

ILO/Sheikha Fatima Bent Mubarak Vocational Training and Rehabilitation Center in Beit Ummar  
Phase 3 Bill of Quantities

Item	Description	Quantity	Unit	Unit Rate	Amount
	<b>Bill No.1 Civil WORKS</b>				
<b>1.1</b>	<b>General Maintenance work for the Building</b>				
<b>1.1.1</b>	Painting Works Prepare surface and apply one coat of emulsion paint or supercyl with existing colors for walls (. external and internal where required), the price includes chipping the deteriorated paint and filling the cracks with non-shrinkable fiber reinforced mortar.				
<b>a</b>	- On vertical walls	2,000	SM		
	Prepare surface and apply one coat of Polucid paint with existing colors for ceilings .				
<b>b</b>	- On ceiling .	1,000	SM		
<b>1.1.2</b>	Supply and apply one oil paint coat to all the existing wooden and metal doors and windows including cleaning and chipping the old paint where required.				
<b>a</b>	- Wooden Doors	100	SM		
<b>b</b>	- Steel doors	10	NO		
<b>c</b>	- <u>External steel doors</u>	5	NO		
<b>d</b>	- Ramp Hand Rail	150	MR		
<b>e</b>	- Staircase hand rail	50	MR		
<b>1.1.3</b>	Change the damaged lock cylinders ( union or equivalent) of all existing doors and install new cylinders as per engineers instructions	20	No		
<b>1.1.4</b>	Supply and install aluminum brush at the bottom of the existing metallic doors.	20	NO		
<b>1.1.5</b>	Extend the existing metallic doors to reach the tile level by steel plates similar to the existing	8	NO		

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Item	Description	Quantity	Unit	Unit Rate	Amount
1.1.6	Replace the existing deteriorated mosquito mesh, the price shall include the removal of the old parts. The quality and size should be similar to the existing.	10	NO		
1.1.7	Repair the existing aluminum windows by applying silicon, rubber, handles and any required accessories .	1	Job		
1.1.8	Supply & Install Bottom Wooden of Kitchen Cabinet. Cabinets Top shall be with Local Marble, 30 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 Hardwood (Zan) bands size (60*40) mm screwed to steel frame .Drawer 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 * 7 * 1.5) cm. and 3cm thick local polished marble , ironmongery, handles, two coats of lacquer paint for hardwood frame price includes all the accessories as per drawings and Specifications SIZE: Height (87) cm. Width ( 60 ) cm.	2.5	MR		
1.1.9	Conduct maintenance works for the existing tiles at the building by repairing the grouting, the price shall include the removal of the old grouting and apply new one as per specifications and engineer instructions.	100	SM		
1.1.10	Supply and install one sided gypsum board at the electrical room, the price shall include holes in the room ceiling, supports, fixing, painting ad all required works to complete the job.	6	SM		
1.1.11	Conduct maintenance works for the existing water proofing materials on roof, clean surface and apply two coats of acrylic water proofing material from an approved company.	600	M2		
1.1.12	Supply and install local Sour M'een polished stone ( sample to be given for approval ) 3 cm. thick . All bedded in or backed with cement and sand mortar [1:3] . The price shall include pointing with white cement .				
a	Stair treads and risers including the skirting	12	MR		

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Item	Description	Quantity	Unit	Unit Rate	Amount
1.1.13	Supply and install sliding aluminum window similar to the existing profiles, the price includes the removal and re-installing of the existing metallic louver after painting and repairing.	5	SM		
<b>1.2</b>	<b>External Works</b>				
1.2.1	(Provisional) Clean surface of the boundary walls, apply 3 coats of plastering, mismar, rough and fine coats	750	SM		
1.2.2	Supply and install 5 cm thick stone coping, 25-35 cm wide a stone external wall coping. The price includes stone pointing.	300	MR		
1.2.3	Supply and install galvanized metal fence 1.5 m height on top of the existing boundary wall. All done as per specifications, drawings and the approval of the Engineer.	100	MR		
1.2.4	Conduct maintenance works for the existing main steel gate, the price shall include painting works, replacing the cylinder with new one and all necessary works that might be needed.	1	L.S		
1.2.5	Repair the existing stone (Silsal) wall by removing and rebuilding the irregular part of the wall and casting 20 cm of rubble concrete on top of it.	400	MR		
1.2.6	Concrete B200 of 28 days cube crushing strength 200kg/cm <sup>2</sup> . Price shall include cleaning and making good of surfaces before casting of concrete, steel reinforcement as per drawings, form-work of any type or shape. Price shall include also any materials or works needed to complete the works to the best quality.				
a	- 15 cm thick For stairs, flights and landings	10	SM		
1.2.7	Supply and install on parapet wall and walls steel hand rail with two 1.5" pipes with plate steel 6 cm. wide fixed to parapet wall including welding curving fixing to steel plate with bolts and all accessories				
	The price shall include also painting of one coat of antirust and two coats of oil paint similar to the existing paint				
a	- On ramp	20	MR		

