BOQ for the Works

KAMANYI AND NYANYA SUMPWELL WATER SUPPLY PROJECT					
Bill No. 1: PRELIMINARIES AND GENERAL ITEMS					
S/No.	Description	Unit	Qty	Rate (Ksh)	Amount(Ksh)
A	CONTRACTUAL REQUIREMENTS				
i	Maintain Contractor's camps, facilities, plants, insurance, etc, include mobilization to site, and demobilization on completion of contract	Sum			
ii	Provide erect and maintain sign boards at the site of works as directed by the Project Engineer and inclusive of removal after completion of maintenance period.	Nr.	2		
iii	Allow for test running of all works as shall be quantified and directed to the satisfaction of the engineer during construction and after completion.	Sum			

	Total Carried forward to Grand Bill Summary For Bill No. 1				

KAMANYI SUMPWELL WATER SUPPLY PROJECT

BILL No. 2:INTAKE WORKS

Bill No. 2(i): Construction of 25-40M^3 Masonry Relief well at thua River

Item	Description	Unit	Qnty	Rate	Amount
1	Clear site of all bushes and cart away all arisings	M^2	0		
2	Excavate to remove top soil 150mm depth and dispose as shall be directed	M^3	0.00		
3	Excavate for Relief well 5900mm dia. Depth not exceeding 1.5	M^3	40.99		
4	Ditto but 1.5m - 3m depth	M^3	40.99		
5	Ditto but 3m - 4.5m depth	M^3	40.99		
6	Ditto but 4.5m - 6.0m depth	M^3	40.99		
7	Extra over excavation for rock	M^3	7.5		
8	Place 300mm THK hardcore filling at bottom of well	Ton	10.30		
9	150mm THK well graded ballast ontop of hardcore filling	Ton	5.15		
10	Prepare and cast reinforced concrete class 20/20 (1:2:4) for 200mm THK for ring footing	M^3	3.28		
11	Prepare and cast reinforced concrete class 20/20 for 150mm THK roof slab	M^3	4.7		
12	Provide materials and Construct 225mm THK walling with interlocking curved well blocks with middle hole for galvanized wire insertion. The wall to be in 1:3 sand/cement mortar, rate to include 6mm dia. upright galvanized wire at every hole and 2No. Lateral D10 reinforcement bars at every course	M^2	102.68		
13	1:2 sand/cement Plastering to exposed walls surface externally	M^2	17.113		

14	Formwork				
	(i) To roof soffit	M^2	21.25		
	(ii) 3Ply to sides of roof slab	M^2	3.42		
	Sub Total Carried forward to Collection page Bill No. 2(i)				

KAMANYI SUMPWELL WATER SUPPLY PROJECT

BILL No. 2:INTAKE WORKS

Bill No. 2(i): Construction of 25-40M^3 Masonry Relief well at thua River

Item	Description	Unit	Qnty	Rate	Amount
15	Supply, cut and fix reiforcement to well ring, wall and roof slab as specified in the DRG				
	(i) D8	Kgs	284.4		
	(ii) D10	Kgs	445.87		
16	Fabricate, supply and Install internally 5M long x 0.45m wide stainless steel ladder as per specification or as shall be directed by the engineer on site	No.	1		
17	Fabricate, supply and fix 600mm x 400mm x 50mm Thick rc manhole cover with 25mm steel Angleline framing complete with frame and locking system	No.	1		
	-				
	-				

	-				
	Sub Total Carried forward to Collection page Bill No. 2(i)				

KAMANYI SUMPWELL WATER SUPPLY PROJECT

BILL No. 2:INTAKE WORKS

Bill No. 2(i): Construction of 25-40M^3 Masonry Relief well at thua River

No.	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	COLLECTION PAGE BILL No. 2(i)				
	Carried forward from page 2 of 13				
	Carried forward from page 3 of 13				

	Total Carried forward to Grand Bill Summary For Bill No. 2(i)				

KAMANYI SUMPWELL WATER SUPPLY PROJECT

BILL No. 2:INTAKE WORKS

Bill No. 2(ii): Purchase/installation of Pump and Solar power assembly

Item	Description	Unit	Qnty	Rate (Ksh)	Amount(Ksh)
A	Supply and delivery to site, installation and commission testing of the following;				
1	A submersible electric started pump set of capacity 6.5M^3/hr agaisnst at total head of 108M. Complete with 6m drop cable .	No.	1		
2	Solar modules (Panels) capable of generating 5KW minimum of solar power.	Item			

