## BILL OF QUANTITY FOR CONSTRUCTION OF INZONE EDUCATIONAL CENTER

Notes: The Contractor is reminded to visit the site before filling the tender to ascertain the extent of the conditions of site. All quantified works in the tender are provisional and payment shall be made based on the actual work executed at the site and agreed upon by all parties. The contractor is advised to constantly seek the UNHCR Engineer instructions at each phase of the work and if required, before filling the tender. All unit rate shall be deemed to include all elements of supplying and construction work that is labour and other overheads eg security, profit and overheads, cost of materials, wastages, transport etc.

	Construction of 2 Offices				
BILL N	O 1 PRELIMINARY WORKS	1	T		
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)
	actor shall provide, erect and maintain all safety measures requirements according to specifications, including protecting the before starting any activity. The contractor is reminded to supply crushed machine ballast for any concrete works at the site.		h special cloth or fo	abric, and work plan	for all items should be
1.1	Provision for building site office and temporary store as directed by site Engineer on site. Cost to include erecting corrugated iron sheet along the site compound to act as hoarding and any cost to be incurred in preparation	item	1.00		-
1.2	Clear the site to remove trees and top soil to an average depth of 150mm. The work includes mobilization, site	item	1.00		-
	clearing the scrubs, removal any tree and roots,  Total Bill No.1 (Carried to Summary)	<u> </u>			-
BILL N	O 2 EXCAVATION AND EARTHWORKS		1	1	
2.1	Excavate starting from stripped level a 600mm wide foundation trench to an average depth of 1500mm (1.5m) in normal soil to be approved by site Engineer	cum	8.28		-
2.2	Excavate starting from stripped level a column base foundation as per foundation layout to an average depth of 1500mm (1.5m) in normal soil to be approved by site Engineer	cum	12.96		-
2.3	Supply all materials and cast 50mm concrete for blinding concrete ratio 1:4:8	cum	1.00		-
2.4	Return fill in and ram excavated material around foundations as directed by Engineer on site	cum	7.88		-
2.5	Cart-away surplus excavated materials to where directed by Engineer	cum	13.36		-
2.6	Allow for keeping excavations free from undergroung, or storm water	item	1.00		-
	Total Bill No.2 (Carried to Summary)	l			-
BILL N	O 3 SUBSTRUCTURE WORKS		_	I.	
and supp	wing items include supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibrat ply and cast the required concrete, using mechanical vibrators, curing, testing steel reinforcement and concrete, an ineers instructions.				
3.1	Supply and handpark 300mm hardcore filling well watered and compacted to receive murram (m.s) as directed on site.	cum	14.13		-
3.2	Supply and lay 50mm thick murram blinding well compacted to receive floor bed(m.s)	sq.m	47.04		-
	Concrete works				
	Vibrated reinforced concrete 1:2:4 to:-				
3.3	Supply all materials and cast 150mm thick floor slab	cum	7.06		-
3.4	Supply all materials and cast 450mm grade beam	cum	1.48		-
3.5	Supply all materials and cast 200mm thick strip foundation footing.	cum	1.12		-
3.6	Supply all materials and cast 200mmx200mm columns(foundation column height 1.5m) according to structural drawings upon approval by Site Engineer	cum	0.29		-
3.7	Supply all materials and cast 200mm thick column bases to be approved by Engineer and according structural drawings	cum	1.730		-
	Reinforcement details				
3.8	Supply and fix one layer B.R.C ref. No. A 142 fabric reinforcement with 150mm end laps tying wire and spacer blocks weighing 2.22kg/sm (measured nett, allow for laps)	sq.m	47.04		-
3.9	Supply and fix strip steel reinforcement round bars to B.s 4449 including all cutting to size, binding wire and spacer blocks in strip to be placed according to the structural drawings provided or as advised by Structural Site Engineer	kg	461.00		-
	Sawnform work to:-				
3.10	Supply and fix formwork for sides of stub columns, strip footing formworks and edges of base columns	sq.m	5.76		-
3.11	Supply and fix formwork for sides and edges of floor bed 75-160mm high	lm	28.00		-
	Walling				
3.12	200mm thick natural machine cut stone grade1(Njiru quarry stone) walling in cement sand mortar 1:3 with and including hoop-iron after every 2nd alternate course.	sq.m	19.68		-
3.13	Premise 200cc" or any other equal and approved anti-termite treatment applied as per manufactures	sq.m	47.04		-
	Damp proofing		0.00		
3.14	500mm gauge polythene damp proof membrane with 150mm (Min) end and side laps	sq.m	47.04		-

	3 ply hessian based bituminous felt damp proof course bedded on mortar including leveling:-				
3.15	Supply and fix 200mm wide damp proof course under walls.	lm	16.40		-
	Plinths .				
3.16	Supply and fix 12mm thick rendering in cement sand mortar 1:4	sq.m	9.84		-
3.17	Prepare and apply 3 coats black bituminous paint	sq.m	9.84		-
	Total Bill No.3 (Carried to Summary)				_
RILL N	O 4 SUPERSTRUCTURE WORKS		ll	1	
	or 551 Electric electric workings, workmanship, mortar, scaffolds, filling mastic for expansion joints and all other required materials, equipmen	l l			i 1 didif
superviso 2 -Contro 3-The fol cast the r	rng; pacing, workmissip, morar, scapetas, juing music for expansion joints and an other required materials, equipment re engineer.  Ictor to provide samples for approval and all the required tests.  Iowing items include supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibrating, steel  equired concrete, using mechanical vibrators, curing, testing steel reinforcement and concrete, and all other requirements an  or has to submit shop drawings for approval prior to work.	l reinforcement s.	haping and fixing,	curing, steel reinfo	cement, and supply and
	Vibrated reinforced concrete 1:2:4 (20/20) in:-				
4.1	Supply all materials and cast ring beams & Lintols as per structural design drawings	cum	1.48		-
4.2	Supply all materials and cast columns as per structural design drawings attached work to be approved by Engineer	cum	0.58		-
	<u>Formwork</u>				-
4.3	Supply and fix formwork for sides of columns	sq.m	11.52		-
4.4	Supply and fix formwork on sides and soffites of ringbeams	sq.m	14.76		-
	Reinforcement works				-
4.5	Assorted for beam reinforcement	kg	148.00		-
4.6	Assorted for column reinforcement	kg	58.00		-
	Walling				
4.7	200mm thick natural machine dressed stone grade 1 (Njiru quarry stone) walling in cement mortar 1:4 with and including hoop-iron after every 2nd alternate course	sq.m	48.75		-
4.8	Provide and fix for the veranda, 100mm diameter, 3mm thick galvanised mild steel CHS with welded flat top mild steel plate to take wall plate. Cost to include connection, welded lugs and priming metal surface with one coat red oxide primer. The contractor is also reminded to include in his pricing, the cost of supply, cutting waste and erecting.	l.m	15.50		-
	Total Bill No.4 (Carried to Summary)				-
BILL N	O 5 DOORS			10	
1- Submi 2- Steel f 3- Hardw	must be according to drawings, specification and engineer instructions.Rates shall include:- titing samples for steel section for approval of material, accessories, color and fixation method trames should be filled with fine aggregate mortar concrete, for fixation trames, ironmongery and accessories should be approved before supply the materials uired tests for painting materials.				
	Steel casement doors				
5.1	Mild Steel Door - 1200 x 2300mm high grille door comprising 50 x 50 x 3 mm RHS frame all round; 2 No. 50 x 50 x 3mmmiddle and bottom rail infilled with 16 x 16mm mild steel bars spaced at 100mm centers vertically and fixed into wall or concrete with staple, 6No. tower bolts, 3 No. heavy duty pin hinges 2 No. locking eye for padlock, apply paint before fixing	no	2.00		-
	Total Bill No.5 (Carried to Summary)				-
	O 6 WINDOWS				
1- Submi 2- Steel f 3- Hardw	must be according to drawings, specification and engineer instructions. Rates shall include:- titing samples for window section for approval of material, accessories, color and fixation method trames should be filled with fine aggregate mortar concrete, for fixation transpare, ironmongery and accessories should be approved before supply the materials uired tests for painting materials.			1	
6.1	Supply and fix Steel casement windows .(measuring 1800 x 1500mm inclusive frame), 5mm window glass complete with UV protective film (blue shade), high quality lever fasteners, sliding insect screen (coffee tray and heavy duty P.V.C mesh on aluminium frame) with rubber backing.	no			-
0.1	Total Bill No.6 (Carried to Summary)	1			_
ELEMI	ENT NO. 7 ROOFING		l	1	
All roofir	ractor is reminded to include in his pricing, the cost of supply, cutting waste and erecting. Timber to be treated as described in the graph of the standard of the seasoned	n the specification	ns.		1
	County for 20 PTS Court Colored and analysis I. J. C.	ı	1	T	1
7.1	Supply fix 28 IT5 Gauge Galvanized corrugated Iron sheet pre-painted - Blue. Secured with approved	sq.m	51.00		-
7.2	Supply and fix matching barrel end 150mm half round ridge capping.	lm	8.40	1	