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Item	Description	Quantity	Unit	Unit Rate	Amount
	<b>Epoxy coating</b>				
1.2.8	Clean surface and cast 5cm thick concrete slab with fiber glass (0.8 kg/ m <sup>3</sup> ) and apply one coat of non - solvent epoxy 3kg/m <sup>2</sup> , spread fine sand 0.3 mm 4kg/ m <sup>2</sup> and apply final coat of epoxy 0.6 kg/m <sup>2</sup> .	250	SM		
1.2.9	Repair the existing epoxy by chipping the existing epoxy in defect places and repainting with the same existing color, and repair the joints by opening them and filling them with epoxy mortar.	600	SM		
	<b>Garden yards</b>				
1.2.10	Cleaning works for the garden yards from the debris and stones. Debris and stones shall be removed off site to a licensed dump site	1	LS		
1.2.11	Supply and spread red soil for plantation with a minimum thickness of 50 cm. free from debris	200	SM		
1.2.12	Concrete B200 of 28 days cube crushing strength 200kg/cm <sup>2</sup> . Price shall include cleaning and making good of surfaces before casting of concrete, steel reinforcement as per drawings, form-work of any type or shape. Price shall include also any materials or works needed to complete the works to the best quality.				
	- for Ramp	5	CM		
<b>Total Bill No. 1 ... .. Carried to Main Summary</b>					

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Item	Description	Quantity	Unit	Unit Rate	Amount
	<p><u>PREAMBLE</u></p> <p>Bill No. 2 ELECTRICAL WORKS</p> <p>- Rates for electrical installation shall include for :</p> <p>a - Furnishing and installation including all required materials .</p> <p>b - Painting all exposed metal surfaces with one coat of rust inhibitive primer and two coats if chlorinated rubber paint .</p> <p>c - Electrical works including all required materials, accessories, labor and all required according to BOQ and specifications.</p> <p>d - Cutting and pinning including all making good</p> <p>e - Forming or cutting holes, chases, channels etc. in reinforced concrete structures and block works.</p> <p>f - Plugging and screwing .</p> <p>g - Jointing, saddles, clamps, brackets, hangers and providing steel pipe sleeves with plates.</p> <p>h - Bending, cutting threading, trunking fittings, tees , elbows , bends , cover-plates, bushes, locknuts, stopping plugs, reducing bushes .</p> <p>i - Forming holes for conduit entries in special boxes , trunking , pinracks for supporting cables, chases .</p> <p>j - Draw wires, draw cables and the like .</p> <p>k - Sinking ends of cables to expose to conductors and capping ends of cables.</p> <p>l - Cleaning conduits, ducts, trunking and the like.</p> <p>m - Necessary trench or pit excavation, backfilling and disposal of surplus excavated materials.</p> <p>n - Preparation of all required workshop drawing and as built drawings as specified.</p> <p>o - Testing electrical installations as specified including providing equipment and personnel necessary for testing .</p> <p>p - Protection of all electrical works .</p>				

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Item	Description	Quantity	Unit	Unit Rate	Amount
<b>2.1</b>	<b><u>ELECTRIC FEEDERS</u></b>  Supply, install, connect and test the following N2XY cables inside empty P.V.C. mericaf conduit with connection boxes , bends and with all accessories needed to complete the system .				
<b>a</b>	- ( 5 x 10mm <sup>2</sup> ) N2XY cable with O42 conduit	100	MR		
<b>b</b>	- ( 5 x 6mm <sup>2</sup> ) N2XY cable with O42 conduit.	100	MR		
<b>c</b>	- ( 3 x 4mm <sup>2</sup> ) N2XY cable with O23 conduit.	200	MR		
<b>2.2</b>	<b><u>ELECTRICAL PANELS</u></b>  Supply of electrical switchboard to site including all associated materials and labour, as described in the technical specifications. Cabinets with no access from the rear , made up of transparent polycarbonate cells, or sheet metal cabinets with 25% surplus space. Main supply lines enter from bottom , top or side, while out going lines exit the switchboard , from both its bottom and top only. Price to include all structural elements required in order to install the switchboard including all bus bars , terminals , wiring , bolts , clamps, etc. and for the equipments listed below.				
<b>a</b>	Sub-main Distribution Board (UPSB)	1	Job		
<b>c</b>	Boiler Room Board (BRB)	1	Job		