3	Fabricate, Supply and erect concrete works inclusive, a solar Modules Support Structure - 6.0m high (steel tower)	Item			
B	Other Accessories				
1	Logic Control Panel 4KW 3phase solar pump controller/inverter	No.	1		
2	PV Disconnect switch 1000VDC/40A	No.	2		
3	Sun switch light sensor (optional)	No.	1		
4	6mm² twin flat cable with earth	M	10		
5	6mm² safety wire cable	M	10		
6	Earth Rod c/w clamp	No.	1		
7	Electrode Pencil	No.	1		
8	Armored cable **6mm² 4 Core** underground cable for main load	LM	150		
9	Connection box - 9" x 9"	No.	1		
10	75mm dia. PVC drop pipes	No.	1		
11	75mm dia. adaptor	No.	1		
12	65mm dia. GI bend	No.	2		
C	Fencing of Solar Compound				
1	Provide all materials and erect 2m high -16 Gauge chainlink fence held in place with 6 strand galvanized barbed wire on 2.4m high 100mm dia. cranked pre-cast square concrete posts at 3.0M centers mortised in 1:3:6 mass concrete surround (provisional)	M	160		
2	Fabricate, supply and install Double leave steel gate comprising of 80mm dia. End posts 2.5M long. Gate dimensions to be 3.0M x 2.0M high with 1.2M wide pedestral gate. The gate to be of 50 x 25mm R.H.S. framing with 50mm x 25mm dia. Grilles spaced at 150mm centres welded to frame.	No.	1		

No.	Description	Unit	Qty		
A.	Clearing/excavation				
1	Clear pipe route of bushes, shrubs and cart away all arisings	M	1,200		
2	Excavate for 600mmx600mm channel and stockpile soil materials for reuse	M	1,200		
3	Prepare channel bed for pipe laying	M	1,200		
B.	Provide, transport to site, and install the pipes (with sockets and / butt-fusion for HDPE pipes) and accompanying fittings as described here below				
1	50mm dia. GS pipe class B	m	200		
2	63mm dia. HDPE pipe =(PN 16)	m	1,000		
C.	Valve chambers				
1	Source supply materials to site and Construct STD ministry valve chambers 1MX1MX1M deep with 1:2:4 rc concrete manhole cover of 600mm x600mm size. The cover to be encased in 25mm angle framing and have a allan key locking system. Chamber to be of well dressed quarry stone and plastered to finish.	No.	3		
D.	Provide, transport to site, and install pipe fittings as described here below:				
1	50mm dia. GI plain sockets	No.	3		
2	50mm dia. GI Hex. nipples	No.	2		
3	50mm dia. GS unions	No.	1		
4	50mm dia. Non Return Valve (pegler)	No.	1		
5	63mm dia. 90^0 GS bend – M & F	No.	3		
6	50mm dia. x 20mmm dia. Red. GI tee	No.	1		
7	63mm dia. HDPE connectors	No.	6		
8	25mm dia. Pressure gauge PN20	No.	1		
9	50mm dia. Master meter complete with all accompanying fittings and accessories, including preparion of site and construction of 1mx 1m std chamber	No.	1		

	Total Carried to Collection page Bill No. 3(i)				

KAMANYI SUMPWELL WATER SUPPLY PROJECT

Bill No. 3: TRANSMISSION LINES

Bill No. 3(i): Proposed Sumpwell - Proposed Storage/Distribution Tank Site

(Continued)

No.	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
E	Air Valves 2No.				
	Provide, transport to site and install the following items:				
1	63mm dia x25mm dia. HDPE saddle clamp	No.	2		
2	25mm dia. Barrel nipple , one side flanged other threaded	No.	2		
3	25mm dia. hexagonal nipple	No.	2		
4	25mm dia. Gate Valve (pegler type)	No.	2		
5	25mm dia. HDPE double acting air relief valve PN 16 of good quality e.g. Neptune Clenfield	No.	2		
F	Wash out 1No.				
	Provide, transport to site and install the following items:				
1	50mm dia x 40mm dia. Tee	No.	1		
2	50mm dia. Hex. Nipples	No.	4		
3	40mm dia. Hex. Nipple	No.	2		
4	40mm dia. Gate Valve (pegler type)	No.	2		
5	40mm dia. GI Pipe 2M one side threaded	M	2		
G	Finishes				
1	Back filling (A2) above leaving joints exposed	m	1,200		
2	Final backfilling of item (A2), making good of site	Item	-		

3	Provide precast concrete class 25 pipeline marker posts according to the drawings or as shall be directed by the Engineer. Include costs for excavations and mass concrete to post surround	no	6		
H	River /Road Crossings				
1	Provide, transport to site and cast insitu concrete class 20 for encasing and/or anchoring of pipe in Road/river/stream as required or as shall be directed	M3	2		
	Total Carried to Collection page Bill No. 3(i)				

