

**VOLUME 3**  
**TECHNICAL SPECIFICATIONS**

**SPECIFICATIONS AND PRICED BILL OF QUANTITIES  
FOR  
TERKIDI HEALTH POST REHABILITATIONS**

Project :	Terkindi Rehabilitations
Location:	Gambella Regional State, Ethiopia
Client:	Doctors With Africa, CUAMM
Contractor:	
Consultant:	Solomoin Tesfayes

	ETB	
1 Maternity Block General Maintenance	-	
<b>Total .....</b>	-	
<b>VAT 15% .....</b>	-	
<b>Grand Total with 15% VAT.....</b>	-	

**SPECIFICATION AND BILL OF QUANTITIES**

**TERKIDI HEALTH POST**

**Maternity Block General Maintenance**

GENERAL MAINTENANCE.....	Birr	-
TOTAL .....	Birr	-
VAT 15 % .....	Birr	-
GRAND TOTAL .....	Birr	-

Item	Description	Unit	Qty	Unit Rate	Amount
1.0	Remove and replace existing G-28 CIS roofing covers with transparent roof	Nº	6		0.00
2.0	Apply three coats of plastic emulsion paint to all internal and external wall and chipwood ceiling including all crack sealing with cement and gypsum as necessary .	m²	796		0.00
3.0	Supply and Install complete set door lock approved by the Engineer and all accessories and incidental works	Nº	10		0.00
4.0	Supply and fix chipwood ceilings as per the Engineers approval. Price shall include 40 x 50 mm Zigba wood battens with c/c spacing of 600 mm both ways, middle and corner list, and all other necessary accessories .	m²	11		0.00
5.0	Supply, Connect and Test lamps and complete accessories: 36w, 60x60 LED Box panel Light	Nº	20		0.00
6.0	Flush mounting socket outlet of 16A 1Phase with Earth Contact	Nº	5.00		0.00
7.0	Supply and Fix ceiling Fun USHA or Equivalent Approved by the Engineer. With all accessories and all necessary works	Nº	6		0.00
8.0	Supply the fittings ,fix, test & commission exiting two bowl sink made of SS with chrome plated lever operated cold water tap. Complete with plug , P-smell trap with connection pipes , angle valve and all other necessary accessories .	Nº	2		0.00
8.0	Supply , fix, test & commission New Handwash sink made of SS with chrome plated lever operated cold water tap. Complete with plug , P-smell trap with connection pipes , angle valve and all other necessary accessories .	Nº	1		0.00
9.0	Metal windows and doors made of 38x1.5mm LTZ profiles. Price shall include approved quality locks and all ironmongery works, two coats of anti rust, three coats of synthetic paint, 1mm thick sheet metal and door stopper.	m²	34.6		0.00
11.0	150mm thick Class B HCB wall which can satisfy the designed strength , bedded in cement sand mortar (1:3).Price shall include mortar bed and reinforcement bar to all external walls with 1 dia 6mm at every 1000mm( 5-HCB Blocks) .	m²	123.59		0.00
12.0	Demolish partition wall to increase room area. Cost shall include clearing of waste materials.	m²	31.32		0.00
<b>SUB TOTAL FOR GENERAL MAINTENANCE ETH BIRR</b>					<b>0.00</b>

# SPECIFICATIONS AND BILL OF QUANTITIES WITH ENGINEERING ESTIMATE

PROJECT:

GAMBELA ZONE A REHABILITATION WORK

LOCATION:

GAMBELA, ETHIOPIA

OWNER:

DOCTORS WITH AFRICA- CUAMM

Prepared by:- Solomon Tesfay  
Nov-23

GAMBELA ZONE A  
GRAND SUMMARY

Birr

GUARD HOUSE AND GENERATOR ROOM	<b>Birr</b>	-
ELEVATED WATER TANKER	<b>Birr</b>	-
REHABILITATION WORK	<b>Birr</b>	-
	<b>Birr</b>	-
15% VAT	<b>Birr</b>	-
<b>GRAND TOTAL</b>	<b>Birr</b>	-

Consultant's estimation for the realization of the civil works is 90 days

GUARD HOUSE AND GENERATOR ROOM  
SUMMARY OF PRICES

<b>01. EXCAVATION AND EARTH WORK</b>	<b>Birr</b>	-
<b>02. CONCRETE WORK</b>	<b>Birr</b>	-
<b>03. MASONRY WORKS</b>	<b>Birr</b>	-
<b>04. ROOFING</b>	<b>Birr</b>	-
<b>05. CARPENTRY AND JOINERY</b>	<b>Birr</b>	-
	<b>Birr</b>	-
<b>15% VAT</b>	<b>Birr</b>	-
<b>GRAND TOTAL</b>	<b>Birr</b>	-

Consultant's estimation for the realization of the civil works is 90 days

ELEVATED WATER TANKER  
SUMMARY OF PRICES

<b>01. EXCAVATION AND EARTH WORK</b>	<b>Birr</b>	-
<b>02. CONCRETE WORK</b>	<b>Birr</b>	-
<b>08. FINISHING WORKS</b>	<b>Birr</b>	-
<b>09. PAINTING</b>	<b>Birr</b>	-
<b>10. SANITARY WORK</b>	<b>Birr</b>	-
	<b>Birr</b>	-
<b>15% VAT</b>	<b>Birr</b>	-
<b>GRAND TOTAL</b>	<b>Birr</b>	-

Consultant's estimation for the realization of the civil works is 90 days

LOT 2 - Rehabilitation of Zone-A Health Post  
REHABILITATION WORK  
SUMMARY OF PRICES

<b>00. DEMOLITION WORK</b>	<b>Birr</b>	-
<b>01. EXCAVATION AND EARTH WORK</b>	<b>Birr</b>	-
<b>02. CONCRETE WORKS</b>	<b>Birr</b>	-
<b>03. MASONRY WORK</b>	<b>Birr</b>	-
<b>05. CARPENTRY AND JOINERY</b>	<b>Birr</b>	-
<b>06. METAL WORKS</b>	<b>Birr</b>	-
<b>08. FINISHING WORKS</b>	<b>Birr</b>	-
<b>09. PAINTING</b>	<b>Birr</b>	-
<b>10. SANITARY WORK</b>	<b>Birr</b>	-
	<b>Birr</b>	-
<b>15% VAT</b>	<b>Birr</b>	-
<b>GRAND TOTAL</b>	<b>Birr</b>	-

Consultant's estimation for the realization of the civil works is 90 days



## BILL OF QUANTITY - Guard House and Generator Room

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	COST
<b>01</b>	<b>EXCAVATION AND EARTH WORK</b>				
	<b>EXCAVATION WORKS</b>				
	* The contractor is responsible for covering any costs incurred due to damage of utility lines and care shall be taken for all existing utilities that could be covered or exposed to view throughout the project execution period.				
<b>1.1</b>	<b>EXCAVATION</b>				
<b>1.1.1</b>	<b>REMOVAL OF TOP SOIL</b>				
	Removal of Top Soil: The top soil shall be removed to the specified depth (200-300mm as directed by the Engineer) leaving area clear off any vegetable soil. The removal of top soil shall be measured by the area occupied by the work to be placed on the cleared area. Removal of top soil shall be understood as including the disposal of surplus material or stock piling and wheel spreading of top soil at later stages as directed by the Engineer.	m <sup>2</sup>	49.00		-
<b>1.1.2</b>	<b>EXCAVATION IN ORDINARY SOIL</b>				
	* Excavation shall mean the excavation and get out of the soil. Excavation in ordinary soil shall be measured by volume as the net void created by the excavation with deduction made for existing voids. * "Ordinary Soil" shall mean material yielding to ordinary excavation machinery or pick axes. * "Boulder" shall mean isolated volume of hard rock in ordinary soil and soft rock or above ground less than 1/2 cubic meter in volume.				
1.1.2.3	Trench Excavation in ordinary soil for Stone Masonry to a depth not exceeding 2000mm from reduced level.	m <sup>3</sup>	9.75		-
<b>1.3</b>	<b>DISPOSAL</b>				
	* All unsuitable and surplus suitable material arising from excavations shall be disposed off when instructed by the Engineer. * Disposal shall be made to tips directed by the Engineer or indicated in the document. In the absence of direction from the Engineer or indication in the documents, it is the contractor's responsibility to identify the appropriate tip and dispose the material. * Disposal shall be understood to include stock piling, loading, transporting, dumping and wheel spreading at tip. Disposal shall be measured as the net volume arising from the void created by the excavation, less excavated material backfill, filled and wheel spread within site or left stockpiled.				
1.3.1	Cartaway surplus excavated material to a place where the administration has allotted for disposal. The contractor is responsible for permission from relevant authorities.	m <sup>3</sup>	19.55		-
<b>1.4</b>	<b>SUNDRY ITEMS</b>				
<b>1.4.1</b>	<b>HARDCORE AND STONE FILLERS</b>				
	Hardcore shall be sound approved stone of specified finishing thickness and placed as directed by the Engineer and finished blinded with 20mm crushed aggregate.				
1.4.1.1	Hardcore under Ground floor slab to a thickness of 25cm and blinded with 20mm crushed aggregate.	m <sup>2</sup>	26.88		-
<b>01</b>	<b>SUB TOTAL EXCAVATION &amp; EARTH WORK ETH BIRR</b>				<b>-</b>
<b>02</b>	<b>CONCRETE WORKS</b>				
<b>2.1</b>	<b>Cast in Place Concrete</b>				
	Cast in place concrete is concrete premixed at a batching plant and transported to the work site or concrete whose ingredients are transported to the site and mixed just before casting in place.				
<b>2.1.1</b>	<b>50mm thick C-5 lean concrete with minimum cement content of 150kg/m<sup>3</sup> of concrete under</b>				
2.1.1.2	Under Stone Masonry	m <sup>2</sup>	10.00		-

Generator Room

2.1.1.3	Under Grade beam	m <sup>2</sup>	6.90		-
2.1.1.3	Under Ground Floor Slab	m <sup>2</sup>	25.00		-

<b>2.1.2</b>	<b>REINFORCED CONCRETE</b>				
<b>2.1.2.1</b>	<b>REINFORCED CONCRETE GRADE C-25 (25 MPa)</b> cast into formworks and vibrated around rod reinforcement bars.				
2.1.2.1.4	In ground floor slab	m <sup>2</sup>	25.00		-
2.1.2.1.5	In grade beam	m <sup>3</sup>	1.59		-
<b>2.1.2.2</b>	<b>FORMWORK FOR CONCRETE</b>				
	Formwork shall mean temporary support construction for in-situ concrete, designed and constructed in timber or metal whichever is appropriate and capable of withstanding the live and dead loads imposed on it and fully preventing leakage of concrete. <b>The work includes:</b> Construction and removal of formwork Making good of concrete honeycombs. Making good of concrete surfaces to attain the standard of finish desired by the specified type of formwork.				
2.1.2.2.3	Formwork to Grade Beam	m <sup>2</sup>	15.84		-
<b>2.1.2.3</b>	<b>REINFORCEMENT BARS</b>				
	Reinforcement work shall be understood as the supply and fixing of reinforcement bars, including ties and chairs. The steel bars shall be high tensile (Grade S-420) hot rolled deformed Reinforcement Steel bar				
2.1.2.3.2	Rebar Diameter 8mm	kg	136.55		-
2.1.2.3.5	Rebar Diameter 14mm	kg	137.95		-
<b>02</b>	<b>SUB TOTAL CONCRETE WORK ETH BIRR</b>				<b>-</b>
<b>03</b>	<b>MASONRY</b>				
<b>3.1</b>	<b>STONE FOR MASONRY</b>				
	Stone obtained from quarries approved by the Engineer shall be hard & sound, free from vents, cracks, fissures, discoloration, or other defects that will adversely affect strength or appearance. Stone chips out of which shaped stone are to be produced shall not be less than 450mm average and 380mm individual length.				
3.1.1	<b>Stone masonry Concealed from View:</b> 50cm thick stone masonry bedded in cement mortar (1:3) mix. price shall include cement mortar.	m <sup>3</sup>	15.00		-
<b>3.2</b>	<b>HOLLOW &amp; SOLID CONCRETE BLOCKS</b>				
<b>3.2.1</b>	<b>strength of Individual Block 32kg/cm<sup>2</sup></b>				
3.2.1.1	200mm thick class 'B' H.C.B wall bedded and jointed in cement mortar (1:3) both side left for appropriate finishing.	m <sup>2</sup>	22.50		-
<b>03</b>	<b>SUB TOTAL MASONRY WORK ETH BIRR</b>				<b>-</b>
<b>04</b>	<b>ROOF WORK</b>				
4.1	Supply and fix roof cover in precoated or galvanized EGA 400, 0.4mm thick fixed to steel lattice purlin. Price shall include ridge cap, Dia 6mm fixing J-bolts and water proof washers.(purlin measured in horizontal projection)	m <sup>2</sup>	2.00		-
4.2	Supply and fix G-28 flat metal sheet Ridge cover. as per the detail drawing. Price shall include metal bracket support and all other necessary accessories. Development length = 50cm	ml	24.40		-
4.2	Supply and fix G-28 galvanized flat metal sheet gutter as per the detail drawing. price shall include all the necessary accessories, metal bracket, one coats of antirust .Development length =100cm	m <sup>2</sup>	14.40		-
4.2	Supply & fix 110mm diameter PVC down pipe secured to wall with metal bracket with anchorage distance of 800mm.	ml	21.60		-
<b>04</b>	<b>SUB TOTAL ROOF WORK ETH BIRR</b>				<b>-</b>
<b>05</b>	<b>CARPENTRY AND JOINERY WORK</b>				

