



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-197

Lot 4-B
WBS 1150

Bill of Quantities

Programme Title: Right to Education in the Gaza Strip

Project name: Extension and Rehabilitation Works For The Governmental Schools

PAL10- 00094739- LOT 4-B

Extension, Landscaping and Rehabilitation Works of Salah El Dein School, Al Hurrya School, Hashem Atta Al Shawa School and Majda Wasela School.



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-197

Salah El Dein School

Salah El Deen School

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
	<p>General Notes:</p> <p>1- Complete detailed shop drawings should be delivered to the Engineer to take his approval prior the commencement of work. Samples of all materials shall also be delivered to the Engineer to take his approval,</p> <p>2-Contractor shall take into consideration that all – direct and indirect Works and their relevant expenses required for proper implementation of the project including temporary facilities, fencing, securing utilities (water, wastewater, telephone and electricity systems) as well as making access to project implementation location away from the one in use by the students and teachers such that the school is running safely without disturbance. The contractor will be accountable for all necessary equipment, materials and activities to assure the safety of people within the school buildings and vicinity, where an approved safety plan will be prerequisite to initiating activities along with installing all required components and materials necessary for safety of workers, project team as well as people at school. All relevant costs are deemed to be included in the unit price in addition to the required re-instatement Works needed to bring the original facilities to its original status before addition of temporary Works.</p> <p>3-The contractor will expect that more than one contractor will be carrying out Works in the school at the same time, the Contractor is presumed to make all necessary coordination and facilitate accessibility to and other work-related issues</p> <p>4-All Works and installations listed here below should be carried out, tested and commissioned by specialized responsible skilled labours in full coordination with MoEHE , all in accordance with drawings, specifications and relevant standards, and the instruction of the Engineer. The Engineer has the right to reject any component of the work not complying with the specifications and the terms of the contract.</p> <p>5-The price includes dismantle of any interlock tiles, existing utilities, demolish any concrete items , removal of tress, obstacles.. Etc,and any required work to apply the new design, transport all materials to MoEHE per the engineer instruction. The price also includes reinstatement to the original conditions, backfilling, excavations and any other works to accomplish the task. The price shall also include the transfer of unwanted/surplus materials to the final destination as per the directions of the engineer.</p> <p>6-The price includes supply and install temporary steel fence to separate the working area from the existing classes and school utilities</p>				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1.Excavation & Earth Works					
	<p>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. Measurement is engineering measurement.</p> <p>All Works must be according to drawings, specification and engineer instructions. Rates shall include :</p> <p>1. Shoring the sides of excavation and preserving the adjacent buildings as well as existing infrastructure utilities (sewage, water, telecommunication and electricity Works). In case of damages that may incur, all relevant necessary repairs will be the contractor responsibility to cover its relevant costs.</p> <p>2. Cleaning the site and removing all debris, surplus unwanted materials and rubbles to approved dump site.</p> <p>3. Backfilling in layers not more than 25cm thick for each layer and compaction to 98% of MDD.</p> <p>4. All required Tests by an accredited laboratory.</p> <p>5. The cadastral survey and leveling of existing status at grids not exceeding 5 m in both directions.</p> <p>6.Leveling and backfilling from imported sand dune in case excavated materials are not approved for backfilling and up to the level of the top of external ground beams levels and to the formation level of apron and surrounding landscaping.</p> <p>7. Laying out the buildings coordinates to be carried out by professional surveyor using total station device.</p> <p>8.Approval of Bench mark and levelling network before excavation works.</p>				
1.1	Demolish the existing concrete elements and toilet units (existing toilet units & Handicap toilets), to apply the new design the price includes dismantle the existing interlock tiles, tiles and deliver to MOEHE, the price including but not limited to foundation , ground beams, plaster, tiles, <u>existing playground</u> , solid waste inside and out side school buildings , <u>exist sting apron</u> , and any required demolition/dismantle work to apply new design, and remove any debris and surplus materials to approved dump site according to specification and engineer's instructions.	L.S	1		
1.2	Excavation from natural ground level in any type of soil to required designed level. The Works including: The compaction of the soil surfaces to get (98% MDD). The excavated unwanted material should be removed out from the site to the approved places. The excavated selected material should be properly stored in the vicinity of site for reuse in backfilling. All to be executed as per specifications, drawings and the engineer's instructions.	M ³	60		
1.3	Supply, fill & compact Kurkar material with (CBR> 30) under the main building foundations (the mentioned soil improvement area) in two layers 30cm thick each layer (MDD 98%). The work must be carried out according to the specifications, design drawings & the engineer's instructions	M ³	300		
1.4	Backfilling with selected materials from excavation around foundations & any other element up to ground slab level in layers not more than 25cm thick for each layer with compaction to 98% of MDD. The Works including compacting the design soil surfaces to get (98% MDD).	M ³	20		
1.5	Supply, fill by using approved material (sand dune) between ground beams , flower boxes & inside the building up to the required levels, which shall be spread in layers not exceeding 25cm each one & compacted (98%) to reach up the required levels (under floor slab), according to the specifications & the engineer's instructions.	M ³	300		
Total					

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2. Concrete Works.					
	<p>Rates of Concrete Works shall include:-</p> <p>1. All form Works and shuttering (new lumber for shuttering painted by special oil (fuel or burnt oil is not accepted) in any form, shape and size . Making chamfered and curved edges, allowing for and making grooves and sleeves and using Tie Rods (Batant) for concrete walls ; removal of forms and cleaning of all exposed tie wires and rods. Steel forms must be used in shuttering the external decorations.</p> <p>2. Supplying, Casting, vibrating and curing as per specifications.</p> <p>3. Approved additives and admixtures.</p> <p>4. Developing new Concrete Job Mix Designs, Sampling , testing and providing test results certificates, storing and saving of samples.</p> <p>5. Painting of exposed surfaces of underground reinforced concrete elements with two coats of hot bituminous paint (75/25) after primer layer , the strokes of each layer to be opposite to each other.</p> <p>6. Compaction and testing under the foundation, ground beams, ground slabs and Apron. the compaction should not be less than 98% of MDD.</p> <p>7. Supply, fabricate and fix reinforcement steel (fy= 410 N/mm2) for all the structural elements according to drawings and engineer's instructions for any grade, size and length as detailed in the drawings, storing on site including cutting, bending and fixing in position and providing all tying wires, spacers, shop drawings, testing and bar bending schedules .All Works according to specifications , drawings and supervisor engineer instructions</p> <p>8. In rehabilitation Works, supply fabricate and fix steel dowels to the existing concrete using special materials. In case of lapping with existing steel reinforcement, rates will include cleaning rust and treatment with special materials</p> <p>9. In case after excavation the new columns locations and relevant footings coincide with the existing ones, the contractor will make modification to adapt implementation to the existing conditions and deemed to include in his rates relevant costs accordingly.</p> <p>10. All rehabilitation Works will include the necessary extra steel reinforcement and concrete to be applied in layers if necessary in addition to the necessary special materials and accessories.</p> <p>11. The price of concrete elements includes excavation to required levels, leveling , backfilling with approved material and compaction.</p> <p>12. All Works according to specifications , drawings and supervisor engineer instructions</p> <p>The price includes adjustment, relocate or change level and location of any existing water/sewer/draiange/electrical lines/pipes and utilities, under and above the ground. The price also includes adjustment of existing manholes, septic tanks to new levels, supply and install cast iron cover 60 cm diameter , and concrete rings</p>				
2.1	Supply and cast ready mix reinforced concrete B(250) kg/cm2 for external steps , ramps walls, beams, platform walls and any concrete sections with approved steel reinforcement by the engineer ,flower boxes with steel mesh 10mm diameter every 20cm including polythene sheets below concrete and compacting the soil beneath the work to 98% of MDD.as per specifications and drawings.	M ³	75		
2.2	Ditto but 10cm thick entrance ramps and platform .	M2	20		
2.3	ditto, but B250 reinforced concrete for Apron (surface treated with mechanical steel troweled finish) 10 cm thickness, the price include polythene sheets. Reinforcement Ø 8mm / 15 cm in both way and reinforced edge beam 20*40 as well as expansion joints. The price including leveling, 15cm thick compacted base coarse to 100% of MDD and making of expansion joints including its approved filling materials (sika flex or equivalent) according to drawing and specification.	M2	100		

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2.4	Supply and cast ready mix reinforced concrete B(250) kg/cm2 for the ground slab 10cm thick with steel mesh 8mm diameter every 20cm including polythene sheets below concrete slab and compacting the soil beneath the slab to 98% of MDD.The price includes demolish and remove any existing concrete elements, excavation , backfilling with Kurkar 20 cm thickness under concrete slab, leveling and compaction to 98 % as per specifications and drawings. The price also includes mechanical trawling and transfer any surplus materials to approved dump site.	M2	200		
2.5	Supply and cast ready mix reinforced 15 cm thickness concrete B 250 kg/cm2 smooth surface for playground by mechanical trawling machine . the price shall include supply and cast reinforced concrete for surrounding Beams ,foundations and any other related concrete elements The price includes supply and install polythene sheets, expansion joints(cut after casting by mechanical saw), 25cm base coarse(in two layers), mastic compressible materials, levelling of subgrade and compaction of each layer of base coarse and subgrade and finish the surface with colored PG coat materials, the price also includes marking works with approved paint as per specifications and drawings	M2	250		
2.6	Painting by approved and tested PG coat for the existing play ground, the price includes complete maintenance for the existing concert play ground, removal of the exiting paints, curing for the crackes,filling by approved silent (sika flex), removal of defected concert elements and recast of the reinforced concrete by B250 kg /cm2 , and remove all debris to approved dump site and all required materials to complete the work according to specifications and engineer's instructions.	M2	300		
2.7	Supply and cast ready mix concrete B (300) kg/cm2 for Decorative Frames of school gate , including the reinforced steel, dismantle the existing steel gate and deliver to MOEHE, Demolish and remove block walls and any concrete elements to apply the new design to approved dump site , maintenace of plastering & paint and all other materials required as per specifications and drawings.	M ³	20		
2.8	Supply and construct interlock tiles (B400) 8cm thick including 20 cm base coarse layer (80% C.B.R). The price includes supply and install compacted 20cm of base course layer to 100% compaction ratio, watering, and testing, leveling of subgrade, compaction of subgrade (98%), removal of any obstacles, trees, concrete debris, ,the price includes dismantle of existing interlock /tiles and deliver to MOEHE, remove the existing concrete elements and transport the debris approved dumping site as per engineer instruction , leveling, excavation,backdilling to required levels and compaction, the price also includes 5 cm sand . Levels, colors and shapes all determined according to drawings, specifications and the supervisor Engineer's instructions.	M2	800		
2.9	Supply and construct interlock tiles (B400) 8cm thick The price includes supply and install compacted 20cm of Kurkar layer to 98% compaction ratio, watering, and testing, leveling of subgrade, compaction of subgrade (98%), removal of any obstacles, trees, concrete debris, dismantle old and defected interlock tiles and deliver to MOEHE ,the price includes dismantle of existing interlock /tiles/concrete surfaces, leveling, excavation, backfilling to required levels and compaction, the price also includes 5 cm sand . Levels, colors and shapes all determined according to drawings, specifications and the supervisor Engineer's instructions.	M2	500		
2.10	Supply and cast reinforced concrete seat B (250) kg/cm2 , including the reinforced steel, supply and cast terrazzo layer on top 5 cm thick , and all other materials required as per specifications and drawings.	No	20		
Total					

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3. Building Works					
	The price include: 1- supplying hollow or solid cement block from good and approved factory in perfect dimension and build it in good manner with a compressive strength 35 kg/cm2 for hollow block and 60 kg/cm2 for solid block. This item will include cement mortars, galvanized steel ties, reinforced concrete infill (B250) between columns & block walls (10-20 cm wide) with 1Ø8mm/40cm horizontally and 2Ø8mm vertically according to drawings, pipes encasement, false columns 20x20 cm/4.0m among the parapet wall with 4Ø12mm and bituminous paper between block work and drop beams and testing as well as all requirements needed to finish the Works according to the drawings, specification and to the supervision engineer instructions.				
3.1	Supply and build hollow cement blocks 40x20x20cm	M2	50		
3.2	Supply and build solid cement block 40x20x15 cm, under ground beams, and external boundary for building including painting the buried parts with one coat of primer and two coats of hot bitumen .after primer layer (75/25)	M2	50		
Total					

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4.Aluminum & Metal Works					
	The items include supplying aluminum windows section 7000 matching the existing ones, with min. wall thickness 1.5mm (to be approved by representative engineer) as frame, glass 4 mm thick, ironmongery , accessories and hard ware along with fixing as per specification and drawings. All maintenance Works include all needed materials for reinstatement and workmanship. Steel work should be properly treated and prepared, painted with two coats of oil paint, one primer (polyzinc) and one undercoat. The price shall include removing the damaged aluminum and steel Works and handing to the MoEHE				
4.1	Supply and fix steel gate over all size 540x290 .the prices including mild steel frame , vertical steel plate, painting with one coat of primer, undercoat and at least two coats of hummer paint, all according to drawing, specification and engineer instructions	No	1		
4.2	Supply and fix steel Basket ball tower .the prices including supply and cast reinforced concrete cubes for fixation , mild steel frames , all steel types to finish the work including , painting with one coat of primer, undercoat and at least two coats of hummer paint, and including basket board and net all according to drawing, specification and engineer instructions.	No	2		
4.3	Supply and fix steel volley ball net and its galvanized steel supports (2.5" pipes).the prices including supply and install reinforced concrete foundations ,all steel types to finish the work including , painting with one coat of primer, undercoat and at least two coats of hummer paint, and including volleyball net all according to drawing, specification and engineer instructions.	No	2		
4.4	Supply and fix Prefabricated, steel shed .the price includes all steel types, concrete foundations, excavation, backfilling with clean sand, Prefabricated cover Oxford Fabric or equivalent (water proof, wind proof, flame resistant,)1200 gm/m2 to finish the work including ,steel cable 20 mm diameter,galvanaized steel column160*160*3mm, galvanized steel frames 80*80*3mm Galvanized steel Hock 20mm thickness painting with one coat of primer, undercoat and at least two coats of hummer paint, and including reinforced concrete foundations and beams all according to drawing, specification and engineer instructions	M2	180		
	Note: Measurement will be for the horizontal projection				
4.5	Supply and fix steel trash basket holder .the prices including all steel types to finish the work including , painting with one coat of primer, undercoat and at least two coats of hummer paint, and including concrete foundations in addition to supply a European colored plastic Basket with cover all according to drawing, specification and engineer instructions.	No	15		
4.6	Supply and fix mild steel balustrade 60cm high to match the existing in the school for the corridors comprising of M.S. hollow section tubes 40 x 20 x 2 mm verticals spacing 10 cm clear distance, and welded 60x40x2 mm top and bottom rails fixed to columns and bottom parapet using expansion bolts, rates includes M.S. end angles, painting with one primer, under coats and minimum two coats of oil paint, (the color to be approved By the Engineer and as drawings and specifications).	Lm	10		
4.7	Supply and fix galvanized steel balustrade for stair case pipe Ø 1.5" 2mm thick fixed to walls by steel plate and 4 bolts every 1m and 10cm space between wall and the pipe, the works include one primer coat, one under coat and minimum two coats of colored oil paint in addition to all Accessories needed to finish the work according to specifications, drawings and the engineer's instructions.	Lm	10		
4.8	Supply and install Stainless steel water dispensing unit, made of stainless steel sheet grade 316L with 2mm thick, sink dimension (2.00x0.4x0.6)m with cover and galvanized steel columns for sink and locker(header), the unit shall supply four stainless steel 20 mm taps(to be supplied & installed). The work includes connecting the unit with the nearest manhole, and connecting the unit to the water source, and all it needs from connections, valves, accessories, excavation, backfilling..etc..	Unit	1		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5. Finishing Works					
	A- Plaster Works All Works must be according to drawings, specification and engineer instructions. Rates shall include : 1-Supply of all needed materials, including galvanized angles for the corners, windows and external decoration as well as the use of galvanized wire mesh between concrete and block work. 2-Preparation Works by covering all conduits of electricity, water supplies , 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. 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-Trimming of concrete chippings, removing the wires and etc. and cleaning of existing surfaces to be ready for plastering. 5- Checking out all of the preliminary installation in ceilings and walls such as Electrical, water supply and waste water pipes and repairing the damages if any. 6- Curing with water for at least three days for each coat. This should be done prior to commencement of plastering and after obtaining a written approval from the supervision engineer.				
5.1	Supply and make external plastering 20mm thick to walls with four faces : the first is the rough nail rendering (mix 1:1) cement sand; the second is 5mm thick mortar (mix 1: 2) cement: sand, the third is the undercoat 13mm (mix 1: 3 :0.25) cement:sand:lime, the forth is colored trolyn finish including painting by external superycryl (water proof) with three faces at least. The works include removing the old paint/plaster and plaster repairing, testing, treatment of cracks including cleaning, rubbing, open, filling with Sikaflex, closing openings, repairing plaster and all is according to specifications , drawings and supervisor engineer's instructions	M2	2000		
5.2	Supply and make granulate coating finish for ramps, external stairs and corridors with different size and color where require, the price includes all metal decorations, stainless steel separator and all required materials to complete the work according to specifications , drawings and supervisor engineer's instructions.	M2	40		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
6.Planting works					
6.1	Supply and install fake grass non water proof with halls 1/2 " every 20 cm including rubber , the price include supply and comapct 20 cm thick layer of Kurkar , all works according to specifications and supervisor engineer's instructions.	M2	180		
6.2	supply and grow tree type T1 with total height 300 cm all works according to specifications and supervisor engineer's instructions.	.No	20		
6.3	ditto but type T2 with trunk diameter 6 " and full height 220 cm	.No	10		
6.4	ditto but type T3	.No	30		
6.5	ditto but type T4 height 80-100 cm	.No	20		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7.Drainage (Rain Water) Works:-					
	<p>(1)In general rates for Mechanical works shall include for: 1. Developing shop and as built drawings 2. Cutting and forming all chases, recesses, holes, and the like, 3. Pipe sleeves, 4. Building of concrete and/or brick ducts in floors, walls ...etc., 5. Excavation, forming of trenches for services, concreting, bedding and back filling and ramming after laying, 6. Fixing brackets, clips, holder bats, hangers, and the like, 7. Temporary and final fixing, 8. Nails, screws, bolts, nuts, washers, holes, plugs, sleeves and the like, 9. Building in or cutting and pinning, 10. Testing and drawings, 11. Painting of pipes, 12. All work of other trades in connection with Mechanical work including all making good.</p> <p>(2) All Plumbing works include the required units and its accessories as described in the items and the rates include: 1- All the plumbing units should be from the best quality and has trade mark. 2- Submitting shop drawing for water supply and waste water networks for approval prior to commencement of the work. 3-Submitting samples for all required material with catalogue indicating its specifications. 4-All required tests , pressure for water net work , hydraulic test for sewage lines 5- Cleaning and disinfecting all water pipes. 6- Insulation of all galvanized water pipes and wrapping it with bitumen's sheets and protect pipes located under tiles with cement mortar. In addition to the insulation materials against heat loss for hot water pipes. 7-Supply, install, connect to fixtures and distribution boxes, and test as shown on drawings and as per specifications for hot water & cold water PE-X pipes 16mm outer diameter and 2.2mm thick wall with flexible polyethylene corrugated conduit of 25mm outer diameter and 20mm inside diameter, with all connections, and fittings.</p> <p>8-All plumbing works (wash basin, kitchen sink, gully traps,etc...) include the connection to the nearest trap, WC to the nearest vertical sewage header in the typical floors and WC in the GF to the nearest manhole and include all accessories including PVC S and caps for all the ends of pipes at parapet.</p> <p>9- All external inspection elbows should covered by galvanized steel plate with thick 2mm .</p> <p>(3) Rates for manholes and pits shall include excavation, concrete, benching, plastering, backfilling and cover as per Drawings and Specifications,</p> <p>(4) Rates for sanitary fittings, isolated taps and gullies shall also include all pipe work in connection therewith and connections thereto including connection to the nearest manhole or gully and to the cold water storage tank.</p> <p>(5) Rates for pipe work including pipe work in frames to shading sheds shall include for: 1. Joints in the running length, 2. Nipples, connections, sockets, ferrules, couplings, back nuts, unions, and the like, 3. Bends, elbows, tees, reducers, access doors, cleaning eyes, blank caps, stop valves, and the like, 4. Welded joints and connections including grinding, 5. Lagging and wrapping, 6. Excavation, bedding and backfilling. 7. Warning tape for underground pipes (magnetic for water pipes, normal for sewage and drainage pipes). 8. the unit price of all Items shall includes dismantle the existing interlock tiles, concrete slabs, cut , fill, compaction and reinstatement of the work to the original conditions.</p> <p>The price includes connection between existing drainage steel/UPVC pipes with manholes, and all required fittings, reducers, cut , demolish and break concrete elements/apron and recast existing apron/concrete elements, excavation & backfilling and all required works to complete the job according to specification, drawings and engineer instructions.</p>				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7.1	Drill 80cm diameter borehole through cohesive and non-cohesive material up to 5 meter below the clay layer in the Kurkar layer as shown in the drawings and as directed by the engineer. Price shall include all needed accessories required to perform the work. Minimum depth of 12m from natural level.	Lm	60		
7.2	Supply and lay non-woven geotextile membrane according to specifications to protect the inner surface of the 80 cm diameter borehole.	Lm	60		
7.3	Ditto but for surface areas, and manholes premiter	M2	10		
7.4	Supply and fill in boreholes solid , clean washed, and free from dust gravel of at least 2" size.	M ³	28		
7.5	Ditto but ¾ " aggregates	M ³	0.75		
7.6	Ditto but ¼ " aggregates	M ³	0.5		
7.7	Supply and install pre-cast circular reinforced concrete manhole (Ø 600 mm) B300 complete with 40 cm cast iron cover solid or grill as required (8 tons capacity), frame, rings, and special joint required to fix the sewer pipes to the manhole. The item also includes B300 benching, shuttering, inside cast iron steps each step 30 cm maximum and safety measures, excavation in all soil to any depth, plain concrete 5 cm thick below the manhole, two external hot bitumen coating, and backfilling in layers 25 cm maximum using suitable material with watering, compaction according to specification, drawing, and the engineer instructions..	No	12		
7.8	Ditto but Ø 800 mm and 25 ton bearing capacity, 20 cm wall ,roof and foundation thickness.	No.	8		
7.9	Ditto but Ø 1500 mm and 25 ton bearing capacity, roof and foundation thickness. The price include 30 cm clean sand in Manhole, and stainless steel grill size 25* 25 cm for outlet.	No.	3		
7.10	Supply and install 110x300cm (3 inlets) combined storm-water drainage gully complete with four 80x40cm cast iron screens 25 tons bearing capacity. The item also includes casting B300 concrete for walls, footing and benching as per drawings, shuttering, excavation in any type of soil to any depth, plain concrete, two external hot bitumen coating, and backfilling in layers 25 cm maximum using suitable material (Kurkar) with watering, and compaction. Final location of gullies should be shown on shop drawings based on field survey and approval of the engineer.	Unit	4		
7.11	Supply and install 8" uPVC Tee with 600 mm long pipe, as directed by engineer.	No.	3		
7.12	Supply and install UPVC pipeØ 8" (SN8) with sockets. The work includes excavating of trenches (depth up to 2.0m), bedding, compacted backfilling with clean sand, connecting to the manholes, fittings , all connections and hydraulic test according to the specifications and drawings.	Lm	105		
7.13	Ditto but 4" pipe	Lm	10		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
8. Electrical Works:-					
	<p>General: supply and erecting of the electrical works as per drawings, specifications, and engineer's instructions. The price of the following items includes, all necessary junction boxes, wires, conduits, clamps, bolts, connectors and connecting all cables to suit</p> <p>All installation shall be in accordance with : * The drawings , specifications and instructions and demands of the engineer. *the unite price shall includes, demolish and reinstatement to original status for any existing services, walls including but not limited to concert and block works, terrazzo, ceramic and interlock tiles, plaster and painting works, etc..... * The contractor is fully responsible for all foundation works (conduits, PVC pipes, Boxes, wires and cables) with all accessories, which are required to complete the PV Solar System for the school that will be installed in the future. The prices will be deemed to include for the full cost as described in all Documents. All the following items shall be executed according to the drawings, specifications and as directed by the Engineer with APPROVED QUALITY AND TYPE, the rates shall include all electrical testing and commissioning .</p>				
8.1	Supply and erecting New 3 phase electrical subscription 3x60A, the work includes paying GEDCO subscription fee , connection, contribution fees and other documentations with all needed to complete the work, all according to GEDCO requirements.	L.S	1		
8.2	Supply , install , 2mm thick hot galvanized steel Distribution Board ,	No.	1		
	Supply and install the followings:				
8.3	NZMB- 63A/MCCB 3X63A, , Isc=25kA. (MOELLER or equivalent)	NO	1		
8.4	LTL fuses 3x63A/100A, (JEAN MUELLER or equivalent)	Set	1		
8.5	KWH Meter 3X60A. (ISKRA, ABB or equivalent)	NO	1		
8.6	Capacitor unit 10KVAR complete with mcb 3X25A and resistor.	Set	1		
Total					

Summary of Landscaping

DESCRIPTION	Total Amount \$
1. Excavation & Earthworks.	
2. Concrete Works.	
3. Building Works	
4. Metal Works	
5. Finishing Works	
6. Planting Works	
7. Drainage Works	
8. Electricity Works	
Sub total (\$)	



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-197

Al Hurrya School

Al Hurrya School

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Landscaping Works					
1.Excavation & Earth Works					
	<p>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. Measurement is engineering measurement.</p> <p>All Works must be according to drawings, specification and engineer instructions. Rates shall include :</p> <ol style="list-style-type: none"> 1. Shoring the sides of excavation and preserving the adjacent buildings as well as existing infrastructure utilities (sewage, water, telecommunication and electricity Works). In case of damages that may incur, all relevant necessary repairs will be the contractor responsibility to cover its relevant costs. 2. Cleaning the site and removing all debris, surplus unwanted materials and rubbles to approved dump site. 3. Backfilling in layers not more than 25cm thick for each layer and compaction to 98% of MDD. 4. All required Tests by an accredited laboratory. 5. The cadastral survey and leveling of existing status at grids not exceeding 5 m in both directions. 6.Leveling and backfilling from imported sand dune in case excavated materials are not approved for backfilling and up to the level of the top of external ground beams levels and to the formation level of apron and surrounding landscaping. 7. Laying out the buildings coordinates to be carried out by professional surveyor using total station device. 8.Approval of Bench mark and levelling network before excavation works. 				
1.1	Demolish the existing concrete elements , toilet units , and teachers rooms building to apply the new design the price includes dismantle all of the existing interlock tiles, tiles and deliver to MOEHE if required, the price including but not limited to foundation , ground beams, parts of the boundary wall, foundations, columns, plaster, tiles, trees, existing garden, solid waste inside and out side school buildings ,existing apron, and any required demolition/dismantle work to apply new design, and remove any debris and surplus materials to approved dump site according to specification and engineer's instructions.	Ls	1		
1.2	Excavation from natural ground level in any type of soil to required designed level. The Works including: The compaction of the soil surfaces to get (98% MDD). The excavated unwanted material should be removed out from the site to the approved places. The excavated selected material should be properly stored in the vicinity of site for reuse in backfilling. All to be executed as per specifications, drawings and the engineer's instructions.	M ³	70		
1.3	Supply, fill & compact Kurkar material with (CBR> 30) under the main building foundations (the mentioned soil improvement area) in two layers 30cm thick each layer (MDD 98%). The work must be carried out according to the specifications, design drawings & the engineer's instructions.	M ³	30		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1.4	Backfilling with selected materials from excavation around foundations & any other element up to ground slab level in layers not more than 25cm thick for each layer with compaction to 98% of MDD. The Works including compacting the design soil surfaces to get (98% MDD).	M ³	50		
1.5	Supply, fill by using approved material (sand dune) between ground beams , flower boxes & inside the building up to the required levels, which shall be spread in layers not exceeding 25cm each one & compacted (98%) to reach up the required levels (under floor slab), according to the specifications & the engineer's instructions.	M ³	250		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2. Concrete Works.					
	<p>Rates of Concrete Works shall include:-</p> <ol style="list-style-type: none"> 1. All form Works and shuttering (new lumber for shuttering painted by special oil (fuel or burnt oil is not accepted) in any form, shape and size . Making chamfered and curved edges, allowing for and making grooves and sleeves and using Tie Rods (Batant) for concrete walls ; removal of forms and cleaning of all exposed tie wires and rods. Steel forms must be used in shuttering the external decorations. 2. Supplying, Casting, vibrating and curing as per specifications. 3. Approved additives and admixtures. 4. Developing new Concrete Job Mix Designs, Sampling , testing and providing test results certificates, storing and saving of samples. 5. Painting of exposed surfaces of underground reinforced concrete elements with two coats of hot bituminous paint (75/25) after primer layer , the strokes of each layer to be opposite to each other. 6. Compaction and testing under the foundation, ground beams, ground slabs and Apron. the compaction should not be less than 98% of MDD. 7. Supply, fabricate and fix reinforcement steel (fy= 410 N/mm2) for all the structural elements according to drawings and engineer's instructions for any grade, size and length as detailed in the drawings, storing on site including cutting, bending and fixing in position and providing all tying wires, spacers, shop drawings, testing and bar bending schedules .All Works according to specifications , drawings and supervisor engineer instructions 8. In rehabilitation Works, supply fabricate and fix steel dowels to the existing concrete using special materials. In case of lapping with existing steel reinforcement, rates will include cleaning rust and treatment with special materials 9. In case after excavation the new columns locations and relevant footings coincide with the existing ones, the contractor will make modification to adapt implementation to the existing conditions and deemed to include in his rates relevant costs accordingly. 10. All rehabilitation Works will include the necessary extra steel reinforcement and concrete to be applied in layers if necessary in addition to the necessary special materials and accessories. 11. The price of concrete elements includes excavation to required levels, leveling , backfilling with approved material and compaction. 12. All Works according to specifications , drawings and supervisor engineer instructions <p>The price includes adjustment, relocate or change level and location of any existing water/sewer/draiange/electrical lines/pipes and utilities, under and above the ground. The price also includes adjustment of existing manholes, septic tanks to new levels, supply and install cast iron cover 60 cm diameter , and concrete rings</p>				
2.1	<p>Supply and cast ready mix reinforced concrete B(250) kg/cm2 for external steps , ramps walls, beams, any concrete sections with approved steel reinforcement by the engineer ,flower boxes with steel mesh 10mm diameter every 20cm including polythene sheets below concrete and compacting the soil beneath the work to 98% of MDD.as per specifications and drawings.</p>	M3	20		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2.2	Ditto but 10cm thick entrance ramps and platform .	M2	20		
2.3	Supply and cast ready mix reinforced 15 cm thickness concrete B 250 kg/cm2 smooth surface for playground by mechanical trawling machine . the price shall include supply and cast reinforced concrete for surrounding Beams ,foundations and any other related concrete elements The price includes supply and install polythene sheets, expansion joints(cut after casting by mechanical saw), 25cm base coarse(in two layers), mastic compressible materials, levelling of subgrade and compaction of each layer of base coarse and subgrade and finish the surface with colored PG coat materials, the price also includes marking works with approved paint as per specifications and drawings.	M2	560		
2.4	Supply and cast ready mix concrete B (300) kg/cm2 for Decorative Frames of school gate , columns, foundation of boundary wall including the reinforced steel, dismantle the existing steel gate and deliver to MOEHE, Demolish and remove block walls and any concrete elements to apply the new design to approved dump site , and all other materials required as per specifications and drawings.	M3	20		
2.5	Supply and construct interlock tiles (B400) 8cm thick including 20 cm base coarse layer (80% C.B.R). The price includes supply and install compacted 20cm of base course layer to 100% compaction ratio, watering, and testing, leveling of subgrade, compaction of subgrade (98%), removal of any obstacles, trees, concrete debris, ,the price includes dismantle of existing interlock /tiles and deliver to MOEHE, remove the existing concrete elements and transport the debris approved dumping site as per engineer instruction , leveling, excavation,backfilling to required levels and compaction, the price also includes 5 cm sand . Levels, colors and shapes all determined according to drawings, specifications and the supervisor Engineer's instructions.	M2	800		
2.6	Reinstall of existing interlock tiles in the same location or different locations, the price includes leveling, backfilling to required levels, supply and install compacted 10-20cm of base course layer to 100% compaction ratio where needed to match new levels, watering, and testing, leveling of subgrade, compaction of subgrade	M2	300		
2.7	Supply and cast reinforced concrete seat B (250) kg/cm2 , including the reinforced steel, supply and cast terrazzo layer on top 5 cm thick , and all other materials required as per specifications and drawings.	No	10		
2.8	Supply & install of terrazzo layer on top 5cm thickness for the existing concrete seats, the price includes maintenance for the seats and .painting with approved oil paints	No	10		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3. Building Works					
	The price include: 1- supplying hollow or solid cement block from good and approved factory in perfect dimension and build it in good manner with a compressive strength 35 kg/cm2 for hollow block and 60 kg/cm2 for solid block. This item will include cement mortars, galvanized steel ties, reinforced concrete infill (B250) between columns & block walls (10-20 cm wide) with 1Ø8mm/40cm horizontally and 2Ø8mm vertically according to drawings, pipes encasement, false columns 20x20 cm/4.0m among the parapet wall with 4Ø12mm and bituminous paper between block work and drop beams and testing as well as all requirements needed to finish the Works according to the drawings, specification and to the supervision engineer instructions.				
3.1	Supply and build hollow cement blocks 40x20x20cm	M2	50		
3.2	Supply and build solid cement block 40x20x15 cm, under ground beams, and external boundary wall for building including painting the buried parts with one coat of primer and two coats of hot bitumen after primer layer (75/25)	M2	50		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4.Aluminum & Metal Works					
	The items include supplying aluminum windows section 7000 matching the existing ones, with min. wall thickness 1.5mm (to be approved by representative engineer) as frame, glass 4 mm thick, ironmongery , accessories and hard ware along with fixing as per specification and drawings. All maintenance Works include all needed materials for reinstatement and workmanship. Steel work should be properly treated and prepared, painted with two coats of oil paint, one primer (polyzinc) and one undercoat. The price shall include removing the damaged aluminum and steel Works and handing to the MoEHE				
4.1	Supply and fix steel gate over all size 540x290 .the prices including mild steel frame , vertical steel plate, painting with one coat of primer, undercoat and at least two coats of hummer paint, all according to drawing, specification and engineer instructions.	No	2		
4.2	Supply and fix steel Basket ball tower .the prices including mild steel frames , all steel types to finish the work including , painting with one coat of primer, undercoat and at least two coats of hummer paint, and including basket board and net all according to drawing, specification and engineer instructions.	No	2		
4.3	Supply and fix steel volley ball net support .the prices including all steel types to finish the work including , painting with one coat of primer, undercoat and at least two coats of hummer paint, and including volleyball net all according to drawing, specification and engineer instructions.	No	2		
4.4	Supply and install steel shed (4.65 m Height).the price includes supply and cast reinforced concrete foundations as shown in drawings , all steel types to finish the work including steel profile 120*120*4mm thick with steel base plate 300×300×8mm to be fixed to the concrete foundation using another leveling bearing steel plate 300×300×8mm, steel trusses with Philips bolts complete with all washers nuts, supports, and all needed accessories to perform the required works as per specifications, drawings and the instruction of the supervisor Engineer. The works include all sheeting (cladding) works with corrugated steel sheets 0.55mm with fixation double and single channels 100×40×15 of 3mm thick. The item includes galvanized steel gutter 4mm thickness,3" vertical galvanized steel pipes for rain water drainage, 1.0m upper vertical cladding and all required accessories, bolts, nuts ... etc., and painting with one primer coat and three coats of approved hummer paint.	M2	160		
	Note: Measurement will be for the horizontal projection				
4.5	Supply and fix steel trash basket holder .the prices including all steel types to finish the work including , painting with one coat of primer, undercoat and at least two coats of hummer paint, and including concrete foundations in addition to supply a European colored plastic Basket with cover all according to drawing, specification and engineer instructions.	No	15		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5. Finishing Works					
	A- Plaster Works All Works must be according to drawings, specification and engineer instructions. Rates shall include : 1-Supply of all needed materials, including galvanized angles for the corners, windows and external decoration as well as the use of galvanized wire mesh between concrete and block work. 2-Preparation Works by covering all conduits of electricity, water supplies , 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. 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-Trimming of concrete chippings, removing the wires and etc. and cleaning of existing surfaces to be ready for plastering. 5- Checking out all of the preliminary installation in ceilings and walls such as Electrical, water supply and waste water pipes and repairing the damages if any. 6- Curing with water for at least three days for each coat. This should be done prior to commencement of plastering and after obtaining a written approval from the supervision engineer.				
5.1	Supply and make external plastering 20mm thick to walls with four faces : the first is the rough nail rendering (mix 1:1) cement sand; the second is 5mm thick mortar (mix 1: 2) cement: sand, the third is the undercoat 13mm (mix 1: 3 :0.25) cement:sand:lime, the forth is colored trolyn finish including painting by external supercryl (water proof) with three faces at least. The works include removing the old paint/plaster and plaster repairing, testing, treatment of cracks including cleaning, rubbing, open, filling with Sikaflex, closing openings, repairing plaster and all is according to specifications , drawings and supervisor engineer's instructions	M2	1200		
5.2	Supply and make granulate coating finish for ramps, external stairs and corridors with different size and color where require, the price includes all metal decorations, stainless steel separator and all required materials to complete the work according to specifications , drawings and supervisor engineer's instructions.	M2	20		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
6. Planting Works					
6.1	Supply and install fake grass non water proof with halls 1/2 " every 20 cm including rubber , the price include supply and comapct 20 cm thick layer of Kurkar , all works according to specifications and supervisor engineer's instructions.	M2	50		
6.2	supply and grow tree type T1 with total height 300 cm all works according to specifications and supervisor engineer's instructions.	No	10		
6.3	ditto but type T2 with trunk diameter 6 " and full height 220 cm	No	10		
6.4	ditto but type T3	No	35		
6.5	ditto but type T4 height 80-100 cm	No	25		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7. Drainage (Rain Water) Works:-					
	<p>(1) In general rates for Mechanical works shall include for:</p> <ol style="list-style-type: none"> 1. Developing shop and as built drawings 2. Cutting and forming all chases, recesses, holes, and the like, 3. Pipe sleeves, 4. Building of concrete and/or brick ducts in floors, walls ...etc., 5. Excavation, forming of trenches for services, concreting, bedding and back filling and ramming after laying, 6. Fixing brackets, clips, holder bats, hangers, and the like, 7. Temporary and final fixing, 8. Nails, screws, bolts, nuts, washers, holes, plugs, sleeves and the like, 9. Building in or cutting and pinning, 10. Testing and drawings, 11. Painting of pipes, 12. All work of other trades in connection with Mechanical work including all making good. <p>(2) All Plumbing works include the required units and its accessories as described in the items and the rates include:</p> <ol style="list-style-type: none"> 1- All the plumbing units should be from the best quality and has trade mark. 2- Submitting shop drawing for water supply and waste water networks for approval prior to commencement of the work. 3- Submitting samples for all required material with catalogue indicating its specifications. 4- All required tests , pressure for water net work , hydraulic test for sewage lines 5- Cleaning and disinfecting all water pipes. 6- Insulation of all galvanized water pipes and wrapping it with bitumen's sheets and protect pipes located under tiles with cement mortar. In addition to the insulation materials against heat loss for hot water pipes. 7- Supply, install, connect to fixtures and distribution boxes, and test as shown on drawings and as per specifications for hot water & cold water PE-X pipes 16mm outer diameter and 2.2mm thick wall with flexible polyethylene corrugated conduit of 25mm outer diameter and 20mm inside diameter, with all connections, and fittings. 8- All plumbing works (wash basin, kitchen sink, gully traps, etc...) include the connection to the nearest trap, WC to the nearest vertical sewage header in the typical floors and WC in the GF to the nearest manhole and include all accessories including PVC S and caps for all the ends of pipes at parapet. 9- All external inspection elbows should covered by galvanized steel plate with thick 2mm . <p>(3) Rates for manholes and pits shall include excavation, concrete, benching, plastering, backfilling and cover as per Drawings and Specifications,</p> <p>(4) Rates for sanitary fittings, isolated taps and gullies shall also include all pipe work in connection therewith and connections thereto including connection to the nearest manhole or gully and to the cold water storage tank.</p>				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
	<p>(5) Rates for pipe work including pipe work in frames to shading sheds shall include for:</p> <ol style="list-style-type: none"> 1. Joints in the running length, 2. Nipples, connections, sockets, ferrules, couplings, back nuts, unions, and the like, 3. Bends, elbows, tees, reducers, access doors, cleaning eyes, blank caps, stop valves, and the like, 4. Welded joints and connections including grinding, 5. Lagging and wrapping, 6. Excavation, bedding and backfilling. 7. Warning tape for underground pipes (magnetic for water pipes, normal for sewage and drainage pipes). 8. the unit price of all Items shall includes dismantle the existing interlock tiles, concrete slabs, cut , fill, compaction and reinstatement of the work to the original conditions. <p>The price includes connection between existing drainage steel/UPVC pipes with manholes, and all required fittings, reducers, cut , demolish and break concrete elements/apron and recast existing apron/concrete elements, excavation & backfilling and all required works to complete the job according to specification, drawings and engineer instructions.</p>				
7.1	Drill 80cm diameter borehole through cohesive and non-cohesive material up to 5 meter below the clay layer in the Kurkar layer as shown in the drawings and as directed by the engineer. Price shall include all needed accessories required to perform the work. Minimum depth of 12m from natural level.	Lm	36		
7.2	Supply and lay non-woven geotextile membrane according to specifications to protect the inner surface of the 80 cm diameter borehole.	Lm	33		
7.3	Ditto but for surface areas, and manholes premiter	M2	10		
7.4	Supply and fill in boreholes solid , clean washed, and free from dust gravel of at least 2" size.	m ³	17		
7.5	Ditto but ¾ " aggregates	m ³	0.5		
7.6	Ditto but ¼ " aggregates	m ³	0.5		
7.7	Supply and install pre-cast circular reinforced concrete manhole (Ø 600 mm) B300 complete with 40 cm cast iron cover solid or grill as required (8 tons capacity), frame, rings, and special joint required to fix the sewer pipes to the manhole. The item also includes B300 benching, shuttering, inside cast iron steps each step 30 cm maximum and safety measures, excavation in all soil to any depth, plain concrete 5 cm thick below the manhole, two external hot bitumen coating, and backfilling in layers 25 cm maximum using suitable material with watering, compaction according to specification, drawing, and the	No	17		
7.8	Ditto but Ø 1000 mm and 25 ton bearing capacity, 20 cm wall ,roof and foundation thickness.	No.	1		
7.9	Ditto but Ø 1500 mm and 25 ton bearing capacity, roof and foundation thickness. The price include 30 cm clean sand in Manhole, and stainless steel grill size 25* 25 cm for outlet.	No.	3		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7.10	Supply and install 110x300cm (3 inlets) combined storm-water drainage gully complete with four 80x40cm cast iron screens 25 tons bearing capacity. The item also includes casting B300 concrete for walls, footing and benching as per drawings, shuttering, excavation in any type of soil to any depth, plain concrete, two external hot bitumen coating, and backfilling in layers 25 cm maximum using suitable material (Kurkar) with watering, and compaction. Final location of gullies should be shown on shop drawings based on field survey and approval of the engineer.	unit	2		
7.11	Supply and install 8" uPVC Tee with 600 mm long pipe, as directed by engineer.	No.	2		
7.12	Supply and install UPVC pipeØ 8" (SN8) with sockets. The work includes excavating of trenches (depth up to 2.0m), bedding, compacted backfilling with clean sand, connecting to the manholes, fittings , all connections and hydraulic test according to the specifications and drawings.	Lm	212		
7.13	Ditto but 4" pipe	Lm	22		
Total					
8. Electrical Works:-					
8.1	Reconnect the main distribution board to GEDCO main network at the area in order to meet the new location. This works shall be coordinated with GEDCO and shall mainly include all necessary materials and equipment and civil works,...etc., to complete the job .All works must be according to GEDCO requirements and specifications.	Set	1		
Total					

