

Lebanese Emergency Assistant Project (LEAP)

Rehabilitation of Shelters

LEAP-SH-SW-MEHE- Batch 2

Lot 3

Mount-Lebanon Package

Volume 3

Bill of Quantities

Preamble

Item	Description
1	<u>INTRODUCTION</u>
1.01	The rules contained in this Preamble apply equally to both proposed and executed works.
1.02	The Bills of Quantities are to be read and construed in association with the Drawings, the Specification and this Preamble. Information which is given on the Drawings and/or in the Specification is identified by cross references included in the descriptions of work in the Bill of Quantities.
1.03	Where work cannot be fully described or where the quantity of work required cannot be accurately determined, it is given as an item or a Provisional Sum.
1.04	Unless the term meter, used in this Preamble, is preceded by the words square or cubic it is deemed to be linear.
1.05	The rates inserted by the Tenderer in the Bill of Quantities shall be in words and figures. In the case of discrepancy between the two, the rates written in words shall govern.
1.06	The type of contract is Lump Sum.
2	<u>QUANTITIES</u>
2.01	Quantities set out in the Bills of Quantities are the estimated quantities and they shall not be taken as the actual and correct quantities for ordering and purchasing of materials
2.02	Works shall be measured net as fixed in position in accordance with the rules contained in this preamble or except where otherwise stated in a measurement rule applicable to the work.
2.03	Dimensions used in calculating quantities are taken to the nearest integer (0.5 and over is regarded as 1 and less than 0.5 is disregarded).
2.04	Quantities measured in tonnes are given to two places of decimals. Quantities measured in other units of mass are given to the nearest whole unit except that any quantity less than one unit is given as one unit.
2.05	Unless otherwise stated, where minimum deductions for voids are dealt with in this Preamble they refer only to openings which are within the boundaries of measured areas. Openings which are at the boundaries of measured areas are always deducted irrespective of size.

Item	Description
3	<u>DESCRIPTIONS</u>
3.01	Headings to groups of items in the Bill of Quantities are to be read as part of the descriptions of the items to which the headings apply.
3.02	Dimensions are stated in descriptions generally in the sequence, length, width, height. Where ambiguity could arise, the dimensions are identified.
3.03	Dimensions given in descriptions are in millimeters unless otherwise indicated.
3.04	Unless otherwise specifically stated in the Bill of Quantities or herein, the following are deemed to be included in all work: - labor and all costs in construction therewith, - materials, products, goods and all costs in connection therewith, - Contractor's equipment, including but not limited to construction plant, scaffolding, tools, vehicles and the like and all costs in connection therewith, - assembling, fitting and fixing materials, products and goods in position, - any method of fixing, fixing to any nature of base or background including preparation and providing fixing materials, - breaking down for transport and installation and subsequent reassembly of composite items manufactured off site, - waste of materials, - square, raking and curved cutting, - work at any location or height, - work in small, isolated quantities, - protection of all work,

Item	Description
	- protection of all existing structures, utilities, site improvements, trees and vegetation, features, pavements and other facilities on and adjacent to the site, which are to remain upon completion of the work, - all other enabling tasks associated and subsidiary components and items of work which are indicated or reasonably inferred from the Drawings and/ or Specification and necessary to perform and complete the work described, - establishment and overhead charges and profit.
3.05	Except where items are included in the Bill of Quantities and are priced separately by the Contractor therein, provision of the following are deemed to be included with all work: - site administration and security, - insurances, - bonds and guarantees, - water for the Works, - lighting and power for the Works, - temporary accommodation for the use of the Contractor and the Engineer, - temporary telephones and the cost of calls for the use of the Contractor and the Engineer, - temporary roads, hardstandings, crossings and the like, - temporary fencing, hoardings, screens, fans, footways, guardrails, gantries and the like, - giving notices and making applications, including the payment of fees and charges in connection therewith, - safety, health and welfare of workpeople, - compliance with traffic regulations - maintenance of public and private roads, services and adjoining property,

Item	Description
	- control of noise and pollution, prevention of fire and compliance with all other statutory and general obligations, - removing rubbish, protective casings and coverings, and cleaning the Works on completion, - drying the Works, - testing and commissioning of service installations including the provision of fuel, - samples of materials and testing of materials including providing equipment for testing, - design, co- ordination, installation and as- built record drawings and the like, - preparation and submittal of reports, records, certificates, notices, proposals, designs, details, calculations and other information and data required by the Specification, - allow in unit rates for all other requirements, services, provisions, liabilities and obligations contained in the General Requirements and Conditions of Contract. - Maintaining, adapting, clearing away and making good are deemed to be included with the items for temporary works. - Payment of any customs and other import duties, harbor and port dues, wharf age, landing, pilotage and any other charges or dues including demurrage charges on any Goods or other things required for or in connection with the Works entering or leaving the country. - A clear clause needs to be added stating that the Specifications provided as part of the Tender Documents may not be followed in case there is need to install \ replace similar items to the existing items on site.

Item	Description
4	<u>SYMBOLS, ABBREVIATIONS & DEFINITIONS</u>
4.01	The following symbols and abbreviations are used in this Preamble and in the Bills of Quantities: Lump Sum LS Linear Meter m Square Meter m² Cubic Meter m³ Centimeter cm Millimeter mm Number No Kilogramme kg Tonne T Percentage % Nominal Diameter Φ Quantity Qty Drawing Drg / Dwg Mega Pascal MPa
4.02	The following definitions apply to all work: - 'horizontal' means level or sloping work not exceeding 15° from the horizontal - 'sloping' means sloping work exceeding 15° but not exceeding 80° to the horizontal, - 'vertical' means work exceeding 80° from the horizontal, - 'curved' means curved in any direction or in more than one direction and to any radius or radii and includes curved work to domes, vaults and the like.
4.03	The term 'extra over' means that work so described involves extra cost over the basic work in which it occurs. No deduction of the quantity of basic work is made for the extra over work.

Item	Description
5	<u>MECHANICAL ENGINEERING SERVICES PREAMBLE</u>
5.01	Mechanical equipment has been measured in complete items unless otherwise stated in the specification and bill item. The rates for all items shall include for supplying all materials, fixing, terminating and connecting all accessories and components for a complete and functional item.
5.02	The Contractor shall consult the relevant sections of the specification when query or doubt arise.
5.03	The Contractor shall consult with, and employ specialist sub-contractors for specific items of work as identified in the specification. All costs associated with such works shall be included in the tender. Specialist sub-contractors will be of recognized expertise, acceptable to the engineer.
5.04	All items of mechanical plant shall be connected to the control and power systems by wiring out from the mechanical control centers. All wiring shall be carried out by competent and qualified electricians under the mechanical scope of works.
5.05	Rates/prices entered against the items shall include for all costs in connection with the following:
a.	Connection items of plant and equipment as necessary to the control and power systems.
b.	Provision of starter's, protective devices, automatic change over/load shedding facilities, remote & local isolation/emergency shut off as appropriate, control functions and alarms to achieve the intent outlined in the Control Section of the Specification. All motors to be of the 'Low Energy' type as specified.
c.	Off loading, storing, connecting up, protecting as necessary, testing, flushing, cleaning, charging, balancing, commissioning and testing individual items of plant as well as complete systems installations all as specified & directed by Engineer.
d.	Supports, brackets and fixings of every description required to complete the works.
e.	Cutting or forming all holes, mortises, chases and the like in the structure to facilitate the various works and making good in all trades as necessary;
f.	Coordination with other associated trades, designers and specialists, at the time preparing shop drawings and during the works progress.
g.	Cost of the items in the BOQ includes all works, materials and labors of all items mentioned above.

Item	Description
6	<u>ELECTRICAL ENGINEERING SERVICES PREAMBLE</u>
6.01	Rates for all items of equipment and materials shall be inclusive of all labor, electric power during installation and testing oxygen, acetylene, water, transport, rigging, temporary works, stores, offices, instruments insurance, customs, duties, overhead, profit certificates, samples, tests, supply of all information and data, supply of catalogues, charts, curves, submittals, certified drawings and all other information and services called for in the specification, all fully connected up and good working order. Rates shall also include for:
a.	All builders work in connection with fixing of supports brackets, clips as required
b.	Cutting or forming all openings, mortises, chases, etc., in floors, walls and ceiling required for the installation and making good after
c.	Construction of manholes, handholes and the like
d.	Fitting of access doors in walls and ceilings.
e.	Supplying and fixing supports, brackets and clips as required.
f.	Cutting away and making good after all trades for frames, sleeves, cables, cable trays, chases for conduits and fixing of electrical boxes, conduits, accessories.
g.	Excavating and back filling trenches for cables, pipes and providing and laying precast concrete protective tiles.
h.	Repair, repaint and generally make good and leave in perfect condition all the work executed by him under the contract.
I.	All other work in connection with the installation that is not measured separately.
j.	Electrical equipment is enumerated unless otherwise stated and the rates shall include for supplying all materials labor, plant, fixing, terminating and connecting accessories, etc.
k.	Feeder cables are measured in linear meters from the boards to equipment, or from the distribution board to sub-main, etc. Rates shall include for the supply of materials, laying, terminating, trenching, cable trays, ducting, etc.

Item	Description
l.	Lighting points are enumerated and the rates shall include all necessary wires, conduits, boxes and accessories, etc., required to provide power from the LP boards switch panels and switches are measured separately.
m.	Lighting fittings are enumerated and the rates shall include the supply, installation and connections.
n.	Disconnecting/Isolating switches are enumerated and the rates shall include all necessary wires, conduits, boxes etc. If the switches are fed by cables, then the cables are measured separately.
o.	Lighting switches, sockets, fan/coil unit spur boxes, fused spurs for fans, kitchen, laundry equipment outlets, toilet fans points are enumerated and the rates for each shall include all wiring, conduits, accessories etc.
p.	Earthing systems to include for all materials, labor, fixing, terminating, earth pits, rods, conductors, excavations.
q.	Main distribution board, sub-mains, lighting and power panels, panel boards, etc., are enumerated items and rates shall include all the board installed completely as specified and as shown on the drawings. (cables are measured separately)
r.	End of session bell system is one item. Bells and bell push button, are enumerated and include all conducting, wiring, controls, and all necessary accessories.
s.	Lightning protection system, roof conductors, tie conductors down conductors are measured in linear meters completely installed.
t.	Earth pits are enumerated. The cost shall include all materials, wiring, fixing, supports, etc., and bolting copper conductors to rebars to have a complete working system.
u.	The rates for automatic transfer switches include the switches completely installed with all ancillary equipment, control, modules to have a complete working system.
v.	Cost of the items in the BOQ includes all works, materials and labors of all items mentioned above.

End of Preamble

General Requirments

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
------	-------------	------	--------------------	-------------------	----------------

Notes

These General Requirements are applicable to the whole of the Works.

If the Tenderer wishes to price any of the items contained herein, then each such item, clause, or sub-clause must be individually priced.

The Tenderer shall not enter lump sums covering more than one or all items, clauses and sub-clauses.

If the General Requirements item has not been priced it will be deemed that the value of such item, clause or sub-clause is included in the rates for measured items elsewhere in the Bill of Quantities.

1 Preliminaries

1.01 Insurance

Provide the following insurances from an approved insurance company, all as detailed in the Conditions of Contract.

- Professional Indemnity Insurance.
- Contractor's All Risk Insurance.
- Plant and Equipment Insurance.
- Workmen Compensation Insurance.
- Third Party Insurance.

LS

Lump Sum in Words:

.....

1.02 Programme of Works

Prepare and submit to the Engineer for approval a detailed Programme for the construction showing the proposed order & method to execute the Works, the dates upon which the various elements, trades, sections and items of Works will be started and completed, and the cash flow estimate, complete including monthly forty-five day program, all necessary revisions and updates, monitoring, all supporting data, computer analysis schedules, and all other related works, all to Engineer's satisfaction.

LS

Lump Sum in Words:

.....

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>Additional Items</u>				
	The Contractor shall list below any Additional Items that he considers to be of value and for which he wishes to include in his Tender, and shall include details of quantities and rates accordingly.				
2.01		LS			
	<u>Lump Sum in Words:</u>				
2.02		LS			
	<u>Lump Sum in Words:</u>				
2.03		LS			
	<u>Lump Sum in Words:</u>				
2.04		LS			
	<u>Lump Sum in Words:</u>				
2.05		LS			
	<u>Lump Sum in Words:</u>				

MOUNT LEBANON SCHOOLS
GENERAL INDEX

No.	SCHOOL NAME	
1	61	AL Dekwenet (ثانوية الدكوانة الرسمية)
2	64	Sen El Fil mixed (مدرسة سن الفيل الأولى المختلطة الرسمية)
3	98	AL Dekwenet mixed (متوسطة الدكوانة الرسمية المختلطة)
4	135	Elias Abou Chabaket mixed (متوسطة الياس أبو شبكة الرسمية المختلطة)
5	136	Elias Abou Chabaket high school (ثانوية الياس أبو شبكة الرسمية)
6	138	Zouk Mosbeh (ذوق مصبح الرسمية المتوسطة)
7	145	Jall El Dib int boys (متوسطة جل الديب الرسمية للصبيان)
8	146	Jal El Dib high school (ثانوية جل الديب الرسمية)
9	150	Aakbet Byakout mixed (عقبة بياقوت الرسمية المختلطة)
10	167	Jbeil first mixed (جبيل الأولى الرسمية المتوسطة المختلطة)
11	196	Afqa mixed (افقا الرسمية المختلطة)
12	200	Farid Salamet Kfardebian (فريد سلامه الرسمية - كفرديبيان)
13	217	Beit chabab (مدرسة بيت شباب الابتدائية الرسمية)
14	219	Bekfaya high school (ثانوية بكفيا الرسمية)
15	220	Al Mhaydaset (متوسطة المحيدثة الرسمية المختلطة)
16	222	Bteghrin mixed (بتغرين الرسمية المتوسطة المختلطة)
17	223	Bteghrin high school (ثانوية بتغرين الرسمية المختلطة)
18	225	Baskenta (ثانوية بسكنتا الرسمية)
19	232	Al Mtein mixed (المتين الرسمية المتوسطة المختلطة)
20	234	Bremenna mixed (برمانا الرسمية المتوسطة المختلطة)
21	1504	Beit Chabab high school (ثانوية بيت شباب الرسمية)

**Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters**

LEAP-SH-SW-MEHE- Batch 2

Lot 3

Mount-Lebanon Package

Volume 3- 1 (5 of 25 Schools)

Bill of Quantities

61 -Al dekweneh Secondary Public mixed School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
------	-------------	------	-----------------------	----------------------	-------------------

3 **CONCRETE**

Reinforced Existing Columns and beams

Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete.

Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions

1

Rate or Lump Sum in Words:

.....

.....

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	5		
5.5	<u>Rehabilitate and Maintain Steel Handrail</u> - Rehabilitate the existing metal handrail and remove the damaged members and replace by new - Reinforce the existing handrail with similar members in addition to the rail and all necessary accessories - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply one layer of epoxy base paint - Apply putty - Apply epoxy paint as per specification All needed items as per the Engineer instructions				
5.5.2	Wall Mounted <i>Rate or Lump Sum in Words:</i>	m	20		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements.				
	- Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight.				
	- Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece.				
	- Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards	m	3		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	№	10		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	Nº	10		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

9.2

Tiling Works

Supply and install all tiling items for floors, with the skirting

Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions

Price to include:

- Sand below tiles
- Materials, tiles, mortars
- Labors
- Rubbing
- Filling between tiles
- Filling the skirting
- Remove unsuitable items
- Cleaning the places
- All needed items as per the Engineer instructions

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
9.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	1,050		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	600		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
					
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
					
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	Nº	6		

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include:				
	- Materials and labors				
	- Colors and shape to be as per engineer instruction				
	- Dimension: 20cm x 10cm	Nº	6		
	<i>Rate or Lump Sum in Words:</i>				
					
					

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

6- WOOD AND PLASTICS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.1	<u>General Mechanical Requirements</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	5		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	5		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	5		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Dekweneh Secondary Public Mixed School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

64-Sin El-Fil First Public School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc.	LS	1		
	<i>Rate or Lump Sum in Words:</i>				
					
					

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as ls per the Engineer instructions <i>Rate or Lump Sum in Words:</i> 		1		
				<u>Carried to collection</u>	

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.5	<u>Rehabilitate and Maintain Steel Handrail</u>				
	- Rehabilitate the existing metal handrail and remove the damaged members and replace by new				
	- Reinforce the existing handrail with similar members in addition to the rail and all necessary accessories				
	- Remove existing paint & clean deeply as per SSPC code and ISO 8501				
	- Apply one layer of epoxy base paint				
	- Apply putty				
	- Apply epoxy paint as per specification				
	All needed items as per the Engineer instructions				
5.5.2	Wall Mounted	m	40		
	<i>Rate or Lump Sum in Words:</i>				
					
					

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i>	Nº	10		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	Nº	15		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				
	- Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<i>Rate or Lump Sum in Words:</i>				
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
9.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval.	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	700		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	450		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm	№	4		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	8		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	8		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	8		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	8		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3 GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Sin El Fil First Public School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

98- AL dekweneh Public mixed School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	4		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements. - Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight. - Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece. - Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards <i>Rate or Lump Sum in Words:</i>	m	4		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i>	No	15		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2	<u>Aluminum Doors and Windows</u>				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	Nº	8		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster Price included all accessories, material, scaffolding and labor, etc. <i>Rate or Lump Sum in Words:</i>	m ²	40		
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.1	<u>New Full Mass Colored Ceramic for Floors</u> Ceramic tiles and tilework as specified and detailed, installed complete; Including for substrate preparation, cement: sand screeds or plaster backing coats; setting, jointing and grouting; tile trim and accessories; sealants; and all other related ancillaries as indicated or required				
9.2.1.1	Supply and install anti slip colored full mass ceramic tiles for classroom (first choice) for all floor toilets, kitchen and laboratory (existing and new) <i>Rate or Lump Sum in Words:</i>	m ²	10		
9.2.1.2	Skirting same type of floors or as existing or required <i>Rate or Lump Sum in Words:</i>	m	10		
9.2.2	<u>New Glazed Colored Ceramic for Walls</u>				
9.2.2.1	Supply and install glazed colored ceramic for walls Include Ceramic Corner (first choice) <i>Rate or Lump Sum in Words:</i>	m ²	20		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	1,000		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	500		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	5		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	5		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	5		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	Nº	4		
10.2	<u>Classroom Specialties</u>				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site Cost to include: - (3600mm x 1200mm) final dimensions as per site limitation - Materials and labors - Felt marker pens and eraser (12 marker pens + 2 erases for each white board) - Stainless Steel screws - Remove the existing board - All needed works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	Nº	5		

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm <i>Rate or Lump Sum in Words:</i>	Nº	1		
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i>	m²	20		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

5- METAL WORKS

6- WOOD AND PLASTICS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works.	Item	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	4		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	3		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION	
4- FIRE PROTECTION	
5- SANITARY FIXTURES	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	26		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	10		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Al Dekweneh Public Mixed School	
 * Total Amount Carried to General Summary	

135 Elias Abou Chabakeh Official Mixed Intermediate School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
------	-------------	------	-----------------------	----------------------	-------------------

3 **CONCRETE**

Reinforced Existing Columns and beams

Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm² for cracked beams, repair rust steel and topping concrete.

Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions

Rate or Lump Sum in Words:

.....

.....

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>MASONRY</u>				
4.2	<u>Rehabilitate and Clean masonry walls showing deep crack</u> The repair method requires the replacement of some stone masonry that has been damaged by the crack. It will include the use of horizontal reinforcement. Remove cracked stones in a “toothed” pattern to the extent that a sound repair is possible. Clean the crack if it continues to extend into the mass masonry and grout with non shrink mortar. Key new stone in stone masonry perpendicular to the wall surface in addition to the “toothed” and stepped pattern parallel to the wall surface. With larger more extensive cracks remove additional stones in a stepped pattern on both sides and the top of crack and restore by installing new stones. With smaller repairs lesser amounts of stones will have to be removed. Place horizontal reinforcement every 5th course. Mechanical ties to secure geogrid may be required. The horizontal reinforcement shall bridge over the crack and extend the length of new stone masonry. Replicate the coursing pattern of the existing exposed surface. Place new stones that are not exposed in an alternating stretcher-header bonding pattern to wall surface or top of wall. Construct the new stone masonry in complete horizontal courses where possible. Do not construct more than 5 courses before allowing masonry to dry. Lay subsequent stone courses on fresh wet mortar. Apply mortar at head joints as well as bed joints and finish one-half the width of the mortar joint below the surface of the stones.				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4.2.1	<u>Rehabilitate Natural Stone Facades</u> Rehabilitate works on natural stone facades work should be by replacing the damaged stone and not filling with mortar. Work to include: - Determine location of damaged stone walls and location of dampness. Broken or damaged pieces to be replaced, then cleaning & leveling; without affecting the adjacent undamaged areas - Treat the dampness and the causes - Repair the stone by renewing the damaged and replace it with new ones with same stone and apply one layer of water proofing transparent paint - Clear the place and infill in between the coarse (Lining) - All works as instructed by the Engineer <i>Rate or Lump Sum in Words:</i> 	m ²	30		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements. - Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight. - Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece. - Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards <i>Rate or Lump Sum in Words:</i>	m	2		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
7	<u>THERMAL AND MOISTURE PROTECTION</u>				
7.0	<u>Preliminaries</u>				
7.0.2	Dismantle and remove all existing materials on roof: Tiles, Membranes, existing water tanks, Mechanical Pumps and Systems, Electrical Systems, skirting, etc.; and all equipment as per engineer instructions The unwanted/ unused materials should be cart away from the site The remaining items should be reinstalled in a proper way as per engineering instructions <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	№	20		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.1	<u>New Aluminum Panels (Double Glass)</u> Supply and install the fabricated aluminum panels with double glass (6 - 12 - 6 mm) (Outer Glass should be Tempered)				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	№	15		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster Price included all accessories, material, scaffolding and labor, etc. <i>Rate or Lump Sum in Words:</i>	m ²	10		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<u>Rate or Lump Sum in Words:</u>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be lead-free and Low VOC (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	350		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	200		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
					
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
					
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site				
	Cost to include:				
	- (3600mm x 1200mm) final dimensions as per site limitation				
	- Materials and labors				
	- Felt marker pens and eraser (12 marker pens + 2 erases for each white board)				
	- Stainless Steel screws				
	- Remove the existing board				
	- All needed works as per the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
					
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include:				
	- Materials and labors				
	- Colors and shape to be as per engineer instruction				
	- Dimension: 20cm x 10cm	Nº	1		
	<i>Rate or Lump Sum in Words:</i>				
					
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include: - All fixing elements - All stainless steel hangers - All necessary heavy duty accessories - Counter edge of 30cm length - All needed items and as instructed by the Engineer <i>Rate or Lump Sum in Words:</i> 	m	1		
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i> 	m ²	10		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris	.....
3- Concrete	.....
4- MASONRY	.....
5- METAL WORKS	.....
6- WOOD AND PLASTICS	.....
7- THERMAL AND MOISTURE PROTECTION	.....
8- DOORS AND WINDOWS	.....
9- FINISHES	.....
10- SPECIALTIES	.....
	
	
Total Carried to Summary .....	.....
	

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works.	Item	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	1		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.1	<u>W.C. for Kids</u> Supply and install K.G. W.C. Flush valve with cover as manufactured by Duravit - Bambi No. 018509 or approved equal, 35 cm height max. from finished floor with timber cover. Cost to include all related connections angle valves and necessary accessories as per the Engineer instructions. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.1.1	EWC-03 (Wall Hang - 52 x 32 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	5		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	7		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION	
4- FIRE PROTECTION	
5- SANITARY FIXTURES	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.1	TYPE C1: Twin T8 LED Tube, surface-mount luminaire for interior, 40W, 4000K, 4700Lm. Polycarbonate, light grey, with injected polyurethane double gasket and clear UV stabilized polycarbonate cover, $\cos \phi \geq 0.9$ <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>SOLAR SYSTEM</u>				
8.1	Supply, install, connect and test the solar lighting system for all Electrical Loads (excluding Lifts, Pumps and AC Units) in perfect operating conditions, including but not limited to: - Photovoltaic multi-crystalline solar panels as shown on the drawings. - Hybrid Inverter - All cables, wires, conduits and all necessary accessories - Aluminum PV mountings - The Contractor shall ensure complete solar system which should function as the main Power Supply - The Contractor should submit detailed shop drawings and materials for approval. - For all blocks of the schools - Lithium Batteries for (Off-Grid Solar Types) - All necessary elevated structures on roof and other areas which are needed to install the required solar panel as mentioned on drawings (Sheds, Parking, etc.) areas	LS			
	<i>Rate or Lump Sum in Words:</i>				
	Replacement of beoken solar panel similar to existing	no	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

8- SOLAR SYSTEM

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
* Total Amount of Works for Elias Abou Chabakeh Mixed Intermediate School	
* Total Amount Carried to General Summary	
.....	
.....	
.....	

136 Elias Abou Chabakeh Official High School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
					<u>Carried to collection</u>

Lebanese Emergency Assistant Project (LEAP)
 Rehabilitation of Shelters

Bill of Quantities
 Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements. - Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight. - Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece. - Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards <i>Rate or Lump Sum in Words:</i>	m	2		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories	№	20		
	<i>Rate or Lump Sum in Words:</i>				
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows:				
	- Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows	№	15		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster				
	Price included all accessories, material, scaffolding and labor, etc.	m ²	10		
	<i>Rate or Lump Sum in Words:</i>				
					
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <u>Rate or Lump Sum in Words:</u>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
9.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval.	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	400		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	200		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <u>Rate or Lump Sum in Words:</u>	Nº	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site				
	Cost to include:				
	- (3600mm x 1200mm) final dimensions as per site limitation				
	- Materials and labors				
	- Felt marker pens and eraser (12 marker pens + 2 erases for each white board)				
	- Stainless Steel screws				
	- Remove the existing board				
	- All needed works as per the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include:				
	- Materials and labors				
	- Colors and shape to be as per engineer instruction				
	- Dimension: 20cm x 10cm	Nº	1		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include: - All fixing elements - All stainless steel hangers - All necessary heavy duty accessories - Counter edge of 30cm length - All needed items and as instructed by the Engineer	m	1		
	<i>Rate or Lump Sum in Words:</i>				
10.5	<u>Internal Curtains</u>				
	Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening	m ²	10		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

6- WOOD AND PLASTICS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	1		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.1	<u>W.C. for Kids</u> Supply and install K.G. W.C. Flush valve with cover as manufactured by Duravit - Bambi No. 018509 or approved equal, 35 cm height max. from finished floor with timber cover. Cost to include all related connections angle valves and necessary accessories as per the Engineer instructions. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.1.1	EWC-03 (Wall Hang - 52 x 32 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	7		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	7		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION	
4- FIRE PROTECTION	
5- SANITARY FIXTURES	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.1	TYPE C1: Twin T8 LED Tube, surface-mount luminaire for interior, 40W, 4000K, 4700Lm. Polycarbonate, light grey, with injected polyurethane double gasket and clear UV stabilized polycarbonate cover, $\cos \phi \geq 0.9$ <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>SOLAR SYSTEM</u>				
8.1	Supply, install, connect and test the solar lighting system for all Electrical Loads (excluding Lifts, Pumps and AC Units) in perfect operating conditions, including but not limited to: - Photovoltaic multi-crystalline solar panels as shown on the drawings. - Hybrid Inverter - All cables, wires, conduits and all necessary accessories - Aluminum PV mountings - The Contractor shall ensure complete solar system which should function as the main Power Supply - The Contractor should submit detailed shop drawings and materials for approval. - For all blocks of the schools - Lithium Batteries for (Off-Grid Solar Types) - All necessary elevated structures on roof and other areas which are needed to install the required solar panel as mentioned on drawings (Sheds, Parking, etc.) areas				
	<i>Rate or Lump Sum in Words:</i>	LS			
	Replacement of beoken solar panel similar to existing	no	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

4- GENERAL LIGHTING INSTALLATIONS

-

8- SOLAR SYSTEM

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Elias Abou Chabakeh High School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

Lebanese Emergency Assistant Project (LEAP)

Rehabilitation of Shelters

General Summary Volume 3-1 (5 of 25 Schools)

اسم المدرسة	School Name	BOQ- Cost Estimate U.S.D	Civil & Architectural U.S.D	Mechanical Services U.S.D	Electrical Services U.S.D
ثانوية الدكوانة الرسمية - 61	61 AL Dekwenet				
مدرسة سن الفيل الأولى المختلطة الرسمية -64	64 Sen El Fil mixed				
متوسطة الدكوانة الرسمية المختلطة - 98	98 AL Dekwenet mixed.				
متوسطة الياس أبو شبكة الرسمية المختلطة -135	135 Elias Abou Chabaket mixed				
ثانوية الياس أبو شبكة الرسمية - 136	136 Elias Abou Chabaket high school				
TOTAL					

Total Amount Carried to Grand Summary

**Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters**

LEAP-SH-SW-MEHE- Batch 2

Lot 3

Mount-Lebanon Package

Volume 3- 2 (4 of 25 Schools)

Bill of Quantities

138 -Zouk Mosbeh Official Intermediate School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.1	Provide New Steel Work (Door & Windows)				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	No	3		
5.3	<u>Rehabilitate Existing Steel Shed Works</u> Rehabilitate the existing steel elements of the existing shed and the work to include: - Remove existing cover (Asbestos, TOT, etc.) and to be dismantled and carted away to outside the site. - Brick tiles to be disassembled and removed and stored in appropriate location as per engineer's instruction and to checked for reused if needed - Clean, rub and repaint all steel structure and do the necessary reinforcement - Damaged steel structure to be replaced with new steel structure similar to existing. - Support and add new beams similar to existing. - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply base and epoxy as specified - Supply the roof covers as per drawings - Install the galvanized steel gutter (No Welded) and all Steel pipe works - Corrugated Metal sheet flashing between walls and shed roof with mastic - All needed items as per the Engineer instructions				
5.3.1	Rehabilitate and strength steel sheds and replace existing sheet by insulated sandwich panel <i>Rate or Lump Sum in Words:</i>	m ²	200		

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.6	<u>Steel Stair</u> Provide Galvanized Steel Stair with related platform as per drawings. Contractor to submit complete shop drawings with related calculation for approval.				
5.6.1	<u>Rehabilitate Steel Stair</u> Rehabilitate existing steel stair and remove damaged members and replace by new works to include: - Materials similar to the existing - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply epoxy paint as per specification - All needed items as per Engineer instructions	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <u>Rate or Lump Sum in Words:</u> 	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval.	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	200		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	100		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	6		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	6		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	6		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <u>Rate or Lump Sum in Words:</u>	Nº	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include: - All fixing elements - All stainless steel hangers - All necessary heavy duty accessories - Counter edge of 30cm length - All needed items and as instructed by the Engineer	m	1		
	<i>Rate or Lump Sum in Words:</i>				
10.5	<u>Internal Curtains</u>				
	Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening	m ²	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

Page №

Amount (US \$)

5- METAL WORKS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i> 	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	1		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.1	<u>W.C. for Kids</u> Supply and install K.G. W.C. Flush valve with cover as manufactured by Duravit - Bambi No. 018509 or approved equal, 35 cm height max. from finished floor with timber cover. Cost to include all related connections angle valves and necessary accessories as per the Engineer instructions. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.1.1	EWC-03 (Wall Hang - 52 x 32 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	5		
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	7		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION	
4- FIRE PROTECTION	
5- SANITARY FIXTURES	
Total Carried to Summary	

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
 * Total Amount of Works for Zouk Mosbeh Intermediate School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

145-Jal el Dib Middle School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
#REF!	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	5		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	15		
5.2.6	Rehabilitate and paint existing steel window <i>Rate or Lump Sum in Words:</i>	Nº	15		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements.				
	- Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight.				
	- Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece.				
	- Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards	m	3		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3.1.4	Rehabilitate wooden windows and shutters <i>Rate or Lump Sum in Words:</i>	Nº	25		
8.2	<u>Aluminum Doors and Windows</u>				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	Nº	100		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster				
	Price included all accessories, material, scaffolding and labor, etc.	m ²	100		
	<i>Rate or Lump Sum in Words:</i>				
					
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <u>Rate or Lump Sum in Words:</u>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.1	<u>New Full Mass Colored Ceramic for Floors</u> Ceramic tiles and tilework as specified and detailed, installed complete; Including for substrate preparation, cement: sand screeds or plaster backing coats; setting, jointing and grouting; tile trim and accessories; sealants; and all other related ancillaries as indicated or required				
9.2.1.1	Supply and install anti slip colored full mass ceramic tiles for classroom (first choice) for all floor toilets, kitchen and laboratory (existing and new) <i>Rate or Lump Sum in Words:</i>	m ²	9		
9.2.1.2	Skirting same type of floors or as existing or required <i>Rate or Lump Sum in Words:</i>	m	12		
9.2.2	<u>New Glazed Colored Ceramic for Walls</u>				
9.2.2.1	Supply and install glazed colored ceramic for walls Include Ceramic Corner (first choice) <i>Rate or Lump Sum in Words:</i>	m ²	36		
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u>				
	Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings				
	The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat.				
	Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials.				
	All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval,				
	<i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings	m ²	1,000		
	<i>Rate or Lump Sum in Words:</i>				
9.5.1.4	Oil Paints for old walls and ceilings	m ²	500		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	8		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	№	8		
10.2	<u>Classroom Specialties</u>				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site Cost to include: - (3600mm x 1200mm) final dimensions as per site limitation - Materials and labors - Felt marker pens and eraser (12 marker pens + 2 erases for each white board) - Stainless Steel screws - Remove the existing board - All needed works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	№	15		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm	Nº	1		
	<i>Rate or Lump Sum in Words:</i>				
10.5	<u>Internal Curtains</u>				
	Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening	m ²	40		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

5- METAL WORKS

6- WOOD AND PLASTICS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	8		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	8		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	10		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION	
4- FIRE PROTECTION	
5- SANITARY FIXTURES	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	20		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	6		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	10		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Jal El Dib Middle School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

146-Jal El Dib High School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster Price included all accessories, material, scaffolding and labor, etc. <i>Rate or Lump Sum in Words:</i>	m²	200		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m²	500		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i>	m ²	80		

Carried to collection

Collection

Page №

Amount (US \$)

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Jal El Dib Highschool	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

150 Byekout Public School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm ² for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
				<u>Carried to collection</u>	