	Supply and fabricate timber trusses spaced @ 1500 c/c along wall plate using 100mm x 50mm thick timber	lm	75.66		-
	members for trusses, rafters, struts and collars  Supply and fix 100 x 50mm wall plate secured on the wall using bolts and fixed with hoop iron to ring beam.	lm	20.73		_
7.4	50mm x 50mm cypress timber for purlins spaced @ 375 mm across the trusses and secured to the truss rafters	lm	47.64		
7.5	200 x 25mm fascia board (apply wood primer on back of timber before fixing fascia board.	lm	16.80		
7.6		IIII	10.60		-
	Total Bill No.7 (Carried to Summary)				-
BILL NO	O 8 FINISHES				
All works	must be according to specification and engineer instructions. Rates shall include :				
1-Supply o	of all needed materials, including galvanized angles for the corners as well as the use of galvanized wire mesh between co				
	ttion works by covering all conduits of electricity, water supplies ,between existing walls and slabs etc, with a galvanized udes removal of wires and nails and cleaning of surfaces to be ready for plastering .This should be done prior to commence				
engineer.					
s-Contrac each coat.	tor shall take into consideration that all – direct and indirect works and expenses required for the completion of the coming	items are inciua	ea in the unit price	.4-Curing with water	jor at least three days jor
5-Price of engineer	plastering shall include all required materials and works, mixing, scaffolds, cleaning the site, required equipment and works	nanship to comp	olete the work acco	rding to specification	s and directions of the
	f tiling works shall include supply of all materials, mixing the cement paste, cutting the tiles to the required shapes and dimer	nsions, cleaning	the site ,required e	quipment & workman	nship to complete the work
ıccording	to specifications and directions of the engineer.				
	Floors		1		
	Supply all materials and screed 25mm thick cement sand screed 1:2 steel backing to receive tiles	sq.m	47.04		-
	Supply and fix 8mm thick, 330 x 330mm coloured non slip floor "SAJ & RAK" tiles or any other equal and	sq.m	47.04		-
	approved with appropriate grout. Contractor to include cost for PVC corner strip  Walls				
			260.52		_
8 3	15mm thick coment cand placter on internal walls	ea m			
	15mm thick cement sand plaster on internal walls  Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns	sq.m sq.m	260.52		-
8.4	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns	sq.m	11.12		-
8.4	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns  Supply all materials and key to all other masonry works				-
8.4	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns	sq.m	11.12		-
8.4	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns  Supply all materials and key to all other masonry works	sq.m	11.12		-
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8.4  8.6  BILL NC  Rates include final application of the surplication of the surplica	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns  Supply all materials and key to all other masonry works  Total Bill No.8 (Carried to Summary)  D 9 PAINTING AND DECORATIONS  ude: 1- Any painting materials must have a valid certificate confirming that the paint materials meet with Kenya Beaurea (Kenya Beaurea)  face must be dry and clean before painting.  uting works should provide the required coverage.  It works must be according to specifications, drawings and supervisor engineer instructions.  ctor shall take into consideration that all – direct and indirect works and expenses required for the completion of the coming en surfaces of existing plastering before the Commencement paint using sand paper.  f painting shall include supply of all materials, cleaning the site, required equipment and workmanship to complete the work  Supply, prepare and apply 3 coats smooth velvet emulsion paint as "crown" or any other equal and approved paint to Plastered walls  Total Bill No.9 (Carried to Summary)  GRAND SUMMARY  PRELIMINARIES  EXCAVATION AND EARTHWORKS  SUBSTRUCTURE  SUPERSTRUCTURE  DOORS  WINDOWS  ROOF  FINISHES	sq.m  Im  GeBs) stranded a  items are included according to sp	11.12 164.00  Ind specification , to the ded in the unit price ecifications and dis	2.	
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8.4 8.6  BILL NC Rates include final approximate the final approximate the surface of the surfac	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns  Supply all materials and key to all other masonry works  Total Bill No.8 (Carried to Summary)  D 9 PAINTING AND DECORATIONS  ude: 1- Any painting materials must have a valid certificate confirming that the paint materials meet with Kenya Beaurea (Kenya proved from the supervisor engineer.  face must be dry and clean before painting.  uting works should provide the required coverage.  ut works must be according to specifications, drawings and supervisor engineer instructions.  ctor shall take into consideration that all – direct and indirect works and expenses required for the completion of the coming en surfaces of existing plastering before the Commencement paint using sand paper.  f painting shall include supply of all materials, cleaning the site, required equipment and workmanship to complete the work  Supply, prepare and apply 3 coats smooth velvet emulsion paint as "crown" or any other equal and approved paint to Plastered walls  Total Bill No.9 (Carried to Summary)  GRAND SUMMARY  PRELIMINARIES  EXCAVATION AND EARTHWORKS  SUBSTRUCTURE  SUPERSTRUCTURE  SUPE	sq.m  Im  Im  Im  Im  Im  Im  Im  Im  Im	11.12 164.00  Ind specification , to the ded in the unit price ecifications and dis	2.	
8.4 8.6  BILL NC Rates incline final ap. 2- The sur, 3- All pain 4- All pain 6- Smooth 7- Price of 9.2  1 2 3 4 5 6 7 8 9	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns  Supply all materials and key to all other masonry works  Total Bill No.8 (Carried to Summary)  D 9 PAINTING AND DECORATIONS  ude: I- Any painting materials must have a valid certificate confirming that the paint materials meet with Kenya Beaurea (Kenya proved from the supervisor engineer. face must be dry and clean before painting.  uting works should provide the required coverage.  It works must be according to specifications, drawings and supervisor engineer instructions. core shall take into consideration that all – direct and indirect works and expenses required for the completion of the coming en surfaces of existing plastering before the Commencement paint using sand paper. f painting shall include supply of all materials, cleaning the site, required equipment and workmanship to complete the work  Supply, prepare and apply 3 coats smooth velvet emulsion paint as "crown" or any other equal and approved paint to Plastered walls  Total Bill No.9 (Carried to Summary)  GRAND SUMMARY  PRELIMINARIES  EXCAVATION AND EARTHWORKS  SUBSTRUCTURE  DOORS  WINDOWS  ROOF  FINISHES  PAINTING AND DECORATIONS  GRAND TOTAL FOR THE OFFICES  Construction of Classroom and Day Carried to Commence of Classroom and Day Carried to Construction of Classroom and Day Carried to Ca	sq.m  Im  Im  Im  Im  Im  Im  Im  Im  Im	11.12 164.00  Ind specification , to the ded in the unit price ecifications and dis	2.	
8.4 8.6  BILL NC Rates include final approximate the final approximate the final approximate the street street approximate the final approximate the street street approximate the stre	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns  Supply all materials and key to all other masonry works  Total Bill No.8 (Carried to Summary)  D 9 PAINTING AND DECORATIONS  ude: 1- Any painting materials must have a valid certificate confirming that the paint materials meet with Kenya Beaurea (Kenya proved from the supervisor engineer. face must be dry and clean before painting. ting works should provide the required coverage. to works must be according to specifications, drawings and supervisor engineer instructions. ctor shall take into consideration that all — direct and indirect works and expenses required for the completion of the coming en surfaces of existing plastering before the Commencement paint using sand paper. [I painting shall include supply of all materials, cleaning the site, required equipment and workmanship to complete the work Supply, prepare and apply 3 coats smooth velvet emulsion paint as "crown" or any other equal and approved paint to Plastered walls  Total Bill No.9 (Carried to Summary)  GRAND SUMMARY  PRELIMINARIES  EXCAVATION AND EARTHWORKS SUBSTRUCTURE  DOOORS WINDOWS ROOF FINISHES PAINTING AND DECORATIONS  GRAND TOTAL FOR THE OFFICES  Construction of Classroom and Day Carried to Painting and Classroom and Day Carried to Painting And Decorations  Construction of Classroom and Day Carried to Painting And Decorations	sq.m  Im  Im  Im  Im  Im  Im  Im  Im  Im	11.12 164.00  Ind specification , to the ded in the unit price ecifications and discussions and discussions are designed to the design of the	ections of the engine	
8.4 8.6  BILL NC Rates include final approximate the final approximate the final approximate the street street approximate the final approximate the street street approximate the stre	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns  Supply all materials and key to all other masonry works  Total Bill No.8 (Carried to Summary)  D 9 PAINTING AND DECORATIONS  ude: I- Any painting materials must have a valid certificate confirming that the paint materials meet with Kenya Beaurea (Kenya proved from the supervisor engineer. face must be dry and clean before painting.  uting works should provide the required coverage.  It works must be according to specifications, drawings and supervisor engineer instructions. core shall take into consideration that all – direct and indirect works and expenses required for the completion of the coming en surfaces of existing plastering before the Commencement paint using sand paper. f painting shall include supply of all materials, cleaning the site, required equipment and workmanship to complete the work  Supply, prepare and apply 3 coats smooth velvet emulsion paint as "crown" or any other equal and approved paint to Plastered walls  Total Bill No.9 (Carried to Summary)  GRAND SUMMARY  PRELIMINARIES  EXCAVATION AND EARTHWORKS  SUBSTRUCTURE  DOORS  WINDOWS  ROOF  FINISHES  PAINTING AND DECORATIONS  GRAND TOTAL FOR THE OFFICES  Construction of Classroom and Day Carried to Commence of Classroom and Day Carried to Construction of Classroom and Day Carried to Ca	sq.m  Im  Im  Im  Im  Im  Im  Im  Im  Im	11.12 164.00  Ind specification , to the ded in the unit price ecifications and dis	2.	
8.4 8.6  BILL NC Rates include final application of the surplication of the surplicati	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns  Supply all materials and key to all other masonry works  Total Bill No.8 (Carried to Summary)  D 9 PAINTING AND DECORATIONS  ude: 1- Any painting materials must have a valid certificate confirming that the paint materials meet with Kenya Beaurea (Kenya Beaurea)  pproved from the supervisor engineer.  face must be dry and clean before painting.  uting works should provide the required coverage.  ut works must be according to specifications, drawings and supervisor engineer instructions.  tors shall take into consideration that all — direct and indirect works and expenses required for the completion of the coming ensurfaces of existing plastering before the Commencement paint using sand paper.  f painting shall include supply of all materials, cleaning the site, required equipment and workmanship to complete the work  Supply, prepare and apply 3 coats smooth velvet emulsion paint as "crown" or any other equal and approved paint to Plastered walls  Total Bill No.9 (Carried to Summary)  GRAND SUMMARY  PRELIMINARIES  EXCAVATION AND EARTHWORKS  SUBSTRUCTURE  SUPERSTRUCTURE  DOORS  WINDOWS  ROOF  FINISHES  PAINTING AND DECORATIONS  GRAND TOTAL FOR THE OFFICES  Construction of Classroom and Day Co  D 1 PRELIMINARY WORKS  DESCRIPTION  actor shall provide, erect and maintain all safety measures requirements according to specifications, including protecting the	sq.m lm lm  items are included according to sp Sm  Sm  unit  unit  excaffolding wit	11.12 164.00  Ind specification , to the least of the unit price ecifications and dispersion and dispersion and dispersion are designed to the unit price ecifications and dispersion are designed.	RATE (KSH)	
8.4 8.6  BILL NC Rates include final application of the surplication of the surplicati	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns  Supply all materials and key to all other masonry works  Total Bill No.8 (Carried to Summary)  D 9 PAINTING AND DECORATIONS  ude: 1- Any painting materials must have a valid certificate confirming that the paint materials meet with Kenya Beaurea (Kenya Beaurea)  pproved from the supervisor engineer.  face must be dry and clean before painting,  uting works should provide the required coverage.  It works must be according to specifications, drawings and supervisor engineer instructions.  tion shall take into consideration that all — direct and indirect works and expenses required for the completion of the coming ensurfaces of existing plastering before the Commencement paint using sand paper.  f painting shall include supply of all materials, cleaning the site, required equipment and workmanship to complete the work  Supply, prepare and apply 3 coats smooth velvet emulsion paint as "crown" or any other equal and approved paint to Plastered walls  Total Bill No.9 (Carried to Summary)  GRAND SUMMARY  PRELIMINARIES  EXCAVATION AND EARTHWORKS  SUBSTRUCTURE  SUPERSTRUCTURE  SUPERSTRUCTURE  SUPERSTRUCTURE  DOORS  WINDOWS  ROOF  FINISHES  PAINTING AND DECORATIONS  GRAND TOTAL FOR THE OFFICES  Construction of Classroom and Day Co  D1 PRELIMINARY WORKS  DESCRIPTION  actor shall provide, erect and maintain all safety measures requirements according to specifications, including protecting the before starting any activity. The contractor is reminded to supply crushed machine ballast for any concrete works at the site.	sq.m lm lm  items are included according to sp Sm  Sm  unit  unit  excaffolding wit	11.12 164.00  Ind specification , to the specifications and dispersion and dispersion and dispersion are specifications and dispersion are specifications and dispersion are specifications and dispersion are specifications are specifications and dispersion are specification are spec	RATE (KSH)	
8.4 8.6  Rates include final approximate the	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns  Supply all materials and key to all other masonry works  Total Bill No.8 (Carried to Summary)  D 9 PAINTING AND DECORATIONS  ude: 1- Any painting materials must have a valid certificate confirming that the paint materials meet with Kenya Beaurea (Kenya Beaurea)  pproved from the supervisor engineer.  face must be dry and clean before painting.  uting works should provide the required coverage.  ut works must be according to specifications, drawings and supervisor engineer instructions.  tors shall take into consideration that all — direct and indirect works and expenses required for the completion of the coming ensurfaces of existing plastering before the Commencement paint using sand paper.  f painting shall include supply of all materials, cleaning the site, required equipment and workmanship to complete the work  Supply, prepare and apply 3 coats smooth velvet emulsion paint as "crown" or any other equal and approved paint to Plastered walls  Total Bill No.9 (Carried to Summary)  GRAND SUMMARY  PRELIMINARIES  EXCAVATION AND EARTHWORKS  SUBSTRUCTURE  SUPERSTRUCTURE  DOORS  WINDOWS  ROOF  FINISHES  PAINTING AND DECORATIONS  GRAND TOTAL FOR THE OFFICES  Construction of Classroom and Day Co  D 1 PRELIMINARY WORKS  DESCRIPTION  actor shall provide, erect and maintain all safety measures requirements according to specifications, including protecting the	sq.m lm lm  items are included according to sp Sm  Sm  unit  unit  excaffolding wit	11.12 164.00  Ind specification , to the least of the unit price ecifications and dispersion and dispersion and dispersion are designed to the unit price ecifications and dispersion are designed.	RATE (KSH)	

