 5.0 mm shs steel haus post at awning, prefab.	no	2.00			-	-	
	4.1.2	50 x 50 x 3mm equal angle hood framing	tons	0.02	11,000		220	-	
	4.1.3	Supply & install 40mm dia. Steel handrail fully prefab. Upright bottom ends bolted to concrete with M10 bolts	lm				-	-	
	4.1.4	Install 50/40mm dia. steel escape ladder	item		4,485		-	-	
	4.1.5	Allow for brackets, plates, bolts & nuts	item	1.00	5,232		5,232	-	
							-	-	
	5	Carpentry Works					-	-	
	5.1	Stud wall Partitions					-	-	
	5.1.1	75 x 50 hwd stud partition wall	lm		22.51		-	-	
	5.2	Ceiling Framing					-	-	
	5.2.1	75 x 50 hwd ceiling joist	lm		22.51		-	-	
	5.2.2	50 x 50 hwd ceiling framing	lm	135.00	17.07		2,304	-	
	5.2.3	Suspended metal ceiling grid system	m ²				-	-	
	5.3	Roof Framing					-	-	
	5.3.1	150 x 50 hwd rafters to main roof	lm	36.90	17		627	-	
	5.3.2	75 x 50 hwd roof purlins at 900 crs to main and hood roof	lm	86.20	12		1,034	-	
	5.3.3	100 x 50 hwd stiffener wall plate at awning roof & wall plates	lm	36.00	15		540	-	
	5.3.4	200 x 50 hwd beam over at awning roof	lm	5.40			-	-	
	5.3.5	200x30 hwd fascia board to main roof	lm	18.80	25		470	-	
	5.3.6	200 x 75 hwd beam over	lm		35		-	-	
	5.3.7	75 x 50 hwd struts & ties to truss	lm				-	-	
Carried forward to page collection								10,427	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.19 Generator House (37.5kVA) (continue)								
	7	Roofing & Insulation						
	7.1	Metal Roofing						
	7.1.1	Colorbond corr. sheeting to roof	m ²	41.58	30		1,247	-
	7.1.2	Colorbond trimdek sheeting to roof	m ²	15.36	30		461	-
	7.1.3	Double sided sisalation to roof	m ²	24.50	4		98	-
	7.1.4	Galvanised strap bracing to roof	lm	13.20	4		53	-
	7.1.5	Chicken wire mesh to roof	m ²	24.50	3		74	-
	7.2	Roof Plumbing & Acessories					-	-
	7.2.1	Colorbond sheerline gutter to main roof	lm	6.10	40		244	-
	7.2.2	Supply & install colorbond ridge capping to roof	no		40		-	-
	7.2.3	Colorbond barge mould to roof	lm	18.45	40		738	-
	7.2.4	Colorbond flashing to roof	lm	8.80	40		352	-
	7.2.5	100mm dia. PVC down pipe to roof, incl. dropper, clips, bends	lm	3.80	59.8		227	-
							-	-
	8	Doors & Windows					-	-
	8.1	Doors					-	-
	8.1.1	Steel security grill to external door D1 1800 x 2100 high	no		1,250		-	-
	8.1.2	Steel security grill to external door, SCD 1000 x 2100 high	no	1.00	1,200		1,200	-
	8.1.3	Roller door shutter to details, complete with fitting & accessories	no		5,500		-	-
	8.1.4	Timber door - Type D1 1800 x 2100 high, solid core 2 leaf	no		1,900		-	-
	8.1.5	Timber door - Type D2 1600 x 2100 high	no		1,700		-	-
	8.1.6	Timber door - Type SCD 1000 x 2100 high, external solid core	no	1.00	1,050		1,050	-
Carried forward to page collection							5,744	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.19 Generator House (37.5kVA) (continue)								
	8.1.7	Timber door 730 x 2100 high, internal hollow core	no				-	-
	8.1.8	Timber door - Type D4 900 x 2100 high	no		842.38		-	-
	8.1.9	Timber door - Type D5 700 x 1850 high	no		600		-	-
	8.1.10	Sliding door - Type D6 1000 x 2000 high, including tracks & asesories	no		1,143.63		-	-
	8.1.11	Install 50 x 25mm hwd door architrave	lm	12.00	8		96	-
	8.2	Windows & Glazing					-	-
	8.2.1	Aluminium powder coat frame glass blocks, osbcure windows 1200 x 400 high	no	1.00	1,214		1,214	-
	8.2.2	Aluminium powder coat frame glass blocks, osbcure windows 1000 x 400 high	no	2.00	1,012		2,024	-
	8.2.3	Aluminium powder coat frame glass blocks, osbcure windows 600 x 400 high	no	2.00	607		1,214	-
	8.2.15	Install 50 x 25mm hwd window architrave	lm				-	-
	8.2.16	Install 25 x 25mm hwd window beads	lm		4		-	-
	8.2.17	Install 32 x 19mm hwd window cover strips	lm		3.5		-	-
	8.3	Door Hardware					-	-
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no	1.00	75		75	-
	8.3.2	Barrel lockset with indicators (to toilets)	no		150		-	-
	8.3.3	234 Series Brass padlock to security grill door	no	1.00	246.68		247	-
	8.3.4	401 Hydraulic door closer	no		35		-	-
	8.3.5	100mm steel butt hinges	pair	1.00	25		25	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no	1.00	25		25	-
Carried forward to page collection							4,920	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.19 Generator House (37.5kVA) (continue)								
	9	Painting Works						
	9.1	Painting						
	9.1.1	Supply & apply painting to block walls, both internal external faces	m ²	67.58	17.05		1,152	-
	9.1.2	Supply & apply painting to internal ceiling	m ²	20.70	33.59		695	-
	9.1.3	Supply & apply painting to doors & door frames, security grills, etc.	m ²	4.62	35.88		166	-
	9.1.4	Supply & apply painting to windows & window frames, security grills, etc	m ²	3.20	35.88		115	-
	9.1.5	Supply & apply painting to steel security grill to windows	m ²	2.80	35.88		100	-
	9.1.6	Supply & apply painting to windows & window frames	m ²		35.88		-	-
	9.1.7	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²		11.69		-	-
	9.1.8	Supply & apply painting to steel security grill doors	m ²		34.76		-	-
	9.1.9	Supply & apply painting to steel columns	m ²		34.76		-	-
	9.1.10	Supply & apply painting to stairs and hand rails	m ²		34.76		-	-
							-	-
	10	Miscellaneous Works					-	-
	10.1	Handrail, ladders and Stop Logs					-	-
	10.1.1	Handrail, Height=1100mm, Galvanised mild steel	m		257		-	-
	10.1.2	Ladders, Width=400mm, Galvanised mild steel	m			15,000	-	-
	10.1.3	Step Iron, Width=300mm, SS-304	no			3,195	-	-
	10.1.4	Stop logs with frame, Water depth less than 1.5m	m ²				-	-
Carried forward to page collection							2,228	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.20 Generator House (50/75kVA)								
		4.20 Generator House (50/75kVA) [6 Nos.]						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	185.70	36		6,685	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150		-	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	77.58	220		17,068	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	77.58	144		11,172	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³		20		-	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³	10.44	100		1,044	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³		970		-	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	74.22	1,155		85,724	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³		1,220		-	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	49.08	1,091		53,546	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	3.96	3,400		13,464	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²	245.10	30		7,353	-
Carried forward to page collection							196,056	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.20 Generator House (50/75kVA) (continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	12.60	78		983	-
	2.4.2	Formwork for structural concrete columns	m ²		85		-	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²	245.10	3		735	-
	2.5.2	Plastic chairs	bags	12.00	50		600	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	12.00	30		360	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion	m ²		26		-	-
							-	-
	3	Block Works					-	-
	3.1	Concrete Blockwork					-	-
	3.1.1	Supply 100mm thk blockwork to walls	m ²		173.79		-	-
	3.1.2	Supply 150mm thk blockwork to walls	m ²		209.30		-	-
	3.1.3	Supply 200mm thk blockwork to walls	m ²	477.00	229.86		109,643	-
	3.2	Masonry Reinforcement					-	-
	3.2.1	Supply reinforcing bars to blockwork in walls	tons	3.66	3,400		12,444	-
	3.3	Core Fill Concrete					-	-
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³	38.16	250		9,540	-
Carried forward to page collection							134,305	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
4.20 Generator House (50/75kVA) (continue)									
	4	Metal Works							
	4.1	Structural Steel Column & Beams							
	4.1.1	65 x 65 x 5.0 mm shs steel haus post at awning, prefab.	no	18.00			-	-	
	4.1.2	50 x 50 x 3mm equal angle hood framing	tons	0.12	11,000		1,320	-	
	4.1.3	Supply & install 40mm dia. Steel handrail fully prefab. Upright bottom ends bolted to concrete with M10 bolts	lm				-	-	
	4.1.4	Install 50/40mm dia. steel escape ladder	item		4,485		-	-	
	4.1.5	Allow for brackets, plates, bolts & nuts	item	1.00	5,232		5,232	-	
							-	-	
	5	Carpentry Works					-	-	
	5.1	Stud wall Partitions					-	-	
	5.1.1	75 x 50 hwd stud partition wall	lm		22.51		-	-	
	5.2	Ceiling Framing					-	-	
	5.2.1	75 x 50 hwd ceiling joist	lm		22.51		-	-	
	5.2.2	50 x 50 hwd ceiling framing	lm	834.30	17.07		14,242	-	
	5.2.3	Suspended metal ceiling grid system	m ²				-	-	
	5.3	Roof Framing					-	-	
	5.3.1	150 x 50 hwd rafters to main roof	lm	228.00	17		3,876	-	
	5.3.2	75 x 50 hwd roof purlins at 900 crs to main and hood roof	lm	532.74	12		6,393	-	
	5.3.3	100 x 50 hwd stiffener wall plate at awning roof & wall plates	lm	222.48	15		3,337	-	
	5.3.4	200 x 50 hwd beam over at awning roof	lm	33.36			-	-	
	5.3.5	200x30 hwd fascia board to main roof	lm	116.16	25		2,904	-	
	5.3.6	200 x 75 hwd beam over	lm		35		-	-	
	5.3.7	75 x 50 hwd struts & ties to truss	lm				-	-	
Carried forward to page collection								37,304	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.20 Generator House (50/75kVA) (continue)								
	5.4	Stairs						
	5.4.1	150 x 50 hwd hand rails to stairs	lm		17		-	-
	5.4.2	100 x 50 hwd hand rails to stairs	lm		15		-	-
							-	-
	6	Lining & Finishes					-	-
	6.1	Wall Lining & Finishes					-	-
	6.1.1	Bathroom wall lining (seratone or similar)	m ²		15		-	-
	6.1.2	12mm thk plaster board wall lining	m ²		12		-	-
	6.1.3	100 x 20mm thk shiplap internal wall lining	lm		25		-	-
	6.1.4	200 x 200 ceramic splashback tiles	m ²				-	-
	6.1.5	200mm high ceramic skirting tiles	lm				-	-
	6.1.6	70 x 25 hwd timber skirtings	lm		8		-	-
	6.1.7	Metal corner strips (plasterboard)	lm		19.06		-	-
	6.1.8	Colorbond trimdek external wall cladding	m ²		30		-	-
	6.2	Floor Lining & Finishes					-	-
	6.2.1	200x200 ceramic tiles non-slip	m ²				-	-
	6.2.2	Selected ceramic splashback tiles	lm		50		-	-
	6.3	Ceiling Lining & Finishes					-	-
	6.3.1	12mm thk plaster board ceiling lining	m ²	139.08	12		1,669	-
	6.3.2	Plaster board cornice strips to ceiling	m ²	117.42	12		1,409	-
	6.3.3	4mm plywood ceiling lining	m ²		25		-	-
	6.3.4	25 x 25 hwd cornice strip to ceiling junction	m ²				-	-
	6.3.5	75mm thk noise control/proof insulation blanket in ceiling lining	m ²	139.08	15		2,086	-
	6.3.6	Tape & compound to plasterboard ceiling lining	m ²	139.08			-	-
Carried forward to page collection							5,164	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.20 Generator House (50/75kVA) (continue)								
	7	Roofing & Insulation						
	7.1	Metal Roofing						
	7.1.1	Colorbond corr. sheeting to roof	m ²	256.98	30		7,709	-
	7.1.2	Colorbond trimdek sheeting to roof	m ²	94.92	30		2,848	-
	7.1.3	Double sided sisalation to roof	m ²	151.44	4		606	-
	7.1.4	Galvanised strap bracing to roof	lm	81.60	4		326	-
	7.1.5	Chicken wire mesh to roof	m ²	151.44	3		454	-
	7.2	Roof Plumbing & Acessories					-	-
	7.2.1	Colorbond sheerline gutter to main roof	lm	37.68	40		1,507	-
	7.2.2	Supply & install colorbond ridge capping to roof	no		40		-	-
	7.2.3	Colorbond barge mould to roof	lm	114.00	40		4,560	-
	7.2.4	Colorbond flashing to roof	lm	54.36	40		2,174	-
	7.2.5	100mm dia. PVC down pipe to roof, incl. dropper, clips, bends	lm	23.46	59.8		1,403	-
							-	-
	8	Doors & Windows					-	-
	8.1	Doors					-	-
	8.1.1	Steel security grill to external door D1 1800 x 2100 high	no		1,250		-	-
	8.1.2	Steel security grill to external door, SCD 1000 x 2100 high	no	6.00	1,200		7,200	-
	8.1.3	Roller door shutter to details, complete with fitting & accessories	no		5,500		-	-
	8.1.4	Timber door - Type D1 1800 x 2100 high, solid core 2 leaf	no		1,900		-	-
	8.1.5	Timber door - Type D2 1600 x 2100 high	no		1,700		-	-
	8.1.6	Timber door - Type SCD 1000 x 2100 high, external solid core	no	6.00	1,050		6,300	-
Carried forward to page collection							35,087	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.20 Generator House (50/75kVA) (continue)								
	8.1.7	Timber door 730 x 2100 high, internal hollow core	no				-	-
	8.1.8	Timber door - Type D4 900 x 2100 high	no		842.38		-	-
	8.1.9	Timber door - Type D5 700 x 1850 high	no		600		-	-
	8.1.10	Sliding door - Type D6 1000 x 2000 high, including tracks & asesories	no		1,143.63		-	-
	8.1.11	Install 50 x 25mm hwd door architrave	lm	72.00	8		576	-
	8.2	Windows & Glazing					-	-
	8.2.1	Aluminium powder coat frame glass blocks, osbcure windows 1200 x 400 high	no	6.00	1,214		7,284	-
	8.2.2	Aluminium powder coat frame glass blocks, osbcure windows 1000 x 400 high	no	12.00	1,012		12,144	-
	8.2.3	Aluminium powder coat frame glass blocks, osbcure windows 600 x 400 high	no	12.00	607		7,284	-
	8.2.15	Install 50 x 25mm hwd window architrave	lm				-	-
	8.2.16	Install 25 x 25mm hwd window beads	lm		4		-	-
	8.2.17	Install 32 x 19mm hwd window cover strips	lm		3.5		-	-
	8.3	Door Hardware					-	-
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no	6.00	75		450	-
	8.3.2	Barrel lockset with indicators (to toilets)	no		150		-	-
	8.3.3	234 Series Brass padlock to security grill door	no	6.00	246.68		1,480	-
	8.3.4	401 Hydraulic door closer	no		35		-	-
	8.3.5	100mm steel butt hinges	pair	6.00	25		150	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no	6.00	25		150	-
Carried forward to page collection							29,518	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
4.20 Generator House (50/75kVA) (continue)									
	9	Painting Works							
	9.1	Painting							
	9.1.1	Supply & apply painting to block walls, both internal external faces	m ²	417.66	17.05		7,121	-	
	9.1.2	Supply & apply painting to internal ceiling	m ²	127.92	33.59		4,297	-	
	9.1.3	Supply & apply painting to doors & door frames, security grills, etc.	m ²	28.56	35.88		1,025	-	
	9.1.4	Supply & apply painting to windows & window frames, security grills, etc	m ²	19.80	35.88		710	-	
	9.1.5	Supply & apply painting to steel security grill to windows	m ²	17.28	35.88		620	-	
	9.1.6	Supply & apply painting to windows & window frames	m ²		35.88		-	-	
	9.1.7	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²		11.69		-	-	
	9.1.8	Supply & apply painting to steel security grill doors	m ²		34.76		-	-	
	9.1.9	Supply & apply painting to steel columns	m ²		34.76		-	-	
	9.1.10	Supply & apply painting to stairs and hand rails	m ²		34.76		-	-	
							-	-	
	10	Miscellaneous Works							
	10.1	Handrail, ladders and Stop Logs							
	10.1.1	Handrail, Height=1100mm, Galvanised mild steel	m		257		-	-	
	10.1.2	Ladders, Width=400mm, Galvanised mild steel	m			15,000	-	-	
	10.1.3	Step Iron, Width=300mm, SS-304	no			3,195	-	-	
	10.1.4	Stop logs with frame, Water depth less than 1.5m	m ²				-	-	
Carried forward to page collection								13,773	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.21 Generator House - 200 kVA								
		4.21 Generator House - 200 kVA [2Nos.]						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	63.14	36		2,273	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150		-	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	26.38	220		5,804	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	26.38	144		3,799	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³		20		-	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³	3.54	100		354	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³		970		-	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	25.24	1,155		29,152	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³		1,220		-	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	16.68	1,091		18,198	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	1.34	3,400		4,556	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²	83.36	30		2,501	-
Carried forward to page collection							66,637	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.21 Generator House - 200 kVA (continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	4.28	78		334	-
	2.4.2	Formwork for structural concrete columns	m ²		85		-	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²	83.34	3		250	-
	2.5.2	Plastic chairs	bags	4.00	50		200	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	4.00	30		120	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion	m ²		26		-	-
							-	-
	3	Block Works					-	-
	3.1	Concrete Blockwork					-	-
	3.1.1	Supply 100mm thk blockwork to walls	m ²		173.79		-	-
	3.1.2	Supply 150mm thk blockwork to walls	m ²		209.30		-	-
	3.1.3	Supply 200mm thk blockwork to walls	m ²	162.18	229.86		37,279	-
	3.2	Masonry Reinforcement					-	-
	3.2.1	Supply reinforcing bars to blockwork in walls	tons	1.24	3,400		4,216	-
	3.3	Core Fill Concrete					-	-
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³	12.98	250		3,245	-
Carried forward to page collection							45,644	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
4.21 Generator House - 200 kVA (continue)									
	4	Metal Works							
	4.1	Structural Steel Column & Beams							
	4.1.1	65 x 65 x 5.0 mm shs steel haus post at awning, prefab.	no	6.00			-	-	
	4.1.2	50 x 50 x 3mm equal angle hood framing	tons	0.06	11,000		660	-	
	4.1.3	Supply & install 40mm dia. Steel handrail fully prefab. Upright bottom ends bolted to concrete with M10 bolts	lm				-	-	
	4.1.4	Install 50/40mm dia. steel escape ladder	item		4,485		-	-	
	4.1.5	Allow for brackets, plates, bolts & nuts	item	1.00	5,232		5,232	-	
							-	-	
	5	Carpentry Works					-	-	
	5.1	Stud wall Partitions					-	-	
	5.1.1	75 x 50 hwd stud partition wall	lm		22.51		-	-	
	5.2	Ceiling Framing					-	-	
	5.2.1	75 x 50 hwd ceiling joist	lm		22.51		-	-	
	5.2.2	50 x 50 hwd ceiling framing	lm	283.66	17.07		4,842	-	
	5.2.3	Suspended metal ceiling grid system	m ²				-	-	
	5.3	Roof Framing					-	-	
	5.3.1	150 x 50 hwd rafters to main roof	lm	77.52	17		1,318	-	
	5.3.2	75 x 50 hwd roof purlins at 900 crs to main and hood roof	lm	181.14	12		2,174	-	
	5.3.3	100 x 50 hwd stiffener wall plate at awning roof & wall plates	lm	75.64	15		1,135	-	
	5.3.4	200 x 50 hwd beam over at awning roof	lm	11.34			-	-	
	5.3.5	200x30 hwd fascia board to main roof	lm	39.50	25		988	-	
	5.3.6	200 x 75 hwd beam over	lm		35		-	-	
	5.3.7	75 x 50 hwd struts & ties to truss	lm				-	-	
Carried forward to page collection								16,349	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.21 Generator House - 200 kVA (continue)								
	5.4	Stairs						
	5.4.1	150 x 50 hwd hand rails to stairs	lm		17		-	-
	5.4.2	100 x 50 hwd hand rails to stairs	lm		15		-	-
							-	-
	6	Lining & Finishes					-	-
	6.1	Wall Lining & Finishes					-	-
	6.1.1	Bathroom wall lining (seratone or similar)	m ²		15		-	-
	6.1.2	12mm thk plaster board wall lining	m ²		12		-	-
	6.1.3	100 x 20mm thk shiplap internal wall lining	lm		25		-	-
	6.1.4	200 x 200 ceramic splashback tiles	m ²				-	-
	6.1.5	200mm high ceramic skirting tiles	lm				-	-
	6.1.6	70 x 25 hwd timber skirtings	lm		8		-	-
	6.1.7	Metal corner strips (plasterboard)	lm		19.06		-	-
	6.1.8	Colorbond trimdek external wall cladding	m ²	13.12	30		394	-
	6.2	Floor Lining & Finishes					-	-
	6.2.1	200x200 ceramic tiles non-slip	m ²				-	-
	6.2.2	Selected ceramic splashback tiles	lm		50		-	-
	6.3	Ceiling Lining & Finishes					-	-
	6.3.1	12mm thk plaster board ceiling lining	m ²	47.28	12		567	-
	6.3.2	Plaster board cornice strips to ceiling	m ²	39.92	12		479	-
	6.3.3	4mm plywood ceiling lining	m ²		25		-	-
	6.3.4	25 x 25 hwd cornice strip to ceiling junction	m ²				-	-
	6.3.5	75mm thk noise control/proof insulation blanket in ceiling lining	m ²	47.28	15		709	-
	6.3.6	Tape & compound to plasterboard ceiling lining	m ²	47.28			-	-
Carried forward to page collection							2,149	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.21 Generator House - 200 kVA (continue)								
	7	Roofing & Insulation						
	7.1	Metal Roofing						
	7.1.1	Colorbond corr. sheeting to roof	m ²	87.92	30		2,638	-
	7.1.2	Colorbond trimdek sheeting to roof	m ²	32.28	30		968	-
	7.1.3	Double sided sisalation to roof	m ²	51.50	4		206	-
	7.1.4	Galvanised strap bracing to roof	lm	27.74	4		111	-
	7.1.5	Chicken wire mesh to roof	m ²	51.50	3		155	-
	7.2	Roof Plumbing & Acessories					-	-
	7.2.1	Colorbond sheerline gutter to main roof	lm	12.82	40		513	-
	7.2.2	Supply & install colorbond ridge capping to roof	no		40		-	-
	7.2.3	Colorbond barge mould to roof	lm	38.76	40		1,550	-
	7.2.4	Colorbond flashing to roof	lm	18.48	40		739	-
	7.2.5	100mm dia. PVC down pipe to roof, incl. dropper, clips, bends	lm	7.82	59.8		468	-
	8	Doors & Windows					-	-
	8.1	Doors					-	-
	8.1.1	Steel security grill to external door D1 1800 x 2100 high	no		1,250		-	-
	8.1.2	Steel security grill to external door, SCD 1000 x 2100 high	no	2.00	1,200		2,400	-
	8.1.3	Roller door shutter to details, complete with fitting & accessories	no		5,500		-	-
	8.1.4	Timber door - Type D1 1800 x 2100 high, solid core 2 leaf	no		1,900		-	-
	8.1.5	Timber door - Type D2 1600 x 2100 high	no		1,700		-	-
	8.1.6	Timber door - Type SCD 1000 x 2100 high, external solid core	no	2.00	1,050		2,100	-
Carried forward to page collection							11,848	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.21 Generator House - 200 kVA (continue)								
	8.1.7	Timber door 730 x 2100 high, internal hollow core	no				-	-
	8.1.8	Timber door - Type D4 900 x 2100 high	no		842.38		-	-
	8.1.9	Timber door - Type D5 700 x 1850 high	no		600		-	-
	8.1.10	Sliding door - Type D6 1000 x 2000 high, including tracks & asesories	no		1,143.63		-	-
	8.1.11	Install 50 x 25mm hwd door architrave	lm	24.00	8		192	-
	8.2	Windows & Glazing					-	-
	8.2.1	Aluminium powder coat frame glass blocks, osbcure windows 1200 x 400 high	no	2.00	1,214		2,428	-
	8.2.2	Aluminium powder coat frame glass blocks, osbcure windows 1000 x 400 high	no	4.00	1,012		4,048	-
	8.2.3	Aluminium powder coat frame glass blocks, osbcure windows 600 x 400 high	no	4.00	607		2,428	-
	8.2.15	Install 50 x 25mm hwd window architrave	lm				-	-
	8.2.16	Install 25 x 25mm hwd window beads	lm		4		-	-
	8.2.17	Install 32 x 19mm hwd window cover strips	lm		3.5		-	-
	8.3	Door Hardware					-	-
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no	2.00	75		150	-
	8.3.2	Barrel lockset with indicators (to toilets)	no		150		-	-
	8.3.3	234 Series Brass padlock to security grill door	no	2.00	246.68		493	-
	8.3.4	401 Hydraulic door closer	no		35		-	-
	8.3.5	100mm steel butt hinges	pair	2.00	25		50	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no	2.00	25		50	-
Carried forward to page collection							9,839	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.21 Generator House - 200 kVA (continue)								
	9	Painting Works						
	9.1	Painting						
	9.1.1	Supply & apply painting to block walls, both internal external faces	m ²	142.00	17.05		2,421	-
	9.1.2	Supply & apply painting to internal ceiling	m ²	43.50	33.59		1,461	-
	9.1.3	Supply & apply painting to doors & door frames, security grills, etc.	m ²	9.72	35.88		349	-
	9.1.4	Supply & apply painting to windows & window frames, security grills, etc	m ²	6.74	35.88		242	-
	9.1.5	Supply & apply painting to steel security grill to windows	m ²	5.88	35.88		211	-
	9.1.6	Supply & apply painting to windows & window frames	m ²		35.88		-	-
	9.1.7	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²		11.69		-	-
	9.1.8	Supply & apply painting to steel security grill doors	m ²		34.76		-	-
	9.1.9	Supply & apply painting to steel columns	m ²		34.76		-	-
	9.1.10	Supply & apply painting to stairs and hand rails	m ²		34.76		-	-
							-	-
	10	Miscellaneous Works					-	-
	10.1	Handrail, ladders and Stop Logs					-	-
	10.1.1	Handrail, Height=1100mm, Galvanised mild steel	m		257		-	-
	10.1.2	Ladders, Width=400mm, Galvanised mild steel	m			15,000	-	-
	10.1.3	Step Iron, Width=300mm, SS-304	no			3,195	-	-
	10.1.4	Stop logs with frame, Water depth less than 1.5m	m ²				-	-
Carried forward to page collection							4,684	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.22 Generator House (250kVA)								
		4.22 Generator House (250kVA)						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	32.20	36		1,159	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150		-	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	13.45	220		2,959	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	13.45	144		1,937	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³		20		-	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³	1.81	100		181	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³		970		-	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	12.87	1,155		14,865	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³		1,220		-	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	8.51	1,091		9,284	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	0.68	3,400		2,312	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²	42.51	30		1,275	-
Carried forward to page collection							33,972	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
4.22 Generator House (250kVA) (continue)									
	2.4	Formworks							
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	2.18	78		170	-	
	2.4.2	Formwork for structural concrete columns	m ²		85		-	-	
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95		-	-	
	2.4.4	Formwork for structural concrete with curved surface	m ²		150		-	-	
	2.5	Concrete Sundries					-	-	
	2.5.1	Black visqueem dpc membrane	m ²	42.50	3		128	-	
	2.5.2	Plastic chairs	bags	2.00	50		100	-	
	2.6	Others					-	-	
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	2.00	30		60	-	
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-	
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-	
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65		-	-	
	2.6.5	Vinyl Ester Resin Lining for corrosion	m ²		26		-	-	
							-	-	
	3	Block Works					-	-	
	3.1	Concrete Blockwork					-	-	
	3.1.1	Supply 100mm thk blockwork to walls	m ²		173.79		-	-	
	3.1.2	Supply 150mm thk blockwork to walls	m ²		209.30		-	-	
	3.1.3	Supply 200mm thk blockwork to walls	m ²	82.71	229.86		19,012	-	
	3.2	Masonry Reinforcement					-	-	
	3.2.1	Supply reinforcing bars to blockwork in walls	tons	0.63	3,400		2,142	-	
	3.3	Core Fill Concrete					-	-	
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³	6.62	250		1,655	-	
Carried forward to page collection								23,267	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
4.22 Generator House (250kVA) (continue)									
	4	Metal Works							
	4.1	Structural Steel Column & Beams					-	-	
	4.1.1	65 x 65 x 5.0 mm shs steel haus post at awning, prefab.	no	3.00			-	-	
	4.1.2	50 x 50 x 3mm equal angle hood framing	tons	0.03	11,000		330	-	
	4.1.3	Supply & install 40mm dia. Steel handrail fully prefab. Upright bottom ends bolted to concrete with M10 bolts	lm				-	-	
	4.1.4	Install 50/40mm dia. steel escape ladder	item		4,485		-	-	
	4.1.5	Allow for brackets, plates, bolts & nuts	item	1.00	5,232		5,232	-	
							-	-	
	5	Carpentry Works					-	-	
	5.1	Stud wall Partitions					-	-	
	5.1.1	75 x 50 hwd stud partition wall	lm		22.51		-	-	
	5.2	Ceiling Framing					-	-	
	5.2.1	75 x 50 hwd ceiling joist	lm		22.51		-	-	
	5.2.2	50 x 50 hwd ceiling framing	lm	144.67	17.07		2,470	-	
	5.2.3	Suspended metal ceiling grid system	m ²				-	-	
	5.3	Roof Framing					-	-	
	5.3.1	150 x 50 hwd rafters to main roof	lm	39.54	17		672	-	
	5.3.2	75 x 50 hwd roof purlins at 900 crs to main and hood roof	lm	92.38	12		1,109	-	
	5.3.3	100 x 50 hwd stiffener wall plate at awning roof & wall plates	lm	38.58	15		579	-	
	5.3.4	200 x 50 hwd beam over at awning roof	lm	5.78			-	-	
	5.3.5	200x30 hwd fascia board to main roof	lm	20.15	25		504	-	
	5.3.6	200 x 75 hwd beam over	lm		35		-	-	
	5.3.7	75 x 50 hwd struts & ties to truss	lm				-	-	
Carried forward to page collection								10,896	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
4.22 Generator House (250kVA) (continue)								
	7	Roofing & Insulation						
	7.1	Metal Roofing						
	7.1.1	Colorbond corr. sheeting to roof	m ²	44.84	30		1,345	-
	7.1.2	Colorbond trimdek sheeting to roof	m ²	16.46	30		494	-
	7.1.3	Double sided sisalation to roof	m ²	26.27	4		105	-
	7.1.4	Galvanised strap bracing to roof	lm	14.15	4		57	-
	7.1.5	Chicken wire mesh to roof	m ²	26.27	3		79	-
	7.2	Roof Plumbing & Acessories					-	-
	7.2.1	Colorbond sheerline gutter to main roof	lm	6.54	40		262	-
	7.2.2	Supply & install colorbond ridge capping to roof	no		40		-	-
	7.2.3	Colorbond barge mould to roof	lm	19.77	40		791	-
	7.2.4	Colorbond flashing to roof	lm	9.42	40		377	-
	7.2.5	100mm dia. PVC down pipe to roof, incl. dropper, clips, bends	lm	3.91	59.8		234	-
							-	-
	8	Doors & Windows					-	-
	8.1	Doors					-	-
	8.1.1	Steel security grill to external door D1 1800 x 2100 high	no		1,250		-	-
	8.1.2	Steel security grill to external door, SCD 1000 x 2100 high	no	1.00	1,200		1,200	-
	8.1.3	Roller door shutter to details, complete with fitting & accessories	no		5,500		-	-
	8.1.4	Timber door - Type D1 1800 x 2100 high, solid core 2 leaf	no		1,900		-	-
	8.1.5	Timber door - Type D2 1600 x 2100 high	no		1,700		-	-
	8.1.6	Timber door - Type SCD 1000 x 2100 high, external solid core	no	1.00	1,050		1,050	-
Carried forward to page collection							5,994	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
4.22 Generator House (250kVA) (continue)								
	8.1.7	Timber door 730 x 2100 high, internal hollow core	no				-	-
	8.1.8	Timber door - Type D4 900 x 2100 high	no		842.38		-	-
	8.1.9	Timber door - Type D5 700 x 1850 high	no		600		-	-
	8.1.10	Sliding door - Type D6 1000 x 2000 high, including tracks & asesories	no		1,143.63		-	-
	8.1.11	Install 50 x 25mm hwd door architrave	lm	12.00	8		96	-
	8.2	Windows & Glazing					-	-
	8.2.1	Aluminium powder coat frame glass blocks, osbcure windows 1200 x 400 high	no	1.00	1,214		1,214	-
	8.2.2	Aluminium powder coat frame glass blocks, osbcure windows 1000 x 400 high	no	2.00	1,012		2,024	-
	8.2.3	Aluminium powder coat frame glass blocks, osbcure windows 600 x 400 high	no	2.00	607		1,214	-
	8.2.15	Install 50 x 25mm hwd window architrave	lm				-	-
	8.2.16	Install 25 x 25mm hwd window beads	lm		4		-	-
	8.2.17	Install 32 x 19mm hwd window cover strips	lm		3.5		-	-
	8.3	Door Hardware					-	-
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no	1.00	75		75	-
	8.3.2	Barrel lockset with indicators (to toilets)	no		150		-	-
	8.3.3	234 Series Brass padlock to security grill door	no	1.00	246.68		247	-
	8.3.4	401 Hydraulic door closer	no		35		-	-
	8.3.5	100mm steel butt hinges	pair	1.00	25		25	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no	1.00	25		25	-
Carried forward to page collection							4,920	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
4.22 Generator House (250kVA) (continue)									
	9	Painting Works							
	9.1	Painting							
	9.1.1	Supply & apply painting to block walls, both internal external faces	m ²		17.05		-	-	
	9.1.2	Supply & apply painting to internal ceiling	m ²		33.59		-	-	
	9.1.3	Supply & apply painting to doors & door frames, security grills, etc.	m ²		35.88		-	-	
	9.1.4	Supply & apply painting to windows & window frames, security grills, etc	m ²		35.88		-	-	
	9.1.5	Supply & apply painting to steel security grill to windows	m ²		35.88		-	-	
	9.1.6	Supply & apply painting to windows & window frames	m ²		35.88		-	-	
	9.1.7	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²		11.69		-	-	
	9.1.8	Supply & apply painting to steel security grill doors	m ²		34.76		-	-	
	9.1.9	Supply & apply painting to steel columns	m ²		34.76		-	-	
	9.1.10	Supply & apply painting to stairs and hand rails	m ²		34.76		-	-	
							-	-	
	10	Miscellaneous Works					-	-	
	10.1	Handrail, ladders and Stop Logs					-	-	
	10.1.1	Handrail, Height=1100mm, Galvanised mild steel	m		257		-	-	
	10.1.2	Ladders, Width=400mm, Galvanised mild steel	m			15,000	-	-	
	10.1.3	Step Iron, Width=300mm, SS-304	no			3,195	-	-	
	10.1.4	Stop logs with frame, Water depth less than 1.5m	m ²			50,000	-	-	
Carried forward to page collection								-	-

