



**Islamic Development
Bank/ Al Aqsa Fund**



Saudi Development Fund



UNDP/PAPP

Funded by: The Saudi Development Fund

Executed by: Islamic development Bank / Al-Aqsa Fund

**Implemented by : United Nations Development Programme/ Programme of
Assistance to the Palestinian People**

Dar Al Tifil Al Arabi Institute

Jerusalem

ITB: PAL10/ITB/59711/ Dar Al Tifil Al Arabi

**Section 9: BOQ
for rehabilitation works of the Multi-Purpose Hall**

Oct 2008

Item No	Description	Unit	Quantity	Rate	Amount
Bill No 1	Cleaning, Demolishing & Dismantling Works:				
1-1	Demolishing for any kind of block, concrete, gypsum boards, wood, and metal works, etc. needed to clean the area and not affecting the structure of the building. Leveling the ground and complete cleaning from all types of soil, wood, metals and unnecessary materials for the next preparation step. All as per the approval of the Engineer.	JOB	1		
1-2	Dismantling the existing wooden theatre and moving all the surplus and the wooden and metal pieces to a location where the Engineer instruct, removing all the garbage, sand, concrete and stones from the hall and cleaning the working area in preparation for next works. Unit rate shall also include removing metal elements and metal structure, wire mesh, cables, metal sheets and all related elements. Then, all the working area should be cleaned and prepared for finishing works. All as directed by the Engineer.	M2	50		
1-3	Demolishing the concrete block partitions to extend the dimensions of the hall. Price includes removing the surplus and all the produced material from wooden parts, wooden partitions, metal, stones, tiles, glass and all related items and locate them in a place instructed by the Engineer. Price shall also include cleaning the area and preparing it for the next finishing works. All as instructed and approved by the Engineer.	M2	50		
1-4	Demolishing the gypsum boards (the two classrooms) partitions to extend the dimensions of the hall. Price includes removing the surplus and all the produced material from wooden parts, wooden partitions and doors, metal, stones, tiles, glass and all related items and locate them in a place instructed by the Engineer. Price shall also include cleaning the area and preparing it for the next finishing works. All as instructed and approved by the Engineer.	M2	50		
1-4	Carefully dismantling all floor tiles from all the clear space (after demolishing) inside the hall, and removing all the tiles to a safe place approved by the Engineer. Price includes removing the surplus and all the produced material from wooden parts, metal, stones, sand and gravel, broken tiles, glass and all related items and locate them in a place instructed by the Engineer. Price shall also include cleaning the area and preparing it for the new tiling. All as instructed and approved by the Engineer.	M2	50		

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Item No	Description	Unit	Quantity	Rate	Amount
1-5	Carefully dismantling all the electrical systems from all the clear space (after demolishing) inside the hall; including lighting systems, lighting fixtures, electrical sockets, and all related items, and removing all the units to a safe place approved by the Engineer. Price includes removing the garbage, fixing elements and all related unnecessary materials and gravel and locate them in a place instructed by the Engineer. Price shall also include cleaning the area and preparing it for the new lighting, power and all related electrical works. All as instructed and approved by the Engineer.	Job	1		
1-6	Carefully dismantling the old heating system (fan coil and duct) feeding the old hall located in the kitchen and inside the old demolished class rooms; including heating units, ducting systems, supply and return grills, piping systems, and all related items, and removing all the units to a safe place approved by the Engineer. Price include sealing and plugging the piping systems feeding the fan coil units with supply and return water, and maintaining the insulation and not damaging and affecting the heating system in the entire school. Price includes removing the garbage, fixing elements and all related unnecessary materials and gravel and locate them in a place instructed by the Engineer. Price shall also include cleaning the area and preparing it for the new HVAC works. All as instructed and approved by the Engineer.	Job	1		
1-7	Carefully dismantling the rigging rods and re-fix them in the new locations (3 m) ahead, including fixing the existing curtains and lighting in a proper way the same it was existing. All done according to the approval of the Engineer.	Job	1		
1-8	Carefully dismantling the false ceiling inside the old demolished class rooms, and remove them to a location approved by the Engineer. Works including cleaning the ceiling from any metal strips and all related unnecessary items. All done according to the approval of the Engineer.	Job	1		
Total Bill NO. 1 Sum Of Items [(1-1) - (1-8)] carried to summary					