BILL N	O 2 EXCAVATION AND EARTHWORKS				
2.1	Excavate starting from stripped level a 600mm wide foundation trench to an average depth of 1500mm (1.5m) in normal soil to be approved by site Engineer	cum	17.46		-
2.2	Excavate starting from stripped level a column base foundation as per foundation layout to an average depth of 1500mm (1.5m) in normal soil to be approved by site Engineer	cum	27.33		-
2.3	Supply all materials and cast 50mm concrete for blinding concrete ratio 1:4:8	cum	2.11		-
2.4	Return fill in and ram excavated material around foundations as directed by Engineer on site	cum	16.12		-
2.5	Cart-away surplus excavated materials to where directed by Engineer	cum	28.18		-
2.6	Allow for keeping excavations free from undergroung, or storm water	item	1.00		_
	Total Bill No.2 (Carried to Summary)				_
RILL N	IO 3 SUBSTRUCTURE WORKS				
and supp	owing items include supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibrat ply and cast the required concrete, using mechanical vibrators, curing, testing steel reinforcement and concrete, an ineers instructions.				
3.1	Supply and handpark 300mm hardcore filling well watered and compacted to receive murram (m.s) as directed on site.	cum	29.81		-
3.2	Supply and lay 50mm thick murram blinding well compacted to receive floor bed(m.s)	sq.m	99.21		-
	Concrete works				
	Vibrated reinforced concrete 1:2:4 to:-				
3.3	Supply all materials and cast 150mm thick floor slab	cum	14.88		-
3.4	Supply all materials and cast 450mm grade beam	cum	3.12		-
3.5	Supply all materials and cast 200mm thick strip foundation footing.	cum	2.36		-
3.6	Supply all materials and cast 200mmx200mm columns(foundation column height 1.5m) according to structural drawings upon approval by Site Engineer	cum	0.65		-
3.7	Supply all materials and cast 200mm thick column bases to be approved by Engineer and according structural drawings	cum	3.654		-
	Reinforcement details				
3.8	Supply and fix one layer B.R.C ref. No. A 142 fabric reinforcement with 150mm end laps tying wire and spacer blocks weighing 2.22kg/sm (measured nett, allow for laps)	sq.m	99.21		-
3.9	Supply and fix strip steel reinforcement round bars to B.s 4449 including all cutting to size, binding wire and spacer blocks in strip to be placed according to the structural drawings provided or as advised by Structural Site Engineer	kg	972.56		-
	Sawnform work to:-				
3.10	Supply and fix formwork for sides of stub columns, strip footing formworks and edges of base columns	sq.m	12.15		-
3.11	Supply and fix formwork for sides and edges of floor bed 75-160mm high	lm	59.05		-
	Walling				
3.12	200mm thick natural machine cut stone grade1(Njiru quarry stone) walling in cement sand mortar 1:3 with and including hoop-iron after every 2nd alternate course.	sq.m	41.51		-
3.13	Premise 200cc" or any other equal and approved anti-termite treatment applied as per manufactures	sq.m	99.21		-
	Damp proofing				
3.14	500mm gauge polythene damp proof membrane with 150mm (Min) end and side laps	sq.m	99.21		-
3.15	3 ply hessian based bituminous felt damp proof course bedded on mortar including leveling:- Supply and fix 200mm wide damp proof course under walls.	1	34.59		_
3.13	Plinths	lm	31.07		
3.16	Supply and fix 12mm thick rendering in cement sand mortar 1:4	sq.m	20.75		-
3.17	Prepare and apply 3 coats black bituminous paint	sq.m	20.75		-
	Total Bill No.3 (Carried to Summary)				-
BILL N	IO 4 SUPERSTRUCTURE WORKS				
uperviso -Contro -The fol ast the r	ying , placing, workmanship, mortar, scaffolds, filling mastic for expansion joints and all other required materials, equipment or engineer. actor to provide samples for approval and all the required tests. Ilowing items include supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibrating, steel required concrete, using mechanical vibrators, curing, testing steel reinforcement and concrete, and all other requirements an or has to submit shop drawings for approval prior to work.	l reinforcement si	haping and fixing,	curing, steel reinfo	cement, and supply and
	Vibrated reinforced concrete 1:2:4 (20/20) in:-				
4.1	Supply all materials and cast ring beams & Lintols as per structural design drawings	cum	3.12		-
4.2	Supply all materials and cast columns as per structural design drawings attached work to be approved by Engineer	cum	1.22		-
	Formwork			1	1