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Item	Description	Quantity	Unit	Unit Rate	Amount
<b>2.3</b>	<p><b><u>Sub Installations</u></b></p> <p>Supply , install , connect and test all necessary materials and accessories for a complete point and outlets for switches , lighting points , sockets and electrical equipments , including P.V.C. conduits, wires, pull boxes etc. All switches, sockets, power sockets, boxes.</p> <p>The price shall include also all needed boxes, frames and any other material needed. The supply from the electrical switchboard to first point in circuit is included in the price of the point (by means of cable or lead a conduit).</p> <p>Completion of the works, as per drawings, specifications and engineer's instructions.</p>				
<b>a</b>	16A wall socket point to include 16mm dia conduit 3 X 2.5mm <sup>2</sup> leads or cable and 16A socket complete ready for work.	5	NO		
<b>b</b>	Ditto but water proof.	5	NO		
<b>c</b>	Ditto but duplex.	2	NO		
<b>d</b>	Three phase 5 X 25A, single circuit wall socket point in 23mm conduit, 5 X 2.5mm <sup>2</sup> leads or cable and 5 X 16A three phase socket accessory.	2	NO		
<b>e</b>	Three phase 5 X 16A, single circuit wall socket point in 23mm conduit, 5 X 2.5mm <sup>2</sup> leads or cable and 5 X 16A three phase socket accessory.	2	NO		

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Item	Description	Quantity	Unit	Unit Rate	Amount
<b>2.4</b>	<p><b><u>Networking Computer Outlets</u></b></p> <p>Supply, install and commissioning network system complete with all internal connection CAT6 cables, surge protection power strip 4 outlets in each rack and all accessories needed for complete work, as specified and as detailed on drawings. The price shall include dismantling and the removal of the old cabling and wiring of the Networking System.</p>				
<b>a</b>	Rack cabinet 10U with fans, air patch panel & patch core cable.	2	No		
<b>b</b>	Cat6 patch panel 24 port	2	No		
<b>c</b>	Switch 24 port 10/100/1000	2	No		
<b>d</b>	Access point	2	NO		
<b>e</b>	Supply, install, and commissioning data sockets RJ 45, rate includes sockets all conduits terminal boxes, CAT6 shielded cables and all accessories needed to complete the system according to specifications and drawings	30	No		
<b>2.5</b>	<p><b><u>Empty Conduits for Distribution</u></b></p> <p>Standard or self-extinguishing type plastic conduits processed over or under plaster or in the side casting or under ground including junction boxes, unions, connectors, etc. including galvanized wire drawstrings, ready for use.</p>				
<b>a</b>	- O 23	50	ML		
<b>b</b>	- O 29	50	ML		
<b>2.6</b>	<p><b><u>Fire Alarm System</u></b></p> <p>Supply , install , connect &amp; commissioning addressable fire alarm system, including modules to connect with other systems and all required works, conduits, cables , wires and fittings, according to drawings , specifications</p>				
<b>a</b>	Fire alarm analog addressable control panel (two loops) expandable with batteries and charger.	1	No		
<b>b</b>	Analog addressable photo optical smoke detector	40	No		
<b>c</b>	Analog addressable heat detector	2	No		
<b>d</b>	Analog addressable break glass unit including back box	10	No		
<b>e</b>	Audio-Visual electronic fire a strobe with addressable interface modular base.	10	No		
<b>f</b>	Ditto above but water proof.	1	No		
<b>g</b>	Short circuit isolator (SCI)	2	No		
<b>h</b>	Automatic dialer with speech processor (4No.) ,24 V	1	No		

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Item	Description	Quantity	Unit	Unit Rate	Amount
2.7	<p><b><u>Telephone System</u></b> Supply, install and connect the telephone feeders between the switchboard and the different low voltage boxes, including conduits, boxes, wires and cables according to the drawings and specifications.</p>				
a	- 10 - pair	100	ML		
b	- 20 - pair	30	ML		
c	- 5 - pair	300	ML		
d	<p><b><u>Private Automatic Branch Exchange.</u></b> PABX IP- based with capacity 20 line internal 3 line external, expandable to 40 line complete with voice mail record, mail box, and all internal wires and all accessories needed for complete work. All hardware included and shall be in accordance with specifications and drawings.</p>	1	L.S		
2.8	<p><b><u>UPS System</u></b> a Supply of an 10KVA uninterruptible power supply (U.P.S.) system, consisting of a charger/rectifier unit, a solid-state inverter unit, and a static bypass transfer switch, all in accordance with the technical specifications for 15 minutes full load. Three phase in and three phase out. A battery bank for backing up the U.P.S. system with up to 15KVA capacity, to enable 15 minutes of operation installed in cabinets, all in accordance with the technical specifications. Power and control connecting cables between the U.P.S. system and the battery bank, including protective devices.</p>	1	NO		
2.9	<p><b><u>Lighting Fixtures:</u></b></p>				
a	<p><b><u>Fixture B:</u></b> Recessed mounted 2x18W TC-D down light, polycarbonate black and white body, specular anodized aluminum reflector with radial louver.</p>	2	No		
b	<p><b><u>Fixture D:</u></b> Surface mounted 2x36W Fluorescent Batten, body made of steel section pre-coated high reflectivity white paint.</p>	4	No		
c	400 W projector	4	No		