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Item No	Description	Unit	Quantity	Rate	Amount
Bill No 2	Maintenance Works:				
2-1	Maintenance includes, fixing all the damaged needed items and maintaining doors and windows in good condition. All as per the approval of the Engineer. Complete maintenance for the wooden doors in the hall, including supplying and applying the required putty and paint works. Fixing joints and bolts, supplying and replacing new handles, cylinders and locks (where required) Type Domicile or equally approved. All done according to the Engineer's instructions and approval.	JOB	1		
2-2	Complete maintenance for the metal doors in the hall and the entrances, including supplying and applying the required putty and paint works. Fixing joints and bolts, welding, supplying and replacing new handles, cylinders and locks (where required) Type Domicile or equally approved. All done according to the Engineer's instructions and approval.	JOB	1		
2-3	Complete maintenance for the hall windows, including supplying and applying the required putty and paint works. Replacing any broken window glass, fixing joints and bolts, welding, supplying and replacing new handles same as the existing. All done according to the Engineer's instructions and approval.	JOB	1		
2-4	Supply and cast reinforced concrete B300 for machine foundations of various sections. The price includes the required steel reinforcement.	M2	20		
Total Bill NO. 2 Sum Of Items [(2-1) - (2-3)] carried to summary					

Item No	Description	Unit	Quantity	Rate	Amount
Bill No 3	Concrete Blocks Works:				
	<p>PREAMBLE. All works of this bill shall be of Concrete blocks Grade 35 of high quality standards and as per specifications. Block works shall be measured in meter square. The net measurement of the seen elevations, excluding all openings and voids more than 0.1 M. S. in area. No allowance for thickness used other than those shown in the drawings. Rates of Block works include:-</p> <ul style="list-style-type: none"> • Vertical and horizontal joints. • Cement and mortar, • Galvanized angles and butter fly ties. • Closed end blocks at all ends, door and window jambs, reveals and the like. • Pointing of the uncovered block surfaces. • Concrete filling including reinforcing steel to cavities at quoins and door and window openings. • Lintels and bond beams to the full length of the wall, 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 at the height of 2.00 M. • and all needed to complete job as per drawings and specifications. 				
3-1	Supply and Build Concrete Block Walls for the storage room and for closing the door between the old theatre and the kitchen, 'Grade 35' of any size blocks.				
	A. Hollow Blocks (10 Ten) cm. thick .	M2	50		
3-2	Plastering works that include making good in demolished places and plastering the new block walls 3 coats.	JOB	1		
Total Bill NO. 3 Sum Of Item [(3-1)] carried to summary					

Item No	Description	Unit	Quantity	Rate	Amount
Bill No 4	Tiling, Flooring and Marble Works:				
	<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. Skirting shall be measured in leaner meter.</p> <p>3. Marble works for steps and treads of stairs shall be measured in linear meter. The tread and the riser shall be measured as a single unit.</p> <p>4. Marble works for window sills and other openings shall be measured in squared meter .</p> <p>5. Parapet coping shall be measured in squared meter.</p> <p>6. Marble works for stair flight's skirting shall be measured in linear meter.</p> <p>7. Rate shall include preparation of surfaces under tiles, Finnish to falls and cross falls, special tile peace's for edges and the like, tile surface finishing, Plastic spacers. Pointing and cleaning and all incidental as per specifications.</p> <p>8. Rates shall include also providing and mounting in place "Title Marble Plate" of white clear local marble polished, finished and engraved according to the design provided by UNDP.</p>				
4-1	Supply, Install and finish full body Granite Porcelain Tiles of Size (400 x 400x 9) mm, Italian made cm for the new hall area. Price to include, bedding with white cement mortar and grout using non-shrinkable grout from approved company, required sand fill, and on site grinding, cleaning and skirting size (40x7.5x0.9)cm	M2	220		
4-2	Supply, Install and finish Pre-cast Terrazzo Tiles Size (30 x 30 x 2.7) cm, with Italian marble chipping # 6. Used under the theatre, under the changing rooms, and on the ground of the store. Price to include, bedding and jointing in cement and sand mortar, pointing with white cement, required sand fill, and on site grinding, polishing and cleaning and skirting size (30*7.5*1.5)cm	M2	90		
4-3	Supply and Install Local Marble Sills, Thresholds and Parapet Coping. 20 cm wide (3 cm. thick). Set in cement mortar bedding price to include grouting, polishing of face and chamfered edges .				
4-3.1	A. Door Sills Size(15 - 30 x 3) cm.	M2	5		
Total Bill NO. 4 Sum Of Item [(4-1)-(4-2)] carried to summary					