4.3 Supply and fix formwork for sides of columns

24.30

sq.m

				1
4.4	Supply and fix formwork on sides and soffites of ringbeams	sq.m	31.13	-
	Reinforcement works		0.00	-
4.5	Assorted for beam reinforcement	kg	312.13	-
4.6	Assorted for column reinforcement	kg	122.32	-
	Walling			-
4.7	200mm thick natural machine dressed stone grade 1 (Njiru quarry stone) walling in cement mortar 1:4 with and	sq.m	102.81	_
4.8	including hoop-iron after every 2nd alternate course  Provide and fix for the veranda, 100mm diameter, 3mm thick galvanised mild steel CHS with welded flat top mild steel plate to take wall plate. Cost to include connection, welded lugs and priming metal surface with one	l.m	21.70	
4.0	coat red oxide primer. The contractor is also reminded to include in his pricing, the cost of supply, cutting waste and erecting.	1.111	21.70	_
	Total Bill No.4 (Carried to Summary)			-
BILL N	O 5 DOORS			
1- Submi 2- Steel f 3- Hardv	must be according to drawings, specification and engineer instructions.Rates shall include:- itting samples for steel section for approval of material, accessories, color and fixation method frames should be filled with fine aggregate mortar concrete, for fixation vare, ironmongery and accessories should be approved before supply the materials uired tests for painting materials.			
	Steel casement doors			
5.1	Mild Steel Door - $1200 \times 2300$ mm high grille door comprising $50 \times 50 \times 3$ mm RHS frame all round; $2 \times 100$ No. $50 \times 100$ No. $50 \times 100$ mm grilled and bottom rail infilled with $16 \times 100$ mm ild steel bars spaced at $100$ mm centers vertically and fixed into wall or concrete with staple, $6$ No. tower bolts, $3$ No. heavy duty pin hinges $2$ No. locking eye for padlock, apply paint before fixing	no	2.00	-
	Total Bill No.5 (Carried to Summary)			-
All work: 1- Submi 2- Steel f 3- Hardv	To 6 WINDOWS  Is must be according to drawings, specification and engineer instructions. Rates shall include:- titing samples for window section for approval of material, accessories, color and fixation method trames should be filled with fine aggregate mortar concrete, for fixation wave, ironmongery and accessories should be approved before supply the materials uired tests for painting materials.			
6.1	Supply and fix Steel casement windows (measuring 1800 x 1500mm inclusive frame), 5mm window glass complete with UV protective film (blue shade), high quality lever fasteners, sliding insect screen (coffee tray and heavy duty P.V.C mesh on aluminium frame) with rubber backing.	no		-
	Total Bill No.6 (Carried to Summary)			-
The cont All roofi	ENT NO. 7 ROOFING  ractor is reminded to include in his pricing, the cost of supply, cutting waste and erecting. Timber to be treated as described in  ng timber should be 2nd grade cellcured cypress, straight, well seasoned, free from knots and insect attacks.  trusses to be approved before installation	n the specification	ns.	
7.1	Supply fix 28 IT5 Gauge Galvanized corrugated Iron sheet pre-painted - Blue. Secured with approved	sq.m	107.56	_
7.1	Supply and fix matching barrel end 150mm half round ridge capping.	lm	12.30	-
7.3	Supply and fabricate timber trusses spaced @ 1500 c/c along wall plate using 100mm x 50mm thick timber members for trusses, rafters, struts and collars	lm	160.00	-
7.4	Supply and fix 100 x 50mm wall plate secured on the wall using bolts and fixed with hoop iron to ring beam.	lm	43.80	-
7.5	$50 \text{mm} \times 50 \text{mm}$ cypress timber for purlins spaced @ 375 mm across the trusses and secured to the truss rafters using appropriate bolts, nuts and washers	lm	100.48	-
7.6	200 x 25mm fascia board (apply wood primer on back of timber before fixing fascia board.	lm	25.00	-
	Total Bill No.7 (Carried to Summary)			-
BILL N	O 8 FINISHES			

All works must be according to specification and engineer instructions. Rates shall include .

- 1-Supply of all needed materials, including galvanized angles for the corners as well as the use of galvanized wire mesh between concrete
  2-Preparation works by covering all conduits of electricity, water supplies, between existing walls and slabs ... etc, with a galvanized wire mesh at least 20cm width coated by mortar (1:1) cement: sand and the work includes removal of wires and nails and cleaning of surfaces to be ready for plastering. This should be done prior to commencement of plastering and after obtaining a written approval from the supervision
- 3-Contractor shall take into consideration that all direct and indirect works and expenses required for the completion of the coming items are included in the unit price. 4-Curing with water for at least three days for
- 5-Price of plastering shall include all required materials and works, mixing, scaffolds, cleaning the site, required equipment and workmanship to complete the work according to specifications and directions of the
- 6- Price of tiling works shall include supply of all materials, mixing the cement paste, cutting the tiles to the required shapes and dimensions, cleaning the site ,required equipment & workmanship to complete the work ccording to specifications and directions of the engineer.

	Floors						
8.1	Supply all materials and screed 25mm thick cement sand screed 1:2 steel backing to receive tiles	sq.m	99.21		-		
8.2	Supply and fix 8mm thick, 330 x 330mm coloured non slip floor "SAJ & RAK" tiles or any other equal and approved with appropriate grout. Contractor to include cost for PVC corner strip	sq.m	99.21		-		
	<u>Walls</u>						
8.3	15mm thick cement sand plaster on internal walls	sq.m	549.44		-		
8.4	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns	sq.m	23.45		-		
8.6	Supply all materials and key to all other masonry works	lm	345.60		-		
	Total Bill No.8 (Carried to Summary)				1		

## BILL NO 9 PAINTING AND DECORATIONS

Rates include: 1- Any painting materials must have a valid certificate confirming that the paint materials meet with Kenya Beaurea (KeBs) stranded and specification, tested by approved local laboratory and have the final approved from the supervisor engineer.

The surface must be dry and clean before painting.

BILL NO 1 PRELIMINARY WORKS

- All painting works should provide the required coverage.
- 4- All paint works must be according to specifications, drawings and supervisor engineer instructions.
- 5- Contractor shall take into consideration that all direct and indirect works and expenses required for the completion of the coming items are included in the unit price.
- Smoothen surfaces of existing plastering before the Commencement paint using sand paper.

  Price of painting shall include supply of all materials, cleaning the site, required equipment and workmanship to complete the work according to specifications and directions of the engineer.

