

Tender Ref: 6300037989

Date:- 17.09.2022

ISSUED TO:	Period of contract:	Six (06) Months
	EMD	Rs. 1,07,400/-

Sub:- Balance Civil & Electrical works at Ground floor of L-2 hangar, Bangalore complex, BEML Limited, Bangalore.

SCHEDULE 'A' BILL OF QUANTITIES

SI No.	Item Description	Unit	Qty	Rate/ Unit in fig. & in Words (Rs)	Amount (Rs)
A	Civil Works				
1	Earth work Excavation in foundation for columns, plinth beams, steps, ramps, pits, trenches up to depth of 1.50M in all type of soils including soil mixed with boulders, kankar etc. including clearing vegetation , shoring, bailing out or pumping out of ground water or rain water if any,refilling with available earth from excavation in layers not exceeding 150cms thick watered , rammed & consolidated, carting away surplus excavated earth to areas of disposal within 100m lead disposal by spreading, leveling ,filling holes and levelling all as specified and as directed by Engineer in charge. (While excavating inside floor boulders/ soling to be segregated for reuse and the same will be measured separately under relevant item.The quoted rate is deemed to include to segregating of the soling/ boulders only)	Cu.M	153		
2	Providing and laying approximately 20cm thick dry rubble packing under floors with approved hard rubble stones including transportation, laying in regular lines and levels, filling in the interstices with stones chips/gravel and spalls, well rammed, watered and consolidating by using hand roller wherever required etc, complete all as specified and as directed by Enginner in charge.	Sq.M	205		
3	Laying only available dry rubble packing under floors approximately 20cm thick including,laying in regular lines and levels, filling in the interstices with stones chips/gravel and spalls, well rammed, watered and consolidating by using hand roller whever required etc.,complete all as specified and directed by Enginner in charge.	Sq.M	262		
4	Carting away unwanted and unusable excavated soil, debris outside the site premises to a distance not exceeding 5.0KM including all lead and lift etc., complete all as specified and directed by Engineer in charge. Note :- The measurements shall be made after deducting the filling quantities from excavated quantities.	Cu.M	60		

5	Providing, mixing, placing and curing PCC 1:4:8 (M 7.5) using 20/40mm graded coarse aggregate for bed concrete for foundation, steps, beams, trenches, below floors as sub base etc., all as specified and directed by Engineer in charge. Note: Rate quoted for the item is deemed to include for providing & removal of formwork wherever required.	Cu.M	41		
6	Providing, mixing, placing vibrating and curing cement concrete mix M20 (1:1.5:3) in grade slab, bed block at all level etc using 20mm graded granite aggregates, excluding reinforcement and laying the concrete in chess board pattern including necessary formwork and finishing the top surface of concrete smooth using extra cement, all as specified and directed by Engineer-in - Charge. Note: The rate quoted for the item deemed to include for Providing & removal of scaffolding using wooden/steel props, staging etc., wherever necessary.	Cu.M	11		
7	Providing, mixing, placing, vibrating and curing RCC design mix M30 using 20mm size graded granite aggregates, including fixing well supported leak proof form work to required size level etc , projecting dowels etc complete at all heights and levels all as specified and directed by Engineer in charge. Note: The rate quoted for the item deemed to include for Providing & removal of scaffolding using wooden/steel props, staging etc.				
	a) For Substructure (upto plinth level incase of building & for others up to 1.0 m above finished ground level) for foundation, footings, raft, plinth beams, cable trenches, columns, pedestals etc.	Cu.M	6		
8	Providing, mixing, placing, vibrating and curing RCC design mix M30 using 20mm size graded granite aggregates, including fixing well supported leak proof form work to required size level etc , projecting dowels etc complete at all heights and levels all as specified and directed by Engineer in charge. Note: The rate quoted for the item deemed to include for Providing & removal of scaffolding using wooden/steel props, staging etc.				
	b) For Superstructure for columns, beams and lintels, cantilever projection, suspended slabs, pillars, canopies, facias , brackets, staircases, pipe supports, etc any size and shapes, sloped or inclined.	Cu.M	20		
9	Fabricating, straightening and placing in position the available TMT bars reinforcement of various diameter for RCC works viz., columns, beam, lintles, slabs, facias, grade slab etc at any heights as per drawing and details. (Required qty of TMT bars will be issued by BEML). Contractor shall quote the labour charges for fabricating and placing in position including cost of binding wire, welding if required etc. complete all as specified and directed by Engineer -in- charge.	Kgs	3000		

10	Supplying fabricating and erecting MS tubular handrails of flush-welded construction, with smooth uniform curves, and bends of 32 mm nominal bore medium class MS pipe conforming to IS: 1239 for top rails and pipe posts and mid rails using 25NB MS Pipes, vertical post spaced not more than 2.0m at all levels. The hand rails shall be painted with one shop coat of zinc chromate primer and finished with two coats of synthetic enamel paint in approved shade etc. complete all as specified and directed by Engineer -in-charge. The rate shall include fixing handrail to steel platform, stair or concrete member.	Sq.M	25		
11	Providing and constructing burnt brick masonry in Cement Mortar 1:6 of required thickness using first quality table moulded burnt bricks for brick wall, pillars, pedestals, partitions supports etc including raking of joints, curing etc, complete all as specified and as directed by Engineer -in- charge. Note: The rate quoted for the item deemed to include for Providing & removal of scaffolding using wooden/steel props, staging etc.	Cu.M	47		
12	Providing and laying in position 200mm average thick consolidating "Tremix" or approved equivalent vacuum compressed de-watered reinforced cement concrete 1:1.5:3 (1 cement, 1.5 coarse sand, 3 graded stone aggregate 20mm nominal size) for floors at all levels including groove cutting (6mmx15mm) filling with polysulphide compound and necessary form work, etc., complete all as specified and directed by Engineer in charge. Note:- Reinforcement will be measured paid separately under relevant item.	Sq.M	370		
13	Providing and laying 600mmx600mmx38mm/600mmx450mmx38mm machine cut machine polished approved kota stone or mirror finished for staircase risers, treads polishing in 6 stages and final finishing with 2000 grit tin oxide and felt pad complete etc., and laid in cement mortar (1:6) bedding with fine joints including cement floating, curing, cleaning etc, complete all as specified and directed by Engineer in charge.	Sq.M	15		
14	Supplying and fixing gear operated rolling shutters made of 80x1.25mm MS laths, interlocked together through their entire length and jointed at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and out side locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454-part-1 including 1.25mm thick MS top cover for rolling shutters and all surface painted with 2 two coats of synthetic enamel paint of approved colour over a coat of primer, all fitted and fixed including all accessories etc., complete all as specified and directed by Engineer in charge. Note:- clear area of shutter shall be measured for payment.	Sq.M	14		

15	<p>Supplying and fixing new powder coated aluminium single leaf openable door of approximate height 2.10 m using standard sections manufactured by M/s. Jindal/ Hindalco/ Indal/ equivalent make, conforming to relevant IS.</p> <p>The top, middle and side members of openable door shall comprise of sections measuring not less than 50mm x 44.50mm x 2.50mm. The bottom panel shall comprise of sections measuring not less than 101.60mm x 44.45mm x 2.50mm. The minimum thickness of the powder coating shall be 50 microns.</p> <p>The bottom panel of the door for a height of 0.95 m approximately shall be fixed with 12mm thick both sides decorative prelaminate particle board of approved colour and shade conforming to relevant IS manufactured by M/s.Archid/Kitply/ National/Greenply.</p> <p>The top panel of the door for an approximate height of 1.10 m shall be fixed with 5mm thick plain / frosted glass conforming to relevant IS manufactured by M/s. Modiguard/ Saint Gobain, including necessary hardware and accessories viz., EPDM rubber / neoprene gaskets, snap beading, aluminium glazing clips, screws, handles, locking arrangement, floor spring of approved brand manufactured by M/s. Dorma/Everite/Hardwyn etc., complete as per site conditions and all as specified and directed by Engineer in charge.</p>	Sq.M	4		
16	<p>Supplying and fixing Powder coated aluminium casement windows of partly glazed and partly openable, including all necessary hardware fittings, fixtures, 5.5mm thick glass panes, rubber gaskets, beading, mastic putty etc, all complete. Using extrusions of INDAL/HINDALCO make in top and bottom fixed glazed member in 33mmx21/24.5mm with 3mm no.4725 (0.675 kg/m) wall thickness and middle fixed glazed section no 4726 (1.088 Kg/m) with MS guard bars (12mm square) at 150mm c/c vertically all as specified and complete, and provide two coats of bituminous paint to aluminium surface in contact with concrete. etc complete all as specified and directed by Engineer in charge.</p>	Sqm	51		
17	<p>Supplying & fixing aluminium powder coated ventilator of INDAL/HINDALCO with all necessary fittings like joining clips, rubber gaskets with 4mm float glass etc complete all as specified and directed by Engineer in charge</p>	Sq.M	48		
18	<p>Preparing the existing internal wall surface by cleaning all loose grit, silt & oil etc and Providing and applying 15mm thick cement plaster in cement mortar 1:4 for internal wall to proper plumb including curing & finishing the surface smooth & even with/without using extra cement etc., complete all as specified and directed by the Engineer in charge. Note: The rate quoted for the item deemed to include for Providing & removal of scaffolding using wooden/steel props, staging etc.</p>	Sq.M	780		

19	Preparing the existing external wall surface by cleaning all loose grit, silt & oil etc and Providing and applying 20mm thick cement plaster in cement mortar 1:6 for external wall to proper plumb including curing etc., complete all as specified and directed by the Engineer in charge. Note: The rate quoted for the item deemed to include for Providing & removal of scaffolding using wooden/steel props, staging etc.	Sq.M	1460		
20	Preparing the existing ceiling surface by cleaning all loose grit, silt & oil etc and Providing and applying 10mm thick cement plaster in cement mortar 1:3 to ceiling surfaces and finishing the surface smooth & even with/without using extra cement including curing, etc., complete all as specified and directed by the Engineer in charge. Note: The rate quoted for the item deemed to include for Providing & removal of scaffolding using wooden/steel props, staging etc.	Sq.M	580		
21	Supplying and fixing, welding 24 gauge GI chicken wire mesh to the junctions of RCC members and brick masonry including cutting, fixing, wastage etc ., complete all as directed by Engineer in charge.	RM	185		
22	Preparing the surface of internal walls by scrapping, sand papering, including necessary repairs to cracks, scratches and cleaning the surface from dust, dirt and filling/closing the cracks with crack filling compound and applying two coats of Oil bound distemper over a coat of primer and full putty of first quality approved brand and colour manufactured by M/s.Asian Paints/Berger paints etc., complete all as specified and as directed by Engineer in charge.Note: a) The rate quoted for the item deemed to include for Providing & removal of scaffolding using wooden/steel props, staging etc.	Sq.M	780		
23	Preparing the surface of external walls by scrapping the existing surface by water washing including providing necessary repairs to cracks, and cleaning the surface from dust, dirt and filling/closing the cracks with crack filling compound and applying two coats of cement paint of first quality approved brand and colour manufactured by M/s.Asian Paints /Berger Paints over a coat of primer etc., complete all as specified and directed by engineer in charge. Note.1) Contractor's quoted rate is deemed to include for providing and removal of scaffolding, staging for painting wherever necessary etc.	Sq.M	1100		
24	Preparing the surface of Ceiling by scrapping, sand papering including providing necessary repairs to cracks by filling with suitable crack filling compound and applying three or more coats of Lime based white wash of first quality of reputed manufacturer like M/s. Indo cem/SnowCem/ Surfacem/SuryaCem conforming to relevant IS with touch up putty wherever necessary etc., complete all as specified and directed by engineer in charge. Note.1) Contractor's quoted rate is deemed to include for providing and removal of scaffolding, staging for painting etc wherever necessary etc.	Sq.M	580		

25	Providing & fixing 110mm diameter PVC pipes (6kg/cm ²) manufactured by M/s.Supreme/ Astral or equivalent conforming to relevant IS for waste water, rain water including all standard fittings/accessories like elbows, bends, tees, tail pieces & fixtures such as pipe clips, clamps wooden plug, screws, washers etc fixed/ secured firmly etc.,complete all as specified and directed by Engineer in charge.	RM	57		
26	Providing and making 1000mm wide plinth protection 100mm thick in plain cement concrete 1:3:6 using 20mm graded granite aggregate, over a layer of broken brick ballast 75mm thick rammed, consolidated after binding with sand including preparation of base, finishing the top smooth etc, complete all as specified and directed by Engineer in Charge.	Sq.M	62		
27	Supplying and fixing in position, stainless steel plate 3mm thick with a cutout and holes suitable for 450mm diameter exhaust fan including fixing 24 gauge chicken mesh with M.S.angles, flats , bolts, counter sunk screws with rawl plugs, including applying two coats of synthetic enamel paint over a coat of primer of approved brand & color including making good the walls etc., complete all as specified and directed by Engineer in Charge. (fan to be supplied by other agency). Note: The rate quoted for the item deemed to include for Providing & removal of scaffolding using wooden/steel props, staging etc.	Nos.	12.00		
28	Cutting and felling the tree branches of girth 250cms to 300cms including cutting of trunk and branches and stacking of serviceable material and disposal of unserviceable material to the inside salvage area clearing the site. etc., complete all as specified and directed by Engineer in charge.	Nos	10		
29	Providing and constructing Size stone masonry in cement mortar 1:6 for foundations with courses not less than 20cms height and providing bond stones at every 1.50Mtrs apart in each course including chisel dressing and curing etc., complete all as specified and directed by Engineer in charge.	Cu.M	11		
30	Providing and constructing size stone masonry in Cement Mortar 1:6 in courses not less than 20cm height above ground level and providing bond stone at every 1.5Mtrs apart including chisel dressing, curing etc., complete all as specified and directed by Engineer in chagre. Note: a) The rate quoted for the item deemed to include for Providing & removal of scaffolding using wooden/steel props, staging etc. b) Wastages	Cu.M	3		
B	<u>Electrical works</u>				
31	Supplying and fixing of 100 watts low bay LED light fixtures suitable to mount on ceiling. The rate shall include all required hardware/ accessories such as anchor bolts,MS/SS hooks, junction boxes etc.	Nos.	15		
32	Supplying and fixing of 70 watts LED street light fixture including all accessories, hardwares such as MS/GI bend pipes, fixing bolts, nuts, camps etc.	Nos.	4		
33	supplying and fixing of 1 phase, 50Hz, 450mm sweep 18 inches size heavy duty wall air circulator fans with adjustable position, oscillating type including all accessories, complete in all respects.	Nos.	5		

34	Supplying and fixing of 1 Phase,50Hz heavy duty industrial type exhaust fans, 450mm sweep 18 inches size, suitable for fixing on wall/ colum including all accessories, hardwares such as frame, rubber nut, MS clamps, groutings bolts nuts, etc.	Nos.	5		
35	Supplying and fixing MCB comprising of the following incomer- 32 amps 4 pole MCB-01 No. Outgoing - 15 amps, single pole MCB- 15 Nos. for light, fans and power points	Nos.	2		
36	Supplying and fixing 1 phase 2 pin 10A industrial metal clad socket controlled by 10A, SP MCB with metal clad plug top in a metal enclosure suitable for mouting or wall/ column.	Nos.	10		
37	supplying and fixing of socket box comprising of 6 Amps 3 pin socket in a enclosure for air circulators and exhaust fans	Nos.	10		
38	Supply and laying of 3Cx1.5sqmm flexible copper cable in suitable size PVC channels casing capping on wall/column for single phase power points. Note :- Actual length of cabls wires laid shall be measured and paid.	Mtrs	500		
39	Supplying and wiring for lights and fans using 2Rx 1.5 sqmm and 1Rx1.0sqmm copper flexible multstrand wires in suitable size PVC channels, casing capping on wall/ column. Note :- Actual length of cabls wires laid shall be measured and paid.	Mtrs	2000		
Total Value of work excluding GST (Rs)				Rs.	
GST (Rs)				Rs.	
Total Value of work inclusive of GST				Rs.	

(Total Amount in words Rupees.....)

NOTE:	
	(1) The contractors/prospective bidders are requested to visit the site and acquaint themselves with the site conditions before submission of bid
	(2) The work has to be carried out by the Contractor under the supervision of the Contractor himself or under the supervision of a qualified technical personnel employed by the Contractor till the completion of the work
	(3) The rate quoted for the item deemed to include for Providing & removal of scaffolding using wooden/steel props, staging etc., wherever necessary
	(4) For electrical works, Actual length of cables, wires laid shall be measured and paid.

Signature of the Contractor
with seal