Generator Room

	All structural members shall be free of harmful defects and painted with anti termite solutions. Each truss shall be firmly fixed with the beam by a 6mm plain bar.				
5.1	Upper & lower chord size-diameter 10 - 12 cm	ml	60.00		-
5.2	Diagonal & vertical Members size-diameter 8 - 10 cm	ml	105.00		-
5.3	Zigba Purlin size 5x7cm	ml	30.00		-
<b>05</b>	<b>SUB TOTAL CARPENTRY AND JOINERY WORK ETH BIRR</b>				<b>-</b>

## BILL OF QUANTITY - Elevated Water Tanker

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	COST
<b>01</b>	<b>EXCAVATION AND EARTH WORK</b>				
	<b>EXCAVATION WORKS</b>				
	* The contractor is responsible for covering any costs incurred due to damage of utility lines and care shall be taken for all existing utilities that could be covered or exposed to view throughout the project execution period.				
<b>1.1</b>	<b>EXCAVATION</b>				
<b>1.1.1</b>	<b>REMOVAL OF TOP SOIL</b>				
	Removal of Top Soil: The top soil shall be removed to the specified depth (200-300mm as directed by the Engineer) leaving area clear off any vegetable soil. The removal of top soil shall be measured by the area occupied by the work to be placed on the cleared area. Removal of top soil shall be understood as including the disposal of surplus material or stock piling and wheel spreading of top soil at later stages as directed by the Engineer.	m <sup>2</sup>	16.00		-
<b>1.1.2</b>	<b>EXCAVATION IN ORDINARY SOIL</b>				
	* Excavation shall mean the excavation and get out of the soil. Excavation in ordinary soil shall be measured by volume as the net void created by the excavation with deduction made for existing voids. * "Ordinary Soil" shall mean material yielding to ordinary excavation machinery or pick axes. * "Boulder" shall mean isolated volume of hard rock in ordinary soil and soft rock or above ground less than 1/2 cubic meter in volume.				
1.1.2.1	Bulk Excavation in Ordinary Soil: Bulk excavation to reduce the Natural ground Level to a depth not exceeding 100cm from reduced level.	m <sup>3</sup>	3.13		-
1.1.2.2	Pit Excavation in ordinary soil: Pit excavation for isolated footing to a depth not exceeding 2000mm from reduced level.	m <sup>3</sup>	4.05		-
<b>1.2</b>	<b>BACK FILL</b>				
	* Fill to excavations or to make up level shall be made in suitable material approved by the Engineer and capable of being compacted. * Fill shall be placed in successive stages of not exceeding 200mm and watered and compacted to approval by the Engineer. * The compaction achieved in filling shall be measured in accordance with the standard practice. The In situ moisture content and density shall be compared with laboratory test results of modified AASHO T147 performed on samples of the selected material. * The minimum relative compaction to be achieved in the compacted area shall be 95% maximum dry density and the moisture content shall be within the range of 95% dry density. The moisture content of the fill material shall be adjusted as necessary to achieve the required compaction. Any material which after repeated compaction, does not fulfill the requirements, shall be removed and replaced. * The final levels of fill shall be adjusted, graded and prepared to receive bedding to be laid on fill. Fill shall be measured as equal to the net volume of void to be filled and shall be understood as including the stockpiling and haulage of material from location of fill.				
<b>1.2.1</b>	<b>Selected borrowed fill</b> - Suitable non-expansive well graded soil or granular material with no rock lumps imported from outside and approved by the Engineer. Fill works is under floor slab and around footing pad as well a around foundation column.	m <sup>3</sup>	6.37		-
<b>1.3</b>	<b>DISPOSAL</b>				

Elevated Water Tanker

	<p>* All unsuitable and surplus suitable material arising from excavations shall be disposed off when instructed by the Engineer.</p> <p>* Disposal shall be made to tips directed by the Engineer or indicated in the document. In the absence of direction from the Engineer or indication in the documents, it is the contractor's responsibility to identify the appropriate tip and dispose the material.</p> <p>* Disposal shall be understood to include stock piling, loading, transporting, dumping and wheel spreading at tip. Disposal shall be measured as the net volume arising from the void created by the excavation, less excavated material backfill, filled and wheel spread within site or left stockpiled.</p>				
1.3.1	Cartaway surplus excavated material to a place where the administration has allotted for disposal. The contractor is responsible for permission from relevant authorities.	m <sup>3</sup>	10.38		-