	Supply, prepare and apply 3 coats smooth velvet emulsion paint as "crown" or any other equal and approved paint to Plastered walls	Sm	549.44	-
	Total Bill No.9 (Carried to Summary)			
	GRAND SUMMARY			
1	PRELIMINARIES			-
2	EXCAVATION AND EARTHWORKS			-
3	SUBSTRUCTURE			-
4	SUPERSTRUCTURE			-
5	DOORS			-
6	WINDOWS			-
7	ROOF			-
8	FINISHES			-
9	PAINTING AND DECORATIONS			-
	GRAND TOTAL FOR THE Classroom and Day Care			=

## Construction of Conference Hall and Library

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)			
	The contractor shall provide, erect and maintain all safety measures requirements according to specifications, including protecting the scaffolding with special cloth or fabric, and work plan submitted before starting any activity. The contractor is reminded to supply crushed machine ballast for any concrete works at the site.							
1.1	1.1 Clear the site to remove trees and top soil to an average depth of 150mm. The work includes mobilization, site clearing the scrubs, removal any tree and roots,							
	Total Bill No.1 (Carried to Summary)							
BILL N	O 2 EXCAVATION AND EARTHWORKS							
	Excavate starting from stripped level a 600mm wide foundation trench to an average depth of 1500mm (1.5m) in normal soil to be approved by site Engineer	cum	17.46		-			
2.2	Excavate starting from stripped level a column base foundation as per foundation layout to an average depth of 1500mm (1.5m) in normal soil to be approved by site Engineer	cum	27.33		-			
2.3	Supply all materials and cast 50mm concrete for blinding concrete ratio 1:4:8	cum	2.11		-			
2.4	Return fill in and ram excavated material around foundations as directed by Engineer on site	cum	16.12		1			
2.5	Cart-away surplus excavated materials to where directed by Engineer	cum	28.18		-			
2.6	Allow for keeping excavations free from undergroung, or storm water	item	1.00		-			
	Total Bill No.2 (Carried to Summary)							
BILL N	O 3 SUBSTRUCTURE WORKS							

The following items include supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibrating, steel reinforcement shaping and fixing, curing, steel reinforcement, and supply and cast the required concrete, using mechanical vibrators, curing, testing steel reinforcement and concrete, and all other requirements and workmanship as per specifications, drawings and engineers instructions.

3.15	Supply and fix 12mm thick rendering in cement sand mortar 1:4	lm sq.m	20.75	-
2.45	3 ply hessian based bituminous felt damp proof course bedded on mortar including leveling:-  Supply and fix 200mm wide damp proof course under walls.		34.59	_
3.14	500mm gauge polythene damp proof membrane with 150mm (Min) end and side laps	sq.m	99.21	-
	Damp proofing			
3.13	Premise 200cc" or any other equal and approved anti-termite treatment applied as per manufactures	sq.m	99.21	-
3.12	200mm thick natural machine cut stone grade1(Njiru quarry stone) walling in cement sand mortar 1:3 with and including hoop-iron after every 2nd alternate course.	sq.m	41.51	-
3.11	Walling	lm	37.03	_
3.10	Supply and fix formwork for sides of sub columns, strip rooting formworks and edges of oase columns  Supply and fix formwork for sides and edges of floor bed 75-160mm high	sq.m	59.05	
2.45	Sawnform work to:-  Supply and fix formwork for sides of stub columns, strip footing formworks and edges of base columns		12.15	
3.9	Supply and fix strip steel reinforcement round bars to B.s 4449 including all cutting to size, binding wire and spacer blocks in strip to be placed according to the structural drawings provided or as advised by Structural Site Engineer	kg	972.56	-
3.8	Supply and fix one layer B.R.C ref. No. A 142 fabric reinforcement with 150mm end laps tying wire and spacer blocks weighing 2.22kg/sm (measured nett, allow for laps)	sq.m	99.21	-
	Reinforcement details			
3.7	Supply all materials and cast 200mm thick column bases to be approved by Engineer and according structural drawings	cum	3.654	-
3.6	Supply all materials and cast 200mmx200mm columns(foundation column height 1.5m) according to structural drawings upon approval by Site Engineer	cum	0.65	-
3.5	Supply all materials and cast 200mm thick strip foundation footing.	cum	2.36	-
3.4	Supply all materials and cast 450mm grade beam	cum	3.12	-
3.3	Supply all materials and cast 150mm thick floor slab	cum	14.88	-
	Vibrated reinforced concrete 1:2:4 to:-			
	Concrete works			
3.2	Supply and lay 50mm thick murram blinding well compacted to receive floor bed(m.s)	sq.m	99.21	-
3.1	Supply and handpark 300mm hardcore filling well watered and compacted to receive murram (m.s) as directed on site.	cum	29.81	-

## 1- Supplying, placing, workmanship, mortar, scaffolds, filling mastic for expansion joints and all other required materials, equipment and tools to complete the work according to specifications and directions of

Supervisor engineer.

2 - Contractor to provide samples for approval and all the required tests.

3-The following items include supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibrating, steel reinforcement shaping and fixing, curing, steel reinforcement, and supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibrating, steel reinforcement shaping and fixing, curing, steel reinforcement, and supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibrating, steel reinforcement shaping and fixing, curing, steel reinforcement, and supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibrating, steel reinforcement shaping and fixing, curing, steel reinforcement, and supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibrating, steel reinforcement shaping and fixing, curing, steel reinforcement, and supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibrating, steel reinforcement shaping and fixing, curing, steel reinforcement, and supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibrating, steel reinforcement shaping and fixing, curing, steel reinforcement shaping and spacers. cast the required concrete, using mechanical vibrators, curing, testing steel reinforcement and concrete, and all other requirements and workmanship as per specifications, drawings and engineers instructions. The ontractor has to submit shop drawings for approval prior to work.

	Vibrated reinforced concrete 1:2:4 (20/20) in:-				
4.1	Supply all materials and cast ring beams & Lintols as per structural design drawings	cum	3.12		-
4.2	Supply all materials and cast columns as per structural design drawings attached work to be approved by Engineer	cum	1.22		-
	<u>Formwork</u>				-
4.3	Supply and fix formwork for sides of columns	sq.m	24.30		-
4.4	Supply and fix formwork on sides and soffites of ringbeams	sq.m	31.13		-
	Reinforcement works		0.00		-
4.5	Assorted for beam reinforcement	kg	312.13		-
4.6	Assorted for column reinforcement	kg	122.32		-
	Walling				-
4.7	200mm thick natural machine dressed stone grade 1 (Njiru quarry stone) walling in cement mortar 1:4 with and including hoop-iron after every 2nd alternate course	sq.m	102.81		-
4.8	Provide and fix for the veranda, 100mm diameter, 3mm thick galvanised mild steel CHS with welded flat top mild steel plate to take wall plate. Cost to include connection, welded lugs and priming metal surface with one coat red oxide primer. The contractor is also reminded to include in his pricing, the cost of supply, cutting waste and erecting.	l.m	21.70		-
	Total Bill No.4 (Carried to Summary)				-
BILL N	O 5 DOORS			•	