Item No	Description	Unit	Quantity	Rate	Amount
Bill No 5	Carpentry And Joinery Works:				
	<p>PREAMBLE. Sizes of carpentry works given in the Bills of Quantities are finished sizes and shall be as per Drawings. 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. • Wooden doors and pair of doors shall be measured in number for each structural opening, unless stated otherwise in the Bills of Quantities. Rates for carpentry and joinery work shall include :</p> <p>a) Shop and coordinated drawings. b) Cutting and fitting around obstructions, Bedding and painting. c) Grounds, blocking and backings. d) Plugging concrete, block work, and stone work , and making good. e) Ironmongery including cylindrical locks, handles, stoppers, screws, temporary fixing, re-fixing, oiling and adjusting. f) Providing two keys for each lock including tagging. g) Providing and fixing Room Title Plat, Painted Steel (30*20) cm. mounted on wooden plate (35*25) with varnish finish. h) Steel legs, brackets, bearers and other supports including painting. i) Glass and glazing including cutting to size and putty. j) Fly screening including cutting to size. k) Preparing surfaces to receive finishes. l) 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.</p>				

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Item No	Description	Unit	Quantity	Rate	Amount
5-1	Supply and Fix Flush Panel Solid Core Doors 4.5 cm Thick single or double sashes of size 210x90 cm. with (Frame). (4.5*10) cm. Edge strip banding of Hardwood (Swedish) , with 5 mm. thick plywood veneer on both sides, door paneling to be of soft wood 3.5*3.5 cm. each 2.5 cm. , frames of hardwood (Swedish) width according to the wall thickness' and Allowance of 4 - 6 cm, clearance from tiles to be 2 cm. thickness for plastering and tiling purposes, emerged in wood preservative before erection then embedded completely in sand - cement mortar and completely anchored as per specification . Price shall include Domicile or equally approved door handles, cylinder & lock. All as per the approval of the Engineer.	M2	7		
5-2	Supply and install new wooden structure for the theatre shown on drawings and the changing rooms floor (to be of the same level) of height 100 cm above the hall ground tiling level. The contractor shall submit a clear and complete shop drawing specifying the different types of woods used, and the different sizes of wooden beams and columns of white wood used to support the structure. The top side of the wooden structure shall consist of firm vibration resistant treated hard wooden elements (ZAN) to withstand the load on top of it. Price shall include all required fixing elements and joints, upward and downward stairs as shown on drawings, polishing and glaze painting as required. All done as instructed and in approval with the Engineer.	M2	65		
Total Bill NO. 5 Sum Of Item [(5-1)-(5-2)] carried to summary					

Item No	Description	Unit	Quantity	Rate	Amount
Bill No 6	Gypsum Boards and False Ceiling Works:				
	<p>Preamble. The contractor shall, when pricing the rates of this bill, take into consideration including and allow for the costs or expenses of all requirements stipulated in the preambles, drawings and technical specification of the contract. Rates for all suspended ceilings works includes suspension system with anchors to the structure, L& Z, main & main profiles, omega profiles. clips, gaskets and all necessary fittings in accordance to the manufacture technical data and related standards covering this type of works, The rate includes also cutting and preparation for installing lighting fixtures, ceiling recess, maintenance openings, grills, ceiling utilities... etc.</p>				
6-1	Supply and install 60*60cm fiberglass acoustic ceiling panels with PVC coat from one side. As per specifications, drawings and the approval of the Engineer.	M2	270		
6-2	Supply and install vertical and horizontal gypsum boards 12mm thick fire and water proof for block walls cladding, separating the changing rooms from theatre, and for other decorative works. The price shall include all decorative beams, edges, recessed slab, squares, cuts, suspension& structural profiles, fixing with the walls , ground and ceiling and extra support where required-- etc to any shape and patterns to complete the works. The unit rate shall also include acoustic and thermal rock wool mats, 25mm thick and 25kg/m3 density, wrapped in black non inflammable dust proof sags in accordance with specifications and the related Standards. as approved by the Engineer.	M2	85		
6-3	Supply and install grilled acoustic gypsum boards panels on the internal boundary walls of the hall, to be 10 cm thick. Price shall include filling the space between the panels and the wall with 48 kg/m3 Rock Wool sheets, all related metal fixing elements are included, besides supplying and applying putty to all gypsum works, The price shall also include all decorative beams, edges, recessed slab, squares, cuts, suspension& structural profiles. All to be done according to specifications and the approval of the Engineer.	M2	350		
Total Bill NO. 6 Sum Of Item [(6-1) - (6-3)] carried to summary					

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Item No	Description	Unit	Quantity	Rate	Amount
Bill No 7	Painting Works:				
	<p>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. Paints shall be 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 .</p>				
7-1	Supply and paint high quality Emulsion PVA-Based Paint, for internal walls. Price includes one priming coat and two finishing coats , for application to walls , using putty from Deluxe or equivalent	M2	85		
7-2	Supply and paint Polycide paint for gypsum boards walls, price shall include painting and putty. All as directed and approved by the Engineer.	M2	370		
7-3	Supply and apply oil paint to all the existing wooden and metal doors and windows, price including scraping and applying putty and base paint. All as directed and approved by the Engineer.	M2	50		
Total Bill NO. 7 Sum Of Item [(7-1)-(7-3)] carried to summary					

Item No	Description	Unit	Quantity	Rate	Amount
Bill No 8	Electrical Works:				
8.1	<p>Important Notes: All materials and accessories to be used shall be according to the Approved Manufacturer List attached to the electrical specifications (see attachment # 1)</p> <p>Electrical Points: The electrical power supply from electrical switchboard to first point in circuit shall be included in the unit price of that point (by means of wires, cables or leads in self extinguishing conduits and cables). All as per specifications and as required.</p>				
8.1.1	Supply, install and connect standard lighting point internal or external, in slab or over false ceiling, to include a 16 mm diameter conduit, 1.5 or 2.5 sq.mm cross-section leads or cable, and, as required single , double, Dimming switch, two way or push button lighting switch , and outlet for luminaries with junction box and terminals.	No.	31		
8.1.2	Ditto but for emergency lighting point	No.	7		
8.1.3	Supply, install and connect a 16A wall socket point - to include a 16 mm dia. Conduit, (3x2.5) sq.mm cross-section leads or cables, and as required 16 A wall socket .	No.	18		
8.1.4	Ditto as item 13.1.3 but double socket.	No.	2		
8.1.5	Supply, install and connect Computer outlet connection point (Price includes 16 mm diameter conduit with 4 pairs shielded cable and socket, leading from point to the nearest HUB in the nearest LV box).	No.	2		
8.1.5	Supply, install and connect Fire Alarm connection point (Price includes 16 mm diameter conduit with cable, leading from point to the LV box or to the nearest point).	No.	11		
8.1.6	Supply, install and connect Microphone socket outlet - to include individually screened twisted pairs cables from the socket up to the LV Box.	No.	12		
8.1.7	Supply, install and connect a 60A Power Point including 60A (3PH) isolator switch, conduits, boxes, cables for the Package Unit on the roof, the works according to drawings, specifications and Engineer instructions.	No.	1		
8.1.8	Ditto as item 8.1.7, but 3PH 32A for package unit.	No.	1		
8.1.9	Ditto as item 8.1.7, but 3PH 16A for package unit.	No.	1		
8.1.10	Supply, install and connect socket outlet 1PH 20 A with indication lamp for the split unit from the nearest electrical panel.	No.	1		
8.1.11	Modular flush floor service outlet box in the stage, 3 compartment service box equipped with: - 13A Double socket outlet - 1 Loud Speaker Outlet - 2 Microphone Outlet	Comp.	3		