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Item	Description	Quantity	Unit	Unit Rate	Amount
2.10	<p><b><u>Electrical Generator</u></b>  Supply, install, test, and commissioning stand by diesel generator set (220 KVA) , speed 1500rpm heavy duty industrial turbo charger engine with control panel and all equipment as specified and as shown on the drawings including of all equipment, 2000 liters fuel tank, cooling system for diesel and tools set including radiator and cooling fan complete with protection guards , exhaust from engines 24 volt, system with battery charging alternator, starter motor , batteries and battery rack mounted on machine base frame and with static battery charger, and original sound proof canopy,</p> <p>and all controls including voltmeter, voltmeter phase selector 7 position, ammeter , ammeter selector with 4 position, frequency meter, hours run meter, battery voltmeter, coolant temperature gauge, oil pressure gauge and tools set required to provide an installers which is complete and a full set of operation and maintenance manuals in English. Price to include concrete base, control cable, earthing system for generator and all accessories to complete the work according to specification &amp; drawings.</p> <p><i>Cables</i>  - (3 X 95 + 1 X 50 mm2 ) N2XY cable with 3"conduit  + 1X50mm2 earth wire from MDB to generator.  including connection at both ends</p>				
a	Generator set.	1	JOB		
	<b><i>Total Bill No. 2 ... .. Carried to Main Summary</i></b>				

Item	Description	Quantity	Unit	Unit Rate	Amount
	<p><b>Bill No. 3 SANITARY &amp; MECHANICAL WORKS</b></p> <p><b><u>PREAMBLE</u></b></p> <p>1 - Rates for excavating drain trenches , pits shall include for excavation to any depth and width necessary to provide working spaces planking and strutting keeping excavations free from water, trimming bottom to required levels, stockpiling all suitable excavated materials for backfill and fill on site for carefully backfilling and well consolidating excavated material and for disposal of the surplus material as directed , all as specified .</p> <p>2 - Rates for plumbing work and sanitary installations shall include for :</p> <p>a - Bends, elbows, tees, junctions, branches and the like .</p> <p>b - Joints, union, flanges and couplings in the running lengths of pipes .</p> <p>c - Nipples, air chambers , cleaning eyes and access doors .</p> <p>d - Holderbats, brackets, pipe clip and support, hangers and piers .</p> <p>e - Pipes sleeves and escutcheons .</p> <p>f - Cutting and pinning ends of supports for pipes equipments, appliances, fixtures, fittings and all the like .</p> <p>g - Flushing and testing as specified .</p> <p>h - All cuttings, borings, making holes and the like including making good .</p> <p>i - Conduit, conduit fittings, wiring and the like.</p> <p>j - Hoisting, lifting and fixing in position .</p> <p>k - painting as specified .</p> <p>l - Protection of all sanitary installations .</p> <p>3 - Rates for all heating installations shall include :</p> <p>a - Assembling and jointing .</p>				

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Item	Description	Quantity	Unit	Unit Rate	Amount
	<p>b - Factory priming paint .</p> <p>c - Fixing, including nails, bolts , nuts, screws, plugs and the like .</p> <p>d - Cutting and pinning including all making good.</p> <p>e - Plugging and screwing .</p> <p>f - Testing all installations in accordance with a selected International standard by the engineer including, providing equipment and personnel necessary for testing .</p> <p>g - Protection of all works .</p> <p>4 - Rates for all items of equipment and materials shall be inclusive of all certificates samples test, supply of all information and data , supply of catalogues, charts, curves, submittals certified drawings , and all other information services called for in the specifications and fully connected up in good working order .</p> <p>5 - Rates shall also include for :</p> <p>a - Marking positions of holes, mortices chases, and the like etc..</p> <p>b - Cutting and forming holes, chases, etc, including pipe sleeves and making good all works.</p> <p>c - Cutting and pinning ends of supports to structure.</p> <p>d - Concrete bases, isolation pads, grouting etc.</p> <p>e - Painting as specified .</p> <p>f - Protection and maintaining the works in good order .</p> <p>g - Electrical installations including panels, controls wiring, conduits, conduit fittings etc.</p> <p>h - Preparation of plans or diagrams , working drawings , as-built drawings , schedules, instruction manuals, etc.</p> <p>i - Insulation as required .</p>				

Item	Description	Quantity	Unit	Unit Rate	Amount
	<p>j - Tags, nameplates, belt guard and all accessories and appurtenances described in the specifications dealing with each item or equipment.</p> <p>k - Any necessary motors , starters and necessary wiring on the equipment having electrical goods together with such items as insulation , piping instruments, controls and all other items mentioned or implied in specifications and drawings as being supplied with the equipment and not separately measured and enumerated in the Bills of Quantities .</p> <p>6 - Equivalent materials and equipments are considered so , only when they are up to the specified standard quality, price and, moreover, they have reliable local agent, who can provide the after sales services. Priority is given to high quality local products, all according to the Engineers' judgment.</p> <p>7 - See specifications for taking over supply item.</p> <p>8 - Jointing of PVC pipes by heating is not allowed.</p> <p><b><u>SANITARY FIXTURES</u></b></p> <p>Supply and install where shown on the drawings the following sanitary fixtures with the required fixation accessories and materials , complete as described , specified, and to Engineer's instructions. Price of sanitary fixture shall include the supply and installation of PVC drain pipes from sanitary fixture to nearest floor drain or main connecting sewage pipe</p>				
3.1	- Dismantling all the existing washing basin flexible drainage syphon and prepare the basin to adapt the new syphon.	26	NO		
3.2	- Chromium plated door handle for the handicapped toilet.	8	NO		

Item	Description	Quantity	Unit	Unit Rate	Amount
3.3	- Supply and install Mirror of size 40 x 50 cm with stainless steel channel-frame with accessories .	5	NO		
3.4	- Supply and install grill mesh cover for the rain water trap on roof and other locations.	8	NO		
3.5	- Supply and install galvanized steel grid cover for rain water trap in the ground floor of size 135x40 cm constructed of 3mm thick by 2.5 cm width metal rods and 2 cm spacing between them.	1	NO		
3.6	Connect 4" sewer PVC pipe to the main adjacent concrete manhole. Price shall include excavation connecting the sewer with PVC pipe, reinstating and backfilling all done according to Engineer instructions.	2	MR		
<b><u>HOT AND COLD WATER PIPE WORK</u></b>					
3.7	Supply and install Schedule 40 galvanized steel pipes at riser, corridor, sanitary block , etc.. With all necessary fittings e.g. elbow, Tee, union, air air vent, supports, hangers, shields, saddles, etc.. All piping hung on wall, outside building , in riser and in sanitary block are measured in meter run . All pipes imbedded in walls shall be coated with 3-layers of extruded polyethylene . All pipe joints imbedded in walls shall be coated with thick asphalt layer.				
3.7.1	- 3/4" diameter pipe	5	MR		
3.7.2	- 1" diameter pipe	5	MR		
3.7.3	- 1 1/4" diameter pipe	5	MR		
3.7.4	- 1 1/2" diameter pipe	5	MR		
3.7.5	- 2" diameter pipe	5	MR		
3.8	Supply and install copper air vent to be connected to the cold and hot water copper collectors and heating collectors.	27	NO		
3.9	Supply and install omega and saddle supports for riser pipes and hanging vertical and horizontal pipes steel and PVC pipes as well in place of the existing inadequate hanging elements. Supports has to be on walls, ceilings and concrete beams and columns. Pipes of all diameters has to be supported as instructed by the Engineer.				
3.9.1	Ditto, but for 2" steel pipes.	100	NO		
3.9.2	Ditto, but for 1 1/2" steel pipes.	60	NO		
3.9.3	Ditto, but for 1 1/4" steel pipes.	60	NO		
3.9.4	Ditto, but for 1" steel pipes.	60	NO		
3.9.5	Ditto, but for 3/4" steel pipes.	30	NO		

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3.9.6	Ditto, but for 1/2" steel pipes.	30	NO		
3.9.7	Ditto, but for 2" PVC pipes.	80	NO		
3.9.8	Ditto, but for 4" PVC pipes.	100	NO		
3.9.9	Ditto, but for 2" pipes, brackets on roof.	30	NO		
3.9.10	Ditto, but for 1 1/2" pipes, brackets on roof.	16	NO		
3.9.11	Ditto, but for 1 1/4" pipes, brackets on roof.	16	NO		
3.9.12	Ditto, but for 1" pipes, brackets on roof.	10	NO		
3.10	Supply and install 40 cm height steel support for main pipes on roof with saddles and screws. price shall include all required fixation as per the instructions of the Engineer.	15	NO		
3.11	Supply and install heating element for the 200 liters water cylinders, price shall include all proper fixing required.	3	NO		
3.12	Supply and install 3/4" ball valves on various locations as per the Engineer approval.	12	NO		
3.13	Supply and install tube insulation material of minimum 13mm thickness, including all necessary accessories e.g. adhesive material etc. for hot water piping, complete with the insulation of all fittings e.g. elbow, "T", union, etc. The price includes the supply and rolling of the plastic band 10cm wide around insulated pipes. Measurements are taken net according to true length of pipes. Price shall also include Galvanized sheet metal protection 0.7mm, on insulated piping and fittings of various diameters.				
3.13.1	- 1/2" diameter pipe	40	MR		
3.13.2	- 3/4" diameter pipe	80	MR		
3.13.3	- 1" diameter pipe	80	MR		
3.13.4	- 1 1/4" diameter pipe	80	MR		
3.13.5	- 1 1/2" diameter pipe	120	MR		
3.13.6	- 2" diameter pipe	250	MR		
	<b><u>PEXGOL</u></b>				
3.14	Supply, Install and test Pexgol tube 16mm dia. Price to include Copper Adaptors, elbows, and all needed fittings and external Sleeve tube 25mm dia. for protection of interior tubes .	100	MR		

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Item	Description	Quantity	Unit	Unit Rate	Amount
	<b><u>AIR EXTRACTOR</u></b>				
3.15	Supply and install duct mounted centrifugal electrical air extractor fan [on roof] for the sanitary blocks Price includes all electrical connections.				
3.15.1	- 220 cfm , 0.15" s.p.	1	NO		
3.15.2	- 1825 cfm , 0.5" s.p.	1	NO		
3.15.3	- 1940 cfm , 0.5" s.p.	1	NO		
3.16	Supply & Install rectangular galvanized steel metal duct manufactured in thickness according to SMACNA, as specified.	260	M2		
3.17	Supply and install cold forged Aluminum ceiling grill 6"*6" with volume damper by "Cooling Industries" or equally equivalent.	28	NO		
	<b><u>FIRE CABINET:</u></b>				
3.18	Supply , install and test wall mounted fire fighting cabinet in all locations shown on drawings., of dimensions 130 x 80 x 30 cm , with all necessary fittings needed to complete the work . Price includes swinging hose reel with 25 meter long 1" dia. polystyrene hose with aluminum nozzle, 1" ball valve, 2" landing valve, 2 lengths of linen hose of 15 meter each length complete with quick coupling, 2" aluminum nozzle , and 6Kg powder type fire extinguisher.	2	NO		
3.19	Supply and install as shown on drawings 6 Kg. powder type fire extinguisher.	12	NO		
	<b><u>FIRE PUMPS</u></b>				
3.20	Supply , install , connect, test and commission the following water pumps , the price shall include all fittings required as per drawings and specifications all electrical connection to the distribution board, all as Engineer instructions.				
3.20.1	- fire fighting :            18 GPM @ 3 Bars	2	NO		

Item	Description	Quantity	Unit	Unit Rate	Amount
	<b><u>FIRE FIGHTING PIPING:</u></b>				
3.21	Supply and install Schedule 40 galvanized steel pipes at riser, corridor, sanitary block , etc.. With all necessary fittings e.g. elbow, Tee, union, air air vent, supports, hangers, shields, saddles, etc.. All piping hung on wall, outside building , in riser and in sanitary block are measured in meter run . All pipes imbedded in walls shall be coated with 3-layers of extruded polyethylene . All pipe joints imbedded in walls shall be coated with thick asphalt layer. Connect all Fire Fighting 2" pipes on roof with the water pipes network on roof.				
3.21.1	- 2" Diameter pipes	100	MR		
	<b><u>CENTRAL HEATING SYSTEMS:</u></b>				
	<b><u>PIPING:</u></b>				
3.22	Supply and install the following seamless sch.40 black steel pipes for heating with all necessary fittings e.g. elbow, vent, "T", valve strainer , expansion joint , union , etc. of approved quality [ local made class "A" black ] including all supports, painting and all digging incurred therein.				
3.22.1	- 2" Diameter pipes	100	MR		
	<b><u>PIPES INSULATION [HEATING WATER ]:</u></b>				
3.23	Supply and install tube insulation material 12mm thick [ including all necessary accessories e.g. adhesive materials , etc. ] for heating water pipes as specified complete with the insulation of all fittings e.g. elbow, "T", union, etc,. The price includes the supply and rolling of plastic band 10cm wide around insulated pipes. Measurements are taken net according to true length of pipes.				
3.23.1	- 2" Diameter pipes	100	MR		

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Item	Description	Quantity	Unit	Unit Rate	Amount
	<b><u>CENTRAL HEATING SYSTEMS:</u></b>				
	<b><u>RADIATORS:</u></b>				
3.24	Supply and install wall mounted cast iron radiators Capacities and sections as indicated on drawings. Each radiator shall include valves , vents and hooks, as well as lengths of pipe to main branch. The price includes mounting and connecting to heating hot water pipes . Loads are calculated according to the following section.				
3.24.1	- Section 600 mm height.	1760	Sect.		
	<b><u>BOILER:</u></b>				
3.25	Supply and install cast iron boiler of capacity 250,000 kcal/hr, Price to include all required accessories , with all standard and advanced controls , insulation, jacket, thermometer, pressure gauge, thermostat, water flow switch ,safety valve,etc. All complete with compatible similar made forced draft fired burner . Price includes oil filter , flexible hose , fuel connection pipe and fittings, shut off valves of all required sizes and applications , and electrical connection to main electric panel, including wiring. Also including sand tray underneath the burner.	1	NO		
3.26	Supply and install Expansion tank, 300 liter capacity, The price include all required fittings, valves, piping, pressure gauge, etc.	1	NO		

Item	Description	Quantity	Unit	Unit Rate	Amount
	<b><u>CIRCULATING HEATING PUMPS:</u></b>				
3.27	Supply and install centrifugal pump , complete with globe valves , check valves , pressure and temperature gauges, connected on the discharge sides and strainer and gate valves on the suction side as specified and shown on drawings . The price includes fixing accessories , flexible pipe connections , fittings and all electrical connections to panel.				
3.27.1	- Having a capacity of 33 GPM @ 27 M-Head ,	1	NO		
3.27.2	- Having a capacity of 46 GPM @ 27 M-Head ,	1	NO		
3.27.3	- Having a capacity of 37 GPM @ 12 M-Head ,	1	NO		
	<b><u>COLLECTORS:</u></b>				
3.28	Supply and install 5" seamless black steel pipes schedule 40 , collectors ( one supply , one return ) and piping from the boilers till main branch [ loop] all compatible with the number of existing supply and return pipes including an additional clogged outlet on each collector for future extension, valves at supply and return lines including all fittings, e.g. "T", valve, elbow, pressure gauge strainers , etc.. Pipes diameters required as 3", 2", 1 1/2" as shown on drawings. Price includes insulation and galvanized sheet metal cover of 0.6 mm thickness.	2	JOB		
	<b><u>CHIMNEY:</u></b>				
3.29	Supply and install 10" diameter boiler chimney consisting of mild steel rolled sheet of minimum thickness of 2mm, complete with all required supports and fittings . The chimney will end two meters above roof level of the building. Price includes installation of sliding inspection doors , cleaning openings , top cap , digging , painting , and insulation of metal part by 2" Rockwool with galvanized 1 mm thick sheet metal cover.	1	NO		

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Item	Description	Quantity	Unit	Unit Rate	Amount
	<b><u>FUEL TANK:</u></b>				
3.30	Supply and install over ground steel metal tank of 3mm thickness and 2000 liters capacity with all fittings and accessories e.g. inlets , outlets, vents , level indicator , and PVC cladded copper piping between the tank and the burner in the boiler room. Price shall include all required sensors and electronic fittings as per the drawings and the instructions of the Engineer. The tank shall be seated on a suitable metal holder with at least 5cm angles.	3	NO		
3.31	Supply and install the following seamless sch.40 black steel pipes for fuel system with all necessary fittings e.g. elbow, vent, "T", valve strainer , expansion joint , union , etc. of approved quality [ local made class "A" black ] including all supports, painting and all digging incurred therein.				
3.31.1	- 2" Diameter pipes	100	MR		
3.31.2	- 1 1/4" Diameter pipes	60	MR		
3.31.3	- 1" Diameter pipes	30	MR		
3.31.4	- 3/4" Diameter pipes	20	MR		
	<b><u>FIRE EXTINGUISHER:</u></b>				
3.32	Supply and install as shown on drawings 6 Kg. fire extinguisher dry chemical powder To be installed in existing boiler room at high level with all required mounting accessories.	1	NO		
	<b><u>WATER DRAINAGE:</u></b>				
3.33	Supply and install galvanized steel grill trench of size 30x90 cm with all required works and parts to be connected to the 4" PVC drain pipe. Price shall include removing part of the tiles in the way of piping and trench works, proper tiling and all required civil works as per the instruction of the Engineer.	1	JOB		
3.34	Supply and install 4" PVC pipe under tiles to connect the drain trench to the nearest 4" PVC riser. Price include all needed fitting and parts to complete the job all as per the approval of the Engineer.	4	MR		

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Item	Description	Quantity	Unit	Unit Rate	Amount
	<b><u>COOKING GAS SYSTEM:</u></b>				
3.35	Supply and install cast iron Gas cylinder of size 48 kg for the administration kitchen. Price to include all required fitting and parts to connect the cylinder with the network, including steel sheet closet to cover and secure the cylinder outside the building. All is done as instructed by the Engineer.	1	NO		
3.36	Ditto, but for the Cafeteria Kitchen, with gas line connections and manifolds between the cylinders. Each 2 cylinders are to be connected with one manifold All is done as instructed by the Engineer.	4	NO		
3.37	Supply and install single gas socket outlet in kitchen complete with all necessary fittings such as 10 mm under equipment gas valve, reducer, and 10 mm insulated pipe from gas outlet to gas distribution cabinet. All is done as instructed by the Engineer.	4	NO		
<b>Total Bill No. 3 carried to main summary</b>					

Item	Description	Quantity	Unit	Unit Rate	Amount
4.1	<p><b>4. Lift Works</b></p> <p>supply install test and commission and maintain (full packed electrical lift). All lift parts should be factory assembled, price shall include all related material and electrical works related to lift like the electrical panel and the cables .. etc, opening the doors, preparing the motor room, making good all according to specifications and engineer's instructions. The lift shall have the following specifications:</p> <p>Capacity: 13 persons/ 1000 kg  Stops: <b>2/2</b> in line  Type: Electrical Lift- Simplex  Speed: 1.0 m/s  Drive: VVVF Closed Loop  Controller: Down Collective  Shaft Dimensions: W=2600 mm, D=1700 mm</p> <p><b>Elevator Car</b>  Entrance :1  Car Size WxD : 1550 mm*1450 mm  Car Door Opening: W= 1100mm ,H= 2000mm  Car Door Protection: Electronic safety edge  Car Door: Automatic Center Opening  Car Door Finish: Hair Line Stainless Steel 304  Door Operator: VVVF  Car Finish: Hairline stainless steel  Car Flooring: Recessed for Granite  Mirror: Half at Rear Wall  Hand Rail:One at Rear Panel in Stainless Steel  Lighting: Fluorescent  Ventilation: Blower Fan  Ceiling: Hair Line Stainless Steel 304</p> <p><b>Car Operating panel</b>  Hair Line Stainless Steel 304  2 Electromechanical Push Buttons  Door Open Button  Door Close Button  Alarm Button  Fan Switch  Position Indicator  Overload Indicator  Buzzer  Emergency Car Light  Voice synthesizer  Bell Unit  Indicator and Arrows  Gong in Car</p>	1	LS		

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Item	Description	Quantity	Unit	Unit Rate	Amount
	<p><b>Landing Doors</b>                      Finish: Prime Paint                      Door Opening: W=1100, H= 2000 mm                      Fire Rating: 120 Minutes                      Door Type: Center Opening</p> <p>Hall Position Indicators At All Floors                      Hall Direction Indicators At All Floors</p> <p><b>Machinery</b>                      Safety Code : EN-81.70 for handicaps                      Location: Above The Shaft                      Safety Gear: Progressive Type                      Roping: 1:1                      Power Supply: 380 v, 3-Phase, 50hz                      Starts Per Hour: 180</p> <p><b>Additional Features</b>                      phase Failure                      Over Load Device                      Phase Sequence Contactor                      Thermal Over Load Device                      Voltage Drop protection In Controller                      Emergency Fireman's Switch                      Voice Synthesizer                      Full height electronic safety edge                      brail buttons</p>				
	<b>Total Bill No. 4 carried to main summary</b>				

**BoQ SUMMARY**

Item	Description	Amount
Bill 1	Civil Works	
Bill 2	Electrical Works	
Bill 3	Mechanical works	
Bill 4	Lift	
	Total excluding VAT	

**CURRENCY OF BID (US\$ or NIS) :** \_\_\_\_\_

**TOTAL SUM (in words ) :** \_\_\_\_\_

**SIGNED AND SEALED :** \_\_\_\_\_

**COMPANY :** \_\_\_\_\_

**AUTHOURIZED/TITLE :** \_\_\_\_\_

**SIGNATURE :** \_\_\_\_\_

**DATE :** \_\_\_\_\_