 $Submitting \ \ samples \ for \ steel \ section \ for \ approval \ of \ material, \ accessories, \ color \ and \ fix at ion \ \ method$ Steel frames should be filled with fine aggregate mortar concrete, for fixation 3- Hardware, ironmongery and accessories should be approved before supply the materials 4-All required tests for painting materials. Steel casement doors Mild Steel Door - 1200 x 2300mm high grille door comprising 50 x 50 x 3 mm RHS frame all round; 2 No. 50 x 50 x 3mmmiddle and bottom rail infilled with 16 x 16mm mild steel bars spaced at 100mm centers vertically and 2.00 no fixed into wall or concrete with staple, 6No. tower bolts, 3 No. heavy duty pin hinges 2 No. locking eye for padlock, apply paint before fixing Total Bill No.5 (Carried to Summary) BILL NO 6 WINDOWS All works must be according to drawings, specification and engineer instructions. Rates shall include:-1- Submitting samples for window section for approval of material, accessories, color and fixation method  $Steel\ frames\ should\ be\ filled\ with\ fine\ aggregate\ mortar\ concrete, for\ fix at ion$ · Hardware, ironmongery and accessories should be approved before supply the materials -All required tests for painting materials. Supply and fix Steel casement windows .(measuring 1800 x 1500mm inclusive frame), 5mm window glas complete with UV protective film (blue shade), high quality lever fasteners, sliding insect screen (coffee tray and 6.00 heavy duty P.V.C mesh on aluminium frame) with rubber backing. Total Bill No.6 (Carried to Summary) ELEMENT NO. 7 ROOFING The contractor is reminded to include in his pricing, the cost of supply, cutting waste and erecting. Timber to be treated as described in the specifications. All roofing timber should be 2nd grade cellcured cypress, straight, well seasoned, free from knots and insect attacks. All steel trusses to be approved before installation Supply fix 28 IT5 Gauge Galvanized corrugated Iron sheet pre-painted - Blue. Secured with approved 107.56 7.1 sq.m 7.2 Supply and fix matching barrel end 150mm half round ridge capping. lm 12.30 Supply and fabricate timber trusses spaced @ 1500 c/c along wall plate using 100mm x 50mm thick timber 160.00 lm members for trusses, rafters, struts and collars Supply and fix 100 x 50mm wall plate secured on the wall using bolts and fixed with hoop iron to ring beam. lm 43.80 \_ 7.4 50mm x 50mm cypress timber for purlins spaced @ 375 mm across the trusses and secured to the truss rafter 100.48 lm using appropriate bolts, nuts and washers 200 x 25mm fascia board (apply wood primer on back of timber before fixing fascia board. lm 25.00 7.6 Total Bill No.7 (Carried to Summary) BILL NO 8 FINISHES All works must be according to specification and engineer instructions. Rates shall include: l-Supply of all needed materials, including galvanized angles for the corners as well as the use of galvanized wire mesh between concrete 2-Preparation works by covering all conduits of electricity, water supplies , between existing walls and slabs ... etc, with a galvanized wire mesh at least 20cm width coated by mortar (1:1) cement : sand and the vork includes removal of wires and nails and cleaning of surfaces to be ready for plastering. This should be done prior to commencement of plastering and after obtaining a written approval from the supervision engineer. 3-Contractor shall take into consideration that all – direct and indirect works and expenses required for the completion of the coming items are included in the unit price.4-Curing with water for at least three days for each coat. 5-Price of plastering shall include all required materials and works, mixing, scaffolds, cleaning the site, required equipment and workmanship to complete the work according to specifications and directions of the 6- Price of tiling works shall include supply of all materials, mixing the cement paste, cutting the tiles to the required shapes and dimensions, cleaning the site ,required equipment & workmanship to complete the work according to specifications and directions of the engineer. 8.1 Supply all materials and screed 25mm thick cement sand screed 1:2 steel backing to receive tiles 99 21 sq.m Supply and fix 8mm thick, 330 x 330mm coloured non slip floor "SAJ & RAK" tiles or any other equal and 8.2 99.21 sq.m approved with appropriate grout. Contractor to include cost for PVC corner strip Walls 8.3 549.44 15mm thick cement sand plaster on internal walls sq.m Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns 23.45 sq.m

All works must be according to drawings, specification and engineer instructions.Rates shall include

8.6	Supply all materials and key to all other masonry works	lm	345.60		-		
	Total Bill No.8 (Carried to Summary)				-		
BILL N	O 9 PAINTING AND DECORATIONS						
Rates include: 1- Any painting materials must have a valid certificate confirming that the paint materials meet with Kenya Beaurea (KeBs) stranded and specification, tested by approved local laborat the final approved from the supervisor engineer.  2- The surface must be dry and clean before painting.  3- All painting works should provide the required coverage.  4- All paint works smust be according to specifications, drawings and supervisor engineer instructions.  5- Contractor shall take into consideration that all – direct and indirect works and expenses required for the completion of the coming items are included in the unit price.  6- Smoothen surfaces of existing plastering before the Commencement paint using sand paper.  7- Price of painting shall include supply of all materials, cleaning the site, required equipment and workmanship to complete the work according to specifications and directions of the engineer.							
9.2	Supply, prepare and apply 3 coats smooth velvet emulsion paint as "crown" or any other equal and approved paint to Plastered walls	Sm			-		
	Total Bill No.9 (Carried to Summary)	•			-		
	GRAND SUMMARY						
2	PRELIMINARIES EXCAVATION AND EARTHWORKS				-		
3	SUBSTRUCTURE				=		
4	SUPERSTRUCTURE				-		
5 6	DOORS WINDOWS				-		
7	ROOF				-		
8	FINISHES PAINTING AND DECORATIONS				-		
,	GRAND TOTAL FOR Conference Hall and Library				-		
	Construction of kitchen cafeteria and dini	ng hall					
BILL N	O 1 PRELIMINARY WORKS						
		113177	OT A NUMBER	DATE (EGIL)	A MOUNTE (FOIL)		
	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)		
	ractor shall provide, erect and maintain all safety measures requirements according to specifications, including protecting th I before starting any activity. The contractor is reminded to supply crushed machine ballast for any concrete works at the site.		speciai cioin or ja	bric, ana work pian	jor au uems snouta be		
1.1	Clear the site to remove trees and top soil to an average depth of 150mm. The work includes mobilization, site	item			-		
	clearing the scrubs, removal any tree and roots,						
	Total Bill No.1 (Carried to Summary)				-		
BILL N	O 2 EXCAVATION AND EARTHWORKS						
2.1	Excavate starting from stripped level a 600mm wide foundation trench to an average depth of 1500mm (1.5m) in normal soil to be approved by site Engineer	cum	20.88		-		
2.2	Excavate starting from stripped level a column base foundation as per foundation layout to an average depth of 1500mm (1.5m) in normal soil to be approved by site Engineer	cum	12.96		-		
2.3	Supply all materials and cast 50mm concrete for blinding concrete ratio 1:4:8	cum	16.08		-		
2.4	Return fill in and ram excavated material around foundations as directed by Engineer on site	cum	13.13		-		
2.5	Cart-away surplus excavated materials to where directed by Engineer	cum	20.71		-		
2.6	Allow for keeping excavations free from undergroung, or storm water	item	1.00		-		
	Total Bill No.2 (Carried to Summary)				-		
BILL N	O 3 SUBSTRUCTURE WORKS		·				
and supp	owing items include supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibratively and cast the required concrete, using mechanical vibrators, curing, testing steel reinforcement and concrete, an ineers instructions.						
3.1	Supply and handpark 300mm hardcore filling well watered and compacted to receive murram (m.s) as directed on site.	cum	15.00		-		
3.2	Supply and lay 50mm thick murram blinding well compacted to receive floor bed(m.s)	sq.m	50.00		-		
	Concrete works						
	Vibrated reinforced concrete 1:2:4 to:-						
3.3	Supply all materials and cast 150mm thick floor slab	cum	7.50		-		
3.4	Supply all materials and cast 450mm grade beam	cum	2.46		-		
3.5	Supply all materials and cast 200mm thick strip foundation footing.	cum	3.28		-		
3.6	Supply all materials and cast 200mmx200mm columns(foundation column height 1.5m) according to structural drawings upon approval by Site Engineer	cum	0.65		-		
3.7	Supply all materials and cast 200mm thick column bases to be approved by Engineer and according structural drawings	cum	3.654		-		
	Reinforcement details	1	i	Ī			