Summary of Landscaping

DESCRIPTION	Total Amount \$
1. Excavation & Earthworks.	
2. Concrete Works.	
3. Building Works	
4. Metal Works	
5. Finishing Works	
6. Planting Works	
7.Drainage Works	
8. Electrical Works	
Sub total (\$)	

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Toilet Block					
	General Notes: 1- Complete detailed shop drawings should be delivered to the Engineer to take his approval prior the commencement of work. Samples of all materials shall also be delivered to the Engineer to take his approval. 2-Contractor shall take into consideration that all – direct and indirect Works and their relevant expenses required for proper implementation of the project including temporary facilities, fencing, securing utilities (water, wastewater, telephone and electricity systems) as well as making access to project implementation location away from the one in use by the students and teachers such that the school is running safely without disturbance. The contractor will be accountable for all necessary equipment, materials and activities to assure the safety of people within the school buildings and vicinity, where an approved safety plan will be prerequisite to initiating activities along with installing all required components and materials necessary for safety of workers, project team as well as people at school. All relevant costs are deemed to be included in the unit price in addition to the required re-instatement Works needed to bring the original facilities to its original status before addition of temporary Works. 3-The contractor will expect that more than one contractor will be carrying out Works in the school at the same time, the Contractor is presumed to make all necessary coordination and facilitate accessibility to and other work-related issues 4-All Works and installations listed here below should be carried out, tested and commissioned by specialized responsible skilled labours in full coordination with MoEHE , all in accordance with drawings, specifications and relevant standards, and the instruction of the Engineer. The Engineer has the right to reject any component of the work not complying with the specifications and the terms of the contract.				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1.Excavation & Earth Works					
	<p>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. Measurement is engineering measurement.</p> <p>All Works must be according to drawings, specification and engineer instructions. Rates shall include :</p> <p>1. Shoring the sides of excavation and preserving the adjacent buildings as well as existing infrastructure utilities (sewage, water, telecommunication and electricity Works). In case of damages that may incur, all relevant necessary repairs will be the contractor responsibility to cover its relevant costs.</p> <p>2. Cleaning the site and removing all debris, surplus unwanted materials and rubbles to approved dump site.</p> <p>3. Backfilling in layers not more than 25cm thick for each layer and compaction to 98% of MDD.</p> <p>4. All required Tests by an accredited laboratory.</p> <p>5. The cadastral survey and leveling of existing status at grids not exceeding 5 m in both directions.</p> <p>6.Leveling and backfilling from imported sand dune in case excavated materials are not approved for backfilling and up to the level of the top of external ground beams levels and to the <u>formation level of apron and surrounding landscaping.</u></p>				
1.1	Excavation from natural ground level in any type of soil to required designed level. The Works including: The compaction of the soil surfaces to get (98% MDD). The excavated unwanted material should be removed out from the site to the approved places. The excavated selected material should be properly stored in the vicinity of site for reuse in backfilling. All to be executed as per specifications, drawings and the engineer's instructions.	M3	50		
1.2	Supply, fill & compact Kurkar material with (CBR> 30) under the main building foundations (the mentioned soil improvement area) in two layers 30cm thick each layer (MDD 98%), to comply with the design bearing capacity of not less than (2.1Kg/cm2). The work must be carried out according to the specifications, design drawings & the engineer's instructions)	M3	30		
1.3	Backfilling with selected materials from excavation around foundations & any other element up to ground slab level in layers not more than 25cm thick for each layer with compaction to 98% of MDD. The Works including compacting the design soil surfaces to get (98% MDD).	M3	100		
1.4	Supply, fill by using approved material (sand dune) between ground beams & inside the building up to the required levels, which shall be spread in layers not exceeding 25cm each one & compacted (98%) to reach up the required levels (under floor slab), according to the specifications & the engineer's instructions.	M3	40		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2. Concrete Works.					
	<p>Rates of Concrete Works shall include:-</p> <p>1. All form Works and shuttering (new lumber for shuttering painted by special oil (fuel or burnt oil is not accepted) in any form, shape and size . Making chamfered and curved edges, allowing for and making grooves and sleeves and using Tie Rods (Batant) for concrete walls ; removal of forms and cleaning of all exposed tie wires and rods. Steel forms must be used in shuttering the external decorations.</p> <p>2. Supplying, Casting, vibrating and curing as per specifications.</p> <p>3. Approved additives and admixtures.</p> <p>4. Developing new Concrete Job Mix Designs, Sampling , testing and providing test results certificates, storing and saving of samples.</p> <p>5. Painting of exposed surfaces of underground reinforced concrete elements with two coats of hot bituminous paint (75/25) after primer layer , the strokes of each layer to be opposite to each other.</p> <p>6. Preliminary installations for Electrical, plumbing and floor drainage in floor slabs including final floor slab.</p> <p>7. Compaction and testing under the foundation, ground beams, ground slabs and Apron. the compaction should not be less than 98% of MDD.</p> <p>8. All Works according to specifications , drawings and supervisor engineer instructions</p> <p>9. Supply, fabricate and fix reinforcement steel ($f_y = 410 \text{ N/mm}^2$) for all the structural elements according to drawings and engineer's instructions for any grade, size and length as detailed in the drawings, storing on site including cutting, bending and fixing in position and providing all tying wires, spacers, shop drawings, testing and bar bending schedules .All Works according to specifications , drawings and supervisor engineer instructions</p> <p>10. In rehabilitation Works, supply fabricate and fix steel dowels to the existing concrete using special materials. In case of lapping with existing steel reinforcement, rates will include cleaning rust and treatment with special materials</p> <p>11. In case after excavation the new columns locations and relevant footings coincide with the existing ones, the contractor will make modification to adapt implementation to the existing conditions and deemed to include in his rates relevant costs accordingly.</p> <p>All rehabilitation Works will include the necessary extra steel reinforcement and concrete to be applied in layers if necessary in addition to the necessary special materials and accessories.</p>				
2.1	Supply and cast ready mix plain concrete B (200) kg/cm ² for Blinding beds 10 cm thick including polythene sheets as per specifications and drawings.	M3	7		
2.2	Supply and cast ready mix reinforced concrete B(250) kg/cm ² for the ground slab 10cm thick with steel mesh 8mm diameter every 20cm including polythene sheets below concrete slab and compacting the soil beneath the slab to 98% of MDD.as per specifications and drawings.	M2	50		
2.3	Supply and cast ready mix reinforced concrete B (300) kg/cm ² for foundations (isolated, strip footing, strap & inverted T sec.) as per specifications and drawings.	M3	12		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2.4	Ditto but for ground beams including ground beam for the platform.	M3	10		
2.5	Ditto but for strap beams between the foundations.	M3	1		
2.6	Ditto but for sills, lintels, coping, concrete wall (hunches for doors), gas room elements .etc.	M3	7		
2.7	Ditto but plain concrete B200 under water tank and pumps 20 cm thick.	M3	2		
2.8	Supply and cast ready mix reinforced concrete B (300) kg/cm2 for columns and columns necks as per specifications and drawings.	M3	4		
2.9	Supply and cast ready mix concrete B (300) kg/cm2 for suspended slab 25cm thick, including the reinforced steel, concrete hollow block 40*25*17 cm all drop and inverted beams everywhere in the slab and all other materials as per specifications and drawings.	M2	70		
2.10	ditto, but B250 reinforced concrete for Apron (surface treated with mechanical steel troweled finish) the price include polythene sheets. Reinforcement Ø 8mm / 15 cm in both way and reinforced edge beam as well as expansion joints. The price including leveling, 15cm thick compacted base coarse to 100% of MDD and making of expansion joints including its approved filling materials (sika flex or equivalent) according to drawing and specification.	M2	35		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3. Building Works					
	The price include: 1- supplying hollow or solid cement block from good and approved factory in perfect dimension and build it in good manner with a compressive strength 35 kg/cm2 for hollow block and 60 kg/cm2 for solid block. This item will include cement mortars, galvanized steel ties, reinforced concrete infill (B250) between columns & block walls (10-20 cm wide) with 1Ø8mm/40cm horizontally and 2Ø8mm vertically according to drawings, pipes encasement, false columns 20x20 cm/4.0m among the parapet wall with 4Ø12mm and bituminous paper between block work and drop beams and testing as well as all requirements needed to finish the Works according to the drawings, specification and to the supervision engineer instructions				
3.1	Supply and build hollow cement blocks 40x20x20cm	M2	110		
3.2	.Ditto but 40x20x 10 cm thick	M2	80		
3.3	Supply and build solid cement block 40x20x20 cm, under ground beams, and external boundary for building including painting the buried parts with one coat of primer and two coats of hot bitumen after primer layer (75/25)	M2	50		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4.Aluminum, Carpentry & Metal Works					
	<p>The items include supplying aluminum windows section 7000 matching the existing ones, with min. wall thickness 1.5mm (to be approved by representative engineer) as frame, glass 4 mm thick, ironmongery , accessories and hard ware along with fixing as per specification and drawings. All maintenance Works include all needed materials for reinstatement and workmanship.</p> <p>Steel work should be properly treated and prepared, painted with two coats of oil paint, one primer (polyzinc) and one undercoat. The price shall include removing the damaged aluminum and steel Works and handing to the MoEHE</p> <p>Carpentry Works: The items include supplying carpentry works from good wood grade "A" including frame cover mould, architrave and at least two coats of oil paint, 15cm stainless steel grade 316" kick plate 1mm thick from both sides , hard ware locked type Wally switch or equivalent and brass hinges 10cm height, door stopper and all other fitting according to specification and drawing .</p>				
4.1	Supply and fix colored aluminum window section 7000 type WA1 overall size 225 x 50cm, complete with frame, white color, four sliding leaves ,clear glass 4mm thick, ironmongery and hardware. <u>and as per specification and drawing.</u>	No	1		
4.2	Supply and install colored aluminum window section 4500 type WA2 overall size 60 x 40cm, complete with frame, white color, hinged ,clear glass 4mm thick, ironmongery and hardware. <u>and as per specification and drawing.</u>	No	10		
4.3	Supply and fix flush galvanized steel double external door D.S1 size (90 x220), new double sheets (2-mm thick), complete with frame 3mm thick, ironmongery, hardware and one primer coat, one under coat and minimum two coats of colored hummer paint, with hard ware locked type Wally switch or equivalent and all requirement as latches, locks...etc. as specified in the drawings <u>and specifications.</u>	No	2		
4.4	Supply, fix and paint wooden single internal flush door type D7 size 80x210x4.5cm according to the drawing, specifications and <u>under supervision .</u>	No	5		
4.5	Supply and fix steel protection for windows over all size WA1 (ground floor) 225 x 50cm cm .the prices including mild steel frame size 40 x 8mm thick, vertical steel plate size 20mm wide x 8mm thick fixed every 12cm (clear distance), decorative circles 20x2mm, all by welding to the frame. Fixed on walls by steel angle ties and plates, painting with one coat of primer, undercoat and at least two coats of oil paint, all according to drawing, specification <u>and engineer instructions</u>	No	1		
4.6	Supply and fix steel protection for windows over all size WA2(ground floor)60x40 cm .the prices including mild steel frame size 40 x 8mm thick, vertical steel plate size 20mm wide x 8mm thick fixed every 12cm (clear distance), decorative circles 20x2mm, all by welding to the frame. Fixed on walls by steel angle ties and plates, painting with one coat of primer, undercoat and at least two coats of oil paint, all according to drawing, specification <u>and engineer instructions</u>	No	10		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5. Finishing Works					
	<p>A- Plaster Works</p> <p>All Works must be according to drawings, specification and engineer instructions. Rates shall include :</p> <p>1-Supply of all needed materials, including galvanized angles for the corners, windows and external decoration as well as the use of galvanized wire mesh between concrete and block work.</p> <p>2-Preparation Works by covering all conduits of electricity, water supplies , 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.</p> <p>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.</p> <p>4-Trimming of concrete chippings, removing the wires and etc. and cleaning of existing surfaces to be ready for plastering.</p> <p>5- Checking out all of the preliminary installation in ceilings and walls such as Electrical, water supply and waste water pipes and repairing the damages if any.</p> <p>6- Curing with water for at least three days for each coat.</p> <p>This should be done prior to commencement of plastering and after obtaining a written approval from the supervision engineer.</p> <p>B- Tiles Works</p> <p>All Works must be according to drawings, specification and engineer instructions. Rates shall include :</p> <p>1. Samples for approval and all the required tests.</p> <p>2. Cleaning, mechanical polishing and pointing using grout.</p> <p>3.Insulation Works under ceramic floor tiles for all wet areas and kitchens using primer coat, two hot bitumen coats (75/25)</p> <p>4. Plastic angle beads for ceramic wall tiles at the corners and top and sides of ceramic edges.</p> <p>5. Local marble must be Grade (A) free cracks and clay flaws.</p> <p>6. Measuring the stockpiled quantities of tiles and obtaining the engineer approval prior to shipment to the site.</p> <p>7.Transporting and carefully handling the stored quantities to the site.</p>				
5.1	Supply and make internal plastering 13 mm thick for ceiling ,walls and soffits. The work includes rough primer nail rendering to form a key with (mix 1:1) cement sand, second layer 13mm: Base-Coat "Rendering" with (1:3:0.25) cement: sand : lime and third layer: Finishing Coat with (1:1:1) cement: sand : lime . Works include all materials needed to finish the Works according to specifications , drawings and supervisor engineer's instructions	M2	80		
5.2	Supply and make external plastering 20mm thick to walls with three faces : the first is the rough nail rendering (mix 1:1) cement sand; the second is 5mm thick mortar (mix 1: 2) cement: sand, the third is the undercoat 13mm (mix 1: 3 :0.25) cement:sand:lime, and all is according to specifications , drawings and supervisor engineer's instructions	M2	150		
5.3	Supply & execute the external finishes (colored solvent based grained coating) (Ecos) in accordance with the manufacturer's requirements, specifications, drawings and the engineer's instructions.	M2	150		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5.4	Supply, install and fix 200x200mm Floor glazed ceramic tiles, of European type, including cement mortar bed, cleaning, pointing and polishing .	M2	50		
5.5	Supply, install and fix 200x200mm wall glazed ceramic tiles, of European type, including cement mortar bed, cleaning, pointing and polishing .	M2	250		
5.6	Supply and install local marble 25cm wide x 3cm thick of the similar color of the floor tiles including smoothing edges (for corridors and thresholds.) as per specifications and drawings.	.Mr	12		
5.7	Supply and make internal Emulsion painting for ceiling . The work includes fines the surface by using the following coats: 1-tow coats of bandrol, 3 coats of white washable acrylic emulsion paint . Works include all materials needed to finish the Works according to specifications , drawings and supervisor engineer's instructions	M2	70		
Total					
6-Isolation works					
6.1	Supply and cast foam concrete with fine aggregates for roof screeding of average thickness 10 cm as shown in drawing.	M2	80		
6.2	Supply and lay one layer of plasticized bitumen roofing membrane with chipping 4 mm thick, including priming concrete surface prior to laying, dressing into rainwater outlets to form waterproofing seal and cover with angle fillets. The rate includes verticals parts skirting as per specification and drawings.	M2	80		
	Note: Measurement will be for the horizontal projection				
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7. Mechanical works					
	<p>(1) In general rates for Mechanical works shall include for:</p> <ol style="list-style-type: none"> 1. Developing shop and as built drawings 2. Cutting and forming all chases, recesses, holes, and the like, 3. Pipe sleeves, 4. Building of concrete and/or brick ducts in floors, walls ...etc., 5. Excavation, forming of trenches for services, concreting, bedding and back filling and ramming after laying, 6. Fixing brackets, clips, holder bats, hangers, and the like, 7. Temporary and final fixing, 8. Nails, screws, bolts, nuts, washers, holes, plugs, sleeves and the like, 9. Building in or cutting and pinning, 10. Testing and drawings, 11. Painting of pipes, 12. All work of other trades in connection with Mechanical work including all making good. <p>(2) Rates for manholes and pits shall include excavation, concrete, benching, plastering, backfilling and cover as per Drawings and Specifications,</p> <p>(3) Rates for sanitary fittings, isolated taps and gullies shall also include all pipe work in connection therewith and connections thereto including connection to the nearest manhole or gully and to the cold water storage tank.</p> <p>(4) Rates for pipe work including pipe work in frames to shading sheds shall include for:</p> <ol style="list-style-type: none"> 1. Joints in the running length, 2. Nipples, connections, sockets, ferrules, couplings, back nuts, unions, and the like, 3. Bends, elbows, tees, reducers, access doors, cleaning eyes, blank caps, stop valves, and the like, 4. Welded joints and connections including grinding, 5. Lagging and wrapping, 6. Excavation, bedding and backfilling 				
	<i>Sewage Works:-</i>				
7.1	Supply and install concrete manhole of internal diameter 60 cm ,and (50-100) cm depth according to the required level, 10cm thick plain concrete for walls and base, slab, with cast iron cover with frame 50cm opening, 8 ton bearing capacity, including excavation, backfilling, hunching and making good according to specification, drawing, and the engineer instructions.	No	8		
7.2	Supply and install Floor Trap Gully (F.T.G) Ø 4", Including Stainless steel Covers, Ø 4" pipes, vent. pipes, cap for ventilation pipes and connected to out site manhole, with all connections and fittings.	No.	3		
7.3	Ditto but Floor Clean Out Ø 4", Including Stainless steel Covers, piping , with all connections and fittings.	No.	1		
7.4	Supply and install UPVC pipe Ø 6" (SN8) including excavation for trench, backfilling, compaction, fittings , and all connections .	Lm	35		
	<i>Drainage (Rain Water) Works:-</i>				
7.5	Supply and install Roof Trap drain Ø 4", Including Stainless steel Covers, Ø 4" pipes, vent. pipes, cap for ventilation pipes and connected to out site manhole, with all connections and fittings.	No.	1		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
	Domestic Water Works:-				
7.6	Supply and install galvanized steel pipe Ø 1.5" , (Schedule -40). Including fixing , excavation for trench, backfilling, compaction, UPVC pipe Ø 4" for sleeves, insulation, valves , fittings and all connections.	Lm	50		
7.7	Ditto but galvanized steel pipe Ø 1.25"	Lm	30		
7.8	Ditto but galvanized steel pipe Ø 1"	Lm	20		
7.9	Ditto but galvanized steel pipe Ø 3/4"	Lm	20		
7.10	.Supply and install Collector Box for (CB-T1) hot and cold water distribution system completed with all necessary Rozabita granite boxes 100x50x12 cm(two leaves aluminum door and lock) ,with Italian made connections, fittings ,main valves, valves for each line, the price includes supply, install, connect to fixtures and distribution boxes, and test as shown on drawings and as per specifications for hot water & cold water PE-X pipes 16mm outer diameter and 2.2mm thick wall with flexible polyethylene corrugated conduit of 25mm outer diameter and 20mm inside diameter, with all connections, collectors , records , and as required by drawings specification and Engineer satisfaction	No.	2		
7.11	Supply and fix water storage plastic tank 1.5 m3 capacity with locks for cover, with approved type not less than 32 kg weight, complete with lockable cover,1 inch diam. automatic float valve, overflow pipe (1" diam), ventilation pipe and drip tray, with all connections for rising main and distribution pipe work and stop valves 1" with all accessories as specification and drawings, including painting tanks with white oil paint	No.	4		
	Finishing Works:-				
7.12	Supply and fix white glazed fire clay hand wash basin size 52cm x45cm (Vitra type - grade A) or equivalent, complete with all water supply pipes 16mm (Golany) to the nearest distribution box (DB), waste fitting, trap, plug and chain, long swan neck water tap (Hamat or equivalent), glazed fire clay soap holder, and the drainage line 2" to the nearest floor trap.	.No	5		
7.13	Supply and install 6mm mirrors including sealant and fixing accessories mirror, size 600 X 400 mm	No.	5		
7.14	Supply and fix white glazed fireclay European W.C. suite (Vitra type - grade A) , or equivalent complete with heavy duty cover (Vitra type - grade A) , 9 liter plastic double action flushing cistern, and fixed chromium plated tap 1/2" Tibesa type or equivalent, including all water supply pipes 16mm(Golany) to the nearest dist. box (DB), flushing hose sprayer, glazed fire clay paper holder, angle valves, UPVC drainage pipe connecting to the nearest manhole or sewage header as per specifications , cap for ventilation pipes sprayer hose , all valves , fireclay toilet paper holders white color with all connections, and fittings according to drawings and supervisor engineer instructions	No.	10		
7.15	Supply and install 3/4" water chrome tap, for flushing and R.O water .	No.	10		
	Ventilation System				
7.16	Supply and install wall mounted extract fan (EX-F2) of 650 m3/hr. at static pressure 30 pascal, Ø 8". Including all electrical wires, control panel with all connections and fittings	No	3		
7.17	Supply and fix galvanized steel threaded pipe 3" including jointing, fittings Tee ,elbows ,shows,& fixing to walls with metallic brackets and 3 inch diameter wire balloon grating and floor traps as specification and drawings.	Lm	8		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7.18	Supply & fix pre-cast terrazzo drinking point units size 214x50x25cm including the followings; - polishing and smoothing, forming slope. - built on 3 concrete piers 15cm thick, at least 3 piers per unit. - required pipes ½”and fittings for cold water supply and 4 taps 1/2 " (Hamat type or equivalent). - 2" PVC drainage pipe to the nearest manhole - 60cm high of white glaze tiles above it . - painted steel cover box for protections, wire mesh grill complete with frames and lock, brass grating & complete with all fittings according to the drawing. and specifications.	Unit	3		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
8. Electrical works					
	<u>NOTES :</u>				
*	Electrical wiring, telephone wiring and data network as per drawings, specifications and engineer instructions. Where cost of testing and commissioning and connecting the cables to switchboards and common electric network are included in the cost price of the followings :-				
A-	<u>DISTRIBUTION BOARD :</u>				
*	Supply and install blastic board 12 C.B with all accessories and connections needed as instructions of D.O.W (MCB 1*32A , 2MCB 1*10A , RCCB 2*40 .03)	No.	1		
B-	<u>LIGHTING FITTINGS :</u>				
*	Supply, install and connect the following lighting fittings, the work including tubes or lamps , 0.75" PVC conduit, 3x1.5mm2 NYA wires and all accessories and connections needed as instructions of D.O.W				
1-	Surface mounted 16 W Led light fixture, IP 65 , with opal polycarbonate cover, with all accessories needed, high quality & brand name and Europe made.	No.	16		
C-	<u>LIGHT SWITCHES:</u>				
*	Supply, install and connect the following fittings, the work including: 0.75" PVC conduit, 3x1.5mm2 NYA wires and all accessories and connections needed as instructions of D.O.W				
	One gang-two ways 220V-10A ON/OFF. SP Switch, Type must be Brand name high quality	No.	2		
	Water proof two gang-one way Switch, Type must be Brand name high quality	No.	5		
D-	<u>EXTRACT FANS:</u>				
1-	Supply and install 6" dim. Wall mounted Extract fan, 250m3/h, With galvanized steel protection louver "Type must be Brand name high quality", the work including: 0.75" PVC conduit, 3x1.5mm2 NYA wires and all accessories and connections needed as instructions of D.O.W	No.	10		
E-	<u>CABLES:</u>				
*	Supply, laying and termination of XLPE CU cable, including laying cables, termination, labeling cable lugs, cable glands with all required electrical and civil works to connect cable terminals from source to destination. According to drawings, specifications , demands of the supervising engineer and D.O.W. as follow:.				
	3x2.5 mm2 XLPE Cable	Mr.	100		
	3x1.5 mm2 XLPE Cable	Mr.	50		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
F-*	Conduits & Ducts : Supply, laying under ground PVC piping system for the under ground electrical network as per drawing . The work , excavation, laying pipes, warning tapes , backfilling, and all required work to complete the job as follow: 2" Internal Diameter UPVC Conduits.	Lm	80		
Total					

Summary of Toilet building

DESCRIPTION	Total Amount \$
1. Excavation & Earth Works.	
2. Concrete Works.	
3. Building Works	
4. Aluminum, Carpentry & Metal Works	
5. Finishing Works	
6. Isolation Works	
7.Mechanical works	
8. Electrical Works	
Sub total (\$)	

Summary of AL Hurrya School

DESCRIPTION	Total Amount \$
1. Landscaping	
2. Toilet Unit	
Sub total (\$)	



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-197

Hashem Atta Al Shawa School

Hashem Atta Al Shawa School

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
	<p>General Notes:</p> <p>1- Complete detailed shop drawings should be delivered to the Engineer to take his approval prior the commencement of work. Samples of all materials shall also be delivered to the Engineer to take his approval,</p> <p>2-Contractor shall take into consideration that all – direct and indirect Works and their relevant expenses required for proper implementation of the project including temporary facilities, fencing, securing utilities (water, wastewater, telephone and electricity systems) as well as making access to project implementation location away from the one in use by the students and teachers such that the school is running safely without disturbance. The contractor will be accountable for all necessary equipment, materials and activities to assure the safety of people within the school buildings and vicinity, where an approved safety plan will be prerequisite to initiating activities along with installing all required components and materials necessary for safety of workers, project team as well as people at school. All relevant costs are deemed to be included in the unit price in addition to the required re-instatement Works needed to bring the original facilities to its original status before addition of temporary Works.</p> <p>3-The contractor will expect that more than one contractor will be carrying out Works in the school at the same time, the Contractor is presumed to make all necessary coordination and facilitate accessibility to and other work-related issues</p> <p>4-All Works and installations listed here below should be carried out, tested and commissioned by specialized responsible skilled labours in full coordination with MoEHE , all in accordance with drawings, specifications and relevant standards, and the instruction of the Engineer. The Engineer has the right to reject any component of the work not complying with the specifications and the terms of the contract.</p> <p>4-The price includes dismantle of any interlock tiles, existing utilities, demolish any concrete items , removal of tress, obstacles.. Etc,and any required work to apply the new design, transport all materials to MoEHE per the engineer instruction. The price also includes reinstatement to the original conditions, backfilling, excavations and any other works to accomplish the task. The price shall also include the transfer of unwanted/surplus materials to the final destination as per the directions of the engineer.</p> <p>5-The price includes supply and install temporary steel fence to separate the working area from the existing classes and school utilities</p>				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1.EXCAVATION & Earthworks					
	<p>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. Measurement is engineering measurement.</p> <p>All Works must be according to drawings, specification and engineer instructions. Rates shall include :</p> <ol style="list-style-type: none"> 1. Shoring the sides of excavation and preserving the adjacent buildings as well as existing infrastructure utilities (sewage, water, telecommunication and electricity Works). In case of damages that may incur, all relevant necessary repairs will be the contractor responsibility to cover its relevant costs. 2. Cleaning the site and removing all debris, surplus unwanted materials and rubbles to approved dump site. 3. Backfilling in layers not more than 25cm thick for each layer and compaction to 98% of MDD. 4. All required Tests by an accredited laboratory. 5. The cadastral survey and leveling of existing status at grids not exceeding 5 m in both directions. 6.Leveling and backfilling from imported sand dune in case excavated materials are not approved for backfilling and up to the level of the top of external ground beams levels and to the formation level of apron and surrounding landscaping. 7. Laying out the buildings coordinates to be carried out by professional surveyor using total station device. 8.Approval of Bench mark and levelling network before excavation works. 				
1.1	Demolish the existing concrete playground ,stairs, steps, balustrade, block walls, platform to apply the new design the price includes dismantle all of the existing interlock tiles, tiles, terrazzo stairs, balustrade steel and deliver to MOEHE if required, the price includes but not limited to foundation , ground beams, plaster, tiles, trees, existing garden, solid waste inside and out side school buildings ,existing apron, and any required demolition/dismantle work to apply new design, and remove any debris and surplus materials to approved dump site according to specification and engineer's instructions. The price includes protection of existing building by any necessary equipment's, shutters and requirements	LS	1		
1.2	Excavation from natural ground level in any type of soil to required designed level. The Works including: The compaction of the soil surfaces to get (98% MDD). The excavated unwanted material should be removed out from the site to the approved places. The excavated selected material should be properly stored in the vicinity of site for reuse in backfilling. All to be executed as per specifications, drawings and the engineer's instructions.	M ³	500		
1.3	Supply, fill & compact Kurkar material with (CBR> 30) under the main building foundations (the mentioned soil improvement area) in two layers 30cm thick each layer (MDD 98%). The work must be carried out according to the specifications, design drawings & the engineer's instructions	M ³	100		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1.4	Backfilling with selected materials from excavation around foundations & any other element up to ground slab level in layers not more than 25cm thick for each layer with compaction to 98% of MDD. The Works including compacting the design soil surfaces to get (98% MDD).	M ³	20		
1.5	Supply, fill by using approved material (sand dune) between ground beams , flower boxes & inside the building up to the required levels, which shall be spread in layers not exceeding 25cm each one & compacted (98%) to reach up the required levels (under floor slab), according to the specifications & the engineer's instructions.	M ³	120		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2. Concrete Works.					
	<p>Rates of Concrete Works shall include:-</p> <ol style="list-style-type: none"> 1. All form Works and shuttering (new lumber for shuttering painted by special oil (fuel or burnt oil is not accepted) in any form, shape and size . Making chamfered and curved edges, allowing for and making grooves and sleeves and using Tie Rods (Batant) for concrete walls ; removal of forms and cleaning of all exposed tie wires and rods. Steel forms must be used in shuttering the external decorations. 2. Supplying, Casting, vibrating and curing as per specifications. 3. Approved additives and admixtures. 4. Developing new Concrete Job Mix Designs, Sampling , testing and providing test results certificates, storing and saving of samples. 5. Painting of exposed surfaces of underground reinforced concrete elements with two coats of hot bituminous paint (75/25) after primer layer , the strokes of each layer to be opposite to each other. 6. Compaction and testing under the foundation, ground beams, ground slabs and Apron. the compaction should not be less than 98% of MDD. 7. Supply, fabricate and fix reinforcement steel (fy= 410 N/mm2) for all the structural elements according to drawings and engineer's instructions for any grade, size and length as detailed in the drawings, storing on site including cutting, bending and fixing in position and providing all tying wires, spacers, shop drawings, testing and bar bending schedules .All Works according to specifications , drawings and supervisor engineer instructions 8. In rehabilitation Works, supply fabricate and fix steel dowels to the existing concrete using special materials. In case of lapping with existing steel reinforcement, rates will include cleaning rust and treatment with special materials 9. In case after excavation the new columns locations and relevant footings coincide with the existing ones, the contractor will make modification to adapt implementation to the existing conditions and deemed to include in his rates relevant costs accordingly. 10. All rehabilitation Works will include the necessary extra steel reinforcement and concrete to be applied in layers if necessary in addition to the necessary special materials and accessories. 11. The price of concrete elements includes excavation to required levels, leveling , backfilling with approved material and compaction. 12. All Works according to specifications , drawings and supervisor engineer instructions <p>The price includes adjustment, relocate or change level and location of any existing water/sewer/draiange/electrical lines/pipes and utilities, under and above the ground. The price also includes adjustment of existing manholes, septic tanks to new levels, supply and install cast iron cover 60 cm diameter , and concrete rings</p>				
2.1	Supply and cast ready mix reinforced concrete B(250) kg/cm2 for external steps ,external stairs, ramps walls, beams, any concrete sections with approved steel reinforcement by the engineer ,flower boxes with steel mesh 10mm diameter every 20cm including polythene sheets below concrete and compacting the soil beneath the work to 98% of MDD.as per specifications and drawings.	M3	30		
2.2	Ditto but 10cm thick entrance ramps and platform .	M2	20		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2.3	Supply and cast ready mix reinforced 15 cm thickness concrete B 250 kg/cm2 smooth surface for playground by mechanical trawling machine . the price shall include supply and cast reinforced concrete for surrounding Beams ,foundations and any other related concrete elements The price includes supply and install polythene sheets, expansion joints(cut after casting by mechanical saw), 25cm base coarse(in two layers), mastic compressible materials, levelling of subgrade and compaction of each layer of base coarse and subgrade and finish the surface with colored PG coat materials, the price also includes marking works with approved paint as per specifications and drawings	M2	400		
2.4	Supply and cast ready mix reinforced concrete B300 for Retaining walls, including reinforcement steel and shuttering, construction joint, kalkal, sika flex, aluminum cover 10 cm wide with 2mm thickness for expansion joints,cleaning and treatment of existing steel bars according to Drawings, Specifications and instructions of the Engineer.	M3	60		
2.5	Supply and cast ready mix concrete B (300) kg/cm2 for Decorative Frames of school gate , including the reinforced steel, dismantle the existing steel gate and deliver to MOEHE, Demolish and remove block walls and any concrete elements to apply the new design to approved dump site , and all other materials required as per specifications and drawings.	M3	20		
2.6	Supply and construct interlock tiles (B400) 8cm thick including 20 cm base coarse layer (80% C.B.R). The price includes supply and install compacted 20cm of base course layer to 100% compaction ratio, watering, and testing, leveling of subgrade, compaction of subgrade (98%), removal of any obstacles, trees, concrete debris, ,the price includes dismantle of existing interlock /tiles and deliver to MOEHE, remove the existing concrete elements and transport the debris approved dumping site as per engineer instruction , leveling, excavation,backdilling to required levels and compaction, the price also includes 5 cm sand . Levels, colors and shapes all determined according to drawings, specifications and the supervisor Engineer's instructions.	M2	600		
2.7	Supply and cast reinforced concrete seat B (250) kg/cm2 , including the reinforced steel, supply and cast terrazzo layer on top 5 cm thick , and all other materials required as per specifications and drawings.	.No	20		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3. Building Works					
	The price include: 1- supplying hollow or solid cement block from good and approved factory in perfect dimension and build it in good manner with a compressive strength 35 kg/cm2 for hollow block and 60 kg/cm2 for solid block. This item will include cement mortars, galvanized steel ties, reinforced concrete infill (B250) between columns & block walls (10-20 cm wide) with 1Ø8mm/40cm horizontally and 2Ø8mm vertically according to drawings, pipes encasement, false columns 20x20 cm/4.0m among the parapet wall with 4Ø12mm and bituminous paper between block work and drop beams and testing as well as all requirements needed to finish the Works according to the drawings, specification and to the supervision engineer instructions.				
3.1	Supply and build hollow cement blocks 40x20x20cm	M2	150		
3.2	Supply and build hollow cement blocks 40x20x15cm	M2	50		
3.3	Supply and build solid cement block 40x20x20 cm, under ground beams, and external boundary for building including painting the buried parts with one coat of primer and two coats of hot bitumen .after primer layer (75/25)	M2	150		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4.Aluminum & Metal Works					
	The items include supplying aluminum windows section 7000 matching the existing ones, with min. wall thickness 1.5mm (to be approved by representative engineer) as frame, glass 4 mm thick, ironmongery , accessories and hard ware along with fixing as per specification and drawings. All maintenance Works include all needed materials for reinstatement and workmanship. Steel work should be properly treated and prepared, painted with two coats of oil paint, one primer (polyzinc) and one undercoat. The price shall include removing the damaged aluminum and steel Works and handing to the MoEHE				
4.1	Supply and fix steel gate over all size 540x290 .the prices including mild steel frame , vertical steel plate, painting with one coat of primer, undercoat and at least two coats of hummer paint, all according to drawing, specification and engineer instructions.	.No	1		
4.2	Complete Maintenance for the existing steel Basket ball tower .the prices including replacement of any defected part, all steel types, welding, smoothing, to finish the work including , painting with one coat of primer, undercoat and at least two coats of hummer paint, and including basket board and net all according to drawing, specification and engineer instructions.	.No	2		
4.3	Supply and fix steel volley ball net support .the prices including all steel types to finish the work including , painting with one coat of primer, undercoat and at least two coats of hummer paint, and including vollyball net all according to drawing, specification and engineer instructions.	.No	2		
4.4	Supply and install steel shed (4.65 m Height).the price includes supply and cast reinforced concrete foundations as shown in drawings , all steel types to finish the work including steel profile 120*120*4mm thick with steel base plate 300×300×8mm to be fixed to the concrete foundation using another leveling bearing steel plate 300×300×8mm, steel trusses with Philips bolts complete with all washers nuts, supports, and all needed accessories to perform the required works as per specifications, drawings and the instruction of the supervisor Engineer. The works include all sheeting (cladding) works with corrugated steel sheets 0.55mm with fixation double and single channels 100×40×15 of 3mm thick. The item includes galvanized steel gutter 4mm thickness,3" vertical galvanized steel pipes for rain water drainage, 1.0m upper vertical cladding and all required accessories, bolts, nuts ... etc., and painting with one primer coat and three coats of approved hummer paint.	M2	170		
	Note: Measurement will be for the horizontal projection				
4.5	Supply and fix steel trash basket holder .the prices including all steel types to finish the work including , painting with one coat of primer, undercoat and at least two coats of hummer paint, and including concrete foundations in addition to supply a European colored plastic Basket with cover all according to drawing, specification and engineer instructions.	.No	15		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4.6	Supply and fix mild steel balustrade 60cm high to match the existing in the school for the corridors comprising of M.S. hollow section tubes 40 x 20 x 2 mm verticals spacing 10 cm clear distance, and welded 60x40x2 mm top and bottom rails fixed to columns and bottom parapet using expansion bolts, rates includes M.S. end angles, painting with one primer, under coats and minimum two coats of oil paint, (the color to be approved By the Engineer and as drawings and specifications).	Lm	30		
4.7	Supply and fix galvanized steel balustrade for stair case pipe Ø 1.5” 2mm thick fixed to walls by steel plate and 4 bolts every 1m and 10cm space between wall and the pipe, the works include one primer coat, one under coat and minimum two coats of colored oil paint in addition to all Accessories needed to finish the work according to specifications, drawings and the engineer's instructions.	Lm	30		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5. Finishing Works					
	A- Plaster Works All Works must be according to drawings, specification and engineer instructions. Rates shall include : 1-Supply of all needed materials, including galvanized angles for the corners, windows and external decoration as well as the use of galvanized wire mesh between concrete and block work. 2-Preparation Works by covering all conduits of electricity, water supplies , 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. 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-Trimming of concrete chippings, removing the wires and etc. and cleaning of existing surfaces to be ready for plastering. 5- Checking out all of the preliminary installation in ceilings and walls such as Electrical, water supply and waste water pipes and repairing the damages if any. 6- Curing with water for at least three days for each coat. This should be done prior to commencement of plastering and after obtaining a written approval from the supervision engineer.				
5.1	Supply and make external plastering 20mm thick to walls with four faces : the first is the rough nail rendering (mix 1:1) cement sand; the second is 5mm thick mortar (mix 1: 2) cement: sand, the third is the undercoat 13mm (mix 1: 3 :0.25) cement:sand:lime, the forth is colored trolyn finish including painting by external superycryl (water proof) with three faces at least. The works include removing the old paint/plaster and plaster repairing, testing, treatment of cracks including cleaning, rubbing, open, filling with Sikaflex, closing openings, repairing plaster and all is according to specifications , drawings and supervisor engineer's instructions	M2	700		
5.2	Supply and lay precast terrazzo stair treads size 35 cm wide x 4cm thick chamfered once , rebated once and laid on 2cm thick mortar bed ,same color and kind of the floor tiles and the price includes terrazzo stair risers size 12.4cm high x2cm thick and skirting 20cm high x2cm thick on the both sides as specification and drawing. The price includes complete maintenance to connect the old corridor tiles with new steps.	L.M	75		
5.3	Supply and make granulate coating finish for ramps, external stairs and corridors with different size and color where require, the price includes all metal decorations, stainless steel separator and all required materials to complete the work according to specifications , drawings and supervisor engineer's instructions.	M2	50		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
6.Planting Works					
6.1	Supply and install fake grass non water proof with halls 1/2 " every 20 cm including rubber , the price include supply and comapct 20 cm thick layer of Kurkar , all works according to specifications and supervisor engineer's instructions.	M2	150		
6.2	supply and grow tree type T1 with total height 300 cm all works according to specifications and supervisor engineer's instructions.	.No	20		
6.3	ditto but type T2 with trunk diameter 6 " and full height 220 cm	.No	10		
6.4	ditto but type T3	.No	30		
6.5	ditto but type T4 height 80-100 cm	.No	20		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7. Drainage (Rain Water) Works:-					
	<p>(1)In general rates for Mechanical works shall include for:</p> <ol style="list-style-type: none"> 1. Developing shop and as built drawings 2. Cutting and forming all chases, recesses, holes, and the like, 3. Pipe sleeves, 4. Building of concrete and/or brick ducts in floors, walls ...etc., 5. Excavation, forming of trenches for services, concreting, bedding and back filling and ramming after laying, 6. Fixing brackets, clips, holder bats, hangers, and the like, 7. Temporary and final fixing, 8. Nails, screws, bolts, nuts, washers, holes, plugs, sleeves and the like, 9. Building in or cutting and pinning, 10. Testing and drawings, 11. Painting of pipes, 12. All work of other trades in connection with Mechanical work including all making good. <p>(2) All Plumbing works include the required units and its accessories as described in the items and the rates include:</p> <ol style="list-style-type: none"> 1- All the plumbing units should be from the best quality and has trade mark. 2- Submitting shop drawing for water supply and waste water networks for approval prior to commencement of the work. 3-Submitting samples for all required material with catalogue indicating its specifications. 4-All required tests , pressure for water net work , hydraulic test for sewage lines 5- Cleaning and disinfecting all water pipes. 6- Insulation of all galvanized water pipes and wrapping it with bitumen's sheets and protect pipes located under tiles with cement mortar. In addition to the insulation materials against heat loss for hot water pipes. 7-Supply, install, connect to fixtures and distribution boxes, and test as shown on drawings and as per specifications for hot water & cold water PE-X pipes 16mm outer diameter and 2.2mm thick wall with flexible polyethylene corrugated conduit of 25mm outer diameter and 20mm inside diameter, with all connections, and fittings. 8-All plumbing works (wash basin, kitchen sink, gully traps,etc...) include the connection to the nearest trap, WC to the nearest vertical sewage header in the typical floors and WC in the GF to the nearest manhole and include all accessories including PVC S and caps for all the ends of pipes at parapet. 9- All external inspection elbows should covered by galvanized steel plate with thick 2mm . <p>(3) Rates for manholes and pits shall include excavation, concrete, benching, plastering, backfilling and cover as per Drawings and Specifications,</p> <p>(4) Rates for sanitary fittings, isolated taps and gullies shall also include all pipe work in connection therewith and connections thereto including connection to the nearest manhole or gully and to the cold water storage tank.</p>				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
	<p>(5) Rates for pipe work including pipe work in frames to shading sheds shall include for:</p> <ol style="list-style-type: none"> 1. Joints in the running length, 2. Nipples, connections, sockets, ferrules, couplings, back nuts, unions, and the like, 3. Bends, elbows, tees, reducers, access doors, cleaning eyes, blank caps, stop valves, and the like, 4. Welded joints and connections including grinding, 5. Lagging and wrapping, 6. Excavation, bedding and backfilling. 7. Warning tape for underground pipes (magnetic for water pipes, normal for sewage and drainage pipes). 8. the unit price of all Items shall includes dismantle the existing interlock tiles, concrete slabs, cut , fill, compaction and reinstatement of the work to the original conditions. <p>The price includes connection between existing drainage steel/UPVC pipes with manholes, and all required fittings, reducers, cut , demolish and break concrete elements/apron and recast existing apron/concrete elements, excavation & backfilling and all required works to complete the job according to specification, drawings and engineer instructions.</p>				
7.1	Drill 80cm diameter borehole through cohesive and non-cohesive material up to 5 meter below the clay layer in the Kurkar layer as shown in the drawings and as directed by the engineer. Price shall include all needed accessories required to perform the work. <u>Minimum depth of 12m from natural level.</u>	Lm	61		
7.2	Supply and lay non-woven geotextile membrane according to specifications to protect the inner surface of the 80 cm diameter borehole.	Lm	58		
7.3	Ditto but for surface areas, and manholes premiter	M2	2		
7.4	Supply and fill in boreholes solid , clean washed, and free from dust gravel of at least 2" size.	M ³	30		
7.5	Ditto but ¾ " aggregates	M ³	0.5		
7.6	Ditto but ¼ " aggregates	M ³	0.5		
7.7	Supply and install pre-cast circular reinforced concrete manhole (Ø 600 mm) B300 complete with 40 cm cast iron cover solid or grill as required (8 tons capacity), frame, rings, and special joint required to fix the sewer pipes to the manhole. The item also includes B300 benching, shuttering, inside cast iron steps each step 30 cm maximum and safety measures, excavation in all soil to any depth, plain concrete 5 cm thick below the manhole, two external hot bitumen coating, and backfilling in layers 25 cm maximum using suitable material with watering, compaction according to specification, drawing, and the engineer instructions..	No	13		
7.8	Ditto but Ø 1000 mm and 25 ton bearing capacity, 20 cm wall ,roof and foundation thickness.	No.	2		
7.9	Ditto but Ø 1500 mm and 25 ton bearing capacity, roof and foundation thickness. The price include 30 cm clean sand in Manhole, and stainless steel grill size 25* 25 cm for outlet.	No.	2		
7.10	Supply and install 110x300cm (3 inlets) combined storm-water drainage gully complete with four 80x40cm cast iron screens 25 tons bearing capacity. The item also includes casting B300 concrete for walls, footing and benching as per drawings, shuttering, excavation in any type of soil to any depth, plain concrete, two external hot bitumen coating, and backfilling in layers 25 cm maximum using suitable material (Kurkar) with watering, and compaction. Final location of gullies should be shown on shop drawings based on field survey and approval of the engineer.	Unit	1		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7.11	Supply and install 8" uPVC Tee with 600 mm long pipe, as directed by engineer.	No.	2		
7.12	Supply and install UPVC pipeØ 8" (SN8) with sockets. The work includes excavating of trenches (depth up to 2.0m), bedding, compacted backfilling with clean sand, connecting to the manholes, fittings , all connections and hydraulic test according to the specifications and drawings.	Lm	161		
7.13	Ditto but 4" pipe	Lm	13		
Total					