<b>1.4</b>	<b>SUNDRY ITEMS</b>				
<b>1.4.1</b>	<b>HARDCORE AND STONE FILLERS</b>				
	Hardcore shall be sound approved stone of specified finishing thickness and placed as directed by the Engineer and finished blinded with 20mm crushed aggregate.				
1.4.1.1	Hardcore under Ground floor slab to a thickness of 25cm and blinded with 20mm crushed aggregate.	m <sup>2</sup>	2.25		-
<b>01</b>	<b>SUB TOTAL EXCAVATION &amp; EARTH WORK ETH BIRR</b>				<b>-</b>
<b>02</b>	<b>CONCRETE WORKS</b>				
<b>2.1</b>	<b>Cast in Place Concrete</b>				
	Cast in place concrete is concrete premixed at a batching plant and transported to the work site or concrete whose ingredients are transported to the site and mixed just before casting in place.				
<b>2.1.1</b>	<b>50mm thick C-5 lean concrete with minimum cement content of 150kg/m3 of concrete under</b>				
2.1.1.1	Under Isolated footing	m <sup>2</sup>	1.44		-
<b>2.1.2</b>	<b>REINFORCED CONCRETE</b>				
<b>2.1.2.1</b>	<b>REINFORCED CONCRETE GRADE C-25 (25 MPa) cast into formworks and vibrated around rod reinforcement bars.</b>				
2.1.2.1.1	In Isolated footing	m <sup>3</sup>	0.58		-
2.1.2.1.2	In foundation Column	m <sup>3</sup>	0.16		-
2.1.2.1.3	In Ground Column	m <sup>3</sup>	0.48		-
2.1.2.1.4	In Top Slab	m <sup>2</sup>	1.13		-
<b>2.1.2.2</b>	<b>FORMWORK FOR CONCRETE</b>				
	Formwork shall mean temporary support construction for in-situ concrete, designed and constructed in timber or metal whichever is appropriate and capable of withstanding the live and dead loads imposed on it and fully preventing leakage of concrete. <b>The work includes:</b> Construction and removal of formwork Making good of concrete honeycombs. Making good of concrete surfaces to attain the standard of finish desired by the specified type of formwork.				
2.1.2.2.1	For Isolated Footing Pad	m <sup>2</sup>	1.92		-
2.1.2.2.2	For Foundation column	m <sup>2</sup>	1.60		-
2.1.2.2.4	For Ground column	m <sup>2</sup>	4.80		-
2.1.2.2.5	For Top Slab	m <sup>2</sup>	5.09		-
<b>2.1.2.3</b>	<b>REINFORCEMENT BARS</b>				
	Reinforcement work shall be understood as the supply and fixing of reinforcement bars, including ties and chairs. The steel bars shall be high tensile (Grade S-420) hot rolled deformed Reinforcement Steel bar				
2.1.2.3.1	Rebar Diameter 6mm	kg	-		-
2.1.2.3.2	Rebar Diameter 8mm	kg	169.81		-
2.1.2.3.3	Rebar Diameter 10mm	kg	-		-
2.1.2.3.4	Rebar Diameter 12mm	kg	24.86		-
2.1.2.3.5	Rebar Diameter 14mm	kg	270.93		-
<b>02</b>	<b>SUB TOTAL CONCRETE WORK ETH BIRR</b>				<b>-</b>
<b>08</b>	<b>FINISHING WORKS</b>				
<b>8.1</b>	<b>PLASTERING &amp; POINTING</b>				
	Finishing work includes all surface pre cleaning, removal of mortar by chiseling, making good edges of columns and beams, preparation of grooves b/n surface where ever indicated, preparation and application of finish, polishing and cleaning after end of work.				

Elevated Water Tanker

8.1.1	<p><b>Cement Mortar Plastering to internal wall.</b> Plaster shall be applied in two coats of mortar with the following ratio:                  First coat: 1 Part cement to 2.5 parts aggregate by volume.                  Second Coat: 1 Part of cement to 3 parts of aggregate by volume.                  The work includes chiseling for vertical concrete wall, columns and vertical beams.</p>	m <sup>2</sup>	9.89		-
08	<b>SUB TOTAL FINISHING WORK ETH BIRR</b>				-