Section V
Sewage Treatment Plant

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section Summary of Section 5								
							-	-
	1	Total of Section 5.1			892,247	2,753,900	892,247	2,753,900
		Grit Chamber					-	-
		(from Page Collection)					-	-
							-	-
	2	Total of Section 5.2			224,278	438,340	224,278	438,340
		Distribution Tank					-	-
		(from Page Collection)					-	-
							-	-
	3	Total of Section 5.3			13,850,453	36,638,190	13,850,453	36,638,190
		Oxidation Ditch					-	-
		(from Page Collection)					-	-
							-	-
	4	Total of Section 5.4			4,883,220	743,850	4,883,220	743,850
		Final Sedimentation Tank					-	-
		(from Page Collection)					-	-
							-	-
	5	Total of Section 5.5			1,339,988	545,850	1,339,988	545,850
		Sludge Pump Room					-	-
		(from Page Collection)					-	-
							-	-
	6	Total of Section 5.6			434,007	767,900	434,007	767,900
		UV disinfection & Treated Water Tank					-	-
		(from Page Collection)					-	-
							-	-
	7	Total of Section 5.7			633,130	-	633,130	-
		Blower / Local Control Room					-	-
		(from Page Collection)					-	-
							-	-
	8	Total of Section 5.8			129,315	-	129,315	-
		Sludge Pump Room (Building)					-	-
		(from Page Collection)					-	-
							-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
							-	-
	9	Total of Section 5.9			290,328	-	290,328	-
		UV disinfection Room					-	-
		(from Page Collection)					-	-
							-	-
	10	Total of Section 5.10			1,228,508	-	1,228,508	-
		Sludge Treatment Building					-	-
		(from Page Collection)					-	-
							-	-
	11	Total of Section 5.11			234,626	-	234,626	-
		Electrical Substation					-	-
		(from Page Collection)					-	-
							-	-
	12	Total of Section 5.12			1,359,383	-	1,359,383	-
		Administration Building					-	-
		(from Page Collection)					-	-
							-	-
	13	Total of Section 5.13			46,842	-	46,842	-
		Guard House					-	-
		(from Page Collection)					-	-
							-	-
	14	Total of Section 5.14			100,476	-	100,476	-
		Car Port					-	-
		(from Page Collection)					-	-
							-	-
	15	Total of Section 5.15			159,301	-	159,301	-
		GC Step Cover					-	-
		(from Page Collection)					-	-
							-	-
	16	Total of Section 5.16			1,139,225	-	1,139,225	-
		Building Service (Mechanical works)					-	-
		(from Page Collection)					-	-
							-	-
							-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.1 Grit Chamber								
		5.1 Grit Chamber						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	386	36.00		13,878.00	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	900	150.00		134,925.00	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220.00			
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	771	144.00		111,024.00	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	514	20.00		10,280.00	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³		100.00		-	-
	2	Concrete Works						
	2.1	Concrete Blinding						
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	12.5	970.00		12,125.00	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155.00		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	270	1,220.00		329,400.00	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	37	1,091.00		40,367.00	-
	2.3	Reinforcing Bars						
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	32.4	3,400.00		110,160.00	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Carried forward to page collection							762,159.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
5.1 Grit Chamber (Continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	17	78.00		1,326.00	-
	2.4.2	Formwork for structural concrete columns, walls	m ²	937	85.00		79,645.00	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²	139	95.00		13,205.00	-
	2.4.4	Formwork for structural concrete with curved surface	m ²	172	150.00		25,800.00	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-
	2.5.2	Plastic chairs	bags		50		-	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150			
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm	9	65.00		585.00	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	144	26.00		3,744.00	-
	3	Miscellaneous Works						
	3.1	Handrail, ladders and Stop Logs						
	3.1.1	Handrail, Height=1100mm, Galvanised mild steel	m	22.5	257		5,783.00	-
	3.1.2	Ladders, Width=400mm, Galvanised mild steel	m			15,000		
Carried forward to page collection							130,088.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.2 Distribution Tank								
		5.2 Distribution Tank						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	106.8	36.00		3,845.00	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	249.2	150.00		37,380.00	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220.00			
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	241	144.00		34,704.00	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	115	20.00		2,300.00	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³		100.00		-	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	3.1	970.00		3,007.00	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155.00		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	75	1,220.00		91,500.00	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091.00		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	9.00	3,400.00		30,600.00	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Carried forward to page collection							203,336.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.2 Distribution Tank (Continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	4.0	78.00		312.00	-
	2.4.2	Formwork for structural concrete columns, walls	m ²	106.0	85.00		9,010.00	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²	32.0	95.00		3,040.00	-
	2.4.4	Formwork for structural concrete with curved surface	m ²		150.00		-	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-
	2.5.2	Plastic chairs	bags		50		-	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65.00		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	73	26.00		1,898.00	-
	3	Miscellaneous Works						
	3.1	Handrail, ladders and Stop Logs						
	3.1.1	Handrail, Height=1100mm, Galvanised mild steel	m	26	257		6,682.00	-
	3.1.2	Ladders, Width=400mm, Galvanised mild steel	m			15,000		
Carried forward to page collection							20,942.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.3 Oxidation Ditch								
		5.3 Oxidation Ditch						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	7,413.9	36.00		266,900	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	17,299.1	150.00		2,594,865	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220.00			
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	7,766	144.00		1,118,304	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	16,946	20.00		338,920	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³		100.00		-	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	232	970.00		225,040	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155.00		-	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	5096	1,220.00		6,217,120	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091.00			
	2.3	Reinforcing Bars						
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	611.52	3,400.00		2,079,168	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Carried forward to page collection							12,840,317	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.3 Oxidation Ditch (Continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	619	78.00		48,282	-
	2.4.2	Formwork for structural concrete columns, walls	m ²	3,408	85.00		289,680	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²	1,367	95.00		129,865	-
	2.4.4	Formwork for structural concrete with curved surface	m ²	2,395	150.00		359,250	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-
	2.5.2	Plastic chairs	bags		50		-	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm	73.9	65.00		4,804	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²		26.00		-	-
							-	-
	3	Miscellaneous Works					-	-
	3.1	Handrail, ladders and Stop Logs					-	-
	3.1.1	Handrail, Height=1100mm, Galvanised mild steel	m	693.6	257		178,255	-
	3.1.2	Ladders, Width=400mm, Galvanised mild steel	m			15,000	-	-
Carried forward to page collection							1,010,136	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.4 Final Sedimentation Tank								
		5.4 Final Sedimentation Tank						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	1,631	36.00		58,709	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	3,805	150.00		570,780	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220.00			
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	1,511	144.00		217,584	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	3,925	20.00		78,500	-
	1.2	Bedding						
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³		100.00			
	2	Concrete Works						
	2.1	Concrete Blinding						
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	110.4	970.00		107,088	-
	2.2	Concrete Supply						
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155.00			
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	1,764	1,220.00		2,152,080	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	278	1,091.00		303,298	-
	2.3	Reinforcing Bars						
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	211.68	3,400.00		719,712	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30			
Carried forward to page collection							4,207,751	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
5.4 Final Sedimentation Tank (Continue)									
	2.4	Formworks							
	2.4.1	Formwork for concrete slab, footings, etc. at grd level	m ²	235	78.00		18,330	-	
	2.4.2	Formwork for structural concrete columns, walls	m ²		85.00				
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²	259	95.00		24,605	-	
	2.4.4	Formwork for structural concrete with curved surface	m ²	3,768	150.00		565,200	-	
	2.5	Concrete Sundries					-	-	
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-	
	2.5.2	Plastic chairs	bags		50		-	-	
	2.6	Others					-	-	
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-	
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-	
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-	
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65.00		-	-	
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²		26.00		-	-	
	3	Miscellaneous Works							
	3.1	Handrail, ladders and Stop Logs							
	3.1.1	Handrail, Height=1100mm, Galvanised mild steel	m	262	257		67,334	-	
	3.1.2	Ladders, Width=400mm, Galvanised mild steel	m			15,000	-	-	
Carried forward to page collection								675,469	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.5 Sludge Pump Room [2Nos.]								
		5.5 Sludge Pump Room						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other	m ³	886.5	36.00		31,914	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	2068.5	150.00		310,275	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220.00			
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	1717	144.00		247,248	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	1238	20.00		24,760	-
	1.2	Bedding						
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³		100.00			
	2	Concrete Works						
	2.1	Concrete Blinding						
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	17.5	970.00		16,975	-
	2.2	Concrete Supply						
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155.00			
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	368	1,220.00		448,960	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	19	1,091.00			
	2.3	Reinforcing Bars						
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	44.16	3,400.00		150,144	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30			
Carried forward to page collection							1,230,276	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
5.5 Sludge Pump Room (Continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grd level	m ²	35	78.00		2,730	-
	2.4.2	Formwork for structural concrete columns, walls	m ²	920	85.00		78,200	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²	219	95.00		20,805	-
	2.4.4	Formwork for structural concrete with curved surface	m ²		150.00		-	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-
	2.5.2	Plastic chairs	bags		50		-	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65.00		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	59.7	26.00		1,552	-
							-	-
	3	Miscellaneous Works					-	-
	3.1	Handrail, ladders and Stop Logs					-	-
	3.1.1	Handrail, Height=1100mm, Galvanised mild steel	m	25	257		6,425	-
	3.1.2	Ladders, Width=400mm, Galvanised mild steel	m			15,000	-	-
Carried forward to page collection							109,712	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.6 UV disinfection & Treated Water Tank								
		5.6 UV disinfection & Treated Water Tank						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	244.2	36.00		8,791	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	569.8	150.00		85,470	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220.00			
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	530	144.00		76,320	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	284	20.00		5,680	-
	1.2	Bedding						
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³		100.00			
	2	Concrete Works						
	2.1	Concrete Blinding						
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	6.2	970.00		6,014	-
	2.2	Concrete Supply						
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³		1,155.00			
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	121	1,220.00		147,620	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	10	1,091.00		10,910	-
	2.3	Reinforcing Bars						
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	14.52	3,400.00		49,368	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30			
Carried forward to page collection							390,173	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
5.6 UV disinfection & Treated Water Tank (Continue)									
	2.4	Formworks							
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	8	78.00		624	-	
	2.4.2	Formwork for structural concrete columns, walls	m ²	429	85.00		36,465	-	
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²	71	95.00		6,745	-	
	2.4.4	Formwork for structural concrete with curved surface	m ²		150.00		-	-	
	2.5	Concrete Sundries					-	-	
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-	
	2.5.2	Plastic chairs	bags		50		-	-	
	2.6	Others					-	-	
	2.6.1	Construct concrete splashback, 400x300x150 dp	no		30		-	-	
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-	
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-	
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65.00		-	-	
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²		26.00		-	-	
							-	-	
	3	Miscellaneous Works					-	-	
	3.1	Handrail, ladders and Stop Logs					-	-	
	3.1.1	Handrail, Height=1100mm, Galvanised mild steel	m		257		-	-	
	3.1.2	Ladders, Width=400mm, Galvanised mild steel	m			15,000	-	-	
	3.1.3	Step Iron, Width=300mm, SS-304	no	20		3,195	-	63,900	
Carried forward to page collection								43,834	63,900

