



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-159

Lot 25
WBS 1110

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 25

Reconstruction Works of Abu Tammam School



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-159

Abu Tammam School Main Buildings

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>				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
A. New Building					
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 leveling network before excavation works. 				
1.1	<p>Demolish and remove safely the existing canteen, toilet unit, playground, disabled toilet, the boundary walls, dismantle existing steel and leather shed and refix according new design, dismantle existing steel shed and deliver to MOEHE, stop columns and stair case slab in the existing building, The price shall include dismantling of polypeed sheets, foam concrete, decorative blocks, existing water tanks and reinstall it including rearrangement of water net work, Dismantle and remove existing plumbing equipment's as pipes, water tanks , W.C , Washing basins , sinks , etc., all necessary fittings, steel bases and submit completely to the M.O.E engineers. and the price includes rearrangement of aluminum windows, steel protection, doors, canteen marble benches, interlock tiles... etc. ,and transport and deliver to M.O.E.H.E .and removing all defected materials inside and outside school buildings including but not limited to defected parts of boundary walls, tiles , plaster , steel, foundations, ground beams, concrete debris, solid waste.... etc. to approved dump sites, as per the engineer's instructions. The price also include preservation of the existing utilities and dismantle and supply and fix of any utilities if needed in the demolition areas</p>	L.S	1		
1.2	<p>Excavation from natural ground level in any type of soil to required designed level. The Works including: (three load plate tests are required to verify the result), 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.</p>	M ³	600		

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 20cm thick each layer (MDD 98%), to comply with the design bearing capacity of not less than (18 Kg/cm2). The work must be carried out according to the specifications, design drawings & the engineer's instructions (three load plate tests are required to verify the result)	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	300		
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	600		
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 (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>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>12-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>13- Shop drawing include structural sheet calculation for wooden supports (form work) of shuttering for roof level over 4.5 m height must be submitted by the contractor to be approved by UNDP Engineer</p>				
2.1	Supply and cast ready mix plain concrete B (200) kg/cm2 for Blinding beds 5 cm thick including polythene sheets as per specifications and drawings.	M3	20		
2.2	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.as per specifications and drawings.	M2	400		
2.3	Ditto but 10cm thick entrance ramps and platform.	M2	50		
2.4	Supply and cast ready mix reinforced concrete B (300) kg/cm2 for foundations (isolated, strip footing, strap & inverted T sec.) as per specifications and drawings.	M3	105		
2.5	Ditto but for ground beams, footing beams including ground beam for the platform.	M3	60		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2.6	Ditto but for strap beams between the foundations.	M3	15		
2.7	Ditto but B (250) kg/cm2 canopies.	M3	16		
2.8	Supply and cast ready mix reinforced concrete B (300) kg/cm2 for stairs including flights, landings, steps, drop, inverted beams and hand rail wall including entrance stairs.	M3	30		
2.9	Ditto but B (250) kg/cm2 for wall parapet in corridors under steel balustrade in the ground floor, ramp side walls, roof expansion joints walls & for stair case walls parapet. Item include fixation and other necessary materials and workmanship	M3	15		
2.10	Ditto but for sills, lintels, coping, concrete wall (hunches for doors), gas room elements, decorative column in the existing building .etc.	M3	40		
2.11	Supply and cast ready mix concrete (B150) for stub columns at the roof.	M3	12		
2.12	Ditto but plain concrete B200 under water tank and pumps 20 cm thick.	M3	4		
2.13	Supply and cast ready mix reinforced concrete B (300) kg/cm2 for columns and columns necks as per specifications and drawings.	M3	90		
2.14	Supply and cast ready mix concrete B (300) kg/cm2 for suspended slab 20cm thick, including the reinforced steel, corridor concrete parapet, under steel balustrade for the typical slab, concrete hollow block 40*25*14 cm all drop and inverted beams everywhere in the slab and all other materials as per specifications and drawings.	M2	1500		
2.15	Supply and cast ready mix concrete B (300) kg/cm2, for stair case solid slab 15 cm thick including all drop and inverted beams everywhere in the slab and all other materials as per specifications and drawings.	M2	100		
2.16	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	60		
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	2300		
3.2	.Ditto but 40x20x 15 cm thick	M2	70		
3.3	.Ditto but 40x20x 10 cm thick	M2	50		
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 (75/25) after primer .layer	M2	100		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4. Carpentry Works					
	The items include supplying carpentry Works from good wood grade “A” including frame cover mould, architrave, sanding sealer, prime coats , at least two coats of oil paint, 15cm Aluminum kick plate 1mm thick from both sides , hard ware, locke type Wally switch or equivalent and brass hinges 10cm height, door stopper and all other fitting according to specification and drawing.				
4.1	Supply and fix framed fibber bulletin board (cork sheet 2 mm thick) size 1.2 x 1.00 m from Kalboard (BC129) or equivalent. Price includes aluminum frame 5 x 1.5 cm silver painted, Plywood veneer 5 mm thick on the back, and all necessary fixings, fittings, accessories.	No	18		
4.2	Supply and install wall mounted magnetic green chalk board Lina series, 25 mm profile kALBOARD MG 3612/L size 120x360 cm) with silver anodized elegant aluminum frame (19x25mm thick) and four strong rounded plastic (upvc) corners fixed internally with screws to the wall, and also with silver anodized aluminum try fixed by sliding through the profile which used for chawks, markers and duster and has UPVC edges for safety. The writing surface coated of steel polyester fixed by using automatic gluing machines to 11mm thick MDF wood covered automatically by aluminum foils. Price to include all related Works as per drawings, specification and Engineer’s Instructions.	No	18		
4.3	Supply and fix 120x20mm plywood coat hook rail smoothed , plugged and screwed to wall at 30cm center to center including priming and varnish painting with Galvanized steel coat hook 3mm thick, screwed to rail at 20cm center to center as per specifications and drawings and to be approved by the engineer.	Mr	120		
4.4	Supply and fix soft wood poster hanging rails size 50mm x 20mm with round edges, smooth surface , apply two coats of sanding sealer, sand lightly and apply two coats of varnish,one coat of Lucker paint. drill and fix to concrete or block walls using expansion steel bolts as per specification and drawings..	Mr	80		
4.5	Supply and fix softwood rubbing rails size 150mm x 20mm with round edges, smooth surface , apply two coats of sanding sealer,one coat of lacquer paint. sand lightly and apply two coats of varnish, drill and fix to concrete or block walls using expansion steel bolts as per specification and drawings.	Mr	350		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5.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				
5.1	Supply and fix colored aluminum window section 7000 type W1. , overall size70 x 233cm, complete with frame, white color, four sliding leaves ,clear glass 4mm thick, ironmongery and hardware. and as per specification and drawing.	No	15		
5.2	Ditto but, Type W2 overall size70 x220cm	No	12		
5.3	Ditto but, Type W3 overall size120 x233cm	No	36		
5.4	Ditto but, Type W4 overall size120 x220cm	No	18		
5.5	Supply and fix colored aluminum window section 7000 type W1* for extension floor. , overall size 250 x 120cm, complete with frame, white color, four sliding leaves ,clear glass 4mm thick, ironmongery and hardware. and as per specification and drawing.	No	8		
5.6	Ditto but, Type W2* overall size 125 x 120cm	No	4		
5.7	Ditto but type w3* over all size 250 x 80cm	No	8		
5.8	Supply and fix steel protection for windows over all size W1 (ground floor) 70 x 233cm .the prices including mild steel frame size 30 x 30x3 mm thick, vertical steel profile size 30x30 x 2mm thick fixed every 70cm (clear distance), steel sheets 150mm width x 2 mm thick, 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	15		
5.9	Ditto but window size W2 70x220cm.	No	12		
5.10	Ditto But window size W3 120x232cm.	No	8		
5.11	Ditto But window size W4 120x220cm.	No	4		
5.12	Ditto but for upper floors W3 over all size 80 x 233cm	No	28		
5.13	Ditto but for upper floors W4 over all size 80 x 220cm	No	14		
5.14	Supply and fix steel protection for windows over all size W1* for existing building (window size 250x80c) .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, painting with one coat of primer undercoat and at least two coats of oil paint, all according to drawing, specification and engineer instructions.	.No	8		
5.15	Ditto but window size W3* 250x70cm.	.No	8		
5.16	Ditto but window size 125x80cm for first and second floor	No	4		
5.17	Supply and fix mild steel balustrade 40cm high for the staircase handrail 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 hummer paint, (the color to be approved By the Engineer and as drawings and specifications).	Mr	95		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
5.18	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 hummer paint in addition to all Accessories needed to finish the work according to specifications, drawings and the engineer's instructions.	Mr	90		
5.19	Supply and fix galvanized steel balustrade for corridors 65cmhigh fixed to inverted concrete beams by steel plate and bolts , the Works include one primer coat, one under coat and minimum two coats of colored hummer paint in addition to all Accessories needed to finish the work according to specifications, drawings and the engineer's instructions.	Mr	140		
5.20	Supply, and fix Mul-T-Lock (740), with overall size 110x220cm Single leaf with powder coated paint & metal frame . Door lock type 235 & Mul-T-Lock serrated with master key cylinder. The price include master key, rock wool inside door, and all accessories and related works all according to drawings, specifications and engineer instructions	No	21		
5.21	Ditto, but D2 (110 x200), with frame 3mm thick, , with master key, as specified in the drawings and specifications	.No	2		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
6. 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>				
6.1	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	3000		
6.2	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; all this is according to specifications , drawings and supervisor engineer's instructions	M2	1200		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
6.3	Supply & execute the external finishes ECOS (colored solvent based grained coating)The price includes scaffolding, removal all tyrolean finish layer, maintenance of all existing plastering after removal tyrolean layer, repairing cracks,repaire the existing plaster after terolyene layer removal, preparing the surface to install the new layer, all according to specifications , drawings and supervisor engineer's instructions	M2	1800		
6.4	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		
6.5	Supply and install terrazzo floor tiles (grade A) size 25cmx25cmx2.5cm with Basalt stone laid on 2.5cm mortar bed and 5 cm thick sand bed and terrazzo skirting 25cmx 7cmx1cm including all materials and testing as per specifications and drawings.	M2	1550		
6.6	Supply, install and fix 200x200mm Floor glazed ceramic tiles, of European type, including cement mortar bed, cleaning, pointing and polishing .	M2	15		
6.7	Supply, install and fix 200x200mm wall glazed ceramic tiles, of European type, including cement mortar bed, cleaning, pointing and polishing .	M2	20		
6.8	Supply and install terrazzo 25cm wide x 3cm thick of the similar to floor tiles including smoothing edges (for corridors coping and thresholds.) as per specifications and drawings.	.Mr	100		
6.9	Ditto but for stair case handrail coping size 15cmx3cm.	Mr	80		
6.10	Supply and lay terrazzo stair treads size 35 cm wide x 3cm thick chamfered once , rebated once and laid on 2cm thick mortar bed same color and kind of the floor tiles and the price including local marble stair risers size 12.4cm high x2cm thick and skirting 20cm high x2cm thick on the both sides as specification and drawing.	Mr	200		
6.11	Supply and make internal oil painting for walls . The work includes fines the wall surface by using the following coats: 1-tow coats of bandrol, 3 coats of white mortar one coat of undercoat and 3 coats of oil colored paint . Works include all materials needed to finish the Works according to specifications , drawings and supervisor engineer's instructions	M2	4000		
6.12	Supply and paint one primer and minimum two coats of Polisde for internal walls, ceilings and drop beams as specifications and drawings.	M2	1800		
6.13	Supply and install high quality Granite 180x70x2cm thick (Tiger) for top cover of students preparing bench. The price includes granite Rozabita grade A for two direction supporting, floor, mid separators, marble necessary to close around and bottom of sink, and shelves, skirting and all accessories, fitting and making holes for sinks and water and gas supply as per specification and drawings and to be approved by the representative engineer.	No	9		
6.14	Ditto but for teacher bench 250x80x2cmincluding aluminum doors (kitchen doors) and including marble back	No	1		
6.15	Ditto but for Kitchen and canteen.	MR	6		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
7. Roofing 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. <p>7- the price should includes demolish and dismantle existing terrazzo ceramic tiles, plaster, steel protection or balustrade, unrequired existing walls,...etc., cleaning and remove all debris to approved dump site.</p>				
7.1	Supply and cast foam concrete with fine aggregates for roof screeding of average thickness 8 cm as shown in drawing. The item will include making the angle fillet 5x5cm around the boundary of the parapet and around opening in roof if exists.	M2	700		
7.2	Supply and lay one layer of plasticized bitumen roofing membrane with chipping 4 mm thick, including priming concrete surface prior to laying, dressing into rain water outlets to form water proofing seal and cover the angle fillets. The rate include verticals parts skirting as per specification and drawings.	M2	700		
	Note: Measurement will be for the horizontal projection				
7.3	Supply and Execute expansion joint on the roof as detailed in drawings including, polystyrene sheets 2cm and 5cm thick, mastic sealant as per specification and drawings.	.Mr	15		
	Note: The concrete work not included				
7.4	Supply and Execute expansion joint in the corridor floor as detailed in drawings, including polystyrene sheets 2cm and 5cm thick, mastic sealant, aluminum angles 40x65x3mm the work includes dismantle existing protection steel, demolish safely corridor concrete and block walls and any required work as in specification and drawings.	.Mr	55		
7.5	Supply and Execute expansion joints and cover for columns and corridor soffits as detailed in drawings including polystyrene sheets 2cm and 5cm thick, mastic sealant and aluminum strip size 100 x 3mm screwed to walls or soffits from one side as per specification and drawings.	Mr.	20		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
8. 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. 7. Warning tape for underground pipes (magnetic for water pipes, normal for sewage and drainage pipes). 8. the unit price of all Items shall include dismantle the existing interlock tiles, concrete slabs, cut , fill, compaction and reinstatement of the work to the original conditions. 				
	Sewage Works:-				
	The work includes connection of the sewer line to the existing manholes. The holes of the manholes have to be done using core machine. All manholes have to be coated by two external bitumen coating, and to be internal coated with approved materials for insulation.				
8.1	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	No	19		
8.2	Ditto but Ø 80cm, depth (100-160cm) .and 15cm thick concrete for walls and base, with 25 ton cast iron cover.	No.	8		
8.3	Ditto but Ø 100cm, depth (160-220cm) ,and 20cm thick concrete for walls and base with cast iron cover with frame 50cm opening, 25 ton bearing capacity, with cast iron steps.	No.	2		
8.4	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.	27		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
8.5	Ditto but Floor Trap (F.T) Ø 4", Including Stainless steel Covers, piping , with all connections and fittings.	No.	2		
8.6	Ditto but Floor Clean Out Ø 4", Including Stainless steel Covers, piping , with all connections and fittings.	No.	6		
8.7	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	370		
8.8	Ditto but UPVC pipe Ø6" .	Lm	150		
8.9	Ditto but UPVC pipe Ø4" .	Lm	60		
	Drainage (Rain Water) Works:-				
8.10	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.	Lm	25		
8.11	Supply and lay non-woven geotextile membrane according to specifications to protect the inner surface of the 80 cm diameter borehole.	Lm	25		
8.12	Ditto but for surface areas, and manholes premiter	m2	20		
8.13	Supply and fill in boreholes solid , clean washed, and free from dust gravel of at least 2" size.	m ³	12		
8.14	Ditto but ¾ " aggregates	m ³	1		
8.15	Ditto but ¼ " aggregates	m ³	1		
8.16	Supply and install pre-cast circular reinforced concrete manhole (Ø 600 mm) B300 complete with 40 cm cast iron cover (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	16		
8.17	Ditto but Ø 800 mm.	No.	2		
8.18	Ditto but Ø 1000 mm and 25 ton bearing capacity, 20 cm wall ,roof and foundation thickness.	No.	2		
8.19	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		
8.20	Supply and install 8" uPVC Tee with 600 mm long pipe, as directed by engineer.	No.	4		
8.21	Supply and install 8" uPVC "S" trap as indicated in the drawings.	No.	1		
8.22	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.	12		
8.23	Supply and install Gully trap dia. 6" to 6" with dia. 60cm M.H (Cast iron cover 8ton type). Manhole with frame and cover. The price includes external hot bitumen painting (two Layers on one prime layer), excavation, construction plastering proper benching backfilling. This Gully trap for connection storm water outlets with sewage manhole and all required as per drawings specifications and Engineer satisfaction.	No	2		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
	Domestic Water Works:-				
8.24	Supply and install water pumps set (Type Flagyt or equivalent) with automatic control and control panel and electrical cable .Including concrete base 4mx3m x0.2 m ,electrical floats for water tanks (60% for domestic water and 40% for fire fighting) with all connections and fittings. Capacity : 12 m ³ / hr. Head : 30m Number of pumps : 2 Including gate valves, dressers, check valves, inlet, outlet pipes, suitable pressure tank and all connections, fittings, according to drawings, specifications, and supervision engineer requests .	L.S	1		
8.25	Supply and install galvanized steel pipe Ø 2" , (Schedule -40). Including fixing , excavation for trench, backfilling, compaction, UPVC pipe Ø 4" for sleeves, insulation, valves , fittings and all connections.	Lm	300		
8.26	Ditto but galvanized steel pipe Ø 1.5"	Lm	200		
8.27	Ditto but galvanized steel pipe Ø 1"	Lm	80		
8.28	Ditto but galvanized steel pipe Ø 3/4"	Lm	60		
8.29	. Supply and install Collector Box for (CB-G1)) (hot and cold water distribution system completed with all necessary Rozabita granite boxes 100*50*10 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.	4		
8.30	Ditto but Collector Box (50x50x10 cm) for (CB-G2) .	No.	1		
8.31	Ditto but Collector Box (50x50x10 cm) for (CB-G3) .	No.	1		
8.32	Ditto but Collector Box (80x50x10 cm) for (CB-G4) .	No.	1		
8.33	Ditto but 20 mm diameter PE pipes with UPVC pipe Ø 4" for sleeves, fittings and all connections.	L.M	50		
8.34	Supply and fix water storage plastic tank 2 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.	14		
8.35	Dismantle and re install and testing existing R.O system with all equipment's , existing water tanks , pumps ,valves ,all necessary fittings, steel bases and all accessories. The price includes replacement of all defected parts , and required materials, fittings and connections to complete the job according to specifications and engineer instructions.	L.S.	1		
	Finishing Works:-				
8.36	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	10		
8.37	Ditto but for handicapped Washing basin, with stainless steel supports 1.25 " fixed to walls, with all connections, and fittings.	No.	1		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
8.38	6mm mirrors including sealant and fixing accessories mirror, size 600 X 400 mm	No.	11		
8.39	Supply and fix white glazed fireclay European W.C. suite (Vitra type - grade A), or equivalent complete with heavy duty cover , 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 , toilet paper holders white color vitreous china with all connections, and fittings according to drawings and supervisor engineer instructions.,	No.	20		
8.40	Ditto but for handicapped , with stainless steel supports 1.25 " fixed to walls with all connections, and fittings .	No.	1		
8.41	Supply and install Stainless Steel Sink (50X60)cm, single bowl, drainer easy cleaning ,Including all connections pipes, vent pipes, cap for ventilation pipes and connected to out site manhole, with cold and hot water mixer (Jack type), soap holders white color vitreous china (15cmx15cm), with all connections, and fittings .	No.	1		
8.42	Ditto but with long neck tap for cold water.	No.	1		
8.43	Supply and install white glazed fireclay sink of 600x400 x250 mm, Italian made or approved equivalent (Grade/A) for Science Lab. Including all connections pipes, vent pipes, cap for ventilation pipes, and connected to out site manhole ,with long neck tap for cold water, with all connections, and fittings .	No.	10		
8.44	Supply and install 3/4" water chrome tap, for flushing and R.O water .	No.	12		
8.45	Supply and install Electrical Heater (Ariston type) or approved equivalent. Capacity =50 L., Including thermostat with all connection and fittings.	No.	1		
	Fire System :				
	Supply, install, test and commission a complete fire fighting system strictly in according to Civil Defense and the specification and as indicated on the drawing including the necessary identification plates etc. and all builders work.				
8.46	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- Jockey 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,perssure switches, fittings, according to drawings, specifications, and supervision engineer requests .	L.S	1		
8.47	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.	5		
8.48	Supply and install Dry powder type portable fire extinguisher (3 kg).	No.	3		
8.49	Supply and install CO2 powder type portable fire extinguisher (3 kg).	No.	8		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
	<i>Ventilation And Air-conditioning System</i>				
8.50	Supply , install, test and commission air conditioning Heat Pump Split Unit Electra type or equivalent approved, composed of out door unit. filled with environment friendly refrigerant such as (R410, R407c,...) and COP not less than 3.5, Well supported on galvanized steel base on the roof, indoor unit with efficient filters as indicated on drawings to be tights installed completed with all necessary supports, hangers, drain pipes from indoor unit to the nearest floor drain, (PVC Ø 1"), cupper pipes , sleeves, thermostat , and all required electrical cables according to drawings and engineers approval. CAPACITY : (24,000 BTU) ,(800 cfm) drain pipes with S trap from indoor unit to the nearest floor drain (PVC Ø 2"), cupper pipes , sleeves, thermostat , and all required electrical cables according to drawings and engineers approval. CAPACITY : (2) Ton/hr ,(800 cfm).	No	2		
8.51	Supply and install wall mounted extract fan (EX-F1) of 650 m3/hr. at static pressure 30 pascal, Ø 8". Including all electrical wires, control panel with all connections and fittings	No	8		
8.52	Ditto but for Fan (EX-F2), Q =250 m3/hr. ,Ø 6".	No	3		
	<i>Gas System</i>				
8.53	Supply and install Gas supply system for laboratory, the system including all required brass pipe, fitting, valves, distribution box, Burners(type Tatali) on each lab table .etc., and pipe should be pressure tested and guaranteed against chemical attack and approved by representative engineer and the civil defense. the price also includes connection to the gas room including installation and angle valves, fittings, flexible and complex valve Global Valves and orderly, gauge pressure (16bar , R&R or equivalent) and 2x12kg gas cylinder and all gas pipes, connection and accessories needed to complete the gas network and connect the gas to the benches.to gas valves (SG-1 Sagir or equivalent), and all what it takes to be linked to the gas network the contractor shall submit work shop drawing to be approved by the representative Engineer	Unit	1		
	<i>Irrigation System :</i>				
8.54	Supply and install Manhole Ø 60cm with cast iron cover (8 Ton), depth (60 - 80) cm, for water pipe including excavation, backfilling and all connections, valves Ø1.5" and Ø1 ", fittings, according to specifications and supervision engineer requests .	No.	3		
8.55	Supply, install, test and commission and disinfect water supply system from PE pipes Ø40MM (10 Bar) complete with all fittings (valves, elbows, tees, couplings etc..), Including excavation for trench, backfilling, compaction, supports and all necessary works as shown on drawings and as per specifications and engineering instructions	Lm	30		
8.56	Ditto but pipe Ø 32MM.	Lm	150		
8.57	Ditto but pipe Ø25MM.	Lm	100		
8.58	Ditto but pipe Ø20MM.with with drippers.	Lm	350		
8.59	Supply, install and fix faucet Ø3/4", length (50)cm, with all connections and fittings, according to specifications, and supervision engineer requests .	No.	3		
Total					

Item NO	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
9. Electrical Works					
	<p><u>General:</u></p> <p>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 :</p> <p>* The drawings , specifications and instructions and demands of the engineer.</p> <p>*the unite price shall includes, demolish and reinstatement to original status for any existing services, walls including but not limited to concret and block works, terrazo, ceramic and interlock tiels, plaster and painting works, etc.....</p> <p>* Dismantling, and reinstating the existing paving layers (Interlock, cement tiles, asphalt, etc.) As well as the soil layers at the places of PVC pipes and cables. The price also includes replacing the damages interlocks, tiles, asphalt, etc. to match the existing one as per supervisor instruction.</p> <p>* 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 futur.</p> <p>The prices will be deemed to include for the full cost as described in all Documents.</p> <p>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>				
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 European made.	No.	138		
2-	Supply and install surface mounted lighting fixture 1X20 W, with 2000 lumen, exit window 140 degree, and life time 40000 hours LED T8 tube of length 1200 mm. Type-Philips or equivalent European made.	No.	2		
3-	Supply and install surface mounted lighting fixture 1X16 W, 1600 lumen, with assymetric reflector for the classrooms blackboards, exit window 140 degree, and life time 40000 hours LED T8 tubes of length 1200 mm. Type-Philips or equivalent European made.	No.	25		
4-	Supply and install surface mounted Globe With Polycarbonate 2x10W, LED lamps. Type-Philips or equivalent European made.	No.	60		
5-	Supply and install surface mounted Globe With Polycarbonate 15W, water proof type, LED lamp. Type-Philips or equivalent.	No.	20		
6-	Supply and install IP-66 flood LED light fitting of 12000 lumen and 90 W power with IP-65 junction boxes. Type-Philips or equivalent European made.	No.	6		
7-	Supply and install IP-54, class II, 1x15W wall mounted laminar, with cast aluminium body, metal protection with ceiling gasket. The unit includes 15watt LED lamp. Type-Eleita or equivalent European made.	No.	2		
8-	Supply and install surface mounted lighting fixture 2X20 W, 4000 lumen, with gloss aluminium CONCAVED c louvers, exit window 140 degree, and life time 40000 hours LED T8 tubes of length 1200 mm.IP-20, CLASS II.Type-Philips or equivalent European made.	No.	36		
9-	Supply and install IP-54 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 European made.	No.	20		
B-	<u>SWITCHES AND SOCKETS :</u>				
1-	Supply, install and connect single pole switch including conduit and wires under plastering. Type Gewiss-Chourus or equivalent European made.	No.	15		
2-	Ditto as (1), but with IP-55 water tight plate.	No.	5		
3-	Ditto as (1), but two ways switch.	No.	15		

Item NO	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4-	Ditto as (1), but double pole switch.	No.	25		
5-	Ditto as (4), but with IP-55 water tight plate.	No.	10		
6-	Ditto as (1), but triple pole switch.	No.	5		
7-	Supply and install N.O. single pole illuminable push button with 220V miniature signal lamp for stairs light. switching.	No.	20		
8-	Ditto as (1), but with IP-55 water tight plate with switch for water pump,20A,one gang, one way switch with lamp	No.	2		
9-	Supply and install single phase, 3-pin, flush mounting, 220V-16A socket outlet with safety shutters. Type Gewiss-Chourus or equivalent European made..	No.	60		
10-	Ditto as (9), but with IP-55 water tight.	No.	10		
11-	Ditto as (9), but double sockets.	No.	10		
12-	Ditto as (10), but laboratories' table mounted including 3x2.5mm2 cable with PVC duct.	No.	15		
13-	Ditto as (9), but computer lab's tabel with different colour mounted including 3x2.5mm2 cable with PVC duct.	No.	25		
14-	Ditto as (9), but different color for solar (UPS) socket.	No.	45		
15-	Supply and install 20A-220V Airconditioner Socket outlet, 20A ONE gang one way switch with 220V miniature signal lamp. Type Gewiss-Chourus or equivalent European made..	No.	2		
16-	Supply, install and connect remplacement single pole one way switch include the testing of Continuity of wires and pipes.Type Gewiss-Chourus or equivalent European made..	No	35		
17-	Supply, install and connect remplacement single socket outlet include the testing of Continuity of wires and pipes.Type Gewiss-Chourus or equivalent European made..	No	35		
C-	<u>DATA & TEL SYSTEMS:</u>				
1-	Supply and install telephone outlet with 6 wires twisted pair cable, the price include all accessories needed. Type Gewiss-Chourus or equivalent European made..	No.	5		
2-	Ditto as (1), but telephone cables collection box including connection terminals, cables marking and all needed accessories.Type Gewiss-Chourus or equivalent European made..	No.	5		
3-	Ditto as (1), but RJ-45 data socket, this includes data cable GIGA FTP, CAT5e, 4 pairs (Teldor type) to be installed inside 0.75 inch dim. PVC conduit and three gangs junction box. Type Gewiss-Chourus or equivalent European made.	No.	20		
4-	Ditto as (3), but computer lab's table mounted including PVC duct.Type Gewiss-Chourus or equivalent European made.	No.	25		
5-	Ditto as (1), but RJ-45 data socket, this includes data cable GIGA FTP, CAT5e, 4 pairs (Teldor type) to be installed inside 0.75 inch dim. PVC conduit and three gangs junction box with USB male end for smart board. Type Gewiss-Chourus or equivalent European made.	No.	17		
6-	RS-232 serial port , this includes data cable GIGA FTP, CAT5e, 4 pairs. Type Gewiss-Chourus or equivalent European made.	No.	5		
7-	Supply & install of black thick armored telephone cable (4 pairs) from telephone junction box to paltel board.	Mr.	100		
8-	Supply, install & fix galvanized steel 8U network rack cabinet type Link Basic comprising:- - One 24-ports CAT-6 Patch panels, type 3M or Western wire. - Front glass door with key. -Two side doors. -Top fan 4". -Power splitter with 6 females socket outlet with switch and 20A circuit breaker - One shelf. - APC UPS-Smart-620. - Switch Cisco Type (SG102-24) Compact 24 Port Gigabit Switch with 2 Combo Mini-GBIC Ports. - Document sheet for the patch panel & Switch should be stick in the rack glass door. - 50 x patch cable 50cm cat 6 UTP original. -CAT5e, FTP cable from the main rack in ground floor to the new other rack. And all accessories needed.	Set	2		
D-	<u>AUDIO SYSTEM:</u>				
1-	Supply and install 220V large electrical school bell of 10" diameter including wiring, conduits, push buttons and all needed accessories. Type E-Fetaya.	No.	2		

Item NO	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2-	Supply and install school broadcasting system including multi-input and output amplifier, two external use loud speakers, stand with fixed and mobile microphones, two cassettes tape recorder with CD player, 2 audio inlets and 2 outlets, wiring and conduits and all needed accessories as per drawings. Type Copa-1200 or approved equivalent.	Set	1		
E-	<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, 80cm diam. manholes, u-bolted clamps, bare copper conductor and digging of 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		
F-	<u>CEILING & EXTRACT FANS:</u>				
1-	Supply and fix 56" diameter ceiling mounted fan. Rate shall be deemed to include all conduits, electric wires, switch and any fittings required for the full and proper operation of the fan, in accordance with the instructions and full approval of the Director of Works, Type-CHMC or equivalnt.	No.	10		
2-	Supply and fix 6" diameter 250m3/hr wall mounted extract fan; with louver, Type-Venta or equivalent.	No.	15		
3-	Supply and fix 8" diameter 650m3/hr wall mounted extract fan; with galvanized steel protection louver, Type-Venta or equivalent.	No.	2		
G-	<u>Main Distribution Board MDB, Delivery Switch 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 160A hard copper bus-bars for three phases, neutral and separate earth bus bar, isolating fiber glass barrier, document holder, labeling, connection terminals, cable marshalling box, and any required accessories. Type Moeller or approved equivalent.	L.S	1		
2-	L.T.L 3x63A fuseable circuit breaker. Type Moeller or approved equivalent.	No.	1		
3-	M.C.C.B 4x63A. Type Moeller NZMB1-4-A63 or approved equivalent.	No.	4		
3-	M.C.C.B 3x63A. Type Moeller NZMB1-A63 or approved equivalent.	No.	2		
4-	M.C.C.B 3x40A. Type Moeller NZMB1-4-A10 or approved equivalent.	No.	1		
5-	M.C.C.B 3x32A. Type Moeller NZMB1-4-A32 or approved equivalent.	No.	4		
6-	LTL-3X6A fuses with base.	No.	3		
7-	63/5A current transformers. Type Legrand or approved equivalent.	No.	6		
8-	Digital Bidirectional energy meter 3 PH intended for residential users and commercial users for revenue measuring of active power in three-phase systems. Type Iskra or approved equivalent.	No.	1		
9-	Supply and install 10KVAR P.F inprovement capacitor including 3X32A. Type ELECTRONICON or approved equivalent.	No.	1		
10-	Supply and erect colored indication lamps 3 nos. , with 3-ph. push button. Type Moeller or approved equivalent.	No.	2		
11-	Digital multi-meter, 0-1000A Ameter, 0-500V Voltmeter, 47-53Hz Frequency meter, Kwatt meter, Kvar meter and P.F meter. Satec or Telematic Type.	No.	1		
12-	AC3-380V four poles contactor DIL-M150. Type Moeller or approved equivalent.	No.	1		
13-	Digital energy meter 3 PH intended for residential or commercial users for revenue measuring of active power in three-phase systems. Type Socomec, Dexin or approved equivalent.	No.	2		
14-	Surge protection device of 100KA short circuit capacity to secure the over all system (data and power) against lightnings and surges strikes, including connecting the device to earthing system and all needed accessories. Type Moeller or equivalent.	No.	2		

Item NO	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1-	3-PH Mains/Gen. Automatic Change Over switch(ATS), motorized type, made of Two 100A, 400V, (N1-4-100), with electrical and mechanical inter-lock, with its control and all needed accessories. Type Moeller or approved equivalent.	Set	1		
16-	M.C.C.B 3x100A. Type Moeller NZMH1-A100 or approved equivalent.	No.	1		
17-	Supplying and erecting phase failure, loss of phase, under voltage and phase sequence relay with all necessary control and accessories. Type Foxtam or approved equivalent.	No.	1		
I-	<u>Sub-Distribution Board :</u>				
I-1	<u>SMDB 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, labeling, wires marking, document holder, connection terminals and any required accessories. Type Moeller or equivalent.	Set	1		
2-	Miniature circuit breaker 3x40A with S.C.C. 15KA. Type must be high quality & brand name.	No.	1		
3-	Miniature circuit breaker 3x32A with S.C.C. 15KA. Type must be high quality & brand name.	No.	1		
4-	Miniature circuit breaker 3x25A with S.C.C. 15KA. Type must be high quality & brand name.	No.	5		
5-	Miniature circuit breaker 2x25/20A with S.C.C. 10KA. Type must be high quality & brand name.	No.	20		
3-	Ditto as (2), but RCD 4x40, 0.03A.	No.	2		

Item NO	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
4-	Ditto as (2), but 2x10A.	No.	6		
5-	Ditto as (2), but step relay.	No.	1		
6-	Ditto as (2), but 2x16A.	No.	15		
I-2	<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, labeling, wires marking, document holder, connection terminals and any required accessories. Type Moeller or equivalent.	Set	1		
2-	Miniature circuit breaker 2x25A with S.C.C. 10KA. Type Moeller or equivalent.	No.	2		
3-	Ditto as (2), but RCD 2x40, 0.03A.	No.	2		
4-	Ditto as (2), but 2x10A.	No.	6		
5-	Ditto as (2), but 2x16A.	No.	12		
I-3	<u>SDB2 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, labeling, wires marking, document holder, connection terminals and any required accessories. Type Moeller or equivalent.	Set	1		
2-	Miniature circuit breaker 2x25A with S.C.C. 10KA. Type Moeller or equivalent.	No.	2		
3-	Ditto as (2), but RCD 2x40, 0.03A.	No.	2		
4-	Ditto as (2), but 2x10A.	No.	7		
5-	Ditto as (2), but 2x16A.	No.	7		
I-4	<u>SDB3 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, labeling, wires marking, document holder, connection terminals and any required accessories. Type Moeller or equivalent.	Set	1		
2-	Miniature circuit breaker 2x25A with S.C.C. 10KA. Type Moeller or equivalent.	No.	2		
3-	Ditto as (2), but RCD 2x40, 0.03A.	No.	2		
4-	Ditto as (2), but 2x10A.	No.	3		
5-	Ditto as (2), but 2x16A.	No.	3		
I-5	<u>SDC 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, labeling, wires marking, document holder, connection terminals and any required accessories. Type Moeller or equivalent.	Set	1		
2-	Miniature circuit breaker 3x25A with S.C.C. 15KA. Type must be high quality & brand name.	No.	5		

Item NO	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3-	Ditto as (2), but RCD 4x40, 0.03A.	No.	2		
4-	Ditto as (2), but 2x10A.	No.	3		
5-	Ditto as (2), but 2x16A.	No.	12		
6-	Ditto as (2), but 2x20A.	No.	2		
I-6	<u>DBS 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, labeling, wires marking, document holder, connection terminals and any required accessories. Type Moeller or equivalent.	Set	1		
2-	Miniature circuit breaker 2x25A with S.C.C. 10KA. Type Moeller or equivalent.	No.	2		
3-	Ditto as (2), but RCD 2x40, 0.03A.	No.	2		
4-	Ditto as (2), but 2x10A.	No.	5		
5-	Ditto as (2), but 2x16A.	No.	10		
I-8	<u>DBC 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 hard copper bus-bars for three phases, neutral and separate earth bus bar, labeling, wires marking, document holder, connection terminals and any required accessories. Type Moeller or equivalent.	Set	1		
2-	Miniature circuit breaker 2x32A with S.C.C. 10KA. Type Moeller or equivalent.	No.	1		
3-	Ditto as (2), but RCD 2x40, 0.03A.	No.	1		
4-	Ditto as (2), but 2x16A.	No.	3		
5-	Ditto as (2), but 2x10A.	No.	2		
6-	Supply and install 1X40A KWH meter. Type ISKRA or approved equivalent.	No.	1		
I-9	<u>DB GENERATOR Board :</u>				
1-	Supply and erect framework of switchboard made of PVC plastic 24 way. The panel should include hard copper bus-bars for three phases, neutral and separate earth bus bar, labeling, wires marking, document holder, connection terminals and any required accessories. Type HAGGER or equivalent.	Set	3		
2-	Miniature circuit breaker 2x25A with S.C.C. 10KA. Type Moeller or equivalent.	No.	1		
3-	Ditto as (2), but RCD 2x40, 0.03A.	No.	1		
4-	Ditto as (2), but 2x16A.	No.	2		
5-	Ditto as (2), but 2x10A.	No.	2		
I-10	<u>WCP Board :</u>				
1-	Metal electrostatic painted overall size 60X80X25 cm type is Moeller, Comprising of: 2X25 A C.B, 2X40/0.03 A ELCB, One 1x16A, One 1x10A C.B, Two PKZM 25 overload switch, 220/24 V Transformer, contactor DIL00- M2.2 KW, Emergency stop, Timer 45 sec., Signal lights with push button and all needed accessories. Type Moeller or equivalent.	Set	1		
I-12	<u>LDB 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 hard copper bus-bars for three phases, neutral and separate earth bus bar, labeling, wires marking, document holder, connection terminals and any required accessories. Type Moeller or equivalent.	Set	1		
2-	Miniature circuit breaker 2x20A with S.C.C. 10KA. Type Moeller or equivalent.	No.	1		
3-	Ditto as (2), but RCD 2x40, 0.03A.	No.	1		
4	Ditto as (2), but 2x16A.	No.	3		
J-	<u>Conduits, Ducts and Manholes :</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:				
1-	Supplying and erecting 10-12 meter long wooden pole, including imbedding 1m of lower part in ground after paint with minimum two coats of bitumen, warning labels, 3-meter length galvanised steel cover for cable, stainless steel stress wires to erect it and to hang cable and all needed accessories.	No.	1		
2-	Supplying and erecting 80cm manhole for cable route including 8ton iron cover and steel frame.	No.	2		

Item NO	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3-	Supplying and erecting 60cm manhole for cable route including 8ton iron cover and steel frame.	No.	11		
4-	Supplying and erecting 4"pipe (HDPE) at 100cm depth including excavation, backfilling and a warning tape.	Mr.	200		
5-	Supplying and erecting 3"pipe (LDPE) at 100cm depth or inside walls including excavation, backfilling, plastering and a warning tape.	Mr.	40		
6-	Supplying and erecting 2"pipe (LDPE) at 100cm depth or inside walls including excavation, backfilling, plastering and a warning tape.	Mr.	120		
7-	Supplying and erecting 1.25"pipe (LDPE) at 100cm depth or inside walls including excavation, backfilling, plastering and a warning tape.	Mr.	200		
8-	Supplying and erecting 4x6 cm PVC Duct, Type is IBOCO.	Mr.	30		
9-	Supplying and erecting 6x12 cm PVC Duct, Type is IBOCO.	Mr.	30		
L-	<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:.				
10-	3x25+16mm ² N2XY copper cable.	Mr.	100		
11-	5x16mm ² N2XY copper cable.	Mr.	80		
11-	5x10mm ² N2XY copper cable.	Mr.	120		
12-	5x6mm ² N2XY copper cable.	Mr.	100		
13-	5x4mm ² N2XY copper cable.	Mr.	120		
14-	3x6mm ² N2XY copper cable.	Mr.	100		
15-	3x4mm ² N2XY copper cable.	Mr.	200		
16-	3x2.5mm ² N2XY copper cable.	Mr.	150		
17-	3x1.5mm ² N2XY copper cable.	Mr.	50		
O-	<u>Electricity Subscription:</u>				
1-	New 3X63A electricity subscription, this work includes: GEDCO's subscription fees, contribution fees and other documentations. (PROVISIONAL)	Item	1		
P-	<u>Fire extinguisher:</u>				
5-	6KG, Halon Gas, manual Cylinder Extinguisher, ceiling mounted, with all accessories needed.	No.	2		
6-	6KG, Halon Gas, automatic Cylinder Extinguisher, ceiling mounted, with all accessories needed.	No.	2		
Total					

<u>Summary of Main Building</u>	
DESCRIPTION	Total Amount \$
1. Excavation & Earth Works.	
2. Concrete Works.	
3. Building Works	
4. Carpentry Works	
5. Metal Works	
6. Finishing Works	
7. Isolation	
8 Mechanical Works	
9. Electrical Works	
Sub total (\$)	



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-159

Abu Tammam School Landscape Works

Bill (B) Landscape Works

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>				

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 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. <p>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>				
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.	M ³	100		
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 (three load plate tests are required to verify the result)	M ³	100		
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).	M ³	100		
1.4	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	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 (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>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> <p>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 reinforced concrete B(250) kg/cm2 for external steps , ramps and flower boxes(fair face concrete) 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	Supply and cast ready mix reinforced concrete B(250) kg/cm2 for external Boundary wall foundation beams and columns including polythene sheets below concrete and compacting the soil beneath the work to 98% of MDD.as per specifications and drawings.	M3	30		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2.3	Supply and cast ready mix reinforced concrete B (250) kg/cm2 15cm thick smooth surface for playground by mechanical trawling machine including surrounding Beams ,foundations, polythene sheets,20cm base coarse, expansion joint (cut and fill with mastic compressible materials (Sikaflex)), leveling of subgrade and compaction of each layer of base coarse and subgrade,dismantel and transport the existing interlock tiles to MOEHE and finish the surface with colored PG coat, the price also includes marking works with approved thermoplastic paint as per specifications and drawings	M2	470		
2.4	Supply and cast ready mix concrete B (300) kg/cm2 for Decorative Frames on the main entrance , including the reinforced steel , and all other materials required as per specifications and drawings.	M3	5		
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, dismantle old and defected interlock tiles and deliver to MOEHE , 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		
2.6	Supply and cast concrete seat B (250) kg/cm2 , including the reinforced steel, and terrazzo layer on top 5 cm thick , and all other materials required as per specifications and drawings.	No	5		
2.7	Supply & Cast 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	15		
Total					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3. Building Works					
	<p>The price include:</p> <p>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.</p>				
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 (75/25) after primer layer	M2	600		
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	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 (4.9 m Height).the price includes all steel types to finish the work including steel profile 12*12*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, 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		
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 smooth external plastering 20mm thick for decoration at 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; . and all this is according to specifications , drawings and supervisor engineer's instructions	M2	500		
5.2	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	500		
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 ruber , 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	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	10		
6.5	ditto but type T4 height 80-100 cm	.No	10		
Total					

Summary of Landscape

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



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-159

Abu Tammam School Toilet Block

Bill (C) Toilet Block					
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 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>				

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.	M ³	220		
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 (three load plate tests are required to verify the result)	M ³	90		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
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).	M ³	180		
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.	M ³	80		
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 (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>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		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2.3	Supply and cast ready mix reinforced concrete B (300) kg/cm2 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		
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, corridor concrete parapet, under steel balustrade for the typical slab, 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	50		
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>Wooden items include supplying carpentry Works from good wood grade “A” including frame cover mould, architrave, sanding sealer, prime coats , at least two coats of oil paint, 15cm Aluminum kick plate 1mm thick from both sides , hard ware, locke 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 flushed wooden doors single leaf door type D for toilets overall size200 x 80cm x4.5 cm , complete with frame, Wally switch, and as per specification and drawing.	No	10		
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					
	<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		

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; all this is according to specifications , drawings and supervisor engineer's instructions	M2	150		
5.3	Supply & execute the external finishes ECOS (colored solvent based grained coating) 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		
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 grade A 25cm wide x 3cm thick of the similar color of the floor tiles including smoothing edges, as per specifications and drawings.	.Mr	12		
5.7	Supply and paint one primer and minimum two coats of Polisde for internal walls, ceilings and drop beams as specifications and drawings.	M2	70		
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. <p>7- the price should includes demolish and dismantle existing terrazzo ceramic tiles, plaster, steel protection or balustrade, unrequired existing walls,....etc., cleaning and remove all debris to approved dump site.</p>				
7.1	Supply and cast foam concrete with fine aggregates for roof screeding of average thickness 8 cm as shown in drawing. The item will include making the angle fillet 5x5cm around the boundary of the parapet and around opening in roof if exists.	M2	80		
7.2	Supply and lay one layer of plasticized bitumen roofing membrane with chipping 4 mm thick, including priming concrete surface prior to laying, dressing into rain water outlets to form water proofing seal and cover the angle fillets. The rate include verticals parts skirting as per specification and drawings.	M2	80		
	Note: Measurement will be for the horizontal projection				
Total					

Summary of Toilet Block

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



UNITED NATIONS DEVELOPMENT PROGRAMME

ITB 2016-159

Abu Tammam School Canteen

Bill (D) Canteen					
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 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>				

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. 				
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.	M ³	60		
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 (three load plate tests are required to verify the result)	M ³	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).	M ³	30		
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.	M ³	80		
Total					

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. 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 instructions9. 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 instructions10. 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 materials11. 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.</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	3		
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	20		
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	7		
2.4	Ditto but for ground beams including ground beam for the platform.	M3	3		
2.5	Ditto but for sills, lintels, coping, concrete wall (hunches for doors), gas room elements .etc.	M3	5		
2.6	Supply and cast ready mix reinforced concrete B (300) kg/cm ² for columns and columns necks as per specifications and drawings.	M3	3		

2.7	Supply and cast ready mix concrete B (300) kg/cm2 for suspended slab 30cm thick, including the reinforced steel, concrete hollow block 40*25*22 cm all drop and inverted beams everywhere in the slab and all other materials as per specifications and drawings.	M2	20		
2.8	Supply and cast ready mix reinforced concrete B (300) kg/cm2 for inverted beams as per specifications and drawings.	M3	2		
2.9	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	20		
Total					

3. Building Works					
	<p>The price include:</p> <p>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.</p>				
3.1	Supply and build hollow cement blocks 40x20x20cm	M2	100		
3.2	,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	30		
Total					

4.Aluminum & 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 hummer paint, one primer (polyzinc) and one undercoat. The price shall include removing the damaged aluminum and steel Works and handing to the MoEHE</p>				
4.1	Supply and fix colored aluminum window section 7000 type WA1 overall size 260 x 120cm, complete with frame, white color, four sliding leaves ,clear glass 4mm thick, ironmongery and hardware. and as per specification and drawing.	M2	5		
4.2	Supply and fix flush galvanized steel double external door D.S1 size (90 x 220), 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	1		
4.3	Supply and fix steel protection for windows over all size WA1 (ground floor) 260 x 120cm 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 hummer paint, all according to drawing, specification and engineer instructions.	M2	5		
Total					

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	100		
5.2	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 Italian Colored plaster including Bandrol coat and all is according to specifications , drawings and supervisor engineer's instructions	M2	135		
5.3	Supply and install terrazzo floor tiles (grade A) size 25cmx25cmx2.5cm with Basalt stone laid on 2.5cm mortar bed and 5 cm thick sand bed and terrazzo skirting 25cmx 7cmx1cm including all materials and testing as per specifications and drawings.	M2	20		
5.4	Supply, install and fix 200x200mm wall glazed ceramic tiles, of European type, including cement mortar bed, cleaning, pointing and polishing .	M2	10		

5.5	Supply and install Local marble grade A ,26 cm wide x 3cm thick , including smoothing edges as per specifications and drawings.	.Mr	5		
5.6	Supply and make internal oil painting for walls . The work includes fines the wall surface by using the following coats: 1-tow coats of bandrol, 3 coats of white mortar one coat of undercoat and 3 coats of oil colored paint . Works include all materials needed to finish the Works according to specifications , drawings and supervisor engineer's instructions	M2	40		
5.7	Supply and paint one primer and minimum two coats of Polisde for internal walls, ceilings and drop beams as specifications and drawings.	M2	30		
5.8	Supply and install high quality Granite 60x2cm thick (Tiger) for top cover of kitchen. The price includes Rozabita for two direction supporting, for, back, shelves, skirting, aluminum doors, and all accessories, fitting and making holes for sinks and water and gas supply as per specification and drawings and to be approved by the representative engineer.	.Mr	2		
Total					
6. Isolation Works					
6.1	supply and make isolation works for roof . Foam concert and Bolbyd , all works according to specifications and supervisor engineer's instructions.	M2	30		
Total					

Summary of Canteen

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

OVERALL SUMMARY

NO.	Description	Total price (\$)
A	New Buildings	
B	Landscape Works	
C	Toilet Block	
D	Canteen	
Total		

Total in numbers:

Total in letters:

Name of the contractor:

Authorized signature:

Signature and Sealing:.....

Title:

Telephone:.....

Fax:

Mobile: