



**UNITED NATIONS DEVELOPMENT PROGRAMME**

**ITB 2017-140**

## **WBS 1400 & WBS 1200**

### **Bill of Quantities**

**Programme Title:** PAL10- 00094739 - Right to Education in the Gaza Strip

**Project name:** Recovery for Higher Education

Procurement of Elevator Works for UCAS-University College of Applied Science- Islamic  
University of Gaza & Shams Al Amal school for Disability-Phase B

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
<b>Elevator Works</b>					
	<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 University Administration , all in accordance with drawings, specifications and relevant standards, and the instruction of the Engineer. The Engineer has the right to reject any component of the work not complying with the specifications and the terms of the contract.</p> <p>5- Demolition works for opening elevator doors in existing elevator walls in all floors, and where is needed and remove all the debries to approved dump site.</p> <p>6. Dismantle and deliver the existing corrugated sheets to the school administration.</p> <p>7. Repairing works, plastering, painting to match the existing, installing of multi-color granite around doors opening 20cm wide, insulation works on the roof, terrazzo tiles and all materials needed to complete the works.</p>				

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
1-	<b>University College of Applied Science (UCAS)</b>				
1.1	<p>Supply , install and test electrically operated elevator , BRAND NAME (Full Package),European industry according to EN-Codes, the unit price includes : all required wires , conduits , J boxes cables from SDB to new lighting fixture and power sockets for the shaft and elevator room , ( sub-distribution panel board to be placed at machinery room , electrical cable according to drawing , including wires dependig on circuit breakers range , Elevators control panel , providing test certification from the Palestenian specification and Standards Institute</p> <p>* Specifications and materials must be approved by supervisor engineer .</p> <p>* The elevator shall be with the following specifications :</p> <ul style="list-style-type: none"> <li>- Drive : Gearless drive</li> <li>- Device Control : Variable voltage variable frequency (VVVF).</li> <li>- Load: 1000 kg.</li> <li>- Passengers: 15</li> <li>- Speed : 1.5 m/s</li> <li>- Travel distance:31 m</li> <li>- Floors served: 8 doors- same line</li> <li>- Main Floor:0 floors- same line</li> <li>- Shaft size: Width : 2.60 cm Length : 230 cm High : 31 m</li> </ul> <p>Mode of operation :Full collective</p> <ul style="list-style-type: none"> <li>- Doors : Automatic (power operated) with VVVF system, two panels.</li> </ul> <p>90 cm</p> <p>Hair stainless steel</p> <ul style="list-style-type: none"> <li>- Car : Decorative Stainless Steel (colors) according to customer's choice.</li> </ul> <p>140 cm width.</p> <p>210 cm depth.</p> <p>230 cm height</p> <p>Ceiling : Decorative ceiling with down lighting (According to customer's choice) .</p> <ul style="list-style-type: none"> <li>- Floor : Granite</li> <li>- Buttons and Indicators: According to customer's choice</li> <li>- Motor drive: A computerized Ac-variable voltage, variable frequency (vvvf) system.</li> <li>- Motor data:</li> </ul> <p>single speed Ac-3phase induction motor 380V, 50Hz, compromise the vvvf drive.</p> <ul style="list-style-type: none"> <li>- Operating panel board (OPB): mounted at side of the car entrance, contains:</li> </ul> <ul style="list-style-type: none"> <li>-one micro push button for each floor served</li> <li>-Emergency call button</li> <li>-Door open button</li> <li>-Door close button</li> <li>-Digital display position indicator</li> <li>-Inter phone with two handsets ( one in machinary room and one at the main counter in the ground ) with alarm buzzer system</li> <li>- Fan button 500 CFM fan(s)</li> <li>- Over load indication, signal</li> <li>-Full load indication signal</li> <li>- Priority switch</li> <li>- Fireman switch .</li> </ul> <p>* Operation by emergency power (UPS to sit the elevator to the nearest floor in the case of power failure ) .</p> <p>The UBS must has B413 stage smart charger and 12 V 100 AH oPzV Tubulat solar Get Battery with 3300 Cycle @50% DOD.</p> <p>* The elevator must has the certificate of ( CE) .</p>	LS	2		
1.2	Supply and install high quality granite ( Raw Silk type) with 3cm thick for elevators walls, the price includes remove the damaged and defectd parts and remove all debris to approved dump site, white cement mortar, decorations and any required accessories to complete the job according to specifications, drawings and engineer instructions.	M2	40		
1.3	Supply and install perlato marble (grade A) 3cm thick for door threshold laid on 2 cm thick mortar bed including polishing and grooving according to specifications, drawings and engineer instructions.	M2	10		
<b>Total of University College of Applied Science (UCAS)</b>					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
2-	<b>Shams Al Amal school for Disability</b>				
2.1	<p>Supply , install , test and commission electrically operated complete package, brand name elevator European/USA made ( Otis , Kone , thyssenkruppelevator "endura MRL" ) . As the following specifications :</p> <p>General Data:  Quantity :1  Capacity:450kgs, 6 passengers  Speed: 1.0 m/s  Car entrances : one entrance  stops/floors: 2/2  serving floor: 0,1  Power Supply: 3 phase, 380V, 50 Hz / Light supply 220V  Shaft size: As The Existing  Pit: 1500 mm  Machine location: Inside the shaft upper side mounting  Starts: 180 start/hr minimum.</p> <p>Machine Specifications:  Permanent magnet gearless machine homeless with double coil braking system oilless type with 25 years life time certified by the manufacturer according to EN-81 Power consumption not more than 5 Kw, with power factor of 0.95 at least design to work in severe conditions and in VVVF variable voltage variable frequency driving mode.  wire ropes used must have a safety factor of 12, and have a life time not less than 10 years of circular cross section type.  protection : IP 55 , with insulation class F</p> <p>Ride comfort:  Acceleration/Deceleration : 0.8 m/s<sup>2</sup>  Max Jerk: 1.2 m/s<sup>2</sup>  Max vertical vibrations in car :17-25cm/s<sup>2</sup>  Lateral Quaking in car :Mean/Max :10/15 cm/s<sup>2</sup>  Noise in car: Mean with Fan: 50dBA</p> <p>Car:  Car size: 1200 mm width X 1300 mm depth  Car height: 2200 mm min.  Stainless steel frame to cover the full width of the wall opening.  Wall finish : Brushed stainless steel (min. 304 grade)  Car door finish : Brushed stainless steel (min. 304 grade)  Handrail : Rear side of circular section stainless steel .  Mirror: Rear side clear mirror above the handrail.  Ceiling: Brushed stainless steel .  Lighting: LED lighting. Auto light shut-off  Ventilation: Exhaust fan of 270 m<sup>3</sup>/hr capacity. Auto Exhaust fan shut-off  Flooring:non glazed granite of 100 kg weight selected by Engineer  Car operating panel -COP- finish: Brushed stainless steel (min. 304 grade)  COP Push buttons : Call push buttons,open door button,close door button,emergency call button , fan switch, intercom with two way call , instruction plate.  "Car Indicators: Dot matrix indicators with arrows.  Over load indication sound and flashing light."  Emergency lighting enclosed in COP.</p> <p>Car door operator  "The door operator must be of the AC type with VVVF drive .Includes Full height photocell with sfety edge device.  "</p> <p>"Car door size :automatic central opening 1000mm Width x 2200 mm Height  Door sill: Hard anodized aluminum sill ."</p> <p>Landing doors:  2- panel automatic central opening doors with door latch.  Size : 1000 mm Width x 2200 mm Height  Finish: Brushed stainless steel (min. 304 grade)  Hall lanterns:  Hall indicators and lanterns of dot matrix type  Two Push buttons in every landing mounted in stainless steel plate With anti vandal screws.</p> <p>Electrification:  Basic Control--: simplex  Control system :Fully computerized - based on low-energy multiprocessor technology  Drive Mode : VVVF-Closed Loop  Selector: A microprocessor system with full options to arrange the registration of the call respect to the priorities and direction of the car  Position of the main control unit: Integrated in the door frame on the upper floor.  Mode of operation-: Fully automatic - Collective/Selective control in up and down direction with automatic floor leveling with +/- 5 mm leveling accuracy.</p>	NO.	1		

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
	<p>Control safeties:</p> <p>1- Phase failure &amp; reversal protection</p> <p>2-Earth leakage protection</p> <p>3-Noise protection</p> <p>4-Thermal protection</p> <p>5- Voltage drop protection</p> <p>6-Intercom between car and controller box</p> <p>7- Over speed protection</p> <p>Safety Features:</p> <p>Safety gear:(optional) Progressive Certified Ascending safety protection according to new European directives Manual brake release in outside the shaft to evacuate trapped people</p> <p>Compliance with handicapped options as EN81-70 for Automatic emergency Evacuation : Whenever there is a power failure, the lift will take passengers safely to the next floor and open doors.</p> <p>Additional features:</p> <p>Readiness to connect to generator .</p> <p>Door adjustable open and close time .</p> <p>Fire return .</p> <p>Automatic bypass feature .</p> <p>Nudging feature .</p> <p>Home landing feature .</p> <p>False calls cancellatoin</p> <p>Shaft equipment: Buffer , counter weight ,Guide rails - "T" section with self lubricated heavy guide shoes ,Suspension ropes (steel cables not belts) - Safety factor &gt;12.</p> <p>Electrical source:</p> <p>Supply , install , and install XLPE cable 5*16 mm2, with all needed pvc duct and accessories , from existing MDB to operating panel and to control panel with main NZM 4*60A in ex.MDB</p> <p>Supply , and install electrical operating panel wiyh size of 36CB , with all needed components MCBs,ELCBs,... , acoording to engineer insructions</p> <p>Operation by Emergency power (UPS to sit the elevator to the nearest floor in the case of power failure), UPS have: 3stage smart charger and 12V 200Ah OPzV Tubular Solar Gel Battery with - 3300 Cycle @ 50% DOD.</p> <p>Documentations:</p> <p>"Certificate of Origin, Bill of Lading ( original copy)</p> <p>Compliance certificate from third party body for the following:"</p> <p>1- Doors interlock</p> <p>2- buffers</p> <p>3- safety gear , overspeed governor Asscending and desscending</p> <p>4- electrical controls and wiring.</p>				
2.2	Supply and cast ready mix concrete B (300) kg/cm2, for elevator room shaft solid slab 15 cm thick with double steel mesh (1 @ 10/20cmin both directions) including all drop and inverted beams everywhere in the slab and all other materials as per specifications and drawings.	M2	6		
2.3	Supply and cast ready mix concrete B (300) kg/cm2, for elevator shaft landing 15 cm thick with double steel mesh (1 @ 10/20cmin both directions) including backfilling to the required levels with clean sand and all other materials as per specifications and drawings.	M2	6		
2.4	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 including vertical parts skirting.	M2	6		
Total of Shams Al Amal school for Disability					

Item No.	Description	Unit	Quantity	Unit Rate US \$	Total Amount US \$
3	<b>Islamic University of Gaza (IUG)</b>				
3.1	<p>Supply , install and test electrically operated elevator , BRAND NAME (Full Package),European industry according to EN-Codes, the unit price includes : all required wires , conduits , J boxes cables from SDB to new lighting fixture and power sockets for the shaft and elevator room , ( sub-distribution panel board to be placed at machinery room , electrical cable according to drawing , including wires dependig on circuit breakers range , Elevators control panel , providing test certification from the Palestenian specification and Standards Institute</p> <p>* Specifications and materials must be approved by supervisor engineer .</p> <p>* The elevator shall be with the following specifications :</p> <p>-Gearless Motor (Germany Made) with machine room VVVF close loop</p> <p>- Load: 1000 kg.</p> <p>- Passengers:13</p> <p>- Speed : 1.5m/s</p> <p>- Travel distance: 30m Approx. (six Floors)</p> <p>- Floors served: 6 doors- same line</p> <p>- Main Floor:0 floors- same line</p> <p>- Mode of operation :Full collective</p> <p>- Car Detail: Etching Mirror St.St., Handrail St.St.(Three Sides).</p> <p>-Floor: Natural 2.5Cm Granite.</p> <p>-Ceiling: Laser cutting Super mirror St.St.</p> <p>-Car Door: Automatic (Power Operated) With VVVF System, Central Opining 2 Panels</p> <p>1mt.width, 2mt. Height St. as Cabin Type.</p> <p>-COP: Mirror St.St., With push button for floorsNo.open&amp;close door,emergancy bell &amp;light -Inter phone with two handsets ( one in machinary room and one at the main counter in the ground ) with alarm buzzer system,over load with signal</p> <p>LOP: in side of the landing doors mirror st.st. finish with LCD displays</p> <p>Photocell: Light curtain 2mt.multibeams on the car doors.</p> <p>Controller: Simplex,VVVF close loop full collective prewiring system,auto leveling.</p> <p>Fan button 500 CFM fan(s)</p> <p>- Over load indication, signal</p> <p>-Full load indication signal</p> <p>- Priority switch</p> <p>- Fireman switch .</p> <p>* Operation by emergency power (UPS to sit the elevator to the nearest floor in the case of power failure ). The UBS must has B413 stage smart charger and 12 V 100 AH oPzV Tubulat solar Get Battery with 3300 Cycle @50% DOD.</p> <p>* The elevator must has the certificate of ( CE ).The elevator shall be equipped with an Emergency Evacuation Power Supply system (Rescue System).</p> <p>The elevator shall be equipped with Software Supervisione (Elevator Remote Monitoring System).</p> <p>Counter weight: Frame with cast iron unit</p> <p>Warranty: 24 months including all the parts of elevators.</p> <p>All necessary documents, catalouges shop drawings and warranty to be submitted as per engineering instructions.</p> <p>The unit price shall include dismantling and removing the existing elevators and tmasporting dismantled parts to maintenance department and IUG stores as per engineer instructions</p>	No.	1		
3.2	Ditto. But for 7 Floors.(7 Doors).	No.	1		
<b>Total of Islamic University of Gaza (IUG)</b>					

### OVERALL SUMMARY

NO.	Description	Total price (\$)
	UCAS Elevators	
	Shams Al Amal Elevators	
	IUG elevators	
Total		

Total in numbers: .....

Total in letters: .....

Name of the contractor: .....

Authorized signature: .....

Signature and Sealing:.....

Title: .....

Telephone:.....

Fax: .....

Mobile: .....