			•		,
3.8	Supply and fix one layer B.R.C ref. No. A 142 fabric reinforcement with 150mm end laps tying wire and spacer blocks weighing 2.22kg/sm (measured nett, allow for laps)	sq.m	50.00		-
3.9	Supply and fix strip steel reinforcement round bars to B.s 4449 including all cutting to size, binding wire and spacer blocks in strip to be placed according to the structural drawings provided or as advised by Structural Site Engineer	kg	1,005.00		-
	Sawnform work to:-				
3.10	Supply and fix formwork for sides of stub columns, strip footing formworks and edges of base columns		12.15		_
	Supply and fix formwork for sides and edges of floor bed 75-160mm high	sq.m lm	30.00		_
3.11	Walling	1111			
3.12	200mm thick natural machine cut stone grade1(Njiru quarry stone) walling in cement sand mortar 1:3 with and including hoop-iron after every 2nd alternate course.	sq.m	32.83		-
3.13	Premise 200cc" or any other equal and approved anti-termite treatment applied as per manufactures	sq.m	50.00		-
	Damp proofing				
3.14	500mm gauge polythene damp proof membrane with 150mm (Min) end and side laps	sq.m	50.00		-
	3 ply hessian based bituminous felt damp proof course bedded on mortar including leveling:-				
3.15	Supply and fix 200mm wide damp proof course under walls.	lm	27.36		-
	<u>Plinths</u>				
3.16	Supply and fix 12mm thick rendering in cement sand mortar 1:4	sq.m	16.42		-
3.17	Prepare and apply 3 coats black bituminous paint	sq.m	16.42		-
	Total Bill No.3 (Carried to Summary)				-
BILL N	O 4 SUPERSTRUCTURE WORKS		•	•	
2 -Contra 3-The foll cast the re	r engineer. ctor to provide samples for approval and all the required tests. lowing items include supply and cast of concrete, shuttering, tie rods, spacers, supply and placing of concrete, vibrating, stee equired concrete, using mechanical vibrators, curing, testing steel reinforcement and concrete, and all other requirements an r has to submit shop drawings for approval prior to work.				
	Vibrated reinforced concrete 1:2:4 (20/20) in:-				
4.1	Supply all materials and cast ring beams & Lintols as per structural design drawings	cum	2.46		-
4.2	Supply all materials and cast columns as per structural design drawings attached work to be approved by Engineer	cum	1.22		-
	<u>Formwork</u>				-
4.3	Supply and fix formwork for sides of columns	sq.m	24.30		-
4.4	Supply and fix formwork on sides and soffites of ringbeams	sq.m	24.62		-
	Reinforcement works				-
4.5	Assorted for beam reinforcement	kg	246.00		-
4.6	Assorted for column reinforcement	kg	122.00		-
	Walling				-
4.7	200mm thick natural machine dressed stone grade 1 (Njiru quarry stone) walling in cement mortar 1:4 with and including hoop-iron after every 2nd alternate course  Provide and fix for the veranda, 100mm diameter, 3mm thick galvanised mild steel CHS with welded flat top	sq.m	50.56		-
4.8	mild steel plate to take wall plate. Cost to include connection, welded lugs and priming metal surface with one coat red oxide primer. The contractor is also reminded to include in his pricing, the cost of supply, cutting waste and erecting.	l.m	21.70		-
	Total Bill No.4 (Carried to Summary)				-
BILL N	O 5 DOORS				
1- Submit 2- Steel fr 3- Hardw	must be according to drawings, specification and engineer instructions.Rates shall include:- tting samples for steel section for approval of material, accessories, color and fixation method rames should be filled with fine aggregate mortar concrete, for fixation are, ironmongery and accessories should be approved before supply the materials uired tests for painting materials.				1
	Steel casement doors				
5.1	Mild Steel Door - 1200 x 2300mm high grille door comprising 50 x 50 x 3 mm RHS frame all round; 2 No. 50 x 50 x 3mmmiddle and bottom rail infilled with 16 x 16mm mild steel bars spaced at 100mm centers vertically and fixed into wall or concrete with staple, 6No. tower bolts, 3 No. heavy duty pin hinges 2 No. locking eye for padlock, apply paint before fixing	no			-
	Total Bill No.5 (Carried to Summary)				-
BILL NO	O 6 WINDOWS				

All works	must be according to drawings, specification and engineer instructions.Rates shall include:-				
	ting samples for window section for approval of material, accessories, color and fixation method				
2- Steel f	rames should be filled with fine aggregate mortar concrete, for fixation				
	are, ironmongery and accessories should be approved before supply the materials				
4-All req	tired tests for painting materials.				
	Supply and fix Steel casement windows (measuring 1800 x 1500mm inclusive frame), 5mm window glass		2.00	45,000,00	20.000.00
	complete with UV protective film (blue shade), high quality lever fasteners, sliding insect screen (coffee tray and heavy duty P.V.C mesh on aluminium frame) with rubber backing.	no	2.00	15,000.00	30,000.00
6.1					20.000.00
	Total Bill No.6 (Carried to Summary)				30,000.00
ET EME	NT NO. 7 ROOFING				
ELENIE	MI NO. / ROOFING				
The contr	actor is reminded to include in his pricing, the cost of supply, cutting waste and erecting. Timber to be treated as described in	the specificatio	ns.		
	g timber should be 2nd grade cellcured cypress, straight, well seasoned, free from knots and insect attacks.				
All steel 1	russes to be approved before installation				
7.1	Supply fix 28 IT5 Gauge Galvanized corrugated Iron sheet pre-painted - Blue. Secured with approved	sq.m	53.00		
7.1	Supply and fix matching barrel end 150mm half round ridge capping.	lm	9.20		_
7.2	Supply and fabricate timber trusses spaced @ 1500 c/c along wall plate using 100mm x 50mm thick timber				
7.3	members for trusses, rafters, struts and collars	lm	80.00		-
	Supply and fix 100 x 50mm wall plate secured on the wall using bolts and fixed with hoop iron to ring beam.	lm	26.53		
7.4		1111	20.33		-
	50mm x 50mm cypress timber for purlins spaced @ 375 mm across the trusses and secured to the truss rafters	lm	52.26		
7.5	using appropriate bolts, nuts and washers	1111	32.20		-
	200 x 25mm fascia board (apply wood primer on back of timber before fixing fascia board.	lm	20.00		
7.6			20.00		
	Total Bill No.7 (Carried to Summary)				-
	ILL NO 8 FINISHES  Il works must be according to specification and engineer instructions. Rates shall include:  Supply of all needed materials, including galvanized angles for the corners as well as the use of galvanized wire mesh between concrete  Preparation works by covering all conduits of electricity, water supplies, between existing walls and slabs etc., with a galvanized wire mesh at least 20cm width coated by mortar (1:1) cement: sand and the ork includes removal of wires and nails and cleaning of surfaces to be ready for plastering. This should be done prior to commencement of plastering and after obtaining a written approval from the supervision				
BILL N	O 8 FINISHES				
All works	must be according to specification and engineer instructions. Rates shall include:			•	
engineer.	udes removal of wires and radis and cleaning of surfaces to be ready for plastering .1ms should be done prior to commence	meni oj piasierii	ig ana ajier obiainii	ig a written approvat j	rom the supervision
	ctor shall take into consideration that all – direct and indirect works and expenses required for the completion of the coming i	items are include	ed in the unit price.4	-Curing with water for	r at least three days for
each coa					
5-Price of engineer	f plastering shall include all required materials and works, mixing, scaffolds, cleaning the site, required equipment and workn	nanship to comp	lete the work accord	ling to specifications a	and directions of the
	of tiling works shall include supply of all materials, mixing the cement paste, cutting the tiles to the required shapes and dimen	sions, cleaning	the site ,required eq	uipment & workmansh	ip to complete the work
	g to specifications and directions of the engineer.	,			, ,
	Floors				
8.1	Supply all materials and screed 25mm thick cement sand screed 1:2 steel backing to receive tiles	sq.m	50.00		-
0.2	Supply and fix 8mm thick, 330 x 330mm coloured non slip floor "SAJ & RAK" tiles or any other equal and		50.00		
8.2	approved with appropriate grout. Contractor to include cost for PVC corner strip	sq.m	50.00		-
	Walls				
8.3	15mm thick cement sand plaster on internal walls	sq.m	43.50		
			1		
8.4	Supply all materials and screed 15mm thick cement sand plaster rendered to external beams and columns	sq.m	23.45		-
8.6	Supply all materials and key to all other masonry works	lm	273.60		-
	Total Dill No 9 (Consid to Common)				
	Total Bill No.8 (Carried to Summary)				-
BILL N	O 9 PAINTING AND DECORATIONS				
D-to-in-	lada. I. Amarikati mara da la mara Romana (M.	- D - \ - d d - d	. 1 : 6 :	4-11	1-6
	lude: 1- Any painting materials must have a valid certificate confirming that the paint materials meet with Kenya Beaurea (K approved from the supervisor engineer.	ebs) stranaea ar	ia specification , tes	<i>пеа ву аррго</i> чеа юсаг	iaboratory ana nave
	rface must be dry and clean before painting.				
	nting works should provide the required coverage.				
	nt works must be according to specifications, drawings and supervisor engineer instructions.				
	ctor shall take into consideration that all – direct and indirect works and expenses required for the completion of the coming then surfaces of existing plastering before the Commencement paint using sand paper.	uems are includ	ea in the unit price.		
	ten surjaces of existing plastering before the Commencement patht using sand paper. If painting shall include supply of all materials, cleaning the site, required equipment and workmanship to complete the work.	according to spe	ecifications and dire	ctions of the engineer.	
	Supply, prepare and apply 3 coats smooth velvet emulsion paint as "crown" or any other equal and approved paint	- 1	1		
9.2	to Plastered walls	Sm	43.50		-
	Total Bill No.9 (Carried to Summary)				
				ıı	
-	GRAND SUMMARY		<del>                                     </del>		<u> </u>
1	PRELIMINARIES				-

2	EXCAVATION AND EARTHWORKS	1	1			
3	SUBSTRUCTURE				-	
4	SUPERSTRUCTURE		1		-	
5	DOORS				-	
6	WINDOWS					
7	ROOF					
8	FINISHES					
9	PAINTING AND DECORATIONS					
	GRAND TOTAL FOR the kitchen cafeteria and dining hall					
D	BILL OF QUANTITY FOR CONSTRUCTION OF ONE BLOCK OF 4 UNIT ABLUTION BLOCK					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE (KSH)	AMOUNT (KSH)	
1	ELEMENT NO.1 SUBSTRUCTURE					
	Site Clearance					
1.01	Clear all vegetation including grass, shrubs and small trees, strip surface up to 200mm deep.	sm	45		-	
1.02	Excavate latrine pit of dimensions 1500mm by 7500mm to depth of 5000mm from existing ground level	cum	56.25		-	
1.03	Carry away surplus excavated materials to an approved place	cum	56.25		-	
1.04	Supply and lay 50mm thick murram blinding to under strip footing	sm	22		-	
1.05	Supply and fix steel bars in foundation concrete work including cutting, bending, hoisting, and tying wire and supporting all in position, 3Y10 @ 200	kg	40		-	
1.06	Supply and fix steel bars in foundation concrete work including cutting, bending, hoisting, and tying wire and supporting all in position Y8 @ 200	kg	130		-	
1.07	Supply all materials and cast a 200mm thick vibrated reinforced foundation concrete strip (concrete class 20)	cum	3		-	
1.08	Supply and build, 200mm thick stone foundation walling in cement and sand mortar (1:3). Reinforce with and including 20swg x 25mm wide hoop iron in every alternative course; height 1.2m.	sm	110		-	
	Floor Slab				-	
1.09	Apply approved anti-termite and herbicide treatment chemicals (Termidor or Gladiator) with a ten year guarantee over foundation walls	sm	30		-	
1.1	Supply and fix formwork to all edges and soffits of slab including making provisions for squat holes and left in formwork as directed	sm	16		-	
1.11	Supply and fix mesh fabric reinforcement no. A142 size 200 x 200mm weighing 2.22 kg per square metre in floor slab ( measured net- no allowance made for laps; including bends tying wire and distant blocks.	sm	24		-	
1.12	12mm high tensile square twisted bars; cold worked; BS4461 including bends, hooks, tying wire, distance blocks and spacers for ring beam reinforcement, 4Y12	kg	80		-	
1.13	8mm bars, Y8 @ 200mm c/c, ditto	kg	170		-	
1.14	Supply all materials and cast a 200mm thick vibrated reinforced concrete slab, mix1:2:4 or class 20/20	cum	4.6		-	

		•			0.00
2	Sub-total 1: Substructure				0.00
2	ELEMENT NO. 2 WALLING				
2.01	Supply and build, 200mm thick stone walling, in 1:3 cement sand mortar. Provide 25mm wide x 20swg Hoop iron at every alternate course including column pillars as shown in the drawing	sm	80		-
2.02	Supply and lay, 150mm wide bituminous based Damp Proof Course, BS743	lm	34		-
2.03	Supply all materials and cast R.C. ring beam, vibrated reinforced concrete class 20	cum	1.6		-
2.04	12mm high tensile square twisted bars; cold worked; BS4461 including bends, hooks, tying wire, distance blocks and spacers for ring beam reinforcement, 4Y12	kg	80		-
2.05	8mm bars, Y8 @ 200mm c/c, ditto	kg	170		-
2.06	Sawn formwork to sides and soffit of beam	sm	20		-
3	Sub-total 2: Walling ELEMENT NO. 3 ROOFING				-
,	The contractor is reminded to include in his pricing, the cost of supply, cutting waste and erecting. Timber				
	to be treated as described in the specifications.				
3.01	Supply and fix 28 gauge IT5 pre-painted 2.5 long (approved colour) GCI roof sheet covering nailed to purlins	sm	18.4		-
3.02	Supply and fix 4x2" common rafters for roof support.	lm	10.8		-
3.03	Supply and fix 2x2" purlins	lm	32.4		-
3.04	Supply and fix pre-painted 6x1" fascia and barge board around roof structure	lm	22		-
3.05	Supply and fix 3m long 4" diameter PVC class D vent pipe complete with a fly-trap at the top	no	2		-
	Supply and fix 3m long 4 diameter PVC class D vent pipe complete with a fly-trap at the top  Sub-total 3: Roofing				_
4					
	ELEMENT NO. 4 DOORS		4		
4.01	50mm. thick framed batten door (Ledged and Braced) size 800x2100mm. high	no	4		-
4.01	Supply and fix pre-fabricated ventilation window(500mm x 500mm) complete with wooden frame and fly-trap screen.	no	4		-
	Sub-total 4: Doors				-
5	ELEMENT NO. 5 FINISHES				
	Floor finishes				
5.01	25mm thick Cement Sand (1:3) screed premixed with red oxide powder or other approved pigment	sm	30		-
	Wall finishes				-
5.02	15mm thick two coat cement sand (1:3) plaster trowelled smooth and comprising 12mm backing and 3mm finishing coat including provision of black board backing plaster. Works include both internal and external	sm	100		-
5.03	Prepare and apply three coats of gloss oil paint; 'Premium Grade brand' to wall surfaces	sm	100		-
5.04	Raking and keying to all masonry walling	sm	288		-
	Sub-total 5: Finishes				-
	SUMMARY FOR CONSTRUCTION OF ONE BLOCK OF 4 UNITS ABLUTION BLOCK				
1	Substructures				-
2	Walling				-
3	Roofing				-
4	Doors				-
5	Finishes				-
	TOTAL FOR CONSTRUCTION OF ONE (1) BLOCK OF FOUR (4) UNIT ABLUTION BLOCK				-
	BILL OF QUANTITY FOR FENCING				
Item	Description	Unit	Quantity	RATE	AMOUNT
A	General and Preliminary works				
1	Clear the site to remove trees and top soil to an average depth of 150mm. The work includes mobilization, site clearing the scrubs, removal any tree and roots,	ITEM	1		-
	Sub-total A- General and Preliminary works				-
В	Excavation				
1	Excavate starting from ground level a 300mm diameter pit to an average depth of 600mm (0.6m) at a distance of 3000mm centre to centre in normal soil including stays holes fixed at a distance of 25000mm centre to centre and at all corners	C.M	2		-

2	Excavate 150x100mm trench a long the fence to receive chainlink ground achor concrete (ms)	СМ	2.42		-
	Sub-total A- Excavation				-
C	FENCING				
1	Supply all materials and cast 0.3m diameter x 0.6m depth concrete; concrete mix 1:3:6 class 15/20 and allow for curing of all concrete works	C.M	1.9		-
2	Supply and fix in concrete foundation 3.0m high 75mm x 75mm x 6mm mild steel angles, top of the angle section cranked a distance of 300 and lower end with welded lugs including drilling 6 holes for straining wire and priming with red oxide primer before delivery to site.	NO	56		-
3	Supply and weld on to the 3.0m long 75mm x 75mm x 6mm mild steel angles described in 2 above, Y shaped galvanised steel of similar section properties, each branch to be 600mm long and with 3 holes on each side to fix barbed wire	NO	56		-
4	Ditto in 2 above, but for strainer post at every corner and after every 6 posts, both sides, but 1.5m long welded on to the post being supported.	NO	8		-
5	Supply and fix 11 Gauge chain link fence 2.4m high tied onto the 50mm x 50mm x 4mm angles(ms) adequately (at 6 points on the individual angle section) by binding wire. Cost should include cost of binding wire, cutting, tying and fixing.	LM	160		-
6	Supply and fix concrete mix 1:3:6 to 100x100mm trench and cast with the chain link to 100mm deep.	CM	2.42		-
7	Provide and fix in place 480mm dia razor wire on the Y using barbed wire gauge 12.5, measured seperately.	LM	160		-
8	Supply and fix plain straining wire fixed through the 75mm x 75mm x 6mm mild steel angles standards- 3 lines	LM	480		-
9	Supply and fix plain barbed wire gauge 12.5 fixed through the 75mm x 75mm x 6mm mild steel angles standards-6 lines	LM	1440		-
10	Supply and fix 6000mm wide double leaf mild steel gate and an attached 1500mm pedestrian gate 2500mm high made from 3mm thick steel plate welded on both sides of the frame. Frame as follows: 75x50x3mm thick RHS external members and 25mm SHS 3mm thick secondary members, fixed onto the concrete columns 500mm square using heavy duty steel pin hinges; with all fastening accessories including all cutting welding, grinding and priming with one coat of grey oxide before fixing. The gate should be lockable and painted (Primer + 3 coats) in 500mm Sky Blue Color skirting and the rest in full white gloss paint.	NO	1		-
	Sub-total B - Fencing		l .	l .	-
SUMMA	ARY FOR CONSTRUCTION OF INZONE EDUCATIONAL CENTER				
A	CONSTRUCTION OF OFFICES				-
В	CONSTRUCTION OF CLASSROOM AND DAY CARE				-
C	CONSTRUCTION OF CONFERENCE AND LIBRARY				-
D	CONSTRUCTION OF A KITCHEN AND CAFETERIA				-
E	CONSTRUCTION OF ONE BLOCK OF 4 UNITS ABLUTION BLOCK				-
F	CONSTRUCTION OF 160LM FENCE				-
G	CONSTRUCTION OF NEW GENERATOR HOUSE				
	TOTAL FOR CONSTRUCTION				