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	5		
5.3	<u>Rehabilitate Existing Steel Shed Works</u> Rehabilitate the existing steel elements of the existing shed and the work to include: - Remove existing cover (Asbestos, TOT, etc.) and to be dismantled and carted away to outside the site. - Brick tiles to be disassembled and removed and stored in appropriate location as per engineer's instruction and to checked for reused if needed - Clean, rub and repaint all steel structure and do the necessary reinforcement - Damaged steel structure to be replaced with new steel structure similar to existing. - Support and add new beams similar to existing. - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply base and epoxy as specified - Supply the roof covers as per drawings - Install the galvanized steel gutter (No Welded) and all Steel pipe works - Corrugated Metal sheet flashing between walls and shed roof with mastic - All needed items as per the Engineer instructions				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.3.10	Rehabilitate steel structure, keep existing tiles / sheets and replace damaged ones <i>Rate or Lump Sum in Words:</i>	m ²	25		
5.5	<u>Rehabilitate and Maintain Steel Handrail</u> - Rehabilitate the existing metal handrail and remove the damaged members and replace by new - Reinforce the existing handrail with similar members in addition to the rail and all necessary accessories - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply one layer of epoxy base paint - Apply putty - Apply epoxy paint as per specification All needed items as per the Engineer instructions				
5.5.2	Wall Mounted <i>Rate or Lump Sum in Words:</i>	m	20		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i>	Nº	10		
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	Nº	10		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor				
	Work to include:				
	- Determine the location and remove all loose items around the area				
	- Remove the cracked plaster layer				
	- Remove the pulled out layers				
	- Clean the places with suitable materials				
	- Fill all cracks after widening by (No Suggestions) or approved equal.				
	- Remove loose and other deteriorated materials prior to the new repair.				
	Take special care not to damage the adjacent original materials.				
	Prepare mortar joints for installation of lateral reinforcement where it is required.				
	Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar.				
	Mix mortar with minimal amount of water (potable) prior to use.				
	All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i> 	LS	1		
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	700		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	350		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm <i>Rate or Lump Sum in Words:</i>	№	4		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

4- FIRE PROTECTION

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	4		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	4		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	4		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

4- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Aakbet Byekout Public School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

Lebanese Emergency Assistant Project (LEAP)

Rehabilitation of Shelters

General Summary Volume 3-2 (4 of 25 Schools)

اسم المدرسة	School Name	BOQ- Cost Estimate U.S.D	Civil & Architectural U.S.D	Mechanical Services U.S.D	Electrical Services U.S.D
ذوق مصبح الرسمية المتوسطة - 138	138 Zouk Mosbeh				
متوسطة جل الديب الرسمية للصبيان - 145	145 Jall El Dib int boys				
ثانوية جل الديب الرسمية - 146	146 Jal El Dib high school				
عقبة بياقوت الرسمية المختلطة - 150	150 Aakbet Byakout mixed				
TOTAL					

Total Amount Carried to Grand Summary

**Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters**

LEAP-SH-SW-MEHE- Batch 2

Lot 3

Mount-Lebanon Package

Volume 3- 3 (4 of 25 Schools)

Bill of Quantities

167- Jbeil First Official Mixed Intermediate School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>MASONRY</u>				
4.2	<u>Rehabilitate and Clean masonry walls showing deep crack</u> The repair method requires the replacement of some stone masonry that has been damaged by the crack. It will include the use of horizontal reinforcement. Remove cracked stones in a “toothed” pattern to the extent that a sound repair is possible. Clean the crack if it continues to extend into the mass masonry and grout with non shrink mortar. Key new stone in stone masonry perpendicular to the wall surface in addition to the “toothed” and stepped pattern parallel to the wall surface. With larger more extensive cracks remove additional stones in a stepped pattern on both sides and the top of crack and restore by installing new stones. With smaller repairs lesser amounts of stones will have to be removed. Place horizontal reinforcement every 5th course. Mechanical ties to secure geogrid may be required. The horizontal reinforcement shall bridge over the crack and extend the length of new stone masonry. Replicate the coursing pattern of the existing exposed surface. Place new stones that are not exposed in an alternating stretcher-header bonding pattern to wall surface or top of wall. Construct the new stone masonry in complete horizontal courses where possible. Do not construct more than 5 courses before allowing masonry to dry. Lay subsequent stone courses on fresh wet mortar. Apply mortar at head joints as well as bed joints and finish one-half the width of the mortar joint below the surface of the stones.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4.2.1	<u>Rehabilitate Natural Stone Facades</u> Rehabilitate works on natural stone facades work should be by replacing the damaged stone and not filling with mortar. Work to include: - Determine location of damaged stone walls and location of dampness. Broken or damaged pieces to be replaced, then cleaning & leveling; without affecting the adjacent undamaged areas - Treat the dampness and the causes - Repair the stone by renewing the damaged and replace it with new ones with same stone and apply one layer of water proofing transparent paint - Clear the place and infill in between the coarse (Lining) - All works as instructed by the Engineer <u>Rate or Lump Sum in Words:</u>	m ²	10		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1.2	<u>New Timber External Shutters (Louvers)</u>				
8.1.2.1	Provide new timber external shutters (louvers) <i>Rate or Lump Sum in Words:</i>	Nº			
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully.				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	10		
<u>Carried to collection</u>					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.1	Super Rubber Paint for new walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	150		
9.5.1.3	Oil Paint for new walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	75		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	Nº	3		
10.2	Classroom Specialties				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

Page №

Amount (US \$)

4- MASONRY

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works.	Item	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	1		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.1	<u>W.C. for Kids</u> Supply and install K.G. W.C. Flush valve with cover as manufactured by Duravit - Bambi No. 018509 or approved equal, 35 cm height max. from finished floor with timber cover. Cost to include all related connections angle valves and necessary accessories as per the Engineer instructions. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.1.1	EWC-03 (Wall Hang - 52 x 32 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	7		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	7		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.9	<u>Taps for Lab Sinks</u> Supply and install taps to be fixed in Lab type Grohe with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.9.1	Taps for Lab Sinks <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.10	<u>Lavatories Resin Accessories</u> Supply and install lavatories resin accessories such as chrome trap, angle valves as specified				
5.10.1	Lavatories Resin Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.11	<u>Showers Tray</u> Supply and install shower tray as specified including shower mixers, shower head and all necessary accessories as required				
5.11.1	SH-01 <i>Rate or Lump Sum in Words:</i>	Nº	1		

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.11.2	SH-02 (only mixers & shower hand) <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.12	<u>Eye Wash</u> Supply and install eye wash as specified including water/drain connections, angle valves and all necessary accessories as required				
5.12.1	Eye Wash <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.13	<u>Janitor Sink</u> Supply and install janitor sink as specified including water connection, drain connection, angle valves, mixers and all necessary accessories as required				
5.13.1	JS - 01 <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.14	<u>Hose Bib</u> Supply and install Hose Bib taps including water connection & all necessary accessories as required				
5.14.1	HB - 01 <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.1	TYPE C1: Twin T8 LED Tube, surface-mount luminaire for interior, 40W, 4000K, 4700Lm. Polycarbonate, light grey, with injected polyurethane double gasket and clear UV stabilized polycarbonate cover, $\cos \phi \geq 0.9$ <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	1		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>SOLAR SYSTEM</u>				
8.1	Supply, install, connect and test the solar lighting system for all Electrical Loads (excluding Lifts, Pumps and AC Units) in perfect operating conditions, including but not limited to: - Photovoltaic multi-crystalline solar panels as shown on the drawings. - Hybrid Inverter - All cables, wires, conduits and all necessary accessories - Aluminum PV mountings - The Contractor shall ensure complete solar system which should function as the main Power Supply - The Contractor should submit detailed shop drawings and materials for approval. - For all blocks of the schools - Lithium Batteries for (Off-Grid Solar Types) - All necessary elevated structures on roof and other areas which are needed to install the required solar panel as mentioned on drawings (Sheds, Parking, etc.) areas	LS			
	<i>Rate or Lump Sum in Words:</i>				
	Replacement of beoken solar panel similar to existing	no	1		

Carried to collection

Collection

Page №

Amount (US \$)

3- GENERAL LIGHTING INSTALLATIONS

-

8- SOLAR SYSTEM

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Jbeil First Mixed Intermediate School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

196- Afqa Mixed Public School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	№	5		
5.3	<u>Rehabilitate Existing Steel Shed Works</u> Rehabilitate the existing steel elements of the existing shed and the work to include: - Remove existing cover (Asbestos, TOT, etc.) and to be dismantled and carted away to outside the site. - Brick tiles to be disassembled and removed and stored in appropriate location as per engineer's instruction and to checked for reused if needed - Clean, rub and repaint all steel structure and do the necessary reinforcement - Damaged steel structure to be replaced with new steel structure similar to existing. - Support and add new beams similar to existing. - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply base and epoxy as specified - Supply the roof covers as per drawings - Install the galvanized steel gutter (No Welded) and all Steel pipe works - Corrugated Metal sheet flashing between walls and shed roof with mastic - All needed items as per the Engineer instructions				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.3.1	Rehabilitate and strength steel sheds and replace existing sheet by insulated sandwich panel <i>Rate or Lump Sum in Words:</i>	m ²	1		
5.3.5	Rehabilitate and strength steel sheds and replace existing sheet by brick tiles <i>Rate or Lump Sum in Words:</i>	m ²	20		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	3		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	Nº	5		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

9.2

Tiling Works

Supply and install all tiling items for floors, with the skirting

Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions

Price to include:

- Sand below tiles
- Materials, tiles, mortars
- Labors
- Rubbing
- Filling between tiles
- Filling the skirting
- Remove unsuitable items
- Cleaning the places
- All needed items as per the Engineer instructions

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	200		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	100		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include:				
	- All fixing elements				
	- All stainless steel hangers				
	- All necessary heavy duty accessories				
	- Counter edge of 30cm length				
	- All needed items and as instructed by the Engineer	m	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

Page №

Amount (US \$)

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	10		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>SOLAR SYSTEM</u>				
8.1	Supply, install, connect and test the solar lighting system for all Electrical Loads (excluding Lifts, Pumps and AC Units) in perfect operating conditions, including but not limited to: - Photovoltaic multi-crystalline solar panels as shown on the drawings. - Hybrid Inverter - All cables, wires, conduits and all necessary accessories - Aluminum PV mountings - The Contractor shall ensure complete solar system which should function as the main Power Supply - The Contractor should submit detailed shop drawings and materials for approval. - For all blocks of the schools - Lithium Batteries for (Off-Grid Solar Types) - All necessary elevated structures on roof and other areas which are needed to install the required solar panel as mentioned on drawings (Sheds, Parking, etc.) areas				
	<i>Rate or Lump Sum in Words:</i>	LS			
	Replacement of beoken solar panel similar to existing	no	4		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

8- SOLAR SYSTEM

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Afqa Mixed School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

200- Farid Salameh Public School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works

Bill № 4: Electrical Engineering Services

Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.3	<u>Rehabilitate Existing Steel Shed Works</u> Rehabilitate the existing steel elements of the existing shed and the work to include: - Remove existing cover (Asbestos, TOT, etc.) and to be dismantled and carted away to outside the site. - Brick tiles to be disassembled and removed and stored in appropriate location as per engineer's instruction and to checked for reused if needed - Clean, rub and repaint all steel structure and do the necessary reinforcement - Damaged steel structure to be replaced with new steel structure similar to existing. - Support and add new beams similar to existing. - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply base and epoxy as specified - Supply the roof covers as per drawings - Install the galvanized steel gutter (No Welded) and all Steel pipe works - Corrugated Metal sheet flashing between walls and shed roof with mastic - All needed items as per the Engineer instructions				
5.3.6	Rehabilitate and strength existing roof bricks and change broken bricks by new ones <i>Rate or Lump Sum in Words:</i>	m²	5		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	6		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u>				
	Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings				
	The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat.				
	Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials.				
	All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval,				
	<i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings	m ²	10		
	<i>Rate or Lump Sum in Words:</i>				
9.5.1.4	Oil Paints for old walls and ceilings	m ²	80		
	<i>Rate or Lump Sum in Words:</i>				
9.5.3	<u>Paint Damp proof Colorless Layer Unleaded on Facades and Supply a Guarantee for Five Years</u>				
9.5.3.1	Supply and paint with dampproof paint after cleaning and washing all walls, and remove the existing paint and enlarge all cracks especially at the intersection of the hollow concrete blocks and reinforced concrete slabs and between columns beams and hollow concrete blocks walls and refill these grooves with polyethylene sealant and then paint one layer of base paint with acrylic styrene copolymer elastomeric waterproof and then apply two layers over the base paint with acrylic styrene copolymer elastomeric waterproof. time needed is 24 hours between each layer.				
	All works and items should be as per manufacturer and the Engineer instructions and approval.	m ²	10		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

Page №

Amount (US \$)

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u>				
	The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u>				
	Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures	LS	1		
	<i>Rate or Lump Sum in Words:</i>				
1.1.3	Sockets and switches	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Farid Salameh Kfardebian School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

217 Beit Shabeb Public School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
------	-------------	------	-----------------------	----------------------	-------------------

3 **CONCRETE**

Reinforced Existing Columns and beams

Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete.

Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions

1

Rate or Lump Sum in Words:

.....

.....

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	5		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
------	-------------	------	--------------------	-------------------	----------------

8 DOORS AND WINDOWS

8.1 Wooden Doors and Windows

Supply and install all timber work with all related items
The joinery works should be of the first class type and as per specifications and drawings

Work to include:

- Material and labors
- All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.)
- The frame for any width (Steel, Wood, etc.)
- Paint as follows:
 - Anti rust layers
 - Putty + one layer of undercoat
 - Three layers of epoxy paint
- Apply and fix 6mm wired clear glass
- View Permitting glass opening where needed
- remove the existing timber panels
- repair the edges
- The Contractor should submit shop drawings
- All needed items as the Engineer instructions

8.1.3 Rehabilitate the Existing Timber Doors

As stated in the Preambles of Item 8.1

In addition, rehabilitate the existing timber doors:

The minimum amount of existing timber should be removed to allow an effective repair to be formed.

Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed.

Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible.

For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair.

Always work new material to the line of the existing and avoid unnecessary trimming of original timber.

Repairs should follow any existing deformations in the line of the wood element (e.g. door or window).

Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	25		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i> 	Nº	11		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i> 	LS	1		

9.2

Tiling Works

Supply and install all tiling items for floors, with the skirting

Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions

Price to include:

- Sand below tiles
- Materials, tiles, mortars
- Labors
- Rubbing
- Filling between tiles
- Filling the skirting
- Remove unsuitable items
- Cleaning the places
- All needed items as per the Engineer instructions

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	950		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	650		
<u>Carried to collection</u>					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.2	<u>Classroom Specialties</u>				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include:				
	- Materials and labors				
	- Colors and shape to be as per engineer instruction				
	- Dimension: 20cm x 10cm	Nº	6		
	<i>Rate or Lump Sum in Words:</i>				
					

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

4- FIRE PROTECTION

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	5		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	4		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	3		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Beit Shabeb Public School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

General Summary Volume 3-3 (4 of 25 Schools)

اسم المدرسة	School Name	BOQ- Cost Estimate U.S.D	Civil & Architectural U.S.D	Mechanical Services U.S.D	Electrical Services U.S.D
جبيل الأولى الرسمية المتوسطة المختلطة - 167	167 Jbeil first mixed				
افقا الرسمية المختلطة - 196	196 Afqa mixed				
فريد سلامه الرسمية - كفرديان - 200	200 Farid Salamet Kfardebian				
مدرسة بيت شباب الابتدائية الرسمية - 217	217 Beit chabab				
TOTAL					

Total Amount Carried to Grand Summary

**Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters**

LEAP-SH-SW-MEHE- Batch 2

Lot 3

Mount-Lebanon Package

Volume 3- 4 (4 of 25 Schools)

Bill of Quantities

219 Bekfaya Secondary Public School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
				<u>Carried to collection</u>	

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	8		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	5		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.5	<u>Rehabilitate and Maintain Steel Handrail</u> - Rehabilitate the existing metal handrail and remove the damaged members and replace by new - Reinforce the existing handrail with similar members in addition to the rail and all necessary accessories - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply one layer of epoxy base paint - Apply putty - Apply epoxy paint as per specification All needed items as per the Engineer instructions				
5.5.2	Wall Mounted <i>Rate or Lump Sum in Words:</i>	m	25		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements. - Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight. - Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece. - Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards <i>Rate or Lump Sum in Words:</i>	m	3		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories	Nº	27		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3.1.4	Rehabilitate wooden windows and shutters <i>Rate or Lump Sum in Words:</i>	№	10		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	№	10		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u> Supply and install sand cement plaster on concrete and block wall surfaces as specified The plaster layer should be own a base rough layer The plaster works should be on level points and each point should be at 1.5 m from the second only Work to include: - Materials and accessories (galvanized, wire mesh, cover beds, etc.) - Labors - All addition watering - All tools - Plaster thickness more than 2 cm - All needed items as per drawings and the Engineer instructions				
9.1.1	<u>Internal and External Plaster Works</u>				
9.1.1.1	Supply and apply one layer of sand cement plaster over a rough textured layer of plaster Price included all accessories, material, scaffolding and labor, etc. <i>Rate or Lump Sum in Words:</i>	m ²	70		
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. - Take special care not to damage the adjacent original materials. - Prepare mortar joints for installation of lateral reinforcement where it is required. - Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. - Mix mortar with minimal amount of water (potable) prior to use. - All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i>	LS	1		

9.2

Tiling Works

Supply and install all tiling items for floors, with the skirting

Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions

Price to include:

- Sand below tiles
- Materials, tiles, mortars
- Labors
- Rubbing
- Filling between tiles
- Filling the skirting
- Remove unsuitable items
- Cleaning the places
- All needed items as per the Engineer instructions

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
9.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i>	LS	1		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	600		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	300		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	Nº	6		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site				
	Cost to include:				
	- (3600mm x 1200mm) final dimensions as per site limitation				
	- Materials and labors				
	- Felt marker pens and eraser (12 marker pens + 2 erases for each white board)				
	- Stainless Steel screws				
	- Remove the existing board				
	- All needed works as per the Engineer instructions	Nº	14		
	<u>Rate or Lump Sum in Words:</u>				
					
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include:				
	- Materials and labors				
	- Colors and shape to be as per engineer instruction				
	- Dimension: 20cm x 10cm	Nº	4		
	<u>Rate or Lump Sum in Words:</u>				
					

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include: - All fixing elements - All stainless steel hangers - All necessary heavy duty accessories - Counter edge of 30cm length - All needed items and as instructed by the Engineer	m	3		
	<i>Rate or Lump Sum in Words:</i>				
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i>	m ²	30		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris	.....
3- Concrete	.....
5- METAL WORKS	.....
6- WOOD AND PLASTICS	.....
8- DOORS AND WINDOWS	.....
9- FINISHES	.....
10- SPECIALTIES	.....
	
	
Total Carried to Summary .....	.....
	

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	2		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	6		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	2		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	8		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	8		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	8		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Bekfaya Secondary Public School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

220 Mhaydse Intermediate Public School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
					<u>Carried to collection</u>

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	7		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	15		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements.				
	- Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight.				
	- Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece.				
	- Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards	m	6		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i>	№	15		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	№	20		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor				
	Work to include:				
	- Determine the location and remove all loose items around the area				
	- Remove the cracked plaster layer				
	- Remove the pulled out layers				
	- Clean the places with suitable materials				
	- Fill all cracks after widening by (No Suggestions) or approved equal.				
	- Remove loose and other deteriorated materials prior to the new repair.				
	Take special care not to damage the adjacent original materials.				
	Prepare mortar joints for installation of lateral reinforcement where it is required.				
	Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar.				
	Mix mortar with minimal amount of water (potable) prior to use.				
	All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				
	- Clear debris from crack by probing, brushing, and blowing.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i>	LS	1		
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	700		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	350		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <u>Rate or Lump Sum in Words:</u>	Nº	5		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site				
	Cost to include:				
	- (3600mm x 1200mm) final dimensions as per site limitation				
	- Materials and labors				
	- Felt marker pens and eraser (12 marker pens + 2 erases for each white board)				
	- Stainless Steel screws				
	- Remove the existing board				
	- All needed works as per the Engineer instructions	Nº	15		
	<i>Rate or Lump Sum in Words:</i>				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include:				
	- Materials and labors				
	- Colors and shape to be as per engineer instruction				
	- Dimension: 20cm x 10cm	Nº	6		
	<i>Rate or Lump Sum in Words:</i>				
10.3	<u>Resin Work</u>				
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include:				
	- All fixing elements				
	- All stainless steel hangers				
	- All necessary heavy duty accessories				
	- Counter edge of 30cm length				
	- All needed items and as instructed by the Engineer	m	3		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
 Rehabilitation of Shelters

Bill of Quantities
 Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i> 	m ²	20		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris	.....
3- Concrete	.....
5- METAL WORKS	.....
6- WOOD AND PLASTICS	.....
8- DOORS AND WINDOWS	.....
9- FINISHES	.....
10- SPECIALTIES	.....
	
	
	
Total Carried to Summary .....	.....
	

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	6		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	5		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	5		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	5		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Mhaydse Intermediate Public School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

222 Bteghrin Public Intermediate School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm ² for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
				<u>Carried to collection</u>	

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	5		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.5	<u>Rehabilitate and Maintain Steel Handrail</u> - Rehabilitate the existing metal handrail and remove the damaged members and replace by new - Reinforce the existing handrail with similar members in addition to the rail and all necessary accessories - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply one layer of epoxy base paint - Apply putty - Apply epoxy paint as per specification All needed items as per the Engineer instructions				
5.5.2	Wall Mounted <i>Rate or Lump Sum in Words:</i>	m	30		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements. - Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight. - Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece. - Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards <i>Rate or Lump Sum in Words:</i>	m	3		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	11		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	№	10		
8.2.4	<u>Colored Powder Coated Aluminum Louver</u> Fabricate, Supply and install powder coated aluminum heavy duty louver as specified and detail capable with standing the effects of wind load and deflection based on testing agency, including joint cutting, corner strengthening, support galvanized steel accessories, fixation, fasteners, hardware, trim, sealants, matric, etc. and all other related works and accessories.				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor				
	Work to include:				
	- Determine the location and remove all loose items around the area				
	- Remove the cracked plaster layer				
	- Remove the pulled out layers				
	- Clean the places with suitable materials				
	- Fill all cracks after widening by (No Suggestions) or approved equal.				
	- Remove loose and other deteriorated materials prior to the new repair.				
	Take special care not to damage the adjacent original materials.				
	Prepare mortar joints for installation of lateral reinforcement where it is required.				
	Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar.				
	Mix mortar with minimal amount of water (potable) prior to use.				
	All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

9.2

Tiling Works

Supply and install all tiling items for floors, with the skirting

Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions

Price to include:

- Sand below tiles
- Materials, tiles, mortars
- Labors
- Rubbing
- Filling between tiles
- Filling the skirting
- Remove unsuitable items
- Cleaning the places
- All needed items as per the Engineer instructions

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u>				
	Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings	m ²	750		
	<i>Rate or Lump Sum in Words:</i>				
					
9.5.1.4	Oil Paints for old walls and ceilings	m ²	350		
	<i>Rate or Lump Sum in Words:</i>				
					

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm	№	6		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.3	<u>Resin Work</u>				
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i>	m ²	35		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris	.....
3- Concrete	.....
5- METAL WORKS	.....
6- WOOD AND PLASTICS	.....
8- DOORS AND WINDOWS	.....
9- FINISHES	.....
10- SPECIALTIES	.....
	
	
	
Total Carried to Summary .....	.....
	

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works.	Item	1		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

4- FIRE PROTECTION

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	5		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	5		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	5		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Bteghrin Public Middle School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

223 Bteghrin Secondary Public School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm ² for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
				<u>Carried to collection</u>	

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	5		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	6		
5.5	<u>Rehabilitate and Maintain Steel Handrail</u> - Rehabilitate the existing metal handrail and remove the damaged members and replace by new - Reinforce the existing handrail with similar members in addition to the rail and all necessary accessories - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply one layer of epoxy base paint - Apply putty - Apply epoxy paint as per specification All needed items as per the Engineer instructions				
5.5.2	Wall Mounted <i>Rate or Lump Sum in Words:</i>	m	35		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	№	11		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <u>Rate or Lump Sum in Words:</u>	№	10		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i>	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	800		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	400		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm <i>Rate or Lump Sum in Words:</i>	№	6		

Lebanese Emergency Assistant Project (LEAP)
 Rehabilitation of Shelters

Bill of Quantities
 Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i> 	m ²	20		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	2		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION

4- FIRE PROTECTION

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	5		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	6		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	7		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Bteghrin Public Highschool	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

Lebanese Emergency Assistant Project (LEAP)

Rehabilitation of Shelters

General Summary Volume 3-4 (4 of 25 Schools)

اسم المدرسة	School Name	BOQ- Cost Estimate U.S.D	Civil & Architectural U.S.D	Mechanical Services U.S.D	Electrical Services U.S.D
ثانوية بكفيا الرسمية - 219	219 Bekfaya high school				
متوسطة المحيثة الرسمية المختلطة - 220	220 Al Mhaydataset				
بتغرين الرسمية المتوسطة المختلطة - 222	222 Bteghrin mixed				
ثانوية بتغرين الرسمية المختلطة - 223	223 Bteghrin high school				
TOTAL					

Total Amount Carried to Grand Summary

**Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters**

LEAP-SH-SW-MEHE- Batch 2

Lot 3

Mount-Lebanon Package

Volume 3- 5 (4 of 25 Schools)

Bill of Quantities

225 Baskenta Secondary Public School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
------	-------------	------	-----------------------	----------------------	-------------------

3 **CONCRETE**

Reinforced Existing Columns and beams

Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm2 for cracked beams, repair rust steel and topping concrete.

Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions

1

Rate or Lump Sum in Words:

.....

.....

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	5		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	15		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.3	<u>Rehabilitate Existing Steel Shed Works</u> Rehabilitate the existing steel elements of the existing shed and the work to include: - Remove existing cover (Asbestos, TOT, etc.) and to be dismantled and carted away to outside the site. - Brick tiles to be disassembled and removed and stored in appropriate location as per engineer's instruction and to checked for reused if needed - Clean, rub and repaint all steel structure and do the necessary reinforcement - Damaged steel structure to be replaced with new steel structure similar to existing. - Support and add new beams similar to existing. - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply base and epoxy as specified - Supply the roof covers as per drawings - Install the galvanized steel gutter (No Welded) and all Steel pipe works - Corrugated Metal sheet flashing between walls and shed roof with mastic - All needed items as per the Engineer instructions				
5.3.10	Rehabilitate steel structure, keep existing tiles / sheets and replace damaged ones <i>Rate or Lump Sum in Words:</i>	m ²	50		
5.5	<u>Rehabilitate and Maintain Steel Handrail</u> - Rehabilitate the existing metal handrail and remove the damaged members and replace by new - Reinforce the existing handrail with similar members in addition to the rail and all necessary accessories - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply one layer of epoxy base paint - Apply putty - Apply epoxy paint as per specification All needed items as per the Engineer instructions				
5.5.2	Wall Mounted <i>Rate or Lump Sum in Words:</i>	m	20		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements. - Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight. - Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece. - Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards <i>Rate or Lump Sum in Words:</i>	m	6		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window).				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint. The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories	Nº	15		
	<i>Rate or Lump Sum in Words:</i> 				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	Nº	10		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor Work to include: - Determine the location and remove all loose items around the area - Remove the cracked plaster layer - Remove the pulled out layers - Clean the places with suitable materials - Fill all cracks after widening by (No Suggestions) or approved equal. - Remove loose and other deteriorated materials prior to the new repair. Take special care not to damage the adjacent original materials. Prepare mortar joints for installation of lateral reinforcement where it is required. Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar. Mix mortar with minimal amount of water (potable) prior to use. All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction. - Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. Use as dry a mix as possible. Use stone bats to fill larger crack voids. Ensure mortar is forced into smaller/deeper cracks. Mortar grout will be fluid in order to flow into crack. Either grout bags or gravity flow shall be used depending on the conditions. Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<u>Rate or Lump Sum in Words:</u>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	1,050		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i> 	m ²	550		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	№	2		
	<i>Rate or Lump Sum in Words:</i>				
					
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	№	3		
	<i>Rate or Lump Sum in Words:</i>				
					
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	№	3		
	<i>Rate or Lump Sum in Words:</i>				
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	№	6		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.1	<u>White Teaching Boards</u>				
10.2.1.1	Supply and install White teaching boards from approved manufacturer as per specifications of Ministry of Education and Higher Education and corresponding to the site				
	Cost to include:				
	- (3600mm x 1200mm) final dimensions as per site limitation				
	- Materials and labors				
	- Felt marker pens and eraser (12 marker pens + 2 erases for each white board)				
	- Stainless Steel screws				
	- Remove the existing board				
	- All needed works as per the Engineer instructions	Nº	15		
	<i>Rate or Lump Sum in Words:</i>				
					
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include:				
	- Materials and labors				
	- Colors and shape to be as per engineer instruction				
	- Dimension: 20cm x 10cm	Nº	6		
	<i>Rate or Lump Sum in Words:</i>				
					
10.3	<u>Resin Work</u>				
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include:				
	- All fixing elements				
	- All stainless steel hangers				
	- All necessary heavy duty accessories				
	- Counter edge of 30cm length				
	- All needed items and as instructed by the Engineer	m	4		
	<i>Rate or Lump Sum in Words:</i>				
					

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i> 	m ²	30		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris	.....
3- Concrete	.....
5- METAL WORKS	.....
6- WOOD AND PLASTICS	.....
8- DOORS AND WINDOWS	.....
9- FINISHES	.....
10- SPECIALTIES	.....
	
	
	
Total Carried to Summary .....	.....
	

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
2	<u>SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION</u>				
2.2	<u>Floor Drain</u> Supply and install floor drain P.V.C. with chrome plated brass drain cover and to be the same level as the floor and do all necessary installation and connections. This includes all civil works and connection to the proper floor pipes and as per the Engineer instructions				
2.2.1	FD-01: Ø75 mm bottom outlet <i>Rate or Lump Sum in Words:</i>	Nº	2		
2.3	<u>Drain Cover</u> Supply and install floor drain cover (P.E) 5 mm thick on drainage pipe and to be the same level of the floor tiling. Work to include all civil works and as per the Engineer instructions				
2.3.1	Cover for FCO <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.1	<u>W.C. for Kids</u> Supply and install K.G. W.C. Flush valve with cover as manufactured by Duravit - Bambi No. 018509 or approved equal, 35 cm height max. from finished floor with timber cover. Cost to include all related connections angle valves and necessary accessories as per the Engineer instructions. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.1.1	EWC-03 (Wall Hang - 52 x 32 cm) <i>Rate or Lump Sum in Words:</i>	Nº	3		
5.2	<u>W.C. For Non Kids</u> Supply and install W.C. for non kids, Flush valve with cover as manufactured by Ideal Standard Item No. E876801 also the hose, or approved equal and to be 40 cm from floor finish with timber cover. The work to include the installation, liking, cleaning with all necessary connection, angle valves and necessary accessories similar to the K.G.W.C. Each W.C. should be equipped with a Flushing Hose (Grohe or Ideal standard or approved equal)				
5.2.1	EWC-01 (Wall Hang - 52 x 36 cm) <i>Rate or Lump Sum in Words:</i>	Nº	3		
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	6		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.7.1	Wall Type Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	3		
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	Nº	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

2- SANITARY, WASTE & RAIN WATER PIPE WORK INSTALLATION

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	4		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	4		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Baskenta Secondary Public School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

232 Mten Intermediate Public School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm ² for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
				<u>Carried to collection</u>	

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	4		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	10		
5.5	<u>Rehabilitate and Maintain Steel Handrail</u> - Rehabilitate the existing metal handrail and remove the damaged members and replace by new - Reinforce the existing handrail with similar members in addition to the rail and all necessary accessories - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply one layer of epoxy base paint - Apply putty - Apply epoxy paint as per specification All needed items as per the Engineer instructions				
5.5.2	Wall Mounted <i>Rate or Lump Sum in Words:</i>	m	25		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements.				
	- Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight.				
	- Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece.				
	- Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards	m	6		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	11		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <u>Rate or Lump Sum in Words:</u>	№	10		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor				
	Work to include:				
	- Determine the location and remove all loose items around the area				
	- Remove the cracked plaster layer				
	- Remove the pulled out layers				
	- Clean the places with suitable materials				
	- Fill all cracks after widening by (No Suggestions) or approved equal.				
	- Remove loose and other deteriorated materials prior to the new repair.				
	Take special care not to damage the adjacent original materials.				
	Prepare mortar joints for installation of lateral reinforcement where it is required.				
	Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar.				
	Mix mortar with minimal amount of water (potable) prior to use.				
	All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Clear debris from crack by probing, brushing, and blowing. - Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer <i>Rate or Lump Sum in Words:</i> 	LS	1		
9.2	<u>Tiling Works</u> Supply and install all tiling items for floors, with the skirting Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions Price to include: - Sand below tiles - Materials, tiles, mortars - Labors - Rubbing - Filling between tiles - Filling the skirting - Remove unsuitable items - Cleaning the places - All needed items as per the Engineer instructions				
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
8.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval.	LS	1		
	<i>Rate or Lump Sum in Words:</i>				
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u>				
	Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	750		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	350		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	5		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	5		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u> Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories The mirror should be placed on 3mm thick plywood from the back All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction) <i>Rate or Lump Sum in Words:</i>	Nº	3		
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm <i>Rate or Lump Sum in Words:</i>	Nº	6		
10.3	<u>Resin Work</u>				
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include: - All fixing elements - All stainless steel hangers - All necessary heavy duty accessories - Counter edge of 30cm length - All needed items and as instructed by the Engineer <i>Rate or Lump Sum in Words:</i>	m	6		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.5	<u>Internal Curtains</u> Supply and install internal rolling type tissue and polyester collapsible type curtain as per specifications and at the location as shown on drawings Works to include: - Materials - Labors - Heavy Duty Accessories - All needed works as per the Engineer instructions and approval				
10.5.1	On External Opening <i>Rate or Lump Sum in Words:</i>	m ²	35		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris	.....
3- Concrete	.....
5- METAL WORKS	.....
6- WOOD AND PLASTICS	.....
8- DOORS AND WINDOWS	.....
9- FINISHES	.....
10- SPECIALTIES	.....
	
	
	
Total Carried to Summary .....	.....
	

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	6		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	Nº	3		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	5		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	5		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	5		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Mten Intermediate Public School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

234 Broumana Intermediate Public School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm ² for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
				<u>Carried to collection</u>	

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work (Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <i>Rate or Lump Sum in Words:</i>	Nº	7		
5.2.2	Rehabilitate existing steel gates <i>Rate or Lump Sum in Words:</i>	Nº	1		
5.2.4	Rehabilitate existing burglar proof steel protection <i>Rate or Lump Sum in Words:</i>	Nº	20		
5.3	<u>Rehabilitate Existing Steel Shed Works</u> Rehabilitate the existing steel elements of the existing shed and the work to include: - Remove existing cover (Asbestos, TOT, etc.) and to be dismantled and carted away to outside the site. - Brick tiles to be disassembled and removed and stored in appropriate location as per engineer's instruction and to checked for reused if needed - Clean, rub and repaint all steel structure and do the necessary reinforcement - Damaged steel structure to be replaced with new steel structure similar to existing. - Support and add new beams similar to existing. - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply base and epoxy as specified - Supply the roof covers as per drawings				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Install the galvanized steel gutter (No Welded) and all Steel pipe works - Corrugated Metal sheet flashing between walls and shed roof with mastic - All needed items as per the Engineer instructions				
5.3.10	Rehabilitate steel structure, keep existing tiles / sheets and replace damaged ones <i>Rate or Lump Sum in Words:</i>	m ²	20		
5.5	<u>Rehabilitate and Maintain Steel Handrail</u> - Rehabilitate the existing metal handrail and remove the damaged members and replace by new - Reinforce the existing handrail with similar members in addition to the rail and all necessary accessories - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply one layer of epoxy base paint - Apply putty - Apply epoxy paint as per specification - All needed items as per the Engineer instructions				
5.5.2	Wall Mounted <i>Rate or Lump Sum in Words:</i>	m	30		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
6	<u>WOOD AND PLASTICS</u>				
6.1	<u>Joinery Works</u>				
6.1.1	<u>Rehabilitate Existing Kitchen Cupboards</u> Rehabilitate existing cupboards, cabinets, drawers, counters, etc., for the existing kitchen. Works to include replacing damaged elements, accessories, material, labor, equipment, maintaining support, change of the top of counter by new resin counter as specified, etc. As per engineer's approval.				
	- Repair wood elements in accordance with AWI Quality Standards requirements.				
	- Repair framing and sash members with mortise and Tenon joints. Ensure joints and connections are flush, hairline, and weather-tight.				
	- Scarf joints permitted when wood matches in color and grain texture. Form sills and stools in one piece.				
	- Fabricate components with minimum clearances and shim spacing around perimeter of assembly, yet allowing installation and dynamic movement of perimeter seal.				
6.1.1.1	Kitchen Cupboards	m	6		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	17		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <i>Rate or Lump Sum in Words:</i>	№	16		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor				
	Work to include:				
	- Determine the location and remove all loose items around the area				
	- Remove the cracked plaster layer				
	- Remove the pulled out layers				
	- Clean the places with suitable materials				
	- Fill all cracks after widening by (No Suggestions) or approved equal.				
	- Remove loose and other deteriorated materials prior to the new repair.				
	Take special care not to damage the adjacent original materials.				
	Prepare mortar joints for installation of lateral reinforcement where it is required.				
	Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar.				
	Mix mortar with minimal amount of water (potable) prior to use.				
	All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				
	- Clear debris from crack by probing, brushing, and blowing.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<i>Rate or Lump Sum in Words:</i>				

9.2

Tiling Works

Supply and install all tiling items for floors, with the skirting

Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions

Price to include:

- Sand below tiles
- Materials, tiles, mortars
- Labors
- Rubbing
- Filling between tiles
- Filling the skirting
- Remove unsuitable items
- Cleaning the places
- All needed items as per the Engineer instructions

9.2.4

Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors

8.2.4.1

Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas

Work to include:

- Remove all debris as specified

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i> 	LS	1		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u> Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	600		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	300		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	3		
	<i>Rate or Lump Sum in Words:</i>				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.1.4	<u>Mirror for Lavatories</u>				
	Supply and install 6mm glass mirror for lavatories with colored PVC frames as show on drawings and as stated in the specifications with all needed items and accessories				
	The mirror should be placed on 3mm thick plywood from the back				
	All works should be done as the Engineer instructions				
10.1.4.1	Mirror (Dimension as per site conditions and engineer instruction)	№	6		
	<i>Rate or Lump Sum in Words:</i>				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include:				
	- Materials and labors				
	- Colors and shape to be as per engineer instruction				
	- Dimension: 20cm x 10cm	№	6		
	<i>Rate or Lump Sum in Words:</i>				
10.3.2	<u>Lavatory Countertop</u>				
10.3.2.1	Supply and install complete counter for lavatories in toilets where shown on drawings to be of 12mm resin layer as per drawings and the work to include:				
	- All fixing elements				
	- All stainless steel hangers				
	- All necessary heavy duty accessories				
	- Counter edge of 30cm length				
	- All needed items and as instructed by the Engineer	m	6		
	<i>Rate or Lump Sum in Words:</i>				

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

6- WOOD AND PLASTICS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.1	<u>General Mechanical Requirements</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	2		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>SANITARY FIXTURES</u>				
5.6	<u>Self Close Taps on Kids & Students Lavatories</u> Supply and install self close taps to be fixed in the lavatory body as manufactured by Grohe Item No. 36-173 with all required works and drain accessories including trap, to be connected to the new water supply and drain and as instructed by the Engineer				
5.6.1	Self Close Taps <i>Rate or Lump Sum in Words:</i>	№	4		
5.7	<u>Wall Type Self Close Taps on Drinking Basins</u> Supply and install self close taps to be fixed in the drinking basin body as manufactured by Grohe Item No. 36-176 with all required works and drain accessories including trap and to be connected to the new water supply and drain and as instructed by the Engineer				
5.8	<u>Kitchen Sink Accessories</u> Supply and install kitchen sink accessories such as chrome trap, angle valve, mixers as specified				
5.8.1	Kitchen Sink Accessories <i>Rate or Lump Sum in Words:</i>	№	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- GENERAL TECHNICAL REQUIREMENTS

4- FIRE PROTECTION

5- SANITARY FIXTURES

Total Carried to Summary

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i>	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i>	LS	1		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>GENERAL LIGHTING INSTALLATIONS</u>				
3.1	<u>Lighting Fixtures</u> Supply, install and test the lighting fixtures complete with all the necessary wires conduits, boxes and accessories required to provide power to each lighting fitting from LP including the earth wire as per the drawings, specifications and Engineer instructions. The Contractor should submit samples of each lighting fixture for approval.				
3.1.2	Replace existing lighting fixtures with C1 <i>Rate or Lump Sum in Words:</i>	Nº	5		
3.1.5	TYPE A1: Installation of bulb light 30W, 4000k, 80 CRI <i>Rate or Lump Sum in Words:</i>	Nº	5		
3.1.21	Type F3 Similar to existing fixtures in toilets but LED <i>Rate or Lump Sum in Words:</i>	Nº	5		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

3- GENERAL LIGHTING INSTALLATIONS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Broummana Intermediate Public School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

1504 Beit Shabeb Secondary Public School

Bill of Quantities

Table of Contents

Description

Bill № 2: Civil and Architectural Works
Bill № 3: Mechanical Engineering Services
Bill № 4: Electrical Engineering Services
Summary

Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>SITE PREPARATION AND DEMOLITION</u>				
1.1	<u>Demolishing and Removal of Debris</u>				
1.1.1	The works include all types of demolition and the removal of debris and damaged elements such but not limited to, the following: - Existing plastering and concrete items such as foundations, columns, slabs, etc. - Damaged Tiling (floors and walls) - Toilet fixtures and pipes installation of all sizes - Counter tops, bases and sinks - Water tanks of different types - Hollow concrete block walls or concrete walls of all sizes - Demolition of the existing ramps / Stairs and the execution of the given plans and specifications - Including the necessary equipment for the removal of debris and all resulting materials - etc. <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to Collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
3	<u>CONCRETE</u> Reinforced Existing Columns and beams Supply, cast, install and vibrate concrete for columns and beams with bearing capacity 350kg/cm ² for cracked beams, repair rust steel and topping concrete. Remove cracked covers, Clean rust steel, Finishing works with special grout material, all needed refurbishing works as per the Engineer instructions <i>Rate or Lump Sum in Words:</i>	ls	1		
				<u>Carried to collection</u>	

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5	<u>METAL WORKS</u>				
5.2	<u>Rehabilitate and Maintain the Existing Steel Work</u> <u>(Burglar Proof Protection + Opening)</u> Rehabilitate the existing steel windows or doors as per specifications and drawings and the Engineer instruction Work to include: - Remove all damaged members and replace by new ones - Rub completely to secure all parts and use putty to make faces smooth - Apply two layers of anti rust paint - Apply putty - Apply three layers of epoxy external paint - All needed items as per the Engineer instructions				
5.2.1	Rehabilitate existing steel doors <u>Rate or Lump Sum in Words:</u>	Nº	2		

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
5.5	<u>Rehabilitate and Maintain Steel Handrail</u> - Rehabilitate the existing metal handrail and remove the damaged members and replace by new - Reinforce the existing handrail with similar members in addition to the rail and all necessary accessories - Remove existing paint & clean deeply as per SSPC code and ISO 8501 - Apply one layer of epoxy base paint - Apply putty - Apply epoxy paint as per specification All needed items as per the Engineer instructions				
5.5.2	Wall Mounted <i>Rate or Lump Sum in Words:</i>	m	10		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8	<u>DOORS AND WINDOWS</u>				
8.1	<u>Wooden Doors and Windows</u> Supply and install all timber work with all related items The joinery works should be of the first class type and as per specifications and drawings Work to include: - Material and labors - All accessories to be heavy duty (Hinged, Lock, Glass vision, as required, etc.) - The frame for any width (Steel, Wood, etc.) - Paint as follows: - Anti rust layers - Putty + one layer of undercoat - Three layers of epoxy paint - Apply and fix 6mm wired clear glass - View Permitting glass opening where needed - remove the existing timber panels - repair the edges - The Contractor should submit shop drawings - All needed items as the Engineer instructions				
8.1.3	<u>Rehabilitate the Existing Timber Doors</u> As stated in the Preambles of Item 8.1 In addition, rehabilitate the existing timber doors: The minimum amount of existing timber should be removed to allow an effective repair to be formed. Cut out deteriorated area of timber in sloping splice to give optimum area of surface to be glued & fixed. Well-seasoned timber to be used in forming a repair with the line and density of grain (number of growth rings) of new timber matching the existing as closely as possible. For all joinery work, timber with shakes, fissures, warping, heartwood, sapwood or numerous/large knots should be avoided for use in repair. Always work new material to the line of the existing and avoid unnecessary trimming of original timber. Repairs should follow any existing deformations in the line of the wood element (e.g. door or window). Avoid mixing timber species between new and existing in a repair as joint between the two is likely to fail from different rates of expansion and contraction during dry & damp conditions. Where possible, spliced repairs to be designed to ensure moisture is towards the outer face of timber and that moisture does not lay on the repair joint.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	The length of the splice is governed by section of timber and the nature of component being repaired and it should be designed to ensure an effective bond between new and existing sections of timber. Where wood element are to be dismantled as part of the repair process, always mark and record the constituent parts before dismantling. similarly, number of glass panes/quarries before removal. If applicable carefully soften putty or remove wood trim and then remove glass. Use glue, to connect a new outer section of bottom rail to the existing sound timber. Drill and insert new wooden pins or fix using brass screws from inside. Casements or sashes are often in sound condition but the joints have become loose due to the break down of glue and loose wedges. The wedges will often be easily removable and will probably be unsuitable for re-use. It may be for the joints to be pulled together successfully. Attach door frame and shims to perimeter opening to accommodate construction tolerances & all irregularities. Align door plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work. Install operating hardware.				
8.1.3.1.1	Rehabilitate and paint existing single leaf timber doors with related accessories <i>Rate or Lump Sum in Words:</i> 	Nº	11		
8.2	<u>Aluminum Doors and Windows</u> Fabricate, supply and install aluminum works as manufactured by SIDEM 2000 first choice with all necessary accessories as per the drawings and the Engineer instructions, cost to include all doors and windows: - Reveals hard stone 3cm thick, all around for external opening - Apply EPDM around door and windows where necessary - Single glass 6 mm - Double glass 6-12-6 mm (Outer Glass should be Tempered) - Hinges and locks - Joint Filler - Mosquito Screen - Mesh - All items needed as per the Engineer instructions - All as specified and base on an approved shop drawings after exact dimensions				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
8.2.3	<u>Rehabilitation Existing Glazed Aluminum Panels (s)</u> Replacing Broken Glass. Fixing Hardware Issues: Check the functionality of latches, hinges, and other hardware. If any parts are broken, replace them with new ones to ensure the window operates smoothly. After repairs, apply a high-quality sealant around the edges to prevent moisture intrusion. If the paint is peeling or faded, consider repainting the frame with a metal paint formulated for aluminum to enhance durability and appearance.				
8.2.3.1	Rehabilitate existing windows <u>Rate or Lump Sum in Words:</u>	№	10		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9	<u>FINISHES</u>				
9.1	<u>Cement Plaster</u>				
	Supply and install sand cement plaster on concrete and block wall surfaces as specified				
	The plaster layer should be own a base rough layer				
	The plaster works should be on level points and each point should be at 1.5 m from the second only				
	Work to include:				
	- Materials and accessories (galvanized, wire mesh, cover beds, etc.)				
	- Labors				
	- All addition watering				
	- All tools				
	- Plaster thickness more than 2 cm				
	- All needed items as per drawings and the Engineer instructions				
9.1.2	<u>Repair of Existing Plaster (Internal - External) (Cracks, etc.)</u>				
9.1.2.1	Rehabilitate and repair cracked and damaged plaster indoor and outdoor				
	Work to include:				
	- Determine the location and remove all loose items around the area				
	- Remove the cracked plaster layer				
	- Remove the pulled out layers				
	- Clean the places with suitable materials				
	- Fill all cracks after widening by (No Suggestions) or approved equal.				
	- Remove loose and other deteriorated materials prior to the new repair.				
	Take special care not to damage the adjacent original materials.				
	Prepare mortar joints for installation of lateral reinforcement where it is required.				
	Use thin steel bars to clean joints to maximum depth possible. Remove loose mortar.				
	Mix mortar with minimal amount of water (potable) prior to use.				
	All separation cracks between perpendicular walls shall be filled grout to reduce additional movement from wind loads and thermal expansion-contraction.				
	- Clear debris from crack by probing, brushing, and blowing.				

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
	- Force non-shrink mortar mixture into crack as deep as possible with hands, wood and metal probes. - Use as dry a mix as possible. - Use stone bats to fill larger crack voids. - Ensure mortar is forced into smaller/deeper cracks. - Mortar grout will be fluid in order to flow into crack. - Either grout bags or gravity flow shall be used depending on the conditions. - Fil Protect repairs from rapid drying by misting, shading, protecting from dry wind cracks in a series of applications rather than one large application. - Final application shall not be flush with the surface, but shall be one half the width of the crack below the surface. - Remove all tool marks with brush. - Apply the finish rough plaster layer - Install galvanized steel mesh 20 cm width at least - Apply the second smooth plaster layer	LS	1		
	<i>Rate or Lump Sum in Words:</i> 				

9.2

Tiling Works

Supply and install all tiling items for floors, with the skirting

Work to include all materials and labors and the Contractor should use all necessary rods and levels as per the Engineer instructions

Price to include:

- Sand below tiles
- Materials, tiles, mortars
- Labors
- Rubbing
- Filling between tiles
- Filling the skirting
- Remove unsuitable items
- Cleaning the places
- All needed items as per the Engineer instructions

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
9.2.4	<u>Repair existing broken floor tiles and skirting (all types) and reinstall by new, similar to existing for all rooms and corridors</u>				
9.2.4.1	Rehabilitate and repair all damaged and broken tiles, and skirting for any type (marble - ceramic - mosaic - Cement). Remove broken or damaged pieces to be replaced without affecting the adjacent undamaged areas Work to include: - Remove all debris as specified - All materials and labors - Difference tiles (shapes thickness, dimension, pattern) as needed. - Cutting and repair - Grouting - Polish and rubbing - All needed items as per Engineer comments and complete to Engineer approval. <i>Rate or Lump Sum in Words:</i>	LS	1		
9.5	<u>Painting</u>				
9.5.1	<u>Wall and Ceilings Paint Works</u>				
	Wall paint include preparation of the base surfaces to receive the paints and apply the specified layers of putty and paint from the best quality as per specifications and as indicated in drawings The base surfaces should be clean and smooth and free from any pulled out old paints before starting application of the specified primer/undercoat. Apply 2 layers of putty then after smoothening, then 3 layers of the approved paint materials. All works and items should be as per manufacturer recommendation, compatible with each other and as per the Engineer instructions and approval, <i>All paint types must be <u>lead-free</u> and <u>Low VOC</u> (Volatile Organic Compounds)</i>				
9.5.1.2	Super Rubber Paint for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	600		
9.5.1.4	Oil Paints for old walls and ceilings <i>Rate or Lump Sum in Words:</i>	m ²	300		

Carried to collection

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10	<u>SPECIALTIES</u>				
10.1	<u>Bathrooms Accessories</u>				
	- Remove and cart away old damaged fixtures				
	- Supply and install all needed accessories and make good their places and their surroundings				
	- Place all frame, cover joints (stainless steel) anti-corrosion				
	- Install items and their contact with the surfaces				
	- All works should be done as per the Engineer instructions				
10.1.1	<u>Paper Roller Holder</u>				
10.1.1.1	Supply and install paper holder no rust, no stain stainless steel 316 with all accessories and fixation (anti-rust materials) for good quality and at the places shown on drawings				
	All works should be done as the Engineer instructions	Nº	2		
	<i>Rate or Lump Sum in Words:</i>				
10.1.2	<u>Soap Dispenser</u>				
10.1.2.1	Supply and install stainless steel 316 no rust, no stain, soap dispenser wall type fixation (anti-rust materials and accessories) with all needed items				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				
10.1.3	<u>Paper Holder Box</u>				
10.1.3.1	Supply and install paper holder box from stainless steel 316 no rust, no stain, with all needed works and fixation (anti-rust materials and accessories)				
	The box should be from a good manufacturer				
	All works should be done as the Engineer instructions	Nº	4		
	<i>Rate or Lump Sum in Words:</i>				

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 2: Civil and Architectural Works

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
10.2	Classroom Specialties				
10.2.3	<u>Signage</u>				
10.2.3.1	Supply and install sliding panel signs for all rooms high pressure laminate- HPL 1.2 cm thick movable inside a stainless steel rail 316 fixed on walls, letters to be vinyl printed with engraving for special need purpose, works to include: - Materials and labors - Colors and shape to be as per engineer instruction - Dimension: 20cm x 10cm <i>Rate or Lump Sum in Words:</i>	Nº	8		

Carried to collection

Collection

Page №

Amount (US \$)

1-Demolishing and Removal of Debris

3- Concrete

5- METAL WORKS

8- DOORS AND WINDOWS

9- FINISHES

10- SPECIALTIES

Total Carried to Summary

Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>GENERAL TECHNICAL REQUIREMENTS</u>				
1.2	<u>Rehabilitation Works General Requirements</u> Provide all necessary rehabilitation works and make all Mechanical systems in good condition complete including maintenance, cleaning, relocation works, replacing damaged items and equipment, removing and carting away resulting materials and equipment, testing and commissioning, and all other related works to ensure all Mechanical systems are properly working and functional.				
1.2.1	Maintenance and rehabilitation of existing plumbing works, including sanitary fixtures, floor drains, roof drains, manholes, pumps, WC tanks, adding where applicable all necessary valves, flush valves, etc., and all other necessary works. <i>Rate or Lump Sum in Words:</i>	Item	1		

Carried to collection

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

Bill of Quantities
Bill № 3: Mechanical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
4	<u>FIRE PROTECTION</u>				
4.1	<u>Portable Fire Extinguisher</u> Supply and install dry chemical portable fire extinguisher as detailed and specified.				
4.1.2	FE-02 (4.5Kg CO2) <i>Rate or Lump Sum in Words:</i>	Nº	8		

Carried to collection

Collection

<u>Page №</u>	<u>Amount (US \$)</u>
1- GENERAL TECHNICAL REQUIREMENTS	
4- FIRE PROTECTION	
Total Carried to Summary	

Bill № 4: Electrical Engineering Services

Item	Description	Unit	Estimated Quantity	Unit Rate (US \$)	Amount (US \$)
1	<u>BASIC ELECTRICAL REQUIREMENTS</u> The Contractor should revise all the drawings and compare them with the site conditions and redo all the design works with the necessary calculations for all the electrical installations and works. Moreover, the Contractor should submit shop drawings and as-built drawings for the maintenance use in the future. The contractor should provide all the necessary maintenance works for all Electrical systems related to the KG school to ensure its proper works. At the end of the project, the contractor should submit complete As-Built Drawings for all executed works with exact dimensions & sizes for easy maintenance work in the future.				
1.1	<u>Fixing and Repairing</u> Check & repair all the existing cables, wires, socket outlets, lighting fixtures, lighting switches, electric fans, and protect all exposed wiring as per the site conditions, and to the satisfaction of the Engineer. All as per the drawings, specifications and Engineer instructions				
1.1.1	Lighting fixtures <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.2	Wires and cables <i>Rate or Lump Sum in Words:</i> 	LS	1		
1.1.3	Sockets and switches <i>Rate or Lump Sum in Words:</i> 	LS	1		

Carried to collection

Collection

Page №

Amount (US \$)

1- BASIC ELECTRICAL REQUIREMENTS

-

Total Carried to Summary

-

Summary

<u>Description</u>	<u>Amount (US \$)</u>
Bill № 2: Civil and Architectural Works	
Bill № 3: Mechanical Engineering Services	
Bill № 4: Electrical Engineering Services	
 * Total Amount of Works for Beit Shabeb Secondary Public School	
 * Total Amount Carried to General Summary	
.....	
.....	
.....	

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters

General Summary Volume 3-5 (4 of 25 Schools)

اسم المدرسة	School Name	BOQ- Cost Estimate U.S.D	Civil & Architectural U.S.D	Mechanical Services U.S.D	Electrical Services U.S.D
ثانوية بسكنتا الرسمية - 225	225 Baskenta				
المتين الرسمية المتوسطة المختلطة - 232	232 Al Mtein mixed				
برمانا الرسمية المتوسطة المختلطة - 234	234 Bremenna mixed				
ثانوية بيت شباب الرسمية - 1504	1504 Beit Chabab high school				
TOTAL					

Total Amount Carried to Grand Summary

Lebanese Emergency Assistant Project (LEAP)
Rehabilitation of Shelters
Group # 2 - LOT 3
Grand Summary

nr.	Description	BOQ- Cost Estimate U.S.D
	General Requirment	
1	Volume 3 - 1 (5 schools)	
2	Volume 3 - 2 (4 schools)	
3	Volume 3 - 3 (4 schools)	
4	Volume 3 - 4 (4 schools)	
5	Volume 3 - 5 (4 schools)	
	Total	