KAMANYI SUMPWELL WATER SUPPLY PROJECT

Bill No. 3: TRANSMISSION LINES

Bill No. 3(i): Proposed Sumpwell - Proposed Storage/Distribution Tank Site

(Continued)

No.	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	COLLECTION PAGE BILL No. 3(i)				
	Carried forward from page 6 of 13				
	Carried forward from page 7 of 13				

	Total Carried forward to Grand Bill Summary for Bill No. 3(i)				

KAMANYI SUMPWELL WATER SUPPLY PROJECT

Bill No. 4: STORAGE/DISTRIBUTION WATER TANKS

Bill No. 4 (i).: Plastic Water Tanks & Tower

Item	Description	Unit	Qnty	Rate (Ksh)	Amount(Ksh)

1	Supply and installation of 3No. - 10,000litre Plastic Water tanks complete with 50mm outlet, 90mm overflow and 50mm inlet. The tanks to be interconnected with 90mm dia. PPR Pipe, gate valve and other accessories and also be fitted with outlet pipe as shall be instructed by the Engineer	No.	2		
2	Fabricate, Supply and erect concrete works inclusive 6m high steel tower as per drawing or as shall be directed by the client's appointed engineer. Beams to be of 150mm I-sections and Pillars to be of 100m dia. Black pipes filled to the brim with concrete mix.	l/sum	1		
3	Supply, the following fittings and install as required or as shall be directed by the Engineer				
a).	Outlet pipe				
i	63mm dia.PPR pipe for outlet	M	18		
ii	50mm dia. bend	No.	1		
iii	50mm dia. union	No.	2		
iv	50mm dia. Sluice Valve complete with gasket, flanges, nut and bolt	No.	1		
v	63mm dia. PPR tee	No.	1		
vi	50mm dia. long nipple	No.	2		
vii	50mm dia. backnuts	No.	4		
viii	50mm dia. Hex. Nipples	No.	4		
ix	50mm dia. flanged master meter complete with flanges bolts and nuts	No.	1		
b).	Inlet pipe				
i	50mm dia. PPR pipe for outlet	M	18		
ii	50mm dia. GI bend	No.	2		
iii	50mm dia. union	No.	1		
iv	50mm dia. backnuts	No.	2		
c).	Allow for water Connection to Water Kiosk and Extension to demostration farm	L/sum	1		
	Total Carried forward to Grand Bill Summary For Bill No. 4(i)				

KAMANYI SUMPWELL WATER SUPPLY PROJECT					
Bill No. 5: WATER DRAWING POINTS					
Bill No. 5(i): 2M x 2M STD Ministry Water Kiosk					
Item	Description	Unit	Qty	Rate	Amount
1	SUB - STRUCTURE				
1	Excavate to remove veg. Soil average 200mm thick	SM	21		
2	Excavate foundation trenches i.e 1.5M deep	CM	4		
3	Return fill in and ram	CM	2		
4	Load and cart away surplus excavated material	CM	2		
5	50mm thick 1:3:6 mix foundation blinding	SM	5.28		
6	1:2:4 mix reinforced concrete in strip foundations, columns	CM	1.648		
7	300mm thick hardcore filling	CM	1.5		
8	50mm thick murram blinding	SM	12		
9	Anti-termite treatment	SM	12		
10	50mm thick 1:3:6 concrete blinding	SM	5.29		
11	1:2:4 reinforced concrete floor slab 100mm thk	CM	0.529		
12	Weld mesh no. A145	SM	5.29		
13	D12 reinforcement to foundation base and column starters	KGS	65.712		
14	D8 reinforcement to foundation strip	KGS	12.64		
15	200mm x 25mm softwood sawn formwork to side of slab	LM	10		
16	150mm thick quarry stone foundation walling laid in cement/ sand mortar 1:5	SM	8		
2	WALLING				
1	1:2:4 mix reinforced ring beam 150mm Thk	Item	L/Sum		
2	140mm wide x x 100mm depth x 270mm length interlocking stablized soil blocks to walling as specified	SM	20		
3	200 x 25mm soft wood sawn timber formwork to sides of lintol	LM	8		
4	D10mm diameter RC bars. To columns	Kgs	40		
5	1:2:4 mix RC to 4No. 200mm x 200mm columns	CM	1		
3	ROOFING				

1	200 x 25mm soft wood sawn timber formwork for roof slab.	SM	7		
2	100mm dia.- 2.4m long Timber props	No.	12		
3	100 x 25mm soft wood sawn timber formwork to sides of roof slab	LM	10		
4	1:2:4 mix reinforced concrete to roof slab - 125mm T.H.L	CM	1		
5	D8 RC bars @150mm c/c to 125mm THK roof slab	LM	67		
	Total Carried Forward to Collection Page bill No. 5(i)				

KAMANYI SUMPWELL WATER SUPPLY PROJECT

Bill No. 5: WATER DRAWING POINTS

Bill No. 5(i): 2M x 2M STD Ministry Water Kiosk (Continued)

Item	Description	Unit	Qty	Rate	Amount
	DOORS				
1	Fix standard steel purpose made door size 1000 x 2000mm	No.	1		
	WINDOWS & VENTILATION				
1	Fix standard steel casement purpose made window size 950 x 1000mm	No.	1		
2	50mm thick precast concrete window sill all sizes 1000 x 300mm throated/weartherd on the outside	Item			
3	Supply 150mm concreter louvre blocks and place in 1:3 cement/sand for 600mm x 300mm vent in wall as shall be directed.	item	1		
	FINISHES				
1	12mm thick plaster to columns, lintel and egdes of roof externally	SM	19		
2	25mm thick cement/ sand screed to floor	SM	12		
	PAINTING				
1	Prepare and apply 3 coats gloss oil paint to columns, lintel and egdes of of externally	SM	5.28		
2	Prepare wall surface and apply 3 coats clear varnish to wall internally	SM	19.2		

	SOAK PIT				
1	Excavate soakpit n.e. 1.5M deep	CM	1.5		
2	Excavate pit 1.50 but not exceeding 3.0Mdeep	CM	1.5		
3	8mm dia. mild steel bars	Kgs	16		
4	Rubble stones	CM	1		
5	1:2:4 reinforced concrete in soak pit cover	CM	0.5		
	PLUMPING				
1	20mm dia GI pipe M.G.	Lengths	2		
2	13mm dia GI pipe M.G.	Lengths	2		
3	20mm dia Bend	No.	4		
4	20mm dia Nipples	No.	4		
5	20mm dia Union	No.	4		
6	20mm dia Socket	No.	3		
7	20 x 13mm dia reducing tee	No.	2		
8	20mm dia water meter	No.	1		
9	20mm diameter Gate Valve (Peglar)	No.	1		
10	13mm dia Bend	No.	8		
11	13mm dia stop cock	No.	4		
	Total Carried Forward to Collection Page bill No. 5(i)				

KAMANYI SUMPWELL WATER SUPPLY PROJECT

Bill No. 5: WATER DRAWING POINTS

Bill No. 5(i): 2M x 2M STD Ministry Water Kiosk (Continued)

Item	Description	Unit	Qty	Rate	Amount
	COLLECTION PAGE Bill No. 5(i)				
	Sub total carried forward from page 10 of 13				
	Sub total carried forward from page 11 of 13				

	Total for 1No. Water Kiosk				
Total for 1No Water Kiosks Carried to Grand Bill Summary for Bill No.5(i)				1	

KAMANYI SUMPWELL WATER SUPPLY PROJECT
SUMMARY

Bill No.	Description	Page	Amount (Ksh)
2	Intake Works		
i	Intake sump/relief well		
ii	Pumping Unit, Solar assembly		
3	Transmission Lines		
i	Rising Main to proposed Tank site		
4	Stotage Water Tanks		
i	Plastic Water Tanks & Tower		
5	Water Drawing points		
¡	Water Kiosks Construction		
	Sub Total		

NYANYAA SUMPWELL WATER SUPPLY PROJECT

BILL No. 2:INTAKE WORKS

Bill No. 2(i): Construction of 25-40M^3 Masonry Relief well at thua River

Item	Description	Unit	Qnty	Rate	Amount
1	Clear site of all bushes and cart away all arisings	M2	0		
2	Excavate to remove top soil 150mm depth and dispose as shall be directed	M3	4.10		
3	Excavate for Relief well 5900mm dia. Depth not exceeding 1.5	M3	40.99		
4	Ditto but 1.5m - 3m depth	M3	40.99		
5	Ditto but 3m - 4.5m depth	M3	40.99		
6	Ditto but 4.5m - 6.0m depth	M3	40.99		
7	Extra over excavation for rock	M3	7.5		
8	Place 300mm THK hardcore filling at bottom of well	Ton	10.30		
9	150mm THK well graded ballast ontop of hardcore filling	Ton	5.15		
10	Place reinforced concrete class 20/20 (1:2:4) for 200mm THK for ring footing	M3	3.28		
11	Place reinforced concrete class 20/20 for 150mm THK roof slab	M3	4.7		

12	Provide materials and Construct 225mm THK walling with interlocking curved well blocks with middle hole for galvanized wire insertion. The wall to be in 1:3 sand/cement mortar, rate to include 6mm dia. upright wire at every hole and 2No. Lateral D10 reinforcement bars at every course	M2	102.68		
13	1:2 sand/cement Plastering to exposed walls surface externally	M2	17.113		
14	Formwork				
	(i) To roof soffit	M2	21.25		
	(ii) 3Ply to sides of roof slab	M2	3.42		
	Sub Total Carried forward to Collection page Bill No. 2(i)				

	NYANYAA SUMPWELL WATER SUPPLY PROJECT				
	BILL No. 2:INTAKE WORKS				
	Bill No. 2(i): Construction of 25-40M^3 Masonry Relief well at thua River				
Item	**Description**	**Unit**	**Qnty**	**Rate**	**Amount**
15	Supply, cut and fix reiforcement to well ring, wall and roof slab as specified in the DRG				
	(i) D8	Kgs	284.4		
	(ii) D10	Kgs	445.87		

16	Fabricate, supply and Install internally 5M long x 0.45m wide stainless steel ladder as per specification or as shall be directed by the engineer on site	No.	1		
17	Fabricate, supply and fix 600mm x 400mm x 50mm Thick rc manhole cover with 25mm steel Angleline framing complete with frame and locking system	No.	1		

	Sub Total Carried forward to Collection page Bill No. 2(i)				

NYANYAA SUMPWELL WATER SUPPLY PROJECT

BILL No. 2:INTAKE WORKS

Bill No. 2(i): Construction of 25-40M^3 Masonry Relief well at thua River

No.	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	COLLECTION PAGE BILL No. 2(i)				
	Carried forward from page 2 of 14				
	Carried forward from page 3 of 14				

	Total Carried forward to Grand Bill Summary For Bill No. 2(i)				

NYANYAA SUMPWELL WATER SUPPLY PROJECT

BILL No. 2:INTAKE WORKS

Bill No. 2(ii): Purchase/installation of Pump and Solar power assembly

Item	Description	Unit	Qnty	Rate (Ksh)	Amount(Ksh)
A	Supply and delivery to site, installation and com mission testing of the following;				
1	A submersible electric started pump set of capacity 6.5M^3/hr agaisnst at total head of 156M. Complete with 6m drop cable .	No.	1		
2	Solar modules (Panels) capable of generating 7KW minimum of solar power.	Item			

3	Fabricate, Supply and erect concrete works inclusive, a solar Modules Support Structure - 6.0m high (steel tower)	Item			
B	Other Accessories				
1	Logic Control Panel 5.5KW 3phase solar pump controller/inverter	No.	1		
2	PV Disconnect switch 1000VDC/40A	No.	2		
3	Sun switch light sensor (optional)	No.	1		
4	6mm² twin flat cable with earth	M	10		
5	6mm² safety wire cable	M	10		
6	Earth Rod c/w clamp	No.	1		
7	Electrode Pencil	No.	1		
8	Armored cable 6mm² 4 Core underground cable for main load	LM	150		
9	Connection box - 9" x 9"	No.	1		
10	63mm dia. PVC drop pipes	No.	1		
11	50mm dia. adaptor	No.	1		
12	50mm dia. GI bend	No.	2		
	Total Carried forward to Grand Bill Summary For Bill No. 2(ii)				

NYANYAA SUMPWELL WATER SUPPLY PROJECT

BILL No. 2:INTAKE WORKS

Bill No. 2(iii): Intake Compound Fencing

Item	Description	Unit	Qnty	Rate	Amount

1	2.4m high x 14 gauge chainlink complete with 121/2 gauge x 6 strand galvanised barbed wire fencing with 100mm x 125mm cranked pre-cast concrete posts at 3.0m centers mortised in mass concrete surrounds.	LM	160		
2	fabricate , supply and install double leave gate comprising of 80mm dia. End posts 3M long. Gate dimensions to be 3.0M x 2.0M high with 1.2M wide pedestrian gate. The gate to of 50mm x 25mm R.H.S framing with 50mm x 25mm dia grills spaced at 200mm centers welded to frame.	No.	1		

	Total Carried forward to Grand Bill Summary For Bill No. 2(iii)				

NYANYAA SUMPWELL WATER SUPPLY PROJECT

Bill No. 3: TRANSMISSION LINES

Bill No. 3(i): Rising Main (Tiva River to proposed Tank site near Benard Nzuki)

No.	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
A.	Clearing/excavation				
1	Clear pipe route of bushes, shrubs and cart away all arisings	M	694.5		
2	Excavate for 600mmx600mm channel and stockpile soil materials for reuse	M	694.5		
3	Prepare channel bed for pipe laying	M	694.5		
B.	Provide, transport to site, and install the pipes (with sockets and / butt-fusion for HDPE pipes) and accompanying fittings as described here below				
1	50mm dia. GS pipe class B	m	20		
2	63mm dia. HDPE pipe =(PN 16)	m	395		
3	63mm dia. HDPE pipe =(PN 16)	m	280		
C.	Valve chambers				

1	Source supply materials to site and Construct STD ministry valve chambers 1MX1MX1M deep with 1:2:4 rc concrete manhole cover of 600mm x600mm size. The cover to be encased in 25mm angle framing and have a allan key locking system. Chamber to be of well dressed quarry stone and plastered to finish.	No.	2		
D.	Provide, transport to site, and install pipe fittings as described here below:				
1	50mm dia. GI plain sockets	No.	3		
2	50mm dia. GI Hex. nipples	No.	2		
3	50mm dia. GS unions	No.	1		
4	50mm dia. Non Return Valve (pegler)	No.	1		
5	63mm dia. 90^0 GS bend – M & F	No.	3		
6	50mm dia. x 20mmm dia. Red. GI tee	No.	1		
7	63mm dia. HDPE connectors	No.	6		
8	25mm dia. Pressure gauge PN20	No.	1		
9	50mm dia. Master meter complete with all accompanying fittings and accessories, including preparion of site and construction of 1mx 1m std chamber	No.	1		
	Total Carried to Collection page Bill No. 3(i)				

NYANYAA SUMPWELL WATER SUPPLY PROJECT

Bill No. 3: TRANSMISSION LINES

Bill No. 3(i): Rising Main (Tiva River to proposed Tank site near Benard Nzuki)

(Continued)

No.	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
E	Air Valves 1No.				
	Provide, transport to site and install the following items:				
1	63mm dia x 25mm dia. HDPE saddle clamp	No.	1		
2	25mm dia. Barrel nipple , one side flanged other threaded	No.	1		
3	25mm dia. hexagonal nipple	No.	1		
4	25mm dia. Gate Valve (pegler type)	No.	1		
5	25mm dia. Flanged double acting air relief valve PN 16 of good quality e.g. Neptune Clenfield	No.	1		
G	Finishes				
1	Back filling (A2) above leaving joints exposed	m	695		
2	Final backfilling of item (A2), making good of site	Item	-		
3	Provide precast concrete class 25 pipeline marker posts according to the drawings or as shall be directed by the Engineer. Include costs for excavations and mass concrete to post surround	no	3		
H	River /Road Crossings				

1	Provide, transport to site and cast insitu concrete class 20 for encasing and/or anchoring of pipe in road crossing as required or as shall be directed	M3	2		
	Total Carried to Collection page Bill No. 2(i)				

NYANYAA SUMPWELL WATER SUPPLY PROJECT

Bill No. 3: TRANSMISSION LINES

Bill No. 3(i): Rising Main (Tiva River to proposed Tank site near Benard Nzuki)

(Continued)

No.	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
	COLLECTION PAGE BILL No. 3(i)				
	Carried forward from page 7 of 14				
	Carried forward from page 8 of 14				

	Total Carried forward to Grand Bill Summary For Bill No. 3(i)				

NYANYAA SUMPWELL WATER SUPPLY PROJECT

Bill No. 3: TRANSMISSION LINES

Bill No. 3(ii): Gravity pipeline to Proposed Demo farm

No.	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
A.	Clearing/excavation				

1	Clear pipe route of bushes, shrubs and cart away all arisings	M	500.0		
2	Excavate for 600mmx600mm channel and stockpile soil materials for reuse	M	500.0		
3	Prepare channel bed for pipe laying	M	500.0		
B.	Provide, transport to site, and install the pipes (with sockets and / butt-fusion for HDPE pipes) and accompanying fittings as described here below				
2	50mm dia. HDPE pipe =(PN 8)	m	500		
D.	Provide, transport to site, and install pipe fittings as described here below:				
1	50mm dia x 40mm GI tee	No.	1		
2	40mm dia. Gate valve (pegler type)	No.	1		
3	40mm dia. GI plain sockets	No.	3		
4	40mm dia. GI Hex. nipples	No.	2		
5	50mm to 40mm dia HDPE adapter	No.	2		
6	50mm dia. HDPE connectors	No.	6		
7	50mm dia. HDPE end plug	No.	1		
8	40mm dia. water meter complete with all accompanying fittings and accessories, including preparion of site and construction of 0.6mx 0.6m valve chamber	No.	1		
E	Storage tank				

	Provide, transport to site and construct circular base, place on it 10m3 plastic water tank. (Costs to include all fittings connecting to 50mm HDPE pipe and 40mm outlet)	item	1		
	Total Carried forward to Grand Bill Summary for Bill No. 3(ii)				

NYANYAA SUMPWELL WATER SUPPLY PROJECT

Bill No. 4: STORAGE/DISTRIBUTION WATER TANKS

Bill No. 4 (i).: PLASTIC WATER TANKS & TOWER

Item	Description	Unit	Qnty	Rate (Ksh)	Amount(Ksh)
1					
1.1	Supply and installation of 2No. - 10,000litre Plastic Water tanks complete with 50mm outlet, 90mm overflow and 50mm inlet. The tanks to be interconnected with 90mm dia. PPR Pipe, gate valve and other accessories and also be fitted with outlet pipe as shall be instructed by the Engineer	No.	2		
1.2	Fabricate, Supply and erect concrete works inclusive 6m high steel tower as per drawing or as shall be directed by the client's appointed engineer. Beams to be of 150mm I-sections and Pillars to be of 100m dia. Black pipes filled to the brim with concrete mix.		1		

1.3	Supply, the following fittings and install as required or as shall be directed by the Engineer				
a).	Outlet pipe				
i	63mm dia.PPR pipe for outlet	M	18		
ii	50mm dia. bend	No.	1		
iii	50mm dia. union	No.	2		
iv	50mm dia. Sluice Valve complete with gasket, flanges, nut and bolt	No.	1		
v	63mm dia. PPR tee	No.	1		
vi	50mm dia. long nipple	No.	2		
vii	50mm dia. backnuts	No.	4		
viii	50mm dia. Hex. Nipples	No.	4		
ix	50mm dia. flanged master meter complete with flanges bolts and nuts	No.	1		
b).	Inlet pipe				
i	50mm dia. PPR pipe for outlet	M	18		
ii	50mm dia. GI bend	No.	2		
iii	50mm dia. union	No.	1		
iv	50mm dia. backnuts	No.	2		
2	Fencing of water tank site				
2.1	Provide all material and construct 2m high chain link fencing held in place by a four strand 16 Gauge galvanized barbed wire on a 2.1m high 200mm dia.Concrete post at 2.5M c/c mortised in 1:3:6 mass concrete surround (provisional)	m	60		

2.2	Fabricate, supply and erect 1.2m wide single leave gate . The gate to have 80mm dia. Side posts.	Nr.	1		
	Total Carried forward to Grand Bill Summary For Bill No. 4(i)				

NYANYAA SUMPWELL WATER SUPPLY PROJECT

Bill No. 5: WATER DRAWING POINTS

Bill No. 5(i): 2M x 2M STD Ministry Water Kiosk

Item	**Description**	**Unit**	**Qty**	**Rate**	**Amount**
Item	Description	Unit	Qty	Rate	Amount
1	SUB - STRUCTURE				
1	Excavate to remove veg. Soil average 200mm thick	SM	21		
2	Excavate foundation trenches i.e 1.5M deep	CM	4		
3	Return fill in and ram	CM	2		
4	Load and cart away surplus excavated material	CM	2		
5	50mm thick 1:3:6 mix foundation blinding	SM	5.28		
6	1:2:4 mix reinforced concrete in strip foundations, columns	CM	1.648		
7	300mm thick hardcore filling	CM	1.5		
8	50mm thick murram blinding	SM	12		
9	Anti-termite treatment	SM	12		
10	50mm thick 1:3:6 concrete blinding	SM	5.29		
11	1:2:4 reinforced concrete floor slab 100mm thk	CM	0.529		
12	Weld mesh no. A145	SM	5.29		
13	D12 reinforcement to foundation base and column starters	KGS	65.712		
14	D8 reinforcement to foundation strip	KGS	12.64		
15	200mm x 25mm softwood sawn formwork to side of slab	LM	10		

16	150mm thick quarry stone foundation walling laid in cement/ sand mortar 1:5	SM	8		
2	WALLING				
1	1:2:4 mix reinforced ring beam 150mm Thk	Item	L/Sum		
2	140mm wide x x 100mm depth x 270mm length interlocking stablized soil blocks to walling as specified	SM	20		
3	200 x 25mm soft wood sawn timber formwork to sides of lintol	LM	8		
4	D10mm diameter RC bars. To columns	Kgs	40		
5	1:2:4 mix RC to 4No. 200mm x 200mm columns	CM	1		
3	ROOFING				
1	200 x 25mm soft wood sawn timber formwork for roof slab.	SM	7		
2	100mm dia.- 2.4m long Timber props	No.	12		
3	100 x 25mm soft wood sawn timber formwork to sides of roof slab	LM	10		
4	1:2:4 mix reinforced concrete to roof slab - 125mm T.H.L	CM	1		
5	D8 RC bars @150mm c/c to 125mm THK roof slab	LM	67		
	Total Carried Forward to Collection Page bill No. 5(i)				

NYANYAA SUMPWELL WATER SUPPLY PROJECT

Bill No. 5: WATER DRAWING POINTS

Bill No. 5(i): 2M x 2M STD Ministry Water Kiosk (Continued)

Item	Description	Unit	Qty	Rate	Amount
Item	Description	Unit	Qty	Rate	Amount
	DOORS				
1	Fix standard steel purpose made door size 1000 x 2000mm	No.	1		
	WINDOWS & VENTILATION				
1	Fix standard steel casement purpose made window size 950 x 1000mm	No.	1		
2	50mm thick precast concrete window sill all sizes 1000 x 300mm throated/weartherd on the outside	Item			
3	Supply 150mm concreter louvre blocks and place in 1:3 cement/sand for 600mm x 300mm vent in wall as shall be directed.	item	1		
	FINISHES				
1	12mm thick plaster to columns, lintel and egdes of roof externally	SM	19		
2	25mm thick cement/ sand screed to floor	SM	12		
	PAINTING				
1	Prepare and apply 3 coats gloss oil paint to columns, lintel and egdes of of externally	SM	5.28		

2	Prepare wall surface and apply 3 coats clear varnish to wall internally	SM	19.2		
	SOAK PIT				
1	Excavate soakpit n.e. 1.5M deep	CM	1.5		
2	Excavate pit 1.50 but not exceeding 3.0Mdeep	CM	1.5		
3	8mm dia. mild steel bars	Kgs	16		
4	Rubble stones	CM	1		
5	1:2:4 reinforced concrete in soak pit cover	CM	0.5		
	PLUMPING				
1	20mm dia GI pipe M.G.	Lengths	2		
2	13mm dia GI pipe M.G.	Lengths	2		
3	20mm dia Bend	No.	4		
4	20mm dia Nipples	No.	4		
5	20mm dia Union	No.	4		
6	20mm dia Socket	No.	3		
7	20 x 13mm dia reducing tee	No.	2		
8	20mm dia water meter	No.	1		
9	20mm diameter Gate Valve (Peglar)	No.	1		
10	13mm dia Bend	No.	8		
11	13mm dia stop cock	No.	4		
	Total Carried Forward to Collection Page bill No. 5(i)				

NYANYAA SUMPWELL WATER SUPPLY PROJECT

Bill No. 5: WATER DRAWING POINTS

Bill No. 5(i): 2M x 2M STD Ministry Water Kiosk (Continued)

Item	Description	Unit	Qty	Rate	Amount

	COLLECTION PAGE Bill No. 5(i)				
	Sub total carried forward from page 11 of 14				
	Sub total carried forward from page 12 of 14				
	Total for 1No. Water Kiosk				

Total for 1No Water Kiosks Carried to Grand Bill Summary for Bill No.5(i)					**226,944.80**

NYANYAA SUMPWELL WATER SUPPLY PROJECT

SUMMARY

Bill No.	**Description**	**Page**	
2	Intake Works		
i	Intake sump/relief well		
ii	Pumping Unit, Solar assembly		
iii	Intake Compound Fencing		
3	Transmission Lines		
i	Rising Main		
ii	Gravity pipeline to Demo farm with tank		
4	Stotage Water Tanks		
i	Erection of tower and installation of plastic tanks		
5	Water Drawing points		
i	Water Kiosks Construction		
	Sub Total		

a

NYANYA AND KAMANYI SUMPWELL WATER SUPPLY PROJECT			
GRAND SUMMARY TOTAL			
Bill No.	**Description**	**Page**	**Amount (Ksh)**
1	Preliminaries		
2	Nyanya Sump Well		
3	Kamanyi Sump Well		
	Sub Total		
	Add		
	2% Supervision		
	2% Contigencies		
	Contractor overheads		
	Total		
	Add		
	16% VAT		
	GRAND TOTAL		