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.7 Blower / Local Control Room [2Nos.]								
		5.7 Blower / Local Control Room						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	151.88	36.00		5,468	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	-	150.00			
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	75.94	220.00		16,707	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	75.94	144.00		10,935	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	-	20.00			
	1.2	Bedding						
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³	-	100.00			
	2	Concrete Works						
	2.1	Concrete Blinding						
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	-	970.00			
	2.2	Concrete Supply						
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	94.06	1,155.00		108,639	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	-	1,220.00			
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	25.40	1,091.00		27,711	-
	2.3	Reinforcing Bars						
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	8.84	3,400.00		30,056	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²	289.28	30		8,678	-
Carried forward to page collection							208,194	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.7 Blower / Local Control Room (Continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	6.58	78.00		513	-
	2.4.2	Formwork for structural concrete columns	m ²	160.00	85.00		13,600	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²	205.24	95.00		19,498	-
	2.4.4	Formwork for structural concrete with curved surface	m ²	-	150.00			
	2.5	Concrete Sundries						
	2.5.1	Black visqueem dpc membrane	m ²	289.28	3		868	-
	2.5.2	Plastic chairs	bags	12.00	50		600	-
	2.6	Others						
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	4.00	30		120	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65.00		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²		26.00		-	-
							-	-
	3	Block Works					-	-
	3.1	Concrete Blockwork					-	-
	3.1.1	Supply 100mm thk blockwork to walls	m ²		173.79		-	-
	3.1.2	Supply 150mm thk blockwork to walls	m ²		209.30		-	-
	3.1.3	Supply 200mm thk blockwork to walls	m ²	517.08	229.86		118,856	-
Carried forward to page collection							154,055	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.7 Blower / Local Control Room (Continue)								
	3.2	Masonry Reinforcement						
	3.2.1	Supply reinforcing bars to blockwork in walls	tons	3.94	3,400.00		13,396	-
	3.3	Core Fill Concrete						
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³	41.36	250.00		10,340	-
							-	-
	4	Metal Works					-	-
	4.1	Structural Steel Column & Beams					-	-
	4.1.1	100mm dia. CHS steel post (entry canopy)	tons		12,500.00		-	-
	4.1.2	50 x 50 x 3mm equal angle hood framing	tons	0.18	11,000.00		1,980	-
	4.1.3	150 x 50 x 3mm RHS steel roof truss (pre-fabricated)	no		14,000.00		-	-
	4.1.4	Install 50/40mm dia. steel escape ladder	item		4,485.00		-	-
	4.1.5	Allow for brackets, plates, bolts & nuts	item	1.00	5,232.50		5,233	-
							-	-
	5	Carpentry Works					-	-
	5.1	Stud wall Partitions					-	-
	5.1.1	75 x 50 hwd stud partition wall	lm	2,154.96	22.51		48,508	-
	5.2	Ceiling Framing					-	-
	5.2.1	75 x 50 hwd ceiling joist	lm		22.51		-	-
	5.2.2	50 x 50 hwd ceiling framing	lm	1,611.84	17.07		27,514	-
	5.2.3	Suspended metal ceiling grid system	m ²		245.00		-	-
	5.3	Roof Framing					-	-
	5.3.1	75 x 50 hwd roof purlins	lm	468.00	12.00		5,616	-
	5.3.2	100 x 50 hwd roof truss	lm		15.00		-	-
	5.3.3	150 x 50 hwd rafter	lm	238.00	17.00		4,046	-
	5.3.4	200 x 30 hwd fascia board	lm	112.40	25.00		2,810	-
	5.3.5	150 x 50 hwd beam over	lm		17.00		-	-
	5.3.6	200 x 75 hwd beam over	lm	36.80	35.00		1,288	-
Carried forward to page collection							120,731	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.7 Blower / Local Control Room (Continue)								
	7	Roofing & Insulation						
	7.1	Metal Roofing						
	7.1.1	Colorbond corr. sheeting to roof	m ²	341.04	30.00		10,231	-
	7.1.2	Colorbond trimdek sheeting to roof	m ²	22.08	30.00		662	-
	7.1.3	Double sided sisalation to roof	m ²	341.04	4.00		1,364	-
	7.1.4	Galvanised strap bracing to roof	lm	170.00	4.00		680	-
	7.1.5	Chicken wire mesh to roof	m ²	341.04	3.00		1,023	-
	7.2	Roof Plumbing & Acessories						
	7.2.1	Colorbond sheerline gutter to roof	lm	39.20	40.00		1,568	-
	7.2.2	Colorbond ridge capping to roof	lm					
	7.2.3	Colorbond barge mould to roof	lm	73.20	40.00		2,928	-
	7.2.4	Colorbond flashing to roof	lm	18.40	40.00		736	-
	7.2.5	100mm dia. PVC down pipe to roof, incl. dropper, clips, bends	lm	24.00	59.80		1,435	-
	8	Doors & Windows						
	8.1	Doors						
	8.1.1	Steel security grill to external door DA1 2400 x 2100 high	no	4.00	2,880.00		11,520	-
	8.1.2	Steel security grill to external door, DA2 1000 x 2100 high	no	4.00	1,200.00		4,800	-
	8.1.3	Roller door shutter to details, complete with fitting & accessories	no					
	8.1.4	Timber door - Type DA1 SCD 1200 x 2100 high, solid core 2 leaf double door	no	4.00	1,260.00		5,040	-
	8.1.5	Timber door - Type DA2 SCD 1000 x 2100 high	no	4.00	1,050.00		4,200	-
	8.1.6	Timber door - Type D3 1000 x 2100 high, external solid core	no					
Carried forward to page collection							46,187	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.7 Blower / Local Control Room (Continue)								
	8.1.7	Timber door - Type D3 1000 x 2100 high, internal hollow core	no	-				
	8.1.8	Timber door - Type D4 900 x 2100 high	no	-				
	8.1.9	Timber door - Type D5 700 x 1850 high	no	-				
	8.1.10	Sliding door - Type D6 1000 x 2000 high, including tracks & accessories	no	-				
	8.1.11	Install 50 x 25mm hwd door architrave	lm	50.40	8.00		403	-
	8.2	Windows & Glazing						
	8.2.1	Timber framed louvre window - Type W1 1800 x 1500 high, including insect screen & steel security bars	no	-				
	8.2.2	Timber framed louvre window - Type W2 1800 x 1000 high, including insect screen & steel security bars	no	-				
	8.2.3	Timber framed louvre window - Type W3 1200 x 1000 high, including insect screen & steel security bars	no	-				
	8.2.4	Timber framed louvre window - Type W4 1200 x 900 high, including insect screen & steel security bars	no	-				
	8.2.5	Timber framed louvre window - Type W5 600 x 1000 high, including insect screen & steel security bars	no	-				
	8.2.6	Timber framed louvre window - Type W6 1800 x 1100 high, including insect screen & steel security bars	no	-				
	8.2.7	Timber framed louvre window - Type W7 1200 x 1300 high, including insect screen & steel security bars	no	-				
Carried forward to page collection							403	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.7 Blower / Local Control Room (Continue)								
	8.2.8	Timber framed louvre window - Type W8 1800 x 1300 high, including insect screen & steel security bars	no	-				
	8.2.9	Timber framed louvre window - Type W9 1800 x 700 high, including insect screen & steel security bars	no	-				
	8.2.10	Steel security grill to fixed glass windows 1300 x 900 high	no	6.00	4,550.00		27,300	-
	8.2.11	Timber framed fixed glass panel window - 1300 x 900 high	no	6.00	1,500.00		9,000	-
	8.2.12	Timber framed fixed glass panel window - 2700 x 900 high	no		3,100.00		-	-
	8.2.13	Timber framed fixed glass panel window - 3600 x 900 high	no		4,050.00		-	-
	8.2.14	Timber framed fixed glass panel window with timber flap (openable from inside) - 1400 x 1200 high	no	-				
	8.2.15	Install 55 x 25mm hwd window architrave	lm	81.60	4.00		326	-
	8.2.16	Install 25 x 25mm hwd window beads	lm	-				
	8.2.17	Install 32 x 19mm hwd window cover strips	lm	81.60	4.00		326	-
	8.3	Door Hardware						
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no	8.00	75.00		600	-
	8.3.2	Barrel lockset with indicators (to toilets)	no	-				
	8.3.3	234 Series Brass padlock to security grill door	no	8.00	246.68		1,973	-
	8.3.4	401 Hydraulic door closer	no	12.00	35.00		420	-
	8.3.5	100mm steel butt hinges	pair	18.00	25.00		450	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no	12.00	25.00		300	-
Carried forward to page collection							40,695	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.7 Blower / Local Control Room (Continue)								
	9	Painting Works						
	9.1	Painting						
	9.1.1	Supply & apply painting to external & internal walls, incl. columns	m ²	1035.72	17.05		17,659	-
	9.1.2	Supply & apply painting to concrete beams	m ²	164.24	17.05		2,800	-
	9.1.3	Supply & apply painting to internal ceiling	m ²	248.40	33.59		8,344	-
	9.1.4	Supply & apply painting to doors & door frames	m ²	50.40	35.88		1,808	-
	9.1.5	Supply & apply painting to windows & window frames	m ²	16.40	35.88		588	-
	9.1.6	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²	25.20	11.69		295	-
	9.1.7	Supply & apply painting to steel security grill doors	m ²	12.60	34.76		438	-
	9.1.8	Supply & apply painting to steel security grill doors	m ²	-				
	9.1.9	Supply & apply painting to steel columns	m ²	-				
	9.1.10	Supply & apply painting to stairs and hand rails	m ²	-				
	10	Miscellaneous Works						
	10.1	Handrail, ladders and Stop Logs						
	10.1.1	Handrail, Height=1100mm, Galvanised mild steel	m	-				
	10.1.2	Ladders, Width=400mm, Galvanised mild steel	m	-				
	10.1.3	Step Iron, Width=300mm, SS-304	no	-				
Carried forward to page collection							31,932	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
5.8 Sludge Pump Room (Building) [2Nos.]									
		5.8 Sludge Pump Room (Building)							
	1	Excavation & Bedding							
	1.1	Excavation							
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	-	36.00				
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	-	150.00				
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	-	220.00				
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	-	144.00				
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	-	20.00				
	1.2	Bedding							
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³	-	100.00				
	2	Concrete Works							
	2.1	Concrete Blinding							
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	-	970.00				
	2.2	Concrete Supply							
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	19.42	1,155.00		22,430.00	-	
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	-	1,220.00				
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	-	1,091.00				
	2.3	Reinforcing Bars							
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	2.08	3,400.00		7,072.00	-	
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²	32.88	30		986.00	-	
Carried forward to page collection								30,488.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.8 Sludge Pump Room (Building) (Continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	33.7	78.00		2,629.00	-
	2.4.2	Formwork for structural concrete columns	m ²	-	85.00			
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²	-	95.00			
	2.4.4	Formwork for structural concrete with curved surface	m ²	-	150.00			
	2.5	Concrete Sundries						
	2.5.1	Black visqueem dpc membrane	m ²	32.88	3		99.00	-
	2.5.2	Plastic chairs	bags	4.00	50		200.00	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	4.00	30		120.00	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350			
	2.6.3	Construct shallow concrete spoon drain	lm		150			
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65.00			
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²		26.00			
	3	Block Works						
	3.1	Concrete Blockwork						
	3.1.1	Supply 100mm thk blockwork to walls	m ²		173.79			
	3.1.2	Supply 150mm thk blockwork to walls	m ²		209.30			
	3.1.3	Supply 200mm thk blockwork to walls	m ²	134.08	229.86		30,820.00	-
	3.2	Masonry Reinforcement						
	3.2.1	Supply reinforcing bars to blockwork in walls	tons	1.30	3,400.00		4,420.00	-
Carried forward to page collection							38,288.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.8 Sludge Pump Room (Building) (Continue)								
	3.3	Core Fill Concrete						
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³	10.72	250.00		2,680.00	-
	4	Metal Works						
	4.1	Structural Steel Column & Beams						
	4.1.1	100mm dia. CHS steel post (entry canopy)	tons		12,500.00			
	4.1.2	50 x 50 x 3mm equal angle hood framing	tons	0.12	11,000.00		1,320.00	-
	4.1.3	150 x 50 x 3mm RHS steel roof truss (pre-fabricated)	no		14,000.00			
	4.1.4	Install 50/40mm dia. steel escape ladder	item	-	4,485.00			
	4.1.5	40x40x2.5mm shs steel stair rail posts	tons	0.08			-	-
	4.1.6	Allow for brackets, plates, bolts & nuts	item	1.00	5,232.50		5,233.00	-
	5	Carpentry Works						
	5.1	Stud wall Partitions						
	5.1.1	75 x 50 hwd stud partition wall	lm	159.68	22.51		3,594.00	-
	5.2	Ceiling Framing						
	5.2.1	75 x 50 hwd ceiling joist	lm		22.51			
	5.2.2	50 x 50 hwd ceiling framing	lm	249.60	17.07		4,261.00	-
	5.2.3	Suspended metal ceiling grid system	m ²		245.00			
	5.3	Roof Framing						
	5.3.1	75 x 50 hwd roof purlins	lm	140.60	12.00		1,687.00	-
	5.3.2	100 x 50 hwd roof truss	lm	-	15.00			
	5.3.3	150 x 50 hwd rafter	lm	72.80	17.00		1,238.00	-
	5.3.4	200 x 30 hwd fascia board	lm	55.20	25.00		1,380.00	-
	5.3.5	150 x 50 hwd beam over	lm		17.00			
	5.3.6	200 x 75 hwd beam over	lm		35.00			
Carried forward to page collection							21,393.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.8 Sludge Pump Room (Building) (Continue)								
	5.4	Stairs						
	5.4.1	150 x 50 hwd hand rails to stairs	lm	20.60	17.00		350.00	-
	5.4.2	100 x 50 hwd hand rails to stairs	lm	20.60	15.00		309.00	-
	6	Lining & Finishes						
	6.1	Wall Lining & Finishes						
	6.1.1	Bathroom wall lining (seratone or similar)	m ²					
	6.1.2	12mm thk plaster board wall lining	m ²					
	6.1.3	100 x 20mm thk shiplap internal wall lining	lm					
	6.1.4	300 x 300 ceramic wall tiles	m ²					
	6.1.5	150 x 100 ceramic skirting tiles	m ²					
	6.1.6	70 x 25 hwd timber skirtings	lm					
	6.1.7	Metal corner strips (plasterboard)	lm					
	6.1.8	Colorbond trimdek external wall cladding	m ²	19.08	30.00		572.00	-
	7	Roofing & Insulation						
	7.1	Metal Roofing						
	7.1.1	Colorbond corr. sheeting to roof	m ²	91.80	30.00		2,754.00	-
	7.1.2	Colorbond trimdek sheeting to roof	m ²	13.40	30.00		402.00	-
	7.1.3	Double sided sisalation to roof	m ²	58.40	4.00		234.00	-
	7.1.4	Galvanised strap bracing to roof	lm	32.80	4.00		131.00	-
	7.1.5	Chicken wire mesh to roof	m ²	58.40	3.00		175.00	-
	7.2	Roof Plumbing & Aecessories						
	7.2.1	Colorbond sheerline gutter to roof	lm	17.00	40.00		680.00	-
	7.2.2	Colorbond ridge capping to roof	lm					
	7.2.3	Colorbond barge mould to roof	lm	38.20	40.00		1,528.00	-
	7.2.4	Colorbond flashing to roof	lm	10.80	40.00		432.00	-
	7.2.5	100mm dia. PVC down pipe to roof, incl. dropper, clips, bends	lm	17.20	59.80		1,029.00	-
Carried forward to page collection							8,596.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.8 Sludge Pump Room (Building) (Continue)								
	8	Doors & Windows						
	8.1	Doors						
	8.1.1	Steel security grill to external door D1 1800 x 2100 high	no	2.00	1,250.00		2,500.00	-
	8.1.2	Steel security grill to external door, D3 1000 x 2100 high	no					
	8.1.3	Roller door shutter to details, complete with fitting & accessories	no					
	8.1.4	Timber door - Type D1 1800 x 2100 high, solid core 2 leaf	no	2.00	1,900.00		3,800.00	-
	8.1.5	Timber door - Type D2 1600 x 2100 high	no					
	8.1.6	Timber door - Type D3 1000 x 2100 high, external solid core	no					
	8.1.7	Timber door - Type D3 1000 x 2100 high,	no					
	8.1.8	Timber door - Type D4 900 x 2100 high	no					
	8.1.9	Timber door - Type D5 700 x 1850 high	no					
	8.1.10	Sliding door - Type D6 1000 x 2000 high, including tracks & accessories	no					
	8.1.11	Install 50 x 25mm hwd door architrave	lm	24.00	4.00		96.00	-
	8.2	Windows & Glazing						
	8.2.1	Timber framed louvre window - Type W1 1800 x 1500 high, including insect screen & steel security bars	no	-				
	8.2.2	Timber framed louvre window - Type W2 1800 x 1000 high, including insect screen & steel security bars	no	-				
	8.2.3	Timber framed louvre window - Type W3 1200 x 1000 high, including insect screen & steel security bars	no	-				
Carried forward to page collection							6,396.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
5.8 Sludge Pump Room (Building) (Continue)								
	8.2.4	Timber framed louvre window - Type W4 1200 x 900 high, including insect screen & steel security bars	no	-				
	8.2.5	Timber framed louvre window - Type W5 600 x 1000 high, including insect screen & steel security bars	no	-				
	8.2.6	Timber framed louvre window - Type W6 1800 x 1100 high, including insect screen & steel security bars	no	-				
	8.2.7	Timber framed louvre window - Type W7 1200 x 1300 high, including insect screen & steel security bars	no	-				
	8.2.8	Timber framed louvre window - Type W8 1800 x 1300 high, including insect screen & steel security bars	no	-				
	8.2.9	Timber framed louvre window - Type W9 1800 x 700 high, including insect screen & steel security bars	no	-				
	8.2.10	Timber framed louvre window - Type W10 1200 x 1500 high, including insect screen & steel security bars	no	-				
	8.2.11	Timber framed fixed glass panel window - 1800 x 900 high	no	-				
	8.2.12	Timber framed fixed glass panel window - 2700 x 900 high	no	-				
	8.2.13	Timber framed fixed glass panel window - 3600 x 900 high	no	-				
	8.2.14	Timber framed fixed glass panel window with timber flap (openable from inside) - 1400 x 1200 high	no	-				
Carried forward to page collection							-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.8 Sludge Pump Room (Building) (Continue)								
	8.2.15	Timber framed light/ventilation grill window, 1200 x 900 high	no	4.00	3,500		14,000.00	-
	8.2.16	Install 50 x 25mm hwd window architrave	lm	16.80	4.00		67.00	-
	8.2.17	Install 25 x 25mm hwd window beads	lm	-				
	8.2.18	Install 32 x 19mm hwd window cover strips	lm	-				
	8.3	Door Hardware						
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no	2.00	75.00		150.00	-
	8.3.2	Barrel lockset with indicators (to toilets)	no	-				
	8.3.3	234 Series Brass padlock to security grill door	no	2.00	246.68		493.00	-
	8.3.4	401 Hydraulic door closer	no	4.00	35.00		140.00	-
	8.3.5	100mm steel butt hinges	pair	6.00	25.00		150.00	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no	4.00	25.00		100.00	-
	9	Painting Works						
	9.1	Painting						
	9.1.1	Supply & apply painting to external block walls	m ²	268.16	17.05		4,572.00	-
	9.1.2	Supply & apply painting to internal block walls	m ²	63.28	17.05		1,079.00	-
	9.1.3	Supply & apply painting to plaster board wall	m ²	-				
	9.1.4	Supply & apply painting to internal ceiling	m ²	58.40	33.59		1,962.00	-
	9.1.5	Supply & apply painting to doors & door frames	m ²	14.78	35.88		530.00	-
	9.1.6	Supply & apply painting to windows & window frames	m ²	-				
Carried forward to page collection							23,243.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₱	PNGK	₱
5.8 Sludge Pump Room (Building) (Continue)								
	9.1.7	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²	6.40	11.69		75.00	-
	9.1.8	Supply & apply painting to steel security grill doors	m ²	8.20	34.76		285.00	-
	9.1.9	Supply & apply painting to steel columns	m ²	-				
	9.1.10	Supply & apply painting to stairs and hand rails	m ²	15.86	34.76		551.00	-
	10	Miscellaneous Works						
	10.1	Handrail, ladders and Stop Logs						
	10.1.1	Handrail, Height=1100mm, Galvanised mild steel	m	-				
	10.1.2	Ladders, Width=400mm, Galvanised mild steel	m	-				
	10.1.3	Step Iron, Width=300mm, SS-304	no	-				
	10.1.4	Stop logs with frame, Water depth less than 1.5m	m ²	-				
	10.2	Covers						
	10.2.1	Grated cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 25mm thick or similar	m ²	-				
	10.2.2	Grated cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 45mm thick or similar	m ²	-				
	10.2.3	FRP cover with frame, 35mm thk, Fiber Reinforced Plastic	m ²	-				
	10.2.4	FRP cover with frame, 75mm thk, Fiber Reinforced Plastic	m ²	-				
Carried forward to page collection							911.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.9 UV disinfection Room								
		5.9 UV disinfection Room						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	66.23	36.00		2,384	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	-	150.00			
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	29.37	220.00		6,461	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	29.37	144.00		4,229	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	-	20.00			
	1.2	Bedding						
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³	2.50	100.00		250	-
	2	Concrete Works						
	2.1	Concrete Blinding						
	2.1.1	Blinding with Concrete 75mm Thick (Strength	m ³	-	970.00			
	2.2	Concrete Supply						
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	32.40	1,155.00		37,422	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	-	1,220.00			
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	-	1,091.00			
	2.3	Reinforcing Bars						
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	1.82	3,400.00		6,188	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²	86.49	30		2,595	-
Carried forward to page collection							59,529	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.9 UV disinfection Room (Continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	7.29	78.00		569	-
	2.4.2	Formwork for structural concrete columns	m ²	-	85.00			
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²	-	95.00			
	2.4.4	Formwork for structural concrete with curved surface	m ²	-	150.00			
	2.5	Concrete Sundries						
	2.5.1	Black visqueem dpc membrane	m ²	86.49	3		259	-
	2.5.2	Plastic chairs	bags	4.00	50		200	-
	2.6	Others						
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	2.00	30		60	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65.00		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²		26.00		-	-
	3	Block Works					-	-
	3.1	Concrete Blockwork					-	-
	3.1.1	Supply 100mm thk blockwork to walls	m ²		173.79		-	-
	3.1.2	Supply 150mm thk blockwork to walls	m ²		209.30		-	-
	3.1.3	Supply 200mm thk blockwork to walls	m ²	227.64	229.86		52,325	-
	3.2	Masonry Reinforcement					-	-
	3.2.1	Supply reinforcing bars to blockwork in walls	tons	2.21	3,400.00		7,514	-
	3.3	Core Fill Concrete					-	-
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³	18.21	250.00		4,553	-
Carried forward to page collection							65,480	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.9 UV disinfection Room (Continue)								
	4	Metal Works						
	4.1	Structural Steel Column & Beams						
	4.1.1	100mm dia. CHS steel post (entry canopy)	tons	-	12,500.00			
	4.1.2	50 x 50 x 3mm equal angle hood framing	tons	0.06	11,000.00		660	-
	4.1.3	150 x 50 x 3mm RHS steel roof truss (pre-fabricated)	no	-	14,000.00			
	4.1.4	Supply & install m.s steel grating cover to floor openings	m2	23.28	4,485.00		104,411	-
	4.1.5	Allow for brackets, plates, bolts & nuts	item	1.00	5,232.50		5,233	-
	5	Carpentry Works						
	5.1	Stud wall Partitions						
	5.1.1	75 x 50 hwd stud partition wall	lm		22.51			
	5.2	Ceiling Framing						
	5.2.1	75 x 50 hwd ceiling joist	lm		22.51			
	5.2.2	Supply & install 65x35x2.0mm steel ceiling	tons	1.55	17.07		26	-
	5.2.3	Suspended metal ceiling grid system	m ²		245.00			
	5.3	Roof Framing						
	5.3.1	Supply & install 75 x 50 hwd roof battens to hood roof (14.80lm)	lm	29.60	12.00		355	-
	5.3.2	Supply & install 150 x 50 x 3.0mm rhs steel rafters to main roof	tons	0.96	14,800.00		14,208	-
	5.3.3	Supply & install 50mm top hat at 900 crs to main roof	lm	210.00	25.00		5,250	-
	5.3.4	Supply & install 200mm metal fascia & barge board to main roof	lm	46.60	30.00		1,398	-
	5.3.5	150 x 50 hwd beam over	lm		17.00			
	5.3.6	200 x 75 hwd beam over	lm		35.00			
	5.4	Stairs						
	5.4.1	150 x 50 hwd hand rails to stairs	lm		17.00			
	5.4.2	100 x 50 hwd hand rails to stairs	lm		15.00			
Carried forward to page collection							131,541	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
5.9 UV disinfection Room (Continue)									
	6	Lining & Finishes							
	6.1	Wall Lining & Finishes							
	6.1.1	Bathroom wall lining (seratone or similar)	m ²						
	6.1.2	12mm thk plaster board wall lining	m ²						
	6.1.3	100 x 20mm thk shiplap internal wall lining	lm						
	6.1.4	300 x 300 ceramic wall tiles	m ²						
	6.1.5	150 x 100 ceramic skirting tiles	m ²						
	6.1.6	70 x 25 hwd timber skirtings	lm						
	6.1.7	Metal corner strips (plasterboard)	lm						
	6.1.8	Colorbond trimdek external wall cladding	m ²	12.51	30.00		375	-	
	6.2	Floor Lining & Finishes							
	6.2.1	300x300 ceramic tiles non-slip	m ²						
	6.2.2	Selected ceramic splashback tiles	lm						
	6.3	Ceiling Lining & Finishes							
	6.3.1	12mm thk plaster board ceiling lining	m ²	96.60	12.00		1,159	-	
	6.3.2	Plaster board cornice strips to ceiling	m ²	41.60	12.00		499	-	
	6.3.3	4mm plywood ceiling lining	m ²						
	6.3.4	1200 x 600mm ceiling tiles	m ²						
	6.3.5	75mm thk noise control/proof insulation blanket in ceiling lining	m ²						
	6.3.6	Tape & compound plasterboard ceiling lining	m ²	96.60	16.00		1,546	-	
	7	Roofing & Insulation							
	7.1	Metal Roofing							
	7.1.1	Colorbond corr. sheeting to roof	m ²	126.00	30.00		3,780	-	
	7.1.2	Colorbond trimdek sheeting to roof	m ²	33.15	30.00		995	-	
	7.1.3	Double sided sisalation to roof	m ²	91.00	4.00		364	-	
	7.1.4	Galvanised strap bracing to roof	lm	31.20	4.00		125	-	
	7.1.5	Chicken wire mesh to roof	m ²	91.00	3.00		273	-	
Carried forward to page collection								9,116	-