Item No	Description	Unit	Quantity	Rate	Amount
8.2	<p><u>Conduit, Rigid Piping and Excavation Works:</u> Supply, install and connect Self-extinguishing type plastic conduit, processed over or under plaster or inside castings, including junction boxes, unions, connectors, etc. including excavation , backfilling , sand , tape , manholes and covers and galvanized draw-strings, ready for use (for works not included in points works).</p>				
8.2.1	29 mm diameter.	ML	100		
8.2.2	36 mm diameter.	ML	100		
8.2.3	Ø2" diameter.	ML	100		
8.2.4	Ø3" diameter.	ML	100		
8.3	<p><u>Cables:</u> Supply, install and connect XLPE non-armored type thermoplastic copper cables, including insertion into conduit or attachment to structural elements or laying in ductwork, including all associated materials, insulation materials, unions, and connection of cable at both ends.</p>				
8.3.1	(3X95+1x50mm) N2XY+1x50 sq.mm	M.L.	60		
8.3.2	4x25+16sq sq.mm	M.L.	100		
8.3.3	5x16 sq.mm	M.L.	100		
8.3.4	5x4 sq.mm	M.L.	100		

Item No	Description	Unit	Quantity	Rate	Amount
8.4	<u>Electrical Switchboards:</u>				
a.	Supply, install and connect the electrical switchboards to the site, including all associated materials and labor, as described in the technical specifications.				
b.	Cabinets with no access from the rear, made up of transparent polycarbonate cells, or sheet-metal cabinets with a 25% surplus space.				
c.	The switchboards are to be placed on the floor, in a niche against the wall.				
d.	Main supply lines enter from the switchboard bottom, top or side, while outgoing lines exit the switchboard from both its bottom and top sides.				
e.	Price to include all structural elements required in order to install the switchboard, including bus-bars, terminals, wiring, bolts, clamps, etc. and for the equipment listed below.				
f.	The switchboards shall contain accessories shall be according to the approved manufacturer list.				
g.	Prices for supply, installation and connection of various accessories including all associated labor and materials such as bus-bars, terminals, wiring reinforcements, mounts, engraved "sandwich" type identification plates, etc. including connection to mains supply - complete ready for use.				
h.	The price shall include connection of the distribution board to the existing MDB.				
8.4.1	DB-Hall	Unit	1		
8.4.2	Supply, install, connect and test 3KG FM-200 for the distribution board complete with all required materials and accessories.	No	1		

Item No	Description	Unit	Quantity	Rate	Amount
8.5	<u>Luminaries Supply and Installation:</u>				
a.	Supply and installation of lighting fixtures as described below, including all necessary accessories, required in order to light it with lamps and electronic rapid starter, complete, according to the approved manufacturer list.				
b.	All lamps shall be of the energy-saving type (18,36, 58 Watts).				
8.5.1	Type (A) 4x18W, fluorescent lighting fixture, recessed in false ceiling, with double parabolic reflector and louvers, IP20.	Unit	27		
8.5.2	Type (AE) Ditto as A but with emergency charger.	Unit	6		
8.5.3	Type (B) 2x36W fluorescent light fixture Prismatic type.	Unit	4		
8.5.4	Type (BE) Ditto as B but with emergency charger.	Unit	1		
8.5.5	Type (E) 1 x 8W fluorescent emergency exit sign luminaries with white steel body, for maintained emergency lighting of 3 hour duration, legend panels (3) included (down, left and right).	Unit	12		
8.6	<u>Fire Alarm System:</u>				
	Supply install and connect complete in place and in an operable manner the fire alarm system. The work is to include the supply of the equipment specified, installation of same connection, wiring, cables, commissioning and all of the details and connecting to the existing system as specified in the technical specifications and drawing type shall be according to the approved manufacturer list.				
8.6.1	Main addressable fire alarm control panel up to two zones with batteries and charger.	Unit	1		
8.6.2	Manually operated alarm call point .	Unit	2		
8.6.3	Indoor fire alarm siren .	Unit	2		
8.6.4	Ionization smoke detector.	Unit	7		
8.7	<u>LV Boxes:</u>				
	Supply install and connect the following LV boxes. Rate to include all required materials, conduits, wires, cables and accessories manufacturing from galvanized sheet metal sheets , painted with the same color of the switch boards all as specified in the technical specification and drawings.				
8.7.1	LVB Approximate dim.(60x60x25) cm	No.	1		

Item No	Description	Unit	Quantity	Rate	Amount
8.8	<u>Sound System</u>				
8.8.1	Reinstalling the dismantled sound system parts (microphones, microphone outlets, loud speakers, etc...) to the proposed LV Box , the price shall include screened or sheathed twisted pair/ multi-core cables, and all the required to accomplish this job as per specifications or the engineer instructions.	Job	1		
8.8.2	Rack Sound System Supply, install, test & commission the main "Rack sound system (digital) not less than 200W, complete with amplification and control unit, operator console, two portable microphones, auto reversing cassette player, 6 Disc CD player, AM/FM tuner, Power supply unit, Amplifier routing mixer, graphic equalizer, amplifiers and all other accessories. Notes: Contractor shall submit calculations and complete study, to achieve correct and clear voice in each area of the building according to instructions of approved manufacturer.	L.S	1		
8.8.3	Supply, install, test & commission 24W (RMS) column type loudspeaker, the price shall include cables and all accessories needed.	No.	6		
8.8.4	Loud speaker, recessed in false ceiling (6w) with match transformer, the price shall include cables and all accessories needed.	No.	10		
Total Bill No. 8 Sum Of Items of (8.1-8.8) carried to summary					

Item No	Description	Unit	Quantity	Rate	Amount
Bill No 9	Mechanical Works:				
	<u>PREAMBLE</u>				
	<p>The Contractor shall, when pricing the rates of this bill, take into consideration including and allow for the costs or expenses of all requirements stipulated in the preambles, drawings and technical specification of the contract. He should pay a visit to the site to get himself familiar with the required works, and moreover, he should contact the concerned UNDP personnel to obtain any clarifications or data about the specified works.</p> <p>The following notes should be considered when pricing:</p> <p>a- The price shall include all required digging or excavation (except for places which have been assigned a bill item specifically for that purpose), backfilling and cement covering as specified, sleeves construction, foam and mastic sealing, as well as re-plastering.</p> <p>b- The price shall include all connections of condensate water to existing drainage pipes, and provision of drainage pipes where such pipes do not exist.</p> <p>c- The contractor must consider keeping the scholastic activities undisturbed and uninterrupted during the whole erection, installation and commissioning periods.</p>				
9.1	Carefully make openings of any required size in the walls for all penetrations of HVAC duct work. Price shall include hauling away all the debris to dump place approved by the Engineer. The contractor is completely responsible for any unexpected and unnecessary damage in walls, floors, ceilings, doors, windows, and any related items following the make of the openings. The contractor is also responsible for keeping the area clean and safe and the openings shall be neat and exactly to the size required. All done according to the approval of the Engineer.	Job	1		
9.2	Supply and install (S & I) of cold forged aluminum supply 4 way ceiling diffusers with volume dampers and all required fixing adaptors and flexible connection with duct as shown on drawings, all as made by Cooling Industries or Equally Approved (E.A).				
9.2.1	15"X15"	No.	20		
9.2.2	Ditto, but 12"X12"	No.	3		
9.2.3	Ditto but of size is 12"X12" for return air.	No.	3		

Item No	Description	Unit	Quantity	Rate	Amount
9.3	S&I aluminum supply air wall-mounted diffusers (grill type) as made by cooling industries or E.A, key operated opposed-blade volume damper and equalizing grid, suitable for mounting flush with the wall and/or gypsum board. The unit price shall include connection to duct with flexible insulated duct of compatible diameter and of maximum 1 meter in length , and all accessories and works required to complete the work, all done according to drawings, specifications and approval of the Engineer.				
9.3.1	8"X12"	No.	14		
9.4	Supply and Install return air aluminum grills of size 24"X24" made by cooling industries or Equally approved, fixed 45-degree blades, double deflection, 1" thick frame, 3/4" spacing. The unit price shall include connection to duct, and all accessories and works required to complete the work. All done according to drawings specifications and approval of the Engineer.	No.	4		
9.4.1	Ditto, but 24"X32"	No.	4		
9.5	Supply and install single skin galvanized steel duct made according to SMACNA with 1 1/2" thick , 12kg/m3 density glass wool insulation cladded with reinforced aluminum foil. The rate shall include all required hanger, supports, splitter dampers and vanes, flexible connection and all required accessories made as shown in the drawings and according to specifications.	M2	440		
9.6	Ditto, but with 0.6mm Galvanized sheet cladding for protection of exposed duct work on the exterior including all screws, fittings, and sealant needed to complete the job according to drawings, specifications, SMACNA standard, and the approval of the Engineer.	M2	50		

Item No	Description	Unit	Quantity	Rate	Amount
9.7	S & I modular, weather proof type Packaged Heat Pump Unit constructed from aluminum penta post with double skin panels and insulated with injected polyurethane 2" thick at the evaporator side, with no-thermal bridge, as made by York (USA), Daikin (Japan), Carrier (France) or EA, of 24 TR and 9'600 cfm capacity including 20% fresh air. The unit shall be equipped with backward curved centrifugal fan fixed on an anti-vibration frame, one heating/cooling coil, dampers for fresh and return air, primary air filter, bag filters with audible and visual clogging alarm, drain siphon, and all needed fixing accessories all made according to drawings and as specified. Contractor is bound also to provide with the unit spare bag filters for four consecutive changes. The price also includes the required power control gadgets and connections, including wires, cables, thermostat, sensing bulbs, etc.	No.	1		
9.7.1	Ditto, but capacity 11 TR and 4'550 cfm.	No.	1		
9.7.2	Ditto, but capacity 6TR and 2213 cfm.	No.	1		
9.8	S & I Sound attenuators as per Sound Attenuators Ltd or equally approved. Flanged square type of 1 meter long minimum and face area of 65X90 cm. The silencers shall be manufactured to bring the sound damping level to an acceptable criteria for theaters as set by the latest edition of ASHRAE standard in that respect. The silencer shall be installed on the package unit supply and return ducts. The silencer shall be manufactured of double skin (outer gauge 18 solid GI sheet and inner gauge 22 perforated GI sheet with 2"thick 48kg/m3 fiber glass fill for body and splitters), all seated on sturdy painted steel support.	No.	2		
9.8.1	Ditto, but of size 57X55 cm.	No.	2		
9.8.	Ditto, but of size 50X40 cm.	No.	2		
9.1	S & I of forward curve single phase decorative split unit heat pump made by York (USA), Daikin (Japan), Carrier (France) or Equally Approved of size 2.5 TR and 1'066 cfm. The unit shall be a single coil with drain pan made of stainless steel and with all parts such as washable flat filter, multi speed electric motor and room thermostat with distant remote controller. The rate includes copper pipes of proper diameters with 9 mm insulation and 10 cm plastic wrap strips, all the required fittings internally and externally, flexible pipe for draining condensate water as specified, electrical power and control cable, and any other material deemed necessary to complete the job.	No.	1		

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Item No	Description	Unit	Quantity	Rate	Amount
9.11	S & I 1" dia. PVC pipes for condensate water drainage. The rate shall include all fittings, hangers, brackets, conduits, boring, chiseling, flexible connections, and all other needed materials deemed necessary to complete the job. The drain pipe outlet should be connected mainly to floor drains on balconies (all DE pipes shown on drawings). However, when drain pipe is terminated at internal floor drain (all DI pipes shown on drawings), contractor is bound to break in existing tiles and reinstating new similar tiles after pipe connection is done. In all cases, exposed drain pipes should be enclosed in PVC conduits.	M.L.	20		
Total Bill NO. 9 Sum Of Item [(9-1)-(9-11)] carried to summary					

Summary

Item No	Description		Total
Bill 1	Cleaning, Demolishing & Dismantling Works:		
Bill 2	Maintenance Works:		
Bill 3	Concrete Blocks Works:		
Bill 4	Tiling, Flooring and Marble Works:		
Bill 5	Carpentry And Joinery Works:		
Bill 6	Gypsum Boards and False Ceiling Works:		
Bill 7	Painting Works:		
Bill 8	Electrical Works:		
Bill 9	Mechanical Works:		
Grand Total			
Discount			
Discount Amount			
Net Total			

NET TOTAL SUM (in words) :

SIGNED AND SEALED :

AUTHORIZED :

TITLE :

SIGNATURE :

DATE :