Summary of Landscaping

DESCRIPTION	Total Amount \$
1. Excavation & Earthworks.	
2. Concrete Works.	
3. Building Works	
4. Metal Works	
5. Finishing Works	
6. Planting	
7. Infiltration	
Sub total (\$)	

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
Toilet Block					
	General Notes: 1- Complete detailed shop drawings should be delivered to the Engineer to take his approval prior the commencement of work. Samples of all materials shall also be delivered to the Engineer to take his approval, 2-Contractor shall take into consideration that all – direct and indirect Works and their relevant expenses required for proper implementation of the project including temporary facilities, fencing, securing utilities (water, wastewater, telephone and electricity systems) as well as making access to project implementation location away from the one in use by the students and teachers such that the school is running safely without disturbance. The contractor will be accountable for all necessary equipment, materials and activities to assure the safety of people within the school buildings and vicinity, where an approved safety plan will be prerequisite to initiating activities along with installing all required components and materials necessary for safety of workers, project team as well as people at school. All relevant costs are deemed to be included in the unit price in addition to the required re-instatement Works needed to bring the original facilities to its original status before addition of temporary Works. 3-The contractor will expect that more than one contractor will be carrying out Works in the school at the same time, the Contractor is presumed to make all necessary coordination and facilitate accessibility to and other work-related issues 4-All Works and installations listed here below should be carried out, tested and commissioned by specialized responsible skilled labours in full coordination with MoEHE , all in accordance with drawings, specifications and relevant standards, and the instruction of the Engineer. The Engineer has the right to reject any component of the work not complying with the specifications and the terms of the contract.				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1.Excavation & Earth Works					
	<p>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. Measurement is engineering measurement.</p> <p>All Works must be according to drawings, specification and engineer instructions. Rates shall include :</p> <p>1. Shoring the sides of excavation and preserving the adjacent buildings as well as existing infrastructure utilities (sewage, water, telecommunication and electricity Works). In case of damages that may incur, all relevant necessary repairs will be the contractor responsibility to cover its relevant costs.</p> <p>2. Cleaning the site and removing all debris, surplus unwanted materials and rubbles to approved dump site.</p> <p>3. Backfilling in layers not more than 25cm thick for each layer and compaction to 98% of MDD.</p> <p>4. All required Tests by an accredited laboratory.</p> <p>5. The cadastral survey and leveling of existing status at grids not exceeding 5 m in both directions.</p> <p>6.Leveling and backfilling from imported sand dune in case excavated materials are not approved for backfilling and up to the level of the top of external ground beams levels and to the formation level of apron and surrounding landscaping.</p>				
1.1	Excavation from natural ground level in any type of soil to required designed level. The Works including: The compaction of the soil surfaces to get (98% MDD). The excavated unwanted material should be removed out from the site to the approved places. The excavated selected material should be properly stored in the vicinity of site for reuse in backfilling. All to be executed as per specifications, drawings and the engineer's instructions.	M3	50		
1.2	Supply, fill & compact Kurkar material with (CBR> 30) under the main building foundations (the mentioned soil improvement area) in two layers 30cm thick each layer (MDD 98%), to comply with the design bearing capacity of not less than (2.1Kg/cm2). The work must be carried out according to the specifications, design drawings & the engineer's instructions)	M3	30		
1.3	Backfilling with selected materials from excavation around foundations & any other element up to ground slab level in layers not more than 25cm thick for each layer with compaction to 98% of MDD. The Works including compacting the design soil surfaces to get (98% MDD).	M3	100		
1.4	Supply, fill by using approved material (sand dune) between ground beams & inside the building up to the required levels, which shall be spread in layers not exceeding 25cm each one & compacted (98%) to reach up the required levels (under floor slab), according to the specifications & the engineer's instructions.	M3	40		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2. Concrete Works.					
	<p>Rates of Concrete Works shall include:-</p> <p>1. All form Works and shuttering (new lumber for shuttering painted by special oil (fuel or burnt oil is not accepted) in any form, shape and size . Making chamfered and curved edges, allowing for and making grooves and sleeves and using Tie Rods (Batant) for concrete walls ; removal of forms and cleaning of all exposed tie wires and rods. Steel forms must be used in shuttering the external decorations.</p> <p>2. Supplying, Casting, vibrating and curing as per specifications.</p> <p>3. Approved additives and admixtures.</p> <p>4. Developing new Concrete Job Mix Designs, Sampling , testing and providing test results certificates, storing and saving of samples.</p> <p>5. Painting of exposed surfaces of underground reinforced concrete elements with two coats of hot bituminous paint (75/25) after primer layer , the strokes of each layer to be opposite to each other.</p> <p>6. Preliminary installations for Electrical, plumbing and floor drainage in floor slabs including final floor slab.</p> <p>7. Compaction and testing under the foundation, ground beams, ground slabs and Apron. the compaction should not be less than 98% of MDD.</p> <p>8. All Works according to specifications , drawings and supervisor engineer instructions</p> <p>9. Supply, fabricate and fix reinforcement steel ($f_y = 410 \text{ N/mm}^2$) for all the structural elements according to drawings and engineer's instructions for any grade, size and length as detailed in the drawings, storing on site including cutting, bending and fixing in position and providing all tying wires, spacers, shop drawings, testing and bar bending schedules .All Works according to specifications , drawings and supervisor engineer instructions</p> <p>10. In rehabilitation Works, supply fabricate and fix steel dowels to the existing concrete using special materials. In case of lapping with existing steel reinforcement, rates will include cleaning rust and treatment with special materials</p> <p>11. In case after excavation the new columns locations and relevant footings coincide with the existing ones, the contractor will make modification to adapt implementation to the existing conditions and deemed to include in his rates relevant costs accordingly.</p> <p>All rehabilitation Works will include the necessary extra steel reinforcement and concrete to be applied in layers if necessary in addition to the necessary special materials and accessories.</p>				
2.1	Supply and cast ready mix plain concrete B (200) kg/cm ² for Blinding beds 10 cm thick including polythene sheets as per specifications and drawings.	M3	7		
2.2	Supply and cast ready mix reinforced concrete B(250) kg/cm ² for the ground slab 10cm thick with steel mesh 8mm diameter every 20cm including polythene sheets below concrete slab and compacting the soil beneath the slab to 98% of MDD.as per specifications and drawings.	M2	50		
2.3	Supply and cast ready mix reinforced concrete B (300) kg/cm ² for foundations (isolated, strip footing, strap & inverted T sec.) as per specifications and drawings.	M3	12		
2.4	Ditto but for ground beams including ground beam for the platform.	M3	10		
2.5	Ditto but for strap beams between the foundations.	M3	1		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2.6	Ditto but for sills, lintels, coping, concrete wall (hunches for doors), gas room elements .etc.	M3	7		
2.7	Ditto but plain concrete B200 under water tank and pumps 20 cm thick.	M3	2		
2.8	Supply and cast ready mix reinforced concrete B (300) kg/cm2 for columns and columns necks as per specifications and drawings.	M3	4		
2.9	Supply and cast ready mix concrete B (300) kg/cm2 for suspended slab 25cm thick, including the reinforced steel, concrete hollow block 40*25*17 cm all drop and inverted beams everywhere in the slab and all other materials as per specifications and drawings.	M2	70		
2.10	ditto, but B250 reinforced concrete for Apron (surface treated with mechanical steel troweled finish) the price include polythene sheets. Reinforcement Ø 8mm / 15 cm in both way and reinforced edge beam as well as expansion joints. The price including leveling, 15cm thick compacted base coarse to 100% of MDD and making of expansion joints including its approved filling materials (sika flex or equivalent) according to drawing and specification.	M2	35		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3. Building Works					
	The price include: 1- supplying hollow or solid cement block from good and approved factory in perfect dimension and build it in good manner with a compressive strength 35 kg/cm2 for hollow block and 60 kg/cm2 for solid block. This item will include cement mortars, galvanized steel ties, reinforced concrete infill (B250) between columns & block walls (10-20 cm wide) with 1Ø8mm/40cm horizontally and 2Ø8mm vertically according to drawings, pipes encasement, false columns 20x20 cm/4.0m among the parapet wall with 4Ø12mm and bituminous paper between block work and drop beams and testing as well as all requirements needed to finish the Works according to the drawings, specification and to the supervision engineer instructions				
3.1	Supply and build hollow cement blocks 40x20x20cm	M2	110		
3.2	.Ditto but 40x20x 10 cm thick	M2	80		
3.3	Supply and build solid cement block 40x20x20 cm, under ground beams, and external boundary for building including painting the buried parts with one coat of primer and two coats of hot .bitumen (75/25) after primer layer	M2	50		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4.Aluminum, Carpentry & Metal Works					
	<p>The items include supplying aluminum windows section 7000 matching the existing ones, with min. wall thickness 1.5mm (to be approved by representative engineer) as frame, glass 4 mm thick, ironmongery , accessories and hard ware along with fixing as per specification and drawings. All maintenance Works include all needed materials for reinstatement and workmanship.</p> <p>Steel work should be properly treated and prepared, painted with two coats of oil paint, one primer (polyzinc) and one undercoat. The price shall include removing the damaged aluminum and steel Works and handing to the MoEHE</p> <p>Carpentry Works: The items include supplying carpentry works from good wood grade "A" including frame cover mould, architrave and at least two coats of oil paint, 15cm stainless steel grade 316" kick plate 1mm thick from both sides , hard ware locked type Wally switch or equivalent and brass hinges 10cm height, door stopper and all other fitting according to specification and drawing .</p>				
4.1	Supply and fix colored aluminum window section 7000 type WA1 overall size225 x 50cm, complete with frame, white color, four sliding leaves ,clear glass 4mm thick, ironmongery and hardware. and as per specification and drawing.	No	1		
4.2	Supply and install colored aluminum window section 4500 type WA2 overall size60 x 40cm, complete with frame, white color, hinged ,clear glass 4mm thick, ironmongery and hardware. and as per specification and drawing.	No	10		
4.3	Supply and fix flush galvanized steel double external door D.S1 size (90 x220), new double sheets (2-mm thick), complete with frame 3mm thick, ironmongery, hardware and one primer coat, one under coat and minimum two coats of colored hummer paint, with hard ware locked type Wally switch or equivalent and all requirement as latches, locks...etc. as specified in the drawings and specifications .	No	2		
4.4	Supply, fix and paint wooden single internal flush door type D7 size 80x210x4.5cm according to the drawing, specifications and under supervision .	No	5		
4.5	Supply and fix steel protection for windows over all size WA1 (ground floor) 225 x 50cm cm .the prices including mild steel frame size 40 x 8mm thick, vertical steel plate size 20mm wide x 8mm thick fixed every 12cm (clear distance), decorative circles 20x2mm, all by welding to the frame. Fixed on walls by steel angle ties and plates, painting with one coat of primer, undercoat and at least two coats of oil paint, all according to drawing, specification and engineer instructions.	No	1		
4.6	Supply and fix steel protection for windows over all size WA2(ground floor)60x40 cm .the prices including mild steel frame size 40 x 8mm thick, vertical steel plate size 20mm wide x 8mm thick fixed every 12cm (clear distance), decorative circles 20x2mm, all by welding to the frame. Fixed on walls by steel angle ties and plates, painting with one coat of primer, undercoat and at least two coats of oil paint, all according to drawing, specification and engineer instructions.	No	10		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5. Finishing Works					
	A- Plaster Works All Works must be according to drawings, specification and engineer instructions. Rates shall include : 1-Supply of all needed materials, including galvanized angles for the corners, windows and external decoration as well as the use of galvanized wire mesh between concrete and block work. 2-Preparation Works by covering all conduits of electricity, water supplies , 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. 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-Trimming of concrete chippings, removing the wires and etc. and cleaning of existing surfaces to be ready for plastering. 5- Checking out all of the preliminary installation in ceilings and walls such as Electrical, water supply and waste water pipes and repairing the damages if any. 6- Curing with water for at least three days for each coat. This should be done prior to commencement of plastering and after obtaining a written approval from the supervision engineer. B- Tiles Works All Works must be according to drawings, specification and engineer instructions. Rates shall include : 1. Samples for approval and all the required tests. 2. Cleaning, mechanical polishing and pointing using grout. 3.Insulation Works under ceramic floor tiles for all wet areas and kitchens using primer coat, two hot bitumen coats (75/25) 4. Plastic angle beads for ceramic wall tiles at the corners and top and sides of ceramic edges. 5. Local marble must be Grade (A) free cracks and clay flaws. 6. Measuring the stockpiled quantities of tiles and obtaining the engineer approval prior to shipment to the site. 7.Transporting and carefully handling the stored quantities to the site.				
5.1	Supply and make internal plastering 13 mm thick for ceiling ,walls and soffits. The work includes rough primer nail rendering to form a key with (mix 1:1) cement sand, second layer 13mm: Base-Coat "Rendering" with (1:3:0.25) cement: sand : lime and third layer: Finishing Coat with (1:1:1) cement: sand : lime . Works include all materials needed to finish the Works according to specifications , drawings and supervisor engineer's instructions	M2	80		
5.2	Supply and make external plastering 20mm thick to walls with three faces : the first is the rough nail rendering (mix 1:1) cement sand; the second is 5mm thick mortar (mix 1: 2) cement: sand, the third is the undercoat 13mm (mix 1: 3 :0.25) cement:sand:lime, and all is according to specifications , drawings and supervisor engineer's instructions	M2	150		
5.3	Supply & execute the external finishes (colored solvent based grained coating) (Ecos) in accordance with the manufacturer's requirements, specifications, drawings and the engineer's instructions.	M2	150		
5.4	Supply, install and fix 200x200mm Floor glazed ceramic tiles, of European type, including cement mortar bed, cleaning, pointing and polishing .	M2	50		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5.5	Supply, install and fix 200x200mm wall glazed ceramic tiles, of European type, including cement mortar bed, cleaning, pointing and polishing .	M2	250		
5.6	Supply and install local marble 25cm wide x 3cm thick of the similar color of the floor tiles including smoothing edges (for corridors and thresholds.) as per specifications and drawings.	.Mr	12		
5.7	Supply and make internal Emulsion painting for ceiling . The work includes fines the surface by using the following coats: 1-tow coats of bandrol, 3 coats of white washable acrylic emulsion paint . Works include all materials needed to finish the Works according to specifications , drawings and supervisor engineer's instructions	M2	70		
Total					
6-Isolation works					
6.1	Supply and cast foam concrete with fine aggregates for roof screeding of average thickness 10 cm as shown in drawing.	M2	80		
6.2	Supply and lay one layer of plasticized bitumen roofing membrane with chipping 4 mm thick, including priming concrete surface prior to laying, dressing into rainwater outlets to form waterproofing seal and cover with angle fillets. The rate includes verticals parts skirting as per specification and drawings.	M2	80		
	<u>Note: Measurement will be for the horizontal projection</u>				
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7. Mechanical works					
	<p>(1) In general rates for Mechanical works shall include for:</p> <ol style="list-style-type: none"> 1. Developing shop and as built drawings 2. Cutting and forming all chases, recesses, holes, and the like, 3. Pipe sleeves, 4. Building of concrete and/or brick ducts in floors, walls ...etc., 5. Excavation, forming of trenches for services, concreting, bedding and back filling and ramming after laying, 6. Fixing brackets, clips, holder bats, hangers, and the like, 7. Temporary and final fixing, 8. Nails, screws, bolts, nuts, washers, holes, plugs, sleeves and the like, 9. Building in or cutting and pinning, 10. Testing and drawings, 11. Painting of pipes, 12. All work of other trades in connection with Mechanical work including all making good. <p>(2) Rates for manholes and pits shall include excavation, concrete, benching, plastering, backfilling and cover as per Drawings and Specifications,</p> <p>(3) Rates for sanitary fittings, isolated taps and gullies shall also include all pipe work in connection therewith and connections thereto including connection to the nearest manhole or gully and to the cold water storage tank.</p> <p>(4) Rates for pipe work including pipe work in frames to shading sheds shall include for:</p> <ol style="list-style-type: none"> 1. Joints in the running length, 2. Nipples, connections, sockets, ferrules, couplings, back nuts, unions, and the like, 3. Bends, elbows, tees, reducers, access doors, cleaning eyes, blank caps, stop valves, and the like, 4. Welded joints and connections including grinding, 5. Lagging and wrapping, 6. Excavation, bedding and backfilling. 				
	Sewage Works:-				
7.1	Supply and install concrete manhole of internal diameter 60 cm ,and (50-100) cm depth according to the required level, 10cm thick plain concrete for walls and base, slab, with cast iron cover with frame 50cm opening, 8 ton bearing capacity, including excavation, backfilling, hunching and making good according to specification, drawing, and the engineer instructions.	No	8		
7.2	Supply and install Floor Trap Gully (F.T.G) Ø 4", Including Stainless steel Covers, Ø 4" pipes, vent. pipes, cap for ventilation pipes and connected to out site manhole, with all connections and fittings.	No.	3		
7.3	Ditto but Floor Clean Out Ø 4", Including Stainless steel Covers, piping , with all connections and fittings.	No.	1		
7.4	Supply and install UPVC pipe Ø 6" (SN8) including excavation for trench, backfilling, compaction, fittings , and all connections .	Lm	35		
	Drainage (Rain Water) Works:-				
7.5	Supply and install Roof Trap drain Ø 4", Including Stainless steel Covers, Ø 4" pipes, vent. pipes, cap for ventilation pipes and connected to out site manhole, with all connections and fittings.	No.	1		
	Domestic Water Works:-				
7.6	Supply and install galvanized steel pipe Ø 1.5" , (Schedule -40). Including fixing , excavation for trench, backfilling, compaction, UPVC pipe Ø 4" for sleeves, insulation, valves , fittings and all connections.	Lm	50		
7.7	Ditto but galvanized steel pipe Ø 1.25"	Lm	30		
7.8	Ditto but galvanized steel pipe Ø 1"	Lm	20		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7.9	Ditto but galvanized steel pipe Ø 3/4"	Lm	20		
7.10	.Supply and install Collector Box for (CB-T1) hot and cold water distribution system completed with all necessary Rozabita granite boxes 100x50x12 cm(two leaves aluminum door and lock) ,with Italian made connections, fittings ,main valves, valves for each line, the price includes supply, install, connect to fixtures and distribution boxes, and test as shown on drawings and as per specifications for hot water & cold water PE-X pipes 16mm outer diameter and 2.2mm thick wall with flexible polyethylene corrugated conduit of 25mm outer diameter and 20mm inside diameter, with all connections, collectors , records , and as required by drawings , specification and Engineer satisfaction .	No.	2		
7.11	Supply and fix water storage plastic tank 1.5 m3 capacity with locks for cover, with approved type not less than 32 kg weight, complete with lockable cover,1 inch diam. automatic float valve, overflow pipe (1" diam), ventilation pipe and drip tray, with all connections for rising main and distribution pipe work and stop valves 1" with all accessories as specification and drawings, including painting tanks with white oil paint.	No.	4		
	Finishing Works:-				
7.12	Supply and fix white glazed fire clay hand wash basin size 52cm x45cm (Vitra type - grade A) or equivalent, complete with all water supply pipes 16mm (Golany) to the nearest distribution box (DB), waste fitting, trap, plug and chain, long swan neck water tap (Hamat or equivalent), glazed fire clay soap holder, and the drainage line 2" to the nearest floor trap.	.No	5		
7.13	Supply and install 6mm mirrors including sealant and fixing accessories mirror, size 600 X 400 mm	No.	5		
7.14	Supply and fix white glazed fireclay European W.C. suite (Vitra type - grade A) , or equivalent complete with heavy duty cover (Vitra type - grade A) , 9 liter plastic double action flushing cistern, and fixed chromium plated tap 1/2" Tibesa type or equivalent, including all water supply pipes 16mm(Golany) to the nearest dist. box (DB), flushing hose sprayer, glazed fire clay paper holder, angle valves, UPVC drainage pipe connecting to the nearest manhole or sewage header as per specifications , cap for ventilation pipes sprayer hose , all valves , fireclay toilet paper holders white color with all connections, and fittings according to drawings and supervisor engineer instructions	No.	10		
7.15	Supply and install 3/4" water chrome tap, for flushing and R.O water.	No.	10		
	Ventilation System				
7.16	Supply and install wall mounted extract fan (EX-F2) of 650 m3/hr. at static pressure 30 pascal, Ø 8". Including all electrical wires, control panel with all connections and fittings	No	3		
7.17	Supply and fix galvanized steel threaded pipe 3" including jointing, fittings Tee ,elbows ,shows,& fixing to walls with metallic brackets and 3 inch diameter wire balloon grating and floor traps as specification and drawings.	Lm	8		
7.18	Supply & fix pre-cast terrazzo drinking point units size 214x50x25cm including the followings; - polishing and smoothing, forming slope. - built on 3 concrete piers 15cm thick, at least 3 piers per unit. - required pipes ½"and fittings for cold water supply and 4 taps 1/2 " (Hamat type or equivalent). - 2" PVC drainage pipe to the nearest manhole - 60cm high of white glaze tiles above it . - painted steel cover box for protections, wire mesh grill complete with frames and lock, brass grating & complete with all fittings according to the drawing. and specifications.	Unit	3		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
8. Electrical works					
	<u>NOTES :</u>				
*	Electrical wiring, telephone wiring and data network as per drawings, specifications and engineer instructions. Where cost of testing and commissioning and connecting the cables to switchboards and common electric network are included in the cost price of the followings :-				
A-	<u>DISTRIBUTION BOARD :</u>				
*	Supply and install blastic board 12 C.B with all accessories and connections needed as instructions of D.O.W (MCB 1*32A , 2MCB 1*10A , RCCB 2*40 .03)	No.	1		
B-	<u>LIGHTING FITTINGS :</u>				
*	Supply, install and connect the following lighting fittings, the work including tubes or lamps , 0.75" PVC conduit, 3x1.5mm2 NYA wires and all accessories and connections needed as instructions of D.O.W				
1-	Surface mounted 18 W PL light fixture, IP 65 , with opal polycarbonate cover, with all accessories needed, high quality & brand name and Europe made.	No.	16		
C-	<u>LIGHT SWITCHES:</u>				
*	Supply, install and connect the following fittings, the work including: 0.75" PVC conduit, 3x1.5mm2 NYA wires and all accessories and connections needed as instructions of D.O.W				
	One gang-two ways 220V-10A ON/OFF. SP Switch, Type must be Brand name high quality	No.	2		
	Water proof two gang-one way Switch, Type must be Brand name high quality	No.	5		
D-	<u>EXTRACT FANS:</u>				
1-	Supply and install 6" dim. Wall mounted Extract fan, 250m3/h, With galvanized steel protection louver "Type must be Brand name high quality", the work including: 0.75" PVC conduit, 3x1.5mm2 NYA wires and all accessories and connections needed as instructions of D.O.W	No.	10		
E-	<u>CABLES:</u>				
*	Supply, laying and termination of XLPE CU cable, including laying cables, termination, labeling cable lugs, cable glands with all required electrical and civil works to connect cable terminals from source to destination. According to drawings, specifications , demands of the supervising engineer and D.O.W. as follow:.				
	3x2.5 mm2 XLPE Cable	Mr.	100		
	3x1.5 mm2 XLPE Cable	Mr.	50		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
F-*	<u>Conduits & Ducts :</u> Supply, laying under ground PVC piping system for the under ground electrical network as per drawing . The work , excavation, laying pipes, warning tapes , backfilling, and all required work to complete the job as follow:				
	2" Internal Diameter UPVC Conduits.	Lm	80		
Total					

Summary of Toilet building

DESCRIPTION	Total Amount \$
1. Excavation & Earth Works.	
2. Concrete Works.	
3. Building Works	
4. Aluminum, Carpentry & Metal Works	
5. Finishing Works	
6. Isolation Works	
7.Mechanical works	
8. Electrical Works	
Sub total (\$)	

Summary of AL Hashem Atta Al Shawa School

DESCRIPTION	Total Amount \$
1. Landscaping	
2. Toilet Unit	
Sub total (\$)	



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-197

Majda Wasela School

Maida Wasela School -MPH

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
	<p>General Notes:</p> <p>1- Complete detailed shop drawings should be delivered to the Engineer to take his approval prior the commencement of work. Samples of all materials shall also be delivered to the Engineer to take his approval,</p> <p>2-Contractor shall take into consideration that all – direct and indirect Works and their relevant expenses required for proper implementation of the project including temporary facilities, fencing, securing utilities (water, wastewater, telephone and electricity systems) as well as making access to project implementation location away from the one in use by the students and teachers such that the school is running safely without disturbance. The contractor will be accountable for all necessary equipment, materials and activities to assure the safety of people within the school buildings and vicinity, where an approved safety plan will be prerequisites to initiating activities along with installing all required components and materials necessary for safety of workers, project team as well as people at school. All relevant costs are deemed to be included in the unit price in addition to the required re-instatement Works needed to bring the original facilities to its original status before addition of temporary Works.</p> <p>3-The contractor will expect that more than one contractor will be carrying out Works in the school at the same time, the Contractor is presumed to make all necessary coordination and facilitate accessibility to and other work-related issues</p> <p>4-All Works and installations listed here below should be carried out, tested and commissioned by specialized responsible skilled labors in full coordination with MoEHE , all in accordance with drawings, specifications and relevant standards, and the instruction of the Engineer. The Engineer has the right to reject any component of the work not complying with the specifications and the terms of the contract.</p> <p>5-The price includes supply and install temporary steel fence to separate the working area from the existing classes and school utilities</p>				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1.Excavation & Earth Works					
	<p>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. Measurement is engineering measurement.</p> <p>All Works must be according to drawings, specification and engineer instructions. Rates shall include :</p> <ol style="list-style-type: none"> 1. Shoring the sides of excavation and preserving the adjacent buildings as well as existing infrastructure utilities (sewage, water, telecommunication and electricity Works). In case of damages that may incur, all relevant necessary repairs will be the contractor responsibility to cover its relevant costs. 2. Cleaning the site and removing all debris, surplus unwanted materials and rubbles to approved dump site. 3. Backfilling in layers not more than 25cm thick for each layer and compaction to 98% of MDD. 4. All required Tests by an accredited laboratory. 5. The cadastral survey and levelling of existing status at grids not exceeding 5 m in both directions. 6.Leveling and backfilling from imported sand dune in case excavated materials are not approved for backfilling and up to the level of the top of external ground beams levels and to the formation level of apron and surrounding landscaping. 7. Laying out the buildings coordinates to be carried out by professional surveyor using total station device. 8.Approval of Bench mark and levelling network before excavation works. 9-The price includes dismantle of any interlock tiles, existing utilities, demolish any concrete items , removal of tress, obstacles.. Etc,and any required work to apply the new design, transport all materials to MoEHE per the engineer instruction. The price also includes reinstatement to the original conditions, backfilling, excavations and any other works to accomplish the task. The price shall also include the transfer of unwanted/surplus materials to the final destination as per the directions of the engineer. 10-The price includes supply and install temporary steel fence to separate the working area from the existing classes and school utilities 				
1.1	Demolish the existing concrete elements to apply the new design the price includes dismantle the existing interlock tiles and deliver to MOEHE, the price including but not limited to removing of the existing foundation , ground beams, plaster, tiles, solid waste inside and out side school buildings, trees, obstacles and any other elements to apply new design, and remove any debris and surplus materials to approved dump site according to specification and engineer's instructions.	L.S	1		
1.2	Excavation from natural ground level in any type of soil to required designed level. The Works including: The compaction of the soil surfaces to get (98% MDD). The excavated unwanted material should be removed out from the site to the approved places. The excavated selected material should be properly stored in the vicinity of site for reuse in backfilling. All to be executed as per specifications, drawings and the engineer's instructions.	M ³	250		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1.3	Supply, fill & compact Kurkar material with (CBR> 30) under the main building foundations (the mentioned soil improvement area) in two layers 30cm thick each layer (MDD 98%), to comply with the design bearing capacity of not less than (2.1Kg/cm2). The work must be carried out according to the specifications, design drawings & the engineer's instructions	M ³	200		
1.4	Backfilling with selected materials from excavation around foundations & any other element up to ground slab level in layers not more than 25cm thick for each layer with compaction to 98% of MDD. The Works including compacting the design soil surfaces to get (98% MDD).	M ³	350		
1.5	Supply, fill by using approved material (sand dune) between ground beams & inside the building up to the required levels, which shall be spread in layers not exceeding 25cm each one & compacted (98%) to reach up the required levels (under floor slab), according to the specifications & the engineer's instructions.	M ³	200		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2. Concrete Works.					
	<p>Rates of Concrete Works shall include:-</p> <ol style="list-style-type: none"> 1. All form Works and shuttering (new lumber for shuttering painted by special oil (fuel or burnt oil is not accepted) in any form, shape and size . Making chamfered and curved edges, allowing for and making grooves and sleeves and using Tie Rods (Blatant) for concrete walls ; removal of forms and cleaning of all exposed tie wires and rods. Steel forms must be used in shuttering the external decorations. 2. Supplying, Casting, vibrating and curing as per specifications. 3. Approved additives and admixtures. 4. Developing new Concrete Job Mix Designs, Sampling , testing and providing test results certificates, storing and saving of samples. 5. Painting of exposed surfaces of underground reinforced concrete elements with two coats of hot bituminous paint (75/25) after primer layer , the strokes of each layer to be opposite to each other. 6. Preliminary installations for Electrical, plumbing and floor drainage in floor slabs including final floor slab. 7. Compaction and testing under the foundation, ground beams, ground slabs and Apron. the compaction should not be less than 98% of MDD. 8. All Works according to specifications , drawings and supervisor engineer instructions 9. Supply, fabricate and fix reinforcement steel ($f_y = 410 \text{ N/mm}^2$) for all the structural elements according to drawings and engineer's instructions for any grade, size and length as detailed in the drawings, storing on site including cutting, bending and fixing in position and providing all tying wires, spacers, shop drawings, testing and bar bending schedules .All Works according to specifications , drawings and supervisor engineer instructions 10. In rehabilitation Works, supply fabricate and fix steel dowels to the existing concrete using special materials. In case of lapping with existing steel reinforcement, rates will include cleaning rust and treatment with special materials 11. In case after excavation the new columns locations and relevant footings coincide with the existing ones, the contractor will make modification to adapt implementation to the existing conditions and deemed to include in his rates relevant costs accordingly. <p>All rehabilitation Works will include the necessary extra steel reinforcement and concrete to be applied in layers if necessary in addition to the necessary special materials and accessories. The price includes dismantle of any interlock tiles, existing utilities, demolish any concrete items , removal of tress, obstacles.. Etc., and deliver any required materials to MoEHE, and removal of surplus materials to approved dump site.</p>				
2.1	Supply and cast ready mix plain concrete B (200) kg/cm ² for Blinding beds 10 cm thick including polythene sheets as per specifications and drawings.	M3	30		
2.2	Supply and cast ready mix reinforced concrete B(250) kg/cm ² for the ground slab 10cm thick with steel reinforcement mesh 8mm every 20 cm including polythene sheets below concrete slab and compacting the beneath the slab to 98% of MDD.as per specifications and drawings.	M2	100		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2.3	Supply and cast ready mix reinforced concrete B (250) kg/cm2 smooth surface for playground by mechanical trawling machine . the price shall include supply and cast reinforced concrete for surrounding Beams ,foundations and any other related concrete elements The price includes supply and install polythene sheets, expansion joints(cut after casting by mechanical saw), 25cm base coarse(in two layers), mastic compressible materials, levelling of subgrade and compaction of each layer of base coarse and subgrade and finish the surface with coloured PG coat materials, the price also includes marking works with approved paint as per specifications and drawings	M2	500		
2.4	Supply and cast ready mix reinforced concrete B (300) kg/cm2 for foundations (isolated, strip footing, strap beams & inverted T sec.) as per specifications and drawings.	M3	80		
2.5	Ditto but for ground beams	M3	30		
2.6	Ditto but for sills, lintels, coping, concrete wall (hunches for doors), gas room elements .etc.	M3	45		
2.7	Supply and cast ready mix reinforced concrete B (300) kg/cm2 for columns and columns necks as per specifications and drawings.	M3	60		
2.8	Supply and cast ready mix concrete B (300) kg/cm2 for suspended hollow block slab 30 cm thick, including the reinforced steel, Mechanical trawler finish, decorative arches in last slab, corridor concrete parapet, under steel balustrade for the typical slab, hollow cement block 40*25*22 cm, all drop and inverted beams everywhere in the slab and all other materials as per specifications and drawings.	M2	110		
2.9	ditto, but B250 reinforced concrete for Apron (surface treated with mechanical steel trowelled finish) the price include polythene sheets. Reinforcement Ø 8mm / 15 cm in both way and reinforced edge beam as well as expansion joints. The price including levelling, 15cm thick compacted base coarse to 100% of MDD and making of expansion joints including its approved filling materials (sika flex or equivalent) according to drawing and specification.	M2	100		
2.10	Supply and cast ready mix reinforced concrete B(250) kg/cm2 for external steps , ramps , ramps walls, beams, any concrete sections with approved steel reinforcement by the engineer ,flower boxes with steel mesh 10mm diameter every 20cm including polythene sheets below concrete and compacting the soil beneath the work to 98% of MDD.as per specifications and drawings.	M3	10		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3. Building Works					
	The price include: 1- supplying hollow or solid cement block from good and approved factory in perfect dimension and build it in good manner with a compressive strength 35 kg/cm2 for hollow block and 60 kg/cm2 for solid block. This item will include cement mortars, galvanized steel ties, reinforced concrete infill (B250) between columns & block walls (10-20 cm wide) with 1Ø8mm/40cm horizontally and 2Ø8mm vertically according to drawings, pipes encasement, false columns 20x20 cm/4.0m among the parapet wall with 4Ø12mm and bituminous paper between block work and drop beams, and testing as well as all requirements needed to finish the Works according to the drawings, specification and to the supervision engineer instructions.				
3.1	Supply and build hollow concrete block 20*20*40 cm first class with compressive strength 35 kg/cm2 for external walls and some internal partition, the item includes casting rein. concrete between columns and walls (20 cm ave.width) with steel reinforcement 4T 8 mm and steel stirrups T6 mm every 20 cm.	M2	700		
3.2	Ditto but 40x20x 15 cm thick.	M2	150		
3.3	Ditto but 40x20x 10 cm thick.	M2	40		
3.4	Supply and build solid cement block 40x20x20 cm, under ground beams, and external boundary for building including painting the buried parts with one coat of primer and two coats of hot bitumen after primer layer (75/25)	M2	100		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4.Aluminum & Metal Works					
	The items include supplying aluminium windows section 7000 matching the existing ones, with min. wall thickness 1.5mm (to be approved by representative engineer) as frame, glass 4 mm thick, ironmongery , accessories and hard ware along with fixing as per specification and drawings. All maintenance Works include all needed materials for reinstatement and workmanship. Steel work should be properly treated and prepared, painted with two coats of hummer paint, one primer (polyzinc) and one undercoat. The price shall include removing the damaged aluminium and steel Works and handing to the MoEHE				
4.1	Supply and fix coloured aluminium window section 7000 type W1. , overall size150 x 300cm, complete with frame, white colour, four sliding leaves ,clear glass 4mm thick, ironmongery and hardware. and as per specification and drawing.	No	15		
4.2	Supply and fix coloured aluminium window section4500 type W2. , overall size150 x60cm, complete with frame, white colour, hinged ,clear glass 4mm thick, ironmongery and hardware. and as per specification and drawing.	No	14		
4.3	Supply and install coloured phenolic toilets partitions (H.P.L high Pressure laminate made of 16 mm solid phenolic) panels including doors and all required accessories according to drawings and specifications.	M2	60		
4.4	Supply and fix flush galvanized steel double external door D3 (220 x210), new double sheets (2-mm thick), complete with frame 3mm thick, ironmongery, hardware and one primer coat, one under coat and minimum two coats of coloured hummer paint, with hard ware locked type Wally switch or equivalent and all requirement as latches, locks...etc. as specified in the drawings and specifications for ground floor.	No	4		
4.5	Supply and fix flush galvanized sliding steel double external door D4 (300 x450), new double sheets (2-mm thick), complete with frame 3mm thick, ironmongery, hardware, the price includes upper and lower galvanized steel rails, rubber steel wells and one primer coat, one under coat and minimum two coats of colored hummer paint, with hard ware locked type Wally switch or equivalent and all requirement as latches, locks...etc. as specified in the drawings and specifications for ground floor.	No	3		
4.6	Supply and fix flush sliding galvanized steel double external door D5 (300 x300), new double sheets (2-mm thick), complete with frame 3mm thick, ironmongery, hardware, the price includes upper and lower galvanized steel rails, rubber steel wells and one primer coat, one under coat and minimum two coats of colored hummer paint, with hard ware locked type Wally switch or equivalent and all requirement as latches, locks...etc. as specified in the drawings and specifications for ground floor.	No	4		
4.7	Supply, and fix Mul-T-Lock door D1& D2, with overall size 110x220cm Single leave with powder coated paint & metal frame with master key . Door lock type 235 & Mul-T-Lock serrated cylinder. The price include rock wool inside door for fire resistance and all accessories and related works all according to drawings, specifications and engineer instructions	No	3		
4.8	Supply and fix steel protection for windows over all size W2 (ground floor) 150x60 cm .the prices including mild steel frame size 40 x 8mm thick, vertical steel plate size 20mm wide x 8mm thick fixed every 12cm (clear distance), decorative circles 20x2mm, all by welding to the frame. Fixed on walls by steel angle ties and plates, painting with one coat of primer, undercoat and at least two coats of oil paint, all according to drawing, specification and engineer instructions.	No	14		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4.9	supply and install double coloured corrugated sheets for MPH roof filled with extruded foam thermal insulation, the upper layer of corrugated sheets is 0.5 mm thickness and the lower layer is 0.4 mm thickness and 5 cm foam thickness. The price includes supply and install required steel structural elements Main beams I beam NO 45 (IBM)(450X170X24/16.2 mm) , burliness steel profile 80*40*3 mm each 75 cm center to center , galvanized steel triangles 80*50*3mm, fixation anchors Bolts 24mm diameter and 50cm length, Double foundation steel plates 40*40*25mm, galvanized steel Gutter 2mm thickness, G.S rings, welding, special bolts and galvanized steel sheets to prevent any water leakage, scaffolding, water leakage test of the roof , workmanship, painting with one coat of primer, undercoat and at least two coats of hummer paint, and including and all accessories and materials to complete the work according to drawings, specification and engineer's instructions	M2	500		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5. Finishing Works					
	<p>A- Plaster Works</p> <p>All Works must be according to drawings, specification and engineer instructions. Rates shall include :</p> <p>1-Supply of all needed materials, including galvanized angles for the corners, windows and external decoration as well as the use of galvanized wire mesh between concrete and block work.</p> <p>2-Preparation Works by covering all conduits of electricity, water supplies , 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.</p> <p>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.</p> <p>4-Trimming of concrete chippings, removing the wires and etc. and cleaning of existing surfaces to be ready for plastering.</p> <p>5- Checking out all of the preliminary installation in ceilings and walls such as Electrical, water supply and waste water pipes and repairing the damages if any.</p> <p>6- Curing with water for at least three days for each coat.</p> <p>This should be done prior to commencement of plastering and after obtaining a written approval from the supervision engineer.</p> <p>B- Tiles Works</p> <p>All Works must be according to drawings, specification and engineer instructions. Rates shall include :</p> <p>1. Samples for approval and all the required tests.</p> <p>2. Cleaning, mechanical polishing and pointing using grout.</p> <p>3.Insulation Works under ceramic floor tiles for all wet areas and kitchens using primer coat, two hot bitumen coats (75/25)</p> <p>4. Plastic angle beads for ceramic wall tiles at the corners and top and sides of ceramic edges.</p> <p>5. Local marble must be Grade (A) free cracks and clay flaws.</p> <p>6. Measuring the stockpiled quantities of tiles and obtaining the engineer approval prior to shipment to the site.</p> <p>7.Transporting and carefully handling the stored quantities to the site.</p> <p>C- Painting Work</p> <p>Rates for painting and decorating work shall include for:</p> <p>1. Preparation of surface including puttying, sealing and priming,</p> <p>2. Any area or width,</p> <p>3. Any location,</p> <p>4. Work in multi colors,</p> <p>5. Cutting in edges,</p> <p>6. Any taping and covering to protect areas and others.</p> <p>All the painting materials should be approved and tested by approved local laboratory</p>				
5.1	Supply and make internal plastering 13 mm thick for ceiling ,walls and soffits. The work includes rough primer nail rendering to form a key with (mix 1:1) cement sand, second layer 13mm: Base-Coat "Rendering" with (1:3:0.25) cement: sand : lime and third layer: Finishing Coat with (1:1:1) cement: sand : lime . Works include all materials needed to finish the Works according to specifications , drawings and supervisor engineer's instructions	M2	1000		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5.2	Supply and make smooth external plastering 20mm thick for decoration at three faces : the first is 5mm thick mortar (mix 1: 2) cement: sand, the second is the rough nail rendering (mix 1:1) cement: sand, the third is the undercoat 13mm (mix 1: 3 :0.25) cement:sand:lime , drawings and supervisor engineer's instructions	M2	1000		
5.3	Supply & execute the external finishes (colored solvent based grained coating) (Ecos) , the price includes any shapes, decoration or school name, in accordance with the manufacturer's requirements, specifications, drawings and the engineer's instructions.	M2	1000		
5.4	Supply, install and fix 200x200mm Floor glazed ceramic tiles, of European type, including cement mortar bed, cleaning, pointing and polishing	M2	100		
5.5	Supply, install and fix 200x200mm wall glazed ceramic tiles, of European type, including cement mortar bed, cleaning, pointing and polishing .	M2	300		
5.6	Supply and install local marble (grade A) size 24 cm wide x 3cm thick for windows sills laid on 2 cm thick mortar bed including polishing and grooving as approved by engineer and as specification and drawings..	Lm	70		
5.7	Supply and make internal Eggshell finish painting for MPH walls . The work includes fines the wall surface by using the following coats: 1-two coats of bandrol, 3 coats of white mortar one coat of undercoat and 3 coats of Eggshell coloured paint . Works include all materials needed to finish the Works according to specifications , drawings and supervisor engineer's instructions.	M2	1000		
5.8	Supply and make internal Emulsion painting for celling . The work includes fines the surface by using the following coats: 1-tow coats of bandrol, 3 coats of white acrylic emulsion paint . Works include all materials needed to finish the Works according to specifications , drawings and supervisor engineer's instructions.	M2	150		
5.9	Supply and make granulate coating finish for ramps, external stairs and corridors with different size and colour where require, the price includes all metal decorations, stainless steel separator and all required materials to complete the work according to specifications , drawings and supervisor engineer's instructions.	M2	30		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
6-Isolation works					
	<p>(1) Rates for foam concrete/ cement and mortar work shall include for:</p> <ol style="list-style-type: none"> 1. Supply and storage of cement. 2. Supply and storage of aggregates and water, 3. Mixing, 4. Hacking concrete, applying cement slurry or raking out joints of block work to form key, 5. Application to any surface, 6. Finish to surface, 7. Finish to falls and cross falls, 8. Forming bays including joints, 9. Finish to edges, 10. Making good around steel sections, pipes, tubes, bars, brackets, outlets, and the like, 11. Ends, intersections, ramps, and the like, on fillets, <p>(2) Rates for waterproofing shall include for:</p> <ol style="list-style-type: none"> 1. Preparation of surface, 2. Any area or width, 3. Cutting in edges. 4. Over laps, priming and treatment at the corners and floor drains. 5. Testing for the roof with water 6. Dressing over parapets and stub columns including forming groove to receive edge of plasticized bitumen membrane and sealing with elastic sealer. <p>(3) Rates for roof sheets shall include for:</p> <ol style="list-style-type: none"> 1. Side and end laps, Fittings including bolts, hook bolts, screws and washers, 2. Sheets of any width or length. 				
6.1	Supply and lay one layer of plasticized bitumen roofing membrane (Polypeid) with chipping 4mm thick including priming concrete surface prior to laying, dressing into rain water outlets to form water proofing seal and cover angle fillets as shown in the drawings, specifications and according to engineer's instructions.	M2	150.00		
	Note: Measurement will be for the horizontal projection				
6.2	Supply and cast in place slopping foam concrete for roof screening of average thickness 7.0cm as shown in the drawings specifications and according to Engineer's instructions.	M2	150.00		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7. Mechanical works					
	<p>(1) In general rates for Mechanical works shall include for:</p> <p>Developing shop and as built drawings</p> <p>2. Cutting and forming all chases, recesses, holes, and the like,</p> <p>3. Pipe sleeves,</p> <p>4. Building of concrete and/or brick ducts in floors, walls ...etc.,</p> <p>5. Excavation, forming of trenches for services, concreting, bedding and back filling and ramming after laying,</p> <p>6. Fixing brackets, clips, holder bats, hangers, and the like,</p> <p>7. Temporary and final fixing,</p> <p>8. Nails, screws, bolts, nuts, washers, holes, plugs, sleeves and the like,</p> <p>9. Building in or cutting and pinning,</p> <p>10. Testing and drawings,</p> <p>11. Painting of pipes,</p> <p>12. All work of other trades in connection with Mechanical work including all making good.</p> <p>(2) Rates for manholes and pits shall include excavation, concrete, benching, plastering, backfilling and cover as per Drawings and Specifications,</p> <p>(3) Rates for sanitary fittings, isolated taps and gullies shall also include all pipe work in connection therewith and connections thereto including connection to the nearest manhole or gully and to the cold water storage tank.</p> <p>(4) Rates for pipe work including pipe work in frames to shading sheds shall include for:</p> <p>1. Joints in the running length,</p> <p>2. Nipples, connections, sockets, ferrules, couplings, back nuts, unions, and the like,</p> <p>3. Bends, elbows, tees, reducers, access doors, cleaning eyes, blank caps, stop valves, and the like,</p> <p>4. Welded joints and connections including grinding,</p> <p>5. Lagging and wrapping,</p> <p>6. Excavation, bedding and backfilling.</p> <p>7. Warning tape for underground pipes (magnetic for water pipes, normal for sewage and drainage pipes).</p> <p>8. the unit price of all Items shall includes dismantle the existing interlock tiles, concrete slabs, cut , fill, compaction and reinstatement of the work to the original conditions.</p>				
	<i>Sewage Works:-</i>				
7.1	Supply and install B300 concrete manhole of internal diameter 60 cm ,and (50-100) cm depth according to the required level, 10cm thick plain concrete for walls and base, slab, with cast iron cover with frame 50cm opening, 8 ton bearing capacity, including excavation, backfilling with kurkar in layers 20 cm thick each and compaction 98% MDD, 200 Kg/cm ² plain concrete for benching, hunching and making good according to specification, drawing, and the engineer instructions.	No	13		
7.2	Supply and install Floor Trap Gully (F.T.G) Ø 4", 2.5mm thick ,complete with concrete protection, heavy duty brass grating and 4" & 2" PVC drainage pipe to the nearest manhole or next vertical pipes, Stainless steel Covers and including heavy duty S trap where needed as per specifications , drawings and supervisor engineer instructions.	No.	10		
7.3	Ditto but Floor Trap (F.T) Ø 4", Including Stainless steel Covers, piping , with all connections and fittings.	No.	5		
7.4	Ditto but Floor Clean Out Ø 4", Including Stainless steel Covers, piping , with all connections and fittings.	No.	1		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7.5	Supply and install UPVC pipe Ø6" (SN8) with sockets. The work includes excavating of trenches (depth up to 2.0m), bedding, compacted backfilling with clean sand, connecting to the manholes, fittings , all connections and hydraulic test according to the specifications and drawings.	Lm	70		
7.6	Supply and install Roof Trap drain Ø 4", Including Stainless steel Covers 4" pipes, vent. pipes, cap for ventilation pipes and connected to out site manhole, with all connections and fittings.	No.	5		
7.7	Supply and install Roof drain Gutter .Including Stainless steel Covers,Ø 4" pipes, vent. pipes, cap for ventilation pipes and connected to out site manhole, with all connections and fittings.	L.S	1		
7.8	Supply and fix galvanized steel threaded pipe 3" including jointing, fittings Tee ,elbows ,shows,& fixing to walls with metallic brackets and 3 inch diameter wire balloon grating and floor traps as specification and drawings.	Lm	8		
	Domestic Water Works:-				
7.9	Supply and install galvanized steel pipe Ø 1.5" , (Schedule -40). Including fixing , excavation for trench, backfilling, compaction, UPVC pipe Ø 4" for sleeves, insulation, valves , fittings , warning table and all connections.	Lm	90		
7.10	Ditto but galvanized steel pipe Ø 1.25"	Lm	50		
7.11	Ditto but galvanized steel pipe Ø 1"	Lm	40		
7.12	Ditto but galvanized steel pipe Ø 3/4"	Lm	20		
7.13	Supply and install Collector Box for (CB-T1) (hot and cold water distribution system completed with all necessary Rozabita granite boxes 100*50 cm(two leaves aluminium door and lock) ,with Italian made connections, fittings ,main valves, valves for each line, the price includes supply, install, connect to fixtures and distribution boxes, and test as shown on drawings and as per specifications for hot water & cold water PE-X pipes 16mm outer diameter and 2.2mm thick wall with flexible polyethylene corrugated conduit of 25mm outer diameter and 20mm inside diameter, with all connections, collectors , records , and as required by drawings , specification and Engineer satisfaction	No.	2		
7.14	Ditto but for (CB-H1) (80x50x12 cm).	No.	4		
7.15	Ditto but Collector Box (50x50x12 cm) for (CB-H2) .	No.	1		
7.16	Ditto but 20 mm diameter PE pipes with sleeve UPVC pipe Ø 4" for sleeves, fittings and all connections.	L.M	30		
7.17	Supply and fix water storage plastic tank 1.5 m3 capacity , (3 layers -class A)with locks for cover, with approved type not less than 32 kg weight, complete with lockable cover,1 inch diam. automatic float valve, overflow pipe (1" diam) and drip tray, and ventilation pipe, with all connections for rising main and distribution pipe work and stop valves 1" with all accessories as specification and drawings, including painting tanks with white oil paint .	No.	6		
	Finishing Works:-				
7.18	Supply and fix white glazed fire clay hand wash basin size 52cm x45cm (Vitra type - grade A) or equivalent, complete with all water supply pipes 16mm (Golany) to the nearest distribution box (DB), waste fitting, trap, plug and chain, chromium water mixer (Hamat ,jack, wall mounted type or equivalent), glazed fire clay soap holder, and the drainage line 2" to the nearest floor trap.	.No	11		
7.19	Ditto but for handicapped Washing basin, with stainless steel supports 1.25 " fixed to walls, with all connections, and fittings.	No.	1		
7.20	6mm mirrors including sealant and fixing accessories mirror, size 600 X 400 mm	No.	12		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7.21	Supply and fix white glazed fireclay European W.C. suite (Vitra type - grade A), or equivalent complete with heavy duty cover , 9 litter plastic double action flushing cistern, and fixed chromium plated tap 1/2" Tibesa type or equivalent, including all water supply pipes 16mm(Golany) to the nearest dist. box (DB), flushing hose sprayer, glazed fire clay paper holder, angle valves, UPVC drainage pipe connecting to the nearest manhole or sewage header as per specifications , cap for ventilation pipes sprayer hose , all valves , fire clay toilet paper holders white colour with all connections, and fittings according to drawings and supervisor engineer instructions.,	No.	4		
7.22	Ditto but for handicapped , with stainless steel supports 1.25 " with all connections, and fittings .	No.	1		
7.23	Supply, install test and commission First Class dimension (70x70cm) internal vitra type or equivalent China shower with trims taps, traps, brackets, stays, shower arms hamat type or equivalent, hot and cold water shower mixer, shower tray, including all connections with pipes works complete as shown on drawings and as per specifications and engineering instructions..	No.	4		
7.24	Supply and install 3/4" water chrome tap, for flushing and R.O water .	No.	6		
7.25	Supply and install Electrical Heater (Ariston type) or approved equivalent. Capacity =50 L., Including thermostat with all connection and fittings.	No.	2		
	Fire System :				
	Supply, install, test and commission a complete fire fighting system strictly in according to Civil Defiance and the specification and as indicated on the drawing including the necessary identification plates etc. and all builders work.				
7.26	Supply and install Fire pumps set with automatic control panel which includes circuit breakers, RST relay, overload protection, timers, relays, contactors and all protection devices needed , electrical floats for water tanks (60% for domestic water and 40% for fire fighting) with all connections and fittings. Number of pumps : 3 1- Pump (1 duty) Capacity : 5m ³ / hr. Head : 55m 2-Main Fire Fighting Pumps (2 pumps) (1 duty+ 1 stand by) Each one Capacity : 20m ³ / hr. Each one Head : 55m Including gate valves, dressers, check valves, inlet, outlet pipes, suitable pressure tank and all connections, pressure switches, Galvanised steel (thickness : 2 mm)protection cabinet (1x0,8x0.5)m , fittings, according to drawings, specifications, and supervision engineer requests .	L.S	1		
7.27	Supply and install galvanized steel pipe Ø 1.5" , (Schedule -40). Including fixing , excavation for trench, backfilling, compaction, UPVC pipe Ø 4" for sleeves, fittings , connections, insulation, valves and all other accessories required.	Lm	40		
7.28	Supply & install complete stainless steel hose Reel cabinets , thickness 1 mm and dimension (80x80x25)cm, wall mounted with rubber hose (12bar) pressure, 30m length, Ø25mm, angle globe valveØ 1.25", Jet nozzle with all necessary pipes, connections and fittings	No.	1		
7.29	Supply and install Dry powder type portable fire extinguisher (3 kg).	No.	7		
	Ventilation System				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7.30	Supply and install wall mounted extract fan (EX-F1) of 3000 m3/hr. at static pressure 30 pascal, Ø 16". Including all electrical wires, control panel with all connections and fittings	No	4		
	RO. Desalination plant 5 m3/day - T.D.S (2000-5000) PPM				
7.31	<p>Supply and Install Skid Mounted 5m3/hour Brackish Water RO Desalination Plant ,the packaging frame (Skid) shall be made of Galvanized steel coated with one polyzinc layer and three layers, required to support all component that are integrated on the RO system unit (thickness not less than 2mm).(See attached relevant clauses of attached specifications)It is the contractor full responsibility to check and inspect the proposed site as identified here below and to quote for all works, repairs, installations, and its associates with all material requirements. The contractor shall arrange for all required equipment, tools, and utilities (water, electricity, and tanks...etc.) to carry out the job in accordance with relevant clauses of standards and code of practices .The contractor should submit detailed and complete shop drawing and equipment specifications for engineer approval</p> <p>The contractor shall arrange for all required safety measures, signs, and protections around the sites. The contractor should make valid insurance document to cover all site equipment and labors.</p> <p>Supply and install modular ,factory assembled, tested , piped and wired 0.5m3/hour skid mounted brackish water desalination plant for max TDS salinity of raw water 4000PPM producing water with salinity not more than 100ppm and PH 7 -8 all in accordance with detailed process schematic diagram .The plant should be comprising but not limited to, raw water tank FEED pump(All pumps should be made of KSB,Grundfos or sulzer), fully controlled Multimedia filtration made of rubber lined steel vessels and externally epoxy painted with automatic backwashing and air blowers ,FRP cartridge filtration vessel,antiscalent and acid HCL 33% dosing system each of 500 liters PP tank with level controls Dosing pumps :Prominent &HACH instrumentation , two stage FRP,PN20 high pressure vessels and 91No. ,4" diameter RO membranes 99.7% salt rejection, VFD controlled high pressure pump , lime stone filter ,product water tank , Product water booster pump, stainless steel grade 316 high pressure piping, PN16 CPVC piping for low pressure side, pipes, valves, gauges, electromechanical Siemens digital flow meters for raw product and brine water flows,</p> <p>Digital EC, PH and Turbidity meters for both raw and product water monitoring, PLC controlled electrical power and control switch board. The prices should include for all civil structures and concrete including all associated electromechanical installations .</p> <p>Membranes: Tory,Hydraunitics ,Filmetic types and High pressure Vessels : Bell ,Codeline.</p> <p>Carbon Filter 44"x8" filled with suitable carbon and Automatic control valve 1" (See attached relevant clauses of attached specifications)</p> <p>Multimedia Filter 44"x8" filled with suitable carbon and Automatic control valve 1" (See attached relevant clauses of attached specifications)</p> <p>SS316 Primary Pump (All pumps should be made of KSB,Grundfos</p>	No.	1		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
	Caustic soda dosing system and sodium hypochlorite dosing system, 1" Electrical valve .(See attached relevant clauses of attached specifications) Glycrein Stainless steel pressure gauge.(See attached relevant clauses of attached specifications) High prassure switch.(See attached relevant clauses of attached specifications) Low prassure switch.(See attached relevant clauses of attached specifications) 20" BB,5 micron Sediment Cartridges with its BB house Flow meter on reject and Permeate.(See attached relevant clauses of attached specifications) 16 bar PVC piping for all low pressure application for raw water and permeate water headers with all fittings and accessories. Carbon Filter 44"x8" filled with suitable Crushed limestone and Automatic control valve 1" (See attached relevant clauses of attached specifications) Stainless steel grade 316 piping for high pressure application on membrane feed and membrane reject with all associated fittings and accessories. the price includes Supplying of all consumable materials such as chemical materials, 20'' BB Sediment cartridge for Two years starting from the project handover.				
7.32	2 M3 ,PE raw water tank coated with supercryle and to be supplied with 1'' mechanical float switch and electrical float switch connected with the control panel, including all connections , fittings, valves and all required accessories to complete the job according to specifications , drawings and egneier instructions.	No.	1		
7.33	ditto, but 2 M3, S.S 316L Permeate water tank(Thickness :2 mm),supplied with electrical float switch connected with the control panel	No.	1		
7.34	Stainless steel water dispensing unit, made of stainless steel sheet grade 316L with 2mm thick, sink dimension (2.00x0.4x0.6)m with cover and galvanized steel columns for sink and locker(header), the unit shall be supplied four stainless steel 20 mm taps. The work includes connecting the unit with the nearest manhole, and connecting the unit to the water source, and all it needs from connections, valves, accessories, excavation, backfilling..etc.	Unit	1		
7.35	Supply, install, test and commission and disinfect water supply system from POLYPROPYLENE pipes Ø50MM (20 Bar) complete with all fittings (valves, elbows, tees, couplings etc.), fixing on walls or underground, supports and all necessary works as shown on drawings and as per specifications and engineering instructions	Lm	70		
7.36	Ditto but pipe Ø 32MM.	Lm	220		
7.37	Ditto but pipe Ø25".	Lm	50		
	Water Well Works				
	General				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
	<p><input type="checkbox"/> All works and installations listed here below should be carried out, tested and commissioned by specialized responsible contractor, all in accordance with drawings, specifications and relevant ISO and British standards, and the instruction of the Supervisor Engineer.</p> <p><input type="checkbox"/> The contractor should provide for all discrepancies and arrange for all mechanical and electrical materials, fittings and accessories that may require completing the installations properly, and any necessary works to install the equipment's properly as specified, shown on the Drawings and directed by the Supervisor Engineer.</p> <p><input type="checkbox"/> The contractor should carry out and arrange for (7 – 9) soil samples, and (4– 6) water samples. At certified laboratory approved by the Engineer.</p> <p><input type="checkbox"/> The contractor should Submit X,Y,Z Coordinates, Singled be a certified office approved by the engineer.</p> <p><input type="checkbox"/> The prices should include for the subscription fees for well drilling Certificate from PWA, around (1100\$).</p> <p><input type="checkbox"/> The works of pipes, valves and fittings shall include cutting of existing pipes, dismantling existing valves, flow meters, fittings ... etc. The works include all needed fittings such as bolts, nuts, gaskets ...etc. All dismantled and/or replaced items should be delivered to MCWU according to the instruction of the Supervisor Engineer.</p> <p><input type="checkbox"/> Wherever, the pipes and fittings installed above the ground (none buried), the pipes and fittings shall be coated with three layers of epoxy. The pipes and fittings underground (buried) shall be coated with epoxy primer and two layers of extruded polyethylene coating. Interior surfaces of all steel pipe and fittings shall be lined with cement mortal lining, factory made.</p> <p><input type="checkbox"/> The price shall include execute thrust blocks for elbows, tees...etc.</p> <p>The contractor should provide and include in the bid prices for all discrepancies including all mechanical and electrical materials, fittings and accessories that may be required to complete the installations properly.</p> <p>The contractor should carry out and arrange for analyses of soil samples at the end of drilling. And submit soile analyses report to the engineer, and (5 –6) water samples to be analyzed by certified and licensed Laboratory approved by the engineer .</p> <p>The Engineer has the right to reject any component of the work not complying with the specifications and the requirement of the contract.</p> <p>Contractor shall coordinate with all related entities for the implementation of desalination plant and water well. All associated fees and expenses related to authorizing and licensing shall be considered in his prices.</p>				
7.38	Drilling and digging Borehole passing through any type of soil with diameter of min. 8 inches size. The item includes lowering, welding and extraction up and remove all the materials to places as instructed by engineer.	LM	90		
7.39	Supply and install 6" uPVC pipe from the top of the screen to the top of well. The item includes lowering, and fixing.	LM	75		
7.40	Supply, weld and install a double Stainless steel screen Grade 316, 8" diameter 5mm thick. The total free area will be 10% minimum.	LM	12		
7.41	Supply; weld and install Stainless steel pipe Grade 304, 8" diameter 5mm thick at the end of the filter according to screen design and Engineer instructions.	LM	3		
7.42	Supply and weld of stainless Steel bottom plate of thickness 5 mm minimum, 8" diameter	No.	1		
7.43	Supply and lower graded quartz (1.5-2.5) mm.	Ton	4		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7.44	Well flushing, Cleaning and Pumping test and carryout the required measurements including detailed bacteriological and chemical analysis tests from certified laboratory approved by the engineer in charge including detailed hydrological report. The item includes transferring, assembly, dismantling of the contractors' pumping equipment. The contractor shall arrange and coordinate with municipality and others for location and method of damping the extracted water during well flushing and pumping test.	Hr	10		
7.45	Supply and install complete sodium hypochlorite dosing system comprising of solenoid, prominent type,CNPA or equivalent approved type dosing 0.8L/H 21 at 10bar), 500 liter polyethylene white tanl prominent type, with built in factory made automatic stainless steel mixer. The tank should be accommodated within reinforced concrete box having 500 liters volume capacity. The works and installations should include for all associated fittings and accessories required to accommodate and connect the desired system.	unit	1		
7.46	Supply, installation and operation of electrical submersible pump, European made ,Flygt,KSB,Grodfos or Lowara type or approved equivalent. The operating point of the pump is (15) M3/hr at a total dynamic head (TDH) of 85m at minimum 80% pump efficiency. Price shall include the supply and installation of (Stainless steel wire, chain, rings and 2" Barrel Nipple all of SS316, sch40) to fasten, lift and install the pump, and all needed accessories to compelte the work according to drawings, specifications and engineer instructions.	unit	1		
7.47	Supply and install MDPE minimum 2" Diameter pressure 10 bar, for the submersible pump's drainage outlet. The price includes all the required materials, workmanship, equipment's, include all required fittings (flanges, elbows, bends, reducers and all fittings needed, all works should be carried out according to drawings, specifications and engineer instructions.	LM	100		
7.48	Supply and install Galvanized steel 2" Diameter pressure 16 bar, as manifold. The price includes all the required materials, workmanship, equipment's, include all required fittings (flanges, elbows, bends, reducers, pressure gauges, 2" magnetic water flow meter, strainer, gate valves, check valve, air release valve,1 meter stainless steel 316 pipe for chlorine injection, and all fittings needed, all works should be carried out according to drawings, specifications and engineer instructions.	L.S	1		
7.49	Supply and install concrete manhole of internal diameter 100 cm ,and (100) cm depth according to the required level, 20 cm thick concrete for walls , slab with cast iron cover with frame 60cm opening,25 ton bearing capacity, including excavation, backfilling, hunching and making good according to specification, drawing, and the engineer instructions.	unit	1		
7.50	Supply, install, test and commission an electrical control panel which is made of IP-54 galvanized steel thickness 2 mm painted with electrostatic paint of dimensions 40 * 60 cm. The panel includes Contactors, Overload protection, Voltmeter, Ameter, HID signal, protection device RSTP, timer, relays, signal lamps, push buttons, switches, circuit breakers and all the necessary wires and protection needed to complete the work type Moeller or equivalent.	unit	1		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
8. Electrical Works					
*	All the following items shall be executed according to the drawings, specifications and as directed by the Engineer with <u>APPROVED QUALITY AND TYPE</u> , the rates shall include all electrical testing and commissioning .				
A-	<u>LIGHTING FITTINGS :</u>				
1-	Supply and install IP-64, 60W low bay LED of aluminium alloy body, 5400 lumen and 4000 colour temperature. Type-Philips or equivalent. (Europe made)	No.	20		
B-	<u>SWITCHES AND SOCKETS :</u>				
1-	Supply and install N.O. single pole illuminable push button with 220V miniature signal lamp for stairs light. switching.	No.	4		
2	Supply and install single pole , one way switch , 13A , 220V complete with all needed to complete the work. Type Gewiss-Chourus.	No.	2		
3	Supply and install single phase, 3-pin, flush mounting, 220V-16A socket outlet with safety shutters. Type Gewiss-Chourus.	No.	8		
4	Ditto as (2), but different colour for solar (UPS) socket.	No.	6		
C-	<u>DATA & TEL SYSTEMS:</u>				
1-	Supply and install RJ-45 data socket, this includes data cable GIGA UTP, CAT6, 4 pairs (Tudor type) to be installed inside 0.75 inch dim. PVC conduit and three gangs junction box. Type Gewiss-Chourus.	No.	6		
2-	PVC box for crossing DATA cables (J.B)	No.	1		
3-	Connecting the data sockets to the nearest data rack including conduits, data cable GIGA UTP, CAT6, 4 pairs (Teldor type).	LS	1		
D-	<u>EARTHING SYSTEM:</u>				
1-	Supply, install and test earthing system Faraday Cage way including 30x4mm flat galvanized steel tape, testing points, tap-off, equipotential bus bars, two 80cm diam. manholes, u-bolted clamps, bare copper conductor and digging of two set of three 19mm diam. copper electrodes, 70mm copper wire with copper lugs bolted to the tape ends & covered entirely with PVC shrink-on tube in expansion joints positions, according to specifications and drawings. The earthing resistance should not exceed 2 ohms.	L.S.	1		
E-	<u>Sub-Distribution Board :</u>				
E-1	<u>SDB1 Board :</u>				
1-	Supply and erect framework of switchboard made of 2mm thick steel sheets, painted with anti-static insulation material, lockable type with key barrel for one lock. The panel should include metallic partition to separate essential loads and non-essential loads, hard copper bus-bars for three phases, neutral and separate earth bus bar, labelling, wires marking, document holder, connection terminals and any required accessories. Type Moeller.	Set	1		
2-	Miniature circuit breaker 3x16A with S.C.C. 10KA. Type Moeller.	No.	3	35	105
3-	Ditto as (2), but 3x10A.	No.	1		
4-	Ditto as (2), but RCD 4x40, 0.03A.	No.	2		
5-	Ditto as (2), but 2x16A.	No.	7		
6-	Ditto as (2), but 2x10A.	No.	4		
7-	AC3-380V three poles contactor DIL-M7. Type Moeller or approved equivalent. , with 16A step relay	No.	2		
F-	<u>Cables and Conduits:</u>				
1-	Supplying and erecting 1.25"pipe (LDPE) at 100cm depth or inside walls including excavation, backfilling, plastering and a warning tape.	Mr.	50		
2-	5x2.5mm ² N2XY copper cable.	Mr.	50		
	<u>MPH Toilets</u>				
	<u>NOTES :</u>				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
*	All the following items shall be executed according to the drawings, specifications and as directed by the Engineer with <u>APPROVED QUALITY AND TYPE</u> , the rates shall include all electrical testing and commissioning .				
A-	<u>LIGHTING FITTINGS :</u>				
1-	Supply and install surface mounted lighting fixture 2X20 W, with 4000 lumen, exit window 140 degree, and life time 40000 hours LED T8 tubes of length 1200 mm. Type-Philips or equivalent.	No.	3		
2-	Supply and install surface mounted Globe With Polycarbonate 2x10W, LED lamps. Type-Philips or equivalent.	No.	4		
3-	Supply and install surface mounted Globe With Polycarbonate 15W, water proof type, LED lamp. Type-Philips or equivalent.	No.	14		
B-	<u>SWITCHES AND SOCKETS :</u>				
1-	Supply, install and connect single pole switch including conduit and wires under plastering. Type Gewiss-Chourus.	No.	3		
2-	Ditto as (1), but with IP-55 water tight plate.	No.	3		
3-	Ditto as (2), but double pole switch.	No.	2		
4-	Supply and install single phase, 3-pin, flush mounting, 220V-16A socket outlet with safety shutters. Type Gewiss-Chourus.	No.	4		
C-	<u>EXTRACT FANS:</u>				
1-	Supply and fix 6" diameter 250m3/hr wall mounted extract fan; with louver, Type-Venta or equivalent.	No.	5		
Total					

Summary of MPH

DESCRIPTION	Total Amount \$
1. Excavation & Earth Works.	
2. Concrete Works.	
3. Building Works	
4. Metal Works	
5. Finishing Works	
6. Isolation Works	
7.Mechanical Works	
8. Electrical Works	
Sub total (\$)	

OVERALL SUMMARY

NO.	Description	Total price (\$)
A	Salah El Deen School	
B	AL Hurrya School	
C	Hashem Atta AL Shwa School	
D	Majda Wasela School	
Total		

Total in numbers:

Total in letters:

Name of the contractor:

Authorized signature:

Signature and Sealing:.....

Title:

Telephone:.....

Fax:

Mobile: