

State of Palestine  
**Ministry of Education**



## **Finishing Works of Existing Ground Floor for Al-Jaba'a School Extension**

- A- Preambles
- B- Bills of Quantities

**July, 2020**

## ملحق العطاء

- 1- الاعمال المطلوب تنفيذها في المشروع هي فقط الاعمال المدرج لها كميات في البنود ذات العلاقة من جدول الكميات، وتشمل ما يلي: - اعمال تشطيب للدور الأرضي القائم، اعمال عظم وتشطيب لمكرر الدرج المقترح على سطح الدور الأرضي المذكور، والاعمال الخارجية (حسب اللوحة A-012).
- 2- يتم تنفيذ الاعمال حسب المخططات باستثناء الاعمال المنفذة سابقا من قبل الانبيرا. علما انه لا يتم تنفيذ اية اعمال موجودة في المخططات وغير مدرج لها بند في جدول الكميات. وفي حال وجود تعارض بين ما هو مقترح في المخططات وبين الوصف في جدول الكميات يكون التنفيذ حسب جدول الكميات على سبيل المثال لا الحصر: قسارة الاسقف كانت في الأصل ماصة للصوت تم تعديلها في جدول الكميات الى قسارة عادية أي غير ماصة للصوت، دهان (Emulsion) للواجهات الداخلية حيث كان (Aracryl 2000) وتم تعديله في جدول الكميات الى (Emulsion)، نوعية الدهان الزيتي حيث كان (Matte) وتم تعديله في جدول الكميات الى (glossy)، تم ادراج كمية لدهان (polycide) الخاص بالاسقف حيث كان في الأصل مقترح قسارة ماصة للصوت خاصة بالاسقف لا يتم دهانها، تم اعتماد طوب 20سم لتنفيذ واجهات التصوينات للسطح، تم الغاء تنفيذ (Extruded Polystyrene Boards 1.5mm thick and 50cm width for slabs and floors) وذلك بإلغاء الكمية الخاصة بها في جدول الكميات.
- 3- على المقاول عمل مخططات تنفيذية تتلاءم وجدول الكميات حسب اللزوم للتخصصات الهندسية: ميكانيك، كهرباء، ... وعلى نفقته الخاصة.
- 4- عدم تنفيذ كاسرات شمس على ممر المدرسة.
- 5- عدم تنفيذ وتوريد وتركيب الباب (D10) المقترح في الممر بين كل من البناء القائم والبناء المقترح، والاكتفاء بتنفيذ الفتحة المعمارية فقط.
- 6- يتم تنفيذ باب (D3) الخاص بالغرفة الصفية المقترحة في الدور الأرضي خشب بدلا من الحديد وذلك حسب جدول الكميات (البند (6.01-d)).
- 7- سعر العطاء يشمل ثمن جميع القطع وتنفيذ جميع الاعمال اللازمة لتصريف المشربيات على المناطق الخضراء بدلا من تصريفها على خط المجاري.
- 8- سعر البند رقم (1.2) والخاص بأعمال تسوية الموقع والهدم يشمل إزالة جزء من واجهات الطوب الخارجية للمبنى لتتلاءم مع المخططات المعمارية للواجهات من حيث فتحات الشبابتك والابواب بحيث تكون مناسبة اعلى الفتحات مع مناسيب اسفل الجسور الساقطة القائمة مع المحافظة على ارتفاع الفتحات حسب المخططات المعمارية، وعمل قموط افقية من الخرسانة المسلحة فقط اسفل فتحات الشبابتك ليتم ضبط ارتفاع فتحات الشبابتك المطلوبة في المخططات، والسعر يشمل أيضا ترحيل ناتج الهدم الى المكبات المرخصة بالتنسيق مع الجهات المختصة وكذلك يشمل أيضا تصليح أي خلل ينتج عن اعمال الهدم في أي جزء من المبنى.
- 9- يتم دهان المنطقة العلوية من الواجهات الداخلية باستخدام دهان "الأملشن" بدلا من "أراكريل 2000".
- 10- أسعار بنود الأبواب تشمل توريد وتركيب أبواب مقاومة للحريق فقط لجميع الأبواب المقترحة في بيت الدرج في كل من الدور الأرضي والسطح.

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## **PRICING PREAMBLES**

### **1. Introduction:**

These Pricing Preambles set out the basis on which the Bills of quantities have been prepared. Notwithstanding the provisions of these pricing preambles, the Contractor is reminded that the Tender Drawings and the Specifications form part of the Tender Documents and as such mutually refer to the intent of the Tender Documents.

Where a discrepancy occurs it is deemed that the Contractor has allowed for the intent of the Tender Documents unless this is clarified specifically at the time of Tender.

### **2. Bills of Quantities:**

The Bills of Quantities define the items which are measurable and the units of measurement represent the entire work to be carried out in accordance with the Drawings and the Specifications. The measurement items in the Bills of Quantities are to be accepted as the full interpretation of the requirement of the Drawings and Specifications. "Descriptions" are given in outline only, the Contractor is to refer to the Specifications and Drawings and make himself familiar with the requirements.

No additional measured items will be allowed to interpret further the information so given. Other requirements which are not measurable in terms of quantity of labor and materials (e.g.. specialist supervision, shop drawings, bar bending schedules, as built drawings, samples, tests, mock-ups, maintenance, materials, guarantees and the like) and are not given as specific items in the Bills, are to be included in the prices of the measured items. The method of measurement for the Contract is thus established by the measured items and units of the measurement in the Bills of Quantities. No other measurement method shall be used to measure the executed works.

The same method of measurement and no other will be used in re-measuring the executed work.

### **3. Pricing:**

The Contractor shall satisfy himself as to the meaning of every item in the Bills of Quantities and the rates and prices inserted by him shall cover all Works required by the Contract Documents. All costs in connection with the proper and successful construction, completion and maintenance of the Works including, but not limited to, completion of all temporary works, furnishing all materials, equipment, supply and appurtenance, providing all construction Plants, equipment, tools, sampling, testing, profits, overheads, charges, provision of guarantees, performing all necessary labour and supervision and other cost of whatsoever nature necessary to fully complete the Works, shall be included in the unit and lump sum prices called for in the bills of Quantities. All Works not specifically set fourth as a pay item in the Bills of Quantities shall be considered as subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the Priced Tender. Prices shall be deemed to include for all straight ranking and circular cutting and consequent waste. All prices shall include all fees and levies.

### **4. Quantities:**

All estimated quantities stipulated in the Bills of Quantities or other Tender Documents are approximate and are to be used only;

1. as a basis for estimating the probable cost of the Work and
2. for the purpose of comparing the bids submitted for the Work.

The actual amount of work done under each unit price items may differ from the estimated quantities. The basis of payment for work will be the actual quantities. The Contractor agrees that he will make no claim for damages, anticipated profits or otherwise on account of any difference between the amounts of work actually performed and the estimated amount.

### **5. Items in Bills of Quantities**

Quantities given in the Bills are based upon measurement from the Contract Drawings and Specifications.

## 6. Measurement

Metric measurements and weights have been used throughout the Bills of Quantities. Work is measured net as fixed in position and each measurement is taken to the nearest centimeter. Fractions of a centimeter less than half are disregarded and all other fractions are regarded as whole centimeters. This principle shall not apply to dimensions stated in item descriptions. Where minimum deductions of voids are dealt with they refer only to openings or voids which are wholly within the boundaries of measured areas. Openings or voids which are at the boundaries of measured areas are always the subject of deduction irrespective of size.

### 7. Descriptions

The order of stating dimensions in descriptions is generally in the sequence of Length, Width and Height. Unless otherwise stated in the Bills of Quantities or herein, all measured items are deemed to include supply and fix in place complete, thus all measured items shall include all incidentals to complete the work in a proper manner such as but not limited to the following:

1. Labor.
2. Materials, including all costs in connection herewith (e.g. conveyance, delivery, unloading, storing, handling, lowering into position and the like).
3. Customs and import duties as applicable, insurance, levies and the like.
4. All shop treatment of materials (e.g. Preservation of timbers, galvanizing, priming, chrome plating, stove enameling, anodizing and the like, pipe wrapping, coatings, etc.).
5. Fitting and fixing materials in position including all necessary fixing devices and materials.
6. Commissioning & use of plant.
7. Disposal of waste of material.
8. Square, raking or curved cutting.
9. Work in volumes, areas and length of any size, no separate items being measured for isolated work or work in small quantities, short lengths, narrow widths, etc.
10. Establishment charges, on-costs, overhead charges profits and taxes excluding the Value Added Tax (VAT).

Junction between straight, raking and curved work are in all cases included with the work in which they occur. Certain items are referred directly to detail drawings to eliminate detailed description. All such reference includes all work to execute the detail.

Where Specification clauses and / or detail drawing numbers are referred to in a description such information is provided for convenience only and the Contractor is to note that all other relevant Specification requirements and relevant drawings and details are to be taken into account.

### 8. Abbreviations.

The following abbreviations are used throughout the Bills of Quantities

mm	Millimeter
cm	Centimeter
M.R	Linear meter
M.S	Square meter
M.C	Cubic Meter
L.S.	Lump Sum
No	Number
Kg.	Kilogram
Ref.	Reference

## 9. Definitions

The terms “ include ”, “ is included “, “ including “, and similar, are used herein to indicate that the items are not specifically mentioned in the descriptions but the costs of which are to be included in the measured items.

Such references are not comprehensive and are for convenience only and the Contractor is to note that all relevant requirements of the Specifications and Drawings are to be taken into account in the measured items.

The word " Site" used in the Bills of Quantities means the whole of the areas within the Contract limit lies for this Contract as shown on the Contract Drawings. With reference to the clearance of debris, rubbish, trash, excavated material and the like the definition is extended to include the whole of the site.

The word “ ditto” used in the Bills of Quantities means the repetition of all or part of the preceding item as applicable to complete the sense of the item.

The word “ extra “ used in the Bills of Quantities means the additional cost of the item of work in question over and above the cost of work already measured.

## 10. Protection.

All rates in the Bills of Quantities shall include for protection as required and deemed necessary.

## 11. Shop Drawings / coordinated drawings.

All rates shall include where required for producing shop drawings & coordinated drawings and supporting calculations as requested by the Engineer.

## 12. As Built Drawings.

All rates shall include for producing one transparency and four (4) copies of all as-built drawings and supporting calculations to the approval of the Engineer.

## 13. Cutting and Patching.

The Contractor shall be responsible for all cutting, patching and making good for all trades for all work and his prices will be deemed to include for all such cutting and patching and making good.

1. Setting out of the buildings, yards, car parks, guardroom, retaining walls & boundaries are to be done by licensed authorized surveyor at the contractor's expense and responsibility.
2. Rates and Prices shall be clearly spelled out alphabetically and numerically.
3. No item is to be measured twice under separate headings.

## 14. Excavation:

A) Measurements:

1. Excavation for foundation, trenches, etc. shall be for the actual dimensions shown on Drawings, and to be measured from Natural Ground level or Reduced Level (which is lower) , i.e.
  - a) From Reduced Level when R.L. is lower than N.G.L.
  - b) From N.G.L. when N.G.L. is lower than the Reduced Level.
2. Allowance for working space is not applicable; The excavation unit rate shall include any required working space.
3. Excavation for foundation of retaining walls is to be measured from Lower Reduced level, or from lower Natural Ground level (as stated in Item 1.)
4. Trench excavation and back filling for drain and water pipes and electricity cables and excavating for manholes and percolation pits is included in the items of pipe work, cabling, manholes and percolation pits and will not be measured separately.
5. Price to include removal of site obstacles, rocks, trees ....etc. and removal of all debris from site. Price also to include maintaining all trees that are not obstructing the buildings, boundary walls, courts and roads.
6. Each layer of back filling should be tested separately at the contractor's expense then the next layer can be applied.
7. Co- ordination with all local authorities to facilitate the works, removal of obstacles or for diversion of roads, services, etc. ....is the contractor's responsibility and is included in his rate.