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.9 UV disinfection Room (Continue)								
	8.2	Windows & Glazing						
	8.2.1	Timber framed louvre window - 8no. blades 1600 x 1200 high, incl. insect screen & steel security bars	no	4.00	1,200.00		4,800	-
	8.2.2	Timber framed louvre window - 8no. blades 1400 x 1200 high, incl. insect screen & steel security bars	no	1.00	1,200.00		1,200	-
	8.2.3	Timber framed louvre window - Type W3 1200 x 1000 high, including insect screen & steel security bars	no				-	-
	8.2.4	Timber framed louvre window - Type W4 1200 x 900 high, including insect screen & steel security bars	no				-	-
	8.2.5	Timber framed louvre window - Type W5 600 x 1000 high, including insect screen & steel security bars	no				-	-
	8.2.6	Timber framed louvre window - Type W6 1800 x 1100 high, including insect screen & steel security bars	no				-	-
	8.2.7	Timber framed louvre window - Type W7 1200 x 1300 high, including insect screen & steel security bars	no				-	-
	8.2.8	Timber framed louvre window - Type W8 1800	no				-	-
	8.2.9	Timber framed louvre window - Type W9 1800	no				-	-
	8.2.10	Timber framed louvre window - Type W10	no				-	-
	8.2.11	Timber framed fixed glass panel window -	no				-	-
	8.2.12	Timber framed fixed glass panel window -	no				-	-
	8.2.13	Timber framed fixed glass panel window -	no				-	-
	8.2.14	Timber framed fixed glass panel window with	no				-	-
	8.2.15	Install 50 x 25mm hwd window architrave	lm	28.00	4.00		112	-
Carried forward to page collection							6,112	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₱	PNGK	₱
5.9 UV disinfection Room (Continue)								
	8.2.16	Install 25 x 25mm hwd window beads	lm	-				
	8.2.17	Install 32 x 19mm hwd window cover strips	lm	34.00	3.50		119	-
	8.3	Door Hardware						
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no	2.00	75.00		150	-
	8.3.2	Barrel lockset with indicators (to toilets)	no	-				
	8.3.3	234 Series Brass padlock to security grill door	no	2.00	246.68		493	-
	8.3.4	401 Hydraulic door closer	no	-				
	8.3.5	100mm steel butt hinges	pair	3.00	25.00		75	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no	1.00	25.00		25	-
	9	Painting Works						
	9.1	Painting						
	9.1.1	Supply & apply painting to block walls, both internal and external faces	m ²	455.28	17.05		7,763	-
	9.1.2	Supply & apply painting to internal ceiling	m ²	96.60	33.59		3,245	-
	9.1.3	Supply & apply painting to doors & door frames	m ²	9.45	35.88		339	-
	9.1.4	Supply & apply painting to windows & security bars	m ²	6.20	35.88		222	-
	9.1.5	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²	3.00	11.69		35	-
	9.1.6	Supply & apply painting to windows & window frames	m ²	-				
	9.1.7	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²	-				
Carried forward to page collection							12,466	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.9 UV disinfection Room (Continue)								
	9.1.8	Supply & apply painting to steel security grill doors	m ²	-				
	9.1.9	Supply & apply painting to steel columns	m ²	-				
	9.1.10	Supply & apply painting to stairs and hand rails	m ²	-				
	10	Miscellaneous Works						
	10.1	Handrail, ladders and Stop Logs						
	10.1.1	Handrail, Height=1100mm, Galvanised mild steel	m	-				
	10.1.2	Ladders, Width=400mm, Galvanised mild steel	m	-				
	10.1.3	Step Iron, Width=300mm, SS-304	no	-				
	10.1.4	Stop logs with frame, Water depth less than 1.5m	m ²	-				
	10.2	Covers						
	10.2.1	Grated cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 25mm thick or similar	m ²	-				
	10.2.2	Grated cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 45mm thick or similar	m ²	-				
	10.2.3	FRP cover with frame, 35mm thk, Fiber Reinforced Plastic	m ²	-				
	10.2.4	FRP cover with frame, 75mm thk, Fiber Reinforced Plastic	m ²	-				
	11	Allow for all cost and works deemed necessary but not included in this section or elsewhere for the completion of the work according to the Specifications, Drawings and Condition of Contract	ls	1.0			-	-
Carried forward to page collection							-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.10 Sludge Treatment Building								
		5.10 Sludge Treatment Building						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	181.58	36.00		6,537	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	-	150.00			
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	68.40	220.00		15,048	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	68.40	144.00		9,850	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	-	20.00			
	1.2	Bedding						
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³	6.74	100.00		674	-
	2	Concrete Works						
	2.1	Concrete Blinding						
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	-	970.00			
	2.2	Concrete Supply						
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	304.23	1,155.00		351,386	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	-	1,220.00			
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	15.00	1,091.00		16,365	-
	2.3	Reinforcing Bars						
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	30.62	3,400.00		104,108	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²	582.07	30		17,462	-
Carried forward to page collection							521,430	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.10 Sludge Treatment Building (Continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	12.00	78.00		936	-
	2.4.2	Formwork for structural concrete columns	m ²	473.60	85.00		40,256	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²	1,072.75	95.00		101,911	-
	2.4.4	Formwork for structural concrete with curved surface	m ²		150.00		-	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²	313.32	3		940	-
	2.5.2	Plastic chairs	bags	13.00	50		650	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	4.00	30		120	-
	2.6.2	Construct concrete drainage pit, 1000x1000x1000 dp incl. metal grate over	no	1.00	350		350	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65.00		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	135.00	26.00		3,510	-
	3	Block Works					-	-
	3.1	Concrete Blockwork					-	-
	3.1.1	Supply 100mm thk blockwork to walls	m ²		173.79		-	-
	3.1.2	Supply 150mm thk blockwork to walls	m ²		209.30		-	-
	3.1.3	Supply 200mm thk blockwork to walls	m ²	924.71	229.86		212,554	-
	3.2	Masonry Reinforcement					-	-
	3.2.1	Supply reinforcing bars to blockwork in walls	tons	8.99	3,400.00		30,566	-
Carried forward to page collection							391,793	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.10 Sludge Treatment Building (Continue)								
	3.3	Core Fill Concrete						
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³	73.97	250.00		18,493	-
	4	Metal Works						
	4.1	Structural Steel Column & Beams						
	4.1.1	100mm dia. CHS steel post (entry canopy)	tons		12,500.00			
	4.1.2	50 x 50 x 3mm equal angle hood framing	tons	0.56	11,000.00		6,160	-
	4.1.3	150 x 50 x 3mm RHS steel roof truss (pre-fabricated)	no		14,000.00			
	4.1.4	Install 50/40mm dia. steel escape ladder	item	1.00	4,485.00		4,485	-
	5	Carpentry Works						
	5.1	Stud wall Partitions						
	5.1.1	75 x 50 hwd stud partition wall at top floor	lm	252.00	22.51			
	5.2	Ceiling Framing						
	5.2.1	200 x 50 hwd ceiling joist at electrical room	lm	120.00			-	-
	5.2.2	50 x 50 hwd ceiling framing	lm	1,912.50	17.07		32,646	-
	5.2.3	50 x 25 hwd ceiling framing to electrical room	lm	100.00			-	-
	5.2.4	Suspended metal ceiling grid system	lm					
	5.3	Roof Framing						
	5.3.1	75 x 50 hwd roof purlins, struts & ties to truss	lm	754.90	12.00		9,059	-
	5.3.2	125 x 50 hwd bottom chord of roof truss	lm	180.00	15.00		2,700	-
	5.3.3	150 x 50 hwd top chord of truss	lm	208.80			-	-
	5.3.4	200 x 30 hwd fascia board	lm	78.00	25.00		1,950	-
	5.3.5	100 x 50 hwd wall plate	lm	80.00			-	-
	5.3.6	200 x 75 hwd beam over	lm		35.00			
Carried forward to page collection							75,493	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.10 Sludge Treatment Building (Continue)								
	5.4	Stairs						
	5.4.1	150 x 50 hwd hand rails to stairs	lm	24.00	17.00		408	-
	5.4.2	100 x 50 hwd hand rails to stairs	lm	24.00	15.00		360	-
	6	Lining & Finishes						
	6.1	Wall Lining & Finishes						
	6.1.1	Bathroom wall lining (seratone or similar)	m ²					
	6.1.2	12mm thk plaster board wall lining to electrical room	m ²	49.08	12.00		589	-
	6.1.3	Supply & install 50mm thk mineral wool wall insulation to elctrical room walls	m ²	24.54	55.00		1,350	-
	6.1.4	Selected ceramic wall tiles to toilets at ground floor	m ²	28.53	15.00		428	-
	6.1.5	150 x 100 ceramic skirting tiles	m ²	-				
	6.1.6	100 x 25 hwd timber skirtings	lm	-				
	6.1.7	Metal corner strips (plasterboard)	lm	-				
	6.1.8	Colorbond trimdek external wall cladding	m ²	12.00	30.00		360	-
	6.1.9	Tape & compound to plasterboard wall at electrical room	m ²	49.08	16.00		785	-
	6.2	Floor Lining & Finishes						
	6.2.1	300x300 ceramic floor tiles non-slip to toilets	m ²	8.32	49.00		408	-
	6.2.2	300x300 ceramic floor tiles non-slip to electrical room	m ²	50.00	50.00		2,500	-
	6.2.3	Selected ceramic splashback tiles	lm					
	6.3	Ceiling Lining & Finishes						
	6.3.1	12mm thk plaster board ceiling lining to electrical room	m ²	618.75	12.00		7,425	-
	6.3.2	Plaster board cornice strips to ceiling	m ²	224.40	12.00		2,693	-
	6.3.3	4mm plywood ceiling lining	m ²	-				
	6.3.4	1200 x 600mm ceiling tiles	m ²	-				
Carried forward to page collection							17,306	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
	6.3.5	Supply & install 50mm thk mineral wool ceiling insulation to elctrical room	m ²	50.00	55.00		2,750	-
	6.3.6	Tape & compound to plasterboard ceiling lining throughout	m ²	618.75	16.00		9,900	-
	7	Roofing & Insulation						
	7.1	Metal Roofing						
	7.1.1	Colorbond corr. sheeting to roof	m ²	387.20	30.00		11,616	-
	7.1.2	Colorbond trimdek sheeting to hood roof	m ²	124.45	30.00		3,734	-
	7.1.3	Double sided sisalation to roof	m ²	304.00	4.00		1,216	-
	7.1.4	Galvanised strap bracing to roof	lm	147.20	4.00		589	-
	7.1.5	Chicken wire mesh to roof	m ²	304.00	3.00		912	-
	7.2	Roof Plumbing & Acessories						
	7.2.1	Colorbond sheerline gutter to roof	lm	44.00	40.00		1,760	-
	7.2.2	Colorbond ridge capping to roof	lm	21.80	40.00		872	-
	7.2.3	Colorbond barge mould to roof	lm	35.20	40.00		1,408	-
	7.2.4	Colorbond flashing to hood roof	lm	65.50	40.00		2,620	-
	7.2.5	100mm dia. PVC down pipe to roof, incl. dropper, clips, bends	lm	60.00	59.80		3,588	-
	8	Doors & Windows						
	8.1	Doors						
	8.1.1	Steel security grill to external door DA1 1800 x 2100 high	no	1.00	1,250.00		1,250	-
	8.1.2	Supply & install sliding door - steel framed welded expanded metal security door, 2400 x 2200 high	no	1.00	2,880.00		2,880	-
Carried forward to page collection							45,095	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
	8.1.3	Roller door shutter to details, complete with fitting & accessories	no	-				
	8.1.4	Timber door - Type D1 1800 x 2100 high, solid core 2 leaf	no	1.00	1,900.00		1,900	-
	8.1.5	Timber door - Type D2 1600 x 2100 high	no	1.00	1,700.00		1,700	-
	8.1.6	Timber door - Type D3 1000 x 2100 high, external solid core	no	-				
	8.1.7	Timber door - Type D3 1000 x 2100 high, internal hollow core	no	-				
	8.1.8	Timber door - Type D4 900 x 2100 high	no	3.00	842.38		2,527	-
	8.1.9	Timber door - Type D5 700 x 1850 high	no	-				
	8.1.10	Sliding door - Type D6 1000 x 2000 high, including tracks & accessories	no	-				
	8.1.11	Install 50 x 25mm hwd door architrave	lm	42.00	8.00		336	-
	8.1.12	Install 32 x 19mm hwd door stop	lm	21.00	3.50		74	-
	8.2	Windows & Glazing						
	8.2.1	Supply & install steel framed welded expanded mesh window to ground floor, 1800 x 2000 high	no	10.00	2,700.00		27,000	-
	8.2.2	Supply & install steel framed welded expanded mesh window to ground floor, 1200 x 1300 high	no	1.00	1,170.00		1,170	-
	8.2.3	Supply & install steel framed welded expanded mesh window to ground floor, 1000 x 1300 high	no	1.00	975.00		975	-
	8.2.4	Supply & install powder coat aluminium framed fixed glass window, 900 x 1500 high	no	4.00	1,700.00		6,800	-
	8.2.5	Supply & install powder coat aluminium framed fixed glass window, 1800 x 1500 high	no	1.00	3,400.00		3,400	-
Carried forward to page collection							45,882	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
	8.2.6	Supply & install timber framed louvre window - 10no. blades 1800 x 1500 high, incl. insect screen & steel security bars	no	26.00	2,100.00		54,600	-
	8.2.7	Supply & install timber framed louvre window - 10no. blades 1200 x 1500 high, incl. insect screen & steel security bars	no	2.00	1,450.00		2,900	-
	8.2.8	Supply & install 50x25mm hwd window architrave	lm	293.80	8.00		2,350	-
	8.2.9	Supply & install 32x19mm hwd window cover strips	lm	263.40	3.50		922	-
	8.2.10	Timber framed louvre window - Type W8 1800 x 1300 high, including insect screen & steel security bars	no	-				
	8.2.11	Timber framed louvre window - Type W9 1800 x 700 high, including insect screen & steel security bars	no	-				
	8.2.12	Timber framed louvre window - Type W10 1200 x 1500 high, including insect screen & steel security bars	no	-				
	8.2.13	Timber framed fixed glass panel window - 1800 x 900 high	no	-				
	8.2.14	Timber framed fixed glass panel window - 2700 x 900 high	no	-				
	8.2.15	Timber framed fixed glass panel window - 3600 x 900 high	no	-				
	8.2.16	Timber framed fixed glass panel window with timber flap (openable from inside) - 1400 x 1200 high	no	-				
	8.2.17	Install 75 x 25mm hwd window architrave	lm	-				
	8.2.18	Install 25 x 25mm hwd window beads	lm	-				
Carried forward to page collection							60,772	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
	8.2.19	Install 32 x 19mm hwd window cover strips	lm	-				
	8.3	Door Hardware		-				
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no	2.00	75.00		150	-
	8.3.2	Barrel lockset with indicators (to toilets)	no	-				
	8.3.3	234 Series Brass padlock to security grill door	no	1.00	246.68		247	-
	8.3.4	401 Hydraulic door closer	no	4.00	35.00		140	-
	8.3.5	100mm steel butt hinges	pair	11.00	25.00		275	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no	7.00	25.00		175	-
	9	Painting Works						
	9.1	Painting						
	9.1.1	Supply & apply painting to block walls, both internal and external faces to grd floor	m ²	1,062.80	17.05		18,121	-
	9.1.2	Supply & apply painting to block walls, both internal and external faces to top floor	m ²	786.62	17.05		13,412	-
	9.1.3	Supply & apply painting to concrete columns	m ²	473.60	17.05		8,075	-
	9.1.4	Supply & apply painting to concrete beams	m ²	372.00	17.05		6,343	-
	9.1.5	Supply & apply painting to internal plasterboard wall at electrical room	m ²	49.08	33.59		1,649	-
	9.1.6	Supply & apply painting to internal plasterboard ceiling lining to grd floor	m ²	268.75	33.59		9,027	-
	9.1.7	Supply & apply painting to internal plasterboard ceiling lining to top floor	m ²	350.00	33.59		11,757	-
	9.1.8	Supply & apply painting to doors & door frames	m ²	26.46	35.88		949	-
Carried forward to page collection							70,320	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
	9.1.9	Supply & apply painting to windows & security bars	m ²	3.78	35.88		136	-
	9.1.10	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²	24.00	11.69		281	-
	10	Miscellaneous Works						
	10.1	Handrail, ladders and Stop Logs						
	10.1.1	Handrail, Height=1100mm, Galvanised mild steel	m	-				
	10.1.2	Ladders, Width=400mm, Galvanised mild steel	m	-				
	10.1.3	Step Iron, Width=300mm, SS-304	no	-				
	10.1.4	Stop logs with frame, Water depth less than 1.5m	m ²	-				
	10.2	Covers						
	10.2.1	Grated cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 25mm thick or similar	m ²	-				
	10.2.2	Grated cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 45mm thick or similar	m ²	-				
	10.2.3	FRP cover with frame, 35mm thk, Fiber Reinforced Plastic	m ²	-				
	10.2.4	FRP cover with frame, 75mm thk, Fiber Reinforced Plastic	m ²	-				
	11	Allow for all cost and works deemed necessary but not included in this section or elsewhere for the completion of the work according to the Specifications, Drawings and Condition of Contract	ls	1.0			-	-
Carried forward to page collection							417	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.11 Electrical Substation								
		5.11 Electrical Substation						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	74.61	36.00		2,686.00	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	-	150.00			
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	30.63	220.00		6,739.00	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	30.63	144.00		4,411.00	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³	-	20.00			
	1.2	Bedding						
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³	4.35	100.00		435.00	-
	2	Concrete Works						
	2.1	Concrete Blinding						
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³	-	970.00			
	2.2	Concrete Supply						
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	34.00	1,155.00		39,270.00	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³	-	1,220.00			
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³	37.94	1,091.00		41,393.00	-
	2.3	Reinforcing Bars						
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	1.47	3,400.00		4,998.00	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²	139.80	30		4,194.00	-
Carried forward to page collection							104,126.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.11 Electrical Substation (Continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	3.45	78.00		269.00	-
	2.4.2	Formwork for structural concrete columns	m ²	-	85.00			
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²	-	95.00			
	2.4.4	Formwork for structural concrete with curved surface	m ²	-	150.00			
	2.5	Concrete Sundries						
	2.5.1	Black visqueem dpc membrane	m ²	139.80	3		419.00	-
	2.5.2	Plastic chairs	bags	5.00	50		250.00	-
	2.6	Others						
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	2.00	30		60.00	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no	-	350			
	2.6.3	Construct shallow concrete spoon drain	lm	-	150			
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm	-	65.00			
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²	-	26.00			
	3	Block Works						
	3.1	Concrete Blockwork						
	3.1.1	Supply 100mm thk blockwork to walls	m ²	15.75	173.79		2,737.00	-
	3.1.2	Supply 150mm thk blockwork to walls	m ²	-	209.30			
	3.1.3	Supply 200mm thk blockwork to walls	m ²	179.20	229.86		41,191.00	-
	3.2	Masonry Reinforcement						
	3.2.1	Supply reinforcing bars to blockwork in walls	tons	1.89	3,400.00		6,426.00	-
Carried forward to page collection							51,352.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.11 Electrical Substation (Continue)								
	3.3	Core Fill Concrete						
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³	15.60	250.00			
	4	Metal Works						
	4.1	Structural Steel Column & Beams						
	4.1.1	100mm dia. CHS steel post (entry canopy)	tons	-	12,500.00			
	4.1.2	50 x 50 x 3mm equal angle hood framing	tons	0.14	11,000.00		1,540.00	-
	4.1.3	150 x 50 x 3mm RHS steel roof truss (pre-fabricated)	no	-	14,000.00			
	4.1.4	Install 50/40mm dia. steel escape ladder	item	-	4,485.00			
	4.1.5	Allow for brackets, plates, bolts & nuts	item	1.00	5,232.50		5,233.00	-
	5	Carpentry Works						
	5.1	Stud wall Partitions						
	5.1.1	75 x 50 hwd stud partition wall	lm	-				
	5.2	Ceiling Framing						
	5.2.1	75 x 50 hwd ceiling joist	lm	-				
	5.2.2	50 x 50 hwd ceiling framing	lm	758.88	17.07		12,954.00	-
	5.2.3	Suspended metal ceiling grid system	m ²	-				
	5.3	Roof Framing						
	5.3.1	75 x 50 hwd roof purlins to main roof & hood	lm	222.00	12.00		2,664.00	-
	5.3.2	100 x 50 hwd wall plates	lm	55.10	15.00		827.00	-
	5.3.3	150 x 50 hwd rafter	lm	94.50	17.00		1,607.00	-
	5.3.4	200 x 30 hwd fascia board	lm	50.60	25.00		1,265.00	-
	5.3.5	150 x 50 hwd beam over	lm	-				
	5.3.6	200 x 75 hwd beam over	lm	5.50	35.00		193.00	-
	5.4	Stairs						
	5.4.1	150 x 50 hwd hand rails to stairs	lm	-	17.00			
	5.4.2	100 x 50 hwd hand rails to stairs	lm	-	15.00			
Carried forward to page collection							26,283.00	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
5.11 Electrical Substation (Continue)									
	6	Lining & Finishes							
	6.1	Wall Lining & Finishes							
	6.1.1	Bathroom wall lining (seratone or similar)	m ²	-					
	6.1.2	12mm thk plaster board wall lining	m ²	-					
	6.1.3	100 x 20mm thk shiplap internal wall lining	lm	-					
	6.1.4	300 x 300 ceramic wall tiles	m ²	-					
	6.1.5	150 x 100 ceramic skirting tiles	m ²	-					
	6.1.6	70 x 25 hwd timber skirtings	lm	-					
	6.1.7	Metal corner strips (plasterboard)	lm	-					
	6.1.8	Colorbond trimdek external wall cladding	m ²	13.80	30.00		414.00	-	
	6.2	Floor Lining & Finishes							
	6.2.1	300x300 ceramic tiles non-slip	m ²	-					
	6.2.2	Selected ceramic splashback tiles	lm	-					
	6.3	Ceiling Lining & Finishes							
	6.3.1	12mm thk plaster board ceiling lining	m ²	126.48	12.00		1,518.00	-	
	6.3.2	Plaster board cornice strips to ceiling	m ²	-					
	6.3.3	4mm plywood ceiling lining	m ²	-					
	6.3.4	1200 x 600mm ceiling tiles	m ²	-					
	6.3.5	75mm thk noise control/proof insulation	m ²	126.48			-	-	
	6.3.6	25 x 25 hwd cornice strips to ceiling junction	lm	89.00			-	-	
	7	Roofing & Insulation							
	7.1	Metal Roofing							
	7.1.1	Colorbond corr. sheeting to roof	m ²	157.62	30.00		4,729.00	-	
	7.1.2	Colorbond trimdek sheeting to roof	m ²	19.24	30.00		577.00	-	
	7.1.3	Double sided sisalation to roof	m ²	127.84	4.00		511.00	-	
	7.1.4	Galvanised strap bracing to roof	lm	45.00	4.00		180.00	-	
	7.1.5	Chicken wire mesh to roof	m ²	127.84	3.00		384.00	-	
	7.2	Roof Plumbing & Accessories							
	7.2.1	Colorbond sheerline gutter to roof	lm	14.80	40.00		592.00	-	
Carried forward to page collection								8,905.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
5.11 Electrical Substation (Continue)								
	7.2.2	Colorbond ridge capping to roof	lm					
	7.2.3	Colorbond barge mould to roof	lm	35.80	40.00		1,432.00	-
	7.2.4	Colorbond flashing to roof	lm	14.80	40.00		592.00	-
	7.2.5	100mm dia. PVC down pipe to roof, incl. dropper, clips, bends	lm	10.00	59.80		598.00	-
	8	Doors & Windows						
	8.1	Doors						
	8.1.1	Steel security grill to external door DA1 1600 x 2100 high	no	3.00	1,920.00		5,760.00	-
	8.1.2	Steel security grill to external door, DA2 1000 x 2100 high	no	1.00	1,200.00		1,200.00	-
	8.1.3	Roller door shutter to details, complete with fitting & accessories	no	-				
	8.1.4	Timber door - Type SCD 1600 x 2100 high, solid core 2 leaf	no	3.00	2,500.00		7,500.00	-
	8.1.5	Timber door - Type D 1600 x 2100 high	no					
	8.1.6	Timber door - Type D4 1000 x 2100 high, external solid core	no	1.00	1,050.00		1,050.00	-
	8.1.7	Timber door - Type D4 1000 x 2100 high, internal hollow core	no	3.00	950.00		2,850.00	-
	8.1.8	Timber door - Type D 900 x 2100 high	no	-				
	8.1.9	Timber door - Type D 700 x 1850 high	no	-				
	8.1.10	Sliding door - Type D 1000 x 2000 high, including tracks & accessories	no					
	8.1.11	Install 50 x 25mm hwd door architrave	lm	82.80	8.00		662.00	-
	8.2	Windows & Glazing						
	8.2.1	Timber framed louvre window - Type W1 1800 x 1500 high, including insect screen & steel security bars	no	-				
Carried forward to page collection							21,644.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
5.11 Electrical Substation (Continue)								
	8.2.2	Timber framed louvre window - Type W2 1800 x 1000 high, including insect screen & steel security bars	no	-				
	8.2.3	Timber framed louvre window - Type W3 1200 x 1000 high, including insect screen & steel security bars	no	-				
	8.2.4	Timber framed louvre window - 5no. blades 1200 x 900 high, including insect screen & steel security bars	no	2.00	865.00		1,730.00	-
	8.2.5	Timber framed louvre window - 5no. blades 3000 x 900 high, including insect screen & steel security bars	no	1.00	2,163.00		2,163.00	-
	8.2.6	Timber framed louvre window - Type W6 1800 x 1100 high, including insect screen & steel security bars	no	-				
	8.2.7	Timber framed louvre window - Type W7 1200 x 1300 high, including insect screen & steel security bars	no	-				
	8.2.8	Timber framed louvre window - Type W8 1800 x 1300 high, including insect screen & steel security bars	no	-				
	8.2.9	Timber framed louvre window - Type W9 1800 x 700 high, including insect screen & steel security bars	no	-				
	8.2.10	Timber framed louvre window - Type W10 1200 x 1500 high, including insect screen & steel security bars	no	-				
	8.2.11	Timber framed fixed glass panel window - 1800 x 900 high	no	-				
Carried forward to page collection							3,893.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.11 Electrical Substation (Continue)								
	8.2.12	Timber framed fixed glass panel window - 2700 x 900 high	no	-				
	8.2.13	Timber framed fixed glass panel window - 3600 x 900 high	no	-				
	8.2.14	Timber framed fixed glass panel window with timber flap (openable from inside) - 1400 x 1200 high	no	-				
	8.2.15	Install 75 x 25mm hwd window architrave	lm	16.20	11.00		178.00	-
	8.2.16	Install 25 x 25mm hwd window beads	lm					
	8.2.17	Install 32 x 19mm hwd window cover strips	lm	20.70	3.50		72.00	-
	8.3	Door Hardware						
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no	7.00	75.00		525.00	-
	8.3.2	Barrel lockset with indicators (to toilets)	no					
	8.3.3	234 Series Brass padlock to security grill door	no	4.00	246.68		987.00	-
	8.3.4	401 Hydraulic door closer	no	10.00	35.00		350.00	-
	8.3.5	100mm steel butt hinges	pair	10.00	25.00		250.00	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no	10.00	25.00		250.00	-
	9	Painting Works						
	9.1	Painting						
	9.1.1	Supply & apply painting to external & internal surfaces	m ²	587.58	17.07		10,030.00	-
	9.1.2	Supply & apply painting to internal block walls	m ²					
	9.1.3	Supply & apply painting to plaster board wall	m ²					
	9.1.4	Supply & apply painting to internal ceiling	m ²	126.48	33.59		4,248.00	-
Carried forward to page collection							16,890.00	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.11 Electrical Substation (Continue)								
	9.1.5	Supply & apply painting to doors & door frames, including security grills	m ²	36.96	35.88		1,326.00	-
	9.1.6	Supply & apply painting to windows & window frames, including security bars	m ²	3.65	35.88		131.00	-
	9.1.7	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²	6.50	11.69		76.00	-
	9.1.8	Supply & apply painting to steel security grill doors	m ²					
	9.1.9	Supply & apply painting to steel columns	m ²					
	9.1.10	Supply & apply painting to stairs and hand rails	m ²					
	10	Miscellaneous Works						
	10.1	Handrail, ladders and Stop Logs						
	10.1.1	Handrail, Height=1100mm, Galvanised mild steel	m					
	10.1.2	Ladders, Width=400mm, Galvanised mild steel	m	-				
	10.1.3	Step Iron, Width=300mm, SS-304	no	-				
	10.1.4	Stop logs with frame, Water depth less than 1.5m	m ²	-				
	10.2	Covers						
	10.2.1	Grated cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 25mm thick or similar	m ²	-				
	10.2.2	Grated cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 45mm thick or similar	m ²	-				
	10.2.3	FRP cover with frame, 35mm thk, Fiber Reinforced Plastic	m ²	-				
Carried forward to page collection							1,533.00	-

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
5.12 Administration Building									
		5.12 Administration Building							
	1	Excavation & Bedding							
	1.1	Excavation							
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	123.84	36.00		4,458	-	
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150.00		-	-	
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	45.00	220.00		9,900	-	
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	45.00	144.00		6,480	-	
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³		20.00		-	-	
	1.2	Bedding					-	-	
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³	11.14	100.00		1,114	-	
							-	-	
	2	Concrete Works					-	-	
	2.1	Concrete Blinding					-	-	
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³		970.00		-	-	
	2.2	Concrete Supply					-	-	
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	205.37	1,155.00		237,202	-	
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³		1,220.00		-	-	
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091.00		-	-	
	2.3	Reinforcing Bars					-	-	
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	22.59	3,400.00		76,806	-	
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²	612.00	30		18,360	-	
Carried forward to page collection								354,320	-

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.12 Administration Building (Continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	8.76	78.00		683	-
	2.4.2	Formwork for structural concrete columns	m ²	224.00	85.00		19,040	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²	807.04	95.00		76,669	-
	2.4.4	Formwork for structural concrete with curved surface	m ²		150.00		-	-
							-	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²	300.00	3		900	-
	2.5.2	Plastic chairs	bags	24.00	50		1,200	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	4.00	30		120	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no	1.00	350		350	-
	2.6.3	Construct shallow concrete spoon drain	lm	40.00	150		6,000	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65.00		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²		26.00		-	-
							-	-
3		Block Works					-	-
3.1		Concrete Blockwork					-	-
	3.1.1	Supply 100mm thk blockwork to walls	m ²		173.79		-	-
	3.1.2	Supply 150mm thk blockwork to walls	m ²		209.30		-	-
	3.1.3	Supply 200mm thk blockwork to walls	m ²	633.78	229.86		145,681	-
3.2		Masonry Reinforcement					-	-
	3.2.1	Supply reinforcing bars to blockwork in walls	tons	6.16	3,400.00		20,944	-
3.3		Core Fill Concrete					-	-
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³	50.70	250.00		12,675	-
Carried forward to page collection							284,262	-