Elevated Water Tanker

<b>09</b>	<b>PAINTING</b>				
<b>9.1</b>	Apply three coats of approved quality plastic paint. Price shall include pre-cleaning and preparation of surfaces.				
9.1.1	To external wall surface.	m <sup>2</sup>	9.89		-
<b>09</b>	<b>SUB TOTAL PAINTING WORK ETH BIRR</b>				<b>-</b>
<b>10</b>	<b>SANITARY INSTALLATION WORKS</b>				
10.3.3	Supply and Install 3000 liter Fiber Glass Tanker. Price shall include all related piping work (inlet, outlet, drain, over flow ), valves and related civil works.	No	1.00		-
10.3.3	Supply and install GI pipe of 1 inch for both inlet and outlet with fittings and controlling units to the MCH blocks	mI	70.00		-
<b>10</b>	<b>SUB TOTAL FOR SANITARY WORK ETH BIRR</b>				<b>-</b>

## BILL OF QUANTITY - Zone A Rehabilitation Work

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	COST
<b>00</b>	<b>DEMOLISHING WORKS</b>				
	The contractor is responsible for covering any costs incurred due to damage of utility lines and care shall be taken for all existing utilities that could be covered or exposed to view throughout the project execution period.				
<b>0.1</b>	<b>DEMOLISHING WORKS OF DIFFERENT STRUCTURES</b>				
	Price shall include clearing the working area, disposing the debris to an appropriate location as per the Supervisor's indication				
0.1.1	Demolishing of Iron sheet partition wall [CARD ROOM]	m <sup>2</sup>	27.75		-
<b>00</b>	<b>SUB TOTAL DEMOLITION WORK ETH BIRR</b>				<b>-</b>
<b>01</b>	<b>EXCAVATION AND EARTH WORK</b>				
	<b>EXCAVATION WORKS</b>				
	* The contractor is responsible for covering any costs incurred due to damage of utility lines and care shall be taken for all existing utilities that could be covered or exposed to view throughout the project execution period.				
<b>1.1</b>	<b>EXCAVATION</b>				
<b>1.1.1</b>	<b>REMOVAL OF TOP SOIL</b>				
	Removal of Top Soil: The top soil shall be removed to the specified depth (200-300mm as directed by the Engineer) leaving area clear off any vegetable soil. The removal of top soil shall be measured by the area occupied by the work to be placed on the cleared area. Removal of top soil shall be understood as including the disposal of surplus material or stock piling and wheel spreading of top soil at later stages as directed by the Engineer. [BLOCK 2]	m <sup>2</sup>	12.00		-
<b>1.1.2</b>	<b>EXCAVATION IN ORDINARY SOIL</b>				
	* Excavation shall mean the excavation and get out of the soil. Excavation in ordinary soil shall be measured by volume as the net void created by the excavation with deduction made for existing voids. * "Ordinary Soil" shall mean material yielding to ordinary excavation machinery or pick axes. * "Boulder" shall mean isolated volume of hard rock in ordinary soil and soft rock or above ground less than 1/2 cubic meter in volume.				
1.1.2.1	Trench Excavation in ordinary soil for Stone Masonry to a depth not exceeding 2000mm from reduced level [BLOCK 2]	m <sup>3</sup>	12.00		-
<b>01</b>	<b>SUB TOTAL EXCAVATION &amp; EARTH WORK ETH BIRR</b>				<b>-</b>
<b>02</b>	<b>CONCRETE WORKS</b>				
<b>2.1</b>	<b>Cast in Place Concrete</b>				
	Cast in place concrete is concrete premixed at a batching plant and transported to the work site or concrete whose ingredients are transported to the site and mixed just before casting in place.				
<b>2.1.1</b>	<b>50mm thick C-5 lean concrete with minimum cement content of 150kg/m<sup>3</sup> of concrete under</b>				
2.1.1.1	Under Stone Masonry [BLOCK 2]	m <sup>2</sup>	12.00		-
<b>2.1.2</b>	<b>REINFORCED CONCRETE</b>				
<b>2.1.2.1</b>	<b>REINFORCED CONCRETE GRADE C-25 (25 MPa) cast into formworks and vibrated around rod reinforcement bars.</b>				
2.1.2.1.1	In Manhole Cover [BLOCK 1 and BLOCK 2]	m <sup>3</sup>	0.18		-