8. Excavation shall be measured by cubic volume. The volume shall be calculated by taking the area of the slab, footing, base and the like and multiplying by the vertical depth. No allowance will be made for increase in bulk after excavation. No allowance will be made for working space.

9. Hard-core beds shall be measured superficially, over consolidated depth including finishing, to a maximum depth of 15cm or as stated clearly in the Bills of Quantities. Filling required below this 15cm. depth is intended to be of suitable materials from the excavations and no extra will be paid for hard-core used in lieu thereof.

**(B) Rates**

1. Rates for excavation shall include for:
  - a) Removal of all site obstacles and clearing the site of all rubbish, debris, shrubs, trees, bushes, plants, fence and the like including grubbing up roots and foundations prior to the commencement of the Works.
  - b) Excavation to any depth.
  - c) Excavation in any material whatsoever found, including rock.
  - d) Excavating circular on plan.
  - e) Allowance for working space.
  - f) Excavating below water-table level.
  - g) Keeping excavations clear of water.
  - h) Leveling, ramming, trimming and grading bottoms of excavations in rock.
  - i) Planking and strutting.
  - j) Selecting Suitable material from the excavations and returning, filling watering and ramming in layers around foundations and to underside of hard-core beds including all multiple handling and transport about the site
  
2. Rates for hard-core beds shall include for:
  - (a) Trimming and leveling ground under.
  - (b) Watering, ramming and consolidation.
  - (c) Loss of bulk in consolidation.
  - (d) Finishing top surface to receive concrete, paving and the like.

**15. Concrete Work**

**(a) Measurements**

1. Concrete works shall be measured net as per Drawings or as specified by the Engineer.
2. Each item of concrete works shall be measured in the unit described in the Bills of Quantities.
3. All recesses, openings or any other space not actually filled with concrete shall be deducted in calculating the volume or the area for payment.
4. Any extra concrete which was cast due to the Contractor's negligence and is not marked specifically on the Drawings shall not be measured for payment.
5. Suspended concrete slabs shall be measured superficially.
6. Drop beams are included in the measurement of the slab.
7. The height of columns shall be measured excluding the depth of beams, slabs and the like.
8. Prices for reinforced concrete elements shall include reinforcement.
9. Prices for ribbed slabs shall include reinforcement and hollow blocks and no separate item for blocks will be provided.

**(B) Rates**

Rates for concrete work shall include for:

1. Labor
2. Supply and storage of cement,
3. Supply and storage of aggregates and water,
4. Mixing and placing in position,
5. Packing and tamping around reinforcement,
6. Vibrating, Vibrating, compacting of concrete, additives and curing,
7. Grading, tamping and trowelling,

8. Installing of formwork, shutters and supports and dismantling the same.
9. Supplying reinforcement and storing on site including cutting, bending and fixing in position and providing all tying wire, spacers, shop drawings and testing,
10. Finish to exposed faces,
11. Work of any cross-sectional area,
12. Work at any height,
13. Curved work,
14. Forming mortices and grouting in,
15. Forming grooves, throats, holes, chases, rebates, chamfers, splayed angles, mouldings and the like,
16. Casting in or cutting and pinning plugs, holdfasts, brackets, and the like.
17. Hoisting to any height and bedding, jointing and pointing,
18. Wall ties.
19. Hollow blocks for ribbed slabs including supply, storage, laying and arranging.
20. Protective coating of hot bitumen in not less than two coats and not less than 2 mm in thickness to surfaces of reinforced concrete occurring under the ground level including necessary undercoating.
21. Taking samples, performing any laboratory tests that may be required by the Engineer and providing certificates of test results.

## **16. Blockwork**

### **(A) Measurements**

1. Block work shall be measured net in squared meters. No deductions will be made for voids or openings of less
2. Thickness given refer to the thickness shown on the drawings and no allowance will be made for any additional thickness due to uneven or bad workmanship.
3. For the main building, prices of the reinforced concrete lintels, sills and beams over the length of the block walls are included in the rates of the block works
4. For toilet block, prices of the reinforced concrete lintels, sills and beams over the length of the block walls are included in the rates of the block works.

### **B) Rates**

Rates for block work shall include for:

1. Labour
2. Supply and storage of cement,
3. Supply and storage of aggregates, water and other materials,
4. Manufacture, curing and supply of blocks,
5. Laying blocks including horizontal and vertical mortar joints,
6. Using closed ends blocks as required by the Engineer at all ends, openings, services locations etc.
7. Work of all classifications in any location,
8. Finishing fair and pointing to exposed faces,
9. Rough and fair cutting,
10. Cutting or leaving holes, chases, grooves, mortices, sinkings and the like and making good, -
11. Cutting and pinning or building in ends of lintels, steps, timbers, rails, brackets, steel sections and the like, and making good,
12. Concrete filling and reinforcing rods to cavities at quoins and door and window openings,
13. Cutting and bonding at angles, intersections and the like.
14. Reinforced concrete lintels of same thickness as block and 20 cm. high all over the length of the wall over openings or where no openings are provided in the block partition lintel of 20cm thick should be provided at midst of the height of the block partition over the entire length. Including scaffolding and reinforcement of  $\phi$  12 and stirrups of 1 $\phi$  8 every 20 cm.

## **17. Stonework**

### **(1st) Measurements**

1. Stone works shall be measured net in squared meters.
2. Thickness given refers to the nominal thickness or the thickness shown on the Drawing.
3. Rubble stone walls shall be measured by volume.
4. Stone facing for drop beams of the suspended slabs will be measured same as the item of stone walls unless otherwise specified in the Bills of quantities.



**(B) Rates**

Rates for stonework shall include for:

1. Labour
2. Supply and storage of cement,
3. Supply and storage of aggregates, water and other materials,
4. Shaping of the apparent faces of stones as per Drawings and the Instructions of the Engineer.
5. All special pieces such as corners, jambs, pieces around windows and doors and the like.
6. Fabricated wire mesh, dowels, hangers and all tying and fixing tools for stone cladding works.
7. Laying stones including coursing, bonding, and all mortar joints.
8. Works of all classifications in any location.
9. Face or surface finishing including all openings, returns, reveals and the like.
10. Rough and fair cutting,
11. Tying to backing material.
12. Concrete and block backing where included with stonework item.
13. Cutting or leaving holes, chases, grooves, mortises, sinking and the like, and making good
14. Cutting and pinning or building in ends of lintels, steps, timbers, rails, brackets, steel sections and the like, and making good.
15. Pointing including cleaning of stones, scaffolding and dismantling the same and all incidentals.
16. Lintels and other reinforced concrete elements including reinforcement except those elements specified in separate items in the Bills of Quantities.

**18. Plastering**

**A) Measurements:**

Plastering to all areas shall be measured net in squared meters including openings which are less than 0.25 squared meter in area. The plaster doors and windows sills shall not be subjected to measurement, these are deemed to be included in the plastering of the relevant facades, ceiling and walls.

**B) Rates**

The price shall include for running rules:

1. Supply and storage of cement,
2. Supply and storage of aggregates and water,
3. Clearing of walls and other elements to be plastered and spraying with water,
4. Installation of scaffolding and dismantling the same,
5. Mixing and applying plastering to any surface, location, area, width and height,
6. Plastering to jambs and reveals of openings, side of columns, window sills,...etc.
  
7. All narrow widths for taking out joints on block walls or backing concrete face for key, for making good to frames around pipes and other fittings,
8. Making good around steel sections, pipes, tubes, bars, brackets, outlets and the like,
9. Curing,
10. Expanded metal lath, corner mesh, angle beads at all corners and plaster stops at openings, edges, expansion joints, sills,...etc. and where ever needed and according to the instructions of the Engineer,
11. Labour and all incidentals required as specified and/or detailed in Specifications and Drawings.

**19. Carpentry And Joinery Work**

**(A) Measurements**

1. Sizes of timber given in the Bills of Quantities are finished sizes and shall be as per Drawings,
2. Sizes of doors and other items mentioned in the Bills of Quantities shall allow for tolerance to suit the structural openings as per Drawings,
3. Wooden doors and pair of doors shall be measured in number or in squared meters for the structural opening or as mentioned otherwise in the Bills of Quantities,
  
4. Blackboards shall be measured in number or in squared meters as mentioned in the Bills of Quantities.
5. Wall protection wooden rails shall be measured in linear meter,

6. Cloth hangers and hanger wooden base shall be measured in number or in linear meter as stated in the Bills of Quantities.

**(B) Rates**

Rates for carpentry and joinery work shall include for:

1. Labour,
2. Shop drawings,
3. Any length of timber,
4. Joints in the running length of timber,
5. Raking, curved or circular work and labours,
6. Frames, architrave, chalk holders and other holders and kick plates,
7. Allowance for plastering and tiling and the like,
8. Forming holes, angles, ends, mitres, rebates, splayed edges, grooves, chamfers, scribed edges, rounded edges, rounded corners, notches, sinkings, fitted ends, far ends and the like,
9. Cutting and fitting around obstructions,
10. Forming mouldings,
11. Nosing, bed moulds, margins, and the like,
12. Facing and edging to blackboard,
13. Bedding and painting,
14. Grounds, blockings and backings,
15. Plugging concrete, block work, and stonework, and making good,
16. Ironmongery including cylindrical locks, handles, stoppers, screws, temporarily fixing, re-fixing, oiling and adjusting,
17. Providing two keys for each lock including tagging,
18. Hardware including nails, screws, dowels, cramps and the like,
19. Steel legs, brackets, bearers and other supports including painting,
20. Glass and glazing including cutting to size and putty,
21. Fly screening including cutting to size,
22. Preparing surfaces to receive finishes,
23. Painting, varnishing, polishing, oiling, and the like, to any area or width in any location including work in multi colors and cutting in edges.

**20. Metal ( Steel and Aluminum ) Works**

**(A) Measurements**

Metal works shall be measured in number or in squared meters as stated in the Bills of Quantities.

**(B) Rates**

Rates for metalwork shall include for:

1. Labour,
2. Preparing shop drawings,
3. Cutting,
4. Assembling,
5. Welding grinding and joining,
6. Drilling, countersinking, screwing, bolting and riveting,
7. Bedding and painting,
8. Frames, including galvanized steel frames for Aluminum windows and architrave,
9. Lugs, plugs, holdfasts and the like,
10. Gaskets, sashes, double weather strips and external and internal silicon filling around frames,
11. Ironmongery including locks, stoppers, handles, temporarily fixing, re-fixing, oiling and adjusting,
12. Providing two keys for each lock and padlock including tagging,
13. Hardware including cramps, dowels and the like,
14. Glass and glazing including cutting to size, putty and rubber,
15. Preparing surfaces for and painting one coat of primer before fixing,
16. Sealing,
17. Painting to any area or width in any location including work in multi colors and cutting in edges.
18. All other accessories and incidentals required to execute the work.

**21. Tiling, Flooring And Marble:**

**(A) Measurements**

1. All tiling works (terrazzo, ceramics, marble) shall be measured net in squared meters and the rate shall include skirting. Skirting will not be included in the measurements..
2. Marble works for steps and treads of stairs shall be measured in linear meter. The tread and the riser shall be measured as a one unit, the rate shall include skirting. Skirting will not be included in the measurements..
3. Marble works for sills for windows and other openings shall be measured in linear meter or in squared meter as stated in the Bills of Quantities,
4. Marble works for urinals shall be measured in number,
5. Parapet coping shall be measured in linear meter,
6. Marble works for stair flight's skirting shall be included in (2) above.

**(B) Rates**

(1) Rates for finishes shall include for:

1. Supply and storage of cement,
2. Supply and storage of aggregates and water,
3. Mixing,
4. Hacking concrete, applying cement slurry or raking out joints of blockwork to form key,
5. Application to any surface,
6. Any width or area,
7. Any location and any height,
8. Beds, bedding and backing,
9. Finish to surface,
10. Finish to edges and arises,
11. Grouting and pointing,
12. Making good around steel sections, pipes, tubes, bars, brackets, outlets and the like,
13. Finish to falls, cross falls and currents,
14. Forming bays including joints,
15. Treating surfaces with dust proofer, hardener and the like,
16. Ends, intersections, angles, ramps, and the like on skirting,
17. Forming rounded top edges and coves at bottom on skirting,
18. Curing.

(2) Rates for floor tiling: In addition to the related items stated above the rates for floor tiling shall also include:

1. Supply, store and cure of tiles,
2. Bedding and loining in cement and sand mortar
3. Sand or concrete filling as required by the Specifications,
4. Pointing and grouting with white cement,
5. Forming holes,
6. Forming grooves.
7. On site mechanical grinding and polishing.

(3) Rates for wall tiling: In addition to the related items stated above the rates for wall tiling shall also include:

1. Supply, store and cure of tiles
2. Plastering,
3. Cutting and patching around the services and other openings,
4. Mortar,
5. Purpose made tiles including rounded edge tiles and bullnosed tiles.
6. Grouting, grinding, and cleaning.

## 22. Roof Finishes :

### (A) Measurements

1. All finishes shall be measured superficially net unless otherwise stated clearly.
2. All finishes, except triangular shaped fillets and cement and sand lining to gutters, shall be measured superficially.
3. Rates for the triangular shaped fillets, cement and sand lining to gutters shall be included in the rate of the finished work.

### (B) Rates

(1) Rates for cement and sand work shall include for :

1. Supply and storage of cement.
2. Supply and storage of aggregates and water,
3. Mixing,
4. Hacking concrete, applying cement slurry or raking out joints of block work to form key,

Application to any surface,

1. Any width or area,
2. Finish to surface,
3. Finish to falls, cross falls and currents,
4. Forming bays including joints,
5. Finish to edges and arises,
6. Making good around steel sections, pipes, tubes, bars, brackets, outlets, and the like,
7. Ends, intersections, ramps, and the like, on fillets,

(2) Rates for waterproofing shall include for :

1. Preparation of surface,
2. Any area or width,
3. Cutting in edges.
4. Over laps, priming and treatment at the corners and floor drains.
5. Dressing over parapets and stub columns including forming groove to receive edge of plasticised bitumen membrane and sealing with elastic sealer.

(3) Rates for roof sheets shall include for :

1. Side and end laps, Fittings including bolts, hook bolts, screws and washers,
2. Sheets of any width or length.

## 23. Plumbing Work :

### (A) Measurements

1. All plumbing work, except rainwater pipes and water supply pipe work in water points, shall be measured by number.
2. Rainwater pipes shall be measured run over fittings.
3. Pipe work in frames to shading sheds shall be measured run over fittings.
4. Water supply pipe works, water distribution pipe works shall be measured each as lump sum.

### (B) Rates

(1) Rates generally shall include for :

1. Shop drawings,
2. Cutting and forming all chases, recesses, holes, and the like,
3. Pipe sleeves,
4. Building of concrete and/or brick ducts in floors, walls ...etc.,
5. Excavation, forming of trenches for services, concreting, bedding and back filling and ramming after laying,
6. Fixing brackets, clips, holder bats, hangers, and the like,
7. Temporary and final fixing,
8. Nails, screws, bolts, nuts, washers, holes, plugs, sleeves and the like,

9. Building in or cutting and pinning,
10. Testing and drawings,
11. Painting,
12. All work of other trades in connection with plumbing work including all making good.

(2) Rates for building of manholes and pits shall include excavation, concrete, benching, plastering, backfilling and cover as per Drawings and Specifications,

(3) Rates for sanitary fittings, isolated taps and gullies shall also include for :

1. All pipe work in connection therewith and connections thereto including connection to the nearest manhole or gully and to the cold water storage tank.

(4) Rates for pipe work including pipe work in frames to shading sheds shall include for :

1. Joints in the running length,
2. Nipples, connections, sockets, ferrules, couplings, backnuts, unions, and the like,
3. Bends, elbows, tees, reducers, access doors, cleaning eyes, blank caps, stop valves, and the like,
4. Welded joints and connections including grinding,
5. Lagging and wrapping,
6. Excavation, bedding and backfilling.

#### **24. Electrical Work:**

##### **(A) Measurements**

1. All electrical work shall be measured by number, unless other wise stated.

##### **(B) Rates**

(1) Rates generally shall include for :

1. Shop Drawings
2. Cutting or forming all chases, recesses, holes, and the like,
3. Conduit sleeves,
4. Fixing brackets, clips, holderbats, hangers and the like,
5. Temporary and final fixing,
6. Excavation for and lying of cable carrying pipes, bedding, concreting, backfilling and compacting,
7. Building of manholes, pits, etc.,
8. Building of concrete and/or brick ducts,
9. Nails, screws, bolts, nuts, washers, holes, plugs, and the like,
10. Building in or cutting and pinning,
11. Testing and drawings,
12. Painting,
13. Excavation, forming of trenches, bedding, backfilling and compacting,
14. All work of other trades in connection with electrical work including all making good.

(2) Rates for fittings, switches, and fuse boards shall include for :

1. Conduit and wiring to and between fittings, switches, and fuse boards (except connections to supply company's main) including all fittings, boxes, connectors and the like and making connections,
2. Lamps, bulbs, tubes and the like,
3. Plates and covers.

(3) The rate for the connection to the supply company's main shall include for:

1. All the supply company's charges for making the connection to the main,
2. Wiring or cabling between the supply company's main and the distribution board,
3. Underground conduit and junction boxes including excavation, bedding and backfilling,
4. Poles including insulators.

**25. Glazing Work:**

**(A) Measurements**

1. Glass and glazing work is included within the items in which the glass is fixed and will not be measured separately.

**(B) Rates**

Rates for glass and glazing work shall include for:

1. Any size, shape and area,
2. Glazing to wood or metal,
3. Bedding edges,
4. Labours to edges,
5. Drilling holes and grinding

**26. Paintings and Decorating:**

**(A) Measurements**

1. Painting and decorating to walls, ceilings and the like shall be measured net in squared meters,  
2. Painting and decorating to all other surfaces, inter alia, The doors and windows sills shall not be subjected to measurement as these are deemed to be included in the painting rates of the relevant facades, ceiling and walls.

**(B) Rates**

Rates for painting and decorating work shall include for:

1. Preparation of surface including puttying, sealing and priming,
2. Any area or width,
3. Any location,
4. Work in multi colors,
5. Cutting in edges,

**27. Asphalt Works**

**A) Measurement:**

1. Base course works shall be measured net in squared meter as specified in the Bills of Quantities in case of base course works are not included in the asphalt works.  
2. Asphalt works shall be measured net in squared meter.

**B) Rates:**

Rates for base course and asphalt works shall include for:

1. Labour,
2. Supply and storage of base course materials,
3. Spreading, leveling, watering and compacting the base course to receive asphalt,
4. Supply and apply asphalt concrete,
5. Spreading by using Finisher,
6. Compacting,
7. Trimming, cutting and making good around edges, openings, corners and trenches.

**28) Curbstone Works**

**A) Measurements:**

Curbstone works shall be measured in linear meter.

**B) Rates:**

1. Labour.
2. Supply and storage of aggregates. Cement and water.
3. Supply and storage of curbstone.
4. Excavation in all kinds of soil including rocks, concrete and asphalt.
5. Supply and cast of blinding concrete as per Specifications.
6. Struts.
7. Laying curbstone including mortar.
8. Backfilling, leveling, watering and compacting.
9. Pointing and grouting.
10. Lowering curbs as entrance and ramps and where requested by the Engineer.

**29- Demolition And Alterations:**

**A) Measurements**

1. Unless otherwise stated, old materials shall be understood to become the property of the contractor and shall be cleared away.
2. Removing individual fittings, fixtures, engineering installations or the like from an existing structure shall be given as an item, stating the size, or enumerated.
3. Those required to be set aside for reaffixing shall be so described.
4. Removing finishings or coverings to existing structures shall be given as Items, indicating the quantity, or in square meters. Stating the nature of the finishing or coverings.
5. Demolishing individual structure, or part thereof, shall be given as an item, stating the dimensions. Alternatively, demolishing all structures on site may be given one item.
6. Cutting opening in existing structures and alterations to existing structures shall be given either as an item or a number. Stating the size of the opening and the type and thickness of the existing structure.
7. Making good all work damaged shall be understood to be included. The provision of new lintels shall be included in the description of such work. The provision of temporary screens and coverings to protect the existing structure shall be understood to be included in the demolition and alteration items.
8. Shoring incidental to demolitions and alterations, together with clearing away and making good all work damaged shall be understood to be included. Shoring, other than that incidental to demolitions and alterations. Shall be given as an item stating the location; clearing away and making good all work damaged shall be understood to be included.

**B) Rates**

Rates shall include for:

1. Labor, materials and plant.
2. Temporary propping or shoring incidental to the Work.
3. Protection of adjacent buildings.
4. Temporary screens and protection of remaining finishings and structures.
5. Clearing all debris from site.
6. Making good finishes and structures.
7. Disposal of old materials by Contractor unless otherwise stated in the description.
8. Removal of old materials to MEHE store where these are to be retained by the MEHE.

**EXCAVATION, BACK FILLING AND SITE WORKS.**

Excavation.

General.

1. Excavation for foundation, trenches. Etc. shall be the actual dimensions shown on Drawings including blinding area, and to be measured from Natural Ground Level or Reduced Level (which is lower), i.e.
  - a. From Reduced Level when R. L. is lower than N. G. L.
  - b. From N. G. L. when N. G. L. is lower than the Reduced Level.
2. Allowance for working space is not applicable, unless it is clearly specified in the Special Conditions.
3. Excavation for foundation of retaining walls is to be measured from Lower Reduced level, or from lower Natural Ground level (as stated in Item 1 above.)
4. Price to include removal of site obstacles, rocks, trees and all debris from site, including any necessary rerouting of infrastructure works, such as piping, conduits, etc. Price also to include maintaining all trees that are not obstructing the buildings, boundary walls, courts and roads.
5. Each layer of back filling shall be tested separately, on the contractor's expense, prior to applying the next layer.
6. Co-ordination with all local authorities to facilitate the works, removal of obstacles or for diversion of roads, services, etc. is the contractor's responsibility and are deemed to be included in his rates.
7. Excavated soil shall be classified and retained, to back fill with suitable fill material and to place agricultural soil as where needed as shown in the drawings and as instructed by the Engineer. The extra and unsuitable soil shall be removed, on the contractor's expense with no extra cost.
  
8. Prior to commencement of site leveling or any excavation, the Contractor shall obtain Engineer's written approval on the contour grid of 5m x5m map, checked jointly by the contractor and the Engineer, the excavation profiles and sections showing all levels and dimensions, and the calculations of excavation quantities.
9. Excavation shall be in Cubic Volume, the net measurements of the excavated elements as shown in the drawings, no allowance shall be made for increase in bulk after excavation.
10. Hard Core beds shall be of not less than 15 cm. thick. And measured in Meter Square, (the net measurement of the finished surface). No extra rate shall be paid for Leveling, ramming and filling of voids under the hard core.
11. Rate of Excavation shall include: -
  - Excavation to any depth, in any shape, in any type of soil, below water table level and keeping excavation free of water.
  - Leveling, ramming, trimming and grading excavation bottoms.
  - Planking and strutting.
  - Cost of lab. Tests of works and materials.



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Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
<b>1</b>	<b>Excavation, Back filling and Site Works</b>				
1.2	<p>Site Leveling to reduced level (Excavation and/or make up of levels for all Site including External Works). Cut in any kind of soil, concrete, or asphalt; to the required Levels (reduced levels as required on drawings).</p> <p>Price to include back filling with excavated suitable soil, or imported approved materials if needed, removal of extra soil, debris, and organic materials to the approved sites specified by authorities. Back filling material shall be applied on layers, 200 mm thick, watered and compacted to min 95% according to modified AASHTO Density Test T-80. Price also includes preparation of agricultural areas according to the levels in the general site layout plan. Price to include removal of any construction elements not needed in the site or filling cavities and wells with suitable materials. Price also includes demolition the existing block walls needed to make openings (windows, doors, openings, ... etc), existing block walls that were used to close external walls between columns for canteen shaded area (gathering yard), removing the fence that is used above the roof, and removing the steel fence door that is used for canteen door.</p>	L.S	1		
<b>1</b>	<b>TOTAL CARRIED TO SUMMARY.</b>				

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	<b>SKELETON WORKS.</b>				
2	<b>CONCRETE WORKS.</b>				
	Preamble. Rates of Concrete Works shall include:-				
	1. All form works and shuttering in any form, shape and size. Making chamfered and curved edges, allowing for and making grooves and sleeves and the like; removal of forms and cleaning of all exposed tie wires and rods; making good the harmed surfaces and edges and all surface finishing.				
	2. Supplying, Casting, vibrating and curing as per specifications.				
	3. Approved additives and admixtures.				
	4. Incurred costs on Concrete Mix Designs, Sample taking, testing and providing test results certificates, storing and saving of samples, and preparation of bar bending schedules and workshops.				
	5. Supplying reinforcement of any grade, size and length as detailed in the drawings, storing on site including cutting, bending and fixing in position and providing all tying wires, spacers, shop drawings, testing and bar bending schedules				
	6. Painting of exposed surfaces of underground reinforced concrete elements with two coats of hot bituminous paint or special cold bitumen (75/25), the strokes of each layer to be opposite to each other (for the buried parts)..				
	7. Steel bars used for alignment and fixing of reinforcement works, and extra steel added to assure proper detailing and safety.				
	8. Prices for reinforced concrete elements shall include reinforcement. The minimum cement contents for concrete should be: a-B200 ___ 250kg/m3 b-B250 ___ 300kg/m3 c-B300 ___ 350kg/m3 d-B350 ___ 400kg/m3				
	9. Testing specimens for concrete quality control during construction shall be cubes of size 15x15x15 cm. Measurement of Concrete elements shall be the net dimensions as detailed in the drawings. All recesses openings and voids shall be deducted. Measurement shall be only for the seen surfaces of elements. Overlapping and measuring items twice under separate headings shall not be allowed.				

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Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	<b>SKELETON WORKS.</b>				
<b>2</b>	<b>CONCRETE WORKS.</b>				
	<p>Slabs measurement should be:                      a- from the center to center for external walls                      b- from the external to the external face of the outer drop beams for walls                      The columns necks shall be measured from the top level of the foundation or footing to the top level of the tie beam.</p> <p>(All beams, drop beams, projection including sun breakers and any part casted together with the slab shall not be measured and is deemed to be included in the price of the slab). Columns are to be measured from the top level of the slab to the bottom level of the beam or dropped beam.</p>				
2.1	Supply and Cast Reinforced Concrete Grade 'B 300' for:				
	b) Reinforced Shear Walls above ground slab on grade including columns on these walls.	<b>M.C</b>	<b>13</b>		
2.2	Supply and Cast Reinforced Concrete Grade 'B 300' Price to include projected beams, other beams and projections as per drawings.				
	b- 15 cm thick for stair case suspended solid slabs.	<b>M.S</b>	<b>28</b>		
<b>2</b>	<b>TOTAL CARRIED TO SUMMARY.</b>				

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	<b>SKELETON WORKS.</b>				
<b>3</b>	<b>BLOCK WALLS WORKS PREAMBLE.</b>				
	<p>All works of this bill shall be of Concrete blocks Grade 35 of high quality standards and as per specifications.</p> <p>Block works shall be measured in meter square. The net measurement of the complete elevations, excluding all openings and voids more than 0.1 M. S. in area.</p> <p>No allowance for thickness used other than those shown in the drawings.</p> <p>Rates of Block works include:-</p> <ul style="list-style-type: none"> <li>• Vertical and horizontal joints.</li> <li>• Cement and mortar,</li> <li>• Galvanized angles butter fly ties (at joints and between walls in cavity walls.</li> <li>• Concrete filling at all ends including reinforcing steel to cavities at quoins and door and window openings, reveals, sills for windows and the like.</li> <li>• R.C. Door jambs and classroom entrance as per detailed drawings,</li> <li>• Lintels and bond beams to the full length of the wall, min 20 cm. High and in the same wall thickness of reinforced concrete grade B-200 with due reinforcement steel, on top of doors and windows or as specified per drawings.</li> <li>• Window jambs of min. 20 cm width and in same wall thickness to full height of window.</li> <li>• 10cm thick solid concrete slab above class rooms entrance, with concrete B300 &amp; reinforcement as Shown on drawings.</li> <li>• <b>Demolishing and create openings in concrete block walls as shown in drawings.</b></li> <li>• Reinforcing, grouting of cells, and steel angles, plates and bolts used for connections.</li> <li>• 5cm gap between conc.block wall and the conc. Ceiling and conc.columns</li> <li>• Horizontal and vertical reinforced concrete 20x10 cm (columns &amp; beams) 4Ø12mm and Ø8/15cm stirup</li> <li>• <b>All Steel angles150x100x8mm every 1m ,12cm galvanized anchor bolt,chemical compound material, polystyrene to fill the gap between block wall and the adjacent wall and slab, hardwood cornice and thermal painting</b></li> </ul> <p>And all needed to complete job as per drawings and specifications.</p>				

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Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	SKELETON WORKS.				
<b>3</b>	<b>CONCRETE BLOCK WALLS WORKS.</b>				
3.1	Supply and Build Concrete Block Walls, 'Grade 35' of any size blocks :				
	a. Blocks (10 Ten) cm thick. As details in S-004, S005, AD-072, AD-073, AD-074& AD-075	<b>M.S</b>	<b>190</b>		
	b. Blocks (20 twenty) cm thick for internal partitions, parapets and external stair case walls at roof or where required. As details in S-004, S005, AD-072, AD-073, AD-074& AD-075	<b>M.S</b>	<b>175</b>		
<b>3</b>	<b>TOTAL CARRIED TO SUMMARY.</b>				

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Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	INTERNAL FINISHES.				
4	<b>PLASTERING.</b>				
	<p>PREAMBLE.</p> <p>PLASTERING to all areas shall be measured net, including openings, which are less than 0.25 Meter Sq.</p> <p>The price shall include all narrow widths, for taking out joints on block walls or backing concrete face for key, for making good to frames around pipes and other fittings , <u>plastering to jambs and reveals of openings, window sills; all of which shall not be measured as plastering .</u></p> <p>Price shall also include Expanded metal lath, angle beads at all appeared corners for the entire height, and plaster stops at opening edges, expansion joints, sills, labor, curing, erecting and dismantling of scaffoldings, additives, pigments and all incidentals required as specified and / or detailed on the Drawings</p>				
	Internal plaster :				
4.1	Three Coats of Cement and Sand Plaster including slurry coat <b>for cielings</b> and drop beams (sides and bottom).	<b>M.S</b>	<b>315</b>		
4.2	Three Coats of Cement and Sand Plaster including slurry coat <b>for walls.</b>	<b>M.S</b>	<b>620</b>		
4.3	Ditto, but for <b>External plastering.</b> Price include Waterproofing additive (W 290) with the second and last face and painting with standard approved color Waterproofing supercryl.	<b>M.S</b>	<b>280</b>		
4	<b>TOTAL CARRIED TO SUMMARY.</b>				

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	INTERNAL FINISHES.				
<b>5</b>	<b>TILING, FLOORING AND MARBLE WORKS</b>				
	<p>PREAMBLE.</p> <p>1. All tiling works (terrazzo, ceramics and marble) shall be measured net in square meters. Deducting all opening and voids more than 0.25 M.S.</p> <p>2. Marble works for steps and treads of stairs shall be measured in linear meter. The tread, the riser, flight skirting and water stop shall all be measured as a single unit in linear meter.</p> <p>3. Marble works for window sills and other openings shall be measured in linear meter.</p> <p>4. Parapet coping shall be measured in linear meter.</p> <p>5. Rate shall include preparation of surfaces under tiles, Finnish to falls and cross falls, special tile pieces for edges and the like, tile Rates shall include also providing and mounting in place "school title marble plate" of white carrara marble polished, finished and engraved in the design provided by MEHE (dimensions 70cm heigh x 100cm wide).</p>				
5.1	Supply, Install and finish Pre-cast pre-polished Terrazzo Tiles size (30x30x2.5) cm, with Italian marble chipping # 2. Price to include Pre-cast Terrazzo skirting size (30 x 10 x 1.5 ) cm with same marble chipping, bedding and jointing in cement and sand mortar, pointing with white cement, required sand fill, noise reduction of a floor covering rolls 6mm thick and on site grinding where required, marble tiles, polishing and cleaning. Mortar topping shall be from italic quarts. And the thickness of the top layer shall not be less than 1cm.	<b>M.S</b>	<b>200</b>		
5.2	Supply and Install Glazed Ceramic Wall Tiles not less than 20 * 20 * 0.6 cm., First choice and free from all defects Grade "A". (Approved by Palestine Standards Institution). Price to include white round aluminum edges. All works shall be in accordance with drawings and specifications.	<b>M.S</b>	<b>50</b>		
5.3	Supply and Install Non-Slip Ceramic Floor Tiles not less than 20 *20 *0.8 cm. First choice and free from all defect grade "A". (Approved by Palestine Standards Institution). Price to include sand with cement filling (Grade B-100), pointing with white cement and cleaning on site.	<b>M.S</b>	<b>11</b>		
	<b>TOTAL</b>				