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.12 Administration Building (Continue)								
	4	Metal Works						
	4.1	Structural Steel Column & Beams					-	-
	4.1.1	100mm dia. CHS steel post (entry canopy)	tons	0.08	12,500.00		1,000	-
	4.1.2	50 x 50 x 3mm equal angle hood framing	tons	0.55	11,000.00		6,050	-
	4.1.3	150 x 50 x 3mm RHS steel roof truss (pre-fabricated)	no	17.00	14,000.00		238,000	-
	4.1.4	Install 50/40mm dia. steel escape ladder	item	1.00	4,485.00		4,485	-
	4.1.5	Allow for brackets, plates, bolts & nuts	item	1.00	5,232.50		5,233	-
							-	-
							-	-
	5	Carpentry Works					-	-
	5.1	Stud wall Partitions					-	-
	5.1.1	75 x 50 hwd stud partition wall	lm	741.48	22.51		16,691	-
	5.2	Floor Framing					-	-
	5.2.1	150 x 50 hwd floor joist	lm	375.00	12.00		4,500	-
	5.3	Ceiling Framing					-	-
	5.3.1	75 x 50 hwd ceiling joist	lm				-	-
	5.3.2	50 x 50 hwd ceiling framing	lm	2,073.84	22.51		46,682	-
	5.3.3	Suspended metal ceiling grid system	m ²	257.02	245.00		62,970	-
	5.4	Roof Framing					-	-
	5.4.1	75 x 50 hwd roof purlins	lm	657.20	12.00		7,886	-
	5.4.2	100 x 50 hwd roof truss	lm	32.70	15.00		491	-
	5.4.3	150 x 50 hwd rafter	lm				-	-
	5.4.4	200 x 30 hwd fascia board	lm	88.50	25.00		2,213	-
	5.4.5	150 x 50 hwd beam over	lm	4.80	17.00		82	-
	5.4.6	200 x 75 hwd beam over	lm				-	-
	5.5	Stairs					-	-
	5.5.1	150 x 50 hwd hand rails to stairs	lm	10.60	17.00		180	-
	5.5.2	100 x 50 hwd hand rails to stairs	lm	10.60	15.00		159	-
Carried forward to page collection							396,622	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
5.12 Administration Building (Continue)									
	6	Lining & Finishes							
	6.1	Wall Lining & Finishes							
	6.1.1	Bathroom wall lining (seratone or similar)	m ²	45.66	15.00		685	-	
	6.1.2	12mm thk plaster board wall lining	m ²	165.10	12.00		1,981	-	
	6.1.3	100 x 20mm thk shiplap internal wall lining	lm	102.90	25.00		2,573	-	
	6.1.4	300 x 300 ceramic wall tiles	m ²	88.12	49.00		4,318	-	
	6.1.5	150 x 100 ceramic skirting tiles	m ²	7.08	12.00		85	-	
	6.1.6	70 x 25 hwd timber skirtings	lm	210.00	8.00		1,680	-	
	6.1.7	Metal corner strips (plasterboard)	lm	210.00	19.06		4,003	-	
	6.1.8	Colorbond trimdek external wall cladding	m ²	19.50	30.00		585	-	
							-	-	
	6.2	Floor Lining & Finishes					-	-	
	6.2.1	300x300 ceramic tiles non-slip	m ²	500.00	50.00		25,000	-	
	6.2.2	Selected ceramic splashback tiles	m ²	2.06	50.00		103	-	
	6.2.3	100x20mm thk T&G Flooring	lm	1,500.00	8.00		12,000	-	
	6.3	Ceiling Lining & Finishes					-	-	
	6.3.1	12mm thk plaster board ceiling lining	m ²	222.16	12.00		2,666	-	
	6.3.2	Plaster board cornice strips to ceiling	m ²	150.00	12.00		1,800	-	
	6.3.3	4mm plywood ceiling lining	m ²	11.76	25.00		294	-	
	6.3.4	1200 x 600mm ceiling tiles	m ²	365.56	134.55		49,186	-	
	6.3.5	75mm thk noise control/proof insulation blanket in	m ²				-	-	
							-	-	
	7	Roofing & Insulation					-	-	
	7.1	Metal Roofing					-	-	
	7.1.1	Colorbond corr. sheeting to roof	m ²	392.08	30.00		11,762	-	
	7.1.2	Colorbond trimdek sheeting to roof	m ²	136.44	30.00		4,093	-	
	7.1.3	Double sided sisalation to roof	m ²	379.32	4.00		1,517	-	
	7.1.4	Galvanised strap bracing to roof	lm	110.80	4.00		443	-	
	7.1.5	Chicken wire mesh to roof	m ²	379.32	3.00		1,138	-	
Carried forward to page collection								125,912	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.12 Administration Building (Continue)								
	7.2	Roof Plumbing & Accessories						
	7.2.1	Colorbond sheerline gutter to roof	lm	49.20	40.00		1,968	-
	7.2.2	Colorbond ridge capping to roof	lm	24.60	40.00		984	-
	7.2.3	Colorbond barge mould to roof	lm	39.20	40.00		1,568	-
	7.2.4	Colorbond flashing to roof	lm	113.70	40.00		4,548	-
	7.2.5	100mm dia. PVC down pipe to roof, incl. dropper, clips, bends	lm	38.40	59.80		2,296	-
							-	-
	8	Doors & Windows					-	-
	8.1	Doors					-	-
	8.1.1	Steel security grill to external door D1 1800 x 2100 high	no	1.00	1,250.00		1,250	-
	8.1.2	Steel security grill to external door, D3 1000 x 2100 high	no	3.00	1,200.00		3,600	-
	8.1.3	Roller door shutter to details, complete with fitting & accessories	no	1.00	5,500.00		5,500	-
	8.1.4	Timber door - Type D1 1800 x 2100 high, solid core 2 leaf	no	1.00	1,900.00		1,900	-
	8.1.5	Timber door - Type D2 1600 x 2100 high	no	2.00	1,700.00		3,400	-
	8.1.6	Timber door - Type D3 1000 x 2100 high, external solid core	no	8.00	1,050.00		8,400	-
	8.1.7	Timber door - Type D4 1000 x 2100 high, internal hollow core	no	6.00	950.00		5,700	-
	8.1.8	Timber door - Type D5 700 x 1850 high	no	7.00	600.00		4,200	-
	8.1.9	Sliding door - Type D6 1000 x 2000 high, including tracks & accessories	no	1.00	1,143.63		1,144	-
	8.1.10	Install 50 x 25mm hwd door architrave	lm	251.20	8.00		2,010	-
Carried forward to page collection							48,468	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
5.12 Administration Building (Continue)								
	8.2	Windows & Glazing						
	8.2.1	Timber framed louvre window - Type W1 1800 x 1500 high, including insect screen & steel security bars	no	27.00	2,160.00		58,320	-
	8.2.2	Timber framed louvre window - Type W2 1800 x 1000 high, including insect screen & steel security bars	no	3.00	1,450.00		4,350	-
	8.2.3	Timber framed louvre window - Type W3 1200 x 1000 high, including insect screen & steel security bars	no	2.00	960.00		1,920	-
							-	-
	8.2.4	Timber framed louvre window - Type W4 1200 x 900 high, including insect screen & steel security bars	no	2.00	865.00		1,730	-
	8.2.5	Timber framed louvre window - Type W5 600 x 1000 high, including insect screen & steel security bars	no	2.00	480.00		960	-
	8.2.6	Timber framed louvre window - Type W6 1800 x 1100 high, including insect screen & steel security bars	no	3.00	1,590.00		4,770	-
	8.2.7	Timber framed louvre window - Type W7 1200 x 1300 high, including insect screen & steel security bars	no	2.00	1,250.00		2,500	-
	8.2.8	Timber framed louvre window - Type W8 1800 x 1300 high, including insect screen & steel security bars	no	1.00	1,880.00		1,880	-
	8.2.9	Timber framed louvre window - Type W9 1800 x 700 high, including insect screen & steel security bars	no	2.00	1,158.48		2,317	-
	8.2.10	Timber framed louvre window - Type W10 1200 x 1500 high, including insect screen & steel security bars	no	5.00	1,450.00		7,250	-
Carried forward to page collection							85,997	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.12 Administration Building								
	8.2.11	Timber framed fixed glass panel window - 1800 x 900 high	no	3.00	1,489.47		4,468	-
	8.2.12	Timber framed fixed glass panel window - 2700 x 900 high	no	1.00	2,234.20		2,234	-
	8.2.13	Timber framed fixed glass panel window - 3600 x 900 high	no	2.00	3,350.00		6,700	-
	8.2.14	Timber framed fixed glass panel window with timber flap (openable from inside) - 1400 x 1200 high	no	1.00	255.00		255	-
	8.2.15	Install 75 x 25mm hwd window architrave	lm	312.00	11.00		3,432	-
	8.2.16	Install 25 x 25mm hwd window beads	lm	156.00	4.00		624	-
	8.2.17	Install 32 x 19mm hwd window cover strips	lm	174.00	3.50		609	-
							-	-
	8.3	Door Hardware					-	-
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no	17.00	75.00		1,275	-
	8.3.2	Barrel lockset with indicators (to toilets)	no	7.00	150.00		1,050	-
	8.3.3	234 Series Brass padlock to security grill door	no	4.00	246.68		987	-
	8.3.4	401 Hydraulic door closer	no	19.00	35.00		665	-
	8.3.5	100mm steel butt hinges	pair	29.00	25.00		725	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no	26.00	25.00		650	-
							-	-
	9	Painting Works					-	-
	9.1	Painting					-	-
	9.1.1	Supply & apply painting to external & internal block walls	m ²	1,093.32	17.05		18,641	-
	9.1.2	Supply & install 100 x 20mm thk shiplap wall lining to stair area	m ²	10.29	8.00		82	-
	9.1.3	Supply & apply painting to plaster board wall	m ²	165.10	33.59		5,546	-
Carried forward to page collection							47,943	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
5.12 Administration Building (Continue)								
	9.1.4	Supply & apply painting to internal ceiling, including entry canopy	m ²	233.92	33.59		7,857	-
	9.1.5	Supply & apply painting to doors & door frames	m ²	109.20	35.88		3,918	-
	9.1.6	Supply & apply painting to windows & window frames	m ²	86.50	35.88		3,104	-
	9.1.7	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²	46.80	11.69		547	-
	9.1.8	Supply & apply painting to steel security grill doors	m ²	4.75	34.76		165	-
	9.1.9	Supply & apply painting to steel columns at entry canopy	m ²	2.60	34.76		90	-
	9.1.10	Supply & apply painting to stairs and hand rails	m ²	5.12	34.76		178	-
							-	-
	10	Miscellaneous Works					-	-
	10.1	Handrail, ladders and Stop Logs					-	-
	10.1.1	Handrail, Height=1100mm, Galvanised mild steel	m				-	-
							-	-
	10.1.2	Ladders, Width=400mm, Galvanised mild steel	m				-	-
	10.1.3	Step Iron, Width=300mm, SS-304	no				-	-
	10.1.4	Stop logs with frame, Water depth less than 1.5m	m ²				-	-
	10.2	Covers					-	-
	10.2.1	Grated cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 25mm thick or similar	m ²				-	-
	10.2.2	Grated cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 45mm thick or similar	m ²				-	-
Carried forward to page collection							15,859	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
5.13 Guard House									
		5.13 Guard House							
	1	Excavation & Bedding							
	1.1	Excavation							
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	14.50	36.00		522	-	
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150.00		-	-	
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	5.40	220.00		1,188	-	
	1.1.4	Supply, spread & compact selected surplus Soil	m ³	5.40	144.00		778	-	
	1.1.5	Disposal of surplus soil to dumping site (10km	m ³		20.00		-	-	
	1.2	Bedding					-	-	
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³	1.12	100.00		112	-	
							-	-	
	2	Concrete Works					-	-	
	2.1	Concrete Blinding					-	-	
	2.1.1	Blinding with Concrete 75mm Thick (Strength	m ³		970.00		-	-	
	2.2	Concrete Supply					-	-	
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	6.72	1,155.00		7,762	-	
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³		1,220.00		-	-	
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091.00		-	-	
	2.3	Reinforcing Bars					-	-	
	2.3.1	Reinforcing bars and fabrication for reinforced conc	t	0.47	3,400.00		1,598	-	
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²	16.00	30		480	-	
	2.4	Formworks					-	-	
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²	2.40	78.00		187	-	
	2.4.2	Formwork for structural concrete columns	m ²		85.00		-	-	
Carried forward to page collection								12,627	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.13 Guard House (Continue)								
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95.00		-	-
	2.4.4	Formwork for structural concrete with curved surface	m ²		150.00		-	-
							-	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²	17.20	3		52	-
	2.5.2	Plastic chairs	bags	1.00	50		50	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	2.00	30		60	-
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65.00		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²		26.00		-	-
							-	-
	3	Block Works					-	-
	3.1	Concrete Blockwork					-	-
	3.1.1	Supply 100mm thk blockwork to walls	m ²		173.79		-	-
	3.1.2	Supply 150mm thk blockwork to walls	m ²	6.50	209.30		1,360	-
	3.1.3	Supply 200mm thk blockwork to walls	m ²	28.81	229.86		6,622	-
	3.2	Masonry Reinforcement					-	-
	3.2.1	Supply reinforcing bars to blockwork in walls	tons	0.27	3,400.00		918	-
	3.3	Core Fill Concrete					-	-
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³	2.82	250.00		705	-
Carried forward to page collection							9,767	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
5.13 Guard House (Continue)								
	6	Lining & Finishes						
	6.1	Wall Lining & Finishes					-	-
	6.1.1	Bathroom wall lining (seratone or similar)	m ²				-	-
	6.1.2	12mm thk plaster board wall lining	m ²				-	-
	6.1.3	100 x 20mm thk shiplap internal wall lining	lm				-	-
	6.1.4	200 x 200 ceramic splashback tiles	m ²	0.90	150.00		135	-
	6.1.5	200mm high ceramic skirting tiles	lm	8.50	12.00		102	-
	6.1.6	70 x 25 hwd timber skirtings	lm				-	-
	6.1.7	Metal corner strips (plasterboard)	lm				-	-
	6.1.8	Colorbond trimdek external wall cladding	m ²				-	-
							-	-
	6.2	Floor Lining & Finishes					-	-
	6.2.1	200x200 ceramic tiles non-slip	m ²	3.60	150.00		540	-
	6.2.2	Selected ceramic splashback tiles	lm				-	-
	6.3	Ceiling Lining & Finishes					-	-
	6.3.1	12mm thk plaster board ceiling lining	m ²				-	-
	6.3.2	Plaster board cornice strips to ceiling	m ²				-	-
	6.3.3	4mm plywood ceiling lining	m ²	17.20	134.55		2,314	-
	6.3.4	25 x 25 hwd cornice strip to ceiling junction	m ²	30.00	4.00		120	-
	6.3.5	75mm thk noise control/proof insulation blanket in ceiling lining	m ²				-	-
							-	-
	7	Roofing & Insulation					-	-
	7.1	Metal Roofing					-	-
	7.1.1	Colorbond corr. sheeting to roof	m ²	7.84	30.00		235	-
	7.1.2	Colorbond trimdek sheeting to roof	m ²				-	-
	7.1.3	Double sided sisalation to roof	m ²	7.84	4.00		31	-
Carried forward to page collection							3,477	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.13 Guard House (Continue)								
	7.1.4	Galvanised strap bracing to roof	lm	12.00	4.00		48	-
	7.1.5	Chicken wire mesh to roof	m ²	7.84	3.00		24	-
	7.2	Roof Plumbing & Accessories					-	-
	7.2.1	Colorbond sheerline gutter to roof	lm	21.69	40.00		868	-
	7.2.2	Colorbond ridge capping - circular cap 300mm dia.	no	1.00	40.00		40	-
	7.2.3	Colorbond barge mould to roof	lm		40.00		-	-
	7.2.4	Colorbond flashing to roof	lm	11.60	40.00		464	-
	7.2.5	100mm dia. PVC down pipe to roof, incl. dropper, clips, bends	lm	6.40	59.80		383	-
							-	-
	8	Doors & Windows					-	-
	8.1	Doors					-	-
	8.1.1	Steel security grill to external door D1 1800 x 2100 high	no				-	-
	8.1.2	Steel security grill to external door, D3 1000 x 2100 high	no				-	-
	8.1.3	Roller door shutter to details, complete with fitting & accessories	no				-	-
	8.1.4	Timber door - Type D1 1800 x 2100 high, solid core 2 leaf	no				-	-
	8.1.5	Timber door - Type D2 1600 x 2100 high	no				-	-
	8.1.6	Timber door 900 x 2100 high, external solid core	no	1.00	842.38		842	-
	8.1.7	Timber door 730 x 2100 high, internal hollow core	no	1.00	600.00		600	-
	8.1.8	Timber door - Type D4 900 x 2100 high	no				-	-
	8.1.9	Timber door - Type D5 700 x 1850 high	no				-	-
	8.1.10	Sliding door - Type D6 1000 x 2000 high, including tracks & accessories	no				-	-
Carried forward to page collection							3,269	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.13 Guard House (Continue)								
	8.1.11	Install 50 x 25mm hwd door architrave	lm	20.80	8.00		166	-
	8.2	Windows & Glazing					-	-
	8.2.1	Timber framed louvre window, 7no. blades 1200 x 1100 high, including insect screen & steel security bars	no	2.00	1,049.00		2,098	-
	8.2.2	Timber framed louvre window, 7no. blades 1800 x 1100 high, including insect screen & steel security bars	no	1.00	1,590.00		1,590	-
	8.2.3	Timber framed louvre window, 4no. blades 900 x 600 high, including insect screen & steel security bars	no	2.00	434.00		868	-
	8.2.15	Install 50 x 25mm hwd window architrave	lm	21.00	8.00		168	-
	8.2.16	Install 25 x 25mm hwd window beads	lm				-	-
	8.2.17	Install 32 x 19mm hwd window cover strips	lm	25.40	3.50		89	-
	8.3	Door Hardware					-	-
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no	1.00	75.00		75	-
	8.3.2	Barrel lockset with indicators (to toilets)	no	1.00	150.00		150	-
	8.3.3	234 Series Brass padlock to security grill door	no				-	-
	8.3.4	401 Hydraulic door closer	no				-	-
	8.3.5	100mm steel butt hinges	pair	3.00	25.00		75	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no	2.00	25.00		50	-
							-	-
	9	Painting Works					-	-
	9.1	Painting					-	-
	9.1.1	Supply & apply painting to external & internal walls	m ²	70.62	17.07		1,205	-
	9.1.2	Supply & apply painting to internal block walls	m ²				-	-
	9.1.3	Supply & apply painting to plaster board wall	m ²				-	-
	9.1.4	Supply & apply painting to internal ceiling	m ²	17.20	33.59		578	-
Carried forward to page collection							7,112	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.14 Car Port								
		5.14 Car Port						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	66.91	36.00		2,409	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150.00		-	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³	30.66	220.00		6,745	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	30.66	144.00		4,415	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³		20.00		-	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³	1.07	100.00		107	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength Grade 15Mpa)	m ³		970.00		-	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	26.79	1,155.00		30,942	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³		1,220.00		-	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091.00		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t	0.38	3,400.00		1,292	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²	106.00	30		3,180	-
Carried forward to page collection							49,090	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.14 Car Port (Continue)								
	2.4	Formworks						
	2.4.1	Formwork for concrete slab, footings, etc. at grd level	m ²	8.38	78.00		654	-
	2.4.2	Formwork for structural concrete columns	m ²		85.00		-	-
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95.00		-	-
	2.4.4	Formwork for structural concrete with curved surface	m ²		150.00		-	-
	2.5	Concrete Sundries					-	-
	2.5.1	Black visqueem dpc membrane	m ²	106.00	3		318	-
	2.5.2	Plastic chairs	bags	5.00	50		250	-
	2.6	Others					-	-
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	2.00	30		60	-
	2.6.2	Construct concrete drainage pit, 600x600x450 dp incl. metal grate over	no	1.00	350		350	-
	2.6.3	Construct concrete spoon dreain, 150mm wide	lm	7.50	150		1,125	-
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65.00		-	-
	2.6.5	Vinyl Ester Resin Lining for corrosion protection of concrete, 1.0mmThk	m ²		26.00		-	-
							-	-
	3	Block Works					-	-
	3.1	Concrete Blockwork					-	-
	3.1.1	Supply 100mm thk blockwork to walls	m ²		173.79		-	-
	3.1.2	Supply 150mm thk blockwork to walls	m ²		209.30		-	-
	3.1.3	Supply 200mm thk blockwork to walls	m ²		229.86		-	-
Carried forward to page collection							2,757	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.14 Car Port (Continue)								
	3.2	Masonry Reinforcement						
	3.2.1	Supply reinforcing bars to blockwork in walls	tons		3,400.00		-	-
	3.3	Core Fill Concrete					-	-
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³		250.00		-	-
							-	-
	4	Metal Works					-	-
	4.1	Structural Steel Column & Beams					-	-
	4.1.1	Supply & install 125 x 125 x 6.0mm shs steel post at 6.40 & 7.00M (6 off)	tons	0.86	12,500.00		10,750	-
	4.1.2	50 x 50 x 3mm equal angle hood framing	tons		11,000.00		-	-
	4.1.3	150 x 50 x 3mm RHS steel roof truss (pre-fabricated)	no		14,000.00		-	-
	4.1.4	Install 50/40mm dia. steel escape ladder	item		4,485.00		-	-
	4.1.5	Allow for brackets, plates, bolts & nuts	item	1.00	5,232.50		5,233	-
							-	-
	5	Carpentry Works					-	-
	5.1	Stud wall Partitions					-	-
	5.1.1	75 x 50 hwd stud partition wall	lm				-	-
	5.2	Ceiling Framing					-	-
	5.2.1	75 x 50 hwd ceiling joist	lm				-	-
	5.2.2	50 x 50 hwd ceiling framing	lm				-	-
	5.2.3	Suspended metal ceiling grid system	m ²				-	-
	5.3	Roof Framing					-	-
	5.3.1	Supply & install 150 x 75 x 5.0 rhs steel rafter beam	tons	0.45	14,000.00		6,300	-
	5.3.2	Supply & install 100 x 50 x 4.0 rhs steel roof frame	tons	0.34	14,000.00		4,760	-
Carried forward to page collection							27,043	-

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
5.14 Car Port (Continue)								
	5.3.3	Supply & install 75 x 50 x 4.0 rhs steel roof purlins	tons	1.01	12,000.00		12,120	-
	5.3.4	Supply & install 250mm wide steel fascia & barge board to roof	lm	57.00	30.00		1,710	-
	5.3.5	150 x 50 hwd beam over	lm				-	-
	5.3.6	200 x 75 hwd beam over	lm				-	-
	5.3.7	75 x 50 hwd struts & ties to truss	lm				-	-
	5.4	Stairs					-	-
	5.4.1	150 x 50 hwd hand rails to stairs	lm		17.00		-	-
	5.4.2	100 x 50 hwd hand rails to stairs	lm		15.00		-	-
							-	-
	6	Lining & Finishes					-	-
	6.1	Wall Lining & Finishes					-	-
	6.1.1	Bathroom wall lining (seratone or similar)	m ²				-	-
	6.1.2	12mm thk plaster board wall lining	m ²				-	-
	6.1.3	100 x 20mm thk shiplap internal wall lining	lm				-	-
	6.1.4	200 x 200 ceramic splashback tiles	m ²				-	-
	6.1.5	200mm high ceramic skirting tiles	lm				-	-
	6.1.6	70 x 25 hwd timber skirtings	lm				-	-
	6.1.7	Metal corner strips (plasterboard)	lm				-	-
	6.1.8	Colorbond trimdek external wall cladding	m ²				-	-
	6.2	Floor Lining & Finishes					-	-
	6.2.1	200x200 ceramic tiles non-slip	m ²				-	-
	6.2.2	Selected ceramic splashback tiles	lm				-	-
	6.3	Ceiling Lining & Finishes					-	-
	6.3.1	12mm thk plaster board ceiling lining	m ²				-	-
	6.3.2	Plaster board cornice strips to ceiling	m ²				-	-
	6.3.3	4mm plywood ceiling lining	m ²				-	-
	6.3.4	25 x 25 hwd cornice strip to ceiling junction	m ²				-	-
Carried forward to page collection							13,830	-

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.14 Car Port (Continue)								
	6.3.5	75mm thk noise control/proof insulation blanket in ceiling lining	m ²				-	-
							-	-
	7	Roofing & Insulation					-	-
	7.1	Metal Roofing					-	-
	7.1.1	Colorbond corr. sheeting to roof	m ²	134.40	30.00		4,032	-
	7.1.2	Colorbond trimdek sheeting to roof	m ²				-	-
	7.1.3	Double sided sisalation to roof	m ²				-	-
	7.1.4	Galvanised strap bracing to roof	lm	36.80	4.00		147	-
	7.1.5	Chicken wire mesh to roof	m ²				-	-
	7.2	Roof Plumbing & Accessories					-	-
	7.2.1	100mm dia. pvc gutter to roof	lm	11.20	59.80		670	-
	7.2.2	Colorbond ridge capping - circular cap 300mm dia.	no				-	-
	7.2.3	Colorbond barge mould & flashing to roof	lm	36.00	40.00		1,440	-
	7.2.4	Colorbond flashing to roof	lm				-	-
	7.2.5	100mm dia. PVC down pipe to roof, incl. dropper, clips, bends	lm	12.80	59.80		765	-
							-	-
	8	Doors & Windows					-	-
	8.1	Doors					-	-
	8.1.1	Steel security grill to external door D1 1800 x 2100 high	no				-	-
	8.1.2	Steel security grill to external door, D3 1000 x 2100 high	no				-	-
	8.1.3	Roller door shutter to details, complete with fitting & accessories	no				-	-
	8.1.4	Timber door - Type D1 1800 x 2100 high, solid core 2 leaf	no				-	-
Carried forward to page collection							7,054	-

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.14 Car Port (Continue)								
	8.1.5	Timber door - Type D2 1600 x 2100 high	no				-	-
	8.1.6	Timber door 900 x 2100 high, external solid core	no				-	-
	8.1.7	Timber door 730 x 2100 high, internal hollow core	no				-	-
	8.1.8	Timber door - Type D4 900 x 2100 high	no				-	-
	8.1.9	Timber door - Type D5 700 x 1850 high	no				-	-
	8.1.10	Sliding door - Type D6 1000 x 2000 high, including tracks & asesories	no				-	-
	8.1.11	Install 50 x 25mm hwd door architrave	lm				-	-
	8.2	Windows & Glazing					-	-
	8.2.1	Timber framed louvre window, 7no. blades 1200 x 1100 high, including insect screen & steel securuty bars	no				-	-
	8.2.2	Timber framed louvre window, 7no. blades 1800 x 1100 high, including insect screen & steel securuty bars	no				-	-
	8.2.3	Timber framed louvre window, 4no. blades 900 x 600 high, including insect screen & steel securuty bars	no				-	-
	8.2.15	Install 50 x 25mm hwd window architrave	lm				-	-
	8.2.16	Install 25 x 25mm hwd window beads	lm				-	-
	8.2.17	Install 32 x 19mm hwd window cover strips	lm				-	-
	8.3	Door Hardware					-	-
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no				-	-
	8.3.2	Barrel lockset with indicators (to toilets)	no				-	-
	8.3.3	234 Series Brass padlock to security grill door	no				-	-
Carried forward to page collection							-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.14 Car Port (Continue)								
	8.3.4	401 Hydraulic door closer	no				-	-
	8.3.5	100mm steel butt hinges	pair				-	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no				-	-
							-	-
	9	Painting Works					-	-
	9.1	Painting					-	-
	9.1.1	Supply & apply painting to shs steel posts	m ²	20.10	18.50		372	-
	9.1.2	Supply & apply painting to steel roof rafters and support frame	m ²	17.82	18.50		330	-
	9.1.3	Supply & apply painting to plaster board wall	m ²				-	-
	9.1.4	Supply & apply painting to internal ceiling	m ²				-	-
	9.1.5	Supply & apply painting to doors & door frames	m ²				-	-
	9.1.6	Supply & apply painting to windows & window frames	m ²				-	-
	9.1.7	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²				-	-
	9.1.8	Supply & apply painting to steel security grill doors	m ²				-	-
	9.1.9	Supply & apply painting to steel columns	m ²				-	-
	9.1.10	Supply & apply painting to stairs and hand rails	m ²				-	-
	10	Miscellaneous Works					-	-
	10.1	Handrail, ladders and Stop Logs					-	-
	10.1.1	Handrail, Height=1100mm, Galvanised mild steel	m				-	-
	10.1.2	Ladders, Width=400mm, Galvanised mild steel	m				-	-
Carried forward to page collection							702	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.15 GC Step Cover								
		5.15 GC Step Cover						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.1	Excavate by Machine in all materials other than bed rock	m ³	0.61	36.00		22	-
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³		150.00		-	-
	1.1.3	Supply, spread & compact selected imported Sand Backfilling	m ³		220.00		-	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³		144.00		-	-
	1.1.5	Disposal of surplus soil to dumping site (10km distance)	m ³		20.00		-	-
	1.2	Bedding					-	-
	1.2.1	Bedding with selected Gravel, 200mm Thick	m ³		100.00		-	-
							-	-
	2	Concrete Works					-	-
	2.1	Concrete Blinding					-	-
	2.1.1	Blinding with Concrete 75mm Thick (Strength	m ³		970.00		-	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	0.61	1,155.00		705	-
	2.2.2	Concrete in structure (Grade 40Mpa)	m ³		1,220.00		-	-
	2.2.3	Plain Concrete (Mass concrete) (Grade 20Mpa)	m ³		1,091.00		-	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced concrete	t		3,400.00		-	-
	2.3.2	Welded Wire Mesh / Fabric Mesh Wire	m ²		30		-	-
Carried forward to page collection							727	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
5.15 GC Step Cover (Continue)									
	2.4	Formworks							
	2.4.1	Formwork for concrete slab, footings, etc. at grnd level	m ²		78.00		-	-	
	2.4.2	Formwork for structural concrete columns	m ²		85.00		-	-	
	2.4.3	Formwork for structural concrete beams & suspended slab	m ²		95.00		-	-	
	2.4.4	Formwork for structural concrete with curved surface	m ²		150.00		-	-	
	2.5	Concrete Sundries					-	-	
	2.5.1	Black visqueem dpc membrane	m ²		3		-	-	
	2.5.2	Plastic chairs	bags		50		-	-	
	2.6	Others					-	-	
	2.6.1	Construct concrete splashback, 400x300x150 dp	no	1.00	30		30	-	
	2.6.2	Construct concrete drainage pit, 800x500x450 dp incl. metal grate over	no		350		-	-	
	2.6.3	Construct shallow concrete spoon drain	lm		150		-	-	
	2.6.4	Expansion Joint with PVC plate, Width 300mm	lm		65.00		-	-	
	2.6.5	Vinyl Ester Resin Lining for corrosion	m ²		26.00		-	-	
							-	-	
	3	Block Works					-	-	
	3.1	Concrete Blockwork					-	-	
	3.1.1	Supply 100mm thk blockwork to walls	m ²		173.79		-	-	
	3.1.2	Supply 150mm thk blockwork to walls	m ²		209.30		-	-	
	3.1.3	Supply 200mm thk blockwork to walls	m ²		229.86		-	-	
	3.2	Masonry Reinforcement					-	-	
	3.2.1	Supply reinforcing bars to blockwork in walls	tons		3,400.00		-	-	
	3.3	Core Fill Concrete					-	-	
Carried forward to page collection								30	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.15 GC Step Cover (Continue)								
	3.3.1	Supply 15Mpa corefill to blockwork in walls	m ³		250.00		-	-
							-	-
	4	Metal Works					-	-
	4.1	Structural Steel Column & Beams					-	-
	4.1.1	Supply & install 75 x 75 x 5.0mm shs steel post at 3.25 & 3.00M (4 off)	tons	0.13	12,500.00		1,625	-
	4.1.2	50 x 50 x 3mm equal angle hood framing	tons		11,000.00		-	-
	4.1.3	Supply & install 40mm dia. Steel handrail fully prefab. Upright bottom ends bolted to concrete with M10 bolts	lm	10.40	14,000.00		145,600	-
	4.1.4	Install 50/40mm dia. steel escape ladder	item		4,485.00		-	-
	4.1.5	Allow for brackets, plates, bolts & nuts	item	1.00	5,232.50		5,233	-
							-	-
	5	Carpentry Works					-	-
	5.1	Stud wall Partitions					-	-
	5.1.1	75 x 50 hwd stud partition wall	lm				-	-
	5.2	Ceiling Framing					-	-
	5.2.1	75 x 50 hwd ceiling joist	lm				-	-
	5.2.2	50 x 50 hwd ceiling framing	lm				-	-
	5.2.3	Suspended metal ceiling grid system	m ²				-	-
	5.3	Roof Framing					-	-
	5.3.1	Supply & install 100 x 50 x 3.0 rhs steel rafter beam	tons	0.04	14,000.00		560	-
	5.3.2	Supply & install 100 x 50 x 4.0 rhs steel roof frame	tons				-	-
	5.3.3	Supply & install 60 x 60 x 5.0 shs steel roof purlins	tons	0.26	12,000.00		3,120	-
	5.3.4	Supply & install 50x50x3mm equal angle hood framing (25.50lm angle)	tons				-	-
Carried forward to page collection							156,138	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.15 GC Step Cover (Continue)								
	5.3.5	Supply & install 250mm wide steel fascia & barge board to roof	lm	16.20	30.00		486	-
	5.3.6	200 x 75 hwd beam over	lm				-	-
	5.3.7	75 x 50 hwd struts & ties to truss	lm				-	-
	5.4	Stairs					-	-
	5.4.1	150 x 50 hwd hand rails to stairs	lm		17.00		-	-
	5.4.2	100 x 50 hwd hand rails to stairs	lm		15.00		-	-
							-	-
	6	Lining & Finishes					-	-
	6.1	Wall Lining & Finishes					-	-
	6.1.1	Bathroom wall lining (seratone or similar)	m ²				-	-
	6.1.2	12mm thk plaster board wall lining	m ²				-	-
	6.1.3	100 x 20mm thk shiplap internal wall lining	lm				-	-
	6.1.4	200 x 200 ceramic splashback tiles	m ²				-	-
	6.1.5	200mm high ceramic skirting tiles	lm				-	-
	6.1.6	70 x 25 hwd timber skirtings	lm				-	-
	6.1.7	Metal corner strips (plasterboard)	lm				-	-
	6.1.8	Colorbond trimdek external wall cladding	m ²				-	-
	6.2	Floor Lining & Finishes					-	-
	6.2.1	200x200 ceramic tiles non-slip	m ²				-	-
	6.2.2	Selected ceramic splashback tiles	lm				-	-
	6.3	Ceiling Lining & Finishes					-	-
	6.3.1	12mm thk plaster board ceiling lining	m ²				-	-
	6.3.2	Plaster board cornice strips to ceiling	m ²				-	-
	6.3.3	4mm plywood ceiling lining	m ²				-	-
	6.3.4	25 x 25 hwd cornice strip to ceiling junction	m ²				-	-
Carried forward to page collection							486	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.15 GC Step Cover (Continue)								
	6.3.5	75mm thk noise control/proof insulation blanket in ceiling lining	m ²				-	-
							-	-
	7	Roofing & Insulation					-	-
	7.1	Metal Roofing					-	-
	7.1.1	Colorbond corr. sheeting to roof	m ²	16.42	30.00		493	-
	7.1.2	Colorbond trimdek sheeting to roof	m ²				-	-
	7.1.3	Double sided sisalation to roof	m ²				-	-
	7.1.4	Galvanised strap bracing to roof	lm	11.70	4.00		47	-
	7.1.5	Chicken wire mesh to roof	m ²				-	-
	7.2	Roof Plumbing & Acessories					-	-
	7.2.1	Supply & install 100mm dia. pvc gutter and down pipe to roof, including dropper, clips, bends, etc.	lm	7.70	59.80		460	-
	7.2.2	Supply & install colorbond barge mould & flashing to main roof	no	11.60	40.00		464	-
	7.2.3	Colorbond barge mould to roof	lm				-	-
	7.2.4	Colorbond flashing to roof	lm				-	-
	7.2.5	100mm dia. PVC down pipe to roof, incl. dropper, clips, bends	lm				-	-
							-	-
	8	Doors & Windows					-	-
	8.1	Doors					-	-
	8.1.1	Steel security grill to external door D1 1800 x 2100 high	no				-	-
	8.1.2	Steel security grill to external door, D3 1000 x 2100 high	no				-	-
	8.1.3	Roller door shutter to details, complete with fitting & accessories	no				-	-
Carried forward to page collection							1,464	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.15 GC Step Cover (Continue)								
	8.1.4	Timber door - Type D1 1800 x 2100 high, solid core 2 leaf	no				-	-
	8.1.5	Timber door - Type D2 1600 x 2100 high	no				-	-
	8.1.6	Timber door 900 x 2100 high, external solid core	no				-	-
	8.1.7	Timber door 730 x 2100 high, internal hollow core	no				-	-
	8.1.8	Timber door - Type D4 900 x 2100 high	no				-	-
	8.1.9	Timber door - Type D5 700 x 1850 high	no				-	-
	8.1.10	Sliding door - Type D6 1000 x 2000 high, including tracks & asesories	no				-	-
	8.1.11	Install 50 x 25mm hwd door architrave	lm				-	-
	8.2	Windows & Glazing					-	-
	8.2.1	Timber framed louvre window, 7no. blades 1200 x 1100 high, including insect screen & steel security bars	no				-	-
	8.2.2	Timber framed louvre window, 7no. blades 1800 x 1100 high, including insect screen & steel security bars	no				-	-
	8.2.3	Timber framed louvre window, 4no. blades 900 x 600 high, including insect screen & steel security bars	no				-	-
	8.2.15	Install 50 x 25mm hwd window architrave	lm				-	-
	8.2.16	Install 25 x 25mm hwd window beads	lm				-	-
	8.2.17	Install 32 x 19mm hwd window cover strips	lm				-	-
	8.3	Door Hardware					-	-
	8.3.1	536 Escape lockset & 007 Round ext. cylinder, tubular deadbolts	no				-	-
	8.3.2	Barrel lockset with indicators (to toilets)	no				-	-
Carried forward to page collection							-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.15 GC Step Cover (Continue)								
	8.3.3	234 Series Brass padlock to security grill door	no				-	-
	8.3.4	401 Hydraulic door closer	no				-	-
	8.3.5	100mm steel butt hinges	pair				-	-
	8.3.6	Rubber door stops, 65-70mm, skirting mounted	no				-	-
							-	-
	9	Painting Works					-	-
	9.1	Painting					-	-
	9.1.1	Supply & apply painting to shs steel posts	m ²	13.07	18.50		242	-
	9.1.2	Supply & apply painting to steel roof rafters	m ²	11.58	18.50		214	-
	9.1.3	Supply & apply painting to plaster board wall	m ²		18.50		-	-
	9.1.4	Supply & apply painting to internal ceiling	m ²		18.50		-	-
	9.1.5	Supply & apply painting to doors & door frames	m ²		18.50		-	-
	9.1.6	Supply & apply painting to windows & window frames	m ²		18.50		-	-
	9.1.7	Supply & apply painting to skirtings, architraves, stops, cover strips	m ²		18.50		-	-
	9.1.8	Supply & apply painting to steel security grill doors	m ²		18.50		-	-
	9.1.9	Supply & apply painting to steel columns	m ²		18.50		-	-
	9.1.10	Supply & apply painting to stairs and hand rails	m ²		18.50		-	-
							-	-
	10	Miscellaneous Works					-	-
	10.1	Handrail, ladders and Stop Logs					-	-
	10.1.1	Handrail, Height=1100mm, Galvanised mild steel	m				-	-
Carried forward to page collection							456	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.18 In-plant Yard Work								
		5.18 In-plant Yard Work						
	1	Site Preparation and Cleaning	ha	3.82	30,000		114,600	-
							-	-
	2	Earthworks					-	-
	2.1	Cut or trim formation level to required depth					-	-
	2.1.1	Work by Machine in all materials other than bed rock	m ³	20,973	36.00		755,028	-
	2.1.2	Work in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	48,937	150.00		7,340,550	-
	2.2	Embankment or fill to surcharge level with suitable imported material to the grade and compact in layers	m ³	50,890	220.00		11,195,800	-
	2.3	Disposal of surplus soil to dumping site (10km distance)	m ³	9,444	20.00		188,880	-
							-	-
	3	In-plant Roads					-	-
	3.1	Compaction of Subgrade to 20% CBR	m ²	3836.1	10.00		38,361	-
	3.2	Granular sub-base (200mm thick) 45% CBR	m ³	1345.4	15.00		20,181	-
	3.3	Road base-course (150mm thick) 80% CBR	m ³	1009.05	20.00		20,181	-
	3.4	Bituminous surfacing (40mm thick)	m ²	6587.06	135.00		889,253	-
	3.5	2 Coat Bitumen Seal					-	-
	3.5.1	19mm Aggregate size - 1st seal	m ²	6587.06	18.00		118,567	-
	3.5.2	13mm Aggregate size - 2nd seal	m ²	6587.06	18.00		118,567	-
	3.5.3	2mm Coat Seal	m ²	6587.06	14.00		92,219	-
	3.6	60mm thk Asphalt Seal	m ²	6587.06	144.00		948,537	-
	3.7	200 thk Reinforced Conc. Pavement F102 mesh T&B	m ³	1317.41	1,050.00		1,383,281	-
Carried forward to page collection							23,224,005	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.18 In-plant Yard Work (Continue)								
	3.8	Road Kerbs & Others with 25 Mpa concrete;						
	3.8.1	Barrier Kerb - Type 1 (150wd, 300dp)	lm	601.62	85.00		51,138	-
	3.8.2	Barrier Kerb & Channel - Type 2(450wd, 300dp & 150dp)	lm	1263.39	151.45		191,340	-
	3.8.3	Semi Mountable Kerb & Channel - Type 3 (750wd, 150thk)	lm	19.2	103.04		1,978	-
	3.8.4	Spoon Drain (600wd, 250thk)	lm	50	200.00		10,000	-
	3.9	Guard Rails	lm	242	300.00		72,600	-
	3.10	Road Traffic Signages	No.	8	1,345.00		10,760	-
	3.11	Road & Car Park line marking for;					-	-
	3.11.1	Stop line, centre line, edge marking, car park, motorcycle park and tanker or lorry park etc.	lm	1265.8	6.45		8,164	-
	3.11.2	Go straight and turning arrow, two-way turninarrow etc.	m ²	25.8	46.62		1,203	-
	3.11.3	Speed Hump	No.	1	1		1	-
							-	-
	4	Ground Improvement Works					-	-
	4.1	Supply and lay chain mesh along slopes as specified on the drawings	m ²	4389.87	25.00		109,747	-
							-	-
	5	Stormwater Pipeworks					-	-
	5.1	Excavate trench, Supply material & laying of uPVC Pipe with sand bedding only (exclude pavement materials);					-	-
	5.1.1	dia. - 225mm	lm				-	-
	5.1.2	dia. - 350mm	lm				-	-
	5.1.3	dia. - 450mm	lm				-	-
Carried forward to page collection							456,931	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₱	PNGK	₱
5.18 In-plant Yard Work (Continue)								
	6	Sumps						
	6.1	Excavate trench, Supply material & laying the Reinforced conc. box pit with approved sand bedding & fill material;					-	-
	6.1.1	Std Con. Sump Pit; avg depth 0.5m to 2.5m with F92 mesh centrally placed.	No.	25	3,555.05		88,876	-
	6.1.2	Grating cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 25mm thk or similar.	No.	25	250.00		6,250	-
	6.1.3	Grating cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 45mm thk or similar.	m ²	25	580.00		14,500	-
							-	-
	7	Drainage Channel					-	-
	7.1	Excavate trench, Supply material & laying the Trepezoidal Stone Pitted OLD with concrete base slab of 100 thk conc. F72 mesh;					-	-
	7.1.1	Type 1 (A= 1200 , B=2400 , H=1200)	lm				-	-
	7.1.2	Type 2 (A= 1050, B=2100 , H=1050)	lm				-	-
	7.1.3	Type 3 (A=900, B=1800, H=450)	lm				-	-
	7.1.4	Type 4 (A= 750, B=1500 , H=750)	lm				-	-
	7.1.5	Type 5 (A= 600, B=1200 , H=600)	lm				-	-
	7.1.6	Type 6 (A= 450, B=900 , H=450)	lm				-	-
	7.1.7	Type 7 (A= 300, B=600 , H=300)	lm				-	-
	7.2	Excavate trench, Supply material & laying the					-	-
	7.2.1	Type 1 (B=200 , H=200)	lm				-	-
	7.2.2	Type 2 (B=300 , H=300)	lm				-	-
	7.2.3	Type 3 (B=550 , H=550)	lm				-	-
Carried forward to page collection							109,626	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Page Collection		5-133 to 5-138						
		Sum of Page 5-133					23,224,005	-
		Sum of Page 5-134					456,931	-
		Sum of Page 5-135					983,173	-
		Sum of Page 5-136					109,626	-
		Sum of Page 5-137					571,590	2,723,384
		Sum of Page 5-138					5,743,542	-
		Sum of Page 5-138					396,916	13,020,889
Carried forward to Section Summary							31,485,783	15,744,273

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.19 Access Road to KilaKila STP								
		5.19 Access Road to KilaKila STP						
	1	Site Preparation and Cleaning	ha	2.9	30,000		87,000	-
							-	-
	2	Earthworks					-	-
	2.1	Cut or trim formation level to required depth					-	-
	2.1.1	Work by Machine in all materials other than bed rock	m ³	9713.54	36.00		349,687	-
	2.1.2	Work in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	22664.93	150.00		3,399,740	-
	2.2	Embankment or fill to surcharge level with suitable imported material to the grade and compact in layers	m ³	25732.29	220.00		5,661,104	-
	2.3	Disposal of surplus soil to dumping site (10km distance)	m ³	7746	20.00		154,920	-
							-	-
	3	Access Road					-	-
	3.1	Compaction of Subgrade to 20% CBR	m ²	11600	10.00		116,000	-
	3.2	Granular sub-base (200mm thick) 45% CBR	m ³	2320	15.00		34,800	-
	3.3	Road base-course (150mm thick) 80% CBR	m ³	1740	20.00		34,800	-
	3.4	Bituminous surfacing (40mm thick)	m ²	11600	135.00		1,566,000	-
	3.5	2 Coat Bitumen Seal					-	-
	3.5.1	19mm Aggregate size - 1st seal	m ²	11600	18.00		208,800	-
	3.5.2	13mm Aggregate size - 2nd seal	m ²	11600	18.00		208,800	-
	3.5.3	2mm Coat Seal	m ²	11600	14.00		162,400	-
	3.6	60mm thk Asphalt Seal	m ²	11600	144.00		1,670,400	-
Carried forward to page collection							13,654,451	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.19 Access Road to KilaKila STP (Continue)								
	3.8	Road Kerbs & Others with 25 Mpa concrete;						
	3.8.1	Barrier Kerb - Type 1 (150wd, 300dp)	lm		85.00		-	-
	3.8.2	Barrier Kerb & Channel - Type 2(450wd, 300dp & 150dp)	lm	1450	151.45		219,603	-
	3.8.3	Semi Mountable Kerb & Channel - Type 3 (750wd, 150thk)	lm		103.04		-	-
	3.8.4	Spoon Drain (600wd, 250thk)	lm	12	200.00		2,400	-
	3.9	Guard Rails	lm	900	300.00		270,000	-
	3.10	Road Traffic Signages	No.	10	1,345.00		13,450	-
	3.11	Road & Car Park line marking for;		900			-	-
	3.11.1	Stop line, centre line, edge marking, car park, motorcycle park and tanker or lorry park etc.	lm	4350	6.45		28,058	-
	3.11.2	Go straight and turning arrow, two-way turninarrow etc.	m ²	25.8	46.62		1,203	-
	3.11.3	Speed Hump	No.	1	1		1	-
							-	-
	4	Ground Improvement Works					-	-
	4.1	Supply and lay chain mesh along slopes as specified on the drawings	m ²				-	-
							-	-
	5	Stormwater Pipeworks					-	-
	5.1	Excavate trench, Supply material & laying of uPVC Pipe with sand bedding only (exclude pavement materials);					-	-
	5.1.1	dia. - 225mm	lm				-	-
	5.1.2	dia. - 350mm	lm				-	-
	5.1.3	dia. - 450mm	lm				-	-
Carried forward to page collection							534,715	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
5.19 Access Road to KilaKila STP (Continue)								
	5.2	Excavate trench, Supply material & laying Reinforced Concrete Pipes with approved sand bedding & fill material only (exclude pavement materials);						
	5.2.1	dia. - 450mm	lm		135.00		-	-
	5.2.2	dia. - 500mm	lm	126	890.00		112,140	-
	5.2.3	dia. - 650mm	lm	1005	1,280.00		1,286,400	-
	5.2.4	dia. - 750mm	lm	90	1,560.00		140,400	-
	5.2.5	dia. - 900mm	lm		1,879.00		-	-
	5.2.6	dia. - 1200mm	lm	72	2,364.50		170,244	-
	5.2.7	dia. - 1500mm	lm		3,540.00		-	-
	5.3	Excavate trench, Supply material & laying Reinforced Box Culverts with approved sand bedding & fill material only (exclude pavement materials);					-	-
	5.3.1	750 x 750mm RC box culvert	lm		1,560.00		-	-
	5.3.2	1200 x 1200mm RC box culvert	lm				-	-
	5.3.3	1500 x 1500mm RC box culvert	lm				-	-
	5.4	Stormwater Culverts RC Headwall &					-	-
	5.4.1	Headwall Inlet (H= , W= , Th=)	m ³	6	1,050		6,300	-
	5.4.2	Wingwall Inlet (H= , W= , Th=) x2	m ³	4	1,050		4,200	-
	5.4.3	Base Inlet (L= , W= , Th=)	m ³	36	1,050		37,800	-
	5.4.4	Headwall Outlet (H= , W= , Th=)	m ³	6	1,050		6,300	-
	5.4.5	Wingwall Outlet (H= , W= , Th=) x2	m ³	4	1,050		4,200	-
	5.4.6	Base Outlet (L= , W= , Th=)	m ³	36	1,050		37,800	-
							-	-
Carried forward to page collection							1,805,784	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.19 Access Road to KilaKila STP (Continue)								
	6	Sumps						
	6.1	Excavate trench, Supply material & laying the Reinforced conc. box pit with approved sand bedding & fill material;					-	-
	6.1.1	Std Con. Sump Pit; avg depth 0.5m to 2.5m with F92 mesh centrally placed.	No.	38	3,555.05		135,092	-
	6.1.2	Grating cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 25mm thk or similar.	No.	38	250.00		9,500	-
	6.1.3	Grating cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 25mm thk or similar.	No.	38	580.00		22,040	-
							-	-
	7	Drainage Channel					-	-
	7.1	Excavate trench, Supply material & laying the Trepezoidal Stone Pitcighed OLD with concrete base slab of 100 thk conc. F72 mesh;					-	-
	7.1.1	Type 1 Drain (H=600 , Th=150) & (Base W=450 , Th= 150)	lm	270	1,458		393,660	-
	7.1.2	Type 2 Drain (H=750 , Th=150) & (Base W=550 , Th= 150)	lm	532	1,458		775,656	-
	7.1.3	Type 3 Drain (H=900 , Th=150) & (Base W=650 , Th= 150)	lm	405	2,041		826,605	-
							-	-
	7.2	Excavate trench, Supply material & laying the					-	-
	7.2.1	Type 1 (B=200 , H=200)	lm				-	-
	7.2.2	Type 2 (B=300 , H=300)	lm				-	-
	7.2.3	Type 3 (B=550 , H=550)	lm				-	-
Carried forward to page collection							2,162,553	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
	10	Earth Retaining Structures							
	10.1	Stone Pitched Mass Wall : Excavate to founding level at the base of wall, supply materials (Lime tones & Cement Motar) & compact base with 150 thk road base.	m ³	1890	250.00		472,500	-	
	10.2	Seawall Protection Barrier Wall : Supply materials to construct a Riprap or Rock Armour along the shoreline:					-	-	
	10.2.1	Limestone (approx. 400 - 600mm min. dia.)	m ³				-	-	
	10.2.2	Granite (approx. 400 - 600mm min. dia.)	m ³				-	-	
							-	-	
	11	Fencing & Landscaping					-	-	
	11.1	Supply materials for the Steel Picket Fencing					-	-	
	11.1.1	400 sqr block piers (supports) with 4-Y16	lm				-	-	
	11.1.2	25mm SHS (as pickets at 0.15m cts) and	lm				-	-	
	11.1.3	25x50 RHS T&B (as leteral support) with	lm				-	-	
	11.1.4	300 wd 900 dp stone picthed wall with Y-12	lm				-	-	
	11.1.5	Footing 600sqr x 300dp with 3 Y16 T&B either	ton				-	-	
	11.1.6	Strip Footing (300wd x 300dp) 2 Y12 T&B,	ton				-	-	
	11.4	Entrance Gates;					-	-	
	11.4.1	Manual Sliddng Gate (7m wd 2.85m dp) &	No.				-	-	
	11.4.2	Chain Link Fencing(Two Leaf Gate - 2.4m	No.				-	-	
	11.4.3	Boom-gate 8m Cantilevered Truss liver arm	No.				-	-	
	11.5	Landscaping					-	-	
	11.5.1	Provisional Sum for Landscaping	PS				-	-	
							-	-	
	12	Process Pipe Work					-	-	
	12.1	Excavate trench, Supply material & laying of					-	-	
	12.1.1	dia. - 225mm (ND)	lm				-	-	
Carried forward to page collection								472,500	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.20 Access Road to Morata STP								
		5.20 Access Road to Morata STP						
	1	Site Preparation and Cleaning	ha	2.31	30,000		69,300	-
	2	Earthworks					-	-
	2.1	Cut or trim formation level to required depth					-	-
	2.1.1	Work by Machine in all materials other than bed rock	m ³	2676	36.00		96,336	-
	2.1.2	Work in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	1147	150.00		172,050	-
	2.2	Embankment or fill to surcharge level with suitable imported material to the grade and compact in layers	m ³	4354	220.00		957,880	-
	2.3	Disposal of surplus soil to dumping site (10km distance)	m ³	6972	20.00		139,440	-
							-	-
	3	Access Road					-	-
	3.1	Compaction of Subgrade to 20% CBR	m ²	10328	10.00		103,280	-
	3.2	Granular sub-base (200mm thick) 45% CBR	m ³	2066	15.00		30,990	-
	3.3	Road base-course (150mm thick) 80% CBR	m ³	1549	20.00		30,980	-
	3.4	Bituminous surfacing (40mm thick)	m ²	10328	135.00		1,394,280	-
	3.5	2 Coat Bitumen Seal		10328			-	-
	3.5.1	19mm Aggregate size - 1st seal	m ²	10328	18.00		185,904	-
	3.5.2	13mm Aggregate size - 2nd seal	m ²	10328	18.00		185,904	-
	3.5.3	2mm Coat Seal	m ²	10328	14.00		144,592	-
	3.6	60mm thk Asphalt Seal	m ²	10328	144.00		1,487,232	-
	3.8	Road Kerbs & Others with 25 Mpa concrete;					-	-
	3.8.1	Barrier Kerb - Type 1 (150wd, 300dp)	lm		85.00		-	-
	3.8.2	Barrier Kerb & Channel - Type 2(450wd, 300dp)	lm	1291	151.45		195,522	-
	3.8.3	Semi Mountable Kerb & Channel - Type 3	lm		103.04		-	-
	3.8.4	Spoon Drain (600wd, 250thk)	lm	12	200.00		-	-
Carried forward to page collection							5,193,690	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
5.20 Access Road to Morata STP (Continue)								
	3.9	Guard Rails	lm	475	300.00		142,500	-
	3.10	Road Traffic Signages	No.	5	1,345.00		6,725	-
	3.11	Road & Car Park line marking for;					-	-
	3.11.1	Stop line, centre line, edge marking, car park, motorcycle park and tanker or lorry park etc.	lm	1291	6.45		8,327	-
	3.11.2	Stop line, pedestrian crossing marking etc.	m ²	1.2	46.62		56	-
	3.11.3	Go straight and turning arrow, two-way turninarrow etc.	m ²				-	-
	3.11.4	Speed Hump	No.	1	1		1	-
							-	-
4		Ground Improvement Works					-	-
	4.1	Supply and lay chain mesh along slopes as specified on the drawings	m ²				-	-
							-	-
5		Stormwater Pipeworks					-	-
	5.1	Excavate trench, Supply material & laying of uPVC Pipe with sand bedding only (exclude pavement materials);					-	-
	5.1.1	dia. - 225mm	lm				-	-
	5.1.2	dia. - 350mm	lm				-	-
	5.1.3	dia. - 450mm	lm				-	-
	5.2	Excavate trench, Supply material & laying Reinforced Concrete Pipes with approved sand bedding & fill material only (exclude pavement materials);					-	-
	5.2.1	dia. - 450mm	lm		135.00		-	-
	5.2.2	dia. - 500mm	lm	250	890.00		222,500	-
Carried forward to page collection							380,109	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
5.20 Access Road to Morata STP (Continue)								
	5.2.3	dia. - 650mm	lm	580	1,280.00		742,400	-
	5.2.4	dia. - 750mm	lm	80	1,560.00		124,800	-
	5.2.5	dia. - 900mm	lm		1,879.00		-	-
	5.2.6	dia. - 1200mm	lm	36	2,364.50		85,122	-
	5.2.7	dia. - 1500mm	lm		3,540.00		-	-
	5.3	Excavate trench, Supply material & laying Reinforced Box Culverts with approved sand bedding & fill material only (exclude pavement materials);					-	-
	5.3.1	750 x 750mm RC box culvert	lm		1,560.00		-	-
	5.3.2	1200 x 1200mm RC box culvert	lm				-	-
	5.3.3	1500 x 1500mm RC box culvert	lm				-	-
	5.4	Stormwater Culverts RC Headwall & Wingwalls at both ends ;					-	-
	5.4.1	Headwall Inlet (H= , W= , Th=)	m ³	3	1,050		3,150	-
	5.4.2	Wingwall Inlet (H= , W= , Th=) x2	m ³	2	1,050		2,100	-
	5.4.3	Base Inlet (L= , W= , Th=)	m ³	18	1,050		18,900	-
	5.4.4	Headwall Outlet (H= , W= , Th=)	m ³	3	1,050		3,150	-
	5.4.5	Wingwall Outlet (H= , W= , Th=) x2	m ³	2	1,050		2,100	-
	5.4.6	Base Outlet (L= , W= , Th=)	m ³	18	1,050		18,900	-
							-	-
	6	Sumps					-	-
	6.1	Excavate trench, Supply material & laying the Reinforced conc. box pit with approved sand bedding & fill material;					-	-
	6.1.1	Std Con. Sump Pit; avg depth 0.5m to 2.5m with F92 mesh centrally placed.	No.	31	3,555.05		110,207	-
	6.1.2	Grating cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 25mm thk or similar.	No.	31	250.00		7,750	-
Carried forward to page collection							1,118,579	-

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
5.20 Access Road to Morata STP (Continue)									
	6.1.3	Grating cover in Hot dip galvanised steel angle frame, incl. webforce WA HDG grating 25mm thk or similar.	m ²	31	580.00		17,980	-	
	7	Drainage Channel							
	7.1	Excavate trench, Supply material & laying the							
	7.1.1	Type 1 Drain (H=600 , Th=150) & (Base W=450 , Th= 150)	lm	675	1,458		984,150	-	
	7.1.2	Type 2 Drain (H=750 , Th=150) & (Base W=550 , Th= 150)	lm	493	1,458		718,794	-	
	7.1.3	Type 3 Drain (H=900 , Th=150) & (Base W=650 , Th= 150)	lm	132	2,041		269,412	-	
	7.2	Excavate trench, Supply material & laying the							
	7.2.1	Type 1 (B=200 , H=200)	lm						
	7.2.2	Type 2 (B=300 , H=300)	lm						
	7.2.3	Type 3 (B=550 , H=550)	lm						
	8	Sewer Pipeworks & Manholes in Plant Yard							
	8.1	Internal Manholes: Excavate trench, Supply material & laying the Reinforced conc. box pit with approved sand bedding & fill material;							
	8.1.1	Std Con. Manhole; avg depth 1m to 1.2m with F92 mesh centrally placed.	No.						
Carried forward to page collection								1,990,336	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
	8.1.2	Pre-cast reinf. Conc. Cover, 100mm thk incl. lifting lugs.	No.				-	-
							-	-
	8.2	Internal Sewer Pipeworks: Excavate trench, Supply material & laying of HDPE Pipe with sand bedding only (exclude pavement materials);					-	-
	8.2.1	dia. - 160mm (ND)	lm				-	-
							-	-
	9	Water Reticulation Pipeworks					-	-
	9.1	Excavate trench, Supply material & laying of HDPE Pipe and recompact with sand bedding or approved fill only (exclude pavement materials);					-	-
	9.1.1	HDPE Pipe dia. 90mm(ND) connection to Eda Ranu mains	lm				-	-
	9.1.2	HDPE Pipe dia. 63mm (ND)	lm				-	-
	9.2	Provide and install bulk meter connection	No.				-	-
	9.3	Hidrant - HDPE Pipes 80mm (ND)	No.				-	-
	9.4	Fire Hydrants	No.				-	-
							-	-
	10	Earth Retaining Structures					-	-
	10.1	Stone Pitched Mass Wall :	m ³				-	-
	10.2	Seawall Protection Barrier Wall : Supply materials to construct a Riprap or Rock Armour along the shoreline:					-	-
	10.2.1	Limestone (approx. 400 - 600mm min. dia.)	m ³				-	-
	10.2.2	Granite (approx. 400 - 600mm min. dia.)	m ³				-	-
							-	-
Carried forward to page collection							-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
	11	Fencing & Landscaping						
	11.1	Supply materials for the Steel Picket Fencing						
	11.1.1	400 sqr block piers (supports) with 4-Y16 vertical bars & R10's at 400 cts horizontal	lm				-	-
	11.1.2	25mm SHS (as pickets at 0.15m cts) and 25x50 RHS T&B (as leteral support) with height 2.4m.	lm				-	-
	11.1.3	25x50 RHS T&B (as leteral support) with height 2.4m.	lm				-	-
	11.1.4	300 wd 900 dp stone picthed wall with Y-12 vertical bars at 600 cts.	lm				-	-
	11.1.5	Footing 600sqr x 300dp with 3 Y16 T&B either directions	ton				-	-
	11.1.6	Strip Footing (300wd x 300dp) 2 Y12 T&B, R10 at 400cts	ton				-	-
	11.4	Entrance Gates;					-	-
	11.4.1	Manual Sliddng Gate (7m wd 2.85m dp) & Single leaf chain mesh gate	No.				-	-
	11.4.2	Chain Link Fencing(Two Leaf Gate - 2.4m High & 6m wd)	No.				-	-
	11.4.3	Boom-gate 8m Cantilevered Truss liver arm (one side loaded)	No.				-	-
	11.5	Landscaping					-	-
	11.5.1	Provisional Sum for Landscaping	PS				-	-
							-	-
	12	Process Pipe Work					-	-
	12.1	Excavate trench, Supply material & laying of HDPE Pipe with sand bedding only (exclude pavement materials);					-	-
	12.1.1	dia. - 225mm (ND)	lm				-	-
	12.1.2	dia. - 400mm (ND)	lm				-	-
Carried forward to page collection							-	-

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
	2	Underground Piping HDPE DN800, L=397m						
	1	Excavation & Bedding						
	1.1	Excavation						
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	4,105	150.00		615,750	-
	1.1	DN 800 Type A (Soil/Right of Way)						
	a)	1.0m =or< Invert Level < 2.0m	m	397	315	41,844	125,055	16,612,068
	2.3	Asphalt Pavement	m ²	1,580	409		646,220	-
	2.4	Kerb installation	m	780	85		66,300	-
	2.5	Retaining Wall Installation					-	-
	a)	L=390m	m	1,229	250		307,125	-
	2.6	Handrail Installation					-	-
	a)	Handrail along the Administration Road	m	390	257		100,230	-
	b)	Handrail for Stairs	m	5	257		1,285	-
	2.8	Concrete Stairs for Access to Shore line					-	-
		Access to Shore line W=4m/ W=1m	LS	1.0	340,000		340,000	-
							-	-
							-	-
							-	-
Carried forward to page collection							2,201,965	16,612,068

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
	3	Shore Line Piping HDPE DN800, L=318m						
		Excavation & Bedding						
	1.1	Excavation						
	1.1.2	Excavate in bed rock* (Port Moresby beds or Paga beds of highly weathered bed rock)	m ³	1,078	150.00		161,700	-
	1.1.4	Supply, spread & compact selected surplus Soil Backfilling	m ³	477	144.00		68,688	-
							-	-
	1.1	DN 800					-	-
		Type A (Soil/Right of Way)					-	-
	a)	1.0m =or< Invert Level < 2.0m	m	318	315	41,844	100,170	13,306,392
							-	-
		Concrete Works						
		Concrete Encasement for Pipe Protection						
	2.2	Concrete Supply						
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	1361	1,155.00		1,571,955	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced	t	136.1	3,400.00		462,740	-
							-	-
	2.2	Concrete Supply					-	-
	2.2.1	Concrete in structure (Grade 32Mpa)	m ³	16.22	1,155.00		18,734	-
	2.3	Reinforcing Bars					-	-
	2.3.1	Reinforcing bars and fabrication for reinforced	t	1.62	3,400.00		5,515	-
							-	-
	3	Handrail Installation	m	318	257		81,726	-
							-	-
	3.5	Connection to Submarine Pipe	nr	1	3,300		3,300	-
							-	-
	3.8	Site Cleaning	m ²	1280	3		3,840	-
Carried forward to page collection							2,478,368	13,306,392

Section VI

Plant Mechanical Works

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
Section Summary of Section 6								
	1	Total of Section 6.01					30,408	9,078,400
		Kanudi Pumping Station (PS-1) (from Page Collection)						
		Total of Section 6.02					2,024,400	12,666,400
		Idubada Pumping Station (PS-2) (from Page Collection)						
		Total of Section 6.03					58,974	12,660,000
		Hagara Pumping Station (PS-3) (from Page Collection)						
		Total of Section 6.04					87,429	18,083,200
		Hanuabada Pumping Station (PS-4) (from Page Collection)						
		Total of Section 6.05					252,513	62,672,000
		Konedobu Pumping Station (PS-5) (from Page Collection)						
		Total of Section 6.06					28,082	4,755,200
		Old Yacht Club Pumping Station (PS-6) (from Page Collection)						
		Total of Section 6.07					51,918	10,132,000
		Stanley Esplanade Pumping Station (PS-7) (from Page Collection)						
		Total of Section 6.08					43,032	9,140,000
		Sea Park Pumping Station (PS-8) (from Page Collection)						

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
		Total of Section 6.09					116,991	19,676,000
		Davara Pumping Station (PS-9) (from Page Collection)						
		Total of Section 6.10					310,356	69,211,200
		Lawes Road Pumping Station (PS-10) (from Page Collection)						
		Total of Section 6.11					88,980	18,091,200
		Koki Pumping Station (PS-11) (from Page Collection)						
		Total of Section 6.12					221,085	45,976,800
		Badili Pumping Station (PS-12) (from Page Collection)						
		Total of Section 6.13					25,166	5,064,000
		Kila Police Pumping Station (PS-13) (from Page Collection)						
		Total of Section 6.14					33,283	10,827,200
		Konebada Pumping Station (PS-14) (from Page Collection)						
		Total of Section 6.15					59,965	13,502,400
		Gabutu Pumping Station (PS-15) (from Page Collection)						
		Total of Section 6.16					32,093	6,267,200
		Horsecamp Pumping Station (PS-16) (from Page Collection)						

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
		Total of Section 6.17					404,980	77,936,000
		Kaugere Pumping Station (PS-17) (from Page Collection)						
		Total of Section 6.18					856,961	90,680,800
		Grit Chamber (from Page Collection)						
		Total of Section 6.19					44,128	5,929,600
		Distribution Chamber (from Page Collection)						
		Total of Section 6.20					1,899,918	246,299,200
		Oxidation Ditch (from Page Collection)						
		Total of Section 6.21					1,276,688	128,905,600
		Final Clarifier Facility (from Page Collection)						
		Total of Section 6.22					464,956	195,552,800
		Utility Water & Disinfection Facility (from Page Collection)						
		Total of Section 6.23					1,038,122	153,624,800
		Sludge Treatment Building (from Page Collection)						
		Total of Section 6.24					1,189,504	
		Other Works (from Page Collection)						
Total carried forward to Grand Summary							10,639,932	1,226,732,000

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
6.1 Kanudi Pumping Station (PS-1)								
		6.1 Kanudi Pumping Station (PS-1)						
	M01-01-01/02	Lifting Pump 1	unit	2	9,329	3,584,000	18,658	7,168,000
	M01-01-03	Monorail Hoist Unit	unit	1	2,653	527,200	2,653	527,200
	M01-01-04	Piping	lot	1	7,464	1,023,200	7,464	1,023,200
	M01-01-05	Steel Works	lot	1	1,633	360,000	1,633	360,000
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS					
Carried forward to Section Summary								
							30,408	9,078,400

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
6.2 Idubada Pumping Station (PS-2)									
		6.2 Idubada Pumping Station (PS-2)							
	M01-02-01/02	Lifting Pump 2	unit	2	784,000	5,241,600	1,568,000	10,483,200	
	M01-02-03	Monorail Hoist Unit	unit	1	89,600	536,000	89,600	536,000	
	M01-02-04	Piping	lot	1	302,400	1,207,200	302,400	1,207,200	
	M01-02-05	Steel Works	lot	1	64,400	440,000	64,400	440,000	
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS						
Carried forward to Section Summary								2,024,400	12,666,400

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
6.3 Hagara Pumping Station (PS-3)									
		6.3 Hagara Pumping Station (PS-3)							
	M01-03-01/02	Lifting Pump 3	unit	2	784,000	5,241,600	1,568,000	10,483,200	
	M01-03-03	Monorail Hoist Unit	unit	1	89,600	536,000	89,600	536,000	
	M01-03-04	Piping	lot	1	300,800	1,200,800	300,800	1,200,800	
	M01-03-05	Steel Works	lot	1	64,400	440,000	64,400	440,000	
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS						
Carried forward to Section Summary								2,022,800	12,660,000

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
6.4 Hanuabada Pumping Station (PS-4)									
		6.4 Hanuabada Pumping Station (PS-4)							
	M01-04-01/02	Lifting Pump 4	unit	2	1,036,000	6,976,800	2,072,000	13,953,600	
	M01-04-03	Monorail Hoist Unit	unit	1	89,600	565,600	89,600	565,600	
	M01-04-04	Piping	lot	1	761,600	3,044,000	761,600	3,044,000	
	M01-04-05	Steel Works	lot	1	75,600	520,000	75,600	520,000	
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS						
Carried forward to Section Summary								2,998,800	18,083,200

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
6.5 Konedobu Pumping Station (PS-5)								
		6.5 Konedobu Pumping Station (PS-5)						
	M01-05-01/04	Lifting Pump 5	unit	4	1,536,000	13,260,000	6,144,000	53,040,000
	M01-05-05/07	Delivery Valve	unit	3	246,400	984,000	739,200	2,952,000
	M01-05-08	Monorail Hoist Unit	unit	1	89,600	600,000	89,600	600,000
	M01-05-09	Piping	lot	1	1,568,000	5,280,000	1,568,000	5,280,000
	M01-05-10	Steel Works	lot	1	120,400	800,000	120,400	800,000
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS					
Carried forward to Section Summary							8,661,200	62,672,000

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
6.6 Old Yacht Club Pumping Station (PS-6)									
		6.6 Old Yacht Club Pumping Station (PS-6)							
	M01-06-01/02	Lifting Pump 6	unit	2	224,000	1,548,000	448,000	3,096,000	
	M01-06-03	Monorail Hoist Unit	unit	1	66,400	263,200	66,400	263,200	
	M01-06-04	Piping	lot	1	273,600	1,092,000	273,600	1,092,000	
	M01-06-05	Steel Works	lot	1	56,000	304,000	56,000	304,000	
	M01-06-06	Dismantlement Works	lot	1	119,200	-	119,200	-	
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS						
Carried forward to Section Summary								963,200	4,755,200

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
6.7 Stanley Esplanade Pumping Station (PS-7)									
		6.7 Stanley Esplanade Pumping Station (PS-7)							
	M01-07-01/02	Lifting Pump 7	unit	2	512,000	4,080,000	1,024,000	8,160,000	
	M01-07-03	Monorail Hoist Unit	unit	1	68,800	272,000	68,800	272,000	
	M01-07-04	Piping	lot	1	448,000	1,320,000	448,000	1,320,000	
	M01-07-05	Steel Works	lot	1	56,000	380,000	56,000	380,000	
	M01-07-06	Dismantlement Works	lot	1	184,000	-	184,000	-	
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS						
Carried forward to Section Summary								1,780,800	10,132,000

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
6.8 Sea Park Pumping Station (PS-8)								
		6.8 Sea Park Pumping Station (PS-8)						
	M01-08-01/02	Lifting Pump 8	unit	2	384,000	3,590,400	768,000	7,180,800
	M01-08-03	Monorail Hoist Unit	unit	1	66,400	263,200	66,400	263,200
	M01-08-04	Piping	lot	1	329,600	1,316,000	329,600	1,316,000
	M01-08-05	Steel Works	lot	1	56,000	380,000	56,000	380,000
	M01-08-06	Dismantlement Works	lot	1	256,000	-	256,000	-
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS					
Carried forward to Section Summary							1,476,000	9,140,000

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
6.9 Davara Pumping Station (PS-9)									
		6.9 Davara Pumping Station (PS-9)							
	M01-09-01/04	Lifting Pump 9	unit	4	616,000	4,000,000	2,464,000	16,000,000	
	M01-09-05	Monorail Hoist Unit	unit	1	68,800	272,000	68,800	272,000	
	M01-09-06	Piping	lot	1	1,057,600	2,904,000	1,057,600	2,904,000	
	M01-09-07	Steel Works	lot	1	78,400	500,000	78,400	500,000	
	M01-09-08	Dismantlement Works	lot	1	344,000	-	344,000	-	
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS						
Carried forward to Section Summary								4,012,800	19,676,000

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
6.10 Lawes Road Pumping Station (PS-10)								
		6.10 Lawes Road Pumping Station (PS-10)						
	M01-10-01/04	Lifting Pump 10	unit	4	1,920,000	14,600,800	7,680,000	58,403,200
	M01-10-05/07	Delivery Valve	unit	3	246,400	984,000	739,200	2,952,000
	M01-10-08	Monorail Hoist Unit	unit	1	89,600	600,000	89,600	600,000
	M01-10-09	Piping	lot	1	1,988,000	6,616,000	1,988,000	6,616,000
	M01-10-10	Steel Works	lot	1	148,400	640,000	148,400	640,000
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS					
Carried forward to Section Summary							10,645,200	69,211,200

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
6.11 Koki Pumping Station (PS-11)									
		6.11 Koki Pumping Station (PS-11)							
	M01-11-01/02	Lifting Pump 11	unit	2	1,092,000	7,119,200	2,184,000	14,238,400	
	M01-11-03	Monorail Hoist Unit	unit	1	92,400	557,600	92,400	557,600	
	M01-11-04	Piping	lot	1	694,400	2,775,200	694,400	2,775,200	
	M01-11-05	Steel Works	lot	1	81,200	520,000	81,200	520,000	
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS						
Carried forward to Section Summary								3,052,000	18,091,200

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
6.12 Badili Pumping Station (PS-12)									
		6.12 Badili Pumping Station (PS-12)							
	M01-12-01/04	Lifting Pump 12	unit	4	1,540,000	10,400,000	6,160,000	41,600,000	
	M01-12-05	Monorail Hoist Unit	unit	1	84,800	336,000	84,800	336,000	
	M01-12-06	Piping	lot	1	820,800	3,284,800	820,800	3,284,800	
	M01-12-07	Steel Works	lot	1	117,600	756,000	117,600	756,000	
	M01-12-08	Dismantlement Works	lot	1	400,000	-	400,000	-	
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS						
Carried forward to Section Summary								7,583,200	45,976,800

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
6.15 Gabutu Pumping Station (PS-15)									
		6.15 Gabutu Pumping Station (PS-15)							
	M01-15-01/02	Lifting Pump 15	unit	2	774,400	5,691,200	1,548,800	11,382,400	
	M01-15-03	Monorail Hoist Unit	unit	1	89,600	536,000	89,600	536,000	
	M01-15-04	Piping	lot	1	351,200	1,144,000	351,200	1,144,000	
	M01-15-05	Steel Works	lot	1	67,200	440,000	67,200	440,000	
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS						
Carried forward to Section Summary								2,056,800	13,502,400

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
6.16 Horsecamp Pumping Station (PS-16)									
		6.16 Horsecamp Pumping Station (PS-16)							
	M01-16-01/02	Lifting Pump 16	unit	2	308,000	2,064,000	616,000	4,128,000	
	M01-16-03	Monorail Hoist Unit	unit	1	89,600	527,200	89,600	527,200	
	M01-16-04	Piping	lot	1	339,200	1,232,000	339,200	1,232,000	
	M01-16-05	Steel Works	lot	1	56,000	380,000	56,000	380,000	
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS						
Carried forward to Section Summary								1,100,800	6,267,200

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
6.17 Kaugere Pumping Station (PS-17)								
		6.17 Kaugere Pumping Station (PS-17)						
	M01-17-01/04	Lifting Pump 17	unit	4	2,408,000	15,916,800	9,632,000	63,667,200
	M01-17-05/07	Delivery Valve	unit	3	306,400	1,225,600	919,200	3,676,800
	M01-17-08	Monorail Hoist Unit	unit	1	89,600	600,000	89,600	600,000
	M01-17-09	Piping	lot	1	2,800,000	9,344,000	2,800,000	9,344,000
	M01-17-10	Steel Works	lot	1	210,000	648,000	210,000	648,000
	M01-17-11	Dismantlement Works	lot	1	240,000	-	240,000	-
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS					
Carried forward to Section Summary							13,890,800	77,936,000

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
6.18 Grit Chamber								
		6.18 Grit Chamber						
	M02-01-01/02	Grit Chamber Inlet Gate	unit	2	456,000	1,264,000	912,000	2,528,000
	M02-02-01/02	Fine Screen	unit	2	7,436,160	19,072,000	14,872,320	38,144,000
	M02-03-01/02	Grit Collector	unit	2	736,000	1,920,000	1,472,000	3,840,000
	M02-04-01/02	Grit Pump	unit	2	193,920	774,400	387,840	1,548,800
	M02-05-01/02	Sump Drain Pump	unit	2	179,200	488,000	358,400	976,000
	M02-06	Grit Separator	unit	1	3,388,000	15,114,400	3,388,000	15,114,400
	M02-07	Oil skimmer	unit	1	352,000	896,000	352,000	896,000
	M02-08-01/02	Oil Discharge Pump	unit	2	96,000	784,000	192,000	1,568,000
	M02-09	Scum Screen	unit	1	3,192,000	8,960,000	3,192,000	8,960,000
	M02-10	Screenings Conveyer	unit	1	1,680,000	7,984,000	1,680,000	7,984,000
	M02-11-01/02	Coarse Screen	unit	2	352,800	1,412,800	705,600	2,825,600
	M02-12	Bypass Gate	unit	1	392,000	1,200,000	392,000	1,200,000
	M02-13	Grit Chamber Outlet Weir	unit	1	30,400	123,200	30,400	123,200
Carried forward to page collection							27,934,560	85,708,000

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
6.18 Grit Chamber								
	M02-14	Piping	lot	1	480,000	1,056,000	480,000	1,056,000
	M02-15	Steel Works	lot	1	979,200	3,916,800	979,200	3,916,800
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS					
Carried forward to page collection							1,459,200	4,972,800

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
6.19 Distribution Chamber									
		6.19 Distribution Chamber							
	M03-01-01/04	Distribution Weir	unit	4	333,600	1,334,400	1,334,400	5,337,600	
	M03-02	Piping	lot	1	40,000	88,000	40,000	88,000	
	M03-03	Steel Works	lot	1	139,200	504,000	139,200	504,000	
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS						
Carried forward to Section Summary								1,513,600	5,929,600

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
6.20 Oxidation Ditch								
		6.20 Oxidation Ditch						
	M04-01-01/03	Air Diffuser	lot	3	6,604,800	26,419,200	19,814,400	79,257,600
	M04-02-01/12	Reactor Tank Mixer	unit	12	2,156,000	9,760,800	25,872,000	117,129,600
	M04-03-01/03	Outlet Gate	unit	3	179,200	718,400	537,600	2,155,200
	M04-04-01	Isolation Gate	unit	1	179,200	720,000	179,200	720,000
	M04-05-01/06	Aeration Blower	unit	5	1,680,000	4,488,000	8,400,000	22,440,000
	M04-06-01/02	Hoist Block for Blower	unit	2	64,000	160,000	128,000	320,000
	M04-07-01/03	Aeration Control Valve	unit	3	276,000	1,040,000	828,000	3,120,000
	M04-08-01/07	Waste Sludge Pump	unit	7	252,000	896,000	1,764,000	6,272,000
	M04-09	Piping	lot	1	84,000	396,800	84,000	396,800
	M04-10	Steel Works	lot	1	7,560,000	14,488,000	7,560,000	14,488,000
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS					
Carried forward to Section Summary							65,167,200	246,299,200

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
6.20 Clarifier Facility								
		6.20 Clarifier Facility						
	M05-01-01/03	Clarifier	unit	3	8,908,800	29,680,000	26,726,400	89,040,000
	M05-02-01/06	Return Sludge Pump	unit	6	560,000	2,929,600	3,360,000	17,577,600
	M05-03-01/02	Hoist Block for Sludge Pump	unit	2	64,000	160,000	128,000	320,000
	M05-04-01/04	Sump Drain Pump	unit	4	160,000	408,000	640,000	1,632,000
	M05-05-01/04	Scum Pump	unit	4	154,000	656,000	616,000	2,624,000
	M05-06	Piping	lot	1	11,480,000	16,104,000	11,480,000	16,104,000
	M05-07	Steel Works	lot	1	840,000	1,608,000	840,000	1,608,000
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS					
Carried forward to Section Summary							43,790,400	128,905,600

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
6.22 Utility Water & Disinfection Facility								
		6.22 Utility Water & Disinfection Facility						
	M06-01	Chlorine Solution Tank	unit	1	196,000	1,040,000	196,000	1,040,000
	M06-02	Chlorine Solution Storage Tank	unit	1	56,000	300,000	56,000	300,000
	M06-03-01/02	Chlorine Solution Dosing Charger	unit	2	196,000	1,000,000	392,000	2,000,000
	M06-04	Utility TE Water Supply Unit	lot	1	644,000	3,300,000	644,000	3,300,000
	M06-05-01/04	Auto Strainer	unit	4	700,000	1,856,000	2,800,000	7,424,000
	M06-06-01/02	Defoaming Pump	unit	2	128,000	320,000	256,000	640,000
	M06-07-01/02	Ultra Violet Disinfection Unit	lot	2	5,000,000	87,500,000	10,000,000	175,000,000
	M06-08-01/03	Disinfection Inlet Gate	unit	3	280,000	1,008,000	840,000	3,024,000
	M06-09	Hosit Block of UV Unit	unit	1	112,000	540,000	112,000	540,000
	M06-10	Hosit Block of Utility Pump	unit	1	112,000	540,000	112,000	540,000
	M06-11	Disinfection Outlet Weir	unit	1	30,400	123,200	30,400	123,200
	M06-12	Piping	lot	1	271,600	424,000	271,600	424,000
	M06-13	Steel Works	lot	1	238,000	1,197,600	238,000	1,197,600
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS					
Carried forward to Section Summary							15,948,000	195,552,800

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
6.23 Sludge Treatment Building								
		6.23 Sludge Treatment Building						
	M07-01-01/02	Sludge Dewatering Unit	unit	2	4,960,000	25,120,000	9,920,000	50,240,000
	M07-02	Sludge Cake Conveyor	unit	1	1,760,000	9,000,000	1,760,000	9,000,000
	M07-03	Sludge Cake Hopper	unit	1	2,560,000	10,444,800	2,560,000	10,444,800
	M07-04-01/02	Polymer Dissolving Tank	lot	2	831,200	3,325,600	1,662,400	6,651,200
	M07-05-01/02	Polymer Feeder	unit	2	544,000	2,760,000	1,088,000	5,520,000
	M07-06-01/02	Polymer Feed Pump for Dewatering	unit	2	224,000	1,075,200	448,000	2,150,400
	M07-07-01/02	Air Compressor	unit	2	80,000	424,000	160,000	848,000
	M07-08-01/02	Air Dryer	unit	2	48,000	240,000	96,000	480,000
	M07-09-01/02	Hoist Block for Dewatering Unit	unit	2	80,000	408,000	160,000	816,000
	M07-10-01/02	Hoist Block for Sludge Treatment Building	unit	2	48,000	248,000	96,000	496,000
	M07-11-01/02	Sump Drain Pump	unit	2	64,000	328,000	128,000	656,000
	M07-12-01/02	Waste Water Mixer	unit	2	448,000	2,240,000	896,000	4,480,000
Carried forward to page collection							18,974,400	91,782,400

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
	M07-13-01/02	Waste Water Pump	unit	2	109,200	540,000	218,400	1,080,000
	M07-14	Biological Odor Control	unit	1	10,080,000	40,842,400	10,080,000	40,842,400
	M07-15-01/02	Deodorization Fan	unit	2	272,000	1,368,000	544,000	2,736,000
	M07-16	Utility Potable Water Supply Unit	lot	1	476,000	2,400,000	476,000	2,400,000
	M07-17	Hoist Block for Utility Pump	unit	1	109,200	540,000	109,200	540,000
	M07-18	Piping	lot	1	3,668,000	8,096,000	3,668,000	8,096,000
	M07-19	Steel Works	lot	1	1,537,600	6,148,000	1,537,600	6,148,000
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS					
Carried forward to page collection							16,633,200	61,842,400

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
6.24 Other Works								
		<u>6.24 Other Works</u>						
	M08-01	Piping	lot	1	40,800,000		40,800,000	-
		Allow for all cost and works deemed necessary but not included elsewhere, the completion of the work according to the Specifications, Drawings and Conditions of Contract	LS					
Carried forward to Section Summary							40,800,000	-

Section VII

Plant Electrical Works

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
Section Summary of Section 7								
	1	Total of Section 7.1 Kanudi Pumping Station (PS-1) (from Page Collection)						13,068,000
	2	Total of Section 7.2 Idubada Pumping Station (PS-2) (from Page Collection)						16,247,000
	3	Total of Section 7.13 Hagara Pumping Station (PS-3) (from Page Collection)						16,247,000
	4	Total of Section 7.4 Hanubada Pumping Station (PS-4) (from Page Collection)						16,247,000
	5	Total of Section 7.5 Konedobu Pumping Station (PS-5) (from Page Collection)						34,391,000
	6	Total of Section 7.6 Old Yacht Club Pumping Station (PS-6) (from Page Collection)						13,232,000
	7	Total of Section 7.7 Stanley Esplanade Pumping Station (PS-7) (from Page Collection)						16,667,000
	8	Total of Section 7.8 Sea Park Pumping Station (PS-8) (from Page Collection)						14,913,000

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
	9	Total of Section 7.9						17,260,000
		Davara Pumping Station (PS-9)						
		(from Page Collection)						
	10	Total of Section 7.10						45,224,000
		Lawes Road Pumping Station (PS-10)						
		(from Page Collection)						
	11	Total of Section 7.11						20,366,000
		Koki Pumping Station (PS-11)						
		(from Page Collection)						
	12	Total of Section 7.12						35,075,000
		Badili Pumping Station (PS-12)						
		(from Page Collection)						
	13	Total of Section 7.13						13,068,000
		Kila Police Pumping Station (PS-13)						
		(from Page Collection)						
	14	Total of Section 7.14						13,380,000
		Konebada Pumping Station (PS-14)						
		(from Page Collection)						
	15	Total of Section 7.15						17,616,000
		Gabutu Pumping Station (PS-15)						
		(from Page Collection)						
	16	Total of Section 7.16						13,588,000
		Horsecamp Pumping Station (PS-16)						
		(from Page Collection)						

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₱	PNGK	₱	
	17	Total of Section 7.17 Kaugere Pumping Station (PS-17) (from Page Collection)						53,688,000	
	18	Total of Section 7.18 Grit Chamber (from Page Collection)						24,953,000	
	19	Total of Section 7.19 Oxidation Ditch (from Page Collection)						80,035,000	
	20	Total of Section 7.20 Clarifier (from Page Collection)						11,402,000	
	21	Total of Section 7.21 Utility Water & Disinfection Facility (from Page Collection)						15,088,000	
	22	Total of Section 7.22 Sludge Treatment Building (from Page Collection)						42,854,000	
	23	Total of Section 7.23 Administration Building (from Page Collection)						119,047,000	
	24	Total of Section 7.24 Electrical Substation (from Page Collection)						73,508,000	
Carried forward to Section Summary									737,164,000

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
7.18 Grit Chamber								
		7.18 Grit Chamber						
	02-MCC01	Grit Chamber MCC	set	1				12,959,000
	02-LCP01	Fine Screen LCP	set	1				1,096,000
	02-LCP02	Grit Collector LCP	set	1				731,000
	02-LCP03	Grit Pump LCP	set	1				585,000
	02-LCP04	Grit Washer/Separator LCP	set	1				366,000
	02-LCP05	Oil Discharge/Transfer Pump LCP	set	1				731,000
	02-LCP06	Scum Screen LCP	set	1				366,000
	02-LCP07	Sump Drain Pump LCP at Grit Chamber	set	1				498,000
	02-LE11	No.1 Fine Screen Upstream Level Meter	set	1				1,041,000
	02-LE12	No.1 Fine Screen Downstream Level Meter	set	1				1,041,000
	02-LE21	No.2 Fine Screen Upstream Level Meter	set	1				1,041,000
	02-LE22	No.2 Fine Screen Downstream Level Meter	set	1				1,041,000
	02-FE01	Influent Flow Meter	set	1				3,457,000
		Cabling Works And Others	Lot	1				
Carried forward to Section Summary								24,953,000

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
7.19 Oxidation Ditch								
		7.19 Oxidation Ditch						
	04-BCP01/05	Aeration Blower Control Panels	set	5				12,126,000
	04-MCC01	No.1/2 OD /Clarifier MCC	set	1				19,028,000
	04-MCC02	No.3 OD /Clarifier MCC	set	1				14,079,000
	04-RIO01	RIO Panel at Blower House -1	set	1				5,842,000
	04-RIO02	RIO Panel at Blower House -2	set	1				5,842,000
	04-LCP01	No.1-1/2 OD Mixer LCP	set	1				731,000
	04-LCP02	No.1-3/4 OD Mixer LCP	set	1				731,000
	04-LCP03	No.2-1/2 OD Mixer LCP	set	1				731,000
	04-LCP04	No.2-3/4 OD Mixer LCP	set	1				731,000
	04-LCP05	No.3-1/2 OD Mixer LCP	set	1				731,000
	04-LCP06	No.3-3/4 OD Mixer LCP	set	1				731,000
	04-LCP07	No.1/2/3 Blower LCP	set	1				877,000
	04-LCP08	No.4/5 Blower LCP	set	1				585,000
	04-LCP09/10/11	Waste Sludge Pump LCP	set	3				1,754,000
Carried forward to page collection								64,519,000

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
7.22 Sludge Treatment Building								
		7.22 Sludge Treatment Building						
	07-MCC01	Sludge Treatment MCC	set	1				17,278,000
	07-RIO01	RIO Panel at Sludge Treatment Building	set	1				5,936,000
	07-LCP01	Polymer Tank Mixer LCP	set	1				585,000
	07-LCP02	Polymer Feeder LCP	set	1				585,000
	07-LCP03	Polymer Feed Pump LCP	set	1				585,000
	07-LCP04	Sludge Cake Conveyer LCP	set	1				293,000
	07-LCP05	Sludge Cake Hopper LCP	set	1				585,000
	07-LCP06	Air Dryer LCP	set	1				585,000
	07-LCP07	Sump Drain Pump LCP	set	1				498,000
	07-LCP08	Waste Water Tank LCP	set	1				1,096,000
	07-LCP09	Deodorization Fan LCP	set	1				585,000
	07-LE11	No.1 Polymer Tank Level Meter	set	1				1,008,000
	07-LE21	No.2 Polymer Tank Level Meter	set	1				1,008,000
	07-AE01	Waste Sludge Densitometer	set	1				3,320,000
Carried forward to page collection								33,947,000

BILL OF QUANTITIES

Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
7.23 Administration Building								
		7.23 Administration Building						
	08-PLC01/02	PLC Panel	set	1				19,197,000
	08-LCD01	LCD/LED Large Screen	set	1				10,399,000
	08-PRT01/02	Printers, 2 sets	set	1				513,000
	08 OS01	Operator Station For Pumping Stations	set	1				7,571,000
	08 OS02	Operator Station For STP	set	1				10,599,000
	08 SER 01	Server 1	set	1				4,543,000
	08 SER 02	Server 2	set	1				4,543,000
	08 ENG 01	Engineering Station	set	1				10,599,000
		Cabling Works And Others	Lot	1				51,083,000
Carried forward to Section Summary								119,047,000

Section VIII

Pilot Project

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
8.2 Sewer									
		Main Sewer Material, HDPE, ND200 mm dia. PN20, SDR 9, Black HDPE with carbon black	m	123		4,071	-	500,745	
							-	-	
		Main Sewer Installation (Above GL), HDPE, ND200 mm dia. (Butt welding or Electro Fusion welding)	m	87	92		8,004	-	
							-	-	
		Main Sewer Installation (Under GL), HDPE, ND200 mm dia. (Butt welding or Electro Fusion welding), minimum earth cover 600mm	m	36	135		4,860	-	
							-	-	
		Main Sewer Material, uPVC, 150 mm dia.	m	69		806	-	55,635	
							-	-	
		Main Sewer Installation (Under GL), uPVC, 150 mm dia., minimum earth cover 600mm	m	69	80		5,520	-	
							-	-	
		Clamp with Bolts (supply), Dia. 200mm, SUS444b or SUS316 or equivalent material (Anticorrosion)	Nos	44	100		4,400	-	
							-	-	
		Clamp with Bolts (Installation), Dia. 200mm	Nos	44	75		3,300	-	
							-	-	
		Blank End (End cap) (Supply), HDPE, ND 200 mm dia. Black HDPE with carbon black	Nos	2		9,307	-	18,614	
							-	-	
		Blank End (End cap) (Installation), Butt welding or Electro Fusion welding	Nos	2		145	-	290	
							-	-	
							-	-	
							-	-	
Carried forward to page collection								26,084	575,284

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	¥	PNGK	¥	
8.2 Sewer (Continue)									
	1.2	Precast Manhole	nr	2	5,734.00		11,468	-	
		Type A (Soil/Right of Way)					-	-	
	a)	Dia. 1050 Precast Manhole, h<2.0m					-	-	
		House Connection Material, HDPE, ND	m	300		1,108	-	332,310	
		125 mm dia. PN16, SDR 11, Black HDPE with carbon black					-	-	
		House Connection Installation, HDPE, ND	m	300	22		6,600	-	
		125 mm dia. (Butt welding or Electro Fusion welding)					-	-	
		Suspending for a pipe, Bracket type (Supply),	Nos	300	200		60,000	-	
		Dia. 125mm, SUS444b or SUS316 or equivalent material (Anticorrosion)					-	-	
		Suspending for a pipe, Bracket type		300	30		9,000	-	
		(Installation), Dia. 125mm					-	-	
		Fittings					-	-	
		45 Degree Reducing Junction (Supply), HDPE,	Nos	20		16,665	-	333,300	
		ND200 mm x 125mm, PN16, SDR11, Black					-	-	
		45 Degree Reducing Junction (Installation), HDPE,	Nos	20	115		2,300	-	
		ND200 mm x 125mm, (Butt welding or Electro Fusion welding)					-	-	
		HDPE, ND200 mm x 125mm, (Butt welding or Electro Fusion welding))	Nos	20	91		1,820	-	
		EF(Electro-Fusion) Bend 45 Degree (Supply),	Nos	20		7,647	-	152,944	
		HDPE, ND125mm, PN16, SDR11, Black HDPE					-	-	
Carried forward to page collection								91,188	818,554

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
8.2 Sewer (Continue)								
		EF(Electro-Fusion) Bend 45 Degree (Installation), HDPE, ND125mm (EF welding)	Nos	20	115		2,300	-
							-	-
							-	-
		Flange Spigot ND125 (Supply), HDPE, ND125, ISO PN10, Flange of SUS444 or SUS316 or equivalent	Nos	20		17,010	-	340,208
							-	-
		Flange Spigot ND125 (Installation), HDPE, ND125, ISO PN10	Nos	20	105		2,100	-
							-	-
		Flexible Joint 100mm with Flange (Supply), Rubber Type with SUS444 or SUS316 or equivalent Flange, ISO PN10, Eccentricity 100mm	Nos	20	92		1,840	-
							-	-
							-	-
		Flexible Joint 100mm with Flange (Installation), Rubber Type with Flange, ISO PN10	Nos	20	48		960	-
							-	-
							-	-
		EF Flange ND125 (Supply), HDPE, ND125mm, ISO PN10, Flange of SUS444 or SUS316 or equivalent	Nos	20	328		6,560	-
							-	-
							-	-
		EF Flange ND125 (Installation), HDPE, ND125mm, (Butt welding or EF welding)	Nos	20	115		2,300	-
							-	-
							-	-
		90 Degree Bend ND125 (Supply), HDPE, ND125mm, PN16, SDR11, Black HDPE	Nos	100		8,798	-	879,780
							-	-
							-	-
Carried forward to page collection							16,060	1,219,988

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
8.3 Water Distribution Pipe								
		Distribution Pipe Material (Supply), HDPE, ND63 mm dia., PN20, SDR9, Black HDPE with carbon black	m	167		824	-	137,591
							-	-
							-	-
		Pipe Installation (Above GL), HDPE, ND63 mm dia. (Butt welding or Electro Fusion welding)	m	87	15		1,305	-
							-	-
							-	-
		Pipe Installation (Under GL)HDPE, ND63 mm dia. (Butt welding or Electro Fusion welding) minimum earth cover 600mm	m	80	64		5,120	-
							-	-
							-	-
		Clamp with Bolts (Supply), Dia. 63mm, SUS444b or SUS316 or equivalent material (Anticorrosion)	Nos	174	100		17,400	-
							-	-
							-	-
		Clamp with Bolts (Installation), Dia. 63mm	Nos	174	70		12,180	-
							-	-
		Bulk Meter (Supply), 50 mm	Nos	1	3,200		3,200	-
							-	-
		Bulk Meter Insallation, 50 mm, minimum earth cover 600mm	Nos	1	1,800		1,800	-
							-	-
							-	-
		Bulk Meter Box Installation, Same as Sewer "gate valve box"		1	1,200		1,200	-
							-	-
							-	-
		Gate Valve (Supply), 50 mm	Nos	1		49,161	-	49,161
							-	-
		Gate Valve (Installation), 50 mm	Nos	1	25		25	-
Carried forward to page collection							42,230	186,752

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
8.3 Water Distribution Pipe (Continue)								
		Tapping Saddle Ferrule (Supply), 150mm x 50 mm, PN16	Nos	1		10,135	-	10,135
							-	-
		Tapping Saddle Ferrule (Installation), 150mm x 50 mm, PN16	Nos	1	70		70	-
							-	-
		Flang spigot, PN10 (Supply), HDPE, ND63 mm, ISO	Nos	1		1,115	-	1,115
							-	-
		Flange spigot, PN10 (Installation), HDPE, ND63 mm, ISO (Butt welding or EF welding)	Nos	1	34		34	-
							-	-
		Restrained Dismantling Joint (Supply), 50 mm	Nos	1	440		440	-
							-	-
		Restrained Dismantling Joint (Installation), 50 mm	Nos	1	22		22	-
							-	-
		Flange spigot ND 63 (Suppy), HDPE,ND 63mm, ISO	Nos	1		1,115	-	1,115
							-	-
		Flange spigot ND 63 (Installation), HDPE,ND 63mm (Butt welding or EF welding)	Nos	1	22		22	-
							-	-
		Flang adoptor for HDPE ND63mm (Supply), PN10, ISO	Nos	1		1,115	-	1,115
							-	-
		Flang adoptor for HDPE ND63mm (Installation), PN10, ISO	Nos	1	115		115	-
							-	-
Carried forward to page collection							703	13,480

BILL OF QUANTITIES									
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount		
					PNGK	₹	PNGK	₹	
8.3 Water Distribution Pipe (Continue)									
		EF Flange ND25 (Supply), HDPE, ND25mm, PN10, ISO, Flange of SUS444 or 316 or equivalent (Anticorrosion)	Nos	40	145		5,800	-	
							-	-	
							-	-	
							-	-	
		EF Flange ND25 (Installation), HDPE, ND25mm, EF welding	Nos	40	102		4,080	-	
							-	-	
							-	-	
		Flexible Joint 20mm with Flange (Supply), Rubber Type with SUS444 or SUS316 or equivalent Flange, ISO PN10, Eccentricity 100mm	Nos	20	72		1,440	-	
							-	-	
							-	-	
		Flexible Joint 20mm with Flange (Installation), Rubber Type with Flange, ISO PN10	Nos	20	22		440	-	
							-	-	
							-	-	
		Galvanised Steel Pipe (Supply), OD 25mm, hot dip galvanizing type (anticorrosion type) or equivalent with corrosion-proof tape	m	40	38		1,520	-	
							-	-	
							-	-	
		Galvanised Steel Pipe (Installation), OD 25mm, above GL	m	40	14		560	-	
							-	-	
							-	-	
		Polyethylene Pipe (Supply), OD 32mm	m	300		124	-	37,290	
							-	-	
		Polyethylene Pipe (Installation), OD 32mm, Above GL	m	300	8		2,400	-	
							-	-	
							-	-	
		Polyethylene PipeFitting Tee (Supply), OD 32mm	Nos	60		1,158	-	69,498	
							-	-	
		Polyethylene PipeFitting Tee (Installation), OD 32mm, Above GL	Nos	60	23		1,380	-	
							-	-	
							-	-	
Carried forward to page collection								17,620	106,788

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
8.3 Water Distribution Pipe (Continue)								
		Transition Adaptor PE/Brass (Supply), 20mm dia.	Nos	20	40		800	-
							-	-
		Transition Adaptor PE/Brass (Installation), 20mm dia.	Nos	20	36		720	-
							-	-
		Lean Concrete (Anchor block)	m3	0.5	600		300	-
							-	-
		Mechanical joint for HDPE ND63mm	Nos	1		1,636	-	1,636
							-	-
		Tapping Saddle Ferrule (Supply), 150mm x 50 mm	Nos	1		10,135	-	10,135
							-	-
		Tapping Saddle Ferrule (Installation), 150mm x 50 mm	Nos	1	56		56	-
							-	-
		Surface box with minimum clear opening box, 150mm x 150 mm	Nos	1		7,910	-	7,910
							-	-
		Precast concret slab with center hole with 160mm uPVC 1m, 600mm x 600mm x 100mm thk	set	1	110		110	-
							-	-
		Tee, PN20 (Installation) ND63 x ND25, Black	Nos	20	35		700	-
							-	-
		Tee, PN20 (Supply) ND63 x ND25, Black	Nos	20		1,321	-	26,422
							-	-
		Allow for all cost and works deemed necessary but not included in this section or elsewhere for the completion of the work according to the Specifications, Drawings and Condition of Contract	ls	1.0				
Carried forward to page collection							2,686	46,103

Section IX

Procurement Works

Section X

Social and Environmental Consideration Programme

Section XI

Operation and Maintenance Training Works

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₱	PNGK	₱
11.1 Analysis/Measurement Equipment, Glass Wares and Chemicals								
	1	pH/ORP meter	No.	1				
	2	Potable pH/ORP meter	No.	1				
	3	Potable EC meter	No.	1				
	4	Potable EC meter	No.	1				
	5	Transparency meter	No.	1				
	6	MLSS meter	No.	1				
	7	Simple COD analysis set	No.	1				
	8	BOD analysis set	No.	1				
	9	DO meter	No.	1				
	10	Soxlet extraction unit for 3 samples	No.	1				
	11	Nitrogen and phosphorus analysis set	No.	1				
	12	Simple nitrogen analysis kit	No.	1				
	13	Potable Residual chlorine meter	No.	1				
	14	Pure water production equipment	No.	1				
	15	Distilled water production equipment	No.	1				
	16	Auto precise balancer	No.	2				
	17	Storage shelf	No.	3				
	18	Centrifugal	No.	1				
	19	Shaker	No.	1				
	20	SS analysis set	No.	1				
	21	Stirrer	No.	3				
	22	Dryer	No.	2				
	23	Digital microscope	No.	1				
	24	Electro balancer	No.	2				
	25	Dryer shelf	No.	3				
	26	Ultrasonic cleaning machine	No.	1				
	27	Desicator	No.	2				
	28	Distillation equipment	No.	1				
Carried forward to page collection								

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
11.2 Glass Wares, etc.								
	1	Conical flask, 300 mL	pc	14				
	2.1	Beaker, 50 mL	pc	6				
	2.2	Beaker, 100 mL	pc	6				
	2.3	Beaker, 300 mL	pc	6				
	2.4	Beaker, 500 mL	pc	4				
	2.5	Beaker, 1,000 mL	pc	3				
	2.6	Beaker, 10 L, PE	pc	1				
	3.1	Pipette, Mess 1mL	pc	6				
	3.2	Pipette, Mess 2mL	pc	6				
	3.3	Pipette, Mess 5mL	pc	6				
	3.4	Pipette, Mess 10mL	pc	6				
	3.5	Pipette, Mess 25mL	pc	6				
	3.6	Pipette, Hole 50 mL	pc	6				
	3.7	Pipette, Hole 100 mL	pc	2				
	4.1	Messzylinder, 20 mL with stopper	pc	4				
	4.2	Messzylinder, 50 mL with stopper	pc	7				
	4.3	Messzylinder, 100 mL with stopper	pc	4				
	4.4	Messzylinder, 250 mL with stopper	pc	4				
	4.5	Messzylinder, 500 mL with stopper	pc	4				
	4.6	Messzylinder, 1,000 mL	pc	7				
Carried forward to page collection								

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₱	PNGK	₱
11.2 Glass Wares, etc. (Cont')								
	5.1	Messflask, 20 mL	pc	2				
	5.2	Messflask, 50 mL	pc	4				
	5.3	Messflask, 100 mL	pc	6				
	5.4	Messflask, 250 mL	pc	2				
	5.5	Messflask, 500 mL	pc	4				
	5.6	Messflask, 1,000 mL	pc	2				
	6.1	Plastic bottle (wide mouth), 100 mL	pc	20				
	6.2	Plastic bottle (wide mouth), 250 mL	pc	14				
	6.3	Plastic bottle (wide mouth), 500 mL	pc	8				
	6.4	Plastic bottle (wide mouth), 1,000 mL	pc	3				
	7.1	Wash bottle, 250 mL	pc	4				
	7.2	Wash bottle, 500 mL	pc	4				
	8.1	Measuring/transfer pipette, 25 mL	pc	6				
	8.2	Syringe, PE, 5 mL	pc	4				
	8.3	Pipette stand	pc	3				
	8.4	crucible, melting pot, 15 mL, high purified alumina for VSS	pc	4				
	8.5	Watch glass, Φ 9 cm	pc	20				
Carried forward to page collection								

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₱	PNGK	₱
11.2 Glass Wares, etc. (Cont')								
	9.1	Evaporating dish, 100 mL	pc	20				
	9.2	Spatula	pc	4				
	9.3	Nitrate reduction column, Cupper-	pc	4				
	9.4	Auto burette, White 25 mL, 2,000 mL container	pc	4				
	9.5	Auto burette, Brown 25 mL, 2,000 mL container	pc	1				
	9.6	No.5 A filter, Dia.110 mm	pc	6				
	9.7	Funnel, Dia.60 mm	pc	6				
	9.8	Pincet, Length 125 mm	pc	4				
	9.9	Mortar, Dia.60 mm with pestle	pc	2				
	9.10	Agate Mortar, 50 mm with pestle	pc	1				
	9.11	Separation funnel, 500 mL, Pear shaped type with PTFE cock	pc	3				
	9.12	Separation funnel stand	pc	3				
Carried forward to page collection								

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
11.3 Necessary Reagents, etc. during Training of Water Quality Analysis								
		pH						
	1.1	pH standard 7, 500ml	pc	1				
	1.2	pH standard 4, 500ml	pc	1				
		SS						
	2	Glass filter for SS measurement, 47 mm, 100 sheet	Lot	1				
		VSS						
	3	Ammonium nitrate, 500g	Lot	1				
		M-alkalinity						
	4.1	Grade Hydrochloric acid, 500ml	Lot	1				
	4.2	Methyl red , 25g	Lot	1				
	4.3	Bromocresol green, 25g	Lot	1				
	4.4	95 % grade ethanol, 500ml	Lot	1				
	4.5	0.1 mol/L hydrochloric acid standard, 5,000ml	Lot	1				
		CODMn-Offial						
	5.1	Grade sulfuric acid, 500ml	Lot	1				
	5.2	Grade silver nitrate, 500g	Lot	1				
	5.3	Sodium oxalate(volumetric analysis), 50g	Lot	3				
	5.4	Potassium permanganate, 500g	Lot	1				
	5.5	5 mmol/L potassium permanganate standard solution, 5000ml	Lot	1				
	5.6	0.05mol/l(N/10)-Sodium oxalate solution, 20,000mL	Lot	1				
Carried forward to page collection								

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
11.3 Necessary Reagents, etc. during Training of Water Quality Analysis (Cont')								
		CODMn-simple						
	6.1	A solution, 100mL	Lot	1				
	6.2	B solution, 500mL	Lot	1				
		BOD5						
	7.1	Hydrochloric acid, 500mL	Lot	1				
	7.2	Sodium hydroxide, 500g	Lot	1				
	7.3	Dipotassium hydrogenphosphate, 500g	Lot	1				
	7.4	Potassium dihydrogenphosphate, 500g	Lot	1				
	7.5	Disodium hydrogen phosphate, 500g	Lot	1				
	7.6	Ammonia chloride, 500g	Lot	1				
	7.7	Magnesium sulfate heptahydrate, 500g	Lot	1				
	7.8	Calcium chloride, 500g	Lot	1				
	7.9	Iron () chloride hexahydrate, 500g	Lot	1				
	7.10	D (+) -glucose, 500g	Lot	1				
	7.11	L--glutamic acid, 1,000g	Lot	1				
		Hexane Extract						
	8.1	Grade Hydrochloric acid, 500mL	Lot	1				
	8.2	Methyl orange, 25g	Lot	1				
	8.3	Acetone, 500mL	Lot	1				
	8.4	Sodium sulfate Anhydrous, 500g	Lot	1				
	8.5	Hexane, 3,000L	Lot	1				
Carried forward to page collection								

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
11.3 Necessary Reagents, etc. during Training of Water Quality Analysis (Cont')								
		NH4-N (EDA)						
	9.1	Sulfuric acid, 500mL	Lot	1				
	9.2	Sodium hydroxide, 500g	Lot	1				
	9.3	Magnesium oxide, 25g	Lot	1				
	9.4	Phenol, 500g	Lot	1				
	9.5	Sodium hydrochloride (effective chlorine more than 5 %), 500mL	Lot	1				
	9.6	Ammonium ion NH4 1,000 standard solution, 500mL	Lot	1				
	9.7	Reagent No.00683, 100sample	Lot	1				
		NH4-N (Site)						
	10	Reagent set, 100sample	Lot	1				
		NO2-N (EDA)						
	11.1	4-aminobenzenesulfonamide, 100g	Lot	1				
	11.2	N-1-naphthylenediammonium dichloride, 25g	Lot	1				
	11.3	Nitrite ion standard solution 1000, 1 ampoule	Lot	1				
		NO3-N (EDA)						
	11.1	Ammonium chloride, 500g	Lot	1				
	11.2	Aqueous ammonia, 500mL	Lot	1				
	11.3	Nitrate ion standard solution 1000, 500mL	Lot	1				
	11.4	Disodium hydrogen ethylene-demine tetra acetate dihydrate, 500g	Lot	1				
	11.5	Copper () sulfate pentahydrate, 25g	Lot	1				
	11.6	Nitric acid, 500g	Lot	1				
	11.7	Copper-cadmium packing , 4L	Lot	1				
	11.8	Glass wool	Lot	1				
Carried forward to page collection								

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₱	PNGK	₱
11.4 Necessary Reagents, etc. during two months' Commissioning Period								
		pH						
	1.1	pH standard 7, 500ml	pc	2				
	1.2	pH standard 4, 500ml	pc	2				
		SS						
	2	Glass filter for SS measurement, 47 mm, 100 sheet	Lot	5				
		VSS						
	3	Ammonium nitrate, 500g	Lot	0				
		M-alkalinity						
	4.1	Grade Hydrochloric acid, 500ml	Lot	1				
	4.2	Methyl red , 25g	Lot	0				
	4.3	Bromocresol green, 25g	Lot	0				
	4.4	95 % grade ethanol, 500ml	Lot	0				
	4.5	0.1 mol/L hydrochloric acid standard, 5,000ml	Lot	1				
		CODMn-Offial						
	5.1	Grade sulfuric acid, 500ml	Lot	1				
	5.2	Grade silver nitrate, 500g	Lot	1				
	5.3	Sodium oxalate(volumetric analysis), 50g	Lot	0				
	5.4	Potassium permanganate, 500g	Lot	0				
	5.5	5 mmol/L potassium permanganate standard solution, 5000ml	Lot	1				
	5.6	0.05mol/l(N/10)-Sodium oxalate solution, 20,000mL	Lot	0				
Carried forward to page collection								

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₱	PNGK	₱
11.4 Necessary Reagents, etc. during two months' Commissioning Period (Cont')								
		CODMn-simple						
	6.1	A solution, 100mL	Lot	3				
	6.2	B solution, 500mL	Lot	9				
		BOD5						
	7.1	Hydrochloric acid, 500mL	Lot	1				
	7.2	Sodium hydroxide, 500g	Lot	0				
	7.3	Dipotassium hydrogenphosphate, 500g	Lot	0				
	7.4	Potassium dihydrogenphosphate, 500g	Lot	0				
	7.5	Disodium hydrogen phosphate, 500g	Lot	0				
	7.6	Ammonia chloride, 500g	Lot	0				
	7.7	Magnesium sulfate heptahydrate, 500g	Lot	0				
	7.8	Calcium chloride, 500g	Lot	0				
	7.9	Iron () chloride hexahydrate, 500g	Lot	0				
	7.10	D (+) -glucose, 500g	Lot	0				
	7.11	L--glutamic acid, 1,000g	Lot	0				
		Hexane Extract						
	8.1	Grade Hydrochloric acid, 500mL	Lot	1				
	8.2	Methyl orange, 25g	Lot	0				
	8.3	Acetone, 500mL	Lot	0				
	8.4	Sodium sulfate Anhydrous, 500g	Lot	1				
	8.5	Hexane, 3,000L	Lot	1				
Carried forward to page collection								

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	¥	PNGK	¥
11.4 Necessary Reagents, etc. during two months' Commissioning Period (Cont')								
		NH4-N (EDA)						
	9.1	Sulfuric acid, 500mL	Lot	1				
	9.2	Sodium hydroxide, 500g	Lot	1				
	9.3	Magnesium oxide, 25g	Lot	1				
	9.4	Phenol, 500g	Lot	0				
	9.5	Sodium hydrochloride (effective chlorine more than 5 %), 500mL	Lot	1				
	9.6	Ammonium ion NH4 1,000 standard solution, 500mL	Lot	0				
	9.7	Reagent No.00683, 100sample	Lot	1				
		NH4-N (Site)						
	10	Reagent set, 100sample	Lot	3				
		NO2-N (EDA)						
	11.1	4-aminobenzenesulfonamide, 100g	Lot	0				
	11.2	N-1-naphthylenediammonium dichloride, 25g	Lot	0				
	11.3	Nitrite ion standard solution 1000, 1 ampoule	Lot	0				
		NO3-N (EDA)						
	11.1	Ammonium chloride, 500g		1				
	11.2	Aqueous ammonia, 500mL		0				
	11.3	Nitrate ion standard solution 1000, 500mL		0				
	11.4	Disodium hydrogen ethylene-dimine tetra acetate dihydrate, 500g		0				
	11.5	Copper () sulfate pentahydrate, 25g		1				
	11.6	Nitric acid, 500g		1				
	11.7	Copper-cadmium packing , 4L		0				
	11.8	Glass wool		0				
Carried forward to page collection								

Section XII

Provisional Sum

BILL OF QUANTITIES								
Specification Reference	Item No.	Description	Unit	Quantity	Rate		Amount	
					PNGK	₹	PNGK	₹
12. Provisional Sum								
12.1 Provisional Sum for Electrical Work								
	1	LV Connection for PS-1	LS	1	61,347		61,347	
	2	LV Connection for PS-2	LS	1	157,300		157,300	
	3	LV Connection for PS-3	LS	1	78,650		78,650	
	4	LV Connection for PS-4	LS	1	78,650		78,650	
	5	LV Connection for PS-13	LS	1	89,540		89,540	
	6	LV Connection for PS-14	LS	1	66,550		66,550	
	7	LV Connection for PS-15	LS	1	68,607		68,607	
	8	LV Connection for PS-16	LS	1	181,500		181,500	
	9	LV Connection for Receiving Well 1	LS	1	61,347		61,347	
	10	11 KV Extension with Transformer	LS	1	528,000		528,000	
		Sub Total					1,371,491	
	11	Contractor's profit and overhead, etc. on the above Provisional Sum item in <u>10</u> % except for work executed by the Contractor.	item					
	12	Provisional Sum for Electricak work as directed by the Engineer	PS				137,149	
Carried forward to page collection							1,508,640	