Rehabilitation Work

<b>2.1.2.2</b>	<b>FORMWORK FOR CONCRETE</b>				
	Formwork shall mean temporary support construction for in-situ concrete, designed and constructed in timber or metal whichever is appropriate and capable of withstanding the live and dead loads imposed on it and fully preventing leakage of concrete. <b>The work includes:</b> Construction and removal of formwork Making good of concrete honeycombs. Making good of concrete surfaces to attain the standard of finish desired by the specified type of formwork.				
<b>02</b>	<b>SUB TOTAL CONCRETE WORK ETH BIRR</b>				<b>-</b>
<b>03</b>	<b>MASONRY</b>				
<b>3.1</b>	<b>STONE FOR MASONRY</b>				
	Stone obtained from quarries approved by the Engineer shall be hard & sound, free from vents, cracks, fissures, discoloration, or other defects that will adversely affect strength or appearance. Stone chips out of which shaped stone are to be produced shall not be less than 450mm average and 380mm individual length.				
3.1.1	<b>Stone masonry Concealed from View:</b> 50cm thick stone masonry bedded in cement mortar (1:3) mix. price shall include cement mortar.	m <sup>3</sup>	10.00		-
<b>3.2</b>	<b>HOLLOW &amp; SOLID CONCRETE BLOCKS</b>				
<b>3.2.1</b>	<b>strength of Individual Block 32kg/cm<sup>2</sup></b>				
3.2.1.1	200mm thick class 'B' H.C.B wall bedded and jointed in cement mortar (1:3) both side left for appropriate finishing. [CARD ROOM PARTITION]	m <sup>2</sup>	19.05		-
3.2.1.2	150mm thick class 'B' H.C.B wall bedded and jointed in cement mortar (1:3) both side left for appropriate finishing. [CARD ROOM PARTITION]	m <sup>2</sup>	8.70		-
<b>03</b>	<b>SUB TOTAL MASONRY WORK ETH BIRR</b>				<b>-</b>
<b>05</b>	<b>CARPENTRY AND JOINERY WORK</b>				
5.1	Supply and fix 8 mm thick chip wood ceilings as per the Engineer's approval. Price shall include (40x50)mm wooden battens with c/c spacing of 600 mm both ways, middle and corner list, and all other necessary accessories [CARD ROOM]	m <sup>2</sup>	17.26		-
<b>05</b>	<b>SUB TOTAL CARPENTRY AND JOINERY WORK ETH BIRR</b>				<b>-</b>
<b>06</b>	<b>METAL WORK</b>				
	Metal windows and doors manufactured from 38X1.5mm LTZ frame profile and 0.8 mm thick ribbed sheet all as per the engineer's approval and window door schedule. Unit price shall include: 1.5 mm thick sheet metal for louvers, louver blade & NACO/ASPEN/ louver holder , two coats of anti rust and three coats of synthetic enamel paint, approved quality cylindrical lock, hinges, manila and any other accessories to complete the work. (Glazing and grills should be provided and Door handles should be approved by the client). [CARD ROOM]				
<b>6.1.1</b>	<b>Doors</b>				
6.1.1.1	Door type D1, size 90*215cm	No	1.00		-
<b>6.1.2</b>	<b>Windows</b>				
6.1.2.1	Window Type W-1 size 85cm x 175cm	No	3.00		-
<b>06</b>	<b>SUB TOTAL METAL WORK ETH BIRR</b>				<b>-</b>

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<b>08</b>	<b>FINISHING WORKS</b>				
<b>8.1</b>	<b>PLASTERING &amp; POINTING</b>				
	Finishing work includes all surface pre cleaning, removal of mortar by chiseling, making good edges of columns and beams, preparation of grooves b/n surface where ever indicated, preparation and application of finish, polishing and cleaning after end of work.				
8.1.1	<b>Cement Mortar Plastering to internal wall.</b> Plaster shall be applied in two coats of mortar with the following ratio: First coat: 1 Part cement to 2.5 parts aggregate by volume. Second Coat: 1 Part of cement to 3 parts of aggregate by volume. The work includes chiseling for vertical concrete wall, columns and vertical beams [CARD ROOM PARTITION WALLS]	m <sup>2</sup>	55.50		-
8.1.2	<b>Gypsum Plaster (plaster of Paris) to internal wall:</b> Plaster shall be applied in one coat of 3mm thick gypsum : The final fine coat gypsum plaster to be applied by trowel shall consist of one part of gypsum to three parts of lime putty, applied to a thickness of 3mm. The plaster shall be finished truly level and smooth. The plaster shall be allowed to cure. No finish shall be applied to gypsum plaster before the age of 28 days.	m <sup>2</sup>	55.50		-
<b>8.2</b>	<b>Wall and floor finish</b>				
8.2.1	Supply and fix 600X600X10mm <b>Porcelain ceramic floor tiles</b> of approved sizes and quality with cement mortar backing and joints grouted in colored cement. Pattern, color and quality shall be approved by the Engineer [DELIVERY ROOM and POST NATAL CARE]	m <sup>2</sup>	28.88		-
8.2.2	100x10mm porcelain ceramic skirting stuck to wall with cement mortar (1:3)mix [DELIVERY ROOM and POST NATAL CARE]	Lm	30.40		-
8.2.3	Approved type 200x300x6mm thick glazed ceramic wall tile bedded on &including cement mortar backing and joints grouted in white cement [DELIVERY ROOM and POST NATAL CARE].	m <sup>2</sup>	45.52		-
<b>08</b>	<b>SUB TOTAL FINISHING WORK ETH BIRR</b>				<b>-</b>
<b>09</b>	<b>PAINTING</b>				
<b>9.1</b>	Apply three coats of approved quality plastic paint. Price shall include pre-cleaning and preparation of surfaces.				
9.1.1	To all internal wall	m <sup>2</sup>	55.50		-
9.1.2	To Chip wood Ceiling	m <sup>2</sup>	17.26		-
<b>09</b>	<b>SUB TOTAL PAINTING WORK ETH BIRR</b>				<b>-</b>
<b>10</b>	<b>SANITARY INSTALLATION WORKS</b>				
	All fixtures, equipment, pipes & materials which are specified below shall subject to the Engineer's approval, based on Samples, Catalogues and/or Brochures presented by the contractor. Unit Price shall include all the necessary installation accessories and all assistance civil works there to for the proper installation and operation of the sanitary wares, pipe works and any other related sanitary works.				
<b>10.1</b>	<b>SANITARY APPLIANCES INSTALLATION</b>				
10.1.1	Supply and fix <u>High quality</u> Gold Dragon or equivalent brand <u>Hand wash Basin</u> . The fixture shall conform to BS5506-3 or equivalent institution. The mixing faucets, waste drain holes, bottle trap, waste fitting, connecting pieces, fixing, <u>female attakini(60cm long)</u> and supporting elements and all other accessories shall comply with relevant clauses of BS standard or equivalent institution. size: <u>520x420mmx850 mm</u>				-
10.1.1.1	DELIVERY ROOM	pcs	1.00		-

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10.1.1.2	POST NATAL CARE	pcs	1.00		-
10.1.1.3	INJECTION & DRESSING ROOM	pcs	1.00		-
10.1.1.4	OPDs from 1 to 4	pcs	4.00		-

<b>10.2</b>	<b>WATER SUPPLY SYSTEM</b>				
10.2.1	Supply and install Polypropylene Random Co-polymer resins (PP Type 3 raw material) PPR PN-20 to internal cold water distribution system as shown on the drawing. Complete with all the necessary fittings and accessories. All diameters specified here are internal (Nominal) diameters. [BLOCK 1 and BLOCK 2]				
	a) Dia. 25 mm	ml	80		-
10.2.2	Supply and fix 15mm dia chrome plated brass quarter turn angle valves with chrome plated copper connecting pipe, union nut and chrome plated brass wall flanges, and accessories complete in all respects. The Angle valve should be capable resisting of PN-10 before hand wash basins, water closets and other fixtures.	pcs	4.00		-
<b>10.3</b>	<b>WASTE WATER DRAINAGE SYSTEM</b>				
	All domestic waste, vent and storm water pipe lines shall be comply to BS 459, BS 4660, BS 5481 as appropriate, using double ring seals and gaskets complying with BS 2394 uPVC, PN-6 pipes and shall be provided with a minimum slope as stated in the drawing. Pipes and necessary fittings shall be standard quality and be free from damage during storage, construction and etc. Unit price shall include all the necessary assistance civil works, such as excavation cartaway, fixing or hanging to walls, beams or slabs. etc., necessary fittings such as bends, Y, etc. Storm water uPVC, PN-6 pipes shall resist the external temperature and the quality shall meet the purpose. Flushing and testing of waste water system. Flushing has to be done to clean the pipe line from debris and silts. All waste water Pipe shall be tested by water pressure of 1.5 meters head for minimum of Four Hours.				
10.3.1	Providing, laying and jointing of internal uPVC PN-6 waste pipes with all uPVC pipe fittings including jointing with solvent cement joints and testing of joints etc. according to where shown on the drawings. Complete with all the necessary fittings. Provide cleaning detail for all waste water riser pipes as per the detail drawing [BLOCK 1 and BLOCK 2]				
10.3.1.1	Dia. 50 mm, Outer diameter	ml	10		-
10.3.1.2	Dia. 75 mm, Outer diameter	ml	33		-
10.3.1.3	Dia. 110 mm, Outer diameter	ml	44		-
10.3.2	Supply and construct Dia 300mm half concrete Open pipe around the building and pavement. Price shall include Excavation, 100mm thick red ash base and cement mortar mix (1:3) Side joint. The Work includes Connecting to External ditch.	ml	20.00		-
<b>10</b>	<b>SUB TOTAL FOR SANITARY WORK ETH BIRR</b>				<b>-</b>