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Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	INTERNAL FINISHES.				
<b>5</b>	<b>TILING, FLOORING AND MARBLE WORKS</b>				
5.4	Supply and Install Local Marble Sills, Thresholds, copping for parapet and wherever needed (3 cm. thick). Set in cement mortar bedding price to include grouting, polishing of face and seen edges.				
	<b>a</b> – external window sills (27 cm)	<b>M.R</b>	<b>47</b>		
	<b>b</b> – internal window sills (27cm)	<b>M.R</b>	<b>7</b>		
	<b>c</b> – external doors thresholds (25cm)	<b>M.R</b>	<b>5</b>		
	<b>d</b> – roof & corridor parapet copping (27cm)	<b>M.R</b>	<b>77</b>		
5.5	Supply and Install non-slip semi polished Local Marble Tiles size (30x30x3) cm, for stair landings. Price to include stair landing skirting size (30 * 12 * 2)(30*10*1.5) cm, bedding cement mortar, grouting, and on site polishing. All as per Drawing and Specifications.	<b>M.S</b>	<b>15</b>		
5.6	Ditto as above but for Steps and Treads of Stairs. Treads of 3 cm thick and Risers of 2 cm. thick. Price shall include three slots at front of treads, supplying and installing local marble for stair flight skirting in parallel setting to the nosing line at an average height of 12 18.45 cm. and 20 mm. thickness, and local marble water stop (5cm wide X 3cm thick X length as wide as the tread of the stair minus riser thickness) fixed at the end of treads. Also the price to include filling under tiles with cement and sand 1: 6 ratio, bedding in cement mortar, grouting, pointing, polishing of face and all related works. Note: The measurement for each stair will be from the adjacent wall to the external edge of the water stop of that stair.				
	<b>a</b> – for internal stair case as drawing AD-033	<b>M.R</b>	<b>37</b>		
	<b>b</b> – for building entrance stairs	<b>M.R</b>	<b>38</b>		
	<b>TOTAL</b>				
<b>5</b>	<b>TOTAL CARRIED TO SUMMARY.</b>				



Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	INTERNAL FINISHES.				
<b>6</b>	<b>CARPENTRY AND JOINERY WORKS</b>				
	<p>PREAMBLE.</p> <p>Sizes of carpentry works given in the Bills of Quantities are finished sizes and shall be as per Drawings.</p> <p>Sizes of doors and other items mentioned in the Bills of Quantities shall allow for tolerance to suit the structural openings shown in the Drawings.</p> <ul style="list-style-type: none"> <li>• Wooden doors and pair of doors shall be measured in number for each structural opening, unless stated otherwise in the Bills of Quantities.</li> <li>• Blackboards shall be measured in number or in squared meters as mentioned in the Bills of Quantities.</li> <li>• Wall protection wooden rubbing rails shall be measured in linear meter.</li> <li>• Cloth hangers and hanger wooden base shall be measured in number or in linear meter as stated in the Bills of Quantities.</li> </ul> <p>Rates for carpentry and joinery work shall include :</p> <ol style="list-style-type: none"> <li>a) Shop and coordinated drawings.</li> <li>b) Frames, architrave, chalk holders and other holders and 20 cm. high "U" shape kick plates.</li> <li>c) Allowance for plastering and tiling and the like.</li> <li>d) Cutting and fitting around obstructions, Bedding and painting.</li> <li>e) Grounds, blocking and backings.</li> <li>f) Plugging concrete, block work, and stone work, and making well.</li> </ol> <ol style="list-style-type: none"> <li>g) Ironmongery including cylinders, panic hardware, cylindrical locks with master key for all the doors, handles, stoppers, screws, temporary fixing, re-fixing, oiling and adjusting.</li> <li>h) Providing three keys for each lock including tagging.</li> <li>i) Providing and fixing wall mounted wooden keys cabinet, (70*70*10) cm. varnish finished with all ironmongery including cylindrical lock.</li> <li>j) Providing and fixing Room Title Plat, aluminum (30*20) cm. mounted on wooden plate (35*25) with varnish finish for all rooms.</li> <li>k) Steel legs, brackets, bearers and other supports including painting.</li> <li>l) Glass and glazing including cutting to size and putty.</li> <li>m) Fly screening including cutting to size.</li> <li>n) Preparing surfaces to receive finishes.</li> <li>o) Painting, varnishing, polishing, oiling, and the like, to any area or width in any location including work in multicolor and cutting in edges and putty.</li> <li>p) All doors located at corridors shall be self closing &amp; 2 hours fire rated</li> </ol> <p>Note : the price of non structural ( Arch., Mech., Elec.) items shall include seismic resistance fixation according to details, FEMA requirement and IBC2012 Code</p>				

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Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	INTERNAL FINISHES.				
<b>6</b>	<b>CARPENTRY AND JOINERY WORKS</b>				
6.1	Supply and Fix Wooden Doors 4.5 cm Thick single or double sashes. With (Frame).(4.5*3.5) cm hardwood (Zan) edging and (2.7*9.5) cm soft wood stile. Edge strip banding of width 4.5 mm. Formica over veneer on both sides, color for frames and Architrave as directed by engineer. Door paneling to be soft wood 4.5*2.7 cm. each 4 cm., frames of hardwood (Swedish) 4.5cm thickness or galvanized steel sheet frame of 1.5 mm thick for corridor doors ( as per drawings), width according to the wall thickness' and Allowance of 4 - 6 cm. thickness for plastering and tiling purposes, immersed in wood preservative before erection then embedded completely in sand - cement mortar and completely anchored as per specification. Price to include ironmongery, U shaped 10cm height from both sides at the bottom for internal doors, and at the bottom door stoppers, wired glass 4 mm thick for vision panel, gaskets cylindrical Lock (Approved by Palestine Standards Institution), and painting in three coats of oil paint in addition to primer coat. All as per Detailed Drawings, specification and instructions of supervisor engineer.				
	a. Wooden door size (80 * 210) cm. Door Type D4	<b>NO.</b>	<b>2</b>		
	b. Wooden door size (100 * 210) cm. Door Type D5	<b>NO.</b>	<b>2</b>		
	c. Wooden door size (240 * 250) cm. Door Type D7	<b>NO.</b>	<b>3</b>		
	d. Wooden door size (100 * 250) cm. Door Type D3.	<b>NO.</b>	<b>1</b>		
6.2	Supply & Install Bottom Wooden Kitchen Cabinet. Cabinet's Top shall be with granite, 20 mm. thick with polished surface and seen edges. Cabinet Sides, Elevations, Partitions, Shelves and Drawers front-side shall be of 17-mm. thick panel wood, laminated internally with 0.5 mm thick Formica sheet, and with 0.8mm thick Formica sheet externally. The whole cabinet shall be framed with lacquer painted hardwood (Zan) bands size (60*40) mm screwed to steel frame and covered with 0.8mm thick Formica sheet. Rear sides of cabinets and drawer's bottom shall be of 6 mm thick Veneer covered internally with 0.5mm thick Formica sheet. Price to include cabinet terrazzo flooring (30 * 30 * 3) cm., and terrazzo skirting (30 * 10 * 1.5) cm., ironmongery, handles, two coats of lacquer paint over one primer coat and all the accessories as per drawings and Specifications . SIZE: Height and Width as per drawings				
	a- For Kitchen, and Canteen cabnit as drawing AD-024	<b>M.R</b>	<b>4.8</b>		
	b- For Canteen as drawing AD-024	<b>M.R</b>	<b>5.9</b>		
	c- For multi purpose room as per (AD-014).	<b>M.R</b>	<b>3.3</b>		
	<b>TOTAL</b>				

Al Jabaa School Extension Project

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	INTERNAL FINISHES.				
<b>6</b>	<b>CARPENTRY AND JOINERY WORKS</b>				
6.3	Apply and Install wall mounted factory-made magnetic green chalk board ( size 120*360 cm) with the following min-specifications; silver anodized elegant aluminum frame (19*25mm thick) and four strong rounded plastic (pvc) corners, and also with 6.5cm silver anodized aluminum try fixe through the profile which used for chalks, markers and duster and has pvc edges for safety. The writing surface coated with steel polyester fixed by using automatic gluing machines to 11mm thick MDF wood covered automatically by aluminum foils. Price shall include two R.C. lintels (20*15 cm) to fix the board on. Reinforced with 4 Φ12 & stirrup Φ 8 @20cm. Around the perimeter of the board as drawing AD-010	No.	1		
6.4	Ditto, but white marker board in: a - multipurpose hall	No.	1		
6.5	Supply and Install (at the rear wall of rooms) Cloth Hangers of 15 cm width and 25 mm thick, Swedish wood. (Lacquer two coats in addition to primer coat). Price to include metal hangers of approved quality and to be fixed to the base properly @ 30 cm. Intervals as per detailed drawings AD-006. For a. Classrooms	M.R	5		
6.6	Supply and fix Wooden Rubbing Rail Wall Guard. 20*2.0 cm. of hardwood (Swedish) on height of 55 cm above finished floor level. Price to include fixing as per details and painting with one prime coat and two coats of lacquer paint. As AD-007	M.R	30		
6.8	Supply and install pin wood board, size 120cm x75cm, as shown on drawings AD-011, for classrooms.	No.	1		
	<b>TOTAL</b>				
<b>6</b>	<b>TOTAL CARRIED TO SUMMARY.</b>				

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	INTERNAL FINISHES.				
7	<b>STEEL AND ALUMINUM WORKS</b>				
	<p>Preamble.</p> <p>Metal works shall be measured in number.</p> <p>Rates for metalwork shall include for :</p> <p>Preparing shop drawings,</p> <p>Drilling, counter sinking, screwing, bolting and riveting.</p> <p>Lugs, plugs, holdfasts and the like.</p> <p>Gaskets, sashes, double weather strips and external and internal silicon filling around frames.</p> <p>Ironmongery including cylinders, cylindrical locks (wally or equivalent), Panic hardware, stoppers, handles, temporarily fixing, re-fixing, oiling and adjusting.</p> <p>Providing three keys for each lock and padlock including tagging and a master key for all doors.</p> <p>Hardware including cramps, dowels and the like.</p> <p>Glass and glazing to be 6mm thick with color as directed by the engineer, including cutting to size, putty and rubber.</p> <p>Preparing surfaces for painting one coat of primer before fixing.</p> <p>Sealing and Painting to any area or width in any location including work in multicolor and cutting in edges.</p> <p>All other accessories and incidentals required to execute the work.</p> <p><b>Note: - All doors located at corridors shall be self closing &amp; 2 hours fire rated</b></p> <p><b>- All windows located at corridors shall be 2 hours fire rated</b></p> <p>Note : the price of non structural ( Arch., Mech., Elec.) items shall include seismic resistance fixation according to details, FEMA requirement and IBC2012 Code</p>				
7.1	<p>Supply, fix and operate sliding Aluminum Windows (with 3 paths for external windows and 2 paths for internal ones) extrusion Section 7700 or equal, with soft irony texture paint of 70-80 microns in color approved by the Engineer.</p> <p>Price to include double glass 4x6x4 mm and all other accessories and fittings to complete works as per drawings and specifications.</p>				
	a) Window Type W-1 size (2.35 * 1.56) m.	No.	3		
	b) Window Type W-2 size (1.40 * 1.56) m.	No.	3		
	c) Window Type W-5 size (0.80 * 1.00) m.	No.	4		
	d) Window Type W-8 size (2.35 * 2.26) m.	No.	7		
	e) Window Type W-9 size (2.40 * 0.90) m.	No.	1		
7.2	Ditto as 7.1 but in section 4400 or equal for hinged windows.				
	a) Window Type W-3 size (0.70 * 0.78) m.	No.	1		
	b) Window Type W-4 size (0.80 * 1.82) m. ( 2 hours fire rated, 15mm double glass)	No.	2		
7.3	<p>Supply and Install sun breakers (52 cm wide) of Galvanized steel (6*1) cm 2mm thick, and 2 mm thick Galvanized steel sheets (55*10mm), and to be fixed to the columns and concrete walls side by galvanized screws, angles and plates as per drawings AD-039 and specifications.</p> <p><b>Note: all layers for each window shall be measured as one unit</b></p>				
	a) 2.35m length	No.	3		
	b) 1.5m length	No.	3		
	<b>TOTAL</b>				

Al Jabaa School Extension Project

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	INTERNAL FINISHES.				
<b>7</b>	<b>STEEL AND ALUMINUM WORKS</b>				
7.4	Supply and Install Protection Steel Grills ,Price to include fixation, accessories, welding, grinding & smoothening. Price also to include oil painting three coats in addition to two primer coats for windows as per drawings AD-038 and specifications.	<b>M.S</b>	<b>25</b>		
7.5	Supply and Fix Balustrades of seamless Steel, cylindrical, and solid profiles, as per detailed drawing. <b>Note that all handrails shall be comply with ICC A117 Code</b>				
	a. Stairs Handrails of two 1.25" diameter steel pipe and 14mm diameter solid steel bars @ 15cm .Price to include Fixing complete, oil paint three coats in addition to primer coat. (Seen Height 100 cm.) as drawing AD-033	<b>M.R</b>	<b>6</b>		
	b. For Corridor openings galvanized 4 steel pipes 50mm as per drawings AD-036. <b>Note all layers shuld be measured as one unit.</b>	<b>M.R</b>	<b>17</b>		
	c. Grab bars for staircase of 1.25" Diam. 2mm thick galvanized seamless steel pipes, parallel and fixed to walls as drawing AD-033	<b>M.R</b>	<b>4</b>		
	e. Handrail for Canteen as per detailed drawings AD-027	<b>M.R</b>	<b>10</b>		
	f. Handrail for Ramps as per AD-56	<b>M.R</b>	<b>10</b>		
7.6	Supply and Fix Prefabricated Steel Doors as per drawings, specification and instructions of supervisor engineer. Price to include frame, fixing completely, ironmongery, cylinders, cylindrical locks handles (Approved by Palestine Standards Institution), panic hardware, 6 mm. glazing, gaskets, oil Paint in three coats in addition to two primer coats.				
	a. Steel Door Type D1. (180x 220)cm. ( panic hardware lock, 2 hours fire rated, with 15mm fire rated glass)	<b>No.</b>	<b>2</b>		
	b. Steel Door Type D2. (100* 245) cm.	<b>No.</b>	<b>1</b>		
	d. Steel Door Type D8. (90* 210) cm.	<b>No.</b>	<b>1</b>		
	e. Steel Door Type D9. (90* 210) cm.( panic hardware lock, 2 hours fire rated, with 15mm fire rated glass )	<b>No.</b>	<b>2</b>		
7.8	Fabricate supply and install paint steel covers 6mm thick for ducts opening at roof the price include steel frame the fixation , lock, hinges all according to specifications and detailed drawings AD-069	<b>No.</b>	<b>5</b>		
	<b>TOTAL</b>				
<b>7</b>	<b>TOTAL CARRIED TO SUMMARY.</b>				

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	INTERNAL FINISHES.				
<b>8</b>	<b>PAINTING AND DECORATION WORKS</b>				
	Preamble. .Painting and decorating to walls, ceilings and the like shall be measured net in meter square. .Painting to other works shall be included in the related items. Color as specified by engineer. .Paints shall be friendly environmental and supplied to site in sealed container, as approved by the Engineer, and site mixing shall not be permitted. .The Contractor rates shall include for supply of all materials, workmanship, samples, primers, surface preparation, protection of painted surfaces, application to all heights as required of works, repair of all damaged surface at the contractor's expenses, and all other requirements as stated in the Specifications. .All paint types should be approved and having a supervision certificate from the PSI. As shown in color scheme map in drawing AD-034 .Gypsum works including all filling materials in the profiles needed to fix the elements and without any additional payment .All elements needed for fixing the falseceiling including anchors, L,Z,T sections .... Etc .Execute opening for mechanical and lighting fixtures Note : the price of non structural ( Arch., Mech., Elec.) items shall include seismic resistance fixation according to details, FEMA requirement and IBC Code				
8.1	Supply and paint high quality <b>emulsion paint, for walls</b> as per indicated in finishing tables, on one priming coat and two finishing coats, using two coats of complete putty, as per satisfaction of the supervisor engineer.	<b>M.S</b>	<b>330</b>		
8.2	Ditto as item <b>8.1</b> , but <b>glossy oil</b> paint.	<b>M.S</b>	<b>290</b>		
8.4	Supply and paint three coats <b>polycide paint</b> for ceilings and drop beams(sides and bottom) of high quality (Approved by Palestine Standards Institution).	<b>M.S</b>	<b>325</b>		
<b>8</b>	<b>TOTAL CARRIED TO SUMMARY.</b>				

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	INTERNAL FINISHES.				
9	<b>INSULATION , ROOFING AND EXPANSION JOINTS</b>				
	<p>Preamble.</p> <p>All finishes shall be measured superficially net unless other wise stated clearly.</p> <p>All finishes, include triangular shaped fillets except cement and sand lining to gutters, shall be measured on the slab surface only, parapets and column stubs to be included in the price and not to be measured.</p> <p>Rates for cement and sand work shall include for :</p> <p>Hacking concrete, applying cement slurry or raking out joints of block work to form key. Application to any surface.</p> <p>Finish to surface, to falls, cross-falls and currents.</p> <p>Forming bays including joints. Finish to edges and arises.</p> <p>Making good around steel sections, pipes, tubes, bars, brackets, outlets, and the like.</p> <p>Measurement for concrete screed and waterproofing membrane shall be for horizontal projection of roof area as calculated on roof plan between plastered surfaces of parapets and walls only. Corner chamfers and vertical waterproofing shall not be measured. Expansion joint waterproofing shall not be measured, and is included in expansion joint unit prices.</p> <p>Rates for waterproofing and roof sheeting shall include for</p> <p>Preparation of surface, cutting in edges. Overlaps priming and treatment at the corners and floor drains.</p> <p>Dressing over parapets and stub columns including forming groove to receive edge of plasticised bitumen membrane and sealing with elastic sealer.</p> <p>Side and end laps, Fittings including bolts, hook bolts, screws and washers,</p> <p>Sheets of any width or length.</p>				

Al Jabaa School Extension Project

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
<b>9</b>	<b>INTERNAL FINISHES. INSULATION , ROOFING AND EXPANSION JOINTS</b>				
9.1	Supply and cast in place foam concrete for screed to roof with 1% slope, cast to falls not less than 3cm thickness in the drain point, rate to include lining and hunching 10x10 cm with (45°) to the edge of roof screed and parapet, rate also include smooth surface finish to receive bitumen and all requirements as per specifications, drawings and Engineer's instructions.	<b>M.S</b>	<b>270</b>		
9.2	Supply and apply waterproofing membrane of bitumen rolls. (3 mm. thick. Density 180 g/m2 of reinforced polyester sheets) covered with layer of crushed white stone, over roof slab and around parapets with overlaps of Not less than 20cm. Price to include primer coats of approval source according to specifications also price include aluminum edge at parapet and above expansion joints built of 15cm concrete blocks	<b>M.S</b>	<b>270</b>		
9.3	Supply and Fix Aluminum Cover to Expansion and/or seismic Joints for floors, walls and ceilings. Price to include mastic fill, backing rod, fixing with galvanized clips every 30 cm. and all accessories in accordance with details AD-067 and relative specification.				
	<b>a.</b> (10x10)cm (L-shaped for corners) 2mm thick for external and internal walls	<b>M.R</b>	<b>5</b>		
	<b>b.</b> 10 cm. Wide x 2mm thick for ceilings	<b>M.R</b>	<b>3</b>		
	<b>d.</b> 10cm wide x 3mm thick for Floors.	<b>M.R</b>	<b>3</b>		
9.4	Supply and cast; (Grade B-200) Concrete Cast-In-Place Expansion Joint Cover. Approx. Size (40 * 55) cm. Price to include concrete block, three coats of plastering, steel reinforcement, polystyrene, mastic fill, backing rod, galvanized steel plate cover, and all needed works. According to drawings and details, expansion joint cover (L) shape.	<b>M.R</b>	<b>10</b>		
9.6	Lean mix concrete to encase all projected columns and shear walls, if any, on roof. (in and out the parapet) Price to include plastering, waterproofing ditto as item (9.2). single layer torch applied polyester membrane, turn up and asphalt-base aluminum coating and local marble coping.	<b>L.S</b>	<b>1</b>		
9.8	Supply and apply insulation spray foam for external walls of the building as per drawings AD-033	<b>M.S</b>	<b>100</b>		
<b>9</b>	<b>TOTAL CARRIED TO SUMMARY.</b>				



Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
<b>10</b>	<b>EXTERNAL WORKS</b>				
	<p>Preamble.                      Measurement, rates and specification of all external works shall comply with the works stated in previous sections.                      Curbstone shall be measured in linear meter.                      Asphalt works shall be in net square meter.                      Basecourse works shall be in net square meter for each layer.                      Play yards fixtures and things shall be measured in number whereas painting of play yard shall be as lump sum.                      Rates of Curbstone works shall include:-                      Excavation in all kinds of soils including rocks, concrete and asphalt,                      Supply and cast of blinding concrete as per Specifications, Struts,                      Laying curbstones including mortar,                      Backfilling, leveling, watering and compacting,                      Pointing and grouting,                      Lowering curbs at entrances and ramps and where requested by the Engineer.</p> <p>Rates of asphalt and basecourse works shall include:-                      Leveling, watering and compacting of sub grade.                      Spreading, leveling, watering and compacting the base course to receive asphalt, Supply and apply asphalt concrete,                      Spreading by using Finisher, Compacting.                      Trimming, cutting and making good around edges, openings, corners and trenches.                      And all required sampling and testing.</p>				

Al Jabaa School Extension Project

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
<b>10</b>	<b>EXTERNAL WORKS</b>				
10.5	Reinforced Cast In Place Concrete, Grade ' B 250 ',of cement content not less than 300 kg /m3, price to include well compacted 20cm Base course:  a- 10cm thick fairface Slab on Hard Core for ramps and side walks. Price to include edge beam, trawling , joints, sealant,curing, reinforced steel mesh 10mm each 20cm in both direction and all related works. Measurements shall be for horizontal area only.	<b>M.S</b>	<b>100</b>		
10.6	Ditto, but For green areas, external stairs, trowel led finish including their tie beams.	<b>M.C</b>	<b>3</b>		
10.7	Apply Cement and Sand Plaster, Two coats over one slurry coat to walls and where required, including metal lath of any shapes and sizes as approved by the engineer, plaster beads, plaster corner and stops.	<b>M.S</b>	<b>25</b>		
10.9	Supply and Build; interlock tiles. Size (10*20*8) cm above compacted base course for yards and external stairs , price to include 20cm thick base course . Price to include pointing and grouting Struts and setting with sand and mortar, price to the needed filling as drawings and details.	<b>M.S</b>	<b>50</b>		
10.10	Supply and Build; Grade B '250' <b>Concrete Pre-cast tiles above slab on hard core for side walk as indicated in sheet (A-012), and for canteen shaded area.</b> Size (30*30*3) cm. Price to include pointing and grouting Struts and setting with sand and mortar, price to the needed filling as drawings and details.	<b>M.S</b>	<b>120</b>		
10.12	Supply and Apply Asphalt 0.5" by using Finisher in accordance with general specifications. Wearing Course (6) cm. thick, after compacting. Price to include Supplying and Applying Liquid Asphalt Prime Coat (Grd. MC. 70). 1.2 Kg. per square meter approximates. Applied with the thinner on dry, smooth and clean surface price to include well compacted 20cm Base course and all related works.	<b>M.S</b>	<b>20</b>		
	<b>TOTAL</b>				
<b>10</b>	<b>TOTAL CARRIED TO SUMMARY.</b>				

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
<b>11</b>	<b>ELECTRICAL WORKS</b>				
	<p>Preamble.</p> <p>All Supplied Materials Should be Local Made (if available), Grade A and Free From Defects, Having Supervisor Certificate From Palestinian Standard Institution (PSI).</p> <p>Price to include submittal and obtaining approval of shop drawings , detailed and as-built drawings for all works as well as coordinating the same with the other services , activities and furniture .</p> <p>Price to include, also, submittal of catalogues and manufacturer instruction. Fixtures and appliances shall be measured in number.</p> <p>Supply and feeder Cables, cable conduits and cable trays shall not be measured but included in DB's prices</p> <p>Manholes, handholds and the like shall be measured in number.</p> <p>All Systems and devices shall be in lump sum including installation, testing and commissioning.</p> <p>Rates of fixtures and appliances shall include installation, wiring , switches and conduit works.</p> <p>All systems equipment (Class A and approved by Palestine Standards Institution).</p> <p>The Contractor shall desgin and submit for Engineer approval the control panel as per project specifications for all pumps.</p>				

Al Jabaa School Extension Project

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
<b>ELECTRICAL WORKS</b>					
11.04	Sub-distribution boards Supply, Install and Connect the panel Boards factory made oven painted 2mm thickness. Price to include the enclosure, miniature breakers (not less than 6 K.A.cap.) bus bars and all accessories including feeders XLPE Cables and PVC pipes as Shown on drawings and specifications.				
	a. DB-Canteen	L.S	1		
	b. DB-Ground.F.	L.S	1		
11.05	<b>Sockets and outlets</b> Supply, Install and Connect the following Socket Outlets points including (3*2.5mm2 ) wires, conduits, cables, sockets, draw boxes and all accessories up to DB as per drawings and specifications.				
	a. 3 pin Single-Phase 16 Amp sockets.	NO.	8		
	b. Ditto, but waterproof ( IP65)	NO.	9		
11.06	<b>Lighting Points</b> Supply, Install and Connect Lighting Points including Conduits and cables or wires up to DB, Light Switches and all accessories as per drawings and specifications.				
		NO.	36		
11.07	<b>Lighting Fixtures</b> Supply, Install and Connect the following LED & T5 Lighting Fixtures with electronic transformers and all accessories as per drawings and specifications.				
	a.2x36 w surface mounted fluorescent with epoxy polyester powder coated steel with acrylic opal. IP54	NO.	13		
	b. Ditto, but waterproof.	NO.	1		
	c.Ditto as (a) with Emergency kit1.5 hours.	NO.	3		
	d. Surface mounted decorative round 30 cm water proof lighting fixture 2*13 w PL lamps with metal base and whitely opal diffuser like acrylic attached to the base with four scrwes IP54.	NO.	9		
	e.ditto but wall mounted	NO.	2		
	f.ditto as (d), but with emergency kit	NO.	7		
	g.exit sign	NO.	3		
11.10	Electrical Bells Supply, Install and Connect electrical bell 220V include all conduits wires, boxes as on drawings and specifications				
	a. Indoor 6" electrical bell	NO.	1		
	<b>TOTAL</b>				

Al Jabaa School Extension Project

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	<b>ELECTRICAL WORKS</b>				
11.11	<p>Sound System</p> <p>Supply, Install, Connect and commission Sound System, including cables( teldor shielded) conduits from each loudspeaker to Amplifier ( to be installed at existing building ), boxes, draw boxes as shown in the drawings. Consisting of :-</p> <p>a. 320w Amplifier rack mounted type ( Philips or equivalent),with built in CD and Cassette Player and recorder with prerecorded tones (piano) and daily-weekly go off bill timer unit, tuner, rack cabinet 14U metal with Aluminum and Glass door for housing the system.</p>	L.S	Nil	Nil	Nil
	c. 9 W. wall mount loudspeaker with metal grill and evacuation compliant.	NO.	3		
11.13	<p><b>Computer system</b></p> <p>Supply, install, connect and numbering, labeling and testing computer system including conduits. Boxes, wires shielded cable (CAT6A) in separate pipe and cable for each socket and Tel line 2*2*0.5 from Tel. exchanger, 4 sockets outlets together with isolating switch and all accessories according to drawings, specifications and engineer approval.</p> <p>a. Network socket 3M FOR CAT6A CABLE</p>	NO.	2		
	<b>TOTAL</b>				

Al Jabaa School Extension Project

Item	Description	Unit	Quantity	Unit Rate	Amount
				US\$	US\$
	<b>ELECTRICAL WORKS</b>				
11.14	Fire alarm System Supply, install and commissioning fire alarm system including all conduits, wires, and all accessories as drawings and specifications and engineer approval a. Fire alarm control panel addressable 1 loop including Batteries & Charger	L.S	Nil	Nil	Nil
	b. Smoke detector	NO.	6		
	c. Heat detector	NO.	2		
	d. Indoor fire alarm bell with flasher	NO.	2		
	e. Outdoor weather proof fire alarm bell with flasher	NO.	1		
	f. Fire alarm breaking glass unit	NO.	3		
	g. stand alone gas detector	NO.	2		
11.15	Supply, install and connect the low voltage boxes. price to include the enclosure and all accessories (including feeders between the L.V Boxes) as per drawings and specifications.				
	b. LV1	NO.	1		
	Grid Connection Complete supply, installation and commissioning of a Bidirectional kWh meter panel Suitable for outdoor use (IP65) The Bidirectional meter panel shall be installed at the connection point (Grid-side) Each panel should include the kWh meter, appropriately sized 4-pole AC circuit breaker (main AC MCB), and any other material required to ensure that the panels are installed according to local standards and requirements	L.S.	1		
	<b>TOTAL</b>				
<b>11</b>	<b>TOTAL CARRIED TO SUMMARY.</b>				

**BILLS OF QUANTITIES FOR FINISHING WORKS OF EXISTING G.F. FOR AL-JABA'A SCHOOL EXTENSION**

TENDER NO. MEHE/ / /  
CONSULTANT: \_\_\_\_\_

DATE: /2020

CONTRACTOR: \_\_\_\_\_

BILL No. (12) .

PLUMBING, SANITARY AND MECHANICAL WORKS. (SEC - 12) .

**SECTION ' 12 '**  
**PLUMBING, SANITARY AND MECHANICAL WORKS**

**BILLS OF QUANTITIES FOR FINISHING WORKS OF EXISTING G.F. FOR AL-JABA'A SCHOOL EXTENSION**

TENDER NO. MEHE/ / /  
 CONSULTANT: \_\_\_\_\_

DATE:  / 2020

CONTRACTOR: \_\_\_\_\_

BILL No. (12) . PLUMBING, SANITARY AND MECHANICAL WORKS. (SEC - 12) .

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
				US\$.	US\$.
	( SECTION NO. ' 6 ' ) PLUMBING, SANITARY AND MECHANICAL WORKS				
	<p><b>Preamble.</b>                      Supply networks pipes To Tanks, or from on roof feeding tanks to collectors shall be priced in Linear meter.                      Water tanks shall be measured in number.                      Sanitary Fixtures shall be measured in number, price to include cold and hot water pipes supply and fittings to collectors, also to include drain supply, fittings connection, to manholes.                      Drains, Floor Traps, Clean outs and the like shall be measured in number.                      Internal sanitary sewers network shall be included in the rates of sanitary fixtures and appliances.                      Vents and vertical stacks shall measure in linear meter.                      Manhole, Galleys and the like shall be measured in number.                      External sewers pipes shall be measured in linear meter for each individual diameter and material.                      Rates of all fittings, fixtures, appliances and pipe laying shall include: -Supply of material, workmanship, installation, testing and commissioning.                      Rates to include also all piece's and fittings, including by passes, floats, cleaning outlets, automatic vents, vents and stack covers, valves and non-return valves and the like needed to complete works as per specifications.                      Insulation and painting as called for in specifications.                      Excavation and cutting for all pipe laying works, bedding back filling and all works connected with pipe laying.                      All ties, sleeves, joints, tie bolts and rods, brackets and the like. Rates to include Workshops, Coordinated and as-built drawings as approved by the Engineer.</p>				
12.02	a- Supply and Install White Vitreous Western type Toilet (Class A and approved by Palestine Standards Institution) Complete with, Fittings, chrome plated 13mm stop and valve side tap. Price to include Flush tank 6 liter, waste pipes to nearest manhole, water tap, China plated paper holder, seat hard cover, water hose with flasher and all other fittings as per specifications , drawing and as directed by Eng.	No.	1		
	b- Ditto, but for handicapped toilet 49 cm Height, including all necessary, fittings and accessories movable handle and fixed handle as shown on drawings and in Specifications.	No.	1		
	<b>Totals</b>				
	<b>TOTAL CARRIED TO NEXT PAGE.</b>				



**BILLS OF QUANTITIES FOR FINISHING WORKS OF EXISTING G.F. FOR AL-JABA'A SCHOOL EXTENSION**TENDER NO. MEHE/ / /  
CONSULTANT: \_\_\_\_\_DATE:  / 2020

CONTRACTOR: \_\_\_\_\_

BILL No. (12) . PLUMBING, SANITARY AND MECHANICAL WORKS. (SEC - 12) .

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
				US\$.	US\$.
	(SECTION NO. ' 6 ' ) PLUMBING, SANITARY AND MECHANICAL WORKS				
	FORWARDED TOTAL				
12.03	a. Supply and Install White Vitreous China Wash Basin (Class A and approved by Palestine Standards Institution), size (60 * 40) cm. Complete with all fittings, valves, waste pipes to nearest floor trap, taps or mixer (Class A and approved by Palestine Standards Institution), connection to water distribution, traps, and any other necessary parts as Specification and as directed by Eng. Price includes supplying and installing 40x60cm mirror.	No.	1		
	b. Ditto, but for handicapped toilet Has Curve ( <b>Fixed type</b> ), Including all necessary fittings and accessories as shown on drawings and in specifications. Price includes supplying and installing 40x60cm mirror, gear tap .	No.	1		
12.04	a. Supply and Install White Sink Stainless Steel (20 cm. Deep), Size (75*40cm) double bowl. (Class A and approved by Palestine Standards Institution). Complete with all necessary valves, Goose neck taps (Class A and approved by Palestine Standards Institution), connection to water distribution, fittings, anti chemical waste pipes to the nearest floor trap, and any other necessary parts and accessories to complete works per specifications and as directed by Engineer.  1 – for Multi-purpose hall.	No.	1		
	b. Ditto but single bowl sink, Size (60x40cm). 1- for canteen	No.	1		
	2 – for kitchen	No.	1		
12.06	a. Supply and Install 4" PVC Floor Trap. "With Quality approval Tag" Price to include siphon to be fixed in reinforced concrete, (15*15) cm double chrome plated cover one grated and one-closed, waste pipes to the nearest manhole and all other fittings needed to comply with specifications and as directed by Engineer.	No.	7		
	Totals				
	TOTAL CARRIED TO NEXT PAGE.				

**BILLS OF QUANTITIES FOR FINISHING WORKS OF EXISTING G.F. FOR AL-JABA'A SCHOOL EXTENSION**TENDER NO. MEHE/ / /  
CONSULTANT: \_\_\_\_\_DATE:  / 2020

CONTRACTOR: \_\_\_\_\_

BILL No. (12) .

PLUMBING, SANITARY AND MECHANICAL WORKS. (SEC - 12) .

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
				US\$.	US\$.
	( SECTION NO. ' 6 ' ) PLUMBING, SANITARY AND MECHANICAL WORKS				
	<b>FORWARDED TOTAL</b>				
12.08	Supply and Install (Clean Out), of Drainage Network. "With Quality approval Tags" In size and location shown in the drawings and where necessary, including all needed to complete work as specification and directed by Eng.				
	b- 4"UPVC for external drainage with (15*15)cm chrome plated screwed in cover .	No.	4		
12.09	Supply and Install White PVC Water Tank 1.5 Cubic meters in size. Price to include well-painted steel stand, automatic float valves, valves, fittings, vents, watertight cover, Water Connection G.S.Pipes from Water Meter and all necessary works to complete works as per Specifications and drawings.	No.	3		
12.11	Supply and install of approved quality water cooler, the price includes all necessary fittings, water supply, drain connections, ceramic tiles all around the cooler up to 20cm above the top surface, all necessary works to complete works as per Specifications and drawings. Note: the floor tiles under the cooler to be lower than corridor finish floor level with 2cm.	No.	1		
12.12	Supply Materials for , and Construct Manholes In compliance with specifications and Drawings. Price to include excavation, concrete works, block works, back filling, cement plaster, benching, Cast Iron cover of weight not less than 50 kg, and bearing capacity load for the cover not less than 8 ton for side walk and 25 ton all other manholes. and all necessary works to comply with drawings and specifications.				
	b. Manholes Ø 80 cm clear size	No.	2		
	Totals				
	<b>TOTAL CARRIED TO NEXT PAGE.</b>				

**BILLS OF QUANTITIES FOR FINISHING WORKS OF EXISTING G.F. FOR AL-JABA'A SCHOOL EXTENSION**TENDER NO. MEHE/ / /  
CONSULTANT: \_\_\_\_\_DATE:  / 2020

CONTRACTOR: \_\_\_\_\_

BILL No. (12) . PLUMBING, SANITARY AND MECHANICAL WORKS. (SEC - 12) .

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
				US\$.	US\$.
	(SECTION NO. ' 6 ' ) PLUMBING, SANITARY AND MECHANICAL WORKS				
	<b>FORWARDED TOTAL</b>				
12.14	a. 3 Kg fire extinguisher as below specifications: - <ul style="list-style-type: none"> <li>• Gas fire extinguisher, type (Halotron) HCFC.</li> <li>• Environment friendly.</li> <li>• Quick and easy to use, even for non professional.</li> <li>• Suitable for extinguishing all types of fires solid, liquid and electrical fires.</li> <li>• Fire rating 5a/21b</li> <li>• Gas lifetime minimum 5 years.</li> <li>• Manufactured according country standard meets Palestinian standard instituted requirement.</li> <li>• Manufactured in compliance with ISO 9001:2000 quality management system.</li> <li>• Supplied with special nozzle for effective use.</li> <li>• Pressure gauge included for visual inspection and wall mounted.</li> <li>• Metal cylinder base.</li> <li>• Gross weight 5.0kg.</li> </ul> Height: 40cm, Width : 14.5cm	No.	1		
12.15	a. Supply and install Portable Fire Extinguisher of 2kg Co2 each in Location as decided by the Engineer. The installation shall be complete with brackets and it should be in accordance with the Civil Defense specification.	No.	1		
	b. Supply and install Portable Fire Extinguisher of 3kg Dry Powder for kitchen.	No.	2		
	<b>Totals</b>				
	<b>TOTAL CARRIED TO NEXT PAGE.</b>				

**BILLS OF QUANTITIES FOR FINISHING WORKS OF EXISTING G.F. FOR AL-JABA'A SCHOOL EXTENSION**TENDER NO. MEHE/ / /  
CONSULTANT: \_\_\_\_\_DATE:  / 2020

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BILL No. (12) .

PLUMBING, SANITARY AND MECHANICAL WORKS. (SEC - 12) .

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	RATE US\$.	AMOUNT US\$.
	(SECTION NO. ' 6 ' ) PLUMBING, SANITARY AND MECHANICAL WORKS				
	<b>FORWARDED TOTAL</b>				
12.18	Galvanized cold & hot water supply pipes: Supply and installation of cold & hot water distribution network of pre insulated galvanized pipes of various diameters, from roof to sanitary fixture collectors and from roof to drinking fountain, and external water distribution network. Price includes all fittings, T's, elbows, insulation, fixing, etc., and all is needed to complete the works.	L.S.	1		
12.19	Supply, install, and commissioning of copper pipes for gas distribution network of 8, 12mm from gas cylinders location for kitchen. The price includes two gas cylinders 12kg each inside suitable lockable box, with all necessary fittings as elbow, valves, manifold, Gas Detector, the price includes supports, hangers, and all necessary digging. The pipe should lie inside plastic pipe. All mentioned are according to NFPA recommendations.	No.	1		
	Totals				
	<b>TOTAL CARRIED TO NEXT PAGE.</b>				

**BILLS OF QUANTITIES FOR FINISHING WORKS OF EXISTING G.F. FOR AL-JABA'A SCHOOL EXTENSION**TENDER NO. MEHE/ / /  
CONSULTANT: \_\_\_\_\_DATE:  / 2020

CONTRACTOR: \_\_\_\_\_

BILL No. (12) .

PLUMBING, SANITARY AND MECHANICAL WORKS. (SEC - 12) .

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
				US\$.	US\$.
	(SECTION NO. ' 6 ' ) PLUMBING, SANITARY AND MECHANICAL WORKS				
	<b>FORWARDED TOTAL</b>				
12.22	UPVC Drainage Pipe and UPVC Fittings: Supply, installation, testing and commissioning of UPVC drainage and ventilation pipes down to manholes with all required fittings including excavation, back filling, incasing with concrete and roof vent caps, including connections as shown in drawings and in accordance to specifications. a- Size 6-inch diameter.(SN8) b- Size 4-inch diameter.(SN4) c- Size 2-inch diameter.	MR MR MR	30 90 10		
12.23	Roof Drains: Supply, installation and commissioning of UPVC rainwater roof drain (Class A and approved by Palestine Standards Institution) <b>a. Rainwater drain size is: 20cm x 20cm. (3" Outlet)</b> <b>b. Rainwater drain size is: 15cm x 15cm. (2" Outlet)</b>	No. No.	3 1		
12.24	<b>Rain Water pipes: -</b> Galvanized Steel rain water pipes down to a free discharge with wired mesh above ground level, with all required hanging accessories, fittings and vent caps, all as shown in drawings, specifications, and approval of supervisor engineer. a. Galvanized Pipe of $\varnothing$ 3 -inch diameter. b. Pipe of $\varnothing$ 2 -inch diameter.	MR MR	12 4		
12.26	Supply and install Hot and cold-water collectors with include XLPE Pipe 16mm with 32 mm rigid pipe insulation, oven painted aluminum cabinet with two doors , valves for branches , main valves , vents , and all accessories.				
	a. Size $\frac{3}{4}$ "	No.	2		
	b. Size 1"	No.	1		
	Totals				
	<b>TOTAL CARRIED TO NEXT PAGE.</b>				

**BILLS OF QUANTITIES FOR FINISHING WORKS OF EXISTING G.F. FOR AL-JABA'A SCHOOL EXTENSION**TENDER NO. MEHE/ / /  
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PLUMBING, SANITARY AND MECHANICAL WORKS. (SEC - 12) .

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
				US\$.	US\$.
	(SECTION NO. ' 6 ' ) PLUMBING, SANITARY AND MECHANICAL WORKS				
	<b>FORWARDED TOTAL</b>				
12.29	<b>Drinking Fountain:</b> Supply and install outside drinking fountain as shown on drawings, rate includes, sink 4.35X0.75m on block stands, the work should be finished and completed to the highest standard. Rate include excavation, B200 R. concrete (all steel reinforcement required), stone works, plastering, glazing tiles, local marble coping, planters and metal cover with all fittings, 8 unit high quality (Class A and approved by Palestine Standards Institution) chrome plated taps of approved kind, rates also include p.v.c. Drainpipe outlet to green area or as per drawings.	No.	1		
	b. Ditto, but 30 Liter.	No.	1		
	<b>Totals</b>				
	<b>TOTAL CARRIED TO NEXT PAGE</b>				

**BILLS OF QUANTITIES FOR FINISHING WORKS OF EXISTING G.F. FOR AL-JABA'A SCHOOL EXTENSION**TENDER NO. MEHE/ / /  
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PLUMBING, SANITARY AND MECHANICAL WORKS. (SEC - 12) .

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
				US\$.	US\$.
	(SECTION NO. ' 6 ' ) PLUMBING, SANITARY AND MECHANICAL WORKS				
	<b>FORWARDED TOTAL</b>				
12.31	a. Supply, install and commissioning Wall type Exhaust Fans of approved manufacture, of <b>100m3/hr</b> complete with self – act automatic shutter, galvanized steel mesh. Price includes making necessary holes diameter in walls and fixing, electrical connections, sockets, cables and switches with indicator lamp. All is according to drawings, specifications and approval of supervisor engineer.	No.	1		
	b. Ditto but 200 m3/hr.	No.	1		
12.33	Supply and install a cold water pump of approved manufacture, including all valves, strainer, pressurized tank, electrical power supply complete with concrete base and connections to rising main, ventilated painted steel box, the price include all pipes from pump to roof tanks and the pipes from pump to water tap collectors. All are according to drawings and specifications and approval of supervisor engineer. A 3m3/hr @ 20m head.	No.	1		
	<b>Totals</b>				
	<b>TOTAL CARRIED TO SUMMARY</b>				

**SUMMARY**

<b>ITEM No.</b>	<b>DESCRIPTION OF WORKS</b>	<b>AMOUNT (US\$)</b>
1	EXCAVATION, BACKFILLING & SITE WORKS	
2	CONCRETE WORKS	
3	CONCRETE BLOCK WORKS	
4	PLASTERING	
5	TILING, FLOORING & MARBLE WORKS	
6	CARPENTRY & JOINERY WORKS	
7	STEEL & ALUMINUM WORKS	
8	PAINTING & DECORATION WORKS	
9	INSULATION & ROOFING	
10	EXTERNAL WORKS	
11	ELECTRICAL WORKS	
12	PLUMBING, SANITARY & MECHANICAL WORKS	
	<b>Grand Total</b>	
	<b>Percentage % discount or addition</b>	
	<b>Net Grand Total</b>	

Note: All Prices Exclude VAT

The sum of .....Excluding VAT US\$

Contractor:

Signature:

Date: