



AIRPORTS AUTHORITY OF INDIA
ENGINEERING WING – CIVIL
NSCBI AIRPORT, KOLKATA – 700 052

Ref. No.: AAI/KOL/ENGG-C/NIT-04/2022-23/218

Dt. – 27.07.2022

CORRIGENDUM-I

Name of Work: Construction of Structural Shed for CFT garage and Development of Surrounding Area at FSTC Complex Narayanpur at Kolkata Airport.

[Original TENDER ID: - 2022_AAI_123109_1]

[Revised TENDER ID: - 2022_AAI_123109_2]

It is hereby informed that e-tender correction in the BOQ for the subject work floated vide NIT No- AAI/KOL/ENGG. (C)/NIT-04/2022-23/, dated 21.07.2022 have been revised as per Annexure-I. The critical data sheet has also been revised as per following: -

CRITICAL DATA SHEET

	<u>Existing</u>	<u>Revised</u>
Clarification Start Date	21.07.2022 at 18.00 hrs.	27.07.2022 at 18.00 hrs.
Clarification End Date	26.07.2022 upto 18:00 hrs.	04.08.2022 upto 18:00 hrs.
Bid Submission End Date	10.08.2022 upto 18:00 hrs.	18.08.2022 upto 18:00 hrs.
Bid Opening Date (Envelope- I)	12.08.2022 at 11:00 hrs.	22.08.2022 at 11:00 hrs.
Bid Opening Date (Envelope- II)	22.08.2022 at 11:00 hrs. (The exact date shall be updated in the cpp portal)	29.08.2022 at 11:00 hrs. (The exact date shall be updated in the cpp portal)

All other terms & conditions shall remain unchanged. This Correction will be as mentioned above For details, refer to AAI website www.aai.aero or <https://etenders.gov.in/e procure/>

Note : Bidders who have already submitted their bids online, are requested to resubmit their bid as per revised BOQ.

Asst. Gen. Manager (Engg.-Civil),
AAI, NSCBI Airport, Kolkata-700052

SCHEDULE -A

Name of work: Construction of Structural Shed for CFT garage and Development of Surrounding Area at FSTC Complex Narayanpur at Kolkata Airport.

Sl. No.	Description	Unit	Qty.
	A. CIVIL WORKS		
01.	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge. 2.6.1 All kinds of soil	Cum	299.17
02.	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	Cum	25.00
03.	Brick work with common burnt clay F.P.S. (non-modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:4 (1 cement : 4 coarse sand)	Cum	5.00
04.	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum	80.34
05.	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	Cum	5.00
06.	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg.	25910.00
07.	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	Kg.	10420.00
08.	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete. Hot finished welded type tubes	Kg.	10000.00
09.	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/ less cement	Cum	331.29

	used as per design mix is payable/recoverable separately). All works upto plinth level		
10.	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work above plinth level upto Floor level V :1:1.5:3 (1 cement : 1.5 coarse sand (zone-III): 3 graded stone aggregate 20 mm nominal size)	Cum	1.88
11.0	Centering and shuttering including strutting, propping etc. and removal of form for :		
11.1	Foundations, footings, bases of columns, etc. for mass concrete	Sqm	132.00
11.2	Columns, Pillars, Piers, Abutments, Posts and Struts	Sqm	10.80
11.3	Lintels, beams, plinth beams, girders, bressumers and cantilevers	Sqm	129.60
11.4	Suspended floors, roofs, landings, balconies and access platform	Sqm	78.00
12.	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :Cement mortar 1:4 (1 cement : 4 coarse sand)	Cum	52.50
13.	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more	Kg.	39993.13
14.	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more	Kg.	294.38
15.	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	Cum	87.50
16.	12 mm cement plaster of mix : 1:4 (1 cement: 4 coarse sand).	Sqm	210.00
17.	20 mm cement plaster of mix : 1:4 (1 cement: 4 coarse sand)	Sqm	210.00
18.	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, 110 mm diameter	Mtr.	120.00
19.0	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.		
19.1	Coupler : 110 mm	Each	40.00
19.2	Single tee with door : 110x110x110 mm	Each	50.00
19.3	Bend : 110 mm bend	Each	25.00
19.4	Shoe : 110 mm Shoe	Each	20.00
20.	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete. : 110 mm	Each	120.00
21.	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : : Two or more coats on new	Sqm	6000.00

	work		
22.	Finishing walls with Acrylic Smooth exterior paint of required shade : New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	Sqm	420.00
23.	Providing and fixing precoated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %) total coated thickness with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns' epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in- charge. The sheet shall be fixed using self-drilling /self-tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	Sqm	673.00
24.	Providing and fixing precoated galvanised steel sheet roofing accessories 0.50 mm (+0.05 %) total coated thickness, Zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self-drilling/ self-tapping screws complete : Ridges plain (500 - 600mm)	Meter	68.00
25.	Providing and fixing precoated galvanised steel sheet roofing accessories 0.50 mm (+0.05 %) total coated thickness, Zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self-drilling/ self-tapping screws complete :: Gutter (600 mm over all girth)	Meter	85.00
26.	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required: In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete	Kg.	6000.00
27.	Providing, driving with hydraulic piling rigs with power units and installing driven cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap) : 450 mm dia piles	Meter	900.00
	B. <u>ELECTICAL WORKS</u>		
28.	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required. a) Upto 35 sq. mm	Meter	50.00
29.	Laying of one number additional PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground in the same trench in one tier horizontal formation including excavation, sand cushioning, protective covering and refilling the trench etc as required.a)Upto 35 sq. mm	Meter	30.00
30.	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing	Meter	30.00

	RCC/ HUME/ METAL pipe as required. a) Upto 35 sq. mm		
31.	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required. a) Upto 35 sq. mm	Meter	10.00
32.	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface/metal surface as required. Upto 35 sq. mm (clamped with 1mm thick saddle)	Meter	50.00
33.	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required. Upto 35 sq. mm (clamped with 1mm thick saddle)	Meter	200.00
34.0	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.		
34.1	4 X 16 sq. mm (28mm)	Each	6.00
34.2	3½ X 35 sq. mm (32mm)	Each	4.00
35.	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required. Group C	Each	20.00
36.	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit, and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required. Group C	Each	18.00
37.	Wiring for light / power plug with 2x4 sq mm FRLSH PVC insulated copper conductor single core cable in surface/recessed steel conduit along with 1 No 4 sq.mm FRLSH PVC insulated copper conductor single core cable for loop earthing as required.	Meter	120.00
38.0	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLSH PVC insulated copper conductor, single core cable in surface/recessed steel conduit as required.		
38.1	2 x 2.5 sq. mm + 1 x 2.5 sq. mm earth wire	Meter	70.00
38.2	2 x 4.0 sq. mm + 1 x 4.0 sq. mm earth wire	Meter	10.00
38.3	2 x 6.0 sq. mm + 1 x 6.0 sq. mm earth wire	Meter	18.00
39.0	Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess/cable tray including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.		
39.1	20mm	Meter	150.00
39.2	25mm	Meter	100.00
40.0	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.		
40.1	3 x 1.5 sq. mm	Meter	120.00
40.2	3 x 2.5 sq. mm	Meter	100.00
40.3	3 x 4.0 sq. mm	Meter	80.00

40.4	3 x 6.0 sq. mm	Meter	30.00
41.0	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in surface/recess etc. as required.		
41.1	1 or 2 Module (75mmX75mm)	Each	6.00
41.2	3 Module (100mmX75mm)	Each	16.00
41.3	6 Module (200mmX75mm)	Each	10.00
41.4	8 Module (125mmX125mm)	Each	10.00
42.	Supplying and fixing 3 pin, 5 A ceiling rose on the existing junction box/ wooden block including connections etc. as required.	Each	38.00
43.	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required. 6 pin 15/16 A socket outlet	Each	16.00
44.	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Each	30.00
45.	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required	Each	20.00
46.	Installation, Testing, Commissioning of high/ medium bay light fittings of all sizes and shapes complete with all accessories including connections etc. as required.	Each	20.00
47.	Installation ,Testing, Commissioning of wall bracket /ceiling fittings/Led fittings complete with all accessories i.e chain hook etc for hanging over false ceiling including connections etc. as required.	Each	20.00
48.	Installation, testing and commissioning of ceiling fan, including down rods of standard length (upto 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable etc. as required	Each	10.00
49.	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required. Upto 450 mm sweep	Each	7.00
50.	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	Each	2.00
51.	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)	Meter	30.00
52.	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	Meter	20.00
53.	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	Meter	100.00
54.0	Fixing of following ways surface/ recess/over iron structure mounting, vertical loadline DB type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs		

	and incomer) as required.		
54.1	8 way (4 + 24), Double door	Each	2.00
54.2	12 way (4 + 36), Double door	Each	1.00
55.0	Fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.		
55.1	Single pole	Each	35.00
55.2	Double pole	Each	2.00
55.3	Triple pole	Each	4.00
55.4	Triple pole and neutral	Each	4.00
56.0	Fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.		
56.1	63 A, 25 KA,TP MCCB	Each	2.00
56.2	100 A, 25 KA,TP MCCB	Each	1.00
57.	Fixing of TPN MCB distribution board in weather proof cabinet with IP 65 protection on wall / recessed surface or as per the site requirement. 8 Module	Each	1.00
58.0	Providing, laying and fixing following dia G.I. pipe (medium class) in ground complete with G.I. fittings as required excluding excavation and refilling.		
58.1	32 mm	Meter	30.00
58.2	50 mm	Meter	20.00
59.	Excavation of the cable trenches in hard rock not exceeding 1.5 metres in width, and lift upto 1.5 metres, including getting out the excavated soil and disposal of excavated soil as directed within a lead of 50 metres.	Cum	5.00
60.0	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray (Galvanisation thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.		
60.1	150 mm width X 50 mm depth X 1.6 mm thickness	Meter	100.00
60.2	300 mm width X 50 mm depth X 1.6 mm thickness	Meter	60.00
61.0	Supplying and installing following size of perforated Hot Dipped Galvanised Iron covered cable tray " bends " (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.		
61.1	150 mm width X 50 mm depth X 1.6 mm thickness	Each	12.00
61.2	300 mm width X 50 mm depth X 1.6 mm thickness	Each	12.00
62.0	Supplying and installing following size of perforated Hot Dipped Galvanised Iron covered cable tray " Tee " (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as		

	required.		
62.1	150 mm width X 50 mm depth X 1.6 mm thickness	Each	6.00
62.2	300 mm width X 50 mm depth X 1.6 mm thickness	Each	6.00
63.0	Supplying and installing following size of perforated Hot Dipped Galvanised Iron covered cable tray " Reducer " (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc as required.		
63.1	150 mm width X 50 mm depth X 1.6 mm thickness	Each	4.00
63.2	300 mm width X 50 mm depth X 1.6 mm thickness	Each	6.00
64.	Supplying and fixing following way, Vertical three pole and neutral double door (for both Single/Three Phase Outgoing) , sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing suitable for 63 A incomer etc. as required. (But without MCB/RCCB/Isolator) 4 way (4 + 12), Double door.	Each	2.00
65.	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required	Each	25.00
66.	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required. Single pole and neutral	Each	24.00
67.	Supplying and fixing following rating, three phase and neutral (TPN), 415 volts, miniature circuit breaker (MCB), "C" curve, 10 KA breaking capacity in the existing MCB DB complete with connections, testing and commissioning etc. as required 63 A.	Each	2.00
68.	Supplying and fixing following rating, three pole (TP), 415 volts, miniature circuit breaker (MCB), "C" curve, 10 KA breaking capacity in the existing MCB DB complete with connections, testing and commissioning etc. as required 63 A.	Each	4.00
69.	Supply of 1 Phase, 1.5 TR split type of 5 star rating Inverter type Air-conditioners along with high wall type indoor unit suitable for operation on 230±10%, 50 Hz, 1 phase power supply (along with necessary wiring from nearest power source to the required outdoor and indoor units) having high EER Compressor with Indoor & Outdoor Copper coil refrigeration having aluminum fins firmly bonded to copper pipe and copper pipe insulation assembled in zinc coated steel frame with Eco friendly R-32 or equivalent Refrigeration Gas along with copper conductor PVC insulated PVC sheathed multicore power cable from indoor to outdoor unit. The indoor unit should have real time clock, operating facility from cordless remote, along with time and temperature display. Outdoor unit to be installed as Directed by Engineer-in-Charge.	Each	2.00
70.	ITC of the following TR split type of Inverter Air-conditioners along with Outdoor/ Indoor unit suitable to operate on 1/3 Phase Power supply. Suitable for 1/1.5 TR Split Inverter AC along with its Control Cable.	Job	2.00

71.	Supply and fixing of extra copper refrigerant piping complete with suction / liquid line, insulation (i.e. cunifoam with neoprene / rubber lining), and all the accessories i/c Control Cable as per site requirement as directed by Engineer-in-Charge. Suitable for 1/1.5 TR Split Inverter AC along with its Control Cable	Meter	10.00
72.	Supplying and fixing of 20 A, 240 V single phase Air conditioner ON/OFF starter switch including connection on existing 2 modular box modular box.	Each	2.00
73.	Supply of following LED High Bay light of innovative die-cast Aluminum/Magnesium Alloy IP65 light fixture having efficacy > 110 lumen/watt and High efficiency long life minimum CCT of 5000 to 6500K i/c necessary electronic driver, high power LED lamp suitable to operate on 230V ac power supply with connector etc as per tender specifications complete as required. 40 Watt LED High Bay Light (Havells : STUPEWGP40WLED757SSYMTOPCGRY or Equivalent under AAI Approved Make)	Each	8.00
74.	Supply of following size 1.1 kv grade, XLPE insulated and PVC inner sheathed Aluminum conductor armored power cable conforming to IS: 7098(Part 1)1988/ IS: 7098 (Part 1) with up to date amendments etc. complete as required 4C x 16 Sq. mm.	Meter	200.00

Note: - Rate should be quoted excluding GST.



[Tender ID:- 2022_AAI_123109_1]

Name of Work: “Construction of Structural Shed for CFT garage and Development of Surrounding Area at FSTC Complex Narayanpur at Kolkata Airport”.

GENERAL CONDITIONS OF CONTRACT

TENDER DOCUMENT

Estimated cost: Rs. 1,87,46,672/- (excluding GST)

EMD amount: Rs. 3,74,933/-

Tender cost: Rs. 1,180/-

**AIRPORTS AUTHORITY OF INDIA
ENGINEERING WING
NSCBI AIRPORT, KOLKATA – 700 052.**

AIRPORTS AUTHORITY OF INDIA

Name of Work : “Construction of Structural Shed for CFT garage and Development of Surrounding Area at FSTC Complex Narayanpur at Kolkata Airport”

INDEX

Sl. No.	Details of Pages		Page No.
1.	Index		01
2.	Tender Notice		02 to 06
3.	PQQ Proforma		07 to 11
4.	Guidance Tenderer		12 to 19
5.	Notice Inviting Tender		20 to 24
6.	Tender forms		25 to 26
7.	Unconditional Acceptance Letter		27
8.	Undertaking & Registration of GST		28
9.	General Rules and Directions.		29 to 38
10.	General Condition of Contract (GCC)		
i)	Conditions of contract		39 to 42
ii)	Clauses of contract		43 to 124
iii)	AAI Safety code		125 to 130
iv)	Model Rules		131 to 137
v)	AAI contractor's labour Regulations		138 to 144
vi)	Various Formats to be maintained (Appendix I to XX)		145 to 187
vii)	Proforma of Schedules		188 to 198
11.	Proformas	Proforma	199 to 201
12.	Special Condition of Contract	SCC	202 to 212
13.	Particular Specification	PS	213 to 214
14.	Annexure I & II	ANNX	215-216
15.	Technical Specification (Civil)	TS (Civil)	217 to 222
16.	List of Approved Make (Civil)	Make(Civil)	223 to 234
17.	Technical Specification (Elect.)	TS (Elect.)	235 to 254
18.	List of Approved Make (Elect.)	Make(Elect.)	255 to 259
19.	Schedule of Quantities (Civil & Elect.)	BOQ	260 to 267
20.	Drawing		268 to 269

Certified that this Tender Document contains Envelope-I & II having pages 1 to 269 pages only.

भारतीय विमानपत्तन प्रधिकरण / AIRPORTS AUTHORITY OF INDIA
इंजीनियरिंग स्कंध / ENGINEERING WING (CIVIL)
ने.सु.च.ब.अं. हवाईअड्डा, कोलकाता / NSCBI AIRPORT, KOLKATA – 700052

Ref: - AAI/KOL/ENGG. (C)/NIT-04/2022-23/

Date: 21.07.2022

NOTICE INVITING e-TENDER (2 BOT -2 Envelope Open Tender)

1. Item rate (excluding GST) e-tenders are invited through the e-tendering CPP portal by **Asst. General Manager (Engg.-Civil), AAI, NSCBI Airport, Kolkata, Ph. No: 9007471459 (Bid Manager)** on behalf of Chairman, A.A.I from the eligible contractors for the work of “**Construction of Structural Shed for CFT garage and Development of Surrounding Area at FSTC Complex Narayanpur at Kolkata Airport**” at an estimated cost of **Rs. 1,87,46,672/- (excluding GST)** with period of completion 08 (Eight) months.

The tendering process is online at CPP-portal URL address <https://etender.gov.in/eprocure/app> or www.aai.aero. Prospective Tenderers may download and go through the tender document.

Prospective Tenderers are advised to get themselves register at CPP-portal, obtain ‘Login ID’ & ‘Password’ and go through the instructions available in the Home Page after log in to the CPP-portal <https://etender.gov.in/eprocure/app> or www.aai.aero. They should also obtain Digital Signature Certificate (DSC) in parallel which is essentially required for submission of their application. The process normally takes 03 days’ time. The tenderer may also take guidance from AAI Help Desk Support through path [aai.aero/tender/e-tender/help desk support](http://aai.aero/tender/e-tender/help%20desk%20support).

- (i) For any technical related queries please call the Helpdesk. The 24 x 7 Help Desk details are asbelow:

-
Tel: 0120-4001005, 0120-4001002, 0120-6277787 ,
E-mail: support-eproc@nic.in

Tenderers are requested to kindly mention the URL of the Portal and Tender ID in the subject while emailing any issue along with the contact details.

- (ii) For any Policy related matter/clarification please contact Dept. of Expenditure, Ministry of Finance.
E-mail: cppp-doe@nic.in

For any further technical assistance with regard to functioning of CPP portal the tenderer may contact to the following AAI help desk numbers on all working days only between

- (iii) 08.00 hrs to 20.00 hrs (Mon-Sat) for instant support-

011-24632950, Ext-3512 , E-Mail: -eprochelp@aai.aero

- (iv) 09.30 hrs to 18.00 hrs (Mon-Fri) after 4 hrs. of issue-

011-24632950 Ext-3523, E-Mail: -etendersupport@aai.aero, sanjeevkumar@aai.aero 09.30 hrs to 18.00 hrs (Mon-Fri) after 12 hrs. of issue-011-24657900, E-mail: dkumar@aai.aero

- (v) 09.30 hrs to 18.00 hrs (Mon-Fri)-

011-24657900, E-Mail: gmitqh@aai.aero

Tender processing fee of **Rs. 1,180/-(i/c GST) Non-refundable** will be required to be paid online in CPP Portal.

2. Following 2 envelopes shall be submitted through online at CPP-portal by the bidder as per the following schedule: -

CRITICAL DATA SHEET

Publishing Date	21.07.2022
Bid Document Download / Sale Start Date	21.07.2022 at 18.00 hrs.
Clarification Start Date	21.07.2022 at 18.00 hrs.
Clarification End Date	26.07.2022 upto 18:00 hrs.
Bid Submission Start Date	21.07.2022 at 18.00 hrs
Bid Submission End Date	10.08.2022 upto 18:00 hrs.
Bid Opening Date (Envelope- I)	12.08.2022 at 11:00 hrs.
Bid Opening Date (Envelope- II)	22.08.2022 at 11:00 hrs. (The exact date shall be updated in the cpp portal)
Tender Processing Fee (Non-refundable, to be paid online in CPP Portal)	Rs. 1,180/- (i/c GST)
Earnest Money Deposit (EMD) (To be paid online in CPP Portal)	Rs. 3,74,933/-

Envelope-I (Tender processing Fee, EMD, Technical Bid and Pre-qualification): - Bid containing following:

A. Tender processing fee, EMD:

- i. Scanned copy of Tender fees online transaction receipt.
- ii. Scanned copy of EMD online transaction receipt.

B. Technical Bid containing the following: -

- i) Scanned copy of Unconditional acceptance of AAI's Tender Conditions (Proforma given on page no. 28).
- ii) Scanned copy of Permanent Account Number (PAN) and GST Registration Number.
- iii) Scanned copy of 'Undertaking regarding Blacklisting/ Debarment on company's Letter Head (as per Annexure II).
- iv) The tenderer should deploy sufficient plant and machinery as per the requirement of work in consultation with the Engineer-in-charge (EIC) to achieve the milestones/ targets and overall completion within the time period. Tenderer shall submit scanned copy of 'Undertaking on Company's Letter Head.
- v) Companies other than propriety firm shall submit, scanned copy of Authorization letter/Power of Attorney along with copy of certificate of Incorporation of the Company under Companies act showing CIN/LLPIN/Name of Directors of the Company & Copy of Board Resolution regarding Authority to assigned power of attorney.

Propriety firm shall submit scanned copy of Authorization Letter / Power of Attorney only if the tender is processed by a person other than proprietor.
- vi) Scan copy of valid electrical Contractor License or valid Wireman electrical license of agency or agency's authorized vendor for this contract
- vii) PQ Performa duly filled.

C. Qualifying requirements of contractors / Tenderers containing the following: –

- i) Should have satisfactorily completed (# Phase/Part completion of the scope of work in a contract shall not be considered, **however pre-determined phasing of the work will be accepted**) three works, each of **Rs. 74,98,669/- or more** (Excluding GST) or two works, each of **Rs. 93,73,336/- or more** (Excluding GST) or one work of **Rs. 1,49,97,338/- or more** (Excluding GST) in single contract of similar nature (**Steel Structural work in capital nature**) during last seven years ending last date of Submission of bids.

Note: The experience certificate of works completed pre GST era, completion amount will be divided by 1.12 (to exclude pre GST tax of VAT 12%) to make it at par with experience certificates of post GST era but excluding GST.

“The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of submission of bid.”

Client certificate for experience should show the nature of work done, the value of work, date of start, date of completion as per agreement, actual date of completion and satisfactory completion of work. **Tenderers showing work experience certificate from non-government/non-PSU organizations should submit copy of tax deduction at sources (TDS) certificates along with a certificate issued by registered Chartered Accountant, clearly specifying the name of work, total payment received against the work and TDS amount for the work.**

- ii) Should have annualized average financial turnover of **Rs. 56,24,002/- or more** against works executed during last three years ending 31st March 2021. As a proof, copy of Abridged Balance Sheet along with Profit and Loss Account Statement of the tenderers should be submitted along with the application. Tenderers showing continuous losses during the last three years in the balance sheet shall be summarily rejected.
- iii) The tenderer should have a minimum net worth of **Rs. 28,12,001/-**, issued by certified Chartered Accountant.

Scanned copy of all the Documents of Envelope-I mentioned above shall be submitted on the CPP portal. Tender processing fee and EMD is required to be paid online only. The tenderer, whose Tender processing fee and EMD are not received, then their tenders will be liable to be rejected.

Envelope-II (Financial Bid): - The Financial e-Bid through CPP portal.

All rates shall be quoted in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the tenderers. Tenderers are required to download the BOQ file, open it and complete the blue coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the tenderers should save it and submit it online, without changing the file name. If the BOQ file is found to be modified by the tenderers, the bid will be rejected.

3. Bid Submission: -

The tenderer shall submit their application only at CPP portal **<https://etender.gov.in/eprocure/app>**. Tenderers /Contractors are advised to follow the instruction provided in the tender document for online submission of bids. Tenderers are required to upload the

digitally signed file of scanned documents as para 2. Bid Documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.

Uploading of application in location other than specified above shall not be considered. Hard copy of application shall not be entertained.

4. Not more than one tender shall be submitted by one tenderer or tenderers having business relationship. Under no circumstances will father and his son(s) or other close relation who have business relationship with one another (i.e. when one or more partners(s) / directors(s) are common) be allowed to tender for the same contract as separate competitors. A breach of this condition will render the tenders of both parties liable to rejection
5. Tenderers who has downloaded the tender from Central Public Procurement Portal (CPPP) website <http://etenders.gov.in/eprocure/app>, shall not tamper/ modify the tender from including downloaded price bid template in any manner, tender will be completely rejected and tenderer is liable to be banned from doing business with AAI.
6. **Bids Opening Process is as below: -**

Envelope-I (Tender processing fee, EMD, Technical bid and pre-qualification):

Envelope-I containing documents as para 2 (A), (B) and (C) (uploaded by the Tenderers) shall be opened on date & time mentioned in **CRITICAL DATA SHEET**.

If the bidder has any query related to the Bid Document of the work, they should use 'Seek Clarification' on CPPP portal to seek clarifications. No other means of communication in this regard shall be entertained.

If any clarification is needed from the tenderer about the deficiency in his uploaded documents in Envelop-I, he will be asked to provide it through CPP portal or email if required. The Tenderer shall upload the requisite clarification/ document within time specified by AAI, failing which it shall be presumed that bidder does not have anything to submit and bid shall be evaluated accordingly.

The intimation regarding acceptance / rejection of their bids will be intimated to the tenderer thorough CPP portal.

Envelope-II (Financial Bid):

Envelope-II containing financial bid of the tender found to be meeting the technical criteria and qualifying requirement shall be opened on date & time mentioned in CRITICAL DATA SHEET. **[In case the date and time for opening of Envelope II (Financial bid) is required to be changed, the same shall be intimated through CPP portal.]**

AAI reserves the right to accept or reject any or all applications without assigning any reasons. AAI also reserves the right to call off tender process at any stage without assigning any reason.

7. AAI reserve the right to disallow the working agencies whose performance at ongoing project (s) is below par and usually poor and has been issued letter of restrain/Temporary or Permanent debarment/ black listing y any department by any department of AAI. **AAI reserve the right to verify the credential submitted by the agency at any stage (before or after the award the work). If at any stage, any information /documents submitted by the applicant is found to be incorrect/false or have some discrepancy which disqualifies the firm then AAI shall take the following action:**
 - a. **Forfeit the entire amount of EMD submitted by the tenderer.**
 - b. **The tenderer shall be liable for debarment from tendering in AAI, including termination of the contract apart from any other appropriate contractual/legal action.**

8. Consortium /JV companies shall not be permitted.
9. Purchase preference to Central Public Sector Undertaking shall be applicable as per the directive of Govt. of India prevalent on the date of acceptance.
- 10. Tenderers have to submit UDIN generated documents like Balance Sheet / Turnover certificate, Working Capital Certificate (works done during last 5 financial years & works in hand), Net worth Certificate, Tax Deduction at Source (TDS) Certificates for Non- Govt. works etc. as per NIT conditions duly certified by CA and having UDIN. The documents submitted by bidders without UDIN shall not be entertained.**
11. Concession to Indian Micro & Small Enterprises (MSEs) units registered with DIC/NSIC/KVIC/KVIB/Directorate of Handcraft and handloom etc., to be given as per the provisions of Public Procurement Policy for MSEs order 2012 with up to date amendments, shall be applicable for tenders of supply/ services and shall not be extended to construction work. Concession to MSME is not applicable in this work.

Asstt. General Manager (Engg-Civil)
For & behalf of Chairman
AIRPORTS AUTHORITY OF INDIA
NSCBI Airport, Kolkata-700052

PQQ PROFORMA / CHECK LIST

(To be submitted by applicant along with Tender Application).

Name of work: “Construction of Structural Shed for CFT garage and Development of Surrounding Area at FSTC Complex Narayanpur at Kolkata Airport”.

Ref. No.	Details of Bidder & Qualifying Criteria	Particulars	Remarks on Uploaded documents
1	2	3	4
1.	Name and address of the firm/ Email Address & Telephone No.		
2.	Permanent Account No. (PAN)		Copy of PAN card uploaded YES/NO
3.	GST Registration No.		Signed scanned copy uploaded YES / NO
4.	Certificate from clients of having satisfactorily completed) three works, each of Rs. 74,98,669/- or more (exc. GST) or two works, each of Rs. 93,73,336/- or more (exc. GST) or one work of Rs. 1,49,97,338/- or more (exc. GST) of similar nature (Steel Structural work in capital nature) during last seven years ending last date of Submission of bids.	Details of the Three/ Two/ One work(s) as applicable	
<u>WORK NO. 1</u>			Copy of certificate Uploaded
(a)	Name of Client		YES/NO
(b)	Name of Work		YES/NO
(c)	Stipulated Date of Completion		YES/NO
(d)	Actual Date of Completion		YES/NO

Ref. No.	Details of Bidder & Qualifying Criteria	Particulars	Remarks on Uploaded documents
1	2	3	4
(e)	Completion Cost		YES/NO
(f)	Work Order/ Agreement No		YES/NO
(g)	Copy of Work Order with BOQ		YES/NO
(h)	TDS Amount, if applicable		YES/NO
(i)	TDS Certificate		YES/NO
<u>WORK NO. 2</u>			
(a)	Name of Client		YES/NO
(b)	Name of Work		YES/NO
(c)	Stipulated Date of Completion		YES/NO
(d)	Actual Date of Completion		YES/NO
(e)	Completion Cost		YES/NO
(f)	Work Order/ Agreement No		YES/NO
(g)	Copy of Work Order with BOQ		YES/NO
(h)	TDS Amount, if applicable		YES/NO
(i)	TDS Certificate		YES/NO
<u>WORK NO. 3</u>			
(a)	Name of Client		YES/NO
(b)	Name of Work		YES/NO
(c)	Stipulated Date of Completion		YES/NO
(d)	Actual Date of Completion		YES/NO
(e)	Completion Cost		YES/NO
(f)	Work Order/ Agreement No		YES/NO

Ref. No.	Details of Bidder & Qualifying Criteria	Particulars	Remarks on Uploaded documents
1	2	3	4
(g)	Copy of Work Order with BOQ		YES/NO
(h)	TDS Amount, if applicable		YES/NO
(i)	TDS Certificate		YES/NO
5.	<u>TURNOVER :</u> (Annualized average financial turnover equivalent to Indian Rs. 56,24,002/- or more (exc. GST), during the last three years.) Balance Sheet and Profit & Loss with valid UDIN No.	Year INR (in Lacs) 2018-19 2019-20 2020-21 Average :	Copy of Annual report i.e. Abridged balance sheet and profit & loss a/c for the last three years. Self-attested copy uploaded YES / NO
6.	NET WORTH : The tenderer should have a minimum net worth of Rs. 28,12,001/- (exc. GST) , issued by certified Chartered Accounts with valid UDIN No.		Issued by certified Chartered Accounts (Proforma given in page -12) YES / NO
7.	Unconditional Acceptance of AAI's Tender Conditions (Proforma given at Page No. 28) (For Envelope- I)		Scanned copy of duly signed and stamped unconditional acceptance letter uploaded YES / NO
8.	Declaration for genuineness of documents	Agency has to submit a declaration as provided in check list along with the application for genuineness of documents submitted.	Signed scanned copy uploaded YES / NO

Ref. No.	Details of Bidder & Qualifying Criteria	Particulars	Remarks on Uploaded documents
1	2	3	4
9.	Whether experience from private clients?	Non Govt. / Non PSU organizations.	Scanned TDS Certificates of stipulated value of works from clients copy uploaded YES / NO
10.	Check List		Signed scanned copy uploaded YES / NO
11.	Tender Fee and EMD		Scanned copy of online receipt of Tender Fee and EMD. YES / NO
12.	Price /Financial E-Bid		Uploaded BOQ file duly filled inrequired parameter.
13.	Undertaking regarding Blacklisting(Annexure II)		Scanned copy uploaded YES / NO
14.	Undertaking regarding minimum wages(Annexure I)		Scanned copy uploaded YES / NO
15.	Details of any other information		

DECLARATION

I/We, (_____) hereby declare that the documents submitted/enclosed for the tender are true to the best of my/our knowledge and belief. I/We further undertake that in case any of the documents submitted by me/us, is found to be forged/false at any stage, I/We may be debarred from AAI for taking participation in all future AAI works and any other suitable action may be taken against me/us as deemed fit by AAI.

Place:

Date:

Signature

Authorized Signatory of the contractor/Firm

CERTIFICATE OF NETWORTH FROM CHARTERD
ACCOUNTANT

“It is to certify that as per audited balance sheet and profit & Loss account during the financial year 2020-21, The net worth of M/s. _____ (Name & Registered address of individual/ firm or company) as on _____ (The relevant Date) is Rs. _____ after considering all liabilities. It is further certifying that the company has not eroded by more than 30% in the last three years ending on **31.03.2021**.”

Signature of the CA

Name of the CA

Membership of

ICAI

Date & Seal

UDIN :

GUIDANCE TO TENDERER

AIRPORTS AUTHORITY OF INDIA

General Instructions and Guidelines to the tenderer

First Important Step to Bidder for e-tender:

(CPP e-Procurement portal reference: <https://etenders.gov.in/eprocure/app>)

Bidders have to read the instructions to the bidders given in the e-tender portal of CPP and take immediate steps for:

- (a) Register for bid to participate in e-tendering.
- (b) Obtain digital signature well in advance which takes minimum 24 to 30 hours.
- (c) Make sure availability of all required software in your PC as instructed under bidders' instruction head of e-procurement portal of CPP.

Correspondence on tender documents:

1. **Tender Document:** The prospective bidder shall download the tender documents on-line from CPP's e-Procurement portal and upload **digitally signed** entire tender document on CPP e-tender portal. Besides, whenever tenderer signatures are earmarked in the tender documents shall put his signature and upload scan copies of the same.
2. **Amendment to Tender Document:** At any time, prior to scheduled date of submission of bids, AAI if it deems appropriate to revise any part of this tender or to issue additional date to clarify the interpretation of provisions of this tender, it may issue addendum/corrigendum to this tender. Any such Addendum/ Corrigendum shall be deemed to be incorporated by this reference into this tender and binding on the bidders. Addendum/Corrigendum will be notified through CPP's Website/Portal only.
3. **Clarifications of Tender Document:** Bidder, requiring any clarifications of the tender document, may submit their queries, if any, through provision of CPP's Website/Portal on or before submission of E-Bids/as mentioned in NIT. Request for clarifications received from bidders shall be responded by AAI suitably. Replies to queries by AAI will be uploaded through CPP's e-Procurement Portal. The bidders are advised to visit CPP's Website/Portal regularly.
4. No correspondence shall be entertained from the tenderer/bidders after opening of tenders, other than asked by AAI for any clarifications, if required.

Instructions for Online Bid Submission

1. The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.
2. More information useful for submitting online bids on the CPP Portal may be obtained at: <https://etenders.gov.in/eprocure/app>.

Registration

1. Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://etenders.gov.in/eprocure/app>) by clicking on the link “**Online bidder Enrollment**” on the CPP Portal.
2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
5. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
6. Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

Searching For Tender Documents

1. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
2. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the

bidders through SMS / e-mail in case there is any corrigendum issued to the tenderdocument.

3. The bidder should make a note of the unique Tender ID assigned to each tender, incase they want to obtain any clarification / help from the Helpdesk.

Preparation Of Bids

1. Bidder should take into account any corrigendum published on the tender document before submitting their bids.
2. Bidders are required to go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
3. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
4. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use “My Space” or “Other Important Documents” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

Submission Of Bids

1. Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
2. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
3. Bidder has to select the payment option as “online” to pay the tender fee / EMD as applicable and enter details of the instrument.
4. Bidder has to click “**Pay online**” when bidder reach on desired page while online bid submission. Click “**Confirm to Pay**” to proceed with the payment gateway. Verify that the Tender fee and EMD shown are correct, as per tender document. Then, select the payment option **SBI MOPS** and submit. Bidder has to check and follow the **Terms and Conditions**, and then **Submit**. Bidder may choose the type of transaction and process for payment. Once the Payment type is selected it navigates to the respective landing page.

a.) State Bank of India:

- i) Bidders with SBI account may click SBI option to proceed to its Net Banking Page.
- ii) Bidders may enter SBI net Banking user ID and Password and click on Login to proceed.
- iii) Before proceeding further bidder has to ensure sufficient balance in his account. After checking the same, click **Confirm** button, to transfer payment. After account debit, MOPS gateway will automatically re-direct to the e-Procurement System, with the Success transaction.
- iv) Bidder will receive bank response immediately by verifying the payment status, whether **Success** or not. In case, payment was debited from account and further, **Payment Failure** is shown, immediately contact the e-Procurement helpdesk, for resolution, before tender closing time.
- v) Please ensure that the **Pay Online** option is not shown after successful payment, for confirmation. From here, Bidders may proceed with **Encrypt and Upload** to upload tender documents, and further submission process.

b.) Other Bankers :

- i) Bidders with other account may click **Other Bank** option to proceed to SBI Net Banking Page. Bidder may select the appropriate Bank from selection page.
- ii) After selecting appropriate Bank, click **Make Payment** Button to proceed to its internet banking page. Further steps may depend on the Bank Procedure.
- iii) After, successful payment, system will direct you to payment confirmation page.
- iv) Bidder will receive bank response immediately by verifying the payment status, whether **Success** or **Not**. In case, payment was debited from account and further, **Payment Failure** is shown, immediately contact the e-Procurement helpdesk, for resolution, before tender closing time.
- v) Please ensure that the **Pay Online** option is not shown after successful payment, as below, for confirmation. From here, Bidders may proceed with **Encrypt and Upload** to upload tender documents, and further submission process.

c.) NEFT/RTGS :

- i) Bidders may choose the type of transaction and proceed for payment.

- ii) Please click the check the Box to proceed to the payment and click on the Confirm Button.
 - iii) Before proceeding further bidder has to ensure sufficient balance in his account. After checking the same, Click **Confirm** button, to transfer payment.
 - iv) Click **Confirm** button, to transfer payment.
 - v) The challan is generated after successful transaction.
 - vi) The Downloaded challan of the e-procurement RTGS/NEFT Remittance Information.
5. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the **Blue coloured** (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online duly digitally signed, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.
6. The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
7. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
8. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
9. Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

10. The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for anybid opening meetings.

ASSISTANCE TO BIDDERS

1. Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
2. Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk.

CPP under GePNIC, Help Desk Services

For any technical related queries/constraint may please be called the Helpdesk. The 24 x 7 Help Desk Number **0120-4200462, 0120-4001002**

Note: Bidders are requested to kindly mention the URL of the Portal and Tender Id in the subject while emailing any issue along with the Contact details. For any issues/clarifications relating to the tender(s) published kindly contact the respective Tender Inviting Authority.

Telephone : 0120-4200462, 0120-4001002.

Mobile No. : +918826246593

E-Mail: support-eproc@nic.in

For any Policy related matter / Clarifications, Please contact Dept of Expenditure, Ministry of Finance. E-Mail: CPP-doe@nic.in.

3. For any Issues / Clarifications relating to the publishing and submission of AAI tender(s)
 - (a) In order to facilitate the Vendors / Bidders as well as internal users from AAI, Help desk services have been launched between 0800-2000 hours for the CPP under GePNIC <https://eprocure.gov.in>. The help desk services shall be available on all working days (Except Sunday and Gazetted Holiday) between 0800-2000 hours and shall assist users on issues related to the use of Central Public Procurement Portal (CPP).
 - (b) Before submitting queries, bidders are requested to follow the instructions given in “Guidelines to Bidders” and get their computer system configured according to the recommended settings as specified in the portal at “System Settings for CPP”.
4. In case of any issues faced, the escalation matrix is as mentioned below:

Support Persons	Escalation Matrix	E-Mail Address	Contact Numbers	Timings
Help Desk Team	Instant Support	eprochelp@aai.aero	011- 24632950, Ext-3512 (Six Lines)	0900-1800Hrs. (MON - FRI)

5. The Helpdesk services shall remain closed on all Govt. Gazetted Holidays.
6. The above mentioned help desk numbers are intended only for queries related to the issues on e-procurement portal and help needed on the operation of the portal. For queries related to the tenders, published on the portal, bidders are advised to contact concerned Bid Manager of AAI.
7. The EMD of the unsuccessful bidders shall be returned to their source account.

AIRPORTS AUTHORITY OF INDIA

NOTICE INVITING e-TENDER

1. Item rate tenders are invited through the e- tendering portal on behalf of the Chairman, Airports Authority of India for the work as mentioned **at Sr.No.1 Schedule E on Page No.GCC-189**. The estimated cost of the work is mentioned **at Sr. No. 1(i) Schedule E on page on. GCC-189**. This estimate, however, is given merely as rough guide.
2. The e-tenders shall be in the following prescribed form.

(a) 1 st Cover/Envelope I	: Fees (Scanned and duly digitally signed Copy of paid Tender Fees and EMD, Unconditional Acceptance of AAI's Tender Condition, Integrity Paet and Power of Attorney (if applicable), Pre-qualification (PQQ)
(b) 2nd Cover/Envelope II	: Finance Evolution (Price bid) (Item Rate BOQ)
3. Not more than one Tender shall be submitted by a contractor or by a firm of contractors. No two or more concerns in which an individual is interested, as Proprietor and/or partner shall tender for the execution of the same works. If they do so, all such Tenders shall be liable to be rejected.
4. The works are required to be completed within the period as mentioned at **Clause No.5(1) in Schedule F on page No. GCC-191**. This period shall be reckoned from the Tenth day after issue of written orders to commence the work, in accordance with the phasing, if any, indicated by AAI in the tender documents.
5. The Accepting Authority as mentioned **at Serial No.2(viii) in schedule F on page No.GCC-190** shall be the Accepting Officer hereinafter, referred to as such for the purpose of this contract.
6. Tender documents consisting of plans, specifications, schedule(s) of Quantities of the various classes of work to be done, the conditions of contract and other necessary documents will be available on **CPP Portal: <http://etenders.gov.in/eprocure/app>**. and all the documents can be downloaded from portal.
 However, to participate in the tender/to submit the tender document, the tenderer must pay online tender fee of Rs. **1,180/-** on CPP Portal, in favor of **Airports Authority of India**. Scanned copy of online paid receipt of Tender fees duly digitally signed shall be uploaded in Cover/Envelope No. I.
7. Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (as far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require, working conditions including space for stacking of materials, installation of T & P conditions affecting accommodation and movement of labors etc., and in general shall themselves obtain all necessary information as to risks, contingencies and other **circumstances** which may influence or effect their tender.

8. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.
9. Submission of e-tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the works to be done and of conditions and rates at which stores, tools and plant, etc., will be issued to him by Airports Authority of India, Local conditions, local material rate and other factors bearing on the execution of the works.
10. All rates (Item) shall be quoted against each item in the column of **Rate in figure to be entered by the bidder (Blue Coloured Unprotected Cell)** of Item Rate of BOQ in the cover No. II, CPP Portal: **<http://etenders.gov.in/eprocure/app>**.

Rates are to be quoted in the portal, upto two decimal places only. In case no rate has been quoted for any item / items, it will be presumed that the contractor has included the cost of this /these item(s) in other item(s) and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.

In the case of Percentage rate Tenders, only percentage rates above / below quoted shall be considered. Any Tender containing Item rate quoted is liable to be rejected.

11. Notification of Award of contract will be made in writing to the successful Bidder by the Accepting Authority or his representative. The Contract will normally be awarded to the qualified and responsive Bidder offering lowest evaluated bid in conformity with the requirements of the specifications and contract documents and the Accepting Authority shall be the sole judge in this regard. The Accepting Authority does not bind himself to accept the lowest or, any Tender or to give any reason for his decision.

A responsive bidder is one who submits prices Tender and accepts all terms and conditions of the specifications and contract documents.

A major modification is one which affects in any way, the quality, quantity and period of completion of the work of which limits in any way the responsibilities or liabilities of the Bidder of any right of AAI as required in this specifications and contract documents. Any modification in the terms and conditions of the tender, which are not acceptable to AAI, shall also be treated as a major modification.

A tenderer shall submit a responsive bid, failing which his tender will be liable to be rejected.

The Accepting Authority reserves to himself the right of accepting the whole or any part of the Tender and Tenderer shall be bound to perform the same at his quoted rates.

12. Airports Authority of India will return the earnest money, where applicable, to every unsuccessful Tenderer except as provided in the Tender documents. Canvassing in connection with tenders is strictly prohibited and the tenders submitted by the tenderers who resort to canvassing will be liable to rejection.
13. The Tender works shall remain open for acceptance for a period of **90 (Ninety)** Days from the date of opening of Tenders. If any Tenderer withdraws his Tender before the said period or makes any modifications in the terms and conditions of the Tender, which are not acceptable to the Department, then Airports Authority of India shall without prejudice to any other right or remedy,

be at liability to **Suspend for one year and will not be eligible to bid for AAI tenders from date of issue of suspension order.**

14. A Tenderer shall submit the Tender, which satisfies each and every condition laid down in this notice failing which the Tender will be liable to be rejected.
15. **Building and other construction workers welfare cess or any other tax, levy or cess in respect of input for or output by this contract shall be payable by the contractor and AAI shall not entertain any claim whatsoever in this respect except as provided under clause 38 of GCC.**
16. The site for the work may be made available in full or parts as decided by Engineer-In-charge. No time extension for handing over of site in phases will be granted.
17. **MODE OF SUBMISSION OF TENDERS:**

The following 2 Covers/Envelopes shall be submitted through **online** at CPP e-portal by the bidders. All the Bids (Cover/ Envelope I, & II) are required to be submitted by stipulated date time (Bid submission End Date) **i.e. Upto 18:00 Hrs. on 10-08-2022** in the CPP Portal only.

- 17.1 **Cover/ Envelope -I** : Containing Scanned Copy and duly digitally signed of the following documents:

- a) Scanned copy of online transaction receipt in respect of EMD.
- b) Scanned copy of online transaction receipt in respect of Tender fee.
- c) Power of Attorney or Authorization (If applicable)
- d) Unconditional Acceptance of AAI's Tender Conditions (Proforma given at Page.No.28).
- e) Scanned copy of Permanent Account Number (PAN) and GST Registration Number.
- f) Scanned copy of 'Undertaking' regarding Blacklisting / Debarment on Company's Letter Head.
- g) Scanned copy of minimum net worth issued by certified Chartered Accountants.

The bidders shall submit their applications as per "Pre- Qualification Performa", in the tender document and fill up the required information and upload the digitally signed file of scanned documents and firms bio-data in support of their meeting each criteria in the technical bid/ Attachment section in the portal. Uploading of application in location other than specified above not shall be considered. Hard copy of application shall not be entertained.

The intimation regarding eligible/ non-eligible for participation in the tendering will be intimated to the agencies through e-tendering CPP portal only.

- 17.2 **Cover/Envelope-II: Finance Cover/Price Bid (Item Rate BOQ)**

All rates (Item) shall be quoted against each item in the column of **Rate in figure to be entered by the bidder (Blue Coloured Unprotected Cell)** of Item Rate of BOQ CPP Portal : **<http://etenders.gov.in/eprocure/app>**. The price bid of those bidders shall be opened who meets the qualifying requirements as per NIT Criteria.

- 17.3 Once the contractor has uploaded the digitally signed file of tender document along with unconditional acceptance as an attachment, he is not permitted to upload any additional file or put any remark(s)/ conditions(s) in / along with the Tender Document (Except unconditional rebate on quoted rates.

- 17.4 In case, the above conditions is found violated, the tender shall be summarily rejected.
18. Upon the successful and timely submission of bids (i.e. after Clicking “Freeze Bid Submission” in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

19. Queries, Replies and Clarifications:

- 19.1 If the bidder has any query related to the Tender Document of the work, they should use ‘Clarification’ tab in CPP–tendering portal to seek clarifications. No other means of communication in this regards shall be entertained. Last date and time for making query is as stipulated in NIT.
- 19.2 If any clarification is needed by AAI from the bidder about the deficiency in his uploaded documents in the specified cover, they will be asked to provide it though CPP–tendering portal. The bidder shall upload the requisite clarification/documents within specified time of receipt of such request from AAI, failing which tender will not be considered for the subsequent stages.
20. At the stipulated time, the offer from those contractors whose digitally signed copy of tender document along with unconditionally acceptance of the AAI’s conditions are not found in the specified cover ~~and hard copy of the same is not received by the Bid Manager in~~ will not be considered and will stand rejected and financial bid of such contractors shall not be opened.
21. This notice of Tender shall form part of the contract documents. The successful Tenderer/contractor, on acceptance of his Tender by the Accepting Authority, shall within 10 days from the date of award of work, sign the contract consisting of Notice inviting Tenders, General conditions of contract, special/additional condition, General and particular specifications, Tender conditions as issued at the time of invitation of Tender and acceptance thereof with any correspondence leading there to. Tenderer should download the Tender Document file from the CPP e–tendering portal and upload the digitally signed file of the same along with unconditional acceptance.
22. The AAI reserves the right to ask for submission of sample in respect of material for which the tenderer has quoted his rates before the tender can be considered for acceptance. If the tenderer who is called upon to do so does not submit samples within 7 (Seven) days of written order to do so, AAI shall be at liberty to reject the application.

AAI reserves the right to accept or reject any or all applications without assigning any reasons. AAI also reserves the right to call off of tender process at any stage without assigning any reason.

23. AAI reserves the right to disallow issue of tender documents to working agencies whose performance at ongoing project(s) is below par and unusually poor and has been issued letter restrain / Temporary / Permanent / debar by any department of AAI. **AAI reserve the right to verify the credential submitted by the agency at any stage (before or after the award the work). If at any stage, any information/documents submitted by the applicant is found to be incorrect / false or have some discrepancy which disqualifies the firm then AAI shall take following action:**
- a) **Forfeit the entire amount of EMD submitted by the firm.**
 - b) **The agency shall be liable for debarment from tendering in AAI, apart from any other appropriate contractual / legal action.**
24. **Consortium/ JV companies shall not be permitted. No single firm shall be permitted to submit two separate applications.**
25. Purchase preference to Central Public Sector Undertaking shall be applicable as per the directives of Govt. of India prevalent on the date of acceptance
26. If the entity participating in any of the tenders is private or public limited company, Partnership firm or proprietary firm and any of the Directors / Partners / Proprietor of such company is also a director of any other company or partner of a concern or a sole proprietor having established business with AAI and has outstanding dues payable to authority, then the said entity shall not be allowed to participate in AAI tenders.

Asstt. General Manager (Engg-Civil)
For & behalf of Chairman
AIRPORTS AUTHORITY OF INDIA

AIRPORTS AUTHORITY OF INDIA
Item Rate Tender & Contract for Work

Airport : NSCBI Airport, Kolkata.

Branch : Engineering

Office of : Asstt. Gen. Manager (Engg–Civil)

(A) Tender for the work of:– “Construction of Structural Shed for CFT garage and Development of Surrounding Area at FSTC Complex Narayanpur at Kolkata Airport”.

(i) To be submitted/ uploaded up to **18:00 hours on 10-08-2022** in NIC CPP Portal.

TENDER

I/We have read and examined the notice inviting tender, schedule, A, B, C, D, E & F, Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, Clauses of contract, Special conditions, Schedule of Rates & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the Chairman Airports Authority of India within the time specified in Schedule 'F', viz., schedule of quantities and in accordance in all respects with the referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such material as are provided for, by and in respects in accordance with, such conditions so far as applicable.

We agree to keep the tender open for Ninety (90) days from the date of opening of financial bid in 3/2bid system and not to make any modifications in its terms and conditions.

I/ We undertake and confirm that for eligibility of similar work(s) has / have not been got executed on back to back basis through another contractor. Further that, if such a violation comes to the notice of AAI, then I/We shall accept the decision of AAI if we are debarred for tendering in AAI in future works. Also, if such a violation comes to the notice of AAI before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit / Performance Guarantee.

I/ We further undertake and confirm that information/ documents submitted by us are genuine, and if at any stage such documents/ information found false, then we shall be liable for debarment from tendering in AAI, and any other appropriate legal action.

A sum of **Rs. 3,74,933/-** is here by submitted online as earnest money. If I/we, fail to furnish the prescribed performance bank guarantee within prescribed period, I/we agree that the said Chairman, A.A.I. or his successors in office shall without prejudice to any other right or remedy, be at liberty to take appropriate action as per terms of contract. Further, if I/ we fail to commence work as specified, I/we agree that Chairman, A.A.I. or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money absolutely, otherwise the said earnest money shall be retained by AAI towards security deposit to execute all the works referred to in

the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Schedule 'E' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form. Further, I/We agree that in case of forfeiture of earnest money or Performance Guarantee or both Earnest Money & Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

I/We hereby declare that I/we shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived therefrom to any person other than a person to whom I/we am/are authorised to communicate the same or use the information in any manner prejudicial to the safety of the State.

Date : Signatures of Contractor :

Witness: Postal Address

Occupation:

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by competent authority on behalf of the Chairman, Airports Authority of India for sum of Rs. _____ (Rupees _____).

The letters referred to below shall form part of this contract Agreement: –

(i)

(ii)

(iii)

For & on behalf of Chairman, Airports
Authority of India

Signature _____

Designation _____

Date _____

ACCEPTANCE LETTER



(TO BE SUBMITTED IN ENVELOPE – I)

(Refer Clause 17 of Notice inviting Tender)

To,
The Asstt. General Manager (Engg-Civil)
Airports Authority of India
NSCBI Airport,
Kolkata- 700052

Name of Work: “Construction of Structural Shed for CFT garage and Development of Surrounding Area at FSTC Complex Narayanpur at Kolkata Airport”.

ACCEPTANCE OF AAI'S TENDER CONDITIONS

Sir,

1. The tender documents for the work “**Construction of Structural Shed for CFT garage and Development of Surrounding Area at FSTC Complex Narayanpur at Kolkata Airport**” have been sold to me/us by Airports Authority of India and I/We hereby certify that I/we have inspected the site and read the entire terms and conditions of the tender document made available to me/us through e-portal which shall form part of the contract agreement and I/we shall abide by the conditions/clauses contained therein.
2. I/we hereby unconditionally accept the tender conditions of AAI's tender documents in its entirety for the above work.
3. The contents of NIT Documents have been noted and after unconditionally accepting the tender conditions in its entirety, it is not permissible to upload any additional file or put any remarks/condition(s) in/along with the tender documents and the same has been followed in the present case. In case, this provision of the tender is found violated after opening of tender, I agree that the tender shall be rejected.
4. It is confirmed that we will deploy the required machineries and equipment's for completion of work in time without any extra cost on AAI and AAI shall without prejudice to any other right or remedy be at liberty to forfeit 10% of earnest money.
5. That, I/ We declare that I/we have not paid and will not pay any bribe to any officer of AAI for awarding this contract at any stage during its execution or at the time of payment of bills and further if any officer of AAI asks for bribe/gratification, I will immediately report it to the appropriate Authority in AAI.
6. The required earnest money as specified at Sl. No. 2 (CRITICAL DATA SHEET) at P-4 of NIT for this work has already been submitted and the scanned copy of online receipt for EMD is attached herewith.

Yours faithfully

Date :

**Signature of the Tenderer with
rubber stamp**

(TO BE SUBMITTED BY BIDDERS IN ENVELOPE — I ON THEIR LETTER HEAD)

UNDERTAKING FOR REGISTERED UNDER GST AND COMPLIANT OF GST PROVISION

I/We _____(Name of company/Firm)_____ hereby undertakes that We are registered under GST and complying the GST provision. Incase of non-compliance of GST provisions and blockage of any input credit, we (the bidder) shall be held responsible to indemnify AAI.

Name & Signature of Contractor/ Firm

(With official rubber stamp)

Date:

AIRPORTS AUTHORITY OF INDIA

General Rules & Directions

1.	General Rules & Directions	All work proposed for execution by contract are notified in a form of invitation to tender pasted in public places /NIC CPP Portal and signed by the officer inviting tender or by publication in Newspapers and posted on AAI web-site and NIC CPP Portal http://etenders.gov.in and www.aai.aero (for reference only). This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender, and the amount of the security deposit and Performance guarantee to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the contractor at the office of officer inviting tender during office hours.
2.		In the event of the e-tender being submitted by a firm, it must be digitally signed. Such tender will be treated as signed tender. For physical tender it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power-of- attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act, 1952.
2. (A)		In case of the tender submitted by a Joint Venture / Consortium, a copy of joint venture / consortium agreement in the specified proforma defining the lead partner should be submitted. The lead partner shall sign all the documents in respect of the works. The documents signed by any other person or firm other than the lead partner shall not be entertained.
3.		Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm. Bank details shall be furnished by the firm through an application duly signed by all partners for payment to the firm through bank transfer.
4.	Applicable for item Rate Tender only .	Any person who submits a tender shall fill up the usual printed form, stating at what rate he is willing to undertake each item of the work. Tenderers, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort, including conditional rebates, will be summarily rejected. No single tender shall include more than one work, but contractors

		who wish to tender for two or more works shall submit separate tender for each. Tender shall have the name and number of the works to which they refer, written on the envelopes. The tenderer should follow this obligation mentioned in the tender document The rate(s) must be quoted in decimal coinage. Amount must be quoted in full Rupees by ignoring 50 paise and considering more than 50 paise as Rupee one. In case the lowest tendered amount (worked out on the basis of quoted rate of Individual items) of two or more contractors is same, then such lowest contractors will be asked to submit revised offer quoting rate of each item of the schedule of quantity for all sub sections/sub heads as the case may be, but the revised quoted rate of each item of schedule of quantity for all sub sections/subheads should not be higher than their respective original rate quoted already at the time of submission of tender. The lowest tender shall be decided on the basis of revised offer. If the revised tendered amount (worked out on the basis of quoted rate of individual items) of two or more contractors received in revised offer is again found to be equal, then the lowest tender, among such contractors, shall be decided by draw of lots in the presence of Jt. GM (Engg)/ DGM (Engg)/ AGM (Engg)/ Sr Manager (Engg) in-Charge of major and minor component(s) work and the lowest contractors those have quoted equal amount of their tenders. In case of any such lowest contractor in his revised offer quotes rate of any item more than their respective original rate quoted earlier at the time of submission of tender, then such revised offer shall be treated invalid. Such case of revised offer of the lowest contractor or case of refusal to submit revised offer by the lowest contractor shall be treated as withdrawal of his tender before acceptance and 50% of his earnest money shall be forfeited. In case all the lowest contractors those have same tendered amount (as a result of their quoted rate of individual items), refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each lowest contractors. Contractor, whose earnest money is forfeited because of non-submission of revised offer, or quoting higher revised rate(s) of any item(s) than their respective original rate quoted already at the time of submission of his bid shall not be allowed to participate in the retendering process of the work. Note: Till the time software supports the above provisions, revised offers from tenderers forming the tie shall be obtained and procedure prescribed for “Restricted call of tenders” shall be adopted (for e-tenders).
4. (A)	Applicable for	In case of Percentage Rate Tenders, tenderer shall fill up the usual printed form, stating at what percentage below/above (in figures as well as in words) the total

	Percentage Rate Tender only.	estimated cost given in Schedule of Quantities at Schedule–A, he will be willing to execute the work. The tender submitted shall be treated as invalid if; 1. The contractor dose not quote percentage above/below on the total amount of tender or any section/sub–head of the tender. 2. The percentage above/below is not quoted in figures & words both on the total amount of tender or any section/sub–head of the tender. 3. The percentage quoted above/below is different in figures and words on the total amount of tender or any section/sub–head of the tender. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort including conditional rebates, will be summarily rejected. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tender for each. Tender shall have the name and number of the works to which they refer, written on the envelopes. In case the lowest tendered amount (estimated cost + amount worked on the basis of percentage above/below) of two or more bidders is same, such lowest bidders will be asked to submit revised offer in the form of letter mentioning percentage above/ below on estimated cost of tender including all sub sections/sub heads as the case may be, but the revised percentage quoted above/below on tendered cost or on each sub section/ sub head should not be higher than the percentage quoted at the time of submission of tender. The lowest tender shall be decided on the basis of revised offers. In case any of suchcontractor refuses to submit revised offer, then it shall be treated as withdrawalof his tender before acceptance and 50% of earnest money shall be forfeited. If the revised tendered amount of two more bidders received in revised offer is again found to be equal , the lowest tender, among such bidders, shall be decided by draw of lots in the presence of Jt. GM (Engg)/ DGM (Engg)/ AGM (Engg)/ Sr Manager (Engg) in–Charge of work & the lowest bidders those who have quoted equal amount of their tenders. In case all the lowest bidders thosehave quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each bidder. Bidders, whose earnest money is forfeited because of non–submission of revised offer, shall not be allowed to participate in the re–tendering process of the work. Note: Till the time software supports the above provisions, revised offers from tenderers forming the tie shall be obtained and procedure prescribed for “Restricted call of tenders” shall be adopted.
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4. (B)		In case the lowest tendered amount (estimated cost $\pm$ amount worked on the basis of percentage above/below) of two or more contractor is same, such lowest contractor will be asked to submit sealed revised offer in the form of letter mentioning percentage above/below on estimated cost of tender including all sub section/sub heads as the case may be, but the revised percentage quoted above/below on tendered cost or on each sub section /sub head should not be higher than the percentage quoted at the time of submission of tender. The lowest tender shall be decided on the basis of revised offers. In case any of such contractor refuses to submit revised offer, then it shall be treated as withdrawal of his tender before acceptance and 50% of earnest money shall be forfeited. If the revised tendered amount of two more contractors received in revised offers is again found to be equal, the lowest tender, among such contractor, shall be decided by draw of lots in the presence of Jt.GM(Engg)/DGM (Engg), AGM (Engg)/Sr. Manager (Engg) in –Charge of major & minor component(s) of work & the lowest bidders those who have quoted same tendered amount of their tenders. In case all the lowest contractors those have quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each bidder. Bidders, whose earnest money is forfeited because of non submission of revised offer, shall not be allowed to participate in the re-tendering process of the work.
5.		The officer inviting tender or his duly authorized representative, will open tenders in the presence of any intending bidders who may be present at the time, and will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, a receipt for the earnest money shall thereupon be given to the contractor who shall thereupon for the purpose of identification sign copies of the specifications and other documents mentioned in Rule – I. In the event of a tender being rejected, the earnest money shall thereupon be returned to the contractor remitting the same, without any interest.
6.		The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.
7.		The receipt of an accountant or clerk for any money paid by the bidder towards tender fee will not be considered as any acknowledgement or payment to the officer inviting tender and the bidder shall be responsible for seeing that he procures a receipt signed by the officer inviting tender or a duly authorised cashier.

8.		The memorandum of work tendered for and the schedule of materials to be supplied by the department and their issue-rates, shall be filled and completed in the office of the officer inviting tender before the tender form is issued. If a form is issued to an intending bidder without having been so filled in and incomplete, he shall request the officer to have this done before he completes and delivers his tender.
9.		The bidders shall sign a declaration under the official Secret Act 1923, for maintaining secrecy of the tender documents drawings or other records connected with the work given to them. The unsuccessful bidders shall return all the drawings given to them.
9(A).		Use of correcting fluid anywhere in tender document is not permitted. Such tender is liable for rejection. If there is any correction it should be cut with a straight line and should be initialed and cello tape to be provided on all the rates quoted in case of physical tenders.
10.	Applicable for Item Rate Tender Only.	In the case of Item Rate Tenders, only rates quoted shall be considered. Any tender containing percentage below / above the rates quoted is liable to be rejected. Rates quoted by the bidder in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, - if a discrepancy is found between rates in figures and in words, then the rates which correspond with the amount worked out by the bidder shall unless otherwise proved be taken as correct. - If the amount of an item is not worked out by the bidder or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct. - Where the rates quoted by the bidder in figures and in words tally, but the amount is not worked out correctly, the rates quoted by the contractor will unless otherwise proved be taken as correct and not the amount. - In event no rate has been quoted for any item(s) leaving space blank both in figure(s) and word(s) or cancelled the quoted rate in figure(s), and word(s) but the amount corresponding to the item(s) is worked out by the bidder and added to the grand total, then rate(s) of the item(s) shall be derived from the amount(s) quoted by the contractor against such item(s). - In event no rate has been quoted for any item(s), leaving space both in figure(s), word(s), and amount blank, it will be presumed that the bidder has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly. - Sub Para i to iv above shall not be applicable in case of e-tendering.

	Applicable for percentage rate tender only .	In case of percentage Rate Tenders only percentage quoted shall be considered. Any tender containing item rates is liable to be rejected Percentage quoted by the bidder in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy. However, if the bidder has worked out the amount of the tender and if any discrepancy is found in the percentage quoted in words and figures, - The percentage which corresponds with the amount worked out by the bidder shall, unless otherwise proved, be taken as correct. - If the amount of the tender is not worked out by the bidder or it does not correspond with the percentage written either in figures or in words, then the percentage quoted by the bidder in words shall be taken as correct. - Where the percentage quoted by the bidder in figures and in words tally but the amount is not worked out correctly, the percentage quoted by the bidder will, unless otherwise proved, be taken as correct and not the amount.
11.		In the case of any tender where unit rate of any item / items appear unrealistic, such tender will be considered as unbalanced and in case the tenderer is unable to provide satisfactory explanation, such a tender is liable to be disqualified and rejected.
12.	Applicable for Item Rate Tender only.	All rates shall be quoted on the tender form. The amount for each item should be worked out and requisite totals given. Special care should be taken to write the rates in figures as well as in words and the amount in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, the word 'Rs' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs. 2.15 P' and in case of words, the word 'Rupees' should precede and the word 'Paise' should be written at the end. Unless the rate is in whole rupees and followed by the word 'only' it should invariably be up to two decimal places. While quoting the rate in schedule of quantities, the word 'only' should be written closely following the amount and it should not be written in the next line.
12(A).	Applicable for percentage rate tender only.	In Percentage Rate Tender, the tenderer shall quote percentage below / above (in figures as well as in words) at which he will be willing to execute the work. He shall also work out the total amount of his offer and the same should be written in figures as well as in words in such a way that no interpolation is possible. In case of figures, the word 'Rs' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs. 2.15 P' and in case of words, the word

		‘Rupees’ should precede and the word ‘Paise’ should be written at the end. (quoting of rates in Paise is not applicable in e-tenders)
13	Acceptance of abnormally low quoted bid (Capital & Revenue Expenditure Contract)	Wherever the price of the lowest bidder is lower than the justified cost by more than 25%, lowest bid can be termed as Abnormally Low Quoted Bid (ALQB). Processing of such bid shall be as follows: - The bid processing manager shall seek from lowest bidder, a Bank Guarantee amounting to 10% of the difference between 75% of the justified cost and the cost quoted by the bidder. This bank guarantee shall be termed as Quality Protection Bank Guarantee (QPBG) and shall be over and above the normal bank guarantee and shall be valid up to the completion of the work. - The lowest bidder has to submit the QPBG within 10 days of issue of letter from Bid Manager. - On receipt of QPBG from the lowest bidder, the bid processing manager shall submit the case to the officer competent to accept the tender as per delegation of powers. - In case of Percentage Rate Tenders, QPBG shall be asked for 10% of the difference between 75% of the justified cost and the corresponding cost worked out on the basis of percentage quoted by lowest bidder. - This QPBG for any tender shall be a fixed amount as one-time measure and will not vary at any stage during the currency of the work or contract. - In case of Percentage Rate Tenders, Bank Guarantee shall be asked for 10% of the difference between 75% of the estimated cost and the correspondence cost worked out on the basis of percentage quoted by bidder. - In case of labour incentive ALQB like MESS, Annual Maintenance Contract for supply of labourers, Operation & Maintenance Contract and other similar works, contractor shall transfer/deposit salary of the individual worker to their bank account which should be linked with AADHAR and a statement is to be submitted to AAI along with each running bill and final bill. - In case the lowest bidder fails to submit QPBG within stipulated time, as decided by Bid Manger or contractor does not transfer / deposit salary of the individual worker to his/her bank account which should be linked with AADHAR and do not submit statement to AAI as the case may be, the tender shall be rejected / foreclosed and EMD/SD collected till date shall be forfeited. - In case of non-execution/ completion of the work, QPBG and EMD/SD collected till date shall be forfeited
13A		In case the contractor does not carry out the work on ALQ items as per schedule or as per NIT specifications, the Engineer-in-charge shall issue a letter

		to the contractor to comply its obligations as per NIT, for ALQ items. Engineer-in-charge shall also give one reminder after 10 days of 1 st letter and if contractor still do not start the work on ALQ items, then bank guarantee i.e. QPBG should be encashed and work should be got executed through another agency at his risk and cost.
14		i. The bidder, whose tender is accepted, will be required to furnish performance guarantee of 5% (Five Percent) of the tendered amount within the period specified in Schedule F. This guarantee shall be in the form of Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank but not co-operative or Gramin Bank, in accordance with the prescribed form, provided confirmatory advice is enclosed. ii. The bidder, whose tender is accepted, will also be required to furnish by way of Security Deposit for the fulfillment of his contract, an amount equal to 5% of the contract amount of the work. iii. In works where condition of submission of Performance Guarantee is not applicable, the security deposit @ 10% of the tendered value shall be deducted. iv. The Security deposit (under ii & iii above) will be collected by deductions from the running bills of the contractor at the rates mentioned above and the earnest money deposited at the time of tenders, will be treated as a part of the Security Deposit. v. Security deposit will also be accepted in form of Fixed Deposit Receipts / Guarantee Bonds of any Scheduled Bank but not co-operative or Gramin Bank in accordance with the prescribed form, provided confirmatory advice is enclosed.
15.		On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated in writing to the Engineer-in-Charge.
16.		1) Rates to be quoted by the parties, should be inclusive of all taxes, duties, CESS, fee, royalty charges etc. levied under any statute but exclusive of GST for all the items. 2) However GST, as applicable, shall be paid to the contractor, for any taxable supply/services/construction rendered by the agency to MI, against a valid GST invoice as per terms and conditions of the contract. 3. In case supplies/services/works involve imports; the same should be identified separately. Basic Custom Duty & IGST will be paid directly by AAI by utilizing EPCG license/ Duty Credit Scrip under Service Export from India Scheme(SEIS) of Govt of India.

17.		The contractor/ bidder shall give a list of AAI employees related to him.
18.		The tender for the work shall not be witnessed by a contractor or contractors/ bidders who himself/ themselves has / have tendered or who may and has / have tendered for the same work. Failure to observe this condition would render, tenders of the contractors tendering, as well as witnessing the tender, liable to summary rejection.
19.		The tender for composite work includes, in addition to building work, all other works such as sanitary and water supply installations drainage installation, electrical work, horticulture work, roads and paths etc. The tenderer apart from being a registered contractor (B&R) of appropriate class, must associate himself with agencies of appropriate class which are eligible to tender for sanitary and water supply drainage, electrical and horticulture works in the composite tender.
20.		The contractor/ bidder shall submit list of works completed in last 5 years*as well as which are in hand (in progress) in the following format for assessing bidding capacity of the bidders:—

Name of work	Name and particulars of Office where work is being executed	Value of work	Position of works inprogress	Remarks
1	2	3	4	5

21		The contractor/bidder shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the Executive Director (Engg.) may in his discretion, without prejudice to any other right or remedy available in law, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.
22		If complete site is available for work, the work shall be completed in the manner specified here in special condition of contract and NIT specifications.

		Note: In such case para 23 below may be deleted by NIT approving authority
23		If complete site is not available for taking up the work, the same shall be made available in phases. The scope of work covered in each phase, time for completion of work in each phase and methodology of taking over completed work in phased manner has been specified under special conditions of contract. The completion time for each phase shall be applicable as indicated in tender documents. The work shall also be taken over by Engineer-In-Charge in phases. The warranty for the works executed in each phase shall be applied independently w.e.f. date of completion /taking over of individual phase. Note: In such case para 22 above may be deleted by NIT approving authority

CONDITIONS OF CONTRACT

Definitions:

1.		The contract means the documents forming the tender and acceptance thereof and the formal agreement /agreements executed between the competent authority(s) on behalf of the Chairman, Airports Authority of India and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in- Charge and all these documents taken together, shall be deemed to form one contract / two contracts and shall be complimentary to one another. Contractor has to sign two agreements, one consisting BOQ for Civil works and another one for SITC and O&M /AMC/AICMC part. Engineer-in charge could be common for both the agreements. Separate invoices for the Civil / construction works and SITC / O&M / AICMC / AMC works have to be raised by the agency referring to the respective agreements to facilitate AAI to claim input tax credit on such SITC/O&M/AICMC/AMC works as mentioned in Schedule 'F' para 2(v).
2.		In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them :—
		i. The expression works or work shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional. ii. The site shall mean the land / or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract. iii. The Contractor/tenderer/bidder shall mean the individual, firm or company whether incorporated or not, Joint Venture / Consortium undertaking the works and shall include the legal personal representative of such individual or the persons constituting such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company. iv. The Chairman means the Chairman Airports Authority of India and his Successors. v. The Engineer-in-Charge means the Engineering Officer who shall supervise and be incharge of the work and who shall sign the contract on behalf of the Chairman, Airports Authority of India as mentioned in Schedule 'F'

		hereunder. vi. AAI or Airports Authority of India shall mean the Chairman Airports Authority of India. vii. The terms Member(Planning) means the head of Department of Engineering, Airports Authority of India. viii. Accepting Authority shall mean the authority mentioned in Schedule 'F'. ix. Excepted Risk are risks due to riots (other than those on account of contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, terrorism, military or usurped power, any acts of Airports Authority of India, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by Airports Authority of India of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Airports Authority of India's faulty design of works. x. Market Rate shall be the rate as decided by the Engineer-in-Charge on the basis of the prevailing cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Schedule 'F' to cover, all overheads and profits. Provided that no extra overheads and profits shall be payable on the parts of works assigned to other agency(s) by the contractor as per terms of contract. xi. Schedule(s) referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard Schedule of Rates of the government mentioned in Schedule 'F' hereunder, with the amendments thereto issued upto the date of receipt of the tender. xii. Department means Airports Authority of India, which invites tender on behalf of Chairman, Airports Authority of India. xiii. Tendered value means the value of the entire work as stipulated in the letter of award.
3.	Scope and Performance	Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.
4.		Headings and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.

5.		The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications, Schedule of Rates and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract.
6.	Works to be carried out	The work to be carried out under the Contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The descriptions given in the Schedule of Quantities (Schedule – A) shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles.
7.	Sufficiency of Tender	The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.
8.	Discrepancies and Adjustment of Errors	The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions.
8.1		In the case of discrepancy between the Schedule of Quantities, the Specifications and / or the Drawings, the following order of preference shall be observed :—
		i. Description of Schedule of Quantities. ii. Particular/ technical Specification and Special Condition, if any. iii. Drawings. iv. C P W D Specifications. v. Indian Standard Specifications of B I S./ IRC Code of Practice / ASTM standards. vi. Sound Engineering practice as directed by the Engineer-in-charge, whose decision in this regard shall be final and binding on the contractor.

8.2		If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.
8.3		Any error in description, quantity or rate in Schedule of Quantities or any omission therefrom shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract.
8.4	Payment for similar items with different quoted rates in different subheads of the contract agreement	If the contractor has quoted different rates for the same item appearing in two or more subheads, then the lowest of the rates quoted shall only be considered for payments during execution of work. In case of deviation of quantity of such item, payments shall be made at the lowest quoted rate for quantity executed upto the deviation limit specified in the contract. Beyond the deviation limit the rate shall be derived as per relevant contract provision.
9.	Revers Auction for purchase tenders	AAI may opt for reverse auction in case of purchase tender if value of supplies put to tender is more than Rs.2Cr.
10.	Signing of Contract	The successful tenderer / contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, shall sign either single or Two agreements, as the case may be, one consisting BOQ for Civil works and another one for SITC and O&M/ AMC/AICMC part.
i)		i. The notice inviting tender, all the documents including drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto. ii. Standard AAI Form as mentioned in Schedule 'F' consisting of : - Various standard clauses with corrections upto the date stipulated in Schedule 'F' alongwith annexures thereto. - AAI Safety Code. - Model Rules for the protection of health, sanitary arrangements for workers employed by AAI or its contractors. - AAI Contractor's Labour Regulations. - List of Acts and omissions for which fines can be imposed. iii. No payment for the work done will be made unless contract in form of agreement is signed is signed by the contractor.

CLAUSES OF CONTRACT

CLAUSE 1

	Performance Guarantee	This clause is applicable for the works for which the estimated cost put to tender is more than Rs.5 crores.
		i. The contractor shall submit an irrevocable Performance Guarantee of 5% (Five percent) of the Tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of award letter. This guarantee shall be in the form of Fixed Deposit Receipts or Guarantee Bonds of any Scheduled bank but not Co-operative or Gramine bank in accordance with the form annexed hereto.(Appendix–XI) In case a fixed deposit receipts of any Bank is furnished by the contractor to the AAI as part of the performance guarantee and the Bank is unable to make payment against the said fixed deposit receipts or Guarantee Bonds, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to make good the deficit.
		ii Performance guarantee should be furnished within 30 days of issue of award letter. In case the contractor fails to deposit performance guarantee within the stipulated period, no payment will be released to the contractor for the work done in respect of 1st running account bill. Moreover, interest @10% per annum on performance guarantee amount would be levied (non-refundable) for delayed period of submission.
		iii. The Performance Guarantee shall be initially valid upto the stipulated date of completion plus 180 days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest. However, in case of contracts involving maintenance of buildings and services / any other work thereafter, 50% of Performance Guarantee shall be retained as Security Deposit as per contract conditions. The same shall be returned on successful completion of commitment year wise proportionately.
		iv. The Engineer-in-Charge shall not make a claim under the performance guarantee except for amounts to which the AAI is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of: a. Failure by the contractor to extend the validity of the Performance

		Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee. b. Failure by the contractor to pay the Chairman, AAI any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.
		v. In the event of the contract being determined or rescinded under provision of any of the Clause/Condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the Chairman, AAI.

CLAUSE 1 A

	Recovery of Security Deposit	The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit AAI at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 5% of the gross amount of each running and final bill till the sum deducted along with the sum already deposited as earnest money, will amount to security deposit of 5% of the tendered value of the work. Earnest money shall be adjusted first in the security deposit and further recovery of security deposit shall commence only when the update amount of security deposit starts exceeding the earnest money. Such deductions will be made and held by way of Security Deposit unless he/they has/have deposited the amount of Security at the rate mentioned above in the form of fixed deposit receipts or guarantee bonds of any Scheduled Bank but not Co-operative or Gramin Bank. In case a fixed deposit receipts or Guarantee Bonds of any Bank is furnished by the contractor to the AAI as part of the security deposit and the Bank is unable to make payment against the said fixed deposit receipt or Guarantee Bond, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the AAI to make good the deficit. In works where condition of submission of performance guarantee is not applicable, the security deposit at the rate of 10% (Ten Percent) of gross amount of each running bill shall be deducted instead of 5%, till the sum along with the sum already deposited as earnest money will amount to security deposit of 10% of the contract value of work. Other conditions shall remain same as stated above. All compensations or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising therefrom, or from any sums which may be due to or may become due to the contractor by AAI on any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in fixed deposit receipts or Guarantee Bonds tendered by the
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		Scheduled Banks (but not any Co-operative or Gramin bank) (if deposited for more than 12 months) endorsed in favour of the Airports Authority of India, any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof. The security deposit shall be collected from the running bills of the contractor at the rates mentioned above and the Earnest money deposited at the time of tenders will be treated as part of the Security Deposit. The security deposit as deducted above can be released against bank guarantee issued by any Scheduled Bank (but not from Co-operative / Gramin Bank), on its accumulations to a minimum of Rs. 5 lakh subject to the condition that amount of such bank guarantee, except last one, shall not be less than Rs. 5 lakh. Note 1: Provided further that the validity of Bank Guarantee including the one given against the earnest money shall be in conformity with provisions contained in the clause 17 which shall be extended from time to time depending upon extension of contract under provision of Clause 2 & Clause 5. Note 2: Note 1 above shall be applicable for both clause 1 and 1 A.
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Clause 2

	Compensation for Delay	If the contractor fails to maintain the required progress in terms of clause 5 or to complete the Work and clear the site on or before the contract or justified extended date of completion as per clause 5 (excluding any extension under clause 5.5) as well as any extension granted under clause 12 and 15, he shall, without prejudice to any other right or remedy available under the law to the AAI on account of such breach, pay as compensation the amount calculated at the rates stipulated below as the authority specified in schedule 'F' may decide on the amount of Tendered Value of the work for every completed day/month (as determined) that the progress remains below that specified in Clause 5 or that the work remains incomplete. This will also apply to items or group of items for which a separate period of completion has been specified.	
		i) Compensation for delay of work	If the completion of work is delayed due to reasons attributed to contractor, AAI shall be entitled for compensation for delay as detailed below : i. For works costing upto Rs. 20.00 Lac: 1.0% (one percent) of tendered value per week of delay or lesser amount as decided by the competent authority subject to a maximum of 10% of contract value.

		ii For the works costing more than Rs 20 Lac a. For the works having completion period less than 2 years 0.5% (half percent) of tendered value per week of delay or lesser amount as decided by the competent authority subject to a maximum of 10% of the tendered value. b. For the works having completion period more than 2 years 0.5% of tendered value per fortnight of delay or lesser amount as decided by the competent authority subject to a maximum of 10% of the tendered value.
		Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the Tendered Value of work or of the Tendered Value of the Sectional part of work as mentioned in schedule 'F' for which a separate period of completion is originally given. In case no compensation has been decided by the authority in Schedule 'F' during the progress of work, this shall be no waiver of right to levy compensation by the said authority if the work remains incomplete on final justified extended date of completion. If the Engineer in Charge decides to give further extension of time allowing performance of work beyond the justified extended date, the contractor shall be liable to pay compensation for such extended period. If any variation in amount of contract takes place during such extended period beyond justified extended date and the contractor becomes entitled to additional time under clause 12, the net period for such variation shall be accounted for while deciding the period for levy of compensation. However, during such further extended period beyond the justified extended period, if any delay occurs by events under sub clause 5.2, the contractor shall be liable to pay compensation for such delay. Provided that compensation during the progress of work beyond the justified extended date of completion for delay under this clause shall be for non-achievement of sectional completion or part handing over of work on stipulated/justified extended date for such part work or if delay affects any other works/services. This is without prejudice to right of action by Engineer-in-Charge under clause 3 for delay in performance and claim of compensation under that clause. In case action under clause 2 has not been finalized and the work has been determined under clause 3, the right of action under this clause shall remain post determination of contract but levy of compensation shall be for days the

		progress is behind the schedule on date of determination, as assessed by the authority in schedule 'F', after due consideration of justified extension. The compensation for delay, if not decided before the determination of contract, shall be decided after of determination of contract. The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with AAI. In case, the contractor does not achieve a particular milestone mentioned in schedule F, or the re-scheduled milestone(s) in terms of Clause 5.4, the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied as above. Withholding of this amount on failure to achieve a milestone, shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever, shall be payable on such withheld amount.
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Clause 2A

	Incentive for early completion	In case, the contractor completes the work ahead of stipulated date of completion, a bonus @ 1 % (one per cent) of the tendered value per month computed on per day basis, shall be payable to the contractor, subject to a maximum limit of 5% (five per cent) of the tendered value. The amount of bonus, if payable, shall be paid along with final bill after completion of work. Provided always that provision of the Clause 2A shall be applicable only when so provided in 'Schedule F'. This Clause shall be applicable for the work for which estimate cost put to tender is Rs.50.00 Cr. And above for pavement work and Rs.100.00 Cr. And above for building work.
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Clause 2B

	Release of withheld amount against compensation for delay.	Withheld amount towards compensation for delay over and above Rs. 50.00 lacs, can be released against Bank Guarantee (on the format given at Appendix-1) or in the form of fixed deposit receipts or guarantee bonds of any Scheduled Bank but not Co-operative or Gramin Bank, pending finalization of case of extension of time by competent authority as per delegation of powers. Concerned Executive Director (Engg) will authorize such action on receipt of proposal from the Engineer-In-Charge through proper channel.
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Clause 3

	When Contract can be Determined	Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and/or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases: i. If the contractor having been given a notice by the Engineer-in-Charge in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or un-workman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter. ii. If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence and continues to do so after a notice in writing of seven days from the Engineer-in-Charge. iii. If the contractor fails to complete the work or section of work with individual date of completion on or before the stipulated or justified extended date on or before such date of completion, and the Engineer in Charge without any prejudice to any other right or remedy under any other provision in the contract has given further reasonable time in a notice given in writing in that behalf as either mutually agreed or in absence of such mutual agreement by his own assessment making such time essence of contract and in the opinion of Engineer in Charge, the contractor will be unable to complete the same or does not complete the same within the period specified. iv. If the contractor persistently neglects to carry out his obligations under the contract and / or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge. v. If the contractor shall offer or give or agree to give to any person in AAI service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for AAI. vi. If the contractor shall enter into a contract with Airports Authority of India in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to
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		the Engineer-in-charge. vii. If the contractor shall obtain a contract with AAI as a result of wrong tendering or other non-bonafide methods of competitive tendering or commits any breach of Integrity Pact. viii. If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport soto do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors. ix. If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order. x. If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days. xi. If the contractor assigns (excluding part(s) of work assigned to other agency(s) by the contractor as per terms of contract), transfers, sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer-in-Charge. When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the Chairman, AAI shall have powers : a. To determine the contract as aforesaid so far as performance of work by the Contractor of work is concerned (of which determination notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination, the Earnest Money Deposit, Security Deposit already recovered and Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the AAI. b. After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another
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		contractor or any other means to complete the work. The contractor, whose contract is determined as above, shall not be allowed to participate in the tendering process for the balance work. In the event of above courses being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.
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CLAUSE 3 A

		In case, the work cannot be started due to reasons not within the control of the contractor within 1/8th of the stipulated time for completion of work or one month whichever is higher, either party may close the contract by giving notice to the other party stating the reasons. In such eventuality, the Earnest Money Deposit and the Performance Guarantee of the contractor shall be refunded within 30 days. Neither party shall claim any compensation for such eventuality. This clause is not applicable for any breach of the contract by either party.
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CLAUSE 4

	Contractor liable to pay compensation even if action not taken under Clause-3	In any case in which any of the powers conferred upon the Engineer-in-Charge by Clause-3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or
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		the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work/ or any part thereof, paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the contractor, clerk of the works, foreman or other authorised agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.
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CLAUSE 5

	Time and Extension for Delay	The time allowed for execution of the Works as specified in the Schedule 'F' or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the works shall commence from such time period as mentioned in schedule 'F' or from the date of handing over of the site whichever is later. If the Contractor commits default in commencing the execution of the work as aforesaid, AAI shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money & performance guarantee absolutely.
5.1		After the Contract is awarded, within 15 days, the Contractor shall submit a Time and Progress Chart for each mile stone and get it approved by the Engineer-in-charge. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per mile stones given in Schedule 'F'. Project Management shall be done. a. For works costing upto Rs. 5.00 Cr. — CPM/ PERT Chart b. Works costing more than Rs. 5.00 Cr. — By using Project Management Software like Primavera / MS

		Project or any other software with the approval of Engineer-in-charge. c. Contractor shall submit monthly progress reports (2 copies) highlighting status of various activities and physical completion of work. PROGRAMME CHART i. The Contractor shall prepare an integrated programme chart in Project Management Software for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfillment of the programme within the stipulated period or earlier and submit the same for approval to the Engineer-in-Charge within fifteen days of award of the contract. A recovery of Rs. 2500/- (for works costing upto Rs. 5.00 Crores) / Rs. 5000/- (for works costing more than Rs. 5.00 Crores) shall be made on per day basis in case of delay in submission of the above programme. ii. The programme chart should include the following: a. Descriptive note explaining sequence of the various activities. b. Network (PERT / CPM / BAR CHART). c. Programme for procurement of materials by the contractor. Programme for deployment of machinery / equipment's having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor. In addition to above, to achieve the progress of work as per programme, the contractor must bring at site adequate shuttering material required for cement concrete and R.C.C. works etc. for three floors within one month from the date of start of work till the completion of RCC work as per requirement of work. The contractor shall submit shuttering schedule adequate to complete structure work within laid down physical milestone. iii. If at any time, it appears to the Engineer-in-Charge that the actual progress of work does not conform to the approved programme referred above or after rescheduling of milestones, the contractor shall produce a revised programme within 7 (seven) days, showing the modifications to the approved programme to ensure timely completion of the work. The modified schedule of programme shall be approved by the Engineer in Charge. A recovery of Rs. 2500/- (for works costing upto Rs. 5.00 Crores) / Rs. 5000/- (for works costing more than Rs. 5.00 Crores) shall be made on per day basis in case of delay in submission of the modified programme.
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		iv. The submission for approval by the Engineer-in-Charge of such programme or such particulars shall not relieve the contractor of any of the duties or responsibilities under the contract. This is without prejudice to the right of Engineer-in-Charge to take action against the contractor as per terms and conditions of the agreement. v. The contractor shall submit the progress report using MS Project/Primavera software with base line programme referred above for the work done during previous month to the Engineer-in-charge on or before 5th day of each month failing which a recovery Rs. 2500/- (for works costing upto Rs.5.00 Crores) / Rs. 5000/- (for works costing more than Rs.5.00 Crores) shall be made on per day basis in case of delay in submission of the monthly progress report.
5.2		If the work(s) be delayed by:- i. Force majeure, or an act of terrorism ii. Abnormally bad weather, or iii. Serious loss or damage by fire, or iv. Civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or v. Delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge for executing work not forming part of the Contract, or vi. Non-availability of stores, which are the responsibility of AAI to supply or vii. Non-availability or break down of tools and Plant to be supplied or supplied by AAI or viii. Any other cause which, in the absolute discretion of the Engineer-in-Charge is beyond the Contractor's control. then upon the happening of any such event causing delay, the contractor shall immediately give notice thereof in writing to the Engineer-in-Charge but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-charge to proceed with the works. The contractor shall also sign the hindrance register at appropriate place for each hindrance.
5.3		Request for rescheduling of Milestones and extension of time, to be eligible for consideration, shall be made by the contractor in writing within fourteen days of the happening of the event causing delay on the prescribed form to the authority indicated in schedule 'F'. The contractor may also, if practicable,

		indicate in such a request the period for which extension is desired.
5.4		In any such case the Engineer-in-Charge with the approval of authority indicated in Schedule 'F' may give a fair and reasonable extension of time and reschedule the Milestones for completion of work. Such extension or re-scheduling of the milestone shall be communicated to the contractor by the Engineer-in-charge in writing, within 1 month or 4 weeks of the date of receipt of such request respectively. Non-application by the contractor for extension of time/ re-scheduling of milestones shall not be a bar for giving a fair and reasonable extension / re-scheduling of milestones by the Engineer-in-charge with the approval of authority indicated in schedule 'F' and this shall be binding on the contractor.

CLAUSE 6

	Measurements of Work Done	Engineer-in-charge shall, except as otherwise provided, ascertain and determine by measurement, the value in accordance with the contract of workdone. All measurement of all items having financial value shall be entered in Measurement Book and/or level field book so that a complete record is obtained of all works performed under the contract. All measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorised representative and by the contractor or his authorised representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance. If the contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties. If for any reason the contractor or his authorised representative is not available and the work of recording measurements is suspended by the Engineer-in-Charge or his representative, the Engineer-in-Charge and the Department shall not entertain any claim from contractor for any loss or damages on this account. If the contractor or his authorised representative does not remain present at the time of such measurements after the contractor or his authorised representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer-in-Charge or his representative shall be deemed to be accepted by the Contractor. The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording
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		levels. Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available, then a mutually agreed method shall be followed. The contractor shall give, not less than seven days' notice to the Engineer-in-Charge or his authorised representative of the work, before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorised representative of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing, the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed. Engineer-in-Charge or his authorised representative may cause either themselves or through another officer of the department to check the measurements recorded jointly or otherwise as aforesaid and all provisions stipulated herein above shall be applicable to such checking of measurements or levels. It is also a term of this contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.
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Clause 6 A

	Computerised Measurement Book	Computerised measurement is mandatory for works costing more than Rs 5.00 Lacs. However in case of works costing lesser than Rs. 5.00 Lacs Engineer-in-Charge may decide for adopting computerized measurement if required, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract. All measurements of all
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		items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book having pages of A-4 size as per the format of the department so that a complete record is obtained of all the items of works performed under the contract.
		All such measurements and levels recorded by the contractor or his authorised representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his authorised representative as per interval or program fixed in consultation with Engineer-in-Charge or his authorised representative. After the necessary corrections made by the Engineer-in-Charge, the measurement sheets shall be returned to the contractor for incorporating the corrections and for resubmission to the Engineer-in-Charge for the dated signatures by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance. Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked <i>from</i> the Engineer-in-Charge and/or his authorized representative. The contractor will, thereafter, incorporate such changes as may be done during these checks/test checks in his draft computerised measurements, and submit to the department a computerised measurement book, duly bound, and with its pages machine numbered. The Engineer-in-Charge and/or his authorised representative would thereafter check this MB, and record the necessary certificates for their checks/test checks. The final, fair, computerised measurement book given by the contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or overwriting in the measurements would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound, after getting the earlier MB cancelled by the department. Thereafter, the MB shall be taken in the records of Engineer-in-charge, and allotted a number as per the Register of Computerized MBs. This should be done before the corresponding bill is submitted to the Engineer-in-charge for payment. The contractor shall submit two spare copies of such computerized MB's for the purpose of reference and record by the various officers of the department. The contractor shall also submit to the department separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered alongwith two spare copies of the "bill. Thereafter, this bill will be processed by the Engineer-in-charge and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements. The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements /

		levels by the Engineer-in-charge or his representative. Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of item which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed. The contractor shall give not less than seven days' notice to the Engineer-in-Charge or his authorized representative of the work before covering up or otherwise placing beyond the reach of checking and / or test checking the measurement of any work in order that the same be checked and / or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and / or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-charge or his authorized representative of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and / or test checking measurements without such notice having been given or the Engineer-in-charge's consent being obtained in writing the same shall be uncovered at the contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.
		Engineer-in-charge or his authorised representative may cause either themselves or through another officer of the department to check the measurements recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels. It is also a term of this contract that checking and/or test checking the measurements of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

CLAUSE 7

	Payment on Intermediate Certificate to be	No payment shall be made for work, estimated to cost Rs. One lac or less till after the whole of the work shall have been completed and certificate of completion given. For works estimated to cost over Rs. One lac, the interim or running account bills shall be submitted by the contractor for the work
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	regarded as Advances	executed on the basis of such recorded measurements on the format of the Department in triplicate on or before the date of every month fixed for the same by the Engineer-in-Charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payment/ adjustment of advances for material collected, if any, since the last such payment is less than the amount specified in Schedule 'F', in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved. Engineer-in-Charge shall arrange to have the bill verified by taking or causing to be taken, where necessary, the requisite measurements of the work. In the event of the failure of the contractor to submit the bills, Engineer-in-Charge shall prepare or cause to be prepared such bills in which event no claims whatsoever due to delays on payment including that of interest shall be payable to the contractor. Payment on account of amount admissible shall be made by the Engineer-in-Charge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-Charge. The amount admissible together with the account of the material issued by the department, or dismantled materials, if any shall be paid as per following schedule:		
		Sr. No.	Activity	Bill Pass and Payment
		1.	Submission of Bill by the contractor.	Contractor will submit clear and admissible bill to the Engineer-In-Charge as per Contract Agreement Provisions.
		2.	Clarification from the Contractor/ Suppliers/ Service Providers on the bill submitted.	Within 3 working days of submission of Bill, Engineer-In-Charge or his authorized representative shall sought necessary clarification from Contractor, if any Contractor shall furnish clarification within 2 working days to the Engineer-In-Charge.
		3.	In case of any disagreement between the organization and the contractor on any part of the bill, such part may be severed from the rest. Payment agreed and admissible part can be processed as per laid down procedure:	Payment will be entered in SAP System within 7 working days after receiving clarification from the contractor.

		<table border="1"> <tr> <td data-bbox="532 163 613 430">4.</td><td data-bbox="613 163 971 430">Payment transfer in the A/cof the Contractor:</td><td data-bbox="971 163 1437 430">After receiving the Bill from the Engineer-In-Charge in SAP System, Finance unit shall transfer payment within 3 working days (including clarification/ details of the Contractor) in the A/c of the contractor.</td></tr> <tr> <td colspan="3" data-bbox="532 430 1437 1862"> In case contractor do not receive payment as per aforesaid schedule, contractor may contract the concerned Executive Director Engg. at CHQ, if it is felt that the payment is intentionally delayed. Executive Director Engg. shall ensure that the payment shall be released to contractor within 03 working days. In case, after intervention of the Executive Director Engg. payment is not made within 5 working days, contractor may approach to the Member (Planning)/ Member (Finance), AAI for intervention. All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract. Pending consideration or extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the department to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority. The Engineer-in-Charge in his sole discretion on the basis of a certificate from the Asstt Manager / Manager (Engg) to the effect that the work has been completed up to the level in question make interim advance payments without detailed measurements for work done (other than foundations, items to be covered under finishing items) up to lintel level (including sunshade etc.) and slab level, for each floor working out at 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bill by taking detailed measurements thereof. </td></tr> </table>	4.	Payment transfer in the A/cof the Contractor:	After receiving the Bill from the Engineer-In-Charge in SAP System, Finance unit shall transfer payment within 3 working days (including clarification/ details of the Contractor) in the A/c of the contractor.	In case contractor do not receive payment as per aforesaid schedule, contractor may contract the concerned Executive Director Engg. at CHQ, if it is felt that the payment is intentionally delayed. Executive Director Engg. shall ensure that the payment shall be released to contractor within 03 working days. In case, after intervention of the Executive Director Engg. payment is not made within 5 working days, contractor may approach to the Member (Planning)/ Member (Finance), AAI for intervention. All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract. Pending consideration or extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the department to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority. The Engineer-in-Charge in his sole discretion on the basis of a certificate from the Asstt Manager / Manager (Engg) to the effect that the work has been completed up to the level in question make interim advance payments without detailed measurements for work done (other than foundations, items to be covered under finishing items) up to lintel level (including sunshade etc.) and slab level, for each floor working out at 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bill by taking detailed measurements thereof.		
4.	Payment transfer in the A/cof the Contractor:	After receiving the Bill from the Engineer-In-Charge in SAP System, Finance unit shall transfer payment within 3 working days (including clarification/ details of the Contractor) in the A/c of the contractor.						
In case contractor do not receive payment as per aforesaid schedule, contractor may contract the concerned Executive Director Engg. at CHQ, if it is felt that the payment is intentionally delayed. Executive Director Engg. shall ensure that the payment shall be released to contractor within 03 working days. In case, after intervention of the Executive Director Engg. payment is not made within 5 working days, contractor may approach to the Member (Planning)/ Member (Finance), AAI for intervention. All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract. Pending consideration or extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the department to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority. The Engineer-in-Charge in his sole discretion on the basis of a certificate from the Asstt Manager / Manager (Engg) to the effect that the work has been completed up to the level in question make interim advance payments without detailed measurements for work done (other than foundations, items to be covered under finishing items) up to lintel level (including sunshade etc.) and slab level, for each floor working out at 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bill by taking detailed measurements thereof.								

CLAUSE 8

	Completion Certificate and Completion Plans	Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be complete for 'Civil Construction Works' until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution; thereof, and not until the work shall have been measured by the Engineer-in-charge. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangement as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realised by the sale thereof. a. For electrical and mechanical capital works: The contractor shall remove the rubbish from the site. Following conditions must be met before recording completion certificate: Submits completion plan, maintenance manual, manufactures catalogue and gives performance test for system. b. For repair works: The performance of the repaired system has been tested and found satisfactory. c. For AMC work: The system has been tested for its performance/ completeness and taken over by AAI / next agency for operation and maintenance.
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CLAUSE 8 A

	Contractor to keep site clean	When the annual repairs and maintenance of works are carried out, the splashes and droppings from white washing, colour washing, painting etc., on walls, floor, windows etc. shall be removed and the surface cleaned simultaneously with the completion of these items of work in the individual rooms, quarters or premises etc. Where the work is done without waiting for the actual completion of all the other items of work in the contract, in case the contractor fails to comply with the requirements of this clause, the Engineer-in-charge shall have the right to get this work done at the cost of the contractor either departmentally or through any other agency. Before taking such action, the Engineer-in-charge shall give ten days notice in writing to the contractor.
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CLAUSE 8 B

	Completion Plans to be Submitted by the Contractor	The contractor shall submit completion plan as required vide General Specifications for Electrical works (Part-I internal) 2013 and (Part –II External) 1994 or latest available specifications, as applicable within thirty days of the completion of the work. The contractor shall submit completion plan for building works, all services, and obtain occupancy certificate from local bodies on the basis of completion drawings within a period of 30 days from the date of completion. The contractor shall also submit catalogues of all equipment's and maintenance manual for the complete E & M systems. If contractor fails to submit completion plans of all works, he shall be liable to pay compensation @ 0.5% of the tendered value of works costing up to Rs. 5 Crores subject to maximum of Rs. 1.00 Lac and 0.25% for works costing more than Rs. 5 crores subject to maximum of Rs. 1.5.Lac. The decision of Project-in-charge in this regard shall be final and binding on the contractor.
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CLAUSE 9

	Payment of final bill	The corrected final bill shall be submitted by the contractor in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the Engineer-in-charge whichever is earlier. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-charge, will, as far
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		as possible be made within the period specified herein under, the period being reckoned from the date of receipt of the bill by the Engineer-in-charge or his authorised Asstt. Manager / Manager (Engg.), complete with account of materials issued by the Department and dismantled materials. <table border="1"> <thead> <tr> <th>Sl</th><th>Value of work</th><th>Time limit</th></tr> </thead> <tbody> <tr> <td>1</td><td>If the Tendered value of work is up to Rs. 50 lac</td><td>2 months</td></tr> <tr> <td>2</td><td>If the Tendered value of work is more than Rs.50 lac and up to Rs. 2.5 Crore:</td><td>3 months</td></tr> <tr> <td>3</td><td>If the Tendered value of work exceeds Rs. 2.5 Crore:</td><td>6 months</td></tr> </tbody> </table> In case of delay in payment of final bills after prescribed time limit, a simple interest @ 5% per annum shall be paid to the contractor from the date of expiry of prescribed time limit which will be compounded on yearly basis, provided the final bill submitted by the contractor found to be in order. The Final bill shall be prepared for both L1 & L2 bidders for all tendered items (excluding Extra Items based on market rate) and payment shall be made on the basis of lower of the two.	Sl	Value of work	Time limit	1	If the Tendered value of work is up to Rs. 50 lac	2 months	2	If the Tendered value of work is more than Rs.50 lac and up to Rs. 2.5 Crore:	3 months	3	If the Tendered value of work exceeds Rs. 2.5 Crore:	6 months
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3	If the Tendered value of work exceeds Rs. 2.5 Crore:	6 months												

CLAUSE 9 A

	Payment of contractor's bills to Banks	Payments due to the contractor and refund of various nature may, if so desired by him and wherever possible in banks be made through electronic payment mechanism instead of direct to him, provided that the contractor furnishes to the Engineer-in- Charge. - Informations as per proforma attached. - An authorisation in the form of a legally valid document such as power of attorney conferring authority on the bank to receive payments and - His own acceptance of the correctness of the amount made out as being due to him by Authority or his signature on the bill or other claim preferred against Authority before settlement by the Engineer-in-charge of the account or claim by payment to the bank. While the receipt given by such banks shall constitute a full and sufficient discharge for the payment, the contractor shall whenever possible present his bills duly receipted and discharged through his bank. Nothing herein contained shall operate to create in favour of the bank any
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		rights or equities vis-à-vis the Airports Authority of India.
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CLAUSE 10

	Materials supplied by Authority	Materials which Authority will supply are shown in Schedule 'B' which also stipulates quantum, place of issue and rate(s) to be charged in respect thereof. The contractor shall be bound to procure them from the Engineer-in-charge. As soon as the work is awarded, the contractor shall finalise the programme for the completion of work as per clause 5 of this contract and shall give his estimates of materials required on the basis of drawings/ or schedule of quantities of the work. The contractor shall give in writing his requirement to the Engineer-in-charge, which shall be issued to him keeping in view the progress of work as assessed by the Engineer-in-Charge in accordance with the agreed phased programme of work indicating monthly requirements of various materials. The contractor shall place his indent in writing for issue of such materials at least 7 days in advance of his requirement. Such materials shall be supplied for the purpose of the contract only and the value of the materials so supplied at the rates specified in the aforesaid schedule shall be set off or deducted, as and when materials are consumed in items of work (including normal wastage) for which payment is being made to the contractor, from any sum then due or which may therefore become due to the contractor under the contract or otherwise or from the security deposit. At the time of submission of bills, the contractor shall certify that balance of materials supplied is available at site in original good condition. The contractor shall submit along with every running bill (on account or interim bill) material-wise reconciliation statements supported by complete calculations reconciling total issue, total consumption and certified balance (diameter/ section-wise in the case of steel) and resulting variations and reasons thereof. Engineer-in-charge shall (whose decision shall be final and binding on the contractor) be within his rights to follow the procedure of recovery in clause 42 at any stage of the work if reconciliation is not found to be satisfactory. The contractor shall bear the cost of getting the material issued, loading, transporting to site, unloading, storing under cover as required, cutting assembling and joining the several parts together as necessary. Notwithstanding anything to the contrary contained in any other clause of the contract and all stores / materials so supplied to the contractor or procured with the assistance of the AAI shall remain the absolute property of Authority and the contractor shall be the trustee of the stores/ materials, and the said stores/ materials shall not be removed/ disposed off from the site of the work on any account and shall be at all times open to inspection by the Engineer-in-
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		charge or his authorised agent. Any such stores/ materials remaining unused shall be returned to the Engineer-in-charge in as good a condition in which they were originally supplied at a place directed by him, at a place of issue or any other place specified by him as he shall require, but in case it is decided not to take back the stores/ materials the contractor shall have no claim for compensation on any account of such stores/ materials so supplied to him as aforesaid and not used by him or for any wastage in or damage to in such stores/ materials. On being required to return the stores/ materials, the contractor shall hand over the stores/ materials on being paid or credited such price as the Engineer-in-charge shall determine, having due regard to the condition of the stores/ materials. The price allowed for credit to the contractor, however, shall be at the prevailing market rate not exceeding the amount charged to him, excluding the storage charge, if any. The decision of the Engineer-in-charge shall be final and conclusive. In the event of breach of the aforesaid condition, the contractor shall in addition to throwing himself open to account for contravention of the terms of the licenses or permit and/ or for criminal breach of trust, be liable to Authority for all advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach. Provided that the contractor shall in no case be entitled to any compensation or damages on account of any delay in supply or non-supply thereof all or any such materials and stores provided further that the contractor shall be bound to execute the entire work if the materials are supplied by the Authority within the original scheduled time for completion of the work plus 50% thereof or schedule time plus 6 months whichever is more if the time of completion of work exceeds 12 months, but if a part of the materials only has been supplied within the aforesaid period, then the contractor shall be bound to do so much of the work as may be possible with the materials and stores supplied in the aforesaid period. For the completion of the rest of the work, the contractor shall be entitled to such extension of time as may be determined by the Engineer-in-charge whose decision in this regard shall be final and binding on the contractor. The contractor shall see that only the required quantities of materials are got issued. Any such material remaining unused and in perfectly good/ original condition at the time of completion or determination of the contract shall be returned to the Engineer-in-charge at the stores from which it was issued or at a place directed by him by a notice in writing. The contractor shall not be entitled for loading transporting, unloading and stacking of such unused material except for the extra lead, if any involved, beyond the original place of issue.
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CLAUSE 10 A

	Materials to be provided by the contractor and Mandatory Tests	1. The contractor shall, at his own expense, provide all materials, required for the works other than those which are stipulated to be supplied by the Authority. 2. The contractor shall, at his own expense and without delay; supply to the Engineer in- charge samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-charge furnish proof, to the satisfaction of the Engineer-in- charge that the materials so comply. The Engineer-in-charge shall within thirty days of supply of samples or within such further period as he may require intimate to the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-incharge for his approval, fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-charge shall be issued after the test results are received. 3. The contractor shall at his risk and cost submit the samples of materials to be tested or analysed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer- in-charge. 4. If any additional tests apart from mandatory tests specified in the contract are required to be carried out at the instance of AAI or any other advisory body, to ensure conformity of the item to the contract specifications, the cost of such tests shall be borne by AAI. In case the material / equipment fails in the above tests, the expenditure incurred by AAI on testing of such material or equipment along with incidental charges borne by AAI (if any) shall be recovered from the dues of the contractor and action shall be taken under Clause 16 and other relevant clauses of the contract. 5. The contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials. 6. The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-charge may require for collecting and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-charge
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		and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer-in-charge or his authorised representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where material manufactured, articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access. 7. The Engineer-in-charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-charge shall also have full powers to require other proper materials to be substituted thereof and in case of default, the Engineer-in-charge may cause the same to be supplied and all costs which may be attracted for such removal and substitution shall be borne by the Contractor. 8. The contractor shall at his own expense, provide a material testing lab at the site for conducting routine field tests. The lab shall be equipped at least with the testing equipment as specified in Schedule F. 9. Details in respect of all mandatory tests shall be maintained in the desired format and attached with each Running Account Bill.
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CLAUSE 10 B

(1)	Secured Advance on Nonperishable materials	1. The Contractor, on signing an indenture in the form to be specified by the Engineer-in-charge, shall be entitled to be paid during the progress of the execution of the work upto 75% of the assessed value of any materials which are in the opinion of the Engineer-in-charge nonperishable, nonfragile and noncombustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/ or protected against damage by weather or other causes but which have not at time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause are incorporated in the work, the amount of such advance shall be recovered/ deducted from the next payment made under any of the clause or clauses of this contract. Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of the Engineer-in-charge provided the contractor provides a comprehensive insurance cover for the full cost of such materials. The decision of the Engineer-in-charge
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		shall be final and binding on the contractor in this matter. No secured advance, shall however, be paid on high-risk materials such as ordinary glass, sand, petrol, diesel etc. The secured advance shall also be payable against items brought at site for use in electrical and mechanical systems. Such secured advance shall be paid on submission of Collateral Bank Guarantee submitted by the vendor against the payment in case equipment/system fails to perform on testing and commissioning. Normally secured advance is paid up to 75% of the assessed value of items but in any case it shall not exceed 80% of cost of items indicated for supply of equipment.
(II)	Mobilisation Advance	2. Mobilisation advance not exceeding 10% of the tendered value shall be paid for the works costing more than Rs 5.00 Cr, subject to the availability of funds and if requested by the contractor in writing within period as indicated below. a. For the works costing between Rs. 5 crores – Rs.100 crores the application for the issue of mobilization advance must be received in writing within 30 days of handing over of the site. b. For the works costing more than Rs. 100 crores the application for the issue of mobilization advance must be received in writing within 45 days of handing over of the site. c. The contractor shall execute a Bank Guarantee Bond from any Scheduled Bank but not Co-operative or Gramin Bank as specified by Engineer-in-charge for 110% of value of installment of mobilisation advance before such advance is released. The 1st installment should not exceed Rs.20.00 Cr. For the work for which the estimated is kept as Rs.500.00 Cr. Or more. The No. of installment shall be decided by AAI depending on progress of work and availability of funds. d. The second and subsequent installments shall be released by the Engineer-in-charge only after the contractor furnishes a proof of the satisfactory utilisation of the earlier installment to the entire satisfaction of the Engineer-in-charge. Provided provision of Clause 10B(II) shall be applicable only when so provided in Schedule 'F'. The contractor shall accordingly submit Bank Guarantee in parts for release of corresponding mobilisation advance and validity of BG shall be for an extended period of 3 months beyond stipulated date of completion.
	Interest on Mobilisation	3. The mobilisation advance bear simple interest at the rate of 10% per annum and shall be calculated from the date of payment to the date of recovery,

	advance	both days inclusive, on the outstanding amount of advance. a. However, in rare cases, wherein progress of work is delayed beyond stipulated period of completion due to reasons beyond control of contractor, deferment in recovery of mobilization advance with accumulated interest thereon may be considered by AAI. In such case of deferred recovery, an enhanced rate of interest i.e 15% per annum shall be payable with recovery of outstanding mobilization amount @ 50% of gross value of running account bill(s), subject to Engineer-In-Charge certifying that deferment towards recovery of outstanding advance is proposed in the overall interest of the project and is necessitated to improve the progress of work..
	Recovery of Mobilisation advance	4. Recovery of such advanced of sums against above and the interest thereon shall be made by deduction from (the contractor's bill) the on-account payments in suitable percentage in relation to the stipulated period of completion as detailed below : a. 25% of the amount advanced plus interest due upto 1/4th of the stipulated period of the completion. b. 60% of the amount advanced plus interest due upto 1/2 of the stipulated period of the completion. c. 100% of the amount advanced plus interest due upto 3/4th of the stipulated period of the completion or 80% of the progress of work whichever is earlier. d. Wherein progress of work is delayed beyond stipulated period of completion due to reasons beyond control, deferment in recovery of mobilization advance with accumulated interest thereon may be considered at an enhanced rate of interest i.e. 15% per annum with recovery of outstanding mobilization advance @50% of gross value of running account bill. e. In case requisite amount as recoverable above is not available in on-account payments mentioned above, the agency shall deposit the same within 7 days of its due otherwise all Bank Guarantees submitted by the agency towards mobilization advance shall be encashed by the Engineer-in-charge.

CLAUSE 10 C

	Payment on Account of	The cost of work for which escalation applicable (w) is same as cost of work done as worked out as indicated in Clause 10CC minus the amount of full
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	Increase in Prices/ Wages due to Statutory Order(s)	assessed value of secured advances. If after submission of the tender, the price of any material incorporated in the works (excluding the materials covered under Clause 10CA and not being a material supplied from the Engineer-in-charge's stores in accordance with Clause 10 thereof) and/ or wages of labour increases as a direct result of the coming into force of any fresh law or statutory rule or order (but not due to any variation of rates in GST applicable on such materials being considered under this clause) beyond the prices / wages prevailing at the time of last stipulated date for receipt of the tenders including extensions, if any, for the work, during contract period including the justified period extended under the provisions of the Clause 5 of the Contract without any action under Clause 2, then the amount of the contract shall accordingly be varied. If after submission of the tender, the price of any material incorporated in the works (excluding the material covered under clause 10CA and not being a material supplied from the Engineer-in-charge's stores in accordance with clause 10 thereof) and / or wages of labour as prevailing at the time of last stipulated date of receipt of tender including extensions, if any, is decreased as a direct result of the coming into force of any fresh law or statutory rule or order (not due to any changes in GST /Custom duty). Authority shall in respect of materials incorporated in the works (excluding the material covered under clause 10CA and not being materials supplied from the Engineer-in-charge's stores in accordance with Clause 10 hereof) and/ or labour engaged on the execution of the work after the date of coming into force of such law, statutory rule or order be entitled to deduct from the dues of the contractor, such amount as shall be equivalent to the difference between the prices of the materials and/ or wages as prevailed at the time of the last stipulated date for receipt of tenders including extensions if any for the work and the prices of materials and/ or wages of labour on the coming into force of such law, statutory rule or order. This will be applicable for the contract period including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2. Engineer-in-charge shall call books of account and other relevant documents from the contractor to satisfy himself about reasonability of increase in prices of materials and wages. The contractor shall, within a reasonable time of his becoming aware of any alteration in the price of any such materials and/ or wages of labour, give notice thereof to the Engineer-in-charge stating that the same is given pursuant to this condition together with all information relating thereto which he may be in position to supply. For this purpose, the labour component of 85% of the value of the work executed during period under consideration shall not exceed the percentage as specified in Schedule F, and the increase / decrease in labour shall be considered on the minimum daily wages in rupees of any unskilled mazdoor,
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		fixed under any law, statutory rule or order.
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CLAUSE 10 CA

Payment due to variation in prices of materials after receipt of tender	If after submission of the tender, the price of materials specified in Schedule–F increases/ decreases beyond the base price(s) as indicated in schedule F for the work, then the amount of the contract shall accordingly be varied and provided further that any such variations shall be effected for stipulated period of contract including the justified period extended under the provisions of clause 5 of the contract without any action under Clause 2. However for work done/ during the justified period extended as above, it will be limited to indices prevailing at the time of updated stipulated date of completion considering the effect of extra work (Extra time to be calculated on pro–rata basis only as cost of extra work X stipulated period/ tendered cost). The increase/ decrease in prices of cement, steel reinforcement, structural steel, Bitumen and POL shall be determined by the Price indices issued by the Director General, CPWD. For other items provided in the Schedule ‘F’, this shall be determined by the All India Wholesale Price Indices of materials as published by Economic Advisor to Government of India, Ministry of Commerce and Industry. Base price for cement, steel reinforcement, structural steel and POL shall be as issued under authority of Director General, CPWD applicable for Delhi including Noida, Gurgaon, Faridabad and Ghaziabad and for other places as issued under the authority of Zonal Chief Engineer, CPWD and base price of other materials issued by concerned Zonal Chief Engineer and as indicated in Schedule ‘F’. In case, price index of a particular material is not issued by Ministry of Commerce and Industry then the price index of nearest similar material as indicated in Schedule F shall be followed. The amount of the contract shall accordingly be varied for all such materials worked out as per the formula given below for individual material: Adjustment for component of individual material. $V = P \times Q \times \frac{CI - CI_0}{CI_0}$ where, V = Variation in material cost i.e. increase or decrease in the amount in rupees to be paid or recovered P = Base price of material as issued under authority of DG, CPWD or concerned Zonal Chief Engineer CPWD and as indicated in Schedule ‘F’.
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		For Projects and original works Q = Quantity of material brought at site for bonafide use in the works since previous bill excluding any such quantity consumed in the deviated quantity of items beyond deviation limit and extra/substituted item, paid/to be paid at rates derived on the basis of market rates under clause 12.2 For maintenance works Q = Quantity of material brought at site for bonafide use in the works since previous bill including any such quantity consumed in the deviated quantity of items beyond deviation limit paid at agreement rates and extra/substituted item being scheduled items, but excluding nonscheduled extra/substituted item paid/to be paid at market rates under clause 12.2 CI0 = Price index for cement, steel reinforcement bars, structural steel and POL as issued by the DG, CPWD and corresponding to the time of base price of respective material indicated in schedule 'F'. For other items, if any provided in Schedule 'F', All India Wholesale Price Index for the material as published by the Economic Advisor to Government of India, Ministry of Industry and Commerce and corresponding to the time of base price of respective material indicated in Schedule 'F'. CI = Price index for cement, steel reinforcement bars, structural steel and POL as issued under the authority of DG, CPWD for period under consideration. For other items, if any, provided in Schedule 'F' All India Wholesale Price Index for the material for the period under consideration as published by Economic Advisor to Government of India, Ministry of Industry and Commerce. Note: i. In respect of justified period extended under the provisions of Clause 5 of the contract without any action under clause 2, the index prevailing at the time of updated stipulated date of completion considering the effect of extra work (extra time to be calculated on prorata basis only as cost of extra work X stipulated period/ tendered cost) shall be considered. Provided always that provisions of the preceding Clause 10 C shall not be applicable in respect of materials covered in this Clause. ii. If during progress of work or at the time of completion of work, it is noticed that any material brought at site is in excess of requirement, then amount of escalation if paid earlier on such excess quantity of material shall be recovered on the basis of cost indices as applied at time of payment of escalation or as prevailing at the time of effecting recovery, whichever is higher.
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		iii. Cement mentioned wherever in this clause includes cement component used in RMC brought at site from outside approved RMC plants, if any. iv. The date wise record of ready mix concrete shall be kept in a register and cement consumption for the same shall be calculated accordingly. If built-up steel items are brought at site from workshop, than the variation shall be paid for structural steel up to the period when the built-up item/finished product is brought at site.
		Note: i. In respect of justified period extended under the provisions of Clause 5 of the contract without any action under clause 2, the index prevailing at the time of updated stipulated date of completion considering the effect of extra work (extra time to be calculated on prorata basis only as cost of extra work X stipulated period/ tendered cost) shall be considered. Provided always that provisions of the preceding Clause 10 C shall not be applicable in respect of materials covered in this Clause. ii. If during progress of work or at the time of completion of work, it is noticed that any material brought at site is in excess of requirement, then amount of escalation if paid earlier on such excess quantity of material shall be recovered on the basis of cost indices as applied at time of payment of escalation or as prevailing at the time of effecting recovery, whichever is higher. iii. Cement mentioned wherever in this clause includes cement component used in RMC brought at site from outside approved RMC plants, if any. iv. The date wise record of ready mix concrete shall be kept in a register and cement consumption for the same shall be calculated accordingly. v. If built-up steel items are brought at site from workshop, than the variation shall be paid for structural steel up to the period when the built-up item/finished product is brought at site.

Clause 10CC

	Payment due to Increase/ Decrease in Prices / Wages	If the prices of materials (not being materials supplied or services rendered at fixed prices by the Department in accordance with clause 10 & 34 thereof) and/or wages of labour required for execution of work increase, the contractor shall be compensated for such increase as per provisions detailed below and the amount of the contract shall accordingly be varied, subject to the condition that such compensation for escalation in prices and wages shall be available only for the work done during the stipulated period of the contract including the
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	(excluding material covered under clause 10CA) after Receipt of Tender for works.	justified period extended under the provisions of clause 5 of the contract without any action under clause 2. No such compensation shall be payable for a work for which the stipulated period of completion is equal to or less than the time as specified in Schedule 'F'. Such compensation for escalation in the prices of materials and labour, when due, shall be worked out based on the following provisions: i. The base date for working out such escalation shall be the last stipulated date of the receipt of tenders including extension, if any. ii. The cost of work on which escalation will be payable shall be reckoned as below: a. Gross value of work done upto this quarter (A) b. Gross value of work done upto the last quarter (B) c. Gross value of work done since previous quarter (A-B) (C) d. Full assessed value of secured advance (excluding material covered under clause 10CA) fresh paid in this quarter (D) e. Full assessed value of secured advance (excluding material covered under clause 10CA) recovered in this quarter (E) f. Full assessed value of secured advance for which escalation is payable In this quarter (D-E) (F) g. Advance payment made during this quarter (G) h. Advance payment recovered during this quarter (H) i. Advance payment for which escalation is payable in this quarter (G-H) (I) j. Extra items/ deviated quantities of items paid as per clause 12 based (J) on prevailing market rates during this quarter: Then, $M = (C + F + I - J)$ $N = 0.85 M$ k. Less cost of material supplied by the department as per clause 10 and recovered during the quarter (K) l. Less cost of services rendered at fixed charges as per Clause 34 and recovered during the quarter (L) Cost of work for which escalation is applicable
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		W=N-(K+L)
		iii. Components for materials, (except Bitumen, cement, reinforcement bars, structural steel or others material covered under clause 10CA) labour, P.O.L. etc. shall be pre-determined for every work and incorporated in the conditions of contract attached to the tender papers included in Schedule F. The decision of the Engineer-incharge in working out such percentage shall be binding on the contracts. iv. The compensation for escalation for other materials (except Bitumen, cement, reinforcement bars, structural steel or others material covered under clause 10CA) and P.O.L. shall be worked as per the formula(m & n) given below: a. Adjustment for civil component (except Bitumen, cement, reinforcement bars, structural steel and others material covered under clause 10CA) /electrical component of construction.
		m. Formula for adjustment in material cost $V_m = \frac{W \times X_m}{100} \times \frac{MI - MI_0}{MI_0}$ V_m = Variation in material cost i.e. increase or decrease in the amount in rupees to be paid or recovered. W = Cost of work done, worked out as indicated in sub para (ii) of Clause 10 CC X_m = Component of 'materials' (except cement, structural steel, reinforcement bars, POL and other materials covered under clause 10 CA) expressed as percent of the total value of work. MI = All India wholesale price index for civil component/ electrical component* of construction material as worked out on the basis of All India Wholesale Price Index for Individual Commodities/ Group Items for the period under consideration as published by the Economic Advisor to Government of India, Ministry of Industry & Commerce and applying weightage to the Individual Commodities/ Group Items (in respect to the justified period extended under the provisions of clause 5 of the contract without any action under Clause 2, the index prevailing at the time of updated stipulated date of completion considering the effect of extra work (extra time to be calculated on prorated basis only as cost of extra work x stipulated period/tendered cost, shall be considered.) MI₀ = All India wholesale price index for civil component/ electrical component* of construction material as worked out on the basis of All India Wholesale Price

		Index for Individual Commodities/ Group Items valid on the last stipulated date of receipt of tenders including extensions, if any, as published by the Economic Advisor to Government of India, Ministry of Industry and Commerce and applying weightage to the Individual Commodities/ Group Items. * Note: relevant component only will be applicable
		n. Formula for adjustment in POL cost $V_F = W \times \frac{Z}{100} \times \frac{FI - FI_0}{FI_0}$ VF = Variation in cost of Fuel, Oil & Lubricant i.e. increase or decrease in the amount in rupees to be paid or recovered. W = Cost of work done, worked out as indicated in sub para (ii) of Clause 10 CC Z = Component of Fuel, Oil and Lubricant expressed as a percentage of the total value of the work FI = All India wholesale price index for Fuel, Oil and Lubricant for the period under consideration as published by the Economic Advisor to Government of India, Ministry of Industry & Commerce (in respect to the justified period extended under the provisions of clause 5 of the contract without any action under Clause 2, the index prevailing at the time of updated stipulated date of completion FI₀ = All India wholesale price index for Fuel, Oil and Lubricant valid on the last stipulated date of receipt of tenders including extensions, if any. v. The following principles shall be followed while working out the indices mentioned in above para - The compensation for escalation shall be worked out at quarterly intervals and shall be with respect to the cost of work done as per bills paid during the three calendar months of the said quarter. The dates of preparation of bills as finally entered in the measurement book/date of submission of bill finally by the contractor to the department in case of computerized measurement book shall be the guiding factor to decide the bills relevant to the quarterly interval. The first such payment shall be made at the end of three months after the month (excluding the month in which the tender was accepted) and thereafter at three months' interval. At the time of completion of the work, the last period for payment might become less than 3 months depending on the actual date of completion. - The index (MI/FI etc.) relevant to any quarter/ period for which such compensation is paid shall be the arithmetical average of the indices

		relevant to the three calendar months. If the period up to date of completion after the quarter covered by the last such installment of payment is less than three months, the index MI and FI shall be the average of the indices for the months falling within that period.
		vi Formula for adjustment in Labour cost The compensation for escalation for labour shall be worked out as per the formula given below: $V_1 = W \times \frac{Y}{100} \times \frac{L_1 - L_{l_0}}{L_{l_0}}$ V_1 = Variation in labour cost i.e. amount of increase or decrease in rupees to be paid or recovered W = Value of work done, worked out as indicated in sub para (ii) above Y = Component of labour expressed as a percentage of the total value of the work L_1 = Minimum wage in rupees of an unskilled adult male mazdoor, fixed under any law, statutory rule or order as applicable on the last date of the quarter previous to the one under consideration (in respect to the justified period extended under the provisions of clause 5 of the contract without any action under Clause 2, the minimum wage prevailing on the last date of quarter previous to the quarter pertaining to updated stipulated date of completion considering the effect of extra work (extra time to be calculated on prorated basis only as cost of extra work x stipulated period/tendered cost, shall be considered). L_{l_0} = Minimum daily wage in rupees of an unskilled adult male mazdoor, fixed under any law, statutory rule or order as on the last stipulated date of receipt of tender including extension if any. vii. The following principles will be followed while working out the compensation as per sub para (vi) above: - The minimum wage of an unskilled male mazdoor mentioned in sub para (vi) above shall be the higher of the wage notified by Government of India, Ministry of Labour and that notified by the local administration both relevant to the place of work and the period of reckoning. - The escalation for labour also shall be paid at the same quarterly intervals when escalation due to increase in cost of materials and/ or P.O.L. is paid under this clause. If such revision of minimum wages take place during any such quarterly intervals, the escalation compensation shall be payable at revised rates only for work done in subsequent

		quarters. c. Irrespective of variations in minimum wages of any category of labour, for the purpose of this clause, the variation in the rate for an unskilled male mazdoor alone shall form the basis for working out the escalation compensation payable on the labour component. viii. In the event the price of materials and/ or wages of labour required for execution of the work decrease/s, there shall be a downward adjustment of the cost of work so that such price of materials and/ or wages of labour shall be deductible from the cost of work under this contract and in this regard the formula herein before stated under this Clause 10CC shall <i>mutatis mutandis</i> apply, provided that: a. No such adjustment for the decrease in the price of materials and/or wages of labour aforementioned would be made in case of contracts in which the stipulated period of completion of the work is equal to or less than the time as specified in Schedule F. b. The Engineer-in-charge shall otherwise be entitled to lay down the procedure by which the provision of this sub clause shall be implemented from time to time and the decision of the Engineer-in-charge in this behalf shall be final and binding on the contractor. ix. Provided always that : a. Where provisions of clause 10CC are applicable, provisions of clause 10 C will not be applicable but provisions of clause 10CA will be applicable. b. Where provisions of clause 10CC are not applicable, provisions of Clause 10C and 10CA will become applicable. FNote: Updated stipulated date of completion (period of completion plus extra time for extra work for compensation under clause 10C, 10CA and 10CC, the factor of 1.25 taken into account for calculating the extra time under clause 12.1 for extra time shall not be considered while calculating the updated stipulated date of completion for this purpose in clause 10C. clause 10CA, and clause 10CC. The date preparation of bill shall be as finally entered in the measurement book by AM/Mgr/SM/AGM or the date of submission of bill by the contractor to the Department. This shall be the guiding factor to decide the bill relevant to that period in case of computerized billing.
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CLAUSE 10 D

	Dismantled	The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work etc. as property of AAI and such
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	Materials IAAI Property	materials shall be disposed off to the best advantage of Authority according to the instructions in writing issued by the Engineer-in-charge.
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CLAUSE 11

	Work to be executed in accordance with specifications, drawings, orders etc.	The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect to the work signed by the Engineer in charge and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions as are not included in the standard specifications of Central Public Works Department specified in Schedule F or in any Bureau of Indian Standard or any other published standard or code or Schedule of Rates or any other printed publication referred to elsewhere in the contract. The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The contractor shall take full responsibility for adequacy suitability and safety of all the works and methods of construction.
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CLAUSE 12

	Deviations / variations extent and pricing	The engineer-in-charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineering- charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as
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		hereafter provided.
12.1		The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value being ordered, be extended, if requested by the contractor, as follows: - In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the engineer-in-charge.
12.2	Deviation, Extra Items and Pricing	In the case of extra item(s) (items that are completely new, and in addition to the items contained in the contract) the contractor may within fifteen days of receipt of order or occurrence of the item(s) claim rates, supported by proper analysis, for the work and the Engineer-in-charge shall within Six weeks of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.
	Deviation, substituted items pricing	In the case of substituted items (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para. - If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted). - If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).
	Deviation, Deviated Quantities, Pricing	In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in schedule F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Engineer-in-Charge shall within prescribed time limit of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and

		the contractor shall be paid in accordance with the rates so determined.
12.3		The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down in Schedule F, and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.
12.4		The contractor shall send to the Engineer-in-Charge once every three months, an up-to-date account giving complete details of all claims for additional payments to which the contractor may consider himself entitled and of all additional work ordered by the Engineer-in-Charge, which he has executed during the preceding quarter failing which the contractor shall be deemed to have waived his right. However, the Executive Director Engineering may authorise consideration of such claims on merits.
12.5		For the purpose of operation of Schedule F, the following works shall be treated as works relating to foundation unless & otherwise defined in the contract: i. For Buildings: All works up to 1.2 metres above ground level or up to floor 1 level whichever is lower. ii. For abutments, piers and well staining: All works up to 1.2 m above the bed level. iii. For retaining walls, wing walls, compound walls, chimneys, over head reservoirs/tanks and other elevated structures: All works up to 1.2 m above the ground level. iv. For roads, apron, runway & taxi-track all items of excavation, filling GSBC and including treatment of sub-base. v. For reservoirs/tanks (other than overhead reservoirs/tanks): All works up to 1.2 metres above the ground level. vi. For basement: All works up to 1.2 m above ground level or up to floor 1 level whichever is lower.
12.6		Any operation incidental to or necessarily has to be in contemplation of tenderer while filing, tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may

		be. Nothing extra shall be admissible for such operations.
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CLAUSE 13

	Foreclosure of contract due to Abandonment or Reduction in Scope of Work	If at any time after acceptance of the tender or during the progress of work the purpose or object for which the work is being done changes due to any supervening cause and as a result of which the work has to be abandoned or reduced in scope the Engineer-in-Charge shall give notice in writing to that effect to the contractor and the contractor stating the decision as well as the cause for such decision and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works. The contractor shall be paid at contract rates, full amount for works executed at site and, in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the work to the full extent in view of the foreclosure; i. Any expenditure incurred on preliminary site work, e.g. temporary access roads, temporary labour huts, staff quarters and site office; storage accommodation and water storage tanks. ii. AAI shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided, however AAI shall be bound to take over the materials or such portions thereof as the contractor does not desire to retain. For materials taken over or to be taken over by AAI, cost of such materials as detailed by Engineer-in-Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor. iii. If any materials supplied by AAI are rendered surplus, the same except normal wastage shall be returned by the contractor to AAI at rates not exceeding those at which these were originally issued, less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractor. In addition, cost of transporting such materials from site to AAI stores, if so required by AAI, shall be paid. iv. Reasonable compensation for transfer of T & P from site to contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be
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		payable. v. Reasonable compensation for repatriation of contractor's site staff and imported labour to the extent necessary. The contractor shall, if required by the Engineer-in-Charge, furnish to him, books of account, wage books, time sheets and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition. The reasonable amount of items on (i), (iv) and (v) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by the AAI as per item (ii) above. Provided always that against any payments due to the contractor on this account or otherwise, the Engineer-in-Charge shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by the AAI from the contractor under the terms of the contract. In the event of action being taken under clause 13 to reduce the scope of work, the contractor may furnish fresh Performance Guarantee on the same conditions, in the same manner and at the same rate for the balance tendered amount and initially valid upto the extended date the completion or stipulated date of completion if no extension has been granted plus 180 days beyond that. Wherever, such a fresh Performance Guarantee is furnished by the contractor, the Engineer in Charge may return the previous Performance Guarantee.
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CLAUSE 14

	Carrying out part Work at risk & cost of contractor	a. If contractor: i. At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Engineer-in-Charge; or ii. Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or iii. Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not
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		complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge. b. The Engineer-in-Charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to AAI, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to: - Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or - Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor. c. The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/ part incomplete work of any item(s) taken out of his hands and executed at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by AAI because of action under this clause shall not exceed 10% of the tendered value of the work. d. In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor. The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the department are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor. e. Any excess expenditure incurred or to be incurred by AAI in completing the part work/ part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by AAI as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to AAI in law or per as agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days. f. If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractors' unused materials, constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter there
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		remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract/ provisions of law. In the event of above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract.
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CLAUSE 15

	Suspension of Work	i. The contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons: a. on account of any default on the part of the contractor or; b. for proper execution of the works or part thereof for reasons other than the default of the contractor; or c. for safety of the works or part thereof. The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-Charge.
		ii. If the suspension is ordered for reasons (b) and (c) in sub-para (i) above (but not attributed to contractor): a. the contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25% for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and; b. If the total period of all such suspensions in respect of an item or group of items or work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by

		details to the Engineer-in-Charge within fifteen days of the expiry of the period of 30 days. c. If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reasons (a) in sub-para (i) above, the contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer-in-charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by AAI or where it affects whole of the works, as an abandonment of the works by AAI, shall within ten days of expiry of such period of 15 days give notice in writing of his intention to the Engineer-in-Charge. In the event of the contractor treating the suspension as an abandonment of the contract by AAI, he shall have no claim to payment of any compensations on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of 3 months.
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CLAUSE 15 A

	Compensation in case of delay due to late supply of stipulated material by AAI.	The contractor shall not be entitled to claim any compensation from AAI for the losses suffered by him on account of delay by AAI in the supply of materials in Schedule 'B' where such delay is covered by the difficulties relating to supply of wagons, force majeure or any reasonable cause beyond the control of AAI. This clause 15 A will not be applicable for works where no material is stipulated for issue by AAI.
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CLAUSE 16

	Action in case Work	All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Engineer-in-Charge, his authorized subordinates in charge of
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	not done as per Specifications	the work and all the superior officers, officer of the Quality Assurance Unit of the AAI or any organization engaged by the Department of Quality Assurance and of the Chief technical Examiner's Office, and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself. If it shall appear to the Engineer-in-charge or his authorized subordinates in charge of the work or to the Executive Director-In-charge of quality assurance or his subordinate officers or the officers of the organization engaged by the AAI for quality Assurance or to the Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months (six months in the case of work costing Rs.10 lac and below except road work) of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 2 of the contract (for non completion of the work in time) for this default. In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the authority specified in schedule 'F' may considered reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.
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CLAUSE 17

	Contractor	If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road,
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	Liablie for Damages, defects during maintenance period	road kerb fence, enclosure, water pipe, cables, drains, electric or telephone postor wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within twelve months (six months in the case of work costing Rs. Ten lacs and below except road work) after a certificate final or otherwise of its completion shall have been given by the Engineer-in-charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Engineer-in-charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of twelve months (six months in the case of work costing Rs. Ten lacs and below except road work) after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later. Provided that in the case of road work, if in the opinion of the Engineer-in-charge, half of the security deposit is sufficient, to meet all liabilities of the contractor under this contract, half of the security deposit will be refundable after six months and the remaining half after twelve months of the issue of the said certificate of completion or till the final bill has been prepared and passed whichever is later. In case of Maintenance and Operation works of E&M services, the security deposit deducted from contractors shall be refunded within one month from the date of final payment or within one month from the date of completion of the maintenance contract whichever is earlier.
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CLAUSE 18

	Contractor to Supply Tools & Plants etc.	The contractor shall provide at his own cost all materials (except such special materials, if any, as may in accordance with the contract be supplied from the Engineer-in-charge's stores) machinery, tools & plants as specified in Schedule F. in addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefor to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and
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		counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/ or from his security deposit or the proceeds of sale thereof, or of a sufficient portions thereof.
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CLAUSE 18 A

	Recovery of Compensation paid to Workmen	In every case in which by virtue of the provisions sub-section(i) of Section 12, of the Workmen's Compensation Act, 1923, AAI is obliged to pay compensation to a workman employed by the contractor, in execution of the works, AAI will recover from the contractor, the amount of the compensation so paid, and, without prejudice to the rights of the AAI under sub-section(2) of Section 12, of the said act, AAI shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by AAI to the contractor whether under this contract or otherwise. AAI shall not be bound to contest any claim made against it under subsection(1) of Section 12, of the said Act, except on the written request of the contractor and upon his giving to AAI full security for all costs for which AAI might become liable in consequence of contesting such claim.
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CLAUSE 18 B

	Ensuring Payment and Amenities to Workers if Contractor fails	In every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) act 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, AAI is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the AAI Contractor's Labour Regulations or under the Rules framed by AAI from time to time for the protection of health and sanitary arrangements for workers employed by AAI Contractors, AAI will recover from the contractor the amount of wages so paid or the amount of expenditure so incurred and without prejudice to the rights of the AAI under sub section (2) of Section 20, sub section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, AAI shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by AAI to the contractor whether under this contract or otherwise AAI shall not be bound to contest any claim made against it under sub section (1) of Section 20, sub section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the AAI full security for all costs for which AAI might become liable in
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		contesting such claim.
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CLAUSE 19

	Labour laws to be complied by the Contractor	The contractor shall obtain a valid license under the contract labour (R&A) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986. The contractor shall also comply with the provisions of the building and other construction workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996. Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non execution of the work.
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CLAUSE 19 A

		No labour below the age of fourteen years shall be employed on the work.
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CLAUSE 19 B

	Payment of wages	Payment of wages: - i The contractor shall pay to labour employed by him either directly or through sub contractors, wages not less than fair wages as defined in the AAI Contractor's Labour Regulation or as per the provisions of the Contract Labour (Regulation and Abolition) act, 1970 and the contract labour (Regulation and Abolition) Central Rules, 1971 wherever applicable. - ii The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub contractors in connection with the said work, as if the labour had been immediately employed by him. - iii In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the Airports Authority of India contractor's Labour Regulations made by AAI from time to time in regard to payment of wages wage period, deductions from wages recovery of wages not paid and deductions unauthorisedly made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment,
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		inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable. iv. The following deductions shall be permissible to be made by the Engineer-in-Charge. a. The Engineer-in-charge concerned shall have the right to deduct from the moneys due to the contractor or any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non fulfillment of the conditions of the contract for the benefit of the workers, non payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non observance of the Regulations. b. Under the provision of Minimum Wages (Central) Rule 1950 the contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holiday to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-charge concerned. In the case of Union Territory of Delhi, however, as the all inclusive minimum daily wages fixed under Notification of the Delhi Administration No.F.12(162)MWO/DAB/43884-91, dated 31.12.1979 as amended from time to time are inclusive of wages for the weekly day of rest, the question of extra payment for weekly holiday would not arise. v. The contractor shall comply with the provisions of the Payment of wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rule made thereunder from time to time. vi. The contractor shall indemnify and keep indemnified Authority against payments to be made under and for the observance of the laws aforesaid and the AAI Contractor's Labour Regulations without prejudice to his right to claim indemnity from his sub contractors. vii. The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract. viii. Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the
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		workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise. ix. The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.
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CLAUSE 19 C

		In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per AAI Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs. 200/- for each default and in addition, the Engineer-in-charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.
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CLAUSE 19 D

		The contractor shall submit by the 4th and 19th of every month, to the Engineer-in-charge a true statement showing in respect of the second half of the preceding month and the first half of the current month respectively: - the number of labourers employed by him on the work, - their working hours, - the wages paid to him, - the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and - the number of female workers who have been allowed maternity benefit according to Clause 19F and the amount paid to them. Failing which the contractor shall be liable to pay to AAI, a sum not exceeding Rs. 200/- for each default or materially incorrect statement. The decision of the Engineer-in-charge shall be final in deducting from any bill due to the contractor; the amount levied as fine and shall be binding on the contractor.
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CLAUSE 19 E

		In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall
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		comply with or cause to be complied with all the rules framed by AAI from time to time for the protection of health and sanitary arrangements for workers employed by the AAI and its contractor.
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CLAUSE 19 F

		Leave and pay during leave shall be regulated as follows: 1. Leave: i. In the case of delivery – maternity leave not exceeding 8 weeks, 4 weeks upto and including the day of delivery and 4 weeks following that day. ii. In the case of miscarriage – upto 3 weeks from the date of miscarriage. 2. Pay: i. In the case of delivery – leave pay during maternity leave will be at the rate of women’s average daily earnings, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater. ii. In the case of miscarriage – leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of such miscarriage. 3. Conditions for the grant of Maternity Leave: No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave. 4. The contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form as shown in appendix – III and IV, and the same shall be kept at the place of work.
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CLAUSE 19 G

		In the event of the contractor (s) committing a default or breach of any of the provisions of the Airports Authority of India Contractor’s Labour Regulations and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filling any statement under the provisions of the above Regulations and Rules which is materially incorrect, he / they shall, without
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		prejudice to any other liability, pay to the AAI a sum not exceeding Rs.200/- for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the contractor(s) defaulting continuously in this respect, the penalty may be enhanced to Rs.200/- per day for each day of default subject to a maximum of 5 per cent of the estimated cost of the work put to tender. The decision of the Engineer-in-Charge shall be final and binding on the parties. Should it appear to the Engineer-in-Charge that the contractor (s) is / are not properly observing and complying with the provision of the AAI Contractor's Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R&A) Central Rules 1971, for the protection of health and sanitary arrangements for work – people employed by the contractor (s) (hereinafter referred as “the said Rules”) the Engineer-in-Charge shall have power to give notice in writing to the contractor (s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the contractor (s) shall fail within the period specified in the notice to comply with and/ observe the said Rules and to provide the amenities to the work-people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities hereinbefore mentioned at the cost of the contractor (s). The contractor (s) shall erect, make and maintain at his / their own expense and to approved standards all necessary huts and sanitary arrangements required for his / their work –people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor (s) requiring that the said huts and sanitary arrangements be remodeled and / or reconstructed according to approved standards, and if the contractor (s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor (s).
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CLAUSE 19 H

		The contractor (s) shall at his / their own cost provided his / their labour with a sufficient number of huts (hereinafter referred to as the camp) on the following specifications on a suitable plot of land to be approved the Engineer-in-Charge. i. Facility to be provided a. The minimum height of each hut at the eaves level shall be 2.10m (7ft.) and the floor area to be provided will be at the rate of 2.7 sq.m. (30
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		sq.ft.) for each member of the worker's family staying with the labourer. b. The contractor shall in addition construct suitable cooking places having a minimum area of 1.80m x 1.50m (6' x 5') adjacent to the hut for each family.
		c. The contractor(s) shall also construct temporary latrines and urinals for the use of the labourers each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women. d. The contractor (s) shall construct sufficient number of bathing and washing places one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened. ii. Specifications a. All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge in case of sun-dried bricks, the walls should be plastered with mud gobri on both sides. The floor may be kutcha but plastered with mud gobri and shall be at least 15 cm (6") above the surrounding ground. The roofs shall be laid with the thatch or any other materials as may be approved by the Engineer-in-Charge and the contractor shall ensure that throughout the period of their occupation, the roofs remain water – tight. b. The contractor (s) shall provide each hut with proper ventilation. c. All doors, windows and ventilators shall be provided with suitable leaves for security purposes. d. There shall be kept an open space of at least 7.2 m (8 yards) between the rows of huts which may be reduced to 6m (20 ft.) according to the availability of site with the approval of the Engineer-in-Charge. Back to back construction will be allowed. iii. Water Supply The contractor (s) shall provided adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing and washing purposes. Where piped water supply is available supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry, shall be provide. The contractor (s) shall also at his / their own cost make arrangements for laying pipe lines for water supply to his / their labour camp from the existing mains wherever available and shall pay all fees and charges therefor.

		iv. The site selected for the camp shall be high ground, removed from jungle. v. Disposal of Excreta: The contractor (s) shall make necessary arrangement for the disposal of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed, the contractor (s) shall make arrangements for the removal of the excreta through the Municipal Committee / authority and inform it about the number of labourers employed so that arrangements may be made by such Committee / authority for the removal of excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality / authority. The contractor shall provide one sweeper for every eight seats in case of dry system. vi. Drainage The contractor (s) shall provide efficient arrangements for draining away sullage water so as to keep the camp neat and tidy. vii. The contractor (s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers. viii. Sanitation The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities.
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CLAUSE 19 I

		The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors' employ upon the work who may be incompetent or misconduct himself and the contractor shall forthwith comply with such requirements. In respect of maintenance/repair or renovation works etc. where the labour have an easy access to the individual work premises, the contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour. Assistant Manager/Junior Executive will display a list of contractors working in the colony/Blocks on the notice board in the colony and also at the service centre, to apprise the residents about the same.
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CLAUSE 19 J

		It shall be the responsibility of the contractor to see that the building under construction is not occupied by any body unauthorized during construction, and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer-in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay, a levy upto 5% of tendered value of work may be imposed by the General Manager Engg. Whose decision shall be final both with regard to the justification and quantum and be binding on the contractor. However, the Executive Director Engg., through a notice may require the contractor to remove the illegal occupation any time on or before construction and delivery.
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CLAUSE 19 K

	Employment of skilled / semiskilled workers	The contractor shall at all stages of work deploy skilled / semi skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute / Industrial Training Institute/National Institution of Construction Management and research (NICMAR) National Academy of Construction, CIDC or any similar reputed and recognized Institute managed / certified by State / Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled / semi skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen alongwith requisite certificate from recognized Institute to Engineer in charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer –in– Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs.100 per such tradesman per day. Decision of Engineer in Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding. Provided always, that the provision of this clause, shall not be applicable for works with estimated cost put to tender being less than Rs.5 crores.
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CLAUSE 19 L

	Registration with EPFO and ESIC	The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis.
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CLAUSE 19 M

	Compliance of NGT guidelines	The contractor is required to follow latest NGT guidelines at the construction site and any violation of such guidelines will be in his account.
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CLAUSE 20

	Minimum Wages Act to be Complied with	The contractor shall comply with all the provision of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970 amended from time to time and rules framed thereunder and other labour laws affecting contract labour that may be brought into force from time to time.
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CLAUSE 20(A)

	Employees Provident Fund & Miscellaneous provision Act 1952/Jammu & Kashmir Employees Provident Funds (and Miscellaneous Provisions) Act, 1961 and State	The Contractor shall comply with all the provisions of the Employees Provident Fund & Misc. Provisions Act, 1952/ Jammu & Kashmir Employees Provident Funds (and Miscellaneous Provisions) Act, 1961 and ESI Act, 1948, amended from time to time and rules framed thereunder. Some of the provisions are given below: - The contractor shall intimate his PF Account Code No. allotted by Regional PF Commissioner and ESI Registration No. allotted by ESI Corporation after award of work and shall continue to have valid PF Account Code No. and ESI Registration No. till actual completion of the contract. - The contractor shall provide a list of contract Workers engaged for contract work along with their PF Account No. & ESI Registration No. - The contractor by 20th of every month shall provide a monthly statement showing recoveries of contribution and proof of remittance of provident fund contribution to RPFC and ESI contributions to ESI Corporation in respect of
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	Insurance (ESI) Act, 1948.	Workers engaged in contract work. d. The contractor shall provide copies of PF & ESI challans of monthly contributions in respect of contract workers engaged for contract work on month to month basis. AAI reserves the right to withhold minimum amount as detailed under, from the running account payments, if PF / ESI contributions are not paid by the contractor and proof to that effect have not been produced regularly on due dates. To withhold 3% for building work & 1.5% for road/pavement work of the total amount of work done during the period considered.
		ESI & EPF amount paid to the statutory authorities by the contractor shall be reimbursed on actual basis on submission of documentary evidence.

CLUASE 21

	Work not tobe sublet. Action in case of insolvency	The contract shall not be assigned or sublet without the written approval of Engineer-in-Charge. And if the contractor shall assign or sublet his contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public officer or person in the employ of AAI in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineers in Charge on behalf of the AAI shall have power to adopt the course specified in Clause 3 hereof in the interest of AAI and in the event of such course being adopted, the consequences specified in the said Clause 3 shall ensue.
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CLUASE 22

		All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of AAI without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.
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CLAUSE 23

	Changes in firm's	Where the contractor is a partnership firm, the previous approval in writing of the Engineer-in-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern such approval as aforesaid shall likewise be
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	Constitution to be intimated	obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 hereof and the same action may be taken and the same consequences shall ensue as provided in the said Clause 21.
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CLAUSE 24

		All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Engineer-in-Charge who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.
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CLAUSE 25

	Dispute Resolution Mechanism and Arbitration	Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, design, drawings and instruction here-in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever, in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the work or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter: i. If the contractor considers any work demanded of him to be out side the requirement of the contract, or disputes any drawing, record or decision given in writing by the Engineer-in-Charge or if the Engineer in Charge considers any act or decision of the contractor on any matter in connection with or arising out of the contract or carrying out of the work, to be unacceptable and is disputed such party shall promptly within 15 days of the arising of the disputes request the Executive Director (Engg.)/Regional Executive Director/Member (Plg) /Chairman, AAI as the case may be, who shall refer the dispute to Dispute Redressal Committee (DRC) within 15 days along with a list of disputes with amounts claimed if any, in respect of each such disputes. The Dispute Redressal Committee (DRC) shall give the opposing party two weeks for written response, and give its decision within a period of 60 days extendable by 30 days by consent of both the parties from the receipt of reference from the Executive Director (Engg.)/Regional Executive Director/Member (Plg) /Chairman, AAI. Provided that no party shall be represented before the Dispute Redressal Committee by an advocate /
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		legal counsel etc. If the Dispute Redressal Committee (DRC) fails to give its decision within aforesaid period or any party is dis-satisfied with the decision of Dispute Redressal Committee (DRC) or expiry of time limit given above, then either party may within a period of 30 days from the receipt of the decision of Dispute Redressal Committee (DRC), give notice to the Executive Director (Engg.)/Regional Executive Director/Member (Plg)/Chairman, AAI as the case may be for appointment of Arbitrator on prescribed proforma as per Appendix-XVII.under intimation to the other party. It is also a term of contract and each party invoking Arbitration must exhaust the aforesaid mechanism of settlement of claims/disputes prior to invoking Arbitration. The Executive Director (Engg.)/Regional Executive Director/Member (Plg)/Chairman, AAI shall in such case appoint the sole arbitrator or one of the three arbitrators as the case may be within 30 days of receipt of such a request and refer such disputes to arbitration. Wherever the Arbitral Tribunal consists of three Arbitrators, the contractor shall appoint one arbitrator within 30 days of making request for arbitration or of receipt of request by Engineer in Charge to Executive Director (Engg.)/Regional Executive Director/Member (Plg)/Chairman, AAI for appointment of arbitrator, as the case may be, and two appointed arbitrators shall appoint the third arbitrator, who shall act as the presiding arbitrator. In the event of : a. A party fails to appoint the second arbitrator, or b. The two appointed arbitrators fail to appoint the Presiding Arbitrator, then Member (Plg)/Chairman,AAI shall appoint the second or Presiding Arbitrator as the case may be. ii Disputes or difference shall be referred for adjudication through arbitration by a Tribunal having Sole Arbitrator where tendered amount is Rs. 300.00 Cr or less. Where tendered value is more than Rs. 300.00 Cr., Tribunal shall consist of three arbitrators as above. The requirements of the arbitration and the conciliation act, 1996 (26 of 1996) and further modified act in 2015 and any further statutory modifications or re-enactment thereof and the rules made thereunder and for the time being in force shall be applicable. It is a term of this contract that the party invoking Arbitration shall give a list of disputes with amounts, claimed, if any, in respect of each such disputes along with the notice for appointment of Arbitrator and giving reference to the decision of the DRC. It is also term of this contract that any member of Arbitration Tribunal shall
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		be a graduate engineer with experience in handling public works, engineering contracts at a level not lower than Chief Engineer. This shall be treated as mandatory qualification to be appointed as Arbitrator. Parties, before or at the time of appointment of Arbitral Tribunal may agree in writing for fast track arbitration as per the Arbitration and Conciliation Act, 1996 (26 of 1996) as amended in 2015. Subject to provision in the Arbitration and Conciliation Act, 1996 (26 of 1996) as amended in 2015 whereby the counter claims if any can be directly filed before the arbitrator without any requirement of reference by the Appointing Authority, the Arbitrator shall adjudicate on only such disputes as are referred to him by the appointing authority and give separate award against each disputes and claim referred to him and in all cases where the total amount of the claims by any party exceed Rs. 1,00,000/-, the Arbitrator shall give reasons for the award. It is also a term of the contract that if any fees are payable to the arbitrator, these shall be paid as per the Act. It is also a term of the contract that the arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement of claims. The place of the arbitration shall be mentioned in schedule 'F'. In case there is no mention of place of arbitration, the Arbitral Tribunal shall determine the place of arbitration. The venue of the arbitration shall be such place as may be fixed by the Arbitral Tribunal in consultation with both the parties. Failing any such agreement, then the Arbitral Tribunal shall decide the venue.
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CLAUSE 26

	Contractor to indemnify AAI against Patent Rights	The contractor shall fully indemnify and keep indemnified the Chairman AAI against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay and royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against AAI in respect of any such matters as aforesaid, the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise there from, provided that the contractor shall not be liable to indemnify the AAI if the infringement of the patent or design or any alleged patent or design right is the direct result of an
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		order passed by the Engineer-in-Charge in this behalf.
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CLAUSE 27

	Lump sum Provision in Tender	When the estimate on which a tender is made, includes lump sum in respect of parts of the work, the contractor shall be entitled to payment in respect of the items of work involved or the part of the work in question at the same rates as are payable under this contract for such items, or if the part of work in question is not, in the opinion of the Engineer-in-Charge payable of measurement, the Engineer-in-Charge may at his discretion pay the lump-sum amount entered in the estimate, and the certificate in writing of the Engineer-in-Charge shall be final and conclusive against the contractor with regard to any sum or sums payable to him under the provision of the clause.
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CLAUSE 28

	Action where no specifications are specified	In the case of any class of work for which there is no such specifications as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers' specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.
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CLAUSE 29

	With-holding and lien in respect of sums due from contractor	i. Whenever any claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the AAI shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the contractor and for the purpose aforesaid, the Engineer-in-Charge or the AAI shall be entitled to withhold the security deposit if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Engineer-in-Charge or the AAI shall be entitled to withhold and have lien to retain to the extent of such claimed amount or amounts referred to above from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in-Charge of the AAI or any contracting person
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		through the Engineer-in-Charge pending finalization of adjudication of any such claim. It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or AAI will be kept withheld or retained as such by the Engineer-in-Charge or AAI till the claim arising out of or under the contract is determined by the arbitrator. (if the contract is governed by the arbitration clause) by the competent court, as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the AAI shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company as the case may be, whether in his individual capacity or otherwise. ii. AAI shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over payment and it shall be lawful for AAI to recover the same from him in the manner prescribed in sub-clause (i) of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by AAI to the contractor, without any interest thereon whatsoever. Provided that the AAI shall not be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Executive Director Engineering / General Manager Engineering on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by the Executive Director Engineering / General Manager Engineering.
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CLAUSE 29 A

	Lien in respect of claims in	i. Any sum of money due and payable to the contractor (including the security deposit refundable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or the AAI or any other contracting
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	other Contracts	person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or AAI or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer-in-Charge or the AAI or with such other person or persons. ii. It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the AAI will be kept withheld or retained as such by the Engineer-in-Charge or the AAI or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.
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CLAUSE 30

	Employment of coal mining or controlled area labour not permissible	i. The contractor shall not employ coal mining or controlled area labour falling under any category whatsoever or in connection with the work or recruit labour from area within a radius of 32 km (20 miles) of the controlled area. Subject as above the contractor shall employ imported labour only i.e., deposit imported labour or labour imported by contractors from area, from which import is permitted. ii. Where ceiling price for imported labour has been fixed by State or Regional Labour Committees not more than that ceiling price shall be paid to the labour by the contractor. iii. The contractor shall immediately remove any labourer who may be pointed out by the Engineer-in-Charge as being a coal mining or controlled area labourer. Failure to do so shall render the contractor liable to pay to AAI a sum calculated at the rate of Rs.10/- per day per labourer. The certificate of the Engineer-in-Charge about the number of coal mining or controlled area labourer and the number of days for which they worked shall be final and binding upon all parties to this contract. iv. It is declared and agreed between the parties that the aforesaid stipulation in this clause is one in which the public are interested within the meaning of the exception in Section 74 of Indian Contract Act, 1872. Explanation :- Controlled area mean the following areas: Districts of Dhanbad, Hazaribagh, Jamtara- Sub-Division under Santhal
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		Pargana Commissionery, District of Bankura, Birbhum, Burdwan, District of Bilaspur. Any other area which may be declared a Controlled Area by or with the approval of the Central Government.
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CLAUSE 31

	Unfiltered water supply	The contractor(s) shall make his/their own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions. - That the water used by the contractor (s) shall be fit for construction purposes to the satisfaction of the Engineer-in-Charge. - The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk and cost of contractor (s) if the arrangements made by the contractor (s) for procurement of water are in the opinion of the Engineer-in-Charge, unsatisfactory.
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CLAUSE 31A

	Departmental water supply, if available	Water if available may be supplied to the contractor by the department subject to the following conditions:- - The water charges @1% shall be recovered on gross amount of the work done. - The contractor(s) shall make his/their own arrangement of water connection and laying of pipelines from existing main of source of supply. - The Department do not guarantee to maintain uninterrupted supply of water and it will be incumbent on the contractor (s) to make alternative arrangements for water at his/their own cost in the event of any temporary break down in the AAI's water main so that the progress of his/their work is not held up for want of water. No claim of damage or refund of water charges will be entertained on account of such break down.
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CLAUSE 32

	Alternate water arrangements	Where there is no piped water supply arrangement and the water is taken by the contractor from the wells or hand pump constructed by the AAI, no charge shall be recovered from the contractor or that account. The contractor shall, however, draw water at such hours of the day that it does not interfere with the normal use for which the hand pumps and well are
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		intended. He will also be responsible for all damage and abnormal repairs arising out of his use, the cost of which shall be recoverable from him. The Engineer-in-Charge shall be the final authority to determine the cost recoverable from the contractor on this account and his decision shall be binding on the contractor. ii. The contractor shall be allowed to construct temporary wells in AAI land for taking water for construction purposes only after he has got permission of the Engineer-in-Charge in writing. No charges shall be recovered from the contractor on this account but the contractor shall be required to provide necessary safety arrangements to avoid any accidents or damage to adjacent buildings, roads and service lines. He shall be responsible for any accidents or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.
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CLAUSE 33

	Return of Surplus materials	Notwithstanding anything contained to the contrary in this contract, where any materials for the execution of the contract are procured with the assistance of AAI either by issue from AAI stocks or purchase made under orders or permits or licenses issued by AAI, the contractor shall hold the said materials economically and solely for the purpose of the contract and not dispose of them without the written permission of the AAI and return, if required by the engineer-in-Charge, all surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination for any reason whatsoever on being paid or credited such prices as the Engineer-in-Charge shall determine having due regard to the condition of the materials. The price allowed to the contractor however shall not exceed the amount charged to him excluding the element of storage charges. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition, the contractor shall in addition to throwing himself open to action for contravention of the terms of the license or permit and / or for criminal breach of trust, be liable to AAI for all moneys, advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach.
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CLAUSE 34

	Hire of plant & Machinery	i. The Contractor shall arrange at his own expense all tools, plant, machinery and equipment (hereinafter referred to as T&P) required for execution of the work except for the Plant & Machinery listed in Schedule 'C' and stipulated for issue to the contractor. If the contractor requires any item of T&P on hire from the T&P available with the AAI over and above the T&P stipulated for
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		issue, the AAI will, if such item is available, hire it to the contractor at rates to be agreed upon between him and the Engineer-in-charge. In such a case, all the conditions hereunder for issue of T & P shall also be applicable to such T&P as is agreed to be issued. ii. Plant & Machinery when supplied on hire charges shown in Schedule 'C' shall be made over and taken back at the departmental equipment yard / shed shown in Schedule 'C' and the contractor shall bear the cost of carriage from the place of issue to the site of work and back. The contractor shall be responsible to return the plant and machinery with condition in which it was handed over to him, and he shall be responsible for all damage caused to the said plant and machinery at the site of work or elsewhere in operation and otherwise during transit including damage to or loss of plant and for all losses due to his failure to return the same soon after the completion of the work for which it was issued. The Engineer-in-charge shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor. iii. The plant and machinery as stipulated above will be issued as and when available and if required by the contractor. The contractor shall arrange his programme of work according to the availability of the plant and machinery and no claim, whatsoever, will be entertained from him for any delay in supply by the department. iv. The hire charges shall be recovered at the prescribed rates from and inclusive of the date the plant and machinery made over upto and inclusive of the date of the return in good order even though the same may not have been working for any cause except major breakdown due to no fault of the contractor or faulty use requiring more than three working days continuously (excluding intervening holidays and Sundays) for bringing the plant in order. The contractor shall immediately intimate in writing to the Engineer-in-charge when any plant or machinery gets out of order requiring major repairs as aforesaid. The Engineer-in-charge shall record the date and time of receipt of such intimation in the log sheet of the plant or machinery. Based on this if the breakdown before lunch period or major breakdown will be computed considering half a day's breakdown on the day of complaint. If the breakdown occurs in the post lunch period of major breakdown will be computed starting from the next working day. In case of any dispute under this clause, the decision of the Executive Director (Engg) / General Manager (Engg) shall be final and binding on the contractor. v. The hire charges shown above are for each day of 8 hours (inclusive of the one hour lunch break) or part thereof. vi. Hire charges will include service of operating staff as required and also supply of lubricating oil and stores for cleaning purposes. Power fuel of approved
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		type, firewood, kerosene oil etc. for running the plant and machinery and also the full time chowkidar for guarding the plant and machinery against any loss or damage shall be arranged by the contractor who shall be fully responsible for the safeguard and security of plant and machinery. The contractor shall on or before the supply of plant and machinery sign an agreement indemnifying the Department against any loss or damage caused to the plant and machinery either during transit or at site of work. vii. Ordinarily, no plant and machinery shall work for more than 8 hours a day inclusive of one hour lunch break. In case of an urgent work however, the Engineer-in-charge may, at his discretion, allow the plant and machinery to be worked for more than normal period of 8 hours a day. In that case, the hourly hire charges for overtime to be borne by the contractor shall be 50% more than the normal proportionate hourly charges (1/8th of the daily charges) subject to a minimum of half day's normal charges on any particular day. For working out hire charges for over time, a period of half an hour and above will be charged as one hour and a period of less than half an hour will be ignored. viii. The contractor shall release the plant and machinery every seventh day for periodical servicing and / or wash out which may take about three to four hours or more. Hire charges for full day shall be recovered from the contractor for the day of servicing / wash out irrespective of the period employed in servicing. ix. The plant and machinery once issued to the contractor shall not be returned by him on account of lack of arrangements of labour and materials, etc. on his part, the same will be returned only when they are required for major repairs or when in the opinion of the Engineer-in-charge, the work or a portion of work for which the same was issued is completed. x. Log Book for recording the hours of daily work for each of the plant and machinery supplied to the contractor will be maintained by the Department and will be countersigned by the contractor or his authorised agent daily. In case the contractor contests the correctness of the entries and / or fails to sign the Log Book, the decision of the Engineer-in-charge shall be final and binding on him. Hire charges will be calculated according to the entries in the Log Book and will be binding on the contractor. Recovery on account of hire charges for road rollers shall be made for the minimum number of days worked out on the assumption that a roller can consolidate per day and maximum quantity of materials or area surfacing as noted against each in the annexed statement (see attached annexure). xi. In the case of concrete mixers, the contractors shall arrange to get the hopper cleaned and the drum washed at the close of the work each day or each occasion. (a) In case rollers for consolidation are employed by the
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		contractor himself, log book for such rollers shall be maintained in the same manner as is done in case of departmental rollers, maximum quantity of any items to be consolidated for each roller-day shall also be same as in Annexure to Clause 34(x). For less use of rollers, recovery for the less roller days shall be made at the stipulated issue rate. xii. The contractor shall be responsible to return the plant and machinery in the condition in which it was handed over to him and he shall be responsible for all damage caused to the said plant and machinery at the site of work or elsewhere in operation or otherwise or during transit including damage to or loss of parts, and for all losses due to his failure to return the same soon after the completion of the work for which it was issued. The Engineer-in-charge shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor. xiii. The contractor will be exempted from levy of any hire charges for the number of days he is called upon in writing by the Engineer-in-charge to suspend execution of the work, provided AAI's plant and machinery in question have, in fact, remained idle with the contractor because of the suspension. xiv. In the event of the contractor not requiring any item of plant and machinery issued by AAI though not stipulated for issue in Schedule 'C' any time after taking delivery at the place of issue, he may return it after two days written notice or at any time without notice if he agrees to pay hire charges for two additional days without, in any way, affecting the right of the Engineer-in-charge to use the said plant and machinery during the said period of two days as he likes including hiring out to a third party.
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CLAUSE 35

	Condition relating to use of asphaltic materials	i. The contractor undertakes to make arrangement for the supervision of the work by the firm supplying the tar or bitumen used. ii. The contractor shall collect the total quantity of tar or bitumen required for the work as per standard formula, before the process of painting is started and shall hypothecate it to the Engineer-in-Charge. If any bitumen or tar remains unused on completion of the work on account of lesser use of materials in actual execution or for reasons other than authorised changes of specifications and abandonment of portion of work, a corresponding deduction equivalent to the cost of unused materials as determined by the Engineer-in-Charge shall be made and the material returned to the contractors. Although the materials are hypothecated to AAI, the contractor undertakes the responsibility for their proper watch, safe
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		custody and protection against all risks. The materials shall not be removed from site of work without the consent of the Engineer-in-Charge in writing. iii. The contractor shall be responsible for rectifying defects noticed within a year from the date of completion of the work and the portion of the security deposit relating asphaltic work shall be refunded after the expiry of this period.
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CLAUSE 36

	Employment of Technical Staff and employees	Contractors Superintendence, Supervision, Technical staff & Employees i. The contractor shall provide all necessary superintendence during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the contract. The Contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge, the name (s), qualifications experience, age, address (s) and other particulars along with certificates, of the principal technical representative to be charge of the work and other technical representative (s) who will be supervising the work. Minimum requirement of such technical representative (s) and their qualifications and experience shall not be lower than specified in schedule 'F'. The Engineer-in-Charge shall within 3 days of receipt of such communication intimate in writing his approval or otherwise of such a representative (s) to the contractor. Any such approval may at any time be withdrawn and in case of such withdrawal, the contractor shall appoint another such representative (s) according to the provisions of this clause. Decision of the tender accepting authority shall be final and binding on the contractor in this respect. Such a principal technical representative and other technical representative (s) shall be appointed by the contractor soon after receipt of the approval from Engineer-in-charge and shall be available at site before start of work. All the provisions applicable to the principal technical representative under the clause will also be applicable to other technical representative(s). The principal technical representative and other technical representative (s) shall be present at the site of work for supervision at all times when any construction activity is in progress and also present himself/themselves, as required to the Engineer-in-Charge and / or his designated representative to take instructions. Instructions given to the principal technical representative or other technical representative (s) shall be deemed to have the same force as if these have been given to the contractor. The Principal Technical Representative and other technical representatives shall be actually available at site fully during all stages of execution work, during
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		recording / checking / test checking of measurements of works whenever required by the Engineer-in-Charge and shall also note down instructions conveyed by the Engineer-in-Charge or his designated representative (s) in the site order book and shall affix his/their signature in token of noting down the instructions and in token of acceptance of measurements / checked measurements / test checked measurements. The representative (s) shall not look after any other work. Substitutes, duly approved by engineer – in-Charge of the work in similar manner as aforesaid shall be provided in event of absence of any of the representative (s) by more than two days. If the Engineer-in-Charge, whose decision in this respect is final and binding on the contractor, is convinced that no such technical representative (s) is/are effectively appointed or is/are effectively attending or fulfilling the provision of this clause, a recovery (non-refundable) shall be effected from the contractor as specified in Schedule 'F' and the decision of the Engineer-in-Charge as recorded in the site order book and measurement recorded checked/test checked in Measurement Books shall be final and binding on the contractor. Further if the contractor fails to appoint suitable technical Principal technical representative and / or other technical representative (s) and if such appointed persons are not effectively present or are absent by more than two days without duly approved substitute or do not discharge their responsibility satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as suitable other technical representative (s) is / are appointed and the contractor shall be held responsible for the delay so caused to the work. The contractor shall submit a certificate of employment of the technical representative (s) (in the form of copy of Form- 16 or CPF deduction issued to the Engineer employed by him) along with every running account bill / final bill and shall produce evidence if at any times so required by the Engineer-in-Charge. ii. The contractor shall provide and employ on the site only such technical assistants as are skilled, and experienced in their respective fields and such foremen and supervisory staff as are competent to give proper supervision to the work. The contractor shall provide and employ skilled, semi-skilled and unskilled labour as is necessary for proper and timely execution of the work. The Engineer-in-Charge shall be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in-Charge and the persons so removed shall be replaced as soon as possible by competent substitutes. iii. The contractor shall not change his engineer/supervisory staff after
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		approval of the Engineer-In-Charge. If Contractor wants to replace any of his staff due to unavoidable circumstances, he will seek permission of Engineer-In-Charge indicating reasons for such change, qualification and experience of the alternative employee suggested by him. The qualification and experience of the alternative staff shall not be inferior to the person employed earlier.
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CLAUSE 37

	Levy/Taxes/ Royalty/ LandLicence fee payable by Contractor	1. Taxes: 1) Rates to be quoted by the parties, should be inclusive of all taxes, duties, CESS, fee, royalty charges etc. levied under any statute but exclusive of GST for all the items. 2) However GST, as applicable, shall be paid to the contractor, for any taxable supply/services/construction rendered by the agency to MI, against a valid GST invoice as per terms and conditions of the contract. 3 In case supplies/services/works involve imports; the same should be identified separately. Basic Custom Duty & IGST will be paid directly by AAI by utilizing EPCG license/ Duty Credit Scrip under Service Export from India Scheme (SEIS) of Govt of India. 2. Royalty: a. The contractor shall at his own expense, provide all materials required for the works other than those which are to be supplied by AAI. The contractor shall deposit royalty and obtain necessary permit for collection of stone, sand, red bajri, kankar etc. from the local authority in the matter and will abide by the notification issued by Central Govt. / State Government / Local State Authorities as applicable from time to time in this regard. The contractor is also bound to allow deduction from his bills any difference in statutory taxes/royalty and penalty proposed by Local State Authorities to AAI till finalization of settlement of all demands in this regard by Central / State Govt. b. This will also be applicable to forest produce. c. If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the AAI and does not any time become payable by the contractor to the State Government. Local authorities in respect of any material used by the contractor in the works then in such a case, it shall be lawful to the AAI and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid
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		from dues of the contractor. 3. License fee for land a. The contractor shall be liable to pay license fee for the land allotted by AAI for installation of plants, labour camp, cement godown and site office at AAI prevailing rates of license fee for unpaved land at the time of call of tender. b. In addition a security deposit at the rate of Rs 500/- per sqm in the form of DD/BG shall also be deposited by the contractor. In case contractor do not deposit security deposit same shall be deducted from Ist Running Account Bill. c. Such security deposit shall be released only after allotted land has been fully vacated by the contractor to entire satisfaction of Engineer-in-Charge.
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CLAUSE 38

	Conditions for reimbursement of levy/taxes if levied after receipt of tenders	1. Rates to be quoted by the parties, should be inclusive of all taxes, duties, CESS, fee, royalty charges etc. levied under any statute applicable on last stipulated date of receipt of tender including extension if any but exclusive of GST. No adjustment i.e. increase or decrease shall be made for any variation in the rate of GST, Building and Other Construction Workers Welfare Cess or any tax, levy or cess applicable on inputs. However, effect of variation, as per Govt. order after the last date of receipt of tender including extension if any, in rates of GST or Building and Other Construction Workers Welfare Cess or imposition or repeal of any other tax, levy or cess applicable on output of the works contract shall be adjusted on either side, increase or decrease. Provided further that for Building and Other Construction Workers Welfare Cess or any tax (other than GST), levy or cess varied or imposed after the last date of receipt of tender including extension if any, any increase shall be reimbursed to the contractor only if the contractor necessarily and properly pays such increased amount contractor of taxes/levies/cess. Provided further that such increase in tax/levy/cess including GST shall not reimbursed if made in the extended period of contract for which the contractor alone is responsible for delay as determined by authority for extension of time under Clause 5 in Schedule-F. 2. The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of AAI or the Engineer-in-Charge and further shall furnish such other information/ documents the as the Engineer-In-
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		Charge may require from time to time. 3. The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, give a written notice thereof to the Engineer-in-charge that the same is given pursuant to the condition, together with all necessary information/documents relating thereto.
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CLAUSE 39

	Termination of contract on death of contractor	Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Engineer-in-charge on behalf of the AAI shall have the option of terminating the contract without compensation to the contractor.
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CLAUSE 40

	If relative working in AAI then the contractor not allowed to tender.	The contractor shall not be permitted to tender for works in AAI wherein his near relative is posted as an Officer responsible for award and execution of work. He shall also intimate the names of persons who are working with him in any capacity or / are subsequently employed by him and who are near relatives to any officer of AAI. Any breach of this condition by the Contractor would render him, the contract liable to be rejected at any stage. NOTE: By the term “near relatives” is meant wife, husband, parents and grand parents, children and grand children, brothers and sisters, uncles, aunts and cousins and their corresponding in-laws.
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CLAUSE 41

	No any officer in Department of Engineering to work as contractor within one year of retirement	Engineer or any officer employed in engineering or administrative duties in an engineering department of AAI shall not work as a contractor or employee of contractor for a period of one year after his retirement from AAI service without the prior permission of AAI in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of AAI as aforesaid, before submission of the tender or engagement in the contractor's service, as the case may be.
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CLAUSE 41(a)

	Integrity Pact and Independent	Signing of Integrity Pact (As per Appendix XVIII) is mandatory for every bidder/contractor if provided so in Schedule F.
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	External Monitor.	All tenderers shall have to submit an undertaking as per Appendix XVIII along with tender documents. AAI shall appoint Independent External Monitor(s) to oversee effective implementation of Integrity Pact for such works/supplies. For this purpose, a panel of Independent External Monitors shall be constituted by the Authority in concurrence with Central Vigilance Commission (CVC). i. The Contractor/Supplier shall have to act in accordance with the conditions laid down in the integrity pact. a. Signing of Integrity Pact is mandatory for every Bidder/Contractor in this procurement/bid process the signed original pact to be send to the office of Bid Manager and should reach before the due date mentioned in NIT. b. The Bidder/contractor shall commit itself to ensure taking all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage as specified in section 3 of the integrity pact. c. Any breach of the aforesaid provisions by the Bidder or any one employed by it or acting on its behalf (whether with or without the knowledge of the Bidder) shall entitle the authority to take all or any one of the action as specified in section 6 of the integrity pact. ii. In case any violation of above conduct is established, AAI reserves right to take following actions. a. If contractor commits a violation of its commitments and obligations under the Integrity Pact Program during bidding process, he shall be liable for disqualification from tender process and forfeiture of his Earnest Money Deposit/ Bid Security. b. In case of violation of the Integrity Pact after award of the contract, Authority is entitled to terminate the contract and shall be entitled to demand and recover from the contractor damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit or Performance Bank Guarantee, whichever is higher. c. Authority may initiate appropriate proceedings against the contractor. d. Contractor will be liable to pay damages as determined by the Authority. e. Contractor against whom an action for violation of its commitments and obligations has been taken earlier, again commits a violation, the Authority is entitled to debar such contractor for future tender/contract processes for a period as deemed fit. f. A violation is considered to have occurred if the Authority is fully satisfied with the available documents and evidence submitted along-
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		with Independent External Monitor's recommendations / suggestions that no reasonable doubt exist in the matter.
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CLAUSE 42

	Return of material and recovery for excess material issued.	i. After completion of the work and also at any intermediate stage in the event of non-reconciliation of materials issued, consumed and in balance –(see Clause 10), Theoretical quantity of materials issued by the AAI for use in the work shall be calculated on the basis and method given hereunder; a. Quantity of cement & bitumen shall be calculated on the basis of quantity of cement & bitumen required for different items of work as shown in the Schedule of Rates mentioned in Schedule 'F'. In case any item is executed for which standard co-efficients for the consumption of cement or bitumen are not available in the above mentioned schedule / statement or cannot be derived from the same shall be calculated on the basis of standard formula to be laid down by the Engineer-in-Charge. b. Theoretical quantity of steel reinforcement or structural steel sections shall be taken as the quantity required as per design or as authorised by Engineer-in-Charge, including authorised lappages, chairs etc. plus 3% wastage due to cutting into pieces, such theoretical quantity being determined and compared with the actual issues each diameter-wise, section wise and category wise separately. c. Theoretical quantity of G.I. & C.I. or other pipes, conduits, wires and cables pig lead and G.I. / M.S. sheets shall be taken as quantity actually required and measures plus 5% for wastage due to cutting into pieces (except in the case of G.I./M.S. sheets it shall be 10%), such determination & comparison being made diameter wise & categoriwise. d. For any other material as per actual requirements. ii. Over the theoretical quantities of materials so computed a variation shall be allowed as specified in Schedule 'F'. The difference in the net quantities of material actually issued to the contractor and the theoretical quantities including such authorised variation, if not returned by the contractor or if not fully reconciled to the satisfaction of the Engineer-in-Charge within fifteen days of the issue of written notice by the Engineer-in-Charge to this effect shall be recovered at the rates specified in Schedule 'F', without prejudice to the provision of the relevant conditions regarding return of materials governing the contract. Decision of Engineer-in-Charge in regard to theoretical quantities of materials, which should have been actually used
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		as per the Annexure of the standard schedule of rates and recovery at rates specified in Schedule 'F' shall be final and binding on the contractor. For non scheduled items, the decision of the Engineer – in – charge regarding theoretical quantities of materials which should have been actually used, shall be final and binding on the contractor. a. The said action under this clause is without prejudice to the right of the AAI to take action against the contractor under any other conditions of contract for not doing the work according to the prescribed specifications. b. For materials brought by the contractor for use in item of work at site, similar theoretical consumption shall be prepared and submitted to the Engineer-in-Charge for verification. If it is found that material consumed in the work is less than the theoretical consumption after taking into account permissible minus variation, the recovery for corresponding material shall be effected as per rates specified in schedule 'F' under Clause 42.
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CLAUSE 43

	Compensation during warlike situations / act of terrorism	The work (whether fully constructed or not) and all materials, machines, tools and plants scaffolding, temporary buildings and other things connected therewith shall be at the risk of the contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation or act of terrorism, the contractor shall when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable material and for reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation upto the value of the work original executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for, the compensation shall be assessed by the Engineer-in charge upto Rs.5,000/- and by the Executive Director Engg. concerned for a higher amount. The contractor shall be paid for the damages / destruction suffered and for restoring the material at the rate based on analysis of rates tendered for in accordance with the provision of the contract. The certificate of the Engineer-in- Charge regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on all parties to this contract. Provided always that no compensation shall be payable for any loss in
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		consequence of hostilities or warlike operation (a) unless the contractor had taken all such precautions against air raid as are deemed necessary by the A.R.P. Officers or the Engineer-in-Charge (b) for any material etc. not on the site of the work or for any tools plant, machinery, scaffolding, temporary building and other things not intended for the work. In the event of the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Engineer – in – charge.
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CLAUSE 44

	Apprentices Act provisions to be complied with	The contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued thereunder from time to time. If he fails to do so, his failure will be a breach of the contract and the Executive Director Engg. / General Manager (Engg.) may, in his discretion, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.
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CLAUSE 45

	Release of security deposit after labour clearance	Security Deposit of the work shall not be refunded till the contractor produces a clearance certificate from the Labour Officer. As soon as the work is virtually complete the contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. The Engineer-in-Charge, on receipt of the said communication, shall write to the Labour Officer to intimate if any complaint is pending against the contractor in respect of the work. If no complaint is pending, on record till after 3 months after completion of the work and / or no communication is received from the Labour Officer to this effect till six months after the date of completion, it will be deemed to have received the clearance certificate and the Security Deposit will be released if otherwise due.
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CLAUSE 46

	Contractor's Liability and Insurance of Works	i. From commencement to completion of the Works, the Contractor shall take full responsibility for the case thereof and for taking precautions to prevent loss or damage and to minimize loss or damage to the greatest extent possible and shall be liable for any damage or loss that may happen to the Works or any part thereof and all AA I's T & P from any cause whatsoever (save and except the Excepted Risks) and shall at his own cost repair and make good the same so that at completion, the Works and all AA I's T & P shall be in good order and condition and in conformity in every respect with the requirements of the Contract and instructions of the
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		Engineer-in-Charge. ii. In the event of any loss or damage to the Works or any Part thereof or to any T & P, to any material or articles at the Site from any of the Excepted Risks the following provisions shall have effect: a. The Contractor shall, as may be directed in writing by the Engineer-in-Charge, remove from the Site any debris and so much of the works as shall have been damaged, taking to AAI's store such AAI's T & P, articles and/or materials as may be directed; b. The contractor shall, as may be directed in writing by the Engineer-in-Charge, proceed with the erection and completion of the Works under and in accordance with the provisions and Conditions of the Contract; and iii. Provided always that the Contractor shall not be entitled to payment under the above provisions in respect of so much loss or damage as has been occasioned by any failure on his part to perform his obligation under the Contract or not taking precautions to prevent loss or damage or minimize the amount of such loss or damage. iv. Without limiting its obligations and responsibilities under other clauses of General Conditions of Contracts, the contractor at his own cost shall insure, in the joint name of AAI and the contractor, against all losses or damages from whatever cause, arising (other than the accepted risks) for which he is responsible under the terms of the contract and in such manner that the AAI and the contractor are covered during the period of construction of works and any loss or damage occasioned by the contractor in the course of any operation carried out by them for the purpose of complying with its obligations of defects liability clause hereof; a. All works including temporary works to their full value executed from time to time. b. The construction materials and equipments to their full value brought on to the site by the contractor. v. The Contractor shall indemnify and keep indemnified AAI against all losses and claims for injuries or damage to any persons or any property whatsoever which may arise out of or in consequence of the construction and maintenance of Works and against all claims, demands proceedings, damage costs, charges and expenses whatsoever in respect of or in relation thereto. vi. Before commencing execution of the work, the Contractor shall, without in any way limiting his obligations and responsibilities under this condition, insure at his own cost against any damage, loss or injury which may occur to any AAI property, or to any person for at least the minimum amount of
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		Rs. 1.00 lakh with unlimited number of occurrences (including any employee of AAI) by or arising out of carrying out of the Contract. vii. The contractor shall at all times indemnify AAI against all claims, damages or compensation under the provisions of Payment or Wages Act, 1936, Minimum Wages Act, 1948, Employer's Liability Act, 1938, the Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947 and the Maternity Benefit Act, 1961 or any modifications thereof or any other law relating thereto and rules made there under from time to time or as a consequence of any accident or injury to any workman or other persons in or about the Works, whether in the employment of the Contractor or not, his agents or servants, and also against all costs, charges and expenses of any suit, action or proceedings arising out of such accident or injury and against all sum or sums which may with the consent of the Contractor be paid to compromise or compound any claim. Without limiting his obligations and liabilities as above provided, the Contractor shall insure against all claims, damages or compensation payable under the Workmen's Compensation Act, 1923 or any modification thereof or any other law relating thereto. viii. All insurance mentioned above shall be effected with any subsidiary of the General Insurance Company of India or by a company approved by the Insurance Regulatory Authority of India. ix. The aforesaid insurance policy / policies shall provide that they shall not be cancelled till the Engineer-in-Charge has agreed to their cancellation in writing. x. The Contractor shall prove to the Engineer-in-Charge from time to time that he has taken out all the insurance policies referred to above and has paid the necessary premiums for keeping the policies alive till expiry of the Defects Liability Period. A self-certified copy of such policies are required to be submitted to the Engineer-in-charge. xi. The Contractor shall ensure that similar insurance policies are taken out by his subcontractors (if any) and shall be responsible for any claims or losses to AAI resulting from their failure to obtain adequate insurance protection in connection thereof. The contractor shall produce or cause to be produced by his subcontractor (if any) as the case may be, the relevant policy or policies and premiums receipts as and when required by the Engineer-in-Charge. A self-certified copy of such policies are required to be submitted to the Engineer-in-charge. xii. If the Contractor and/or his subcontractor (if any) shall fail to effect and keep in force the insurance referred to above or any other insurance which he/they may be required to effect under the terms of the Contract then and in any such case AAI may, without being bound to, effect and keep in force any such insurance and pay such premium or premiums as may be
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		necessary for that purpose and from time to time deduct the amount so paid by AAI from any moneys due or which may become due to the Contractor or recover the same as a debt due from the Contractor. xiii. In case contractor takes Contractor All Risk (CAR) Policy in joint name of AAI and Contractor for full tendered value along with third party liability (max of 10% of tendered value or as applicable as per Insurance Regulatory Authority of India) then there is no requirement for taking separate insurance by sub contractors. However, workmen compensation policy is required to be taken separately by main contractor and sub contractor for workers employed by them.
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CLAUSE 47

	Composite Contract and responsibilities of main agency	i. The tenders have been called for composite work consisting of civil construction and other associated specialized works. The pre-qualification criteria shall be applicable for each subhead of work independently. The agency meeting PQ criteria for the main work shall be considered for execution of composite work. However the agency shall be allowed to execute only those specialized subheads of works for which bidder meets PQ criteria individually. ii. The main contractor shall be permitted to execute only those works (covered under one or more subhead) for which he meets all requirements of pre-qualification including financial, technical and technological requirement specified in the PQ criteria. iii. Main contractor will associate expert agencies for the execution of specialized works under various subheads for which he himself has failed to meet PQ criteria. In such case he will appoint his associate for the execution of each specialized work with the approval of the NIT approving authority. The main contractor shall intimate the names of only those agencies who fully meet the PQ criteria for each specialized work for the acceptance of the department. iv. Main contractor shall not be permitted to change their associate agencies in the course of execution of work. If change of agency is inevitable then a request shall be submitted to the engineer-in-charge in writing giving full justification for change of agency. The proposal should include name of the alternate agency along with his financial, technical capabilities and work experience in the appropriate field. Such change shall be allowed only after receiving approval from the competent authority.
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	Composite contract-Tripartite agreement	This clause is applicable for the works for which the estimated cost put to tender is more than Rs.500.00 crores. i. The main contractor shall finalise his rates, terms and conditions and mode of execution of work with specialised agencies for all works covered in various subhead of works on receipt of work order but specifications, preferred makes of materials and performance of system shall remain as specified in tender document.
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		ii. The main contractor shall arrange an agreement between department, main contractor and associated agencies for all subheads on receipt of work order from the engineer-in-charge. Main contractor and expert agency shall be jointly responsible for quality of work and performance of the system. iii. Main contractor shall submit list of associated agency for each specialized work within 1/12th of stipulated completion period or within one month from issue of work order whichever is later along with documentary evidence for financial soundness, technical capabilities and their experience for executing similar specialized works along with his application seeking acceptance for the name of associated agency. Approval / rejection for the name of associated agency shall be accorded thereafter by NIT approving authority within a period of 15 days each subhead wise. iv. The main contractor shall submit duly signed tripartite agreement on the format provided by AAI within 2/12th of stipulated completion period or 60 days whichever is later for acceptance and signature of department. The extension of time for signing of this agreement shall not be generally permitted. The signing time shall only be extended if handing over of site is delayed due to reasons beyond control of the contractor.
	Conditions of composite contract	i. Main contractor shall be responsible for submission of earnest money. ii. The mobilization advance shall be paid to main contractor as per terms and conditions of contract and indicated under Clause 10 B. The first instalment of mobilization advance shall be corresponding to the value of work which shall be executed by the main contractor. The subsequent mobilization advances corresponding to value of work covered in each subhead shall be released on signing of each Tripartite Agreement with expert agency for the same. iii. The security deposit shall be deducted from the running bills of main contractor after adjustment of full earnest money. iv. Main contractor shall be responsible for completion of work as per time schedule indicated in the NIT. The compensation for the delay shall be levied on the main contractor only. v. The coordination meetings called by AAI or its representative shall be attended by associated expert agencies as and when required. Expert agency shall be responsible for technical soundness, quality of work and adherence to tender specifications. The main contractor as well as associated agency shall be responsible for rectification of deficiencies noticed in specialized work.
	Payment Conditions for	i. It will be the responsibility of main contractor to finalize expert agencies for the execution of works covered under all subheads of NIT and get the

	Composite Contract	tripartite agreements signed as per NIT requirement at an early date. The main contractor shall not be paid for value of work covered under second running bill & subsequent bills till all Tripartite Agreements are signed by all agencies concerned. ii. The main contractor must fill the ratio of work which shall govern the ratio of direct payment to the expert agency and to the main contractor for each subhead of work in schedule F. This ratio may also be indicated in tripartite agreement. Thus direct payment to each expert agency shall be released in the same ratio from the net payment (after all deductions). iii. The running bill for specialized work shall be processed as per terms and conditions of the contract. All deductions like security deposit, income tax and part rate for incomplete work or due to any other reason shall be made as per contract conditions from each running bill. In case the ratio as desired under (ii) is not filled by the main contractor AAI will make payment of 75% of the net payable amount to the expert agency directly and balance 25% shall be paid to the main contractor.
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Clause 48

	Escrow Account	i. All payments for the works estimated cost more than Rs.500 Cr shall be made only through Escrow Account opened by the contractor. However for works costing less than Rs.500 Cr., it shall be at the discretion of Technical Sanctioning authority to opt for Escrow account or not. The bank charges for Escrow Account shall be borne by contractor. The detailed conditions of Escrow Account shall be drawn in consultation with associated bank. ii. Mobilization advance for mobilisation of resources and purchase of plant & machinery shall be credited directly to the escrow account opened for this contract through bank transfer as per terms and condition of contract. The agency shall be able to utilise 25% (or as decided by TS authority) of each instalment of mobilisation advance to meet minor expenses like construction of site office, purchase of office equipment and other minor works, while release of balance 75% fund shall be regulated by the department. The contractor shall seek prior concurrence of Engineer-in Charge for release of payment to the supplier etc. through Escrow Account by the Bank. Funds against cheque issued by contractor shall be released by Bank on receipt of written consent from Engineer-in Charge. iii. Payment received and credited against each RA Bill, can be utilised 25% directly by the contractor for minor expenses like salary, stationary, office expenses etc. AAI shall exercise control for release of payment by contractor for balance 75%. iv. The Contractor shall submit his proposal to the Engineer-in-Charge/Authority for utilisation of funds made available by AAI (75% against each RA bill) - Name of agency for whom payment is proposed to be released. - Details of work executed/material supplied by agency to whom he intends to release payment. - Nature of advance payment if any, has to be released to the supplier for supply of material for the project only.
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		d. Documentary evidence in support of his claim. v. Engineer –in–charge will examine and approve full/part of such payments as per agency’s request within maximum of three working days. The terms and condition of Escrow Account shall be finalised with bank according to terms and conditions of contract. Bank shall release payment against such cheques only after written consent of authorised officer of AAI is received. Contractor shall be permitted to close Escrow Account on receipt of final payment for the work/project or on receipt of letter for foreclosure of work by the AAI. All balances and liabilities against this Escrow Account shall be left at the disposal of the contractor.
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Note: In case of difference or ambiguity in Hindi and English version anywhere, the English version will prevail.

AIRPORTS AUTHORITY OF INDIA

SAFETY CODE

1. Suitable Scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 ($\frac{1}{4}$ horizontal and 1 vertical).
2. Scaffolding of staging more than 3.6m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding on staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.
4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm.(3ft.)
5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11 $\frac{1}{2}$ ") for ladder upto and including 3m. (10ft.) in length. For long ladders, this width should be increased at least $\frac{1}{4}$ " for each additional 30cm. (1 foot) of length. Uniform step spacing of not more than 30cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the site or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any such person on which may, with the consent of the contractor, be paid to compensate any claim by any such person.
6.
 - a. **Excavation and Trenching** – All trenches 1.2 m. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30m. (100ft.) in length or fraction thereof, Ladder shall extend from bottom of the Trench to at least 90cm (3fts) above the surface of the ground. The side of the trenches which are 1.5 m. (5 ft.) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of

sides collapsing. The excavated material shall not be placed within 1.5 m. (5 ft.) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances, undermining or undercutting shall be done.

b. Safety Measures for digging bore holes : –

- i. If the bore well is successful, it should be safely capped to avoid caving and collapse of the bore well. The failed and the abandoned ones should be completely refilled to avoid caving and collapse;
 - ii. During drilling, Sign boards should be erected near the site with the address of the drilling contractor and the Engineer-in-charge of the work;
 - iii. Suitable fencing should be erected around the well during the drilling and after the installation of the rig on the point of drilling, flags shall be put 50 Mtr all around the point of drilling to avoid entry of people/animals;
 - iv. After drilling the bore well, a cement platform (0.50 Mtr x 0.50 Mtr x 1.20 Mtr) 0.60 Mtr above ground level and 0.60 Mtr below ground level should be constructed around the well casing;
 - v. After the completion of the borewell, the contractor should cap the borewell properly by welding steel plate, cover the borewell with the drilled wet soil and fix thorny shrub over the soil. This should be done even while repairing the pump;
 - vi. After the borewell is drilled the entire site should be brought to the ground level;
7. Demolition – Before any demolition work is commenced and also during the progress of the work,
- i) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
 - ii) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.
 - iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned. The following safety equipment shall invariably be provided
- i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.

- ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes, shall be provided with protective goggles.
- iii) Those engaged in welding works shall be provided with welder's protective eye-shields.
- iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measures are adhered to:—
 - a) Entry for workers into the line shall not be allowed except under supervision of the Sr. Superintendent (Engg.) or any other higher officer.
 - b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.
 - c) Before entry, presence of toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.
 - d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with oxygen kit.
 - e) Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
 - f) The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
 - g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.
 - h) The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba.
 - i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time upto which a worker may be allowed to work continuously inside the manhole.
 - j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.
 - k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non sparking gas engines also could be used but they should be placed at least 2 metres away from the opening and on the leeward

side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.

- l) The workers engaged for cleaning the manholes / sewers should be properly trained before allowing to work in the manhole.
- m) The workers shall be provided with Gumboots or non sparking shoes bump helmets and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.
- n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.
- o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.
- p) The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.
- (vi) The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken:–
 - a) No paint containing lead or lead products shall be used except in the form of paste or ready made paint.
 - b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.
 - c) Overall shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.
- 9. An additional clause (viii)(i) of AAI Safety Code (iv) the Contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use:
 - i) White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.
 - ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray.
 - iii) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.

- iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
 - v) Overall shall be worn by working painters during the whole of working period.
 - vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
 - vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by competent authority of AAI.
 - viii) AAI may require, when necessary medical examination of workers.
 - ix) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.
10. When the work is done near any place where there is risk of drowning, all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.
11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions:
- i) (a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order.
(b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
 - ii) Every crane driver or hoisting appliance operator, shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
 - iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load each safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
 - iv) In case of departmental machines, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regards contractor's machines the contractors shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the electrical Engineer concerned.

12. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carrykeys or other materials which are good conductors of electricity.
13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.
15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in- Charge of the department or their representatives.
16. Notwithstanding the above clauses from (1) to (15), there is nothing in these to exempt the contractor from the operations of any other Act or Rules in force in the Republic of India.

**MODEL RULES FOR THE PROTECTION OF
HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS
EMPLOYED BY AAI OR ITS CONTRACTOR**

1. APPLICATION

These rules shall apply to all buildings and construction works in charge of AAI in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

2. DEFINITION

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period during which the contract work is in progress.

3. FIRST-AID FACILITIES

- (i) At every work place, there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.
- (ii) The first-aid box shall be distinctly marked with a red cross on white background and shall contain the following equipment:
 - (a) For work places in which the number of contract labour employed does not exceed 50 Each first -aid box shall contain the following equipments:
 - 1. 6 small sterilised dressings
 - 2. 3 medium size sterilised dressings
 - 3. 3 large size sterilised dressings
 - 4. 3 large sterilised burn dressings
 - 5. 1 (30 ml) bottle containing a two per cent alcoholic solution of iodine.
 - 6. 1 (30 ml) bottle containing salvolatile having the dose and mode of administration indicated on the label.
 - 7. 1 snakebite lancet.
 - 8. 1 (30 gms) bottle of potassium permanganate crystals.
 - 9. 1 pair scissors.

10. 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institute, Government of India.
11. 1 bottle containing 100 tablets (each of 5 gms) of aspirin.
12. Ointment for burns.
13. A bottle of suitable surgical antiseptic solution.
- (b) For work places in which the number of contract labour exceed 50. Each first-aid box shall contain the following equipments.
 1. 12 small sterilised dressings.
 2. 6 medium size sterilised dressings.
 3. 6 large size sterilised dressings
 4. 6 large size sterilised burn dressings.
 5. 6 (15 gms) packets sterilised cotton wool.
 6. 1 (60 ml). Bottle containing two per cent alcoholic solution iodine.
 7. 1 (60 ml) bottle containing salvolatile having the dose and mode of administration indicated on the label.
 8. 1 roll of adhesive plaster.
 9. 1 snake bite lancet.
 10. 1 (30 gms) bottle of potassium permanganate crystals.
 11. 1 pair scissors.
 12. 1 copy of the first-aid leaflet issued by the Director General Factory Advice Service and Labour Institute / Government of India.
 13. A bottle containing 100 tablets (each of 5 gms) of aspirin.
 14. Ointment for burns.
 15. A bottle of suitable surgical antiseptic solution.
- (iii) Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
- (iv) Nothing except the prescribed contents shall be kept in the First-aid box.
- (v) The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.

- (vi) a person in charge of the First-aid box shall be a person trained in First-aid treatment in the work places where the number of contract labour employed is 150 or more.
- (vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works. First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.
- (viii) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

4. DRINKING WATER

- i) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.
- ii) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- iii) Every water supply or storage shall be at a distance of not less than 50 feet from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and waterproof.
- iv) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5. WASHING FACILITIES

- i) In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein.
- ii) Separate and adequate cleaning facilities shall be provided for the use of male and female workers.
- iii) Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

6. LATRINES AND URINALS

- i) Latrines shall be provided in every work place on the following scale namely:
 - a) Where female are employed, there shall be at least one latrine for every 25 females.
 - b) Where males are employed, there shall be at least one latrine for every 25 males.

- ii) Provided that, where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be upto the first 100, and one for every 50 thereafter.
- iii) Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.
- iv) Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat-resisting nonabsorbent materials and shall be cement washed inside and outside at least once a year, Latrines shall not be of a standard lower than borehole system.
- v) (a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women Only" as the case may be.

(b) The notice shall also bear the figure of a man or of a woman, as the case may be.
- vi) There shall be at least one urinal for male workers upto 50 and one for female workers upto fifty employed at a time, provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females upto the first 500 and one for every 100 or part thereafter.
- vii) (a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.

(b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.
- viii) Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.
- ix) Disposal of excreta: Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15cm. Layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure).
- x) The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

7. PROVISION OF SHELTER DURING REST

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 metres (10 ft) from the floor level to the lowest part of the roof. These

shall be kept clean and the space provided shall be on the basis of 0.6 sq.m. (6 sft) per head. Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

8. CRECHES

- i) At every work place, at which 20 or more women workers are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom. The rooms shall be constructed with specifications as per clause 19 H (ii) a, b & c.
- ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.
- iii) The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.
- iv) The contractor shall provide one ayah to look after the children in the crèche when the number of women workers does not exceed 50 and two when the number of women workers exceed 50.
- v) The use of the rooms earmarked as crèches shall be restricted to children, their attendants and mothers of the children.

9. CANTEENS

- i) In every work place where the work regarding the employment of contractor labour is likely to continue for six months and where in contract labour numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.
- ii) The canteen shall be maintained by the contractor in an efficient manner.
- iii) The canteen shall consist of at least a dining hall, kitchen, storeroom, pantry and washing places separately for workers and utensils.
- iv) The canteen shall be sufficiently lighted at all times when any person has access to it.
- v) The floor shall be made of smooth and impervious materials and inside walls shall be limewashed or colour washed at least once in each year. Provided that the inside walls of the kitchen shall be lime washed every four months.
- vi) The premises of the canteen shall be maintained in a clean and sanitary condition.
- vii) Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.

- viii) Suitable arrangements shall be made for the collection and disposal of garbage.
- ix) The dining hall shall accommodate at a time 30 per cent of the contract labour working at a time.
- x) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square metre (10 sft) per dinerto be accommodated as prescribed in sub–Rule (ix).
- xi) (a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number. (b) Washing places for women shall be separate and screened to secure privacy.
- xii) Sufficient tables stools, chairs or benches shall be available for the number of diners to be accommodated as prescribed in Sub–Rule (ix).
- xiii) (a) 1. There shall be provided and maintained sufficient utensils crockery, furniture and any other equipment necessary for the efficient running of the canteen.
 2.The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.
 (b) 1. Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
 2. A service counter, if provided, shall have top of smooth and impervious material.
 3. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipments.
- xiv) The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.
- xv) The charges for food stuffs, beverages and any other items served in the canteen shall be based on ‘No Profit, No loss’ and shall be conspicuously displayed in the canteen.
- xvi) In arriving at the price of foodstuffs, and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely :–
 - a) The rent of land and building.
 - b) The depreciation and maintenance charges for the building and equipments providedfor the canteen.
 - c) The cost of purchase, repairs and replacement of equipments including furniture, crockery, cutlery and utensils.
 - d) The water charges and other charges incurred for lighting and ventilation.
 - e) The interest and amounts spent on the provision and maintenance of equipments provided for the canteen.

- xvii) The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

10. ANTI-MALARIAL PRECAUTIONS

The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

- 11.** The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contracts.

12. AMENDMENTS

AAI may, from time to time, add to or amend these rules and issue directions – it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.

AIRPORTS AUTHORITY OF INDIA

Contractor's Labour Regulations

1. SHORT TITLE

These regulations may be called the AAI Contractors Labour Regulations.

2. DEFINITIONS

(i) **Workman** means any person employed by AAI or its contractor directly or indirectly through a subcontractor with or without the knowledge of the AAI to do any skilled, semiskilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied but does not include any person:—

- a) Who is employed mainly in a managerial or administrative capacity: or
- b) Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercises either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature : or
- c) Who is an out worker, that is to say, person to whom any article or materials are given out by or on behalf of the principal employers to be made up cleaned, washed, altered, ornamental finished, repaired adopted or otherwise processed for sale for the purpose of the trade or business of the principal employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer. No person below the age of 14 years shall be employed to act as a workman.

(ii) **Fair Wages** means wages whether for time or piece work fixed and notified under the provisions of the Minimum Wages Act from time to time.

(iii) **Contractors** shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a subcontractor.

(iv) **Wages** shall have the same meaning as defined in the Payment of Wages Act.

3. i) Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.

ii) When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.

iii) a) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.



b) Where the minimum wages prescribed by the Central/State Government under the Minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.

c) Where a contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

4. DISPLAY OF NOTICE REGARDING WAGES ETC.

The contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clear and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers giving the minimum rates of wages fixed under Minimum Wages Act, the actual wages being paid, the hours of work for which such wage are earned, wages periods, dates of payments of wages and other relevant information as per Appendix 'VIII'.

5. PAYMENT OF WAGES

- (i) The contractor shall fix wage periods in respect of which wages shall be payable.
- (ii) No wage period shall exceed one month.
- (iii) The wages of every person employed as contract labour in an establishment or by a contractor where less than one thousand such persons are employed shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
- (iv) Where the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.
- (v) All payment of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
- (vi) Wages due to every worker shall be paid to him direct or to other person authorised by him in this behalf.
- (vii) All wages shall be paid in current coin or currency or in both.
- (viii) Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956.

- (ix) A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgement.
- (x) It shall be the duty of the contractor to ensure the disbursement of wages in the presence of the Senior Superintendent Engg or authorised representative of the Engineer-in-Charge who will be required to be present at the place and time of disbursement of wages by the contractor to workmen.
- (xi) The contractor shall obtain from Engineer in charge or the authorised representative of the Engineer-in-Charge a certificate under his signature at the end of the entries in the "Register of Wages" or the "Wage-cum-Muster Roll" as the case may be in the following form:

"Certified that the amount shown in column No. has been paid to the workman concerned in my presence onat"

Note: In case of payment of wages paid through bank, the contractor shall submit a copy of bank statement for relevant period duly signed by him.

6. FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES

- (i) The wages of a worker shall be paid to him without any deduction of any kind except the following:
 - a) Fines
 - b) Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.
 - c) Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deduction which he is required to account, where such damage or loss is directly attributable to his neglect or default.
 - d) Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.
 - e) Any other deduction which the Central Government may from time to time allow.
- (ii) No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner.

Note: An approved list of Acts and Omissions for which fines can be imposed is enclosed at Appendix-XII.
- (iii) No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.

- (iv) The total amount of fine which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paise in a rupee of the total wages, payable to him in respect of that wage period.
- (v) No fine imposed on any worker shall be recovered from him by installment, or after the expiry of sixty days from the date on which it was imposed.
- (vi) Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

7. LABOUR RECORDS

- (i) The contractor shall maintain a Register of persons employed on work on contract in Form XIII of the CL(R&A) Central Rules 1971 (Appendix VI)
- (ii) The contractor shall maintain a Muster Roll register in respect of all workmen employed by him on the work under Contract in Form XVI of the CL (R&A) Rules 1971 (Appendix VII).
- (iii) The contractor shall maintain a Wage Register in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R&A) Rules 1971 (Appendix VIII)
- (iv) **Register of accident** – The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars :
 - (a) Full particulars of the labourers who met with accident.
 - (b) Rate of Wages
 - (c) Sex
 - (d) Age
 - (e) Nature of accident and cause of accident
 - (f) Time and date of accident
 - (g) Date and time when admitted in Hospital
 - (h) Date of discharge from the Hospital
 - (i) Period of treatment and result of treatment
 - (j) Percentage of loss of earning capacity and disability as assessed by Medical officer
 - (k) Claim required to be paid under Workmen's Compensation Act.
 - (l) Date of payment of compensation
 - (m) Amount paid with details of the person to whom the same was paid
 - (n) Authority by whom the compensation was assessed.

- (o) Remarks
- (v) The contractor shall maintain a **Register of Fines** in the Form XII of the CL(R&A) Rules 1971(Appendix–XIII).
- The contractor shall display in a good condition and in a conspicuous place of work the approved list of acts and omissions for which fines can be imposed (Appendix–XII)
- (vi) The contractor shall maintain a **Register of deductions for damage or loss** in Form XX of the CL (R&A) Rules 1971 (Appendix–XIV)
- (vii) The contractor shall maintain a **Register of Advances** in Form XXIII of the CL (R&A) Rules 1971(Appendix–XV)
- (viii) The contractor shall maintain a **Register of Overtime** in Form XXIII of the CL (R&A) Rules 1971 (Appendix–XVI).

8. ATTENDANCE CARD-CUM-WAGE SLIP

- (i) The contractor shall issue an **Attendance card-cum-wage** slip to each workman employed by him in the specimen form at (Appendix–IX)
- (ii) The card shall be valid for each wage period.
- (iii) The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.
- (iv) The card shall remain in possession of the worker during the wage period under reference.
- (v) The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- (vi) The contractor shall obtain the signature or thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card with himself.

9. EMPLOYMENT CARD

The contractor shall issue an **Employment Card** in Form XIV of the CL (R&A) Central Rules 1971 to each worker within three days of the employment of the worker (Appendix–X).

10. SERVICE CERTIFICATE

On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a **Service certificate** in Form XV of the CL(R&A) Central Rules 1971.

11. PRESERVATION OF LABOUR RECORDS

All records required to be maintained under Regulations Nos. 6 & 7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made

available for inspection by the Engineer-in-Charge or Labour Officer or any other officers authorised by the Ministry of Urban Development in this behalf.

12. POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY

The Labour Officer or any person authorized by Central Government on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of Fair Wage Clauses and the Provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor or subcontractor in regard to such provision.

13. REPORT OF LABOUR OFFICER

The Labour Officer or other persons authorised as aforesaid shall submit a report of result of his investigation or enquiry to the Engineer-in-Charge concerned indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor's bill be made and the wages and other dues be paid to the labourers concerned. In case an appeal is made by the contractor under Clause 13 of these regulations, actual payment to labourers will be made by the Engineer-in-Charge after G.M. Engg. has given his decision on such appeal.

(i) Engineer-in-Charge shall arrange payments to the labour concerned within 45 days from the receipt of the report from the Labour Officer or the G.M. Engineer as the case may be.

14. APPEAL AGAINST THE DECISION OF LABOUR OFFICER

Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorised may appeal against such decision to the Engineer-in-Charge concerned within 30 days from the date of decision, but subject to such appeal, the decision of the officer shall be final and binding upon the contractor.

15. PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER

- (i) A workman shall be entitled to be represented in any investigation or enquiry under these regulations by :
 - a) An officer of a registered trade union of which he is a member.
 - b) An officer of a federation of trade unions to which the trade union referred to in Clause (a) is affiliated.
 - c) Where the employer is not a member of any registered trade union, by an officer of a registered trade union, connected with the industry in which the worker is employed or by any other workman employed in the industry in which the worker is employed.
- (ii) An employer shall be entitled to be represented in any investigation or enquiry under these regulations by :
 - a) An officer of an association of employers of which he is a member.

- b) An officer of a federation of associations of employers to which association referred to in Clause(a) is affiliated.
- c) Where the employers is not a member of any association of employers, by an officer of association of employer connected with the industry in which the employer is engaged or by any other employer, engaged in the industry in which the employer is engaged.
- (iii) No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these regulations.

16. INSPECTION OF BOOKS AND SLIPS

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorised by the Central Government on his behalf .

17. SUBMISSION OF RETURNS

The contractor shall submit periodical returns as may be specified from time to time.

18. AMENDMENTS

The Central Government/AAI may from time to time add to or amend the regulations and on any question as to the application/interpretation or effect of those regulations the decision of the General Manager (Engg.) concerned shall be final.



APPENDIX-I

**FORM OF BANK GUARANTEE IN LIEU OF SECURITY DEPOSIT & AMOUNT
WITHHELD AGAINST COMPENSATION FOR DELAY IN INDIVIDUAL CONTRACT**

(on Non-Judicial Stamp Paper of Rs.100/-)

[Refer Clause 1A and 2B]

To

The Airports Authority of India

.....

.....

1. In consideration of the Airport Authority of India having its head office at New Delhi [hereinafter called the “AAI” which expression shall unless repugnant to the subject or context include its administrator, successors and assigns) having agreed under the terms and condition of Contract Agreement No.dated.....made between.....and AAI in connection with the work of.....(hereinafter called the said contract) to accept Deed of Guarantee as herein provided for Rs.....(Rupees.....only) from a Nationalized Bank in lieu of the Security deposit to be made by the contractor or lieu of the amount withheld towards compensation for delay pending final extension of time to be made from the contractors contained in the said Contractor. We, the.....bank (hereinafter referred to as “the said Bank” and having our registered office at do hereby undertake and agree to identify and keep indemnified AAI from time to time to the extent of Rs.....(Rupees.....only) against any loss or damage, cost, charges and expenses caused to or suffered by or that may be caused to or suffered by AAI by reason of any breach or breaches by the said Contractor of any of the terms and condition contained in the said contract and to unconditionally pay the amount claimed by AAI on demand and without demur to the extent aforesaid.
2. We Bank, further agree that AAI shall be the sole judge of and as to whether the said Contractor has committed any breach or breaches of any of the terms and conditions of the said contract and the extent of loss, damage, costs, charges and expenses caused to or suffered by or that may be caused to or suffered by AAI on account thereof and the decision of AAI that the said Contractor has committed such breach and breaches and as to the amount or amounts of loss, damage, costs, charges and expenses caused to or suffered of that may be caused to or suffered by AAI from time to time shall be final and binding on us.
3. We, the said Bank, further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said contracts and till all the dues of AAI under the said contract or by virtue of any of the terms and conditions governing the said contract including compensation for delay if any as decided by AAI, have



been fully paid and its claims satisfied or discharged and till the Accepting Authority of the contract certifies that the terms and condition and accordingly Contract have been fully and properly carried out by the said contractor and accordingly discharges this guarantee subject, however that AAI shall have no claim under this Guarantee after 90(Ninety) days from the date of expiry of the defects Liabilities periods or Final /Extension of Time grated by AAI as provided available in agreements clause no.....as provided in the said Contract, i.e (date) or from the date of cancellation of the said contract, as the case may be, unless a notice of the claim under this Guarantee has been served on the Bank before the expiry of the period in which case the same shall be enforceable against the Bank notwithstanding the fact, that the same is enforced after the expiry of the said period.

4. AAI shall have the fullest liberty without affecting in any way the liability of the bank under this Guarantee or Indemnity from time to time to vary any of the terms and conditions of the said contract or to extend time of performance by the said Contractor or to postpone for any time and form time to time any of the powers exercisable by it against the said Contractor and eitherto enforce or forbear from enforcing any of terms and conditions governing the said contract or securities available to AAI and the said Bank shall not be released from its liability under these present by any exercise by AAI of any liberty with reference to the matters aforesaid or by reason of time being given to the said contractor or any other forbearance, act or omission on the part by AAI or any indulgence by AAI to the said Contractor or any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of so releasing the Bank from its such liability.
5. It shall not be necessary for AAI to proceed against the contractor before proceeding against the Bank and the Guarantee herein contained shall be enforceable against the Bank, notwithstanding any security which AAI may have obtained or obtain from the Contractor at the time when proceedings are taken against the Bank hereunder be outstanding or unrealized.
6. We, the said Bank, lastly undertake not to revoke this Guarantee during its currency except with the previous consent of AAI in writing and agree that any charge in the Constitution of the said Contract or the said Bank shall not discharge our liability hereunder.

In presence of

Dated this _____ Day of _____

WITNESS

1.

2.

For and on behalf of (The Bank)

Signature _____

Name & Designation _____



Authorisation No. _____

Name & Place _____

Bank's Seal _____

The above Guarantee is accepted by Airports Authority of India.

For and on behalf of Airports Authority of India

Signature _____

Name _____

Designation _____

Dated _____



APPENDIX-1A

FORM OF BANK GUARANTEE AGAINST EARNEST MONEY DEPOSIT

WHEREAS, contractor _____ (Name of contractor) (hereinafter called “the contractor”) has submitted his tender dated _____ (date) for the construction of “ _____”(name of work) (hereinafter called “the TENDER”).

KNOW ALL PEOPLE by these presents that we _____(name of bank) having our registered office at _____ (hereinafter called “the bank”) are bound unto _____ (Name of Senior Manager) (hereinafter called “the Engineer-in-charge”) in the sum of Rs. – _____ (Rs. In words _____) for which payment well truly to be made to the said Engineer-in-charge the bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the Bank this _____ day of _____ 20__.

THE CONDITIONS of this obligation are:

- (1) If after tender opening the Contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the Form of Tender.
- (2) If the contractor having been notified of the acceptance of his tender by the engineer-in-charge.
 - a) Fails or refuses to execute the form of Agreement in accordance with the instructions to contractor, if required –

OR

- b) Fails or refuses to furnish the performance guarantee, in accordance with the provisions of tender document and instructions to contractor,

OR

- c) Fails or refuses to start the work, in accordance with the provisions of the contract and instructions to contractor,

OR

- d) Fails or refuses to submit fresh bank guarantee of an equal amount of this bank guarantee against security deposit after award of contract.

We undertake to pay to the engineer-in-charge either up to the above amount or part thereof upon receipt of his first return demand, without the engineer-in-charge having to substantiate his demand, provided that in his demand the engineer-in-charge will note that the amount claimed by him is due to him owing to the concurrence of one or any of the above conditions, specifying the occurred condition or conditions.



This guarantee will remain in force up to and including the date*_____after the deadline for submission of tender as such deadline is stated in the instructions to contractor or as it may be extended by the engineer-in-charge , notice of which extension (s) to the bank is hereby waived. Any demand in respect of this guarantee should reach the bank not later than the above date.

DATE

SIGNATURE OF THE BANK

WITNESS

SEAL

(SIGNATURE NAME AND ADDRESS)

* Date to be worked out on the basis of validity period of 6 months from last date of receipt of tender.

**APPENDIX-II****PROFORMA FOR MANDATORY TESTS TO BE ATTACHED WITH RUNNING ACCOUNT BILLS**

Name of work:..... Name of Contractor:.....

Contract Agreement No. and Date..... R/A Bill No.....

Sl. No.	Item	Quantities as per Agreement	Frequency as per Specification	No. of Tests Required	Upto date Quantity	No. of Tests Required	No. of Tests actually done	Remarks
1	2	3	4	5	6	7	8	9

Note: If the number of tests done are less than required, then reasons shall be recorded.

Signature of Sudt. (Engg)

Signature of Engineer-in-Charge.

Signature of Manager / AM (Engg)

REGISTER OF MATERNITY BENEFITS (Clause 19 F)

Name and location of the work.....

Date on which maternity leave commenced and ended

	In case of delivery		In case of delivery	
Date of delivery/miscarriage	Commenced	Ended	Commenced	Ended
6	7	8	9	10

[illegible]

APPENDIX-IV

**SPECIMEN FORM OF THE REGISTER, REGARDING MATERNITY BENEFIT
ADMISSION TO THE CONTRACTOR'S LABOUR IN
AIRPORTS AUTHORITY OF INDIA WORKS(CLAUSE 19F)**

Name and address of the contractor

----- Name and location of the
work -----

- 1) Name of the woman and her husband's name
- 2) Designation
- 3) Date of appointment
- 4) Date with months and years in which she is employed.
- 5) Date of discharge/dismissal, if any
- 6) Date of production of certificates in respect of pregnancy.
- 7) Date on which the woman informs about the expected delivery.
- 8) Date of delivery/miscarriage/death.
- 9) Date of production of certificate in respect of delivery/miscarriage.
- 10) Date with the amount of maternity/death benefit paid in advance of expected delivery
- 11) Date with amount of subsequent payment of maternity benefit
- 12) Name of the person nominated by the woman to receive the payment of the maternity benefit after the death.
- 13) If the woman dies, the date of her death, the name of the person to whom maternity benefit
- 14) Amount was paid, the month thereof and the date in the register.
- 15) Signature of the contractor authenticating entries in the register.
- 16) Remarks column for the use of Inspection Officer.



APPENDIX-V

Labour Board

Name of work

Name of Contractor _____
 _____ Address of Contractor _____

Name and address of A. A. I. Division _____

Name of A. A. I. Labour Officer _____

Address of A. A. I. Labour Officer _____

Name of A.A.I Labour Officer _____

Sl.No.	Category	Minimum wage fixed	Actual wage paid	Number present	Remark
--------	----------	--------------------	------------------	----------------	--------

Weekly holiday

_____ Wage

period

_____ Date

of payment of wages

_____ Working hours

_____ Rest

interval _____

-



Form-XIII
[See rule 2(1)]
[Part-A: For all Establishments]
**Register of Workmen Employed by
Contractor**

APPENDIX-VI

Name and address of contractor.....

Name and address of establishment which contractor is carried on.....

Name and location of work.....

Name and address of Principal Employer.....

Name of the Establishment-----Name of Owner-----LIN-----

Sl. No.	Employee Code	Name	Surname	Gender	Father's/Spouse Name	Date of Birth#	Nationality	Education Level	Date of Joining	Designation
1	2	3	4	5	6	7	8	9	10	11

Category Address *(HS/S/SS/US)	Type of Employment	Mobile	UAN	PAN	ESIC IP	LWF	AADHAAR	Bank A/c Number	Bank	Branch (IFSC)	Present Address	Permanent
12	13	14	15	16	17	18	19	20	21	22	23	24

Servie Book No.	Date of Exit	Reason for Exit	Mark of Identification	Photo	Specimen Signature/Thumb Impression	Remarks
25	26	27	28	29	30	31

*(Highly Skilled/Skilled/Semi Skilled/Un Skilled)

#Note: In case the age is between 14 to 18 years, mention the nature of work, daily hours of work and Intervals of rest in the remarks Column.

**APPENDIX-VII**

Form-XV
I
[See Rule 78 (1) (a)
(i)]

Muster Roll

Name and address of
contractor.....

Name and address of establishment which contractor is carried
on.....

Name and location of
work.....

Name and address of Principal Employer For the month of
fortnight.....

Sl . 1	Name of work Man 2	Se x3	Father’s/ Husband’s 4	Date					Remark
				1	2	3	4	5	



FORM B

[See Rule 78 (1) (a) (i)]

APPENDIX-VIII

FORMAT FOR WAGE REGISTER

Name and address of contractor.....

Name and address of establishment which contractor is carried on.....

Name and location of work.....

Name and address of Principal Employer.....For the month of fortnight.....

Rate of Minimum Wages and since the date.....				
	Highly Skilled	Skilled	Semi-Skilled	Un Skilled
Minimum Basic				
DA				
Overtime				

Name of the Establishment_____Name of Owner_____LIN_____ Wage period

From_____To_____(Monthly/Fortnightly/Weekly/Daily/Piece Rated)

Sl. No. in Employee register	Name	Rate of Wage	No. of Days worked	Overtime hours worked	Basic	Special Basic	DA	Payments Overtime	HRA	Others	Total
1	2	3	4	5	6	7	8	9	10	11	12

Various Formats to be maintained (Appendix)



Deduction								Net Payment	Employer Share PF Welfare Found
PF	ESIC	Society	Income Tax	Insurance	Others	Recoveries	Total		
13	14	15	16	17	18	19	20	21	22

Receipt by Employee/Bank Transaction ID	Date of Payment	Remarks
23	24	25



FORM C

FORMAT OF REGISTER OF LOAN/ RECOVERIES

Name of Establishment _____ LIN _____

Sl. Number In Employee register	Name	Recovery Type (Damage/loss/fine/advance/loans)	Particulars	Date of damage/Loss*	Amount
1	2	3	4	5	6

Whether show cause issued*	Explanation heard in presence of*	Number of Instalments	First Month/Year	Last Month/Year	Date of Complete Recovery	Remarks
7	8	9	10	11	12	13

*Applicable only in case of damage/loss/fine



Form-XVII

[See Rule 78 (2) (a)]

Register of wages

Name and address of contractor.....

Name and address of establishment which contractor is carried on.....

Name and location of work.....

Name and address of Principal Employer..... For the month of fortnight.....

							Amount of wages								
S. No	Name of workman	Serial no in the register of workman	Description/ nature of work done	No. of days worked	Units of work done	Daily rate of wages/ piece rate	Basic wages	Dearness Allowance	Over-time	Other cash payment. (indicate nature)	Total	Deduction if any (indicate nature)	Net amount paid	Sig. or thumb impression of the workmen	Initial contractor his representative
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16



**APPENDIX-
VIII A**

WAGE CARD

Wages Card No.....

Name and Address of Contractor.....Date of issue.....

Name and location of work.....Designation.....

Name of workman.....Month/Fortnight.....

Rate of Wages.....

	1	2	3	4	5	6	7	8	9	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	31	
										0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	8	0

Morning

Rate

Evening

Amount

Initial

Received from.....the sum of Rson account of my wages

Signature

The Wage Card is valid for one month from the date of iss



19/Form-XIX
78 (2)
[See rule 78 (1) (b)]

APPENDIX-IX

Wages Slip

Name and address of contractor.....

Name and Father's/Husband name of workman.....

Name and location of work.....

For the week/Fortnight/Month ending.....

1. No. of days worked.....

2. No. of units worked in case of piece rate workers.....

3. Rate of daily wages/piece rate.....

4. Amount of overtime wages.....

5. Gross wages payable.....

6. Deduction, if any.....

7. Net amount of wages paid.....

Initials of the contractor or his representative



APPENDIX-X

14/Form-XI
V [See rule
76]
Employment Card

Name and address of contractor.....

Name and address of establishment under which is carried.....

Name of work and location of work.....

Name and address of Principal Employee.....

1. Name of the workman.....

2. SI. No. in the register of workman employed.....

3. Nature of employment/designation.....

4. Wage rate (with particulars of unit in case of piece work).....

5. Wage period.....

6. Tenure of employment.....

7. Remark.....

Signature of Contractor



APPENDIX-XI

FORM OF PERFORMANCE SECURITY (GUARANTEE)

Bank Guarantee Bond

(On Non-Judicial Stamp Paper of Rs100/-)

1. In consideration of the Chairman, AAI (hereinafter called “AAI”) having offered to accept the terms and conditions of the proposed agreement between
 [hereinafter called the said contractor(s)] for the work (hereinafter “the said agreement”) having agreed to production of a irrevocable Bank Guarantee for Rs.....(Rupeesonly) as a security / guarantee from the contractor(s) for compliance of hisobligations in accordance with the terms and conditions in the said agreement.

 We(Indicate the name of the Bank) (hereinafter referred to as “the Bank”) hereby undertake to pay to the Chairman, AAI an amount not exceeding Rs.
 (Rupees only) on demand by AAI.
2. We (Indicate the name of the Bank) do hereby undertake to pay the amounts due to payable under this Guarantee without any demure, merely on a demand from AAI stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under thisguarantee shall be restricted to an amount not exceeding Rs.....(Rupees only).
3. We, the said Bank, further undertake to pay the Chairman, AAI any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) inn any suit or proceeding pending before any court or tribunal relating thereto, our liability under this present being absolute and unequivocal.

 The payment so made by us under his bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.
4. We..... (Indicate the name of bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of AAI under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer–In–Charge on behalf of AAI certified that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee.



5. We(indicate the name of the bank) further agree with AAI that AAI shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by AAI against in the said contractor(s) and to forebear and enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extensions being granted to the said contractor(s) or for any forbearance, act of omission on the part of AAI or any indulgence by the AAI to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to securities would, but for this provision, have effect of so relieving us.
6. This guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).
7. We..... (Indicate the name of the bank) lastly undertake not to revoke this guarantee except with the previous consent of AAI in writing.
8. This guarantee shall be valid upto unless extended on demand by AAI. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. (Rupees only) and unless a claim in writing is lodged within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

In presence of

Dated this _____ Day of _____

Witness

1.

2.

For and on behalf of (The

Bank)Signature _____

Name & Designation _____

Authorisation No. _____

Name & Place _____

Bank's Seal _____

The above Guarantee is accepted by Airports Authority of India. For and on behalf of Airports Authority of India

Signature _____

Name _____

Designation _____

Dated _____

Note : * Date of validity should be schedule date of completion + Six months.



APPENDIX-XI-A

Format for Letter of undertaking from the Depositor to Bank

(To be submitted along with Security Deposit / Earnest Money / Performance Guarantee to
Airports Authority of India)

(To be submitted in the Letter head of the firm)

The Branch Manager,
.....Bank,
.....

Sub: – My / Our Bank Guarantee bearing No.....dated for amount..... Issued in
favour of Airport Authority of India A/c.....

Sir,

The subject Bank Guarantee is obtained from your bank for the purpose of **Security Deposit / Earnest Money / Performance Guarantee** on account of contract awarded / to be awarded by M/s Airports Authority of India to me / us.

I hereby authorized the Airport Authority of India in whose favour the deposit is made to close the subject Bank Guarantee before maturity/ on maturity toward adjustment of dues without any reference /consent /notice from me / our side and the bank is fully discharged by making the payment to Airport Authority of India.

Signature of the Depositor

Place:

Date:

APPENDIX-XII

LIST OF ACTS AND OMISSIONS FOR WHICH FINES CAN BE IMPOSED

In accordance with rule 7(v) of the AAI Contractor's Labour Regulations to be displayed prominently at the site of work both in English and local Language.

1. Willful insubordination or disobedience, whether alone or in combination with other.
2. Theft fraud or dishonesty in connection with the contractors beside a business or property of AAI.
3. Taking or giving bribes or any illegal gratifications
4. Habitual late attendance.
5. Drunkenness lighting, riotous or disorderly or indifferent behaviour
6. Habitual negligence.
7. Smoking near or around the area where combustible or other materials are locked
8. Habitual Indiscipline
9. Causing damage to work in the progress or to property of the AAI or of the contractor.
10. Sleeping on duty.
11. Malingering or slowing down work.
12. Giving of false information regarding name, age, father's name, etc.
13. Habitual loss of wage cards supplied by the employer's
14. Unauthorised use of employer's property of manufacturing or making of unauthorised particles at the work place



15. Bad workmanship in construction and maintenance by skilled workers which is not approved by the Department and for which the contractors are compelled to undertake rectifications.
16. Making false complaints and/or misleading statements.
17. Engaging on trade within the premises of the establishments.
18. Any unauthorised divulgence of business affairs of the employees.
19. Collection or canvassing for the collection of any money within the premises of an establishment unless authorised by the employer.
20. Holding meeting inside the premises without previous sanction of the employers.
21. Threatening or intimidating any workman or employer during the working hours within the premises.



APPENDIX-XIII

Form–XVII

[See Rule 78 (2) (d)]

Register of Fines

Name and address of contractor.....

Name and address of establishment which contractor is carried on.....

Name and location of work.....

Name and address of Principal Employer.....

SI. No.	Name of workman	Father's/ Husband's Name	Designation nature of employment	Act or action for which fine imposed	Date of Offence	Whether workman showed cause against fine	Name of person in whose presence employee's explanation was heard	Wage period and wages payable	Amount of the imposed	Date on which fine realised	Remarks
1	2	3	4	5	6	7	8	9	10	11	12



APPENDIX-XIV

Form-XVII
[See Rule 78 (2) (d)]
Register of Deduction for Damage or Loss

Name and address of contractor.....

Name and address of establishment under which contract is carried on.....

Name and location of work.....

Name and address of Principal Employer.....

SI. No.	Name of workman	Father's Husband's Name	Designation /nature of employment	Particular of Damages or Loss	Date of damages or loss	Whether workman showed cause against deduction	Name of person in whose presence employee's explanation was heard	Amount of deduction imposed	No. of installments	Date of recovery		Remark
										First Instalment	Last Instalment	
1	2	3	4	5	6	7	8	9	10	11	12	13



APPENDIX-XV

Form-XXII
[See Rule 78 (2) (d)]
Register of Advances

Name and address of contractor.....

Name and address of establishment under which contract is carried on.....

Name and location of work.....

Name and address of Principal Employer.....

Sl. No.	Name of workman	Father's Husband's Name	Designation /nature of employment	Wage period and wages payable	Date and amount of advance paid	Purpose for which advance paid	Number of installment by which advance to be repaid	Date and amount of each installment repaid	Date on which last installment was repaid	Remark
1	2	3	4	5	6	7	8	9	10	11



APPENDIX-XVI

Form-XXIII [See Rule 78 (2) (e)]

Register of Overtime

Name and address of contractor.....

Name and address of establishment under which contract is carried on.....

Name and location of work.....

Name and address of Principal Employer.....

S. No	Name of workmen	Father's/ Husbands Name	Sex	Designation/ nature of employment	Date on which overtime worked	Total overtime worked at project in case of piece rate	Normal rate of wages	Overtime rate of wages	Overtime earning	Rate on which overtime paid	Remarks
1	2	3	4	5	6	7	8	9	10	11	12



APPENDIX-XVII

NOTICE FOR APPOINTMENT OF ARBITRATOR

[Refer Clause 25]

To

.....
.....
.....

Dear Sir,

In terms of clause 25 of the agreement, particular of which are given below, I/we hereby give notice to you to appoint an arbitrator for settlement of disputes mentioned below:

1. Name of applicant
2. Whether applicant is Individual/Prop. Firm /Partnership Firm/Ltd. Co.
3. Full address of the applicant.
4. Name of the work and contract number in which arbitrator sought.
5. Name of the office which entered into contract.
6. Contract amount in the work.
7. Date of contract.
8. Date of initiation of work.
9. Stipulated date of completion of work.
10. Actual date of completion of work (if completed).
11. Total number of claim made.
12. Total amount claimed.
13. Date of intimation of final bill (if work is completed).
14. Date of payment of final bill (if work is completed).
15. Amount of final bill (if work is completed).
16. Date of request made to ED for decision.
17. Date of receipt of ED's decision.
18. Date of appeal.
19. Date of receipt of decision on our appeal.

Specimen signature of the applicant
(Only the person/authority who
Signed the contract should sign)

I/We certify that the information given above is true to the best of my/our knowledge. I/We enclose following documents.

1. Statement of claims with amount of claims.
- 2.
- 3.

Yours faithfully

Copy to:

(Signature)

1. The Engineer-in-charge,
2.



APPENDIX -XVIII

INTEGRITY PACT

The integrity pact shall be signed by both the parties in the following format

“This Pact made thisday of between Airports Authority of India, a body corporate constituted by the Central Government under the Airports Authority of India Act,1994 and having its Corporate Office at Rajiv Gandhi Bhawan, New Delhi, and offices at in India, hereinafter called the Authority (which term shall unless excluded by or is repugnant to the context, be deemed to include its Chairman, or Member, Executive Directors, Airport Directors, officers or any of them specified by the Chairman in this behalf, and shall also include its successors and assigns) of the one part

AND

.....represented by of the other part, hereinafter called the “Bidder/Contractor “(which term shall unless excluded by or is repugnant to the context be deemed to include its heirs, representatives, successors and assigns of the Bidder/ Contractor)

WHEREAS the Authority intends to award, under laid down organizational procedures, tender/ contract forThe Authority, while discharging its functions on business principles, values proper compliance with all relevant laws and regulations, and the principles of natural

,justice, ethics, equity, fairness and transparency in its relations with the Bidders/ Contractors.

WHEREAS the Authority is desirous to make its business mechanism more transparent, thus to ensure strict adherence of the aforesaid objectives/goals, the Authority hereby adopts the instrument developed by the renowned international non-governmental organization “Transparency International” (T I) headquartered in Berlin (Germany). The Authority will appoint an Independent External Monitor (IEM) who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

AND WHEREAS the Bidder is submitting a tender to the Authority forIn response to the NIT (Notice Inviting Tender) dated Contractor is signing the contract for execution ofNOW, therefore, To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to Enabling the Authority to obtain the desired said stores/equipment/execution of works at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and Enabling Authority to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the Authority will commit to prevent corruption, in any form, by its officials by following transparent procedures. The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

1. Commitments of the Authority;

- 1.1 The Authority undertakes that no official of the Authority, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.
- 1.2 The Authority will, during the pre-contact stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.
- 1.3 All the officials of the Authority will report to the appropriate authority office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.
- 1.4 In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the Authority with full and verifiable facts and the same is prima facie found to be correct by the Authority, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the Authority and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the Authority the proceedings under the contract would not be stalled.

1. Commitments of Bidders/Contractor.

The Bidder/Contractor commits itself to take all measures necessary to prevent corrupt practice, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following.

- 2.1 The Bidder/Contractor will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the Authority, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
- 2.2 The Bidder/Contractor further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the Authority or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract

with the Authority for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the Authority.

- 2.3 The Bidder / Contactor has not entered and will not enter with other bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specification, certifications, subsidiary contracts, submission or non-submission of bids or any actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.4 The Bidder/Contractor shall, when presenting his bid, disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.
- 2.5 The Bidder/Contractor shall when presenting his bid disclose any and all the payments he has made or, is committed to or intends to make to agents/brokers or any other intermediary, in connection with this bid/contract.
- 2.6 The Bidder/Contractor further confirms and declares to the Authority that the BIDDER is the original manufacturer/integrator/ authorized government sponsored export entity of the stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the Authority or any of its functionaries, whether officially or unofficially to the award of the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.
- 2.7 The Bidder/Contractor, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made or has committed to or intends to make to officials of the Authority or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- 2.8 The Bidder/Contractor will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- 2.9 The Bidder/Contractor will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 2.10 The Bidder / Contactor shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the Authority as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The Bidder / Contractor also undertakes to exercise due and adequate care lest any such information is divulged.
- 2.11 The Bidder/Contractor will inform to the Independent External Monitor.
 - i) If he receives demand for an illegal/undue payment/benefit.

- ii) If he comes to know of any unethical or illegal payment/benefit.
 - iii) If he makes any payment to any Authority's associate(s)
- 2.12 The Bidder/Contactor commit to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 2.13 The Bidder/Contactor shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 2.14 If the Bidder/Contractor or any employee of the Bidder/Contractor or any person acting on behalf of the Bidder/ Contractor, either directly or indirectly, is a relative of any of the officers of the Authority, or alternatively, if any relative of an officer of the Authority has financial interest/stake in the Bidder's/Contractor's firm, the same shall be disclosed by the Bidder/Contractor at the time filing of tender. The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956.
- 2.15 The Bidder/Contractor shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the Authority.
- 2.16 That if the Bidder/ Contractor, during tender process or before the award of the contract or during execution of the contract/work has committed a transgression in violation of section 2 or in any other form such as to put his reliability or credibility as Bidder/Contractor into question, the Authority is entitled to disqualify him from the tender process or to terminate the contract for such reason and to debar the BIDDER from participating in future bidding processes.
- 3. Previous Transgression**
- 3.1 The Bidder/Contractor declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify Bidders's exclusion from the tender process.
- 3.2 The Bidder/Contractor agrees that if it makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason and he may be considered for debarment for future tender/contract processes.
- 3.3 That the Bidder/Contractor undertakes to get this Pact signed by the subcontractor (s) and associate(s) whose value of the work contribution exceeds Rs 0.5 Cr. (Rupees zero point five Cr.) and to submit the same to the Authority along-with the tender document/ contract before contract signing.



- 3.4. That sub-contractor(s)/ associate(s) engaged by the Contractor, with the approval of the Authority after signing of the contract, and whose value of the work contribution exceeds Rs 0.5 Cr. (Rupees Zero point five Cr.) will be required to sign this Pact by the Contractor, and the same will be submitted to the Authority before doing/ performing any act/ function by such subcontractor(s) / associate(s) in relation to the contract/ work.
- 3.5. That the Authority will disqualify from the tender process all Bidder(s) who don't sign this Pact or violate its provisions or fails to get this Pact signed in terms of policy of authority
- 3.6. That if the Contractor(s) does/ do not sign this Pact or violate its provisions or fails to get this Pact signed in terms of policy of authority. Authority will terminate the contract and initiate appropriate action against such Contractor(s).
4. **Earnest Money, Security Deposit, Bank Guarantee, Draft, Pay order or any other mode and its validity i/c Warranty Period, Performance Guarantee/Bond.**

While submitting bid, the BIDDER shall deposit an EMD/SD/BG/DRAFT/PAY ORDER ETC I/C WARRANTY PERIOD, PG/BOND, VALIDITY etc. , which is as per terms and conditions and details given in NIT / tender documents sold to the Bidders.
5. **Sanctions for Violations/Disqualification from tender process and exclusion from future Contacts.**
 - 5.1 Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the Authority to take all or any one of the following actions, wherever required:
 - i) To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.
 - ii) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.
 - iii) If the Authority has disqualified / debarred the Bidder from the tender process prior to the award under section 2 or 3 or 4, the Authority is entitled to forfeit the earnest money deposited/bid security.
 - iv) To recover all sums already paid by the Authority, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the Authority in connection with any other contract or any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.
 - v) To en-cash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, along with interest.

- vi) To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the Authority resulting from such cancellation/rescission and the Authority shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.
 - vii) To debar the BIDDER from participating in future bidding processes for a minimum period of three years, which may be further extended at the discretion of the Authority.
 - viii) To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.
 - ix) In case where irrevocable Letters of Credit have been received in respect of any contract signed by the Authority with the BIDDER, the same shall not be opened.
 - x) Forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.
 - xi) That if the Authority have terminated the contract under section 2 or 3 or 4 or if the Authority is entitled to terminate the contract under section 2 or 3 or 4, the Authority shall be entitled to demand and recover from the contractor damages equivalent to 5% of the contract value or the amount equivalent to security deposit or performance bank guarantee, whichever is higher.
 - xii) That the Bidder / Contractor agrees and undertakes to pay the said amount without protest or demur subject only to condition that if the Bidder/Contractor can prove and establish to the satisfaction of the Authority that the disqualification / debarment of the bidder from the tender process or the termination of the contract after award of the contract has caused no damage to the Authority.
- 5.2 The Authority will be entitled to take all or any of the actions mentioned at para 5.1 above.
- 5.3 (i) to (xii) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.
- 5.4 That if the Bidder/Contractor applies to the Authority for premature revocation of the debarment and proves to the satisfaction of the Authority that he has installed a suitable and effective corruption prevention system and also restored/recouped the damage, if any, caused by him, the Authority may, if thinks fit, revoke the debarment prematurely considering the facts and circumstances of the case, and the documents/evidence adduced by the Bidder/Contractor for first time default.

- 5.5 That a transgression is considered to have occurred if the Authority is fully satisfied with the available documents and evidence submitted along with Independent External Monitor's recommendations/suggestions that no reasonable doubt is possible in the matter.
- 5.6 The decision of the Authority to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Independent External Monitor(s) appointed for the purpose of this Pact.
6. **Allegations against Bidders/Contractors/ Sub-Contractors/ Associates:**

That if the Authority receives any information of conduct of a Bidder/ Contractor or Sub-Contractor or of an employee or a representative or an associate of the Bidder, Contractor or Sub-Contractor which constitute corruption, or if the Authority has substantive suspicion in this regard, the Authority will inform the Vigilance Department for appropriate action.
7. **Independent External Monitor(s),**
 - 7.1. That the Authority has appointed competent and credible Independent External Monitor(s) for this Pact.
 - 7.2 The task of the Monitor(s) is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact. He will also enquire into any complaint alleging transgression of any provision of this Pact made by the Bidder, Contractor or Authority.
 - 7.3. That the Monitor(s) is not subject to any instructions by the representatives of the parties and would perform his functions neutrally and independently. He will report to the Chairperson of the Board of the Authority.
 - 7.4 That the Bidder / Contractor accepts that the Monitor(s) has the right to access without restriction to all project documentation of the Authority including that provided by the Bidder/Contractor. The Bidder/Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation including minutes of meeting. The same is applicable to Sub – Contractors and Associates. The Monitor is under obligation to treat the information and documents of the Authority and Bidder/ Contractor / Sub- Contractors/ Associates with confidentiality.
 - 7.5. That as soon as the Monitor notices, or believes to notice, a violation of this Pact, he will so inform the management of the Authority and request the management to discontinue or heal the violation, or to take other relevant action. The Monitor(s) can in this regard submit his recommendations/ suggestions. Beyond this, the Monitor(s) has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
 - 7.6 That the Authority will provide to the Monitor(s) sufficient information about all meetings among the parties related to the project provided such meetings could have an impact on the contractual relations between the Authority and the Contractor / Bidder. The parties offer to the Monitor(s) the option to participate in such meetings.

7.7 That the Monitor(s) will submit a written report to the Chairperson of the Board of the Authority within 2 weeks from the date of reference or intimation to him by the Authority and, should the occasion arise, submit proposals for correcting problematic situations.

7.8 That if the Monitor(s) has reported to the Chairperson of the Board a substantiated suspicion of an offence under relevant Anti- Corruption Laws of India and the Chairperson has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Department, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

7.9 The word 'Monitor' would include singular and plural.

8. Facilitation of Investigation.

In case of any allegation of violation of any provisions of this Pact or payment of commission, the Authority or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such Examination.

9. Law and Place of Jurisdiction.

That this Pact is subject to provisions under Indian Law. The place of performance and jurisdiction is the Corporate Headquarter /the Regional Headquarter / office of the Authority, as applicable.

10. Other Legal Actions

10.1 That the changes and supplements as well as termination notice need to be made in writing.

10.2 That if the Bidder / Contractor are a partnership or a consortium, this Pact must be signed by all the partners and consortium members or their authorized representatives.

11. Pact duration (Validity)

11.1 That this Pact comes into force when both the parties have signed it. It expires for the Contractor 12 months after the final payment under the respective contract, and for all other Bidders 3 months after the contract is awarded.

11.2. That if any claim is made / lodged during this period, the same shall be binding and continue to be valid despite the lapse of this Pact as specified herein before, unless it is discharged/determined by Chairman of the Authority.



- 11.3 That should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

12. Company Code of Conduct

Bidders are also advised to have a company code of conduct (clearly rejecting the use of bribes and other unethical behaviour) and a compliance program for the implementation of the code of conduct throughout the company.

13. The parties hereby sign this Integrity Pact at _____ on _____

Buyer

Name of the Officer

Designation

Deptt./Ministry/PSU

Witness

1. _____

2. _____

Bidder

CHIEF EXECUTIVE OFFICER

Witness

1. _____

3. _____

**APPENDIX-XIX**

(To be filled by
Contractor)(CLAUSE-47)

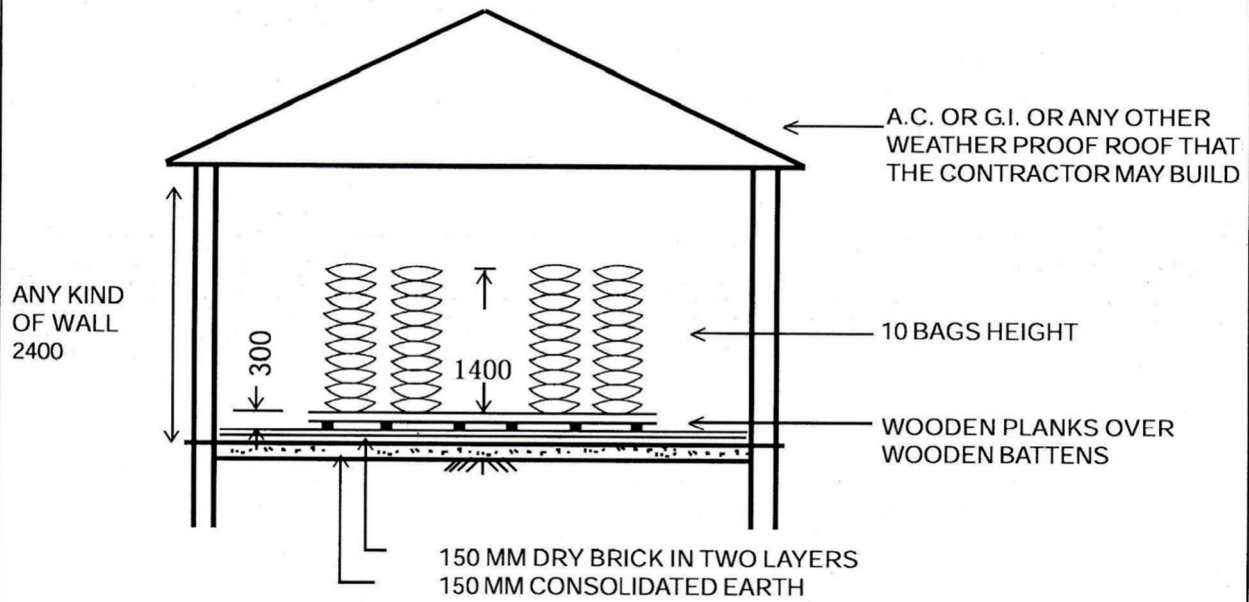
Ratio of direct payment to the specialized : ...% of the net payment to be made to Specialized
agency in case of composite contract agency

Sl.	Sub-head	Nature of work	% of the net payment to be made to Specialized agency
1	Sub-head I		

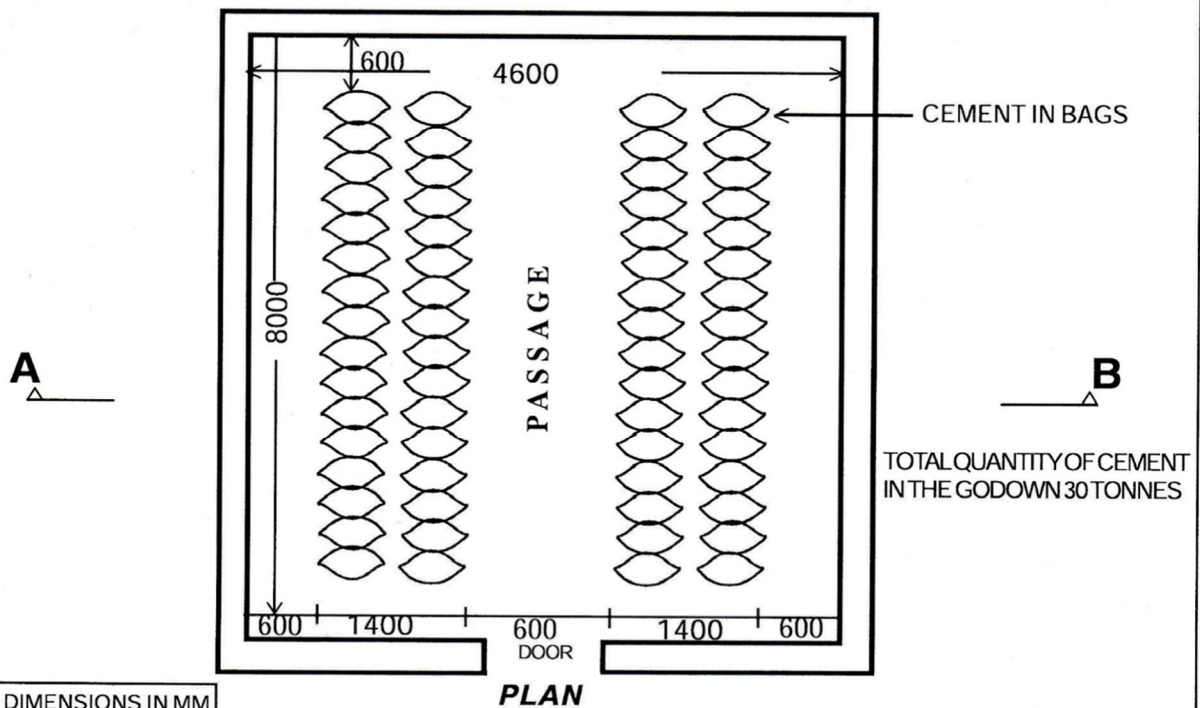
Note:

1. NIT approving authority must ensure that all sub-heads of works are covered in above table. The bidder must indicate percentage payable to specialized agency in case of all sub-heads.
2. If % is not filled in by the contractor against one or more subhead in this schedule, then 75% of the net payment admissible as per AAI for the subhead under consideration shall be paid directly to specialized agency in case of composite contract.

सीमेन्ट गोदाम का रेखाचित्र / SKETCH OF CEMENT GODOWN



SECTION AB



ALL DIMENSIONS IN MM

PLAN

APPENDIX-XX

SKETCH OF CEMENT GODOWN

SCHEDULES

SCHEDULE 'A'

All rates shall be quoted in the format provided and no other format is acceptable. The price bid has been given as a standard BOQ format at page no. **BOQ – 260 to 267** with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the File name. if the BOQ file is found to be modified by the bidder, the bid will be rejected and EMD shall be forfeited.

SCHEDULE 'B'

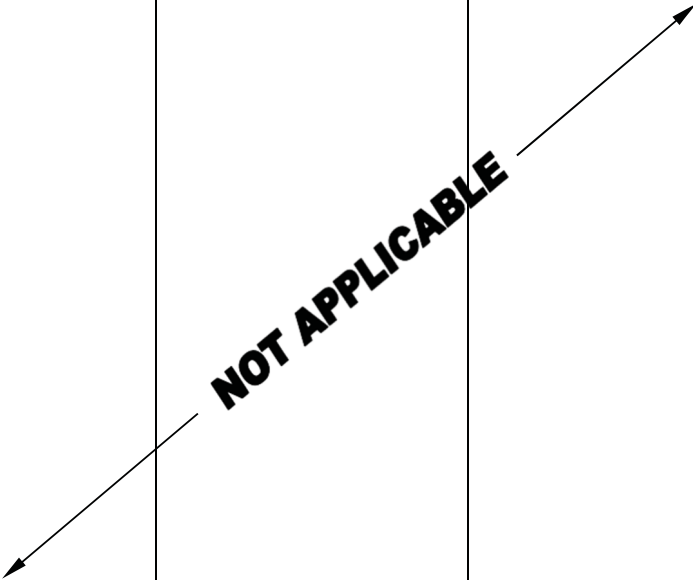
Schedule of materials to be issued to the contractor.

Sl. No.	Description of Item	Quantity	Rates in figures & words at which the material will be charged to the contractor	Place of Issue
1	2	3	4	5

NOT APPLICABLE

SCHEDULE `C`

Tools and plants to be hired to the contractor.

Sl. No.	Description	Hire charges per day	Place of Issue
1	2	3	4
 NOT APPLICABLE			

SCHEDULE `D`

Extra schedule for specific requirements/ documents for the work, if any.

-----NA-----

SCHEDULE `E`

Reference to General Condition of contract

1. **Name of work: “Construction of Structural Shed for CFT garage and Development of Surrounding Area at FSTC Complex Narayanpur at Kolkata Airport”**
- i. Estimated cost of work **Rs. 1,87,46,672/-**
- ii. Earnest Money **Rs. 3,74,933/-**
- iii. Performance Guarantee: **NIL**
- iv. Security deposit: **10% of contract value**

SCHEDULE 'F'**GENERAL RULES & DIRECTION**

Officer inviting tender

: The Assistant General Manager(Engg.-Civil),
AAI, NSCBI Airport, Kolkata-700052

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3	a: 30% (Overall) b: 100% (for foundation items)
--	--

Definitions:

Office inviting tender : O/o The Assistant General Manager (Engg.Civil), AAI,
NSCBI Airport, Kolkata-52.

2(v) Engineer-in-Charge : O/o Jt. General Manager (Engg.-Civil), AAI
NSCBI Airport, Kolkata-52

2(viii) Accepting Authority : As per AAI's DOP.

2(x) Percentage on cost materials and labour to cover all overheads and profit. : 15%

2(xi) Standard schedule of rates DSR 2021 with up to date correction slips as on last date of submission of tenders & market rates.

2(xii) Department AAI, Engineering.

Clause 1

(i)	Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance	N/A
(ii)	Maximum allowable period of extension	As per Clause 1 (Clauses of Contract)

Clause 2

	Authority for fixing compensation under Clause 2	As per DOP of AAI
--	--	-------------------

Schedules
Clause 2A



	Whether Clause 2A shall be applicable	No
--	---------------------------------------	----

Clause 5

	Number of days from the date of issue of letter of acceptance for reckoning date of start	Ten(10) Days
--	---	--------------

Mile Stone(s) as per table given below:

Sl.No.	Description of Milestones (Physical)	Time allowed in days(from date of start)	Amount to be withheld in case of non-achievement of milestone
1	Total 25% progress	As per GCC & SCC	As per GCC & SCC
2	Total 66% progress	As per GCC & SCC	As per GCC & SCC
3	Total 100% progress	As per GCC & SCC	As per GCC & SCC

1. Time allowed for execution of work.: 08 (Eight) Months

Months Authority to decide:

- i.Extension of time As per DOP.
- ii.Rescheduling of milestone As per DOP
- iii.Shifting of date of start in case of
delay in handing over of site..... As per DOP

Clause 6, 6A

Clause applicable – (6 or 6A) : **Clause 6 A**

Clause 7

Gross work to be done together with net payment/adjustment of advances for material collected, if any since the last such payment for being eligible to interim payment.	<u>Rs. 25.00 Lakh</u>
--	-----------------------

Clause 10A:

All the testing equipments required for conducting test for building works as per CPWD/as applicable.

Clause 10 B(II)

Whether Clause 10B(II) shall be applicable	No
--	----

Clause 10C:**Applicable/ ~~Not Applicable~~**

Component of labour expressed as percent of value of work: 25%

Clause 10 CA : Applicable

Materials covered under this clause	Nearest Material (other than cement*, reinforcement bars, structural steel & Bitumen) for which All India Wholesale Price index is to be followed	Base price and its corresponding period of all the materials covered under clause 10CA
1. Cement (OPC/ PPC)		Base price for cement and reinforcement steel to be determined as issued under authority of DG (Works). CPWD or concerned Zonal Chief Engineer, CPWD as on last date of receipt of tender. In case base price for cement, reinforcement steel and Bitumen as to be issued by CPWD is not available concerned ED (Engg) empowered to determine the same.
2. Reinforcement steel bars (TMT)		
3. Structural Steel		
4. Bitumen		

***Note:**

- Includes cement component used in RMC brought at site from outside approved RMC plants, if any.
- ~~Base price and its corresponding period of all the materials covered under clause 10CA is to be mentioned at the time of approval of NIT. In case of recall of tenders, the base price may be modified by adopting latest base price and its corresponding period.~~

Clause 10 CC - Not applicable

Clause 10CC to be applicable in contracts with stipulated period of completion exceeding the period shown in next column	
--	--

Schedule of component of other materials, Labour, POL etc.for price escalation.

Component of civil (except material covered under clause 10 CA) / Electrical construction materials express as percentage total value of workXm%.

Component of labour , expressed as % of total value of work.....Y %.

Component of POL , expressed as % of total value of work.....Z . %

Note : Xm.... % should be equal to (100) – (material covered under clause 10 CA i.e. cement, steel and other materials specified in clause 10 CA + component of labour + component of POL).

Clause 11

Specification to be followed for execution of work	a) "CPWD Specification 2019, Vol. I to II with upto date correction slips, MORTH or other specification as applicable. b) Technical specification. c) Manufacturer's Specification.
--	--

Clause 12

12.2 & 12.3	Deviation limit beyond which clauses 12.2 & 12.3 shall apply for buildings, pavements and all other works above foundation level	30% (Thirty Percent)
12.5	Deviation limit beyond which clauses 12.2 & 12.3 shall apply for foundation work	100% (Hundred Percent)

	Competent Authority for deciding reduced rates	DGM/ Jt.GM(Engg)
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Clause 18

Mandatory machinery, tools & plants to be deployed by the contractor at site:

To be provided as per NIT and other Machinery required for timely completion of work.

Clause 25

Place of Arbitration: RHQ-ER, Kolkata.

Clause 36(1)

Requirement of Technical Representative(s) and recovery rate

Sl. No.	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical representative)	Minimum Experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36	
						Figures Rs.	Words (Rupees)
1	B.Tech/B.E.	Civil	Site Engineer	1 year	1	1000	One thousand only

Clause 37

Licence Fee for unpaved land As applicable for such purpose

Clause 41(b)

Integrity Pact applicable Not Applicable

Clause 42

(i)	Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates	DSR 2018 printed by C.P.W.D with up-to-date correction slips till last date of submission of tender, technical specifications & BOQ.
(ii)	Variations permissible on theoretical quantities	

Schedules



a.	Cement for works with estimated cost put to tender not more than Rs.5 lakhs.	3% plus/minus
	For works with estimated cost put to tender more than Rs.5 lakhs	2% plus/minus
b.	Steel Reinforcement and structural steel section for each diameter, section and category	2% plus/minus
c.	Bitumen	2.5% plus only & NIL on minus side
d.	All other materials	

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

Sl. No.	Description of items	Rates in figures and words at which recovery shall be made from the contractor	
		Excess beyond permissible variation	Less use beyond the permissible variation*
1.	Cement		
2.	Steel reinforcement		
3.	Structural Sections		
4.	Bitumen issued free		
5.	Bitumen issued at stipulated fixed price		

* Provided work is considered technically sound. Otherwise work has to be re-executed as per direction of Engineer-in-charge.

Clause 48

Escrow Account: Not applicable.

Annexure to clause 34 (x) showing quantities of materials for areas of surfacing to be considered for working out minimum period for which hire charges of road roller are to be recovered.

Sl. No.	Material of surfacing	Quantity or areas
1.	Consolidation of earth subgrade	1860 Sqm
2.	Consolidation of stones soling 15 cm to 22.5 cm thick	170 Cum
3.	Consolidation of brick soling 10 cm to 20 cm thick	230 Cum
4.	Consolidation of wearing coat of stone ballast 7.5 cm to 11.5 cm thick	30 Cum
5.	Consolidation of wearing coat of brick ballast 10 cm thick	60 Cum
6.	Spreading and consolidation of red bajri 6mm	1860 Sqm
7.	Painting one coat using stone aggregate 12.5mm nominal size	
	(a) @ 1.65 m ³ per 100 m ² and paving bitumen A-90 or S-90 @2.25 Kg per m ² or	
	(b) @ 1.50 m ³ per 100 m ² and bitumen emulsion or Road tar @2.25 Kg per m ²	930 Sqm
8.	Painting two coats using	
	(a) For first coat, stone aggregate 12.5 mm nominal size	
	(i) @ 1.50 m ³ per 100 m ² and paving bitumen A-90 or S-90 @2 Kg per m ² or	
	(ii) @ 1.35 m ³ per 100 m ² and bitumen emulsion @2 Kg per m ² 600 Sqm or	
	(iii) @ 1.25 m ³ per 100 m ² with roadtar @2.25 Kg per m ²	600 Sqm
	(b) For 2nd Coat, stone aggregate 10 mm nominal size 0.9 Cum per 100Sq.m with	
	(i) 1kg of paving bitumen A-90 or S-90 or bitumen emulsion per Sqm or	
	(ii) 1.25 Kg. of road tar, per Sqm. 600 Sqm.	600 Sqm

9.	Re-painting with stone aggregate 10 mm nominal size 0.9 Cu.m. per 100 Sq.m. with	
	(i) 1kg of paving bitumen A-90 or S-90 per Sq.m. ;k or	
	(ii) 1.25 kg of bitumen emulsion per Sq.m. 1670 Sq.m.	1670 Sq.m.
10.	2 cm premix carpet surfacing using 2.4 m ³ of stone aggregate 10 mm nominal size per 100 m ² and binder including tack coat, the binder being hot cut back bitumen or bitumen emulsion in specified quantities.	930 Sq.m
11.	2.5 cm premix carpet surfacing using 3 m ³ of stone aggregate 10 mm nominal size per 100 m ² and binder including tack coat, the binder being hot cut back bitumen or bitumen emulsion in specified quantities.	930 Sq.m
12.	4 cm thick bitumen concrete surfacing using stone aggregate 3.8 Cu.m. (60% 20mm nominal size and 40% 12.5 mm nominal size) per 100m ² and coarse sand 1.9 Cu.m. per 100m ² and hot cut back bitumen over a tack coat of hot cut back bitumen.	460 Sq.m.
13.	5 cm thick bitumen concrete surfacing using stone aggregate 4.8 Cu.m. (60% 25 mm nominal size and 40% 20 mm nominal size) per 100m ² and coarse sand 2.4 Cu.m. per 100m ² and hot cut back bitumen over a tack coat of hot cut back bitumen.	370 Sq.m.
14.	6 cm thick bitumen concrete surfacing using stone aggregate 5.8 Cu.m. (60% 40 mm nominal size and 40% 25 mm nominal size) per 100m ² and coarse sand 2.9 Cu.m. per 100m ² and hot cut back bitumen over a tack coat of hot cut back bitumen.	280 Sq.m.
15.	7.5 cm thick bitumen concrete surfacing using stone aggregate 7.3 Cu.m. (60% 50 mm nominal size and 40% 40 mm nominal size) per 100m ² and coarse sand 3.65 Cu.m. per 100m ² and hot cut back bitumen over a tack coat of hot cut back bitumen.	230 Sq.m.
16.	2.5 cm bitumastic sheet using stone aggregate 1.65 Cu.m. (60% 12.5 mm nominal size 40% 10 mm nominal size) per 100 Sq.m. and coarse sand 1.65 Cu.m. per 100 Sq.m. and hot cut back bitumen over a tack coat of hot cut back bitumen.	750 Sq.m.
17.	4 cm bitumastic sheet , using stone aggregate 2.6 Cu.m. (60% 12.5 mm nominal size, 40% 10 mm nominal size) per 100 Sq.m. and coarse sand 2.5 Cu.m. per 100 Sq.m. and hot cut back bitumen over a tack coat of hot cut back bitumen.	560 Sq.m.

Schedules



18.	Laying full grouted surface using stone aggregate 40 mm nominal size 6.10 Cu.m. per 100 Sq.m. with binder, binding with 20 mm to 12.5 mm nominal size stone grit. 1.83 Cu.m. per 100 Sq.m. and seal coat of binder and stone grit 10 mm nominal size, 1.07Cu.m. per 100 Sq.m., the binder being hot bitumen or tar as specified.	460 Sq.m.
19.	Laying full grouted surface using stone aggregate 50 mm nominal size 9.14 Cu.m. per 100 Sq.m. with binder, binding with stone grit 20 mm to 12.5 mm nominal size 1.83 Cu.m. per 100 Sq.m. and seal coat of binder and stone grit 10 mm nominal size, 1.07Cu.m. per 100 Sq.m., the binder being hot bitumen or tar,	370 Sq.m.
20.	4cm. thick premix macadam surfacing using stone aggregate 25 mm nominal size 4.57 Cu.m. per 100 Sq.m. and hot bitumin binding with stone aggregate 12.5 mm nominal size 1.52 Cu.m. per 100 Sq.m. and seal coat of hot bitumen and stone aggregate 10 mm nominal size 1.07 Cu.m. per 100 Sq.m.	560 Sq.m.
21.	5cm. thick premix macadam surfacing using stone aggregate 25 mm nominal size 6.10 Cu.m. per 100 Sq.m. and hot bitumin binding with stone aggregate 12.5 mm nominal size 1.52 Cu.m. per 100 Sq.m. and seal coat of hot bitumen and stone aggregate 10 mm nominal size 1.07 Cu.m. per 100 Sq.m.	460 Sq.m.

APPLICATION FOR APPOINTMENT OF ARBITRATOR

..... (Designation as per Arbitration Clause)

Notification by SME

Name of applicant :

Whether applicant is individual

Prop. Firm/Partnership firm/Ltd. Co. :

Full address of the applicant :

Name of the work and contract :

Number in which arbitration sought :

Name of the division which SME entered into contract :

Contracted amount in the work :

Date of contract :

Date of initiation of the work :

Stipulated date of completion of the work :

Actual date of completion of work :

Total number of claims made :

Total amount claimed :

Date of intimation of final bill :

Date of payment of final bill :

Amount of final bill :

Specimen signature of the applicant :

(only the person / authority who

Signed the contract should sign)

PROFORMA



I/We certify that the information given above is true to the best of our knowledge. I/ Weenclose following documents :-

Statement of claims with amount claims.

Signature

Copy to :

1. AGM (E-C), AAI, NSCBI Airport, Kolkata

PROFORMA for e-Payment

Date: _____

To
JT. GENERAL MANAGER ENGG. (CIVIL),
AAI, NSCBI AIRPORT, KOLKATA

Subject: - Request for E-Payment

Sir,

The following particulars are given below for effecting E-Payment in respect of our Claim/Bill.

- i) Name of the Company :
- ii) Address :
- iii) Bank A/c No. :
- iv) Bank/Branch Name
& Address :
- v) Branch Code :
- vi) IFSC Code of the
Bank :
- vii) Permanent A/c No.
of the Company :

We also enclosed herewith a Cheque duly cancelled of our above Bank A/c.

Thanking you,

Yours faithfully,

()

Authorized Signatory

SPECIAL CONDITION OF CONTRACT (CIVIL WORKS)

1. GENERAL

1.1 The following Special condition of Contract shall be read in conjunction with General Conditions of Contract, Technical Specifications, Drawings and any other documents forming part of this contract wherever the context so requires.

- 1.2 Notwithstanding the sub-division of the documents into these separate sections and volume every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the CONTRACT so far as it may be practicable to do so.
- 1.3 Where any portion of the General Condition of Contract is repugnant to or at variance with any provision of the Special Conditions of Contract, unless a different intention appears, the provisions of the Special Conditions of Contract shall be deemed to over-ride the provisions of the General Special Condition of Contract and shall to the extent of such repugnancy, or variations, prevail.

2. TEMPORARY WORKS

- 2.1 In case any vacant room and store yard of AAI can be spared, same will be handed over to the contractor for use as site office and store yard and he shall pay license fee as per Departmental norms for use and occupation of the same.
- 2.2 Such use or occupation shall not confer any right of tenancy of the Land/Room/Store yard to the contractor.
- 2.3 The contractor shall be liable to vacate the occupied Land/Room/Store yard within 15 days on demand by the Engineer-In-Charge or his authorize representative. In case of establishment of site office and store yard by the contractor at his own cost, he shall demolish the structure, remove the debris and vacate the occupied land within 15 days of the physical completion of the contract or within 15 days on demand by the Engineer-In-Charge whichever is earlier.
- 2.4 Where any existing site office and store yard cannot be provided by AAI, the contractor shall construct a site office and attached store yard at his own cost within 30 days from the date of award of work.
- 2.5 The Tenderer should see the approaches and conditions of the same. If any approach from main road is required at site or existing approach is to be made and maintained for cartage of materials etc. by the Contractor, the same shall be provided, improved and maintained by the Contractor at his own cost.
- 2.6 All Temporary and ancillary works including enabling works connected with the work shall be responsibility of the Contractor and the price quoted by them shall be deemed to have included the cost of such works which shall be removed by the contractor at his cost immediately after completion of the work.

3. PAYMENTS

- 3.1 It is incumbent upon the contractor to keep a watch over regular testing of materials before submitting bill at the stage of each running account bill. For this purpose, details in respect of mandatory test should be attached with each running bill as per the proforma to be made available by the Engineer-in Charge. It is incumbent on the contractor to ensure that all mandatory test as per frequency, stipulated in the contract, are carried out regularly. Details of such mandatory test (as per proforma to be provided by the Engineer-in-charge) shall be maintained and attach with each running account bill.

4. WATER

- 4.1 Whenever AAI water source is used by the Contractor, 1% of gross bill amount (work done) shall be deducted from the running / final bill.

5. POWER SUPPLY

- 5.1 Generally electricity required for the work shall not be given by AAI and same has to be arranged by the Contractor. In case AAI electricity source is available near the work site and electricity can be spared to the contractor as per discretion of Engineer-In-Charge, the Contractor may draw electricity from the AAI source as approved by Engineer-In-Charge.
- 5.2 Necessary meter and connection from the source as approved by Engineer-In-Charge shall be arranged by the Contractor at his own cost.
- 5.3 Whenever AAI electricity source is used by the Contractor, the charge as fixed by the local Electricity Board / Airport Authority whichever is higher shall be recovered from the running / final bill of the contractor.

6. CONTRACT AGREEMENT

- 6.1 The contract agreement shall be executed on a non-judicial stamp paper of value Rs.100/-(Rupees one hundred) and cost of the stamp paper shall be borne by the Contractor.
- 6.2 Contractor's tender including the letters of clarifications between the contractor and the AAI prior to the award of contract shall form a part of the Contract Agreement to the extent they have been accepted by AAI.

7. SITE ORGANISATION

Subject to the provisions in the tender documents and without prejudice to contractor's liabilities and responsibilities to provide adequate qualified and skilled personnel on the work. Contractor shall deploy site organization and augment the same as decided by the Engineer-In-Charge depending on the exigencies of work. No engineering personal deployed at site shall be removed from the site without prior approval of the Engineer-In-Charge.

8. CLOSING DAY'S WORK

- 8.1 Work shall be closed at 2 hours notice for VVIP movement and also other exigencies if directed by the Engineer-in-Charge. No compensation shall be entertained on this account from the contractor.

9. STORES, MATERIALS AND EQUIPMENTS & MACHINERIES

- 9.1 No storage accommodation will be arranged by AAI, Contractor shall make all such arrangements at his own cost to the satisfaction of Engineer-In-Charge.
- 9.2 All the stores, materials including equipment and machinery required for the satisfactory completion of the works, shall be arranged by contractor from his own sources / open market. No claim whatsoever shall be entertained by the AAI on account of delay in either in providing the materials, arranging for plant, equipment's and machinery or non-availability of the materials or equipment in the market. No Materials etc. shall be issued by AAI.
- 9.3 The contractor shall co-operate with any other agency working on the same project, compare plans, specifications and the time schedule and so arrange his work that there will be no interference. The contractor shall forward to the Engineer-In-Charge all correspondence and drawings so exchanged. Failure to check plans for conditions will render the contractor responsible for bearing the cost of any subsequent change found necessary, contractor should co- ordinate in such a way that on no account there should be any disturbance to the work.
- 9.4 Materials brought to the site by the contractor shall be stored by the contractor in a safe / dry storage space. The contractor shall be responsible for safe custody of materials at site till such time the installation is commissioned and handed over to the Engineer-In-Charge.
- 9.5 The contractor shall without prejudice to his overall responsibility to execute and complete the work as per specifications and time schedule, progressively deploy adequate equipment's and tools and tackles and augment the same as decided by the Engineer-in-Charge depending on the exigencies of the work so as to suit the construction schedule.
- 9.6 No construction equipment shall be supplied by AAI.
- 9.7 Equipment for night working:

In case, it appears, at any stage that the project may not be completed within the stipulated period due to restricted working hours in the day in view of operational reasons or for timely completion of the work the contractor shall execute the work during the night as and when asked by the Engineer-In-Charge. For proper execution, the work site shall be properly illuminated. Nothing extra shall be payable to contractor for working in night time.

10. STANDARD OF WORKMANSHIP

- 10.1 To determine the acceptable standard of workmanship, the contractor shall execute portion of the item of work as sample for approval of the Engineer-In-Charge, before taking up the actual execution of the particular item of work.

11. BYE-LAWS

- 11.1 The contractor shall comply with all bye-laws and regulations of local and statutory authorities having jurisdiction over the works and shall be responsible for payment of all fees and other charges and for giving and receiving of all necessary notices and keeping the Engineering-In- Charge, informed of the said compliance with the bye-laws, payments made, notices issued and received.
- 11.2 The contractor shall indemnify the AAI against all claims in respect of patent rights, design, trade marks of name or other protected rights in respect of any plant, machine, work or materials used for or in connection with the work or temporary works and from and against all claims, demands proceedings, cost, charges and expenses whatsoever in respect of or in relation thereto. The contractor shall defend all actions arising from such claims and shall himself pay all royalties license fees, damages, costs and charges of all and every sort that may be legally incurred in respect thereto.

12. SITE PRECAUTIONS

- i) Any materials or T & P etc. found lying outside the sites approved by the Engineer-In-Charge, shall be removed by the Engineer-In-Charge at the risk and cost of the contractor.
- ii) If any time there is hindrance in the execution of the work due to any reason, whatever, the Authority shall not be responsible and shall not entertain any claim whatever on this account from the contractor.
- iii) If on handing over the site or any time there after during the execution of the works the contractor considers that any drawing or information necessary for the execution of the work has not been provided, he is to inform the Engineer-in-charge in writing giving details.
- iv) With regard to construction safety measures, the contractor shall adhere to various Indian Standard Codes of Practice requirements of Provincial Government and Local Municipal Authority wherever the provisions of the latter two agencies shall be more stringent than the provisions of the former. When these codes do not exist, the contractor shall adhere to such safety measures as directed by the Engineer-In-Charge.

- v) The contractor shall, during construction, provide barricades at his own cost as per specifications prescribed by the Engineer-In-Charge to segregate the working area to ensure safety of all concerned.
 - vi) The contractor shall be responsible for any damage, resulting from his negligence, either to buildings, structures or airport fixtures such as underground cable contact lights, hard surface areas, water mains, other operational installation, Airport roads etc. The contractor shall restore, replace or repair any such damage to the complete satisfaction of the Engineer-In-Charge and in default the Engineer-In-Charge may cause the same to be made good by any other means and deduct the expenses from any sums due to contractor.
13. The contractor shall take all precautions at his own cost to avoid all accidents by exhibiting necessary day & night caution boards, speed limit boards, red flags, red lights and providing barriers. He shall be responsible for all damages and accidents caused due to negligence on his part. No hindrances shall be caused to traffic during execution of work.
 14. No payments will be made to the contractor for damage caused by rains or other natural calamities during the execution of the works and no such claim on this account will be entertained. He will make good of all such damages at his own cost and no claim on this account will be entertained.
 15. The contractor shall remove the labour huts, temporary barricades etc. on completion of the work and leave the site in a neat and tidy state. The payment of final bill will be subject to the compliance of this condition by the contractor.
 16. Any cement slurry added over base surface or for continuation of concreting for bond is added its cost is deemed to have inbuilt in the item unless otherwise / explicitly stated and nothing extra shall be payable or extra cement considered with consumption of this account.
 17. The rates for all items of work shall unless clearly specified otherwise include cost of all labourers, materials and others inputs like curing etc. involved in the execution of the work.
 18. The foundation trenches shall be kept free from water while all the works below ground level are in progress.
 19. The rate of items of flooring is inclusive of providing sunk flooring in bath rooms, kitchen etc. and nothing extra on this account is admissible.
 20. The contractor shall be responsible for the protection of entire executed work including sanitary and water supply fittings and other and fixtures etc. against pilferage and breakage during the period of installation and there after until the building is handed over.
 21. The contractor will have to submit Rate Analysis for tendered rates for all items when asked for by AAI.

22.

- a. The building work will be carried out in the manner complying in all respects with the requirement of relevant by laws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-In-Charge and nothing extra will be paid on this account.
- b. Water tanks, taps, pipes, fittings and accessories should conform to byelaws and specifications of the municipal body/Corporation authorities, wherever required, at his own cost. The work shall be carried out according to municipal byelaws.
- c. The contractor shall comply with proper and legal orders and directions of the local or public authority or municipality and abide by their rules and regulations and pay all fees and charges which may be liable.
- d. The sanitary water supply and drainage pipes and fittings other materials shall be of approved quality and shall conform to the relevant CPWD specifications for works. The work shall be carried out without infringing on any of the local Municipal byelaws.

23. APPARTITIONING OF WORK

The Airports Authority of India reserves the right to appartition the work at different levels amongst not more than two contractors, by negotiations if necessary.

24. SUFFICIENCY OF TENDER

Particulars and data furnished in the various sections of the tender documents need not be taken as complete by themselves. They are intended to serve as rough guidance only for the contractor to quote for the item rate tender. The tenderers shall, therefore, in their own interest examine the drawings, condition of contract and specifications of work furnished in the tender documents. They shall also inspect the site and satisfy themselves on their own as to the hydrological climatic and physical conditions prevailing at site, the nature extent and practicability of work, all existing and required roads and other means of communications and access to site, availability of housing and other facilities, the source, availability of housing and other facilities, the source of supply of different materials and their adequacy, royalties and ferry charges, if any, labour and probable site for labour camps, store and Godown etc.

They shall also obtain for themselves all necessary information as to risks, contingencies and other circumstances which may affect or influence their tender. No extra charges consequent on any insufficient appreciation of otherwise shall be allowed. The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the schedule of works/items, quotations or in bills of quantities which rates and price shall except as otherwise provided, cover all his obligations under the contract and all matters and things necessary for the proper completion and maintenance of the works.

All rates (except GST) quoted shall be inclusive of labour, materials and except specifically mentioned otherwise, shall include all charges like Octroi, Tolls, Ferry Charges, Local Charges, Income Tax, Sales Tax etc., as may have to be incurred by the Contractor for getting the respective items of works executed to proper order and complete finish.

Royalty at the prevalent rates shall have to be paid by the Contractor on all the boulders, metals, shingle, sand and moorum, earth etc. collected by him for the execution of work direct to the Revenue Authority of the State Govt. or to any Private party who has the right on such a land. Claim on this account shall not be entertained by the Department.

Should thereby any discrepancy in or any doubt or obscurity as to the meaning of any of the tender documents, clarification should be sought for in writing, sufficiently in advance of the last date for the receipt of the tender from the concerned Asst. G. M. (Engg.). The Department will have a right to make any amendments in the tender documents and any such changes will be intimated to the tenderer at least three days before the date fixed for receipt of tender.

25. SCOPE OF WORK

Intent of the Plan and Specification:

The contract drawings if any, together with the contract specifications, are intended to show and explain the manner of executing the work and to indicate the type and class of materials to be used. The work to be carried out under the contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport that may be required in preparation of an for and in the full and entire execution and completion of the works and maintenance of the same during the construction and observation period. The description given in the schedule of works shall, unless otherwise stated be held to include waste on materials, carriage and cartage, carrying on hoisting, setting and fixing in position and all other labour necessary in and for the full and entire execution with good practice and recognized principles and any urgent and temporary works, fully contingent on the work.

26. PERFORMANCE

The contractor shall perform all works in substantial and acceptable manner in accordance with the plans and specifications and in accordance with such further any explanatory drawings, details and instructions as may from time to time be given by the Engineer-in-Charge. The work must be progressed within such sections and at each time as directed by the Engineer-in-Charge.

The contractor shall provide and do everything necessary for the proper execution of the works according to the true intent and meaning of the drawing and specifications taken together whether the same may or may not be particularly shown on that drawings or described in the schedule of quantities, provide that the same can be reasonable inferred there from. Figured dimensions to be followed in preference to scale dimensions and all dimension and particulars to be taken from the actual work.

It must be clearly understood that the whole of the condition are intended to be strictly enforced and that no extra charges in respect of extra work will be allowed unless they are clearly outside the spirit and meaning of the conditions or unless such works shall have been ordered in writing by the Engineer-in-Charge.

27. TEMPORARY SERVICES ROAD, PREPARATION OF GROUND ETC.

- a) The contractor shall bear all expenses and charges on special or temporary service roads required by him in connection with access to the site. He shall not object to the use of service roads by other construction traffic.
- b) Upon completion of the work such roads shall be broken up and leveled where so required by the drawings unless the Engineer-In-Charge shall otherwise direct.
- c) Conveyance of men and materials and inspections staff etc. to any portion of the work site involved in the construction shall be the responsibility of the contractor.

28. SETTING OUT THE WORKS

- a) The contractor shall be responsible for the true and proper setting out of the work and for the correctness of the positions levels and dimensions and alignments of all parts of the works and for the provisions of all necessary applications and labour in connections therewith.
- b) If any time during the progress of the work any error may appear or arise in the position, levels, dimension or alignments of any part of the work the contractor on being required to do so by the Engineer-In-Charge shall at his own expenses rectify such errors to the satisfaction of the Engineer-In-Charge.
- c) The checking or any setting out of any line by the Engineer-In-Charge or his representatives shall not relieve in any way the contractor of responsibility for the correctness therefore and shall carefully project and preserve all bench mark site rails, pegs and other things used in the set is out of work.
- d) All duties concerning establishment of a set of bench marks, permanent theodolite stations, centre of pillars etc. for performing all the functions of work till the physical completion of all items of the work in question shall be carried out by the contractor at his own cost.
 - e) He shall also keep proper record of such permanent bench marks established denoting therein their correct levels.
 - f) The work establishing all such bench marks shall be carried out only by experience staff of the contractor with the help of precision instruments suitable for this type of work. The instruments shall be checked for their accuracy and for permanent

adjustment before the commencement of the work and also frequent intervals during the progress of the work.

- g) All such bench marks established by the contractor shall be subjected to check and approval of the Engineer-In-charge or duly representative and valuations noticed in the work as a result of important establishment of maintenance of such bench marks shall be at the contractor's risk and expense.
- h) The contractor has to adjust his work and progress to work in co-ordination with other agencies working at site.

29. Sub-standard work :-

All works have to be carried out strictly as per standard contract specification and the drawings applicable to the contract. Any work found below specification and not as per drawing is liable to be rejected. However, if any work is below specification but is technically acceptable as per direction of Engineer-In-Charge, the same work will be considered for acceptance and will be paid at a reduced rate at the sole discretion of Engineer-In-Charge, and his decision will be final in this respect and no claim of the contractor will be entertained in this regard at any stage. The decision of the Engineer-In-Charge regarding rejection or acceptance of sub-standard work and its reduced rate payable shall be beyond the purview of the arbitration under clause 16 of the contract documents.

30. The total amount of final bill worked out at the accepted tender rates, if found to be more than the amount worked out at the quoted rates of second lowest, the contractor shall be paid lower of the two.

31. INSPECTION OF SITE AND TESTING

- i. The Engineer-In-Charge or his authorized representative shall have full power to inspect any portion of the work, examine the materials and workmanship at the contractor's works or at any other place from where the material is obtained. Acceptance of any material shall in no way relieve the contractor of his responsibility for meeting the requirement of the specifications.
- ii. Routine type tests for the various items of material shall be performed at the contractor's / Government approved laboratory and Manufacturer's Test certificate should also be furnished wherever required. The contractor shall permit the Engineer-In-Charge or his authorized representative to be present during any or all of the test. After notification to the Engineer-In-Charge that the work has been completed, the contractor shall make under the direction and in the presence of Engineer-In-Charge such tests and inspections as have been specified or as the Engineer-In-Charge shall consider necessary to determine whether or not the full intent of requirements of the plans and specifications have been fulfilled. In case the work does not meet the full intent of the specifications it

shall be rectified by the Contractor at no extra cost and the contractor shall bear all the expenses for any further tests considered necessary.

- iii. The various tests indicated in the specifications or as considered necessary by the Engineer-in-Charge or his authorized representative shall be carried out in the Laboratory approved by the Engineer-in-Charge. The Contractor shall bear the cost of the samples and testing charges. The results shall be final and binding on the contractor. In addition to tools, equipments, apparatus and instruments as described above, if any, additional tool equipment apparatus and instrument is required for laboratory and execution of work as per technical specification of NIT the same shall be provided by contractor. Nothing extra shall be payable to contractor on this account.
- iv. The Engineer-In-Charge may at his discretion, check the test result obtained at contractors laboratory by independent tests at an approved laboratory. The cost of such material, transport, cost of testing etc. shall be borne by the contractor.
- 32. Along with their tenders, the Contractors are required to give the following general information:

- a) The details of tools and plants including centering and shuttering etc. which will be employed by them for this work.
- b) The details of technical staff indicating their qualifications and experience who shall be employed on this work.

In case more tools and plants, technical staff are required for proper execution of work at site, the Contractor will have to provide the same and no extra claim shall be entertained by AAI on that account.

33. Necessary registers, stationeries like paper, pen, pencil, etc required for entering data and test results etc shall be provided by the contractor at his own cost as directed by the Engineering-In-Charge. Photographs of every stages of work as desired by the E.I.C or his authorized representative during execution of work shall be provided by the contractor at his own cost. If the contractor fails to provide the required items, within 24 hours on demand by the E.I.C or his authorized representative, the same shall be arranged by AAI and 3 times the actual expenditure shall be recovered from the Bill of the contractor.

34. Joint venture company / consortium of firms will not be permitted to bid for AAI works upto Rs.50.00 Crores.

35. AAI works manual, Technical Instruction/Circular, Vigilance Instruction/Circular and Govt.Instruction/Circular issued from time to time shall also be applicable for this Contract.

36. All rates (except GST) quoted shall be inclusive of labour, materials and except specifically mentioned otherwise, shall include all charges like Octroi, Tolls, Ferry Charges, Local Charges, Income Tax, Sales Tax etc., as may have to be incurred by the Contractor for getting the respective items of works executed to proper order and complete finish.
37. The contractor will have to submit Rate Analysis for tendered rates for all items when asked for by AAI.
38. The contractor shall be responsible for the following points during period of contract:-
- a) The contractor will be bound by the labour laws, industrial rules and the contract labour (Regulation and abolition) Act 1970 with upto date amendments.
 - b) The minimum rates of the wages of the staffs shall be payable as per the minimum wage Act 1948 and as per notification of the regional labour Commissioner (Central) time to time.
 - c) Maintaining all the records of the workers deployed for the work as per contract labour (Regulation and Abolition) Act 1970.
 - d) The contractor has to maintain the wage register for his employees and has to be produced for verification of the principal employer (AAI) as and when required.
39. Agency has to be submitted the duly notarized affidavit on Non-Judicial stamp paper of Rs. 100 regarding compliance of minimum wages (As per Annexure I) and duly notarized declaration on Non-judicial stamp paper of Rs. 100 regarding Blacklisting / Debarring of Firm (As per Annexure II) during the time of Agreement.
40. The security deposit will be released only after the expiry of the defect liability period which shall be read as **Twelve (12) months** from the date of completion of the work.

PARTICULAR **SPECIFICATIONS**

These particular specifications shall be read in conjunction with the general conditions or contract and amendments/corrections there to. If there are any provisions in the particular specifications which are at variance with general conditions of contract, the provision as given in the particular specifications shall take precedence.

1. The entire work shall be carried out as per latest CPWD specifications with updated corrections for civil works, unless otherwise specified to the nomenclature of individual item, or in the particular specifications.
2. However, in the event of any discrepancy in the description of any item as given in the schedule of quantities or particular specifications appended with the tender and the specifications relating to the relevant item as per CPWD specifications mentioned above the former shall prevail.
3. For the item not covered under CPWD specifications mentioned above, the work shall be executed as per latest relevant standards/codes published by B.I.S (formerly ISI) inclusive of all amendments issued thereto of revision thereof, if any, upto the date of receipt of tenders.
4. In case B.I.S (formerly ISI) code/specifications are not available, the decision of the Engineer-in-charge based on acceptable sound engineering practice and local usage shall be final and binding on the contractor.
5. The rates for different items of work shall be for all heights its leads and depths of the building, such areas except where otherwise specified in the item of work or in special conditions appended with the tender. The foundation trenches shall be kept free from water while all the works below ground level are in progress. The rates for all items of work, shall, unless clearly specified otherwise include cost of all labour, material and other inputs like during involved in the execution of the item.
6. Unless otherwise specified in the schedule of quantities the rates for all items of work shall be considered as inclusive of pumping out or bailing out water if required for which no extra payment will be made. This will include water encountered from any source such as rains, floods, and subsoil water being high due to any other cause whatsoever.
7. The work shall be carried out in accordance with the architects drawings and structural drawings. The structural and architectural drawings shall have to be properly correlated before executing the work. In case of any difference noticed between architectural and structural drawings, final decision, in writing of the Engineer-in-charge shall be obtained by the contractor. For items, where so required, samples shall be prepared before starting the particular items of work for prior approval of the Engineer-in-charge and nothing extra shall be payable on this account.
8. All materials to be used on works shall bear I.S. certification mark unless otherwise the make specified in the item or special conditions appended with the tender document. In case IS marked materials or the materials mentioned in tender document are not used due to non availability the materials used shall conform to IS code or CPWD specification applicable in this contract.
9. In such cases the Engineer-in-charge shall satisfy himself about the quality of such materials and give his approval in writing. Only articles classified as “First Quality” by the manufacturers shall be used unless otherwise specified. All materials not having IS marking shall be tested as per provisions of the Mandatory Tests in CPWD specifications and the relevant ISI specifications. The Engineer-in-charge

may relax the condition regarding testing if the quantity of materials required for the work is small. For the products bearing ISI certification mark, no further testing is required at site. In all such cases of use of IS certified materials, proper proof of procurement of materials from authentic manufacturer shall be provided by the contractor to the satisfaction of Engineer-in-charge.

10. Any cement slurry added over base surface (or) for continuation of concreting for bond is added its cost is deemed to have been built in the item unless otherwise / explicitly stated and nothing extra shall be payable or extra shall be payable or extra cement considered with consumption on this account.

11. WORKING DRAWINGS

The drawing is available in the office of Asstt. General Manager Engg (Civil), AAI, Kolkata Airport. Tenderers may see the same in the above-mentioned office in working hours.

12. QUALITY CONTROL

12.1 For proper quality control during execution of the work the required field tests shall be carried out by the contractor as and when directed by the Engineer-in-charge as per the relevant CPWD specification for works 2019 Vol. (I to II).

12.2 The contractor shall provide at his expense all testing equipment and other facilities at the site which may be required for the purpose of carrying out the field tests as mentioned in para 12.1 and no extra claim in this account shall be entertained by AAI.

13. **If the work is to be executed inside the operational area, the contractor shall obtain necessary entry permits only for those employees having necessary Police Verification.** No work should be delayed for want of entry permit/passes, failing which Rs. 100/- will be levied as penalty per day. Contractor has to pay the necessary fees for the pass and no extra will be payable on this account.
14. Sample of all the materials shall be got approved by the Engineer-in-charge before placing order for any materials.
15. Contractor shall keep adequate manpower and materials to take up any emergency works at site office everyday including holidays.

Declaration regarding Minimum Wages**UNDERTAKING**

I..... (Name), aged years, s/o
..... (Name), Proprietor/ Managing Partner/ Managing Director of
..... (Name of the Agency) do hereby solemnly affirm and state as
follows:

I am competent to swear this affidavit on behalf of
(Name of agency). I state that, in the event of work “**Construction of Structural Shed for CFT
garage and Development of Surrounding Area at FSTC Complex Narayanpur at Kolkata
Airport**” is awarded to our agency, the wages to be paid to the workers engaged shall not be
less than the minimum wages determined by appropriate Govt. Authorities from time to time.

Dated this, the day of.....month
..... Year.

DEPONENT

Place:

Date:

Annexure – II

Declaration regarding black listing/ debarring of firm

UNDERTAKING

I..... (Name), aged years, s/o
..... (Name), Proprietor/ Managing Partner/ Managing
Director of (Name of the Agency) do hereby
solemnly affirm and state as follows:

I am competent to swear this affidavit on behalf of (Name of
agency). I state that, (Name of agency), has not been
blacklisted or debarred by any Government or PSU organization.

Dated this, the day of month
..... Year.

DEPONENT

Place:

Date:

TECHNICAL SPECIFICATION -CIVIL

PREAMBLE

These technical specifications shall be read in conjunction with the various other documents forming the contract, namely Notice Inviting Tender & Instructions to Tenderers, Conditions of Contract, Special Conditions of Contract, bill of Quantities and other related documents, together with any addendum issued thereto.

Absence of terms such as providing, supplying, laying, installing, fixing etc. in the description does not even remotely suggest that the contractor is absolved of such providing, supplying etc. unless an explicit stipulation is made in this contract. The owner shall bear no cost of materials, equipment's duties, taxes, royalties etc.

In addition to the general obligation of the contractor during defect liability period, the Contractor shall **guarantee successful performance of waterproofing treatments for a period of ten years** from the certified date of completion of the work. The Engineer-in-charge shall prescribe the form and the manner of executing such guarantees. The Contractor hereby conforms that there is nothing in the items/specifications (or a shortcoming therein) as will prevent such successful performance. The work shall be executed through approved specialists experienced in the respective trades.

The classification of various items of work for purpose of measurements and payments shall be as per bills of quantities (BOQ). Except where distinguishing by the BOQ, the rates apply to all heights, depths, sizes, shapes and locations. They also cater for all cuts and wastes.

The specifications may have been divided in different sections/sub-head for convenience only. They do not restrict any cross-reference. The Contractor shall take in to account inter-relations between various parts of works/trades. No claims shall be entertained on basis of compartment interpretations.

Any builder's work required as part of electrical and other installation shall be executed by the Contractor as directed under this contract.

The payment for excavation shall be made assuming a vertical cut at the end of PCC under the foundations. The bidder should build the cost of such extra excavations in his bid including any shoring, strutting, etc. for stabilizing and safety of the sides of excavation.

The Contractor shall prepare and submit as-built drawings by way of making modifications/changes carried out with respect to the construction drawings issued prior to the construction of respective elements. These will be then incorporated by the respective Consultant/agency in to their drawings for maintaining necessary records for the owner.

No wall, terraces shall be cut for making any opening after waterproofing has been done without approval of the Engineer. Cutting of waterproofing when authorized by the Engineer in writing shall be done very carefully so that on other portion of the waterproofing is damaged. On completion of the work at such places, the waterproofing membrane shall be made good and ensured that the opening/cutting is made fully waterproof as per specifications and details of waterproofing approved by the Engineer at no extra cost. No structural member shall be cut or chased without the written permission of the Engineer.

All materials intended to be used at site shall be tested prior to its use in an approved manner. The type tests and frequency of test will be done as per latest CPWD Specification. Cost of all such test and any other tests felt necessary by the Engineer shall be deemed to be included in the price of respective materials quoted by the Contractor. Any defective materials brought to site shall be returned without any extra cost for the same.

Performance tests shall be carried out at the discretion of Engineer on all/any items, of work as directed by the Engineer. Should any item shall fail to pass the tests, the Contractor shall be given opportunity to

take corrective measures and have the same re-tested to the satisfaction of the Engineer, he may at his sole discretion order dismantling of the whole or part of the works done and order the Contractor to reconstruct the same. The cost of all these operations and materials shall be borne by the Contractor without any extra claim.

The contractor may make a special note of the strictness of the concrete mix to be adopted in items of maximum water-cement ratio, minimum slump, control of total chloride and sulphate contents, use of admixture etc.

Minimum cement contents are given purely from durability point of view. Larger contents shall have to be provided if demanded by mix design.

Provision of cement slurry to create bond between plain/reinforced concrete surface and subsequent applied finishes (floor, plaster, dado, skirting etc.) shall not be paid extra.

Mix design using smaller aggregate of 10 mm down shall also be done in advance for the use in junction having congested reinforcement.

~~All full-fledged laboratories shall be established at site to start of construction and shall also stock all relevant codes as per the requirements of the special specifications.~~

Procedure of mixing the admixtures shall be strictly as per manufactures recommendations if not otherwise directed by the Engineer.

~~The batching plant for all concrete shall be used. Alternatively, use of ready mix concrete from an approved source shall be permitted. Concrete shall be transported using concrete pumps of adequate capacity including necessary stand by.~~

All the water tanks and other liquid retaining concrete structures shall undergo hydro-testing as per special specifications.

Special benches shall be provided at site for stacking reinforcement bars of different size as per the specifications.

Form work for beams of RCC areas shall be designed in such a way that the form work of the adjacent slabs can be removed without disturbing the props/supports of the beams.

Whenever there are tension/suspended concrete members, which are suspended from upper level structure members, the shuttering/ scaffolding of such members at lower level shall have to be kept in place till upper level supporting members gain minimum required strength. Cost of such larger durations of keeping in place the shuttering/ scaffolding shall be deemed to be included in the price quoted for respective structural members.

In the mobilization period, the Contractor shall carry out expeditiously and without delaying the following works:

- a) Material testing and mix design of concrete as contemplated in the specifications.
- ~~b) Setting up of full-fledged site laboratory as per the requirement of these specifications.~~
- c) Soil investigation, design of structure and preparation of drawing if any.
- d) Any other pre-requisite items required for final execution.

The specifications for items to be executed under this contract shall be as per latest CPWD specifications and relevant IS code. For Market Rate items manufacturer specification shall be followed. Specification for item no.1 has been mentioned herewith.

2.0 SCOPE OF WORK

The work to be carried out under this contract shall consist of various items as per description of works contained in the Bill of Quantities. Any discrepancy between the details given in Bill of Quantities and that provided in Technical Specifications of the corresponding items, the provisions of the Bill of Quantities shall take precedence.

The item rates quoted by the contractor shall, unless otherwise specified also include compliance with/supply of the following:

- a) General works such as setting out, clearance of site before setting out and clearance of works after completion.
- ~~b) A detailed program for the construction and completion of works (using CPM/PERT techniques) including updating of all such activities on the basis of decisions taken at the period site review meetings as directed by Engineer-in-Charges.~~
- c) Samples of various materials proposed to be used on the work for conducting tests thereon is required as per the provisions of the contract.
- d) Design of mixes as per relevant clauses of the specifications given proportions of ingredients, source of aggregates and binder along with accompanying trial mixes to be submitted to the Engineer-in-charge for his approval before use on the works.
- e) Any other item of work which is not specifically provided in the Bill of Quantities but which is necessary for complying with the provisions of the contract.

3.0 OBLIGATIONS OF THE CONTRACTOR

In order to ensure that the contract work is executed strictly in accordance with this Agreement and in time, the Contractor shall have the following obligations at no extra cost to the Engineer-in-Charge in addition to such other obligations and responsibilities as have been specified elsewhere in this Contract.

Provision of adequate number of constructional Plant and machinery for mechanized system of construction, handling and transportation.

- i) Provision of special magazine at the site for storage of explosives, if necessary, for which required licence shall be obtained from the concerned authorities.
- ii) Fulfil all the Contractor's labour regulations i.e. fair wages, display of notices regarding wages, payment of wages, labour records, attendance cards-cum-wage slips, labour welfare etc. as per standard practices and norms applicable at site.

All fossils, gold, silver, oil and other minerals, precious stones, coins, articles of value, of antiquity and structures and other remains/things of geological or archaeological interest discovered on the site of work shall be notified by the Contractor immediately to the Engineer-in-Charge for onward information to the concerned authorities.

The Contractor shall take all reasonable precaution to prevent his workmen or any other person from removing or damaging any such article(s) or thing(s) and protect the same till the removal as per the instructions of the Engineer-in-Charges.

Clearance of the site of all rubbish, debris, vats, tanks, materials, temporary structures, plant and machinery, scaffoldings and filling of all pits, excavation and hand over the site in a tidy and cleaned condition.

Opening up of covered work if instructed by the Engineer, if such covering was done before inspection by the Engineer or without permission/approval from the Engineer-in- Charge.

4.0 GENERAL

4.01 The works will be executed as indicated in the nomenclature of each item and technical specifications as per latest CPWD Specifications with upto date correction slip or as given hereunder as made applicable to this contract.

4.02 In the absence of any definite provision in the technical specifications contained herein, reference may be made to the latest CPWD, MOST, IRC, ICAO,ASTMA, Specifications, IS codes, Manufacturers specifications in that order. Wherever these are silent, the construction and completion of the works shall conform to sound engineering practice and in case of any dispute arising out of the interpretation of the above, the decision of the Engineer-in-Charge shall be final and binding on the Contractor.

4.03 In addition, to abbreviations CPWD, IRC, MOST, IS, BS, ICAO ASTM, AASHTO shall be considered to have the following meaning:-

CPWD	:	Central Public Works Department
IRC	:	Indian Road Congress
MOST	:	Ministry of Shipping & Transport (Road Wing) Government of India.
BIS	:	Bureau of Indian Standards
BS	:	British Standard of the British Standard
ICAO	:	International Civil Aviation Organisation
ASTMA	:	American Standards of the American Society of Testing Materials.

4.04 All the codes of practice, standards and specifications applicable shall be latest editions with up to date correction slips etc. or as directed by the Engineer-in-Charges.

5.0 TESTING

~~It is made clear that cost of testing, cost of material for testing, all field apparatus required for sampling and testing as per CPWD/IS code and manpower incident to such testing will be provided along with necessary transport arrangement to and fro to the approved testing agency or laboratory by the Contractor during the construction phase of the work and defect liability period. The expenditure in this regard shall be borne by the Contractor and nothing extra shall be payable by AAI on this account. Field laboratory with all the required apparatus and staffs shall be established by the contractor at site of work at his cost for carrying out field tests at stipulated frequencies.~~

~~Any incidental additional requirements for execution of this item to the satisfaction of Engineer in-charge shall also be treated as included in the item and nothing extra will be paid for such extra work.~~

6.0 SAMPLING AND TESTING

- 6.01 The Contractor or his accredited representative shall be present during sampling/testing and signify his concurrence for sampling/testing carried out by signing test records. The Contractor shall be liable of all actions consequent to the test and their results as if he himself attended to the tests. The Contractor is duly advised to be present himself for sampling and testing or in the alternative, have fully qualified duly authorized Engineer for this purpose.

7.0 GENERAL LIST OF CODES, STANDARDS AND SPECIFICATIONS ADOPTED IN THE TENDER DOCUMENTS.

- 7.01 The following IRC standards and IS, ASTM, British Standards, Codes and CPWD Specifications have generally been adopted in the tender documents. This list however does not limit the use of any other relevant code or standards by the Engineer-in-charge solely at his discretion either referred to in the tender documents or not, to achieve the desired quality of work. All the codes practice, standards and specifications applicable shall be the latest edition with all correction slips, etc., or as directed by the Engineer-in-Charge.

NUMBER/DESIGNATION	TITLE
IRC SPECIFICATION	
IRC:10-1961	Recommended Practice for Borrow pits for Road Embankment Constructed by Manual Operation.
IRC:19-1977	Standard Specification and Code Practice for Water Bound Macadam (Second Revision)
IRC:SP II-1977	Hand Book of Quality Control for construction of Roads and Runways (First Revision)
INDIAN STANDARDS	
IS:383-1970	Coarse and fine aggregates from natural sources for concrete.
IS:456-2000	Code of practice for plain and reinforced concrete.
IS:460-1985 (Part I to III)	Testing Sieves
IS:516-1959	Methods of test for strength of concrete.
IS:1124-1974	Method of test for water absorption, apparent specific gravity and porosity apparent specific gravity and porosity of Natural Building Stone.
IS:1199-1959	Methods of sampling and analysis of concrete.
IS:2386-1963	Methods of test for aggregate for concrete
(Part -I) - 1963	Particle size and shape.
(Part -II) - 1963	Estimation of deleterious materials and organic impurities.
(Part -III) - 1963	Specific gravity, density, voids, absorption and bulking.
(Part -IV) - 1963	Mechanical Properties.
(Part -V) - 1963	Soundness
(Part -VI) - 1963	Measuring mortar making properties of fine aggregates.
(Part -VII) - 1963	Alkali-Aggregate reactivity
(Part -VIII) -1963	Petrography Examination
IS:2720	Methods of tests for soils:

(Part -II) - 1973	Determination of water contents
(Part-III) - Section-I 1980	Determination of specific gravity, section I fine grained soils.
(Part-III) - Section-II 1980	Determination of specific gravity fine medium and coarse grained soils.
(Part-IV) -1985	Grain size analysis
Part-V – 1985	Determination of liquid and plastic limit.
Part-VII - 1980	Determination of water content dry density relation using light compaction.
Part-VIII - 1983	Determination of water content dry density relation using heavy compaction.
Part-XVI - 1987	Laboratory determination of CBR.
Part-XXVII - 1977	Determination of total soluble sulphate.
Part-XXVIII - 1974	Determination of dry density of soils in place by the sand replacement method.
Part XXIX - 1975	Determination of dry density of soils in place by core cutter method.
IS:5640-1970	Method of determining the aggregate impact value of soft coarse aggregate.
IS:6241-1971	Method of test for determination of stripping value of road aggregate.
IS:8112-1989	43 grade ordinary Portland Cement.
IS:12118-1987 (Part-I & II)	Two parts polysulphide based sealants.
ASTM/BS STANDARDS/SPECIFICATION	
ASTM:D-1559-1976	Test for resistance to plastic flow of bituminous mixtures using Marshall apparatus.
ASTM:D-2172-1975	Extraction quantitative, of bitumen from bituminous paving mixtures.
ASTM:E-11-39	Sieves for testing purpose “Wire Cloth sieve round hole and square” hole plate screen or Sieves.
BS:410-1969	Test Sieves.
MOST Specification	“Specifications for Road and Bridge Works” fourth revision reprinted in September 2007. Issued by Ministry of Surface Transport (Roads Wing) and published by Indian Roads Congress.
ICAO’s Annex 14	Annexure 14 to the convention on International Civil Aviation.

<u>LIST OF PREFERRED MAKES FOR USE IN AAI WORKS (CIVIL)</u> <u>(If any specific make or model is mentioned in the BOQ itself, contractor has abide by the same)</u>			
Sr. No.	Description of Materials	Proposed Brands/Makes/Manufactures	Remarks
1	Cement	ACC Ltd.	Preference shall be given to makes/brands manufactured near the vicinity of site of work having production capacity not less than one Million tonnes per annum
		Ultra Tech	
		Shree cement	
		Ambuja	
		Jaypee	
		Century	
		J. K. Laxmi / JK Cement	
		Lafarge	
		Dalmiya Cement Ltd.	
		Birla A1 (Orient Cement Ltd.)	
		Star Cement	
		PENNA	
		Max Cement	
		Ramco Cement	
		chettiaand Cement	
		Wonder	
		Emami Cement	
		JSW Cement	
		ZUARI Cement	
		Or any other reputed cement manufacture having a production capacity not less than One Million tonnes per annum as approved by ED (Engg) for CHQ schemes / GM (Engg.) for RHQ schemes	
2	Admisxtures / water proofing compound / liquid membrane / self adhesive membrane (15)	Pidilite Industries Ltd.	
		FOSROC Chemicals (India Pvt. Ltd.)	
		CICO Technologies Ltd	
		Sika India Pvt. Ltd.	
		BASF India Pvt. Ltd.	
		MC Bauchemie	
		Ardex Endura (India) Pvt. Ltd.	
		STP Pvt.	
		Choksey Chemicals Pvt. Ltd.	
		MYK Laticrete /laticrete	
		Mapei	
		Chyrso India Pvt. Ltd.	
		Maruti Bitumen Pvt. Ltd.	
		Penetron India Pvt. Ltd.	
		Supreme Bituchem India Pvt. Ltd.	

MAKE



		Asian Paints Ltd.	
		IWL India Ltd.	
		TP Buildtech Pvt. Ltd.	
3	Bipolar Corrasion Inhibitor Admixture (5)	STP Pvt.	
		Sika India Pvt. Ltd.	
		BASF India Pvt. Ltd.	
		Chryso India Pvt. Ltd.	
		Supreme Bituchem India Pvt. Ltd.	
4	TMT reinforcement Steel Admixture (5)	SAIL	
		RINL (VIZAG Steel)	
		TATA Steel	
		JSW Steel Ltd. / JSPL Jindal Steel	
		Shyam Steel industries Ltd.	For RCC work component costing upto Rs. 15 crore only.
		Electrosteel Steels Ltd.	
5	Reinforcement coupler (4)	Dextra	
		G-tech	
		Hi-tech Engineering solutions	
		Sanfield (India) Ltd.	
6	Hardware fitting (15)	Dorma India Pvt. Ltd.	
		Q-Railing India Pvt. Ltd. (Formerly D-line)	
		Hafele India Pvt. Ltd.	
		GEZE GmbH	
		Linco Technology Pty Ltd.	
		Assa Abloy	
		Kich Architectural Products Pvt. Ltd.	
		Godrej & Boyce	
		LGF Sysmac India Pvt. Ltd.	
		Rinox Kaufmann Ltd.	
		Ozone India Pvt. Ltd.	
		Everlte	
		Define	
		Hardyn	
		Arkay	
7	steel/ wood Resistant Sutter (7)	Navair Ltd.	
		Promat International Ltd.	
		Shakti Hormann Pvt. Ltd. (Formerly shakti Metdor Ltd.)	
		Sukri Paints & Chemicals	

MAKE



		Iclean	
		signum fire protection	
		Pacific	
8	Laminates / laminated Particle Board / Prelaminated Board / MDF / Ply Board / Flush Door	Greenlam Industries Ltd.	
		Merino Industries Ltd.	
		Century Plyboards (I) Ltd.	
		National Ply	
		Archidply	
		Kitply Industries	
		Novapan	
		Duro	
		Maur doors	
		Greenply	
		Asis	
9	Gypsum Board Partition (5)	Saint Gobain Gyproc India Ltd.	
		USG Borai (Formerly Borl Gypsum)	
		Amstrong World Industries (India) Pvt. Ltd.	
		Kanuf AMF India Pvt. Ltd.	
		Vans Gypsum	
10	Bamboo Wood Product	Epitome	
		Eco product International Ltd.	
11	Structural steel – MS Tubularsection (Circular, Square, rectangular) for Columns, Truss, MS Pipes, Flats angels, Beams, Channels, strips, etc.	SAIL	For works costing upto Rs. 15 croresonly.
		RINL	
		TISCO (TATA Steel)	
		JSW Steel Ltd. / JSPL Jhindal Steel	
		APL Apollo Tubes Ltd.	
		Surya Roshni Ltd.	
		Nezone Tubes Ltd.	
		Jotindra Steel & Tubes Ltd.	
		Utkarsh tubes & Pipes Ltd.	
		Hi-tech Pipes Ltd.	
12	Fasteners (6)	Hilti	
		Fischer	
		BOSCH	
		Fasteners India	
		MUNGO	
		Rawl Plug	
13	Vitrified / ceramic tiles (12)	H & R Johnson (India) Pvt. Ltd.	
		NITCO Tiles Ltd.	
		Somany Tiles Ltd.	

		Orient Bell Ltd. Orcade Granito Ltd. Kajaria Ceramic Ltd. RAK Ceramics Asian Granito India Ltd. (AGL) Oasis Vetrified Tiles Varmora Granito Pvt. Ltd. Qutone Ceramic Pvt. Ltd. Bell Granito ceramic Ltd. Ambani Vittrified Pvt. Ltd. Simpolo Vittrified Pvt. Ltd. Pavit Ceramics Pvt. Ltd.	
14	Wooden Laminated Flooring (6)	Pergo ltd. Action Tesa Unitex Armstrong World Industrires (India) Ltd. Epltome Scheit Responsive Industries Ltd.	
15	Epoxy / PU Flooring (10)	STP Pvt. Sika India Pvt. Ltd. BASF India Pvt. Ltd. FOSROC Chemicals (India Pvt. Ltd.) Flowcrete India Pvt. Ltd. Cipy Polyurethanes Pvt. Ltd. NITCO Tiles Ltd. Maruti Bitumen Pvt. Ltd. Supreme Bituchem India Pvt. Ltd. Chryso India Pvt. Ltd.	
16	Tile Joint Filler, Tile/ AAC Block/ Stone fixing adhesive/Solid epoxy grout (8)	Ardex Endura (India) Pvt. Ltd. Farrouscrate India Pvt. Ltd. Pidilite Industries Ltd. FOSROC Chemicals (India Pvt. Ltd.) BASF India Pvt. Ltd. Falmate STP Pvt.	
17	Floor Hardener (9)	STP Pvt. Sika India Pvt. Ltd. BASF India Pvt. Ltd. Pidilite Industries Ltd. FOSROC Chemicals (India Pvt. Ltd.) Ironite Mapei	

MAKE



		Chryso India Pvt. Ltd.	
		Supreme Bituchem India Pvt. Ltd.	
18	Aluminium Standing seam Roofing sheet (Top & Bottom) (3)	KALZIP	No processor / installer to be added
		Kingspan	
		Bemo Systems GmbH	
19	Poly carbonate sheet (7)	Lexan	
		Dan pal	
		Polygan Pvt. Ltd.	
		Sabic (GEPLastics)	
		Gallina India Pvt. Pvt.	
		Coxwell Domes	
		Tuflite	
20	Calcium silicate / Mineral fibre / False ceiling tile / Gypsum false ceiling Board / partitions	Saint Gobain Gyproc India Pvt. Ltd.	
		Lloyd Insulation India Ltd.	
		Armstrong world Industries (India) Ltd.	
		Aerolite Boral (Formerly Boral Gypsum)	
		Hillux	
		Gridline	
		Everest	
		Dexun	
		Knauf AMF India Pvt. Ltd.	
		Vans Gypsum	
		New age false ceiling Pvt. Ltd.	
21	fibre Cement Board / Cement Board (4)	Bison	
		Hicem	
		Everest	
		Viaska Industries Ltd.	
22	Rock Wool / Glass Wool Insulation (5)	UP Twiga	
		Raxul-Rockwool	
		Rockloyd	
		Rockwool India	
		Lloyd Insulation India Ltd.	
		Polybond Insulation Pvt. Ltd.	
23	Metal Ceiling tile / Baffleceiling (10)	Hunter Douglas India Pvt. Ltd.	
		Durlum India Pvt. Ltd.	
		SAS International	
		Linder AG	
		Gordon Inc.	
		Saint Gobain Gyproc India Ltd.	
		Armstrong world Industries (India) Ltd.	
		Dexune	
		New age false ceiling Pvt. Ltd.	

		USG Borai (Formerly Borl Gypsum)	
		Ceiflo Technologies Pvt. Ltd.	
24	Galvalume / Steel sheet roofing (Top & Bottom) Over M. S. Structure (3)	TATA Bluescope Steel Ltd.	No processor / installer to be added
		Jhindal Steel	
		Dongbu Steel Co. Ltd. (Korea)	
25	Paints for steel sheet Structure (Epoxy paint)/ PU paint/ Water proof cement paint / Primer /Distemper/ Texture finish paint / synthetic enamel paint / Fire retardant paint (10)	AKZO Nobel India Pvt. Ltd.	
		Jenson & Nicholson	
		Oikos India Pvt. Ltd.	
		Asian Paints Ltd.	
		Berger Paints	
		Nerolac	
		Acro paints ltd.	
		Snowcem India Ltd.	
		shalimar	
		Jotun	
26	Wall Putty (3)	J. K. cement	
		Toyo Ferrouscete India Pvt. Ltd.	
		Birla White	
		Dalmia Magic Premium Skim Coat	
		Asian Paints Ltd.	
		NCL Buildtek Pvt. Ltd.	
27	Expansion joint filter Board/ Joint cover (16)	Vexcolt International Ltd. (U.K)	
		Construction Speciality (U.K)	
		The Supreme Industries Ltd.	
		STP Ltd.	
		Dupont	
		Sanfiled	
		Hercules	
		Z-tech	
		Deevin	
		M.M System	
		Kantaflex balco	
		Mapei	
		Migua	
		Insuboard	
		Soprema	
		Supreme Bituchem India Pvt. Ltd.	
28	Glassgrid for bituminus Work(7)	Saint Gobain ADFORS	
		Maccaferri Enviromental Solution Ltd.	
		Techfab Industries Ltd.	
		Giridhar Techfab Pvt. Ltd.	
		Terrain Infratech Pvt.	

MAKE



		Flexituff International Ltd.	
		Supreme Nonwoven Industries Pvt. Ltd.	
29	Runway marking paint (Water based) (5)	Nerolac	
		Berger Paints	
		Asian paints Ltd.	
		ITS Coating Pvt. Ltd.	
		Supreme Bituchem India Pvt. Ltd.	
30	Sanitary ware / Fixture /Fittings (13)	Kohler Co. (USA)	Preference shall be given to makes having Service centre at near the work site.
		Jaquar & Co. Ltd.	
		American Standart	
		Hindware	
		Parryware Rocca Pvt. Ltd.	
		Grohe AG (Germany)	
		Franke (Switzerland)	
		Bobrick Washroom Equipments Inc.	
		Euronics	
		Duravit	
		Marc	
		H& R Johnson (India) Ltd.	
		Cera Sanitary Ltd.	
31	Glass Mirror (6)	Saint Goabin Glass India Ltd.	
		Pilkington	
		AIS Glass solution Ltd.	
		Modi Guard	
		Atul Ltd.	
		Glaverbel	
32	SS Sink (5)	Nirali	
		Jayna	
		Franke	
		Prayag	
		Cera Sanitary ltd.	
33	Specially-abled Fitting (2)	Presslit Ltd.	
		Hindustan	
34	G. I. Pipe (9)	TATA Steel Ltd.	
		Jhinal Pipes Ltd.	
		Surya Roshni Ltd.	
		APL Apollo Tubes Ltd.	
		Zenith	
		Utkarsh tubes & Pipes Ltd.	
		Nezone Tubes Ltd.	
		Hi-tech Pipes Ltd.	
		Jotindra Steel & Tubes Ltd.	
35	Stainless Steel sheet for	SAIL(Salem steel)	

	cladding (2)	Jindal	
36	GI Pipe fittings (7)	Unik	
		Zoloto	
		Leader Vlves Ltd.	
		Surya Roshni Ltd.	
		R–brand	
		KS	
		SS	
37	Sluice Valve / Pressure Reducing Valve/ Non–return valve (CI/ Gun Metal) (8)	Saint Valves Ltd.	
		Zoloto	
		Audco (L&T)	
		Castle	
		Leader Vlves Ltd.	
		Kartar	
		Honeywell	
38	UPVC / CPVC Pipes & Fittings(11)	IVC	
		The Supreme Industries Ltd.	
		Finolex Industries Ltd.	
		Savoir Faire Manufacturign Co. Ltd.	
		AKG	
		Surya Roshni Ltd.	
		Astral	
		Prince	
		Ori–plast	
		Ashirvad	
		Vectus	
		Prayag	
39	Soil Waste & Vent Pipes & Fittings and Water Supply Pipes		
	a) sand Cast Iron S&S Centrifugally Cast (Spun) S&S / Hubless Centrifugally CastSpun Iron Pipe (8)	NECO	
		BIC	
		RIF	
		Electro steel castings Ltd.	
		SKF	
		Kapilansh	
		Saint Gobain	
		Heepco	
	b) Centrifugally (Spun) CI PipesClass 'LA' / Ductile	Kesoram	
		Electro steel castings Ltd.	
		NECO	
		BIC	
		TATA	

		RIF	
		SAIL	
40	CI Manhole Covers & CI Grating(9)	NECO	
		BIC	
		RIF	
		Electro steel castings Ltd.	
		SKF	
		Kesoram	
		Kapilansh	
		Kartar	
		Heepco	
41	HIDE Pipes (5)	Geberit	
		Saint Gobain	
		Savoir Faire Manufacturign Co. Ltd.	
		Jain Irrigation	
		Ori-plast	
		East Hooghly Agro Plantation Pvt. Ltd.	
42	Aluminium Composite Panels (ACP) / Honeycomb Composite Panels / Zinc Composite Panels	Alucobond (3A Composites India Pvt. Ltd.)	
		Alpolic	
		Reynobond (France)	
		Alubond DACS India Pvt. Ltd.	
		Alcomax–Dongshin Engg Corpn. (SouthKorea)	
		Alstrong Enterprises India Pvt. Ltd.	
		Aludecor Lamination Pvt. Ltd.	
		Euro Panel Product Pvt. Ltd. (FormerlyEurobond Industries Pvt. Ltd.)	
		Duarbuild Technologies Pvt. Ltd.	
		Alstone	
		VIVA	
		Alutech	
43	Structural / Weather Sealant for Structural glazing / ACP (2)	DOW Corning	
		Sika India Pvt. Ltd.	
44	Sillicone Sealant (11)	Wacker	
		Dow Corning	
		G. E. Plastics	
		Pidilite Industries Ltd.	
		FOSROC Chemicals (India Pvt. Ltd.)	
		BASF India Pvt. Ltd.	
		STP Ltd.	
		Rawl Plug	

		Choksey Chemicals Pvt. Ltd.	
		Supreme Bituchem India Pvt. Ltd.	
		Maruti Bitumen Pvt. Ltd.	
45	Aluminium Extrusions/ Structural members (4)	Hindalco Industries Ltd.	
		Jhindal Aluminium Ltd.	
		Bhoruka	
		NALCO	
46	Polysulphide Sealant for Joint (14)	FOSROC Chemicals (India Pvt. Ltd.)	
		Choksey Chemicals Pvt. Ltd.	
		Pidilite Industries Ltd.	
		Sika India Pvt. Ltd.	
		DOW Corning	
		Laticrete	
		Tuffseal	
		Wacker	
		G.E.	
		STP Ltd.	
		BASF India Pvt. Ltd.	
		Maruti Bitumen Pvt. Ltd.	
		Chryso India Pvt. Ltd.	
		Supreme Bituchem India Pvt. Ltd.	
47	Float Glass (8)	Saint Bobain Glass India ltd.	
		Emirates Glass India Ltd.	
		AIS Glass solution Ltd.	
		Pilkington	
		Modi Guard	
		Glaverbel	
		Guardian (USA)	
48	High Performance Glass (7)	Saint Gobain Glass India Ltd.	
		Pilkington	
		Guardian (USA)	
		AIS Glass solution Ltd.	
		Emirates Glass India Ltd.	
		Glaverbel	
		Modi Guard	
49	Modular SS / Glass Railing (9)	Dorma India Pvt. Ltd.	
		Jindal Architecture Ltd.	
		GEZE GmbH	
		Q-Railing India Pvt. Ltd. (Formely D-line)	
		Linux Technology	
		Kich Architectural Products Pvt. Ltd.	
		Ozone India Pvt. Ltd.	
		Assa Abloy	

		Rinox Kaufmann Ltd.	
50	Compact Laminate Toilet Cubical / Urinal Partition (6)	Green Sturdo	
		Merino Industries Ltd.	
		Bobrick Washroom Equipments Inc.	
		droma India Pvt. Ltd.	
		Trespa	
		T-line	
51	Solid Acrylic Surface boards (5)	Dupont	
		LG-Himacs	
		Hanex	
		GMGR India (Samsung Staron)	
		Neonnex	
52	Tensile Fabric (2)	Mehlar Technologies Ltd.	
		Serge Ferrari India Pvt. Ltd.	
		Sattler PRO-TEX	
53	Autoclave Aerated Cement (AAC) Blocks (10)	Magcrete Building Solution	
		Finecrete Eco-Blocks Pvt. Ltd.	
		Aerocon	
		Bilt Technologies Ltd.	
		JK	
		Instablock	
		Max Blocks	
		RS Green Infra (India) Pvt. Ltd.	
		Siporex	
		Kataria Ecotech Pvt. Ltd.	
		Krrish White Bricks LLP	
		Jindal AIR	
		NCL Buildtek Pvt. Ltd.	
54	Automatic Revolving / Sliding/Swing Door	Dorma India Pvt. Ltd.	
		Hafele India Pvt. Ltd.	
		GEZE GmbH	
		Gilgen Door System AG	
		Linnox Technology	
		Assa Abloy	
		Autoingers	
55	Walkways / fall protection system (7)	WULMET	
		latchways	
		Capital safety	
		Honeywell	
		kartosar	
		Checkmate	
		Karam	

MAKE



56	Roof Hatch (4)	NYSTROM	
		BABENKO	
		BILCO	
		Checkmate	
57	UPVC Doors & Window (4)	Okotech	
		Finesta	
		Aparna Venster	
		Alupast	
		NCL Veka	
58	Gypsum plaster/ Polymer modified self curing mortar (5)	Furrocrete India Pvt. Ltd.	
		Ultra Tech	
		Saint Gobain Gyproc India Pvt. Ltd.	
		Dow Construction Chemicals (India) Pvt. Ltd.	
		BASF India Pvt. Ltd.	
		Asian Paints Ltd.	
59	Curing compound (Resin based & wax based) (4)	FOSROC Chemicals (India Pvt. Ltd.)	
		Sika India Pvt. Ltd.	
		BASF India Pvt. Ltd.	
		Supreme Bituchem India Pvt. Ltd.	
60	Decorative Films / Safety Films(3)	3M	
		Avery Dennison	
		Deck	
61	Steel Nano Coat (3)	Four Solutions Pvt. Ltd.	This product can be considered directly exposed to harsh environment.
		Meta-Chem Paints & Adhesives Pvt. Ltd.	
		Advanced Lab.	

TECHNICAL SPECIFICATIONS (Elect.)

1. GENERAL

The electrical Installation work shall be carried out in accordance with Indian Standard Code of Practice. It shall also be in conformity with the current Indian Electricity rules and regulations and requirements of the Local Electricity Supply Authority and Fire Insurance regulations, so far as these become applicable to the installation.

The work in general shall be carried out as per following Specifications.

- a. IS / IE rule / IE Acts
- b. AAI General Specifications for Internal Electrical Works.
- c. CPWD General Specifications for Electrical Works, Part – I and part – II: 2007.
- d. ICAO / CAR
- e. UL/IES/EN/IEC

All the codes and standards mean the latest publication. Wherever not specified, the installation shall generally follow the Indian Standard code of practice, in absence of which the relevant British Standard code of Practice shall be followed.

Wherever these specifications calls for a higher standard of material and or workmanship than those required by any of the above mentions regulations and specification then the specification here under shall take precedence over the said regulations and standards

The quantity of materials indicated in BOQ is tentative, the quantities of materials as actual as per site requirement shall be got approved by the contractor from the Engineer –in-Charge before procurement. The agency has to submit the good for execution drawing and design for the purpose.

SPECIFICATION OF LED LIGHT FIXTURES

Sl. No	Description	Minimum Requirement for Indoor Lights	Minimum Requirements for Outdoor Lights	Minimum Requirements for Residential Lights
1	Efficiency of LED light fitting (Efficacy)	100 lumen / watt	110 lumen / watt	70 lumen / watt
2	Life of LED light fitting	50000 burning hrs.	50000 burning hrs.	35000 burning hrs.
3	Approved makes for LED	NICHIA / CREE / OSRAM / PHILLIPS (LUMILED) / SHARP / SEOUL / EVERLITE / CITIZEN (JAPAN) / BRIDGELUX (USA) / SAMSUNG (An undertaking shall be submitted from fitting manufacturer regarding confirmation about use of make of LEDs in their fitting before supply of fittings)	NICHIA / CREE / OSRAM/ PHILLIPS (LUMILED)/ SHARP / SEOUL / EVERLITE / CITIZEN (JAPAN) / BRIDGELUX (USA) / SAMSUNG (An undertaking shall be submitted from fitting manufacturer regarding confirmation about use of make of LEDs in their fitting before supply of fittings)	NICHIA / CREE / OSRAM/ PHILLIPS (LUMILED)/ SHARP / SEOUL / EVERLITE / CITIZEN (JAPAN) / BRIDGELUX (USA) / SAMSUNG (An undertaking shall be submitted from fitting manufacturer regarding confirmation about use of make of LEDs in their fitting before supply of fittings)
4	CRI	80	70	70
5	THD	Less than 10%	Less than 10%	Less than 20%
6	Voltage Range	140 V to 270 V	140 V to 270 V	140 V to 270 V
7	Type of Housing	Extruded Aluminum / CRCA / Standard Alloy Housing	High Pressured Die Cast Aluminium / Standard Alloy	Extruded Aluminium / High Pressured Die Cast Aluminium / Standard Alloy
8	IP Category	IP 20	IP 65	IP 20
9	Surge Protection	Shall be provided conforming to relevant IS standard / IEC for LED Driver (in-built): EN 61000-4-5 or as specified in SOQ. More than 2KV	More than 4 KV	More than 2 KV
10	Labelling / identification Mark	Manufactures Name / Logo shall be engraved / Embossed on housing / body on aluminium plate Labels or Screen printed on housing / body. Sticker shall not be acceptable.	Manufactures Name / Logo shall be engraved / Embossed on housing / body on aluminium plate Labels or Screen printed on housing / body. Sticker shall not be acceptable.	Manufactures Name / Logo shall be engraved / Embossed on housing / body on aluminium plate Labels or Screen printed on housing / body. Sticker shall not be acceptable.

Sl. No	Description	Minimum Requirement for Indoor Lights	Minimum Requirements for Outdoor Lights	Minimum Requirements for Residential Lights
11	Warranty Period	5 years warranty from actual date of completion of work on complete laminar including driver / control gear, LED, all accessories etc.	5 years warranty from actual date of completion of work on complete laminar including driver / control gear, LED, all accessories etc.	3 years warranty from actual date of completion of work on complete laminar including driver / control gear, LED, all accessories etc.
12	Power Factor	0.95	0.95	0.95
13	Total Power consumption of fitting.	Not More than 110% of rated capacity of LED Light fitting.	Not More than 110% of rated capacity of LED Light fitting.	Not More than 110% of rated capacity of LED Light fitting.
14	Approved Make of Driver	MEANWELL / INVENTRONICS / C &S / MOSO POWER / BAG / PHILLIPS / WIPRO / OSRAM / BAJAJ / PHAROS / FULLHAM / HELVER / OEM of Light Fixtures	MEANWELL / INVENTRONICS / C &S / MOSO POWER / BAG / PHILLIPS / WIPRO / OSRAM / BAJAJ / PHAROS / FULLHAM / HELVER / OEM of Light fixtures	MEANWELL / INVENTRONICS / C &S / MOSO POWER / BAG / PHILLIPS / WIPRO / OSRAM / BAJAJ / PHAROS / FULLHAM / HELVER / OEM of Light fixtures
15	Type of Driver	Enclosed / Encapsulated	Enclosed / Encapsulated	Enclosed / Encapsulated
16	Efficiency of Driver	85%	85%	85%
17	Testing Facility	LED Luminaire manufacturers shall in house NABL accredited photometry lab.	LED Luminaire manufacturers shall in house NABL accredited photometry lab.	LED Luminaire manufacturers shall in house NABL accredited photometry lab.
18	BIS Registration	All luminaires, drivers shall be BIS registered.	All luminaires, drivers shall be BIS registered.	All luminaires, drivers shall be BIS registered.
19	Housing Thickness	Housing of Luminaire shall be greater than or equal to 0.5 mm for CRCA or 1 mm for extruded aluminum or 1.5 mm for PDC aluminum or heavier if so required to meet the application requirement.	Housing of Luminaire shall be greater than or equal to 0.5 mm for CRCA or 1 mm for extruded aluminum or 1.5 mm for PDC aluminum or heavier if so required to meet the application requirement.	Housing of Luminaire shall be greater than or equal to 0.5 mm for CRCA or 1 mm for extruded aluminum or 1.5 mm for PDC aluminum or heavier if so required to meet the application requirement.
20	IK Rating	IK 04	IK 07	Not Applicable

Sl. No	Description	Minimum Requirement for Indoor Lights	Minimum Requirements for Outdoor Lights	Minimum Requirements for Residential Lights
21	LED Binning (Standard Deviation Colour matching)	Greater than 5 (SDCM)	Greater than 5 (SDCM)	Greater than 7 (SDCM)
22	Unified Glare Rating (UGR)	Greater than or Equal to 19	NA	NA
23	Test reports of Luminaire	The luminaire should be tested as per IEC 60598-1: 2014 with upto date amendments standards and following test reports should be submitted along with the fittings: Heat Resistance Test, Thermal Test, Ingress Protection Test, Drop Test, Electrical / Insulation Resistance Test, Endurance Test, Humidity Test, Photometry Test (LM 79 Report), LM 80 report.	The luminaire should be tested as per IEC 60598-1: 2014 with upto date amendments standards and following test reports should be submitted along with the fittings: Heat Resistance Test, Thermal Test, Ingress Protection Test, Drop Test, Electrical / Insulation Resistance Test, Endurance Test, Humidity Test, Photometry Test (LM 79 Report), LM 80 report.	The luminaire should be tested as per IEC 60598- 1: 2014 with upto date amendments standards and following test reports should be submitted along with the fittings: Heat Resistance Test, Thermal Test, Ingress Protection Test, Drop Test, Electrical / Insulation Resistance Test, Endurance Test, Humidity Test, Photometry Test (LM 79 Report), LM 80 report.

****Note: The Cat. No. provided for descriptions of LED BOQ (Bill of Quantity) Items are only for reference for the shape of the product required. The product shall be supplied must match the technical specifications. The technical data sheets shall be arranged before the materials dispatch and got approved from Engineer-in-Charge.**

	Standard	Method	Purpose
	IESNA - Illuminating Engineering Society of North America		
	UL - Underwriter's		
	EU - European Union		
	IES LM - 79-08	Absolute	Light output, efficacy, color LED products
	IES LM - 80-08	Relative	Light output over time, temperature for LED packages
	IES LM - 82-12	Relative (references LM -79)	Light output, efficacy color over temperature for light engines (IES files are available)
	IES TM - 21-11	Calculation, modelling	Extrapolating LM - 80 test data to predict LED life

	ANSI/UL 153:2002 (Secs.124-128A)	Portable Electric Luminaires	Refer UL 8750 mentioned below
	ANSI/UL 1574:2004 (Sec. 54)	Track Lighting Systems	Refer UL 8750 mentioned below
	ANSI/UL 1598:2008(Secs.19.7,19-10-16)	Luminaires	<u>Not Applicable to LED Linear Products</u> Clause No.: 1.6: A track lighting luminaire assembly that uses a tungsten - halogen lamp. Fluorescent lamp or high-intensity lamp shall also comply with the applicable requirements from the standard for Luminaires. UL 1598 Refer Clause no. 1.6 of below web address: http://ulstandardsinfontet.ul.com/scopes/scopes.asp?fn=1574.html
	Additional approvals/standards, which LED Linear products carry		
	US Market/UL standard	<u>UL 8750</u>	Clause No.: 1.7: Light emitting diode (LED) components and subassemblies integral to lighting track or a luminaire assembly covered by UL 1574 shall comply with the applicable requirements of the Standard for Light Emitting Diode (LED) Equipment for Use in Lighting Products UL 8750 Refer Clause no. 1.7 of below web address: http://ulstandardsinfontet.ul.com/scopes/scope.asp?fn=1574.html
		<u>UL 2108</u>	

	EU-Market		
	LED Modules	DIN EN 62031	
		DIN EN 62471-1	
		IEC PAS 62717	
	LED Fixtures	DIN EN 60598-1	
		IEC PAS 62722-2-1	
		EN 55015	
		EN 61547	
		EN 62493	
		LM 79	
		LM 80	
		ANSI C78.377-2008	
1	BIS 16101	Terms & Definitions – Noted & Confirmed	Column 1
2	BIS 16102 (pat 1&2)	Not Applicable to LED Linear	
3	BIS 16103 (pat 1&2)	Complied (Nichia LEDs)	
4	BIS 15885	Complied- Control Gear	
5	BIS 16104	Complied- Control Gear	
6	BIS 16105	LED Linear Complies to BIS 16105:2012, as the same is based on IEC LM 80 as mentioned above	
7	BIS 16106	LED Linear Complies to BIS 16106:2012, as the same is based on IEC LM 79 as mentioned above	
8	BIS 16107 (Part 1&2)	LED Linear Complies to BIS 16107:2012, luminaries performance part 1& 2 as the same is based on IEC PAS 62722-2-1 AS mentioned above	
9	BIS 16108	LED Linear Complies to BIS 16108:2012, luminaries performance part 2 as the same is based on IEC 62471, as mentioned above	

Note: - An agency will submit under taking from fitting manufacturer regarding conformation about LED's make and their fittings.

Reports to submit in Envelope II of the Tender document from NABL accredited/ approved Lab. Manufacturers not owning NABL Lab/testing facility can get required test documents from external NABL accredited /approved Labs.

- (a) LM 79 for Luminaire
- (b) LM 80 report for LED
- (c) IP66 Test for Luminaire
- (d) Driver IP 67
- (e) IK 08 Test Report for Luminaire

7.0 I.E. WORKS

7.1 SCOPE

This section covers the general technical requirements and measurement of the various components in Internal Electrical Installation works

7.2 TERMINOLOGY

7.2.1 The definition of terms shall be in accordance with IS: 732-1989 (Indian Standard Code of Practice for Electrical Wiring), except for the definitions of point, circuit, and sub main wiring, which are defined in clause 1.1.2.1, 1.1.3.1 and 1.1.3.2 hereunder.

7.2.2 The conventional signs and symbols for technical work shall be as shown in drawing approved for execution.

7.3 WIRING ACCESSORIES

7.3.1 Control switches for points

- (i) Combined switch cum socket shall not be permitted.
- (ii) Control switch shall be placed only in the live conductor of the circuit. No single pole switch or fuse shall be inserted in the protective (earth) conductor, or earthed neutral conductor of the circuit.

7.3.2 Socket outlets

- (i) 5A/6A and 15A/16A 6 pin socket outlets shall be installed at the following positions, unless otherwise specified.
 - (a) Kitchen/Pantry 23 cm above working platform and away from the likely positions of stove and sink.
 - (b) Toilets in non-residential bldg. – 1.25 mt. above floor level.
 - (c) At all other places – 23 cm above floor level.

7.3.3 Switch box covers

Phenolic laminated sheet of 3 mm thick of approved shade shall be used for switch box covers in case of piano type switches. For Modular type switches/sockets suitable outer and inner cover plates as specified shall be provided over the standard box as recommended by the manufacturers of modular type switch/sockets and no separate sheet cover is required to be provided.

7.4 FITTINGS

The type of fittings shall be as specified in BOQ of tender documents.

7.4.1 Indoor type fittings

- (i) The contractors shall supply the specified model and make of the fittings. The standard constructional features of specified make and model as given in the tender document are acceptable.
- (ii) Where conductors are required to be drawn through tube or channel leading to the fitting, the tube or channel must be free from sharp angles or projecting edge, and of such size as will enable them to be wired with the conductors used for the final circuit without removing the braiding or sheathing. As far as possible all such tubes or channels should be of sufficient size to permit looping back.
- (iii) Pendants in verandahs and similar situations exposed to wind shall be of fixed rod type.
- (iv) Fittings using discharge lamps shall be complete with power factor correction capacitors, either integrally or externally. An earth terminal with suitable marking shall be provided for each fitting for discharge lamps.
- (v) Fittings shall be installed such that the lamp is at a height specified in approved drawings or as directed by the Engineer-in-charge.
- (vi) Copper chokes of Fluorescent Tube light Fittings shall be of super low loss type (Not more than 6 watts) or as specified in BOQ.

7.5 SWITCH BOARDS- APPLICATION AND TYPES– As specified in BOQ.

7.6 SWITCH BOARD LOCATIONS – As per approved drawings

7.6.1 Cubicle type switchboards

The cubical type switchboard shall conform to the specifications for L.T panel.

7.7 SWITCH BOARD INSTALLATION

- (i) Unless and otherwise specified the distribution boards shall be installed so that its bottom is not less than 1.25 mts from the floor level or as approved by the Engineer-in-Charge
- (ii) Switchboard inside a residential quarter shall be installed such that the operating knob/handle of the in-comer is at height of about 2 mts.
- (iii) Cubicle board shall be installed by suitable foundation bolts grouted in floor/wall. Where cubicle boards are placed over the cable trench the panel shall be placed over a formed channel section, duly grouted as required. No extra cost for the channel and its grouting shall be paid separately.
- (iv) There shall be a clear distance of 1 m in front of the switchboards. The space behind the switchboards shall be either less than 20 cm or more than 75 cm. If there are any attachments or bare connections at the back of the switchboard, Rule 51 c of the Indian electricity rules shall apply.
- (v) The connections between the switchgear mounting and the outgoing cable upto the wall shall be enclosed in a protection pipe.

- (vi) Where it is required to terminate a number of conduits on a fixed board or cubicle board, it may be convenient to provide a suitable MS adopter box for the purpose. Such boxes shall be provided with the prior approval of the Engineer-in-charge and this will be paid for separately.
- (vii) **All wires to the boards shall be bushed at the entries to avoid damage to insulation.**
- (viii) No apparatus shall project beyond any edge of the panel.
- (ix) All unused holes in the boards and in the mountings shall be plugged suitable to avoid entry of insects.

7.8 WIRING OF SWITCH BOARDS AND DISTRIBUTION BOARDS

- (i) All connections between pieces of apparatus, and terminals on a board shall be neatly arranged in a definite sequence, following the arrangement of the apparatus mounted thereon, avoiding unnecessary crossings.
- (ii) Cables and wiring shall be connected to terminals either by crimped lugs or thimbles.
- (iii) The incoming and outgoing cables shall be neatly bunched / clamped such that the doors shall be capable of swinging as required.

7.9 MARKING OF APPARATUS

- (i) Marking of earthed neutral conductor

On the main switchgear, where the conductors include an earthed conductor of a two-wire system, or an earthed neutral conductor of a multi-wire system, or a conductor, which is to be connected thereto, an indication of a permanent nature shall be provided to identify the earthed neutral conductor. In this connection Rule 32 (1) of Indian Electricity Rules 1956 shall be referred to. The neutral conductor shall be black in colour.

- (ii) Where a board has more than one switchgear, each such switchgear shall be marked to indicate which section of the installation it controls. Where there is more than one main switch board in the building, each such switch board shall be marked to indicate which section of the installation and building it controls.
- (iii) When a board is connected to a voltage higher than 250V, all the terminals or leads of the apparatus mounted on it shall be marked in the following colours to indicate the different poles or phases to which the apparatus or its different terminals may have been connected.

A.C

Three phases- Red, Yellow & Blue.

Neutral- Black

D.C

Three wire system.
2 outer wires- Red & Blue.
Neutral – Black

- (iv) **Where a four wire, three-phase wiring is done, the neutral shall be in black and the other three wires in another colour.**
- (v) All marking required under this rule shall be clear and permanent.

7.6 ATTACHEMENT OF FITTINGS AND ACCESSORIE FIXING TO WALLS AND CEILING

- (i) PVC sleeves/dash fasteners should normally be used for fixing to walls or ceiling.
- (ii) Plugging of walls or ceiling can be done in a better way where neatness is the first consideration. In all such cases, an approved type of asbestos or fiber fixing plug (rawl or Phil plug) with correct size of tools shall be used and done in a workmanlike manner.

7.7 FANS, REGULATORS AND CLAMPS

Ceiling fans

- (i) Ceiling fans including their suspension shall conform to relevant Indian Standards.
- (ii) Any additional hardware items required for installation of ceiling fans including fan hooks/clamps as specified below, shall be provided as specified in BOQ as a separate item.
- (iii) All ceiling fans shall be wired to ceiling roses or to special connector boxes, and suspended from hooks or shackles, with insulators between hooks and suspension rods. There shall be no joint in the suspension rod.
- (iv) For wooden or steel joists and beams, the suspension shall consist of MS flat of size not less than 40 mm X 6mm, secured on the sides of the joists or beams by means of two coach screws of size not less than 5 cm for each flat. Where there is space above the beam, a through-bolt of size not less than 1.5cm dia shall be placed above the beam from which the flats are suspended. In the latter case, the flats shall be secured from movements by means of another bolt and nut at the bottom of the beam. A hook consisting of MS rod of size not less than 1.5 cm dia shall be inserted between the MS flat through oval holes on their sides. Alternatively, the flats may be bent inwards to hold tightly between them by means of a bolt and nut, a hook of 'S' form.
- (v) In the case of 'I' beams, flats shall be shaped suitably to catch the flanges and shall be held together by means of a long bolt and nut.
- (vi) For concrete roofs, a 12mm dia. MS rod in the shape of 'U' with their vertical legs bent horizontally at the top at least 19cm on either side, and bound to the top reinforcement of the roof shall be used.
- (vii) In buildings with concrete roofs having a low ceiling height, where the fan clamp mentioned under sub clause (vi) above cannot be used, or wherever specified, recessed type fan clamp inside a metallic box shall be used. The metallic box shall suitably be covered with 3mm thick phenolic laminated sheet.
- (viii) Canopies on top of suspension rod shall effectively hide the suspension
- (ix) The leading in wire shall be of copper and nominal cross sectional area not less than 1.5 sq. mm and shall be protected from abrasion.
- (x) All ceiling fans shall be hung at a height as directed by the Engineer –in Charge.
- (xi) In the case of measurement of extra down rod for ceiling fan including wiring, the same shall be measured in units of 10cm. Any length less than 5 cm shall be ignored.
- (xii) The wiring of extra down rod shall be paid as supplying and drawing cable in existing conduit.

7.12 Exhaust fans

- (i) Exhaust fans shall conform to relevant Indian Standards.
- (ii) Exhaust fans shall be erected at the places indicated by the Engineer-in-charge. For fixing an exhaust fan, a circular hole shall be provided by AAI in the wall to suit the size of the frame, which shall be fixed by means of rag bolts embedded in the wall. The exhaust fan shall be connected to the exhaust fan point, which shall be wired as near to the hole as possible, by means of a flexible cord, care being taken to see that the blades rotate in the proper direction.

7.13 Regulators

As per BOQ

7.14 WORKMANSHIP

- (i) Good workmanship is an essential requirement to be complied with. The entire work of manufacture/ fabrication, assembly and installation shall conform to sound engineering practice.
- (ii) The work shall be carried out under the direct supervision of an engineer, employed by the contractor, who shall rectify then and there the defects pointed out by the Engineer-in-charge during the progress of work. The qualification of engineer or supervisor for overall supervision and to take instructions from the Engineer-in-Charge shall be as specified in the special conditions.

7.15 TESTING OF INSTALLATION

All the completed installations shall be tested as per specification for “Testing of Installation.”

7.16 DRAWINGS

- (i) The work shall be carried out in accordance with the drawings enclosed with the tender documents and also in accordance with modification thereto from time to time as approved by the Engineer-in-charge or as per the drawing prepared by the contractor based on inventory and approved by Engineer-in-Charge.
- (ii) All wiring diagrams shall be deemed to be ‘Drawings’ within the meaning of the term as used in the Conditions of Contract. They shall indicate the main switch board, the distribution boards (with circuit numbers controlled by them), the runs of various mains and sub-mains and the position of all points with their controls.
- (iii) All circuits shall be indicated and numbered in the wiring diagram and all points shall be given the same number as the, circuit to which they are electrically connected.

7.17 COMMISSIONING ON COMPLETION

- 7.17.1** Before the workman leaves the work finally, he must make sure that the installation is commissioned, after due testing.

7.18 COMPLETION PLAN AND COMPLETION CERTIFICATE

- (i) For all works completion certificate after completion of work as required by AAI shall be submitted to the Engineer-in-charge.
- (ii) Completion plan drawn to a suitable scale in tracing sheet with three blue print copies of the same shall also be submitted.
 - (a) General layout of the building.
 - (b) Locations of main switchboard and distribution boards.
 - (c) Position of all points and their controls indicating the circuit numbers controlled by them.
 - (d) Types of fittings, viz. LED/ fluorescent, pendants, brackets, bulk, head, fans and exhaust fans etc.
 - (e) Name of work, job number, accepted tender reference, actual date of completion, names of Division/Sub-division, and name of the firm who executed the work with their signature.

SPECIFICATION OF L T CABLES

1. GENERAL

This specification covers requirements and test as specified in IS 7098 part – 1 with latest amendment for armoured and un-armoured single core, Twin core, three core and Multi core XLPE insulated and PVC sheathed cables for electric supply. The cables covered on this specification are suitable for use on A.C. single phase or three phase systems for rated voltage up to and including 1100V.

The cables covered in the standard and suitable for use where the combination of ambient temperature and temperature rise due to load results in conductor temperature not exceeding the following.

Type of Insulation	Normal continuous Operating Temp.	Short circuit Condition Temp.
General purpose	70 ⁰ C	160 ⁰ C

1.1 MATERIALS

1.1.1 **Conductor:** - The conductor shall be composed of plain aluminum wires complying with IS 8130 with latest amendments.

1.1.2 **Insulation:** - The insulation shall be in accordance with the general-purpose insulation. The insulation shall be of type – A PVC compound conforming to the requirement of IS 5831 with latest amendment.

1.1.3 **Filler and inner sheath:** - The filler and inner sheath shall be of the following.

- a) Unvulcanized rubber or
- b) Thermoplastic material or
- c) Proofed tape for inner sheath only.

Unvulcanized rubber or thermoplastic materials used shall not be harder than PVC used for general purpose insulation and for outer sheath. The material shall be chosen to be compatible with temperature rating of the cable and shall have no deleterious effect on any other component of the cable.

1.1.4 **Armoring:** - Armoring shall be of the following

- a) Galvanized steel strip

The galvanised steel strips shall comply with the requirement of IS 3975-1979.

1.1.5 **Outer Sheath:** - The outer sheath shall be in accordance with for cables with general purpose insulation. The outer sheath shall be of type ST-1 PVC compound conforming to the requirement of IS 5831 with latest amendment.

1.2 CONSTRUCTION

The construction of aluminum conductors of cable upto 10 sq.mm. shall be of solid circular cross section with Class-I flexibility as per IS 8130-1984 and the size above 10 sq.mm. shall be standard with class-II flexibility. The cables with reduced neutral conductor shall have sizes as specified in the IS 7098 (Part – I) with latest amendment.

1.3 INSULATION

The conductor shall be provided with PVC insulation applied by extrusion. The average

thickness of insulation shall be not less than the nominal value as specified in the IS 7098 part – I with latest amendment. The insulation shall be so applied that it fits closely on the conductor and it shall be possible to remove it without damage to the conductor. The smallest of the measured values of thickness of insulation shall not fall below the nominal value specified in IS 7098 part – I with latest amendment.

1.4 CORE IDENTIFICATION

Core shall be identified by different coloring of PVC insulation by adopting the following scheme.

- a. 1 core: red, black, yellow or natural (non pigmented)
- b. 2 cores: red and black
- c. 3 cores: red, yellow and blue
- d. 4 cores: red, Yellow, blue and black.

1.5 TESTS

1.5.1 Type Test: - The type test shall be conducted as per IS 7098 Part-I with latest amendment.

1.5.2 Acceptance Test: - The following shall constitute acceptance test.

- a. Tensile test
- b. Wrapping test
- c. Conductor resistance test
- d. Test for thickness of insulation and sheath
- e. Tensile strength and elongation at break of insulation and sheath.
- f. Insulation resistance test.
- g. High voltage test at room temperature.

A recommended sampling plan for acceptance test is to be taken based on IS 7098 part – I with latest amendment.

1.6 Routine Test

The following shall constitute routine test.

- a. Conductor resistance test.
- b. High voltage test at room temperature.

Unless otherwise stated the above tests shall be carried out in accordance with the appropriate part of IS 10810 (method of test) considering additional information given in this standard.

CABLE LAYING

7. Scope

The scope of this section comprises specifications for laying of LT UG Cable in Ground, Surface and Cable Trays.

7.1 Laying direct in ground

7.1.1 General

This method shall be adopted where the cable route is through open ground and where no frequent excavations are likely to be encountered and where re-excavation is easily possible without affecting other services.

7.1.2 Trenching

7.1.3 Width of trench

The width of the trench shall first be determined on the basis indicated herein. The minimum width of the trench for laying a single cable shall be 35 cm. Where more than one cable is to be laid in the same trench in horizontal formation, the width of the trench shall be increased such that the inter-axial spacing between the cables, except where otherwise specified, shall be at least 20 cm. There shall be a clearance of at least 15 cm between axis of the end cables and the sides of the trench.

7.1.4 Depth of trench

The depth of the trench shall be determined on the basis indicated herein. Where the cables are laid in a single tier formation, the total depth of trench shall be 75 cm LT UG cable.

7.1.5 Excavation of trenches

The trenches shall be excavated in reasonably straight lines. Wherever there is a change in the direction, a suitable curvature shall be adopted. Where gradients and changes in depth are unavoidable, these shall be gradual. The bottom of the trench shall be level and free from stones, brick bats etc. The excavation should be done by suitable means – manual or mechanical. The excavated soil shall be stacked firmly by the side of the trench such that may not fall back into the trench.

7.2 Laying of cable in trench

The trench shall then be provided with a layer of clean, dry sand cushion of not less than 8 cm in depth before laying the cables therein. After the cable is laid a covering of dry sand of not less than 17 cm of sand shall be provided. Unless otherwise specified, the cables shall be protected by second class brick of nominal size 22cmx11.4cmx7cm or locally available size, placed on top of the sand (or, soil as the case may be). The bricks shall be placed breadth-wise for the full length of the cable. Where more than one cable is to be laid in the same trench, this protective covering shall cover all the cables and project at least 5cm over the sides of the end cables. The trenches shall be then back-filled with excavated earth, free from stones or other sharp edged debris and shall be rammed and watered, in successive layers not exceeding 30 cm depth.

7.2.1 Testing before laying

At the time of issue of cables for laying, the cable shall be tested for continuity and insulation resistance.

7.2.2 Testing before covering

The cables shall be tested for continuity of cores and insulation resistance and the cable length shall be measured, before closing the trench. The cable end shall be sealed /covered.

7.3 Laying in pipes/closed ducts

In locations such as road crossing, entry in to buildings, paved areas etc., cables shall be laid in pipes or closed ducts. Metallic pipe or RCC shall be used as protection pipe for cables. The size of the pipe shall not be less than 10 cm in diameter for a single cable and not less than 15 cm for more than one cable.

7.3.1 Road crossing

The top surface of pipes shall be at a minimum depth of 1 meter from the pavement level when laid under roads, pavements etc. with man holes at both ends of the pipes. The number of pipes to be laid should include sufficient number of spare pipes for future use.

7.4 Laying in open ducts

Open ducts with suitable removable covers (RCC slabs or chequered plates) are generally provided in sub-stations, switch rooms, between the buildings etc., for taking the cables. The cable ducts should be of suitable dimensions for the number of cables involved. Laying of cables with different voltage ratings in the same duct shall be avoided. Where it is inescapable to take HV & MV cables in same trench, they shall be laid with a barrier between them or alternatively, one of the two (HV/MV) cables may be taken through pipe(s). Splices or joints of any type shall not be permitted inside the ducts. The cables shall be laid directly in the duct such that unnecessary crossing of cables is avoided. Cables shall be fixed with clamps on the walls of the duct or taken in hooks/brackets/troughs in ducts. The size and material of saddles/clamps shall be as given under laying on surface.

7.5 Laying on surface

This method may be adopted in places like switch rooms, rising (distribution) mains in buildings etc. This may also be necessitated in the works of additions and/or alterations to the existing installation, where other methods of laying may not be feasible.

Cables may be laid in surface by any of the following methods as specified: -

- Directly clamped by saddles or clamps.
- Supported on cradles.
- Laid on troughs/trays duly clamped.

The saddles and clamps used for fixing the cables on surface shall be 1 mm thick with fixing interval of 45 cm for cable of overall diameter up to 26 mm and 3mm thick 25mm wide with fixing interval of 60 cm for cable of overall diameter up to 45 mm. For cable of overall diameters above 45 mm the clamps shall be minimum of 3 mm thick 40 mm wide and fixing interval 60 cm. Additional clamping shall be provided at 30 cm from the center of bend on both sides. Saddles shall be secured with screws to suitable approved plugs. Clamps shall be secured with nuts on to the bolts, grouted in the supporting structure in an approved manner. In the case of single core cables, the clamps shall be of non-magnetic material. Suitable non-corrosive packing shall be used for clamping unarmoured cables to prevent damage to the cable sheath. Cables shall be fixed neatly without undue sag or kinks.

All MS components used in fixing the cables shall be either galvanized or given a coat of red oxide primer and finished with 2 coats of approved paint.

7.6 Laying on cable tray

This method may be adopted in places like indoor substations, switch rooms, etc., or where long horizontal runs of cables are required within the building and where it is not convenient to carry the cable in open ducts. The cable trays may be either of perforated sheet type or of ladder type. The width of cable tray shall be chosen, so as to accommodate all the cables in one tier plus 30 to 50% additional width for future expansion. This additional width shall be minimum 100 mm. The overall width of one cable tray shall be limited to 800 mm. All cable trays should be galvanized type. The cable tray shall be bonded to the earth terminal of the switchboards. The cable tray suspender should be 10 mm dia galvanized rod or 25mmx5mm GI flat as per BOQ.

The thickness of cable tray shall be 1.6 mm for width up to 300 mm and 2 mm for width more than 300 mm.

Factory fabricated bends, reducers, tee/cross junctions, etc., shall be provided as per good engineering practice. The radius of bends, junctions etc., shall not be less than the minimum permissible radius of bending of the largest size of cable to be carried by the cable tray.

The cable tray shall be measured on unit length basis, along the center line of the cable tray, including bends, reducers, tees, cross joints, etc., and paid for accordingly.

SPECIFICATION FOR EARTHING

8. SCOPE

This chapter covers the essential requirements of earthing system components and their installation. For details not covered in these specifications, IS Code of Practice on Earthing (IS: 3043-1987) shall be referred to.

8.1 APPLICATION

- i) The electrical distribution system is with earthed neutral (i.e. neutral earthed at the transformer / generator end). In addition to the neutral earthing, provision is made for earthing the metallic body of equipments and non-current carrying metallic components in the sub-station, as well as in the internal/external electrical installations.
- ii) Earthing system is also required for lightning protection, Panels & other installations etc. for functional reasons.
- iii) Earthing requirements are laid down in Indian Electricity Rules, 1956, as amended from time to time, and in the Regulations of the Electricity Supply Authority concerned. These shall be complied with.

8.2 MATERIALS

The material of Earth electrode and earth conductor shall be as specified in BOQ

8.2.1 EARTH ELECTRODES

The type of earth electrode shall be any of the following.

- a) Plate/Pipe earth electrode as specified in BOQ.

8.2.2 Electrode materials and dimensions

The materials and minimum sizes of earth electrodes shall be as specified.

8.2.3 EARTHING CONDUCTOR

- i) The earthing conductor (protective conductor from earth electrode up to the main earthing terminal/earth bus, as the case may be) shall be of the same material as the electrode, viz. GI or copper and in the form of wire or strip as specified. The size of earthing conductor shall be as specified.

8.2.4 HARDWARE ITEMS

All hardware items used for connecting the earthing conductor with the electrode shall be of GI in the case of GI pipe and GI plate earth electrodes, and forged tinned brass in case of copper plate electrodes.

8.2.5 Protective (Earth continuity/Loop earthing) Conductor

- i) The material and size of protective conductors shall be as specified.
- ii) Unless otherwise specified, GI conductor should not be ordinarily used as protective conductor within any circuit beyond a Distribution Board downstream.

8.2.6 Location for earth electrodes

- i) Normally an earth electrode shall not be located closer than 1.5 m from any building. Care shall be taken to see that the excavation for earth electrode does not affect the foundation of the building; in such cases electrodes may be located further away from the building, with the prior approval of the Engineer-in-Charge.

- ii) The location of the earth electrode will be such that the soil has a reasonable chance of remaining moist as far as possible. Entrances, pavements and roadways, should be avoided for locating earth electrodes.

8.3 INSTALLATION

8.3.1 Electrodes

8.3.1.1 Various types of electrodes

- i) a) Pipe electrode shall be buried in the ground vertically with its top at not less than 20 cm below the ground level. The installation shall be carried out as shown in drawing.
 - b) In locations where the full length of pipe electrode is not possible to be installed due to meeting a water table, hard soil or rock, the electrode may be reduced length, provided the required earth resistance result is achieved with or without additional electrodes, or any alternative method of earthing may be adopted, with the prior approval of the Engineer-in-charge. Pipe electrodes may also be installed in horizontal formation in such exceptional cases.
- ii) Plate electrode shall be buried in ground with its faces vertical, and its top not less than 3 m below the ground level. The installation shall be carried out as shown in drawing.
 - iii) When more than one electrode (plate/pipe) is to be installed, a separation of not less than 2 m shall be maintained between two adjacent electrodes.

8.3.1.2 Artificial treatment of soil

When artificial treatment of soil is to be resorted to, the electrode shall be surrounded by charcoal/coke and salt and as indicated in enclosed drawings. In such cases, excavation for earth electrode shall be increased as per the dimensions indicated in these figures.

8.3.1.3 Watering arrangement

- i) In the case of plate earth electrodes, a watering pipe of 20mm dia. medium class G.I. pipe shall be provided and attached to the electrodes as shown in the drawing and a funnel with mesh shall be provided on the top of this pipe for watering the earth.
- ii) In the case of pipe electrodes, a 40 mm X 20 mm reducer shall be used for fixing the funnel with mesh.
- iii) The watering funnel attachment shall be housed in a masonry enclosure of size not less than 30 cm X 30 cm X 30 cm.
- iv) A cast iron/MS frame with MS cover of 6 mm thick, and having locking arrangement shall be suitably embedded in the masonry enclosure.

8.3.1.4 Earthing conductor (Main earthing lead)

- i) In the case of plate earth electrode, the earthing conductor shall be securely terminated on to the plate with two bolts, nuts, check nuts and washers.
- ii) In the case of pipe earth electrode, wire type earthing conductor shall be secured as indicated in drawing using a through bolt, nuts and washers and terminating socket.
- iii) The earthing conductor from the electrode up to the building shall be protected from mechanical injury by a medium class, 15 mm dia. GI pipe in the case of wire, and by a minimum of 40 mm dia, medium class GI pipe in the case of strip. The protection pipe in ground shall be buried at least 30cm deep (to be increased to 60 cm in case of road crossing and pavements). The portion within the building shall be fixed on walls.
- iv) The earthing conductor shall be securely connected at the other end to the earth stud/earth bar provided on the switch board by:

- a) Soldered or preferably crimped lug, bolt, nut and washer in the case of wire, and,
- b) Bolt, nut and washer in case of strip conductor.

8.3.1.5 Earth bus and main earthing terminal

- i) In all installations, main earthing terminal shall be provided at the main switchboard. This may be in the form of earth stud or single earth bar depending on the type of the switchboard.
- ii) Following conductors shall be terminated on to the main earthing terminal.
 - a) Earth connection from electric supply company (where provided)
 - b) Earthing conductor from electrode.
 - c) Protective conductors.
 - d) Equi-potential bonding conductors.

8.3.1.6 Protective (Loop earthing/ earth continuity) conductor

- i) Earth terminal of every switchboard in the distribution system shall be bonded to the earth bar/terminal of the upstream switch board by protective conductors.
- ii) Two protective conductors shall be provided for a switchboard carrying a 3-phase switchgear thereon.

8.3.1.7 Earth Resistance

- i) The earth resistance at each electrode shall be measured. No earth electrode shall have a greater ohmic resistance than 5 ohms as measured by an approved earth testing apparatus. In rocky soil the resistance may be up to 8 ohms.
- ii) Where the above stated earth resistance is not achieved, necessary improvement shall be made by additional provisions, such as additional electrode(s), different type of electrode, or artificial chemical treatment of soil etc., as may be directed by the Engineer-in-charge, at additional cost as per the provisions of the contract.

8.3.1.8 Marking

- i) Earth bars/terminals at all switch boards shall be marked permanently, as "E".
- ii) Main earthing terminal shall be marked "SAFETY EARTH - DO NOT DISCONNECT".

Guidelines for selection of type of Earth electrode

	Type of Electrode	Applications
a	GI pipe	i) Protective earthing for LT Panels with incoming switch capacity upto 200 amps. ii) Protective earthing for LT Panels of residential colony and for feeder pillar of external lighting.
b	GI plate	i) Protective earthing for LT Panels with incoming switch capacity more than 200 amps. ii) Neutral earthing of transformers and protective earthing for sub-station upto 500 KVA capacity equipment.
c	Copper plate	i) Neutral earthing of transformers and protective earthing for sub-station beyond 500 KVA capacity equipment. ii) Protective earthing for communication equipment iii) Lightning protection.

CABLE TRAY

PERFORATED TYPE

The cable tray shall be fabricated out of slotted / perforated MS sheets as channel sections, single or double bended. The channel sections shall be supplied in convenient lengths and assembled at site to the desired lengths. These may be galvanized or painted as specified in SOQ.

Typically, the dimensions, fabrication details etc. are shown in CPWD General Specification for Electrical Works Part-II-External-1994 & sizes described in schedule of quantities.

The jointing between the sections shall be made with coupler plates of the same material and thickness as the channel section. Two coupler plates, each of minimum 200mm length, shall be bolted on each of the two sides of the channel section with 8mm dia round headed bolts, nuts and washers. In order to maintain proper earth continuity bond, the paint on the contact surface between the coupler plates and cable tray shall be scraped and removed before the installation.

The maximum permissible uniformly distributed load for various sizes of cable trays and for different supported span are as per Table-IV of CPWD General Specifications of Electrical Work Part-II - 1994. The sizes shall be specified considering the same.

Factory fabricated bends, reducers, tee / cross junctions, etc. shall be provided as per good engineering practice (Details are typically shown in figure-3 of CPWD General specifications of

Electrical Work Part-II – 1994). The radius of bends, junctions etc. shall not be less than the minimum permissible radius of bending of the largest size of cable to be carried by the cable tray.

The entire tray (except in the case of galvanized type) and the suspenders shall be painted with two coats of red oxide primer paint after removing the dirt and rust, and finished with two coats of spray paint of approved make synthetic enamel paint.

INSTALLATION & MEASUREMENT OF CABLE TRAY / LADDER

The cable tray shall be suspended from the ceiling slab with the help of 10mm dia MS rounds or 25mm x 5mm flats at specified spacing as per of CPWD General Specification of Electrical Work Part II -1994. Flat type suspenders may be used for channels upto 450mm width bolted to cable trays. Round suspenders shall be threaded and bolted to the cable trays or to independent support angles 50mm x 50mm x 5mm at the bottom end as specified. These shall be grouted to the ceiling slab at the other end through an effective means, as approved by the Engineer, to take the weight of the cable tray with the cables.

The cable trays shall be measured on unit length basis, along the centre line of the cable tray, including bends, reducers, tees, cross joints, etc, and paid for accordingly.

SPECIFICATION FOR 1.5 TON INVERTER SPLIT AC UNIT

Sr. no.	Technical parameter	Recommended requirement
1.	Capacity	1.5 TR (nominal)
2.	Star rating (Star rating approved by BEE India)	5 Star
3.	Type	Split
4.	Rated Power Supply	230 V/50 Hz/1ph
5.	Cooling capacity	5000 watt approx.
6.	Mounting arrangement (indoor unit)	Wall mounted
7.	Mounting arrangement (Outdoor unit)	Floor/roof mounted
8.	Compressor	Inverter Rotary/ Dual Inverter Rotary
9.	Accessories	Remote control (Cordless) and other accessories like refrigerant piping, drain pipe, cable as per OEM standard
10.	Condenser Fins	Aluminum
11.	Feature	Auto mode, cool mode, fan (auto, med, high, low) mode, dry mode, economy mode, no heat mode, dust filter.

LIST OF APPROVED MAKES FOR ELECTRICAL WORKS

S. NO	ITEMS	APPROVED MAKES (W.E.F. 28.10.2020)		CATEGORY OF TEST CERTIFICATE / INSPECTION
1	2	3	4	5
A. PANEL SWITCHGEARS AND RELATED ITEMS:				
1	LT PANELS (TTA) (FOR INCOMER ABOVE 250 AMPs)	CAT-A&B	EAP/ TRICOLITE/ SUDHIR/ L&T/ ADLEC/ LEGRAND/ ABB/ C&S/ SIEMENS/ NEPTUNE/ MEpowerR/ SCHNEIDER/ RITTAL/ RR/ SPAT/ ADVANCE/ KEPL/ PEATON/ RISHA/ STERLING GENERATORS/ HAROLD/ NITYA/ TRISQUARE/ SPC ELECTROTECH/ BCH/ MILESTONE/ GEPOWER (SPECTRA)/ UNILEC* / JACKSON* / GODREJ* / INCOTECH* subject to having valid CPRI/ ERDA Certificate of required Fault Level & IP Level protection.	CATEGORY - 1
2	LT PANELS (PTTA) (FOR INCOMER UP TO & BELOW 250 AMPs)	CAT-A	EAP/ TRICOLITE/ SUDHIR/ L&T/ ADLEC/ C&S/ SIEMENS/ NEPTUNE/ PYROTECH/ MEpowerR/ SCHNEIDER/ HENSEL/ ENGINEERS & ENGINEERS/ ADVANCE/ KEPL/ PEATON/ RISHA / STERLING GENERATORS/ HAROLD / NITYA/ TRISQUARE/ CMKL/ SPC ELECTROTECH/ BCH/ MILESTONE/ GODREJ/ GEPOWER (SPECTRA)/ UNILEC* / JACKSON* / INCOTECH* subject to having valid CPRI/ ERDA Certificate of required Fault Level & IP Level protection.	CATEGORY - 1
		CAT-B	DIGIDRIVES/ AMBIT/ ELINS/ JAKSON/ ZENIYA/ EVA & ALL MAKES IN CAT-A	
3	AIR CIRCUIT BREAKERS	CAT-A	L&T/ LEGRAND/ ABB/ C&S/ SIEMENS/ HAVELLS/ SCHNEIDER/ GE POWER*	CATEGORY - 2
		CAT-B	CHINT & ALL MAKES IN CAT-A	
4	MOULDED CASE CIRCUIT BREAKERS (MCCB)	CAT-A	L&T/ LEGRAND/ ABB/ C&S/ SIEMENS/ ANDREW YULE/ HAVELLS/ SCHNEIDER/ BENLO / INDO ASIAN/ HPL/ GE POWER*	CATEGORY - 2
		CAT-B	CHINT/ GE POWER*/ STANDARD*/ BCH* & ALL MAKES IN CAT-A	
5	CHANGE OVER SWITCH/ FUSE DISCONNECTOR SWITCH/ SWITCH FUSE UNITS	CAT-A&B	SOCOME/ L&T/ LEGRAND/ C&S/ SIEMENS/ BENLO / HPL / HH ELCON* / INDO ASIAN/ HAVELLS* / GE POWER* / ABB* / STANDARD* / SCHNEIDER*	CATEGORY - 2
6	AMMETER/ VOLTMETER/ KWH/ KVAH/ PF/ FREQUENCY METER/DIGITAL INTELLIGENT MULTI FUNCTIONAL METER/ TRIVECTOR METER	CAT-A&B	MEGGER/ FINDER/ RISHABH/ L&T/ SIEMENS/ NEPTUNE/ SCHNEIDER/ SOCOME/ BENLO/ HPL / AE/ MECO* / IMP/ UNIVERSAL* / TRINITY* / BHEL*/ ELMEASURE* / CONSERVE* / HPK*/ HAVELLS*/ SIMCO* / JAIPUR METERS*/ INDIA METER* /AREVA*/ MOTWANI*/ SECCURE*/ SUNCO*	CATEGORY - 3
7	SELECTOR SWITCH, PUSH BUTTON SWITCH / EMERGENCY SWITCH	CAT-A	L&T/ C&S/ SIEMENS / EATON / BCH / KAY CEE* / GE POWER* / SCHNEIDER* / ROCKWELL (ALLEN BRADLEY)// TEKNIC*	CATEGORY - 4
		CAT-B	HENSEL/ HAGER & ALL MAKES IN CAT-A	
8	CT's/ PT's	CAT-A	MEGAWIN/ SELEC/ NEWTEK ELECTRICALS/ AE* / KAPPA* / UNIVERSAL* / KAYCEE* / IMP/ C&S* / L&T*/ MECO*/ KAPCO* /CROMPTON GREAVES*/PRAGATI*/ INSTRANS*	CATEGORY - 3
		CAT-B	ANANT POWER/ HAGER & ALL MAKES IN CAT-A	
9	PROTECTIVE RELAYS (ALL TYPE)	CAT-A	CG POWER (CGPSL) / L&T/ C&S/ SIEMENS/ MEGAWIN/ AREVA* / ABB* / EASUN REYROLLE*	CATEGORY - 2
		CAT-B	ALL MAKES IN CAT-A	
10	CONTACTORS	CAT-A	L&T/ LEGRAND/ ABB/ TDK(EPCOS) / C&S/ SIEMENS/ ANDREW YULE/ HAVELLS/ SCHNEIDER/ GE POWER* / BCH* / TC*	CATEGORY - 3
		CAT-B	CHINT & ALL MAKES IN CAT-A	
11	TIMERS/ TIME SWITCH	CAT-A	FINDER/ L&T/ LEGRAND/ ABB/ C&S/ SIEMENS/ SELEC/ BCH / INDO ASIAN/ SCHNEIDER* / ADVANI ORLIKON* / GE*	CATEGORY - 3
		CAT-B	HAGER & ALL MAKES IN CAT-A	
12	HRC FUSES	L & T/ GE	POWER / SIEMENS / ABB / C&S/ INDO ASIAN/ HAVELLS/ STANDARD	CATEGORY - 4
13	LED INDICATION LAMPS	CAT-A	C&S / AE* / VINAY LED* / EASUN* / CONCORD* / KAY CEE* SIEMENS* / VAISHNOV* / L&T*/ SCHNEIDER*/ ROCKWELL* (ALLEN BRADLEY) / PREFIFINE*/ BCH* (T.S. Authority may add makes considering the local availability and quality. The approved OEM of HT/LT Panel manufacturer).	CATEGORY - 3
		CAT-B	HAGER & ALL MAKES IN CAT-A	
B. SUBSTATION RELATED ITEMS.				
14	TRANSFORMER UP TO 500 KVA (DRY/OIL)	CAT-A&B	SUDHIR/ ABB/ ANDREW YULE/ SCHNEIDER/ KOTSONS/ VOLTAMP/ CG POWER (CGPSL)/ AREVA* / KIRLOSKAR* / INDO TECH* / BHARAT BIJLEE*/ TEL*/ BHEL*	CATEGORY - 1
15	TRANSFORMER MORE THAN 500 KVA (DRY/OIL)	CAT-A&B	SUDHIR/ ABB/ ANDREW YULE/ SCHNEIDER/ KOTSONS/ VOLTAMP/ CG POWER (CGPSL) / AREVA*/ KIRLOSKAR* / SIEMENS* / BHARAT BIJLEE*/ BHEL*	CATEGORY - 1
16	H T PANEL	CAT-A&B	EAP / CG POWER (CGPSL)/ TRICOLITE/ SUDHIR/ L&T/ ADLEC/ ABB/ C&S/ NITYA/ PSI/ TRISQUARE / ANDREW YULE/ MEGAWIN/ MEpowerR/ SCHNEIDER/ MILESTONE/ EATON/ ADVANCE/ STERLING GENERATORS/ MEI* / SOUTHERN SWITCH GEARS* / BIECO LAWRIE* / NGEF*/ JYOTI*/ KIRLOSKER* / AREVA* / SIE*/ SIEMENS*/ BHEL*	CATEGORY - 1
17	SANDWICH BUS DUCT	CAT-A&B	EAP/ L&T/ LEGRAND/ C&S/ RR KABEL/ EAE/ SCHNEIDER/ GODREJ / POWER DUCTS (TRICOLITE) / MOELLAR (Imported) / HONIKOWN (Imported) / GE POWER*	CATEGORY - 2
18	H.T./L.T.TERMINATION & JOINTING KIT.	CAT-A&B	ANDREW YULE/ COMPAQ/ RAY CHEM*/ M-SEAL* / CAB SEAL* / DENSON* / MAHINDRA*/ BIRLA-3M*	CATEGORY - 3
19	POWER CABLES ABOVE 1.1 KV	CAT-A&B	CRYSTAL/ KEI/ WORLD/CAB/ RAVIN/ DYNAMIC/ RHINO/ CMI/ POLY/CAB/ UNICAB/ AVOCAB/ GEMSCAB/ HAVELLS/ GLOSTER / UNIVERSAL* (Satna) / CCI* (Bangalore) / RPG* (ASIAN) (Mumbai) / TORRENT* (Nadiad) / NICCO* (Shyam Nagar, WB) / ICL* (Rajpura) / FINOLEX* (Pune)/ INDUSTRIAL CABLES* (Rajpura)	CATEGORY - 1
20	POWER CABLES UP TO AND INCLUDING 1.1 KV	CAT-A&B	CRYSTAL/ RALLISON/ KEI/ WORLD/CAB/ RAVIN/ DELTON/ DYNAMIC/ RHINO/ CMI/ POLY/CAB/ UNICAB/ AVOCAB/ RR KABEL/ GEMSCAB/ HAVELLS/ BONTON/ CORDS/ GLOSTER / CCI* (Bangalore) / NICCO* (Shyam Nagar, WB) / UNIVERSAL* (Satna) / RPG* (ASIAN) (Mumbai) / INDUSTRIAL CABLES* (Rajpura) / TORRENT* (Nadiad) / HINDUSTAN VIDYUT PRODUCT LTD* (Faridabad) / FINOLEX* (Pune) / EKTA* (New Delhi)/ SKYTONE* (Faridabad)	CATEGORY - 1
21	CONTROL CABLES	CAT-A&B	CRYSTAL/ RALLISON/ KEI/ WORLD/CAB/ RAVIN/ DELTON/ TAMRA/ FINECAB/ DYNAMIC/ RHINO/ CMI/ POLY/CAB/ UNICAB/ AVOCAB/ RR KABEL / GEMSCAB/ HAVELLS/ BATRA/ CORDS/ GLOSTER/ CCI* (Bangalore) / NICCO* (Shyam Nagar WB) / UNIVERSAL* (Satna) / RPG* (ASIAN) (Mumbai) / TORRENT* (Nadiad) / FINOLEX* (Pune)/ HINDUSTAN VIDYUT PRODUCT LTD* (HVP) (Faridabad) / LAPP* ALOKE* (ANKUR TECHNOCRAT) / (Ahmedabad) / EKTA* (New Delhi) / SKYTONE* (Faridabad)	CATEGORY - 1
22	TELEPHONE CABLE	CAT-A&B	RALLISON/ DELTON/ CMI/ POLY/CAB/ RR KABEL/ SKYTONE*/ NATIONAL* / NICCO*	CATEGORY - 2
23	CO- AXIAL/ INSTRUMENTATION/ FIBER OPTIC/ CAT-6 CABLES	CAT-A&B	RALLISON/ DELTON/ RHINO/ CMI/ POLY/CAB/ LEGRAND/ UNICAB/ AVOCAB/ RR KABEL/ GEMSCAB/ CORDS/ SCHNEIDER / BHANSALI* / SKYTONE* / RPG* / UNIVERSAL*/ UNIFLEX*/ AMP*/ AVAYA* / METRO*/ SKYLINE*/ DELTRON	CATEGORY - 2
24	CABLE MANAGEMENT SYSTEM (PRE FABRICATED CABLE TRAY/ WIRE MESH SYSTEM ETC.)	CAT-A&B	MEM/ L&T/ LEGRAND/ RMCON/ BEC/ RR ISPAT/ RATAN'S/ STERLING DURO/OBO BETTERMANN/ PILCO* / INDIANA* / VENUS*/ STEELITE* / SADHANA ENG*/ TECHNAD ENG*/ MM ENGG*/ POWER CAB* / NEPTUNE*/ RICO STEEL* / PROFAB ENGG*/ SLOTOO*	CATEGORY - 3
25	CAPACITORS	CAT-A&B	SHREEM/ L&T/ LEGRAND/ ABB/ TDK(EPCOS)/ NEPTUNE/ SCHNEIDER / GE POWER* / VOLTAS* / BHEL* / KHATAU ZANKAR* / USHA* / MATRIX*	CATEGORY - 2
26	APFC PANEL	CAT-A	EAP/ TRICOLITE/ SHREEM/ L&T/ ADLEC/ LEGRAND/ EPCOS/ C&S/ NEPTUNE/ SCHNEIDER	CATEGORY - 1
		CAT-B	AMBIT & ALL MAKES IN CAT-A	
27	LIGHTNING PROTECTION SYSTEM	CAT-A&B	ABB/ DEHN/ TERCEL/ERICO*/ PHEONIX*/ INDELEC*/ DUVAL MASSIAN* / FRANKLIN*	CATEGORY - 3

28	EARTHING SYSTEM (DIGITAL/CHEMICAL/ PORTABLE EARTHING)	CAT-A&B	JMV/ RATAN'S/ CAPE/ APS/ PROTEC-DHRUVA/ OBO BETTERMANN	CATEGORY - 3
29	SURGE PROTECTION DEVICES	CAT-A	FINDER/ L&T/ LEGRAND/ DEHN/TERCEL / JMV/ MERSEN/ CAPE/ EATON/ PHOENIX CONTACT/ OBO BETTERMANN	CATEGORY - 3
		CAT-B	ALLIED/ PROTEC/ SECOM/ ITE/ CITEL & ALL MAKES IN CAT-A	
30	SCADA (Hradware & Software, Except Computer & Accessories)	CAT-A&B	ABB/ SIEMENS/ SCHNEIDER /ALLEN BRADELY/ GE FANUC/ JOHNSON CONTROLS* (METASYS MS)/ LALNDIS & STEAEFA / HONEYWELL*	CATEGORY - 2
31	SF6 CIRCUIT BREAKER	CAT-A&B	L&T/ ABB/ C&S /BHEL* / CROMPTON GREAVES* / KIRLOSKAR* / SIEMENS* / SCHNEIDER*	CATEGORY - 2
32	VACUUM CIRCUIT BREAKER	CAT-A	CG POWER/ L&T/ ABB/ C&S/ ANDREW YULE/ MEGAWIN/ SCHNEIDER/ SIEMENS	CATEGORY - 2
		CAT-B	CHINT & ALL MAKES IN CAT-A	
33	SERVO STABILIZER	CAT-A	CONSUL NEOWATT/ ANDREW YULE	CATEGORY - 2
		CAT-B	P2 POWER & ALL MAKES IN CAT-A	
34	AUTO TRANSFER SWITCH	CAT-A	SOCOME/ L&T/ LEGRAND/ ABB/ HAVELLS/ ASCO (SCHNEIDER	CATEGORY - 2
		CAT-B	HAGER/ ALL MAKES IN CAT-A	
35	COMPACT SUB STATION	CAT-A&B	L&T/ ABB/ C&S/ SCHNEIDER	CATEGORY - 1
36	EMERGENCY LIGHT - LED (PORTABLE)	CAT-A&B	ABB/ LIFE-GUARD/ PROLITE/ BPL* / SANYO*	CATEGORY - 3
37	CABLES GLANDS	COMET / DOWELL / ELECTROMAC/ SIEMENS / BRACO / HMI / MCI / (METAL / CRAFT)		CATEGORY - 3
38	LUGS & THIMBLES	DOWELLS / JOHNSONS/ COMET/ ASCON		CATEGORY - 4
39	SYNTHETIC INSULATING MATS	CPRI certified for required voltage level.		CATEGORY -2
40	LIGHTNING ARRAESTORS	CAT-A&B	JMV/ CAPE/ APS/ PROTEC-DHRUVA/ OBO BETTERMANN/ LAMCO* / ELARO* / ATLAS* / INTERNATIONAL*/ AREVA* / OBLUM* / ALPRO* / WS IND* / JAIPURIA* / JAYSHREE*	CATEGORY - 2
41	INSULATION TAPE (HT / LT)	CAT-A&B	BENLO/ ANCHOR / BCH	CATEGORY - 4
D DG SETS & RELATED ITEMS				
42	DIESEL ENGINE ABOVE 250 KVA .	CAT-A&B	CUMMINS/ KOEL /CATERPILLAR/ MAHINDRA/ PERKINS/ GREAVES COTTON / ASHOK LEYLAND-BAUDOUIN / MTU* / VOLVO PENTA*	CATEGORY - I
43	DIESEL ENGINE UPTO AND INCLUDING 250 KVA	CAT-A&B	CUMMINS / KOEL/ CATERPILLAR/ MAHINDRA/ ASHOK LEYLAND / GREAVES COTTON / MTU* / VOLVO PENTA*	CATEGORY - I
44	ALTERNATOR	CAT-A&B	KIRLOSKAR/ LEROY-SOMER/ STAMFORD/ CROMPTON GREAVES /JYOTI* / NGEF/ KEL*	CATEGORY - 1
45	BATTERIES	CAT-A&B	KIRLOSKAR/ EXIDE* / AMCO* / PRESTOLITE* / AMARON* / GENPRO* / STANDARD FURUKAWA* / LUCAS* / HBL NIFE*	CATEGORY - 3
46	BATTERY CHARGER	CAT-A&B	VERTIV / DELTA	CATEGORY - 2
47	UPS - ABOVE 10 KVA	CAT-A	MICROTEK/ SOCOME/ GREEN / NUMERIC/ RIELLO/ AUTOMETERS/ CONSUL NEOWATT/ ABB/ SCHNEIDER / VERTIV (EMERSON) / APC*/ DBPOWER*	CATEGORY - 3
		CAT-B	EATON / ALL MAKES IN CAT-A	
48	UPS - UPTO 10 KVA	CAT-A	MICROTEK/ POWER-ONE/ SOCOME/ GREEN / NUMERIC/ SCHNEIDER / VERTIV (EMERSON) / DBPOWER* / APC*	CATEGORY - 3
		CAT-B	DELTA / EATON & ALL MAKES IN CAT-A	
D INTERNAL WIRING RELATED TEAMS				
49	MCB/ ISOLATOR/ MCBDB/ RCCB/ RCBO/ ELCB	CAT-A	L&T / INDO ASIAN/ C&S/ LEGRAND / HPL/ BENLO/ ANCHOR / EATON/ GM/ ABB/ MK HONEYWELL/ POLYCAR/ MITSUBISHI/ BCH/ SIEMENS* / SCHNEIDER* / STANDARD* / HAVELLS* / GE	CATEGORY - 2
		CAT-B	HAGER/ ALL MAKES IN CAT-A	CATEGORY - 2
50	MS CONDUIT	CAT-A	RMCON/ BEC/ SUPER	CATEGORY - 3
		CAT-B	JPC PIPES & ALL MAKES IN CAT-A	
51	PVC CONDUIT	CAT-A	BEC/ AKG/ ANCHOR/ GM/ POLYPACK*/ PRECISION*/ MIHIR	CATEGORY - 3
		CAT-B	JPC PIPES & ALL MAKES IN CAT-A	
52	INDUSTRIAL SOCKET IN SHEET STEEL ENCLOSURE WITH MCB	CAT-A	C&S/ LEGRAND/ HPL/ NEPTUNE- BALS/ BCH/ INDO ASIAN*/ CROMPTION*/ SCHNEIDER*/ HAVELLS*	CATEGORY - 4
		CAT-B	HAGER/ ALL MAKES IN CAT-A	
53	PVC INSULATED COPPER WIRE	CAT-A	KEI/ PARAMOUNT/ BONTON/ RAJNI GANDHA/ CMI/ ANCHOR / MESCAB/ ALOKE/ GOLD MEDAL/ APAR/ GRANDLAY/ GM/ RALLISION/ BATRA HENLAY/ ZENIUM/ RR KABEL/ BHANSALI/ GLOSTER/ NATCAB/ PARAGON/ BCH/ SKYLINE*/ PLAZA/ V GUARD*/ FINOLEX* / HAVELLS*/ INDO ASIAN*/ CRYATAL*/ POLYCARB*/ KDK EVERSHERE*/ FINECAB*/ CAPCAB*/ STANDARD*	CATEGORY - 2
		CAT-B	GALAXY CONCAB & ALL MAKES IN CAT-A	
54	SWITCHES/ SOCKETS/ TELEPHONE/ TV/ DATA SOCKET/ BOXES (MODULAR/ PIANO TYPE)	CAT-A	BENLO/ INDO ASIAN/ C&S/ SIMON/ ANCHOR/ L&T/ GOLD MEDAL/ LEGRAND/ GM/ HPL/ ABB/ MK HONEYWELL/ POLYCARB/ BCH / SSKAY* / HAVELLS*/ NORTH WEST* / CLIPSAL*/ WESTERN VEGA*	CATEGORY - 3
		CAT-B	HAGER & ALL MAKES IN CAT-A	
E FIRE ALARM EQUIPMENTS.				
55	FIRE / SMOKE DETECTOR	CAT-A	APOLLO/ EDWARDS (UTC)/ SIEMENS/ BOSCH/ NOTIFIRE/ TYCO SIMPLEX/ G + M SCHRACK/ HONEYWELL/ SYSTEM SENSOR/ MORLEY IAS*	CATEGORY - 2
		CAT-B	KIDDE (UTC)/ GST (UTC) & ALL MAKES IN CAT-A	
56	FIRE ALARM PANEL / REPEATER PANEL	CAT-A	APOLLO/ AUTRONICA (UTC)/ EDWARDS (UTC)/ SIEMENS/ BOSCH/ NOTIFIRE /TYCO SIMPLEX/ G + M SCHRACK/ HONEYWELL/SYSTEM SENSOR*/ MORLEY IAS*/ GROUP4 */ MATHER & PLATT*/ MINIMAX	CATEGORY - 2
		CAT-B	KIDDE (UTC)/ GST (UTC) & ALL MAKES IN CAT-A	
57	HOOTER / MANUAL CALL POINT / RESPONSE INDICATOR	CAT-A	APOLLO/ EDWARDS (UTC)/ SIEMENS/ BOSCH/ NOTIFIRE / TYCO SIMPLEX/ G + M SCHRACK/ HONEYWELL/ MORLEY IAS */ SYSTEM SENSOR* / GROUP4* / MINIMAX*	CATEGORY - 2
		CAT-B	GST (UTC) & ALL MAKES IN CAT-A	
58	PA SYSTEM FOR FIRE ALARM SYSTEM	CAT-A&B	APOLLO/ SIEMENS/ BOSCH/ TYCO SIMPLEX/ G + M SCHRACK/ HONEYWELL/ AHUJA*/ PHILIPS*/ MOTWANE*	CATEGORY -3
59	FIRE SURVIVAL CABLE	CAT-A	CMI/ KEI/ BONTON/ POLYCARB/ BATRA HENLAY/ RR KABLE/ WREXHAM	CATEGORY - 2
		CAT-B	FUSION POLYMER & ALL MAKES IN CAT-A	
60	FIRE ESCAPE / EXIT SIGNAGES	CAT-A	LIFE-GUARD/ PROLITE/ DELITE	CATEGORY -3
F LED LIGHT FIXTURE AND FANS				
61	TERMINAL/ ANCILLARY/ RESIDENTIAL BUILDING /	AS PER SPECIFICATION		CATEGORY - 2
62	AVIATION WARNING LIGHT /OBSTRUCTION LIGHT (LOW	MANUFACTURERS WHO MEET ICAO REQUIREMENTS		CATEGORY - 3
63	LAMPS FOR FITTING (NON - LED)	PHILLIPS/ GE/ BAJAJ/ OSRAM/ WIPRO/ CROMPTON/ THORN/ SCHREDER/ REGENT/ REGGIANI/ TRILUX/ GEWISS/ REGIOLUX/ AECC/ LIGHT(DURLU M)/ C&S GROUP/ SOLAR/ HAVELLS/ HALONIX/ ORTON/ SURYA		CATEGORY - 4
64	CEILING/ WALL FAN	CAT-A&B	ANCHOR/ HALONIX/ GM/ RR/ ORIENT* / GEC* /POLAR* /USHA* / CROMPTON*/ BAJAJ*/ KHAITAN* / ALMONARD*/ HAVELLS*	CATEGORY - 2
65	EXHAUST/ FRESH AIR FAN	CAT-A&B	ANCHOR / HALONIX/ GM/ RR/ GEC* /CROMPTON* / KHAITAN* / ALMONARD*/ BAJAJ*	CATEGORY - 2
G AIRCONDITIONING AND FIRE FIGHTING ACCESSORIES.				
66	G I / M S PIPES	CAT-A&B	PRAKASH SURYA/ ITL-INDUS/ BEC/ RR ISPAT/ JINDAL STAR/ TATA* /HSL*/ SAIL*	CATEGORY - 2
67	VALVES (BUTTERFLY/ SLUICE/ CHECK/ NRV/ FOOT/ GATE/ GLOBE ETC.)	CAT-A	ZOLOTO/ CRANE / JOHNSON CONTROL / DANFOSS/ VTM/ EMERALD/ ADVANCE / CASTLE / SANT / KIRLOSKAR* / LEADER* / KILBURN*/ AUDCO*/ SARKAR* /DIVINE* / C&R*	CATEGORY - 2
		CAT-B	VENUS & ALL MAKES IN CAT-A	
68	SUCTION / POT / Y- STRAINER	CAT-A&B	VTM/ ANERGY/ EMERALD / SANT / LEADER*	CATEGORY - 2

69	SPRINKLER / FLEXIBLE CONNECTION FOR SPRINKLER	CAT-A&B	LIFE-GUARD/ EXFLAME/ SAFEFIRE/ TYCO / AQUAMIST/ NEWAGE/ SPRAY SAFE* / HD*	CATEGORY - 2
70	FIRE HYDRANT LANDING VALVES/ FIRE BRIGADE CONNECTION.	CAT-A	FIRESHIELD/ LIFE-GUARD/ SWASTIK/ SHOOTFIRE/ EXFLAME/ SAFEFIRE/ TYCO/ NEWAGE / MINIMAX* / SAFEX* / VIJAY* / SAFE GUARD*	CATEGORY -2
		CAT-B	VENUS & ALL MAKES IN CAT-A	
71	INSTALLATION VALVE (ISI MARKED)	CAT-A&B	LIFE-GUARD/ TYCO/ SPRAY SAFE*/ HD*	CATEGORY - 3
72	FIRE HOSE PIPES/ FIRST AID HOSE REEL	CAT-A&B	FIRESHIELD/ LIFE-GUARD/ SWASTIK/ SHOOTFIRE/ EXFLAME/ SAFEFIRE/ CHEMGAURD/ SKUM / NEWAGE / MINIMAX* / SAFEX*	CATEGORY - 2
73	BRANCH PIPE, NOZZLE AND COUPLINGS	CAT-A	FIRESHIELD/ LIFE-GUARD/ SWASTIK/ SHOOTFIRE/ EXFLAME/ SAFEFIRE/ TYCO/ ANSUL/ GRINELL/ NEWAGE / MINIMAX* / SAFEX*	CATEGORY - 2
		CAT-B	VENUS & ALL MAKES IN CAT-A	
74	FIRE EXTINGUISHERS	CAT-A&B	KANEX/ FIRESHIELD/ LIFE-GUARD/ SUPREMEX/ SWASTIK/ SHOOTFIRE/ EXFLAME/ SAFEFIRE/ ANSUL/ SKUM/ CHEMGAURD / MINIMAX* / SAFEX* / SAFEGUARD*	CATEGORY - 2
75	FIRE SUPPRESSION SYSTEM	CAT-A	LIFE-GUARD/ SUPREMEX/ SHOOTFIRE/ ANSUL/ LPG/ HYGOOF	CATEGORY - 2
		CAT-B	FOAMTECH / FIRETREX & ALL MAKES IN CAT-A	
76	DIESEL ENGINE DRIVEN PUMP FOR FIRE FIGHTING	CAT-A	MAHINDRA/ CATERPILLAR/ ASHOK LEYLAND* / KIRLOSKAR OIL	CATEGORY - 2
		CAT-B	GRUNDFOS & ALL MAKES IN CAT-A	
77	PUMPS/ SUBMERSIBLE/ SEWAGE PUMPS (VERTICAL/ HORIZONTAL)	CAT-A&B	GRUNDFOS/ ANDRITZ/ XYLEM/ AQUA ANS/ KSB / KIRLOSKAR* / BEACONS* / MATHER & PLATT* / CROMPTON* / WASP*/ JYOTI* / BE * / VOLTAS* /GREAVES* / AMRUT*/ PEC*/ SUGUNA*/ CALAMA*(for Pumps Only)	CATEGORY - 2
78	MOTORS	CAT-A&B	BHARAT BIJLEE/ GRUNDFOS/ BCH/ KIRLOSKAR* / ALSTOM* / SIEMENS* / JYOTHI* / ABB* / CROMPTON* / NGEF*	CATEGORY - 2
79	MOTOR/ PUMP STARTER	CAT-A	ABB/ C&S/ SIEMENS/ SCHNEIDER/ L&T/ BENLO/ GRUNDFOS/ PHOENIX CONTACT/ BCH/ EATON/ CUTLER HAMMER* / GE POWER* / ABS*	CATEGORY - 2
		CAT-B	VIDHYUT CONTROL/ MOTOVARIO & ALL MAKES IN CAT-A	
80	SINGLE PHASING PREVENTOR/ OVER LOAD PROTECTION UNIT	CAT-A	SELEC/ BCH/ L&T* / GE POWER* / SIEMENS* / MINILEC* / ABB	CATEGORY -3
		CAT-B	HAGER / ALL MAKES IN CAT-A	
81	PRESSURE SWITCH	CAT-A&B	DANFOSS/ EMERALD/ SWIZER*	CATEGORY - 2
82	G I SHEETS.	CAT-A&B	RUSKIN TITUS/ JINDAL / TATA* / HSL* / SAIL*	CATEGORY - 2
83	GRILLS /DIFFUSERS.	CAT-A	RUSKIN TITUS/ CARYAIRE/ MAPRO/ GREENHECK/ CRYSTAL/ AIRMASTER*/ VINAYAGA* /CORPORATION* / AJANTA* / RAVI STAR*	CATEGORY - 3
		CAT-B	TRISTAR/ CONAIRE/ CARYAIRE & ALL MAKES IN CAT-A	
84	INSULATION MATERIAL (a) Rock Wool/ Glass Wool / Nitrile (b) XLPE/EPDM	CAT-A	TWIGA / ARMAFLEX / ALP AEROFLEX / K-FLEX / LLOYDS/ INSUFLEX/ PILKINGTON*/ BEARDSSELL	CATEGORY - 3
		CAT-B	PARAMOUNT & ALL MAKES IN CAT-A	
		CAT-A	TROCELLEN/ ALP AEROFLEX/ INSUFLEX / K-FLEX	CATEGORY - 3
		CAT-B	PARAMOUNT & ALL MAKES IN CAT-A	
85	PRE-FABRICATED GI DUCT	CAT-A	ROLASTAR/ DUCTOFEB/ ADVANCE/ WAVES/ ZECC	CATEGORY - 3
		CAT-B	REFROTECH & ALL MAKES IN CAT-A	
86	FIRE DAMPERS	CAT-A	MAPRO/ GREENHECK / RUSKIN / CARYAIRE	CATEGORY - 2
		CAT-B	TRISTAR/ CONAIRE & ALL MAKES IN CAT-A	
87	AIR CURTAINS.	CAT-A&B	MITZVAH/ TECHNOCRAT/ ALMONARD* / BECON* / TECHNOMECH* / RUSSEL* / AERODYNAMICS	CATEGORY - 2
88	MODULATING MOTOR	CAT-A	ANERGY/ SIEMENS/ GRUNDFOS/ HONEYWELL*/JOHNSON */STEFA CONTROL* /RAPID COOL*	CATEGORY - 2
		CAT-B	CONAIRE & ALL MAKES IN CAT-A	
89	MODULATING/ SOLENOID/ BALANCING VALVE FOR AHU	CAT-A&B	DANFOSS/ VTM / ANERGY/ SIEMENS/ CASTLE / SANT/ ADVANCE/ AZBIL/ JOHNSON CONTROL* / RAPID COOL* / HONEYWELL*	CATEGORY - 2
90	REFRIGERENT VALVE	CAT-A&B	BRAMATIC / SANT	CATEGORY - 2
91	FILTERS	CAT-A	HUMIDIN/ DYNA* / KIRLOSKAR* / PUOMATIC* / PURAFILL* / THERMODYNE* / PURE AIR*	CATEGORY - 3
		CAT-B	USHA FILTERS & ALL MAKES IN CAT-A	
92	THERMOSTAT	CAT-A	FINDER/ / DANFOSS/ HONEYWELL* / JOHNSONS* / LANDIS & STEAEFA*/ PENN* / INDFOSS* / ESCORTS* / DASSPASS* / SWIZER*	CATEGORY - 3
		CAT-B	ALL MAKES IN CAT-A	
93	HP /LP /OFF SWITCH THERMOSTATS / HUMIDISTATS STRIP HEATERS.	CAT-A&B	DANFOSS/ ANERGY	CATEGORY - 3
94	ENERGY SAVING DEVICES	CAT-A&B	P2 POWER/ FINDER/ TDK(EPCOS)	CATEGORY - 3
95	THERMOMETERS	CAT-A&B	WIKAI/ EMERALD/ JAPSIN* / FIEBIG*/ GURU*	CATEGORY - 3
96	PROPORTIONAL THERMOSTATE		HONEY WELL / JOHNSONS / LANDIS & STEAEFA	CATEGORY - 3
97	PRESSURE GAUGE		H.GURU / FIEBIG / JASPIN / BESTOBELL / GENERAL INSTRUMENTS	CATEGORY - 3
98	BUILDING MANAGEMENT SYSTEM (Hrdware & Software, Except Computer & Accessories)	CAT-A&B	JOHNSON CONTROL/ DELTA (LOYTEC) / L&T/ TRANE/ TRIDIUM/ SIEMENS/ AZBIL/ HONEYWELL	CATEGORY - 3
99	VFD DRIVE	CAT-A&B	DELTA/ L&T/ BHARAT BIJLEE / GRUNDFOS/ MITSUBISHI/ SCHNEIDER /ABB / DANFOSS / ALAN BRADLEY*/ SIEMENS*	CATEGORY 3
100	FIRE DAMPER MOTORS		BALEMO / JUVANTO / SIEMENS	CATEGORY - 2
101	MIXING VALVE WITH MOTOR		SIEMENS / JHONSON CONTROL /HONEYWELL /RAPID COOL	CATEGORY - 2
H A/C PLANTS, A/C UNITS & EQUIPMENTS.				
102	A/C UNITS (SPLIT/ WINDOW/ CASSETTE/ TOWER TYPE)	CAT-A&B	HITACHI/ SAMSUNG/ CARRIER/ HAIER/ LG / BLUE STAR/ DAIKIN/ MITSHUBISHI*/ VOLTAS*(Split AC Only)	CATEGORY - 2
103	PRECISION AIR CONDITIONING	CAT-A&B	STULZ/ CLIMAVENTA/ SWEGON BLUE BOX/ VERTIV/ SIDWAL	CATEGORY - 3
104	PACKAGED AIRCONDITIONER	CAT-A	HITACHI/ TRANE/ CARRIER/ SIDWAL/ LG / VOLTAS* / BLUESTAR*	CATEGORY - 2
		CAT-B	DAIKIN & ALL MAKES IN CAT-A	
105	CHILLERS / A.C. PLANTS	CAT-A	DAIKIN/ KIRLOSKER/ TRANE/ LG/ YORK/ CLIVET/ BLUE STAR/ CLIMAVENETA/ DUNHAMBUSH/ VOLTAS/ CARRIER	CATEGORY - 1
		CAT-B	CRISTOPIA & ALL MAKES IN CAT-A	
106	AIR HANDLING UNITS (AHU)	CAT-A	EDGE TECH/ STULZ/ TRANE/ CARRIER / HUMIDIN/ ZECO/ WAVES/ CRYSTAL	CATEGORY - 1
		CAT-B	TRISTAR & ALL MAKES IN CAT-A	
107	FAN COIL UNIT (FCU)	CAT-A	EDGE TECH/ DAIKIN / TRANE/ YORK / CARYAIRE/ CARRIER	CATEGORY - 2
		CAT-B	TRISTAR & ALL MAKES IN CAT-A	
108	VRV/ VRF AIRCONDITIONING SYSTEM	CAT-A&B	HITACHI/ SAMSUNG/ CARRIER/ HAIER/ VOLTAS/ LG/ DAIKIN/ TRANE/ BLUE STAR/ TOSHIBA/	CATEGORY - 2
109	COOLING TOWER UP TO 200 TR.	CAT-A&B	BELL/ MIHIR* / PAHARPUR* / ADVANCE* / SOUTHERN COOLING TOWERS	CATEGORY - 2
	COOLING TOWER ABOVE 200 TR.	CAT-A&B	BELL/ MIHIR*/ PAHAR PUR*/ ADVANCE*	CATEGORY - 2
110	FAN (AXIAL FLOW / INLINE / VENTILATION / PROPELLAR)	CAT-A	WOLTER/ AIRFLOW/ GREENHECK/ RRI ELTA / CRYSTAL/ NICOTRA/ GEC*/ ALMONARD* / KHAITAN* / ACCEL* / CROMPTON*	CATEGORY - 2
		CAT-B	CARYAIRE & ALL MAKES IN CAT-A	

111	R O SYSTEM /WATER SOFTENING PLANT	CAT-A	ZERO B	CATEGORY - 3
		CAT-B	VENZA & ALL MAKES IN CAT-A	CATEGORY - 3
112	WATER COOLER	CAT-A&B	ZERO B/ SIDWAL	CATEGORY - 3
I PA SYSTEM				
113	AMPLIFIERS	CAT-A&B	YAMAHA / NEXO/ HEINRICH/ HONEYWELL/ BOSCH* / BOSE*	CATEGORY - 2
114	ANNOUNCEMENT MICROPHONES /CAR CALL CONSOLES	CAT-A&B	YAMAHA / NEXO/ HEINRICH/ HONEYWELL/ BOSCH* / BOSE*	CATEGORY - 2
115	CONTROLLERS	CAT-A&B	YAMAHA / NEXO / HEINRICH/ HONEYWELL	CATEGORY-3
116	SPEAKER	CAT-A&B	YAMAHA / NEXO/ HEINRICH/ HONEYWELL/ APOLLO/ EDWARDS (UTC)/ SIEMENS/ BOSCH/ NOTIFIRE/ BOSE*	CATEGORY -3
J MISCELLANEOUS ITEMS.				
117	CCTV CAMERA	CAT-A&B	SIEMENS/ TYCO- ILLUSTRATE / HONEYWELL/ BOSCH* / ULTRAK*/ PELCO*	CATEGORY - 2
118	DVR	CAT-A&B	SIEMENS/ TYCO- ILLUSTRATE/ HONEYWELL/ BOSCH* / ULTRAK*/ PELCO*	CATEGORY - 2
119	LCD/LED/PLASMA MONITOR	CAT-A&B	SAMSUNG / LG / SONY/ JVC / PANASONIC/ BOSCH / ULTRAK/ PELCO	CATEGORY - 2
120	COMPUTER/PC/ACCESSORIES		HP/DELL/WIPRO/IBM	CATEGORY -2
121	HAND DRIER	CAT-A&B	TECHNOCRAT/ ANAND AUTOMATIC SYSTEM*/ KOPAL*	CATEGORY - 3
122	HDPE/ DOUBLE WALL CORRUGATED HDPE PIPE	CAT-A&B	NARAYANI POLYPIPER/ BEC/ GEMINI/ GANGOTRI / TELEREX / DURALINE / HIMALYAN*	CATEGORY - 3
123	HDPE TANK		ISI MARK	CATEGORY - 3
124	AUTOMETIC GLASS DOOR	CAT-A&B	AUTOINGRESS/ NEPTUNE (FAAC)/ GODREJ	CATEGORY - 3
125	BOLLARD	CAT-A&B	BROSIS/ NEPTUNE (FAAC)	CATEGORY - 3
126	BOOM BARRIER	CAT-A&B	AUTOINGRESS/ BROSIS/ NEPTUNE (FAAC)	CATEGORY - 3
127	TROLLY GATE	CAT-A&B	AUTOINGRESS	CATEGORY - 3
128	TYRE KILLER	CAT-A&B	BROSIS/ NEPTUNE (FAAC)	CATEGORY - 3
129	POLES/ HIGH MAST/ DECORETIVE POLES	CAT-A	RR ISPAT/ SGS / VALMONT/ BAJAJ / SUMIF	CATEGORY - 3
		CAT-B	TWINKLE & ALL MAKES IN CAT-A	
130	SMU/ STRING COMBINER BOX	CAT-A&B	HENSEL / ADVANCE	CATEGORY - 3
131	SOLAR INVERTER	CAT-A&B	SUNGROW/ DELTA/ POWER ONE & ANY MANUFACTURER APPROVED BY MNRE/ BIS.	CATEGORY - 2
132	SOLAR MODULES	CAT-A&B	JAKSON ENGINEERS / HHV SOLAR TECHNOLOGIES (HHV ST) & ANY MANUFACTURER APPROVED BY MNRE/ BIS	CATEGORY - 2
133	DC CABLES	CAT-A&B	KEI/ BONTON/ CMI/ ALOKE/ APAR/ BHANSALI/ GLOSTER	CATEGORY - 2
134	ALUMINIUM LADDERS/ HYDRAULIC LADDERS	CAT-A	SUMER	CATEGORY - 2
		CAT-B	PARAS / VARDHMAN & ALL MAKES IN CAT-A	
135	DASH FASTNERS	CAT-A&B	HILTI/ MUNGO	CATEGORY - 4
K GROUND LIGHTING ITEMS				
FOR CAT-III LIGHTING SYSTEM ,ONLY FAA CERTIFIED INSET LIGHT, CCR, ISOLATING TRANSFORMER, PLUG & RECEPTACLES AND AGL CABLE SHALL BE USED AS PER AVAILABILITY.				
136	ELEVATED RUNWAY/ TAXIWAY/ APPROACH LIGHT FITTINGS		MANUFACTURERES WHO MEET ICAO REQUIREMENT FOR ISO CANDELA AS SPECIFIED IN ANNEXURE - 14.	CATEGORY - 1
137	LED BASED TAXIWAY FITTINGS (INSET/ ELEVATED)		MANUFACTURERES WHO MEET ICAO REQUIREMENT FOR ISOCANDELA AS SPECIFIED IN ANNEXURE - 14.	CATEGORY - 1
138	INSET TYPE LIGHT FITTINGS		MANUFACTURERES WHO MEET ICAO REQUIREMENT FOR ISOCANDELA AS SPECIFIED IN ANNEXURE - 14.	CATEGORY - 1
139	PAPI		AMA / MANUFACTURES WHO MEET ICAO REQUIREMENT	CATEGORY - 1
140	LENSES/FILTERS		THORN/ IDAM-OY/ CEGELEC/ ADB/ ERNI/ YOUYANG OR AS RECOMMED BY OEM	CATEGORY - 1
141	LAMPS (T-14, T-10, SPERICAL)		JS LAMPS / KOILITE / PHILIPS	CATEGORY - 3
142	LAMPS (HALOGEN)		OSRAM / PHILIPS / YOUYANG OR AS RECOMMED BY OEM	CATEGORY - 3
143	ISOLATING TRANSFORMERS	CAT-A	BILDAL/ AMA/ ELECTROMACH/ THORN/ IDMAN-OY/ CEGELEC/ ADB/ YOUYANG	CATEGORY - 1
		CAT-B	CTC & ALL MAKES IN CAT-A	
144	CONSTANT CURRENT REGULATORS	CAT-A&B	HONEYWELL/ HIND RECTIFIER/ AMA/ NASU/ THORN/ IDMAN-OY/ CEGELEC/ ADB/ YOUYANG	CATEGORY - 1
145	5 KV GRADE AIRFIELD LIGHTING CABLE	CAT-A&B	KEI/ ALOKE/ RALLISION/ BHANSALI/ GLOSTER / DYNAMIC & MANUFACTURER HAVING 11KV GRADE BIS/ FAA CERTIFIED CABLES	CATEGORY - 1
146	PLUGS & RECEPTACLE	CAT-A&B	AMA/ BILDAL /ALOKE/ BCH/ NEPTUNE- BALS/ VASANTHI/ YOUYANG	CATEGORY -2

* Shall be considered subject to enlistment of Item/ Product as per terms & conditions, criteria etc. of Expression of Interest (EOI) of AAI at CHQ level, before supply of Item/Product.

CATEGORY REQUIREMENT OF TEST CERTIFICATE/INSPECTION

CATEGORY - 1:

- a) Type test certificate for similar item done. If not, one of the items offered is to be type tested.
- b) OEMs routine test certificate.
- c) Acceptance test to be conducted in the presence of AAI representative at OEMs factory.

CATEGORY - 2:

- a) Type test certificate for similar item done. If not, one of the items offered is to be type tested.
- b) OEMs routine test certificate.
- c) Visual and functional check by AAI official at AAI airport site.

CATEGORY - 3:

- a) OEM/Dealer/Contractor routine test certificate.
- b) Visual and functional check by AAI official at AAI airport site

CATEGORY - 4:

- a) Visual and functional check by AAI official at AAI airport site.

NOTE:

1. This categorization is done keeping in mind big projects wherein the bought out item quantity may be large. In case the bought out item/ supplied items are of very less in quantity, required category may be reviewed by Technical sanction Authority. Technical sanction authority shall finalise the requirements of certificate at the time of call of tender.

2. Following guidelines shall be followed while implementing the approved makes list:-

(a) The technical sanctioning authority or the NIT approving authority shall specifically indicate in tender document the make of the items in accordance with approved list (Annexure-A2).

(b) In case of supply item tender, where a manufacturer directly participates and whose make is not included in the approved list but otherwise meets the notice inviting tender conditions, then NIT approving authority may examine the merit of the case and consider/allow their make appropriately for participating only in that tender.

(c) Approved Makes list under CAT-A shall be for Terminal buildings, Office buildings & ancillary Buildings in Operational area.

(d) Approved Makes list under CAT-B shall be for Residential Colony, Ancillary Buildings in Non-operational area & Service block/Substation building.

(e) All makes in CAT-A are eligible for CAT-B also.

(f) Items/ Products under (*) Star Category, shall be considered subject to :-

(i) ED Engg. Shall have the powers to accept the star (*) marked items/products for a particular project, case to case basis, without formal enlistment, on the merit of the case.

(ii) Items/Products kept under Star (*) Category, shall be considered subject to fresh enlistment of the item/product as per terms & conditions, criteria etc. of Expression of Interest (EOI) of AAI at CHQ on approval of ED (Engg.)-NR.

(iii) Project specific items, which are not covered in this approved makes list, may be considered with the approval of TS Authority, not below the rank of GM (Engg.)/GM (P).

3. In addition to above, GM (Engg.) of respective regions shall have the powers to approve the product make for maintenance works following transparent process.

4. Where less than 03 options of makes are mentioned in the list, TS authority (not below than GM) may add the renowned & reputed makes as per the merit of the case as work specific makes as per AAI requirements

5. Field units must ensure the codal procedures and quality etc. while procuring the materials, notwithstanding the approval and must give prompt feedback in case of any adverse report in respect of quality, durable life, performance and successful completion of contracts/orders etc. by the firm.

6. The enlistment of items/products of manufacturer/OEM shall be valid for a period of one year on trial basis and the same shall be extendable for further period of three years, subject to satisfactory performance and feedback from the field stations/Airports.

7. In case of any adverse report of performance of the products the approval may be cancelled/withdrawn/withheld at any time with immediate effect with the approval of Member (Plg.).

8. This list shall be applicable for all electrical works including Maintenance ,Special repair, Project (PMC/EPC) & Composite works.

SCHEDULE -A

Name of work: Construction of Structural Shed for CFT garage and Development of Surrounding Area at FSTC Complex Narayanpur at Kolkata Airport.

Sl. No.	Description	Unit	Qty.
	A. CIVIL WORKS		
01.	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge. 2.6.1 All kinds of soil	Cum	251.24
02.	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	Cum	25.00
03.	Brick work with common burnt clay F.P.S. (non-modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:4 (1 cement : 4 coarse sand)	Cum	5.00
04.	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum	80.34
05.	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	Cum	5.00
06.	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg.	27500.00
07.	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	Kg.	10420.00
08.	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete. Hot finished welded type tubes	Kg.	10000.00
09.	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions	Cum	441.29

	as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/ less cement used as per design mix is payable/recoverable separately). All works upto plinth level		
10.	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work above plinth level upto Floor level V :1:1.5:3 (1 cement : 1.5 coarse sand (zone-III): 3 graded stone aggregate 20 mm nominal size)	Cum	1.88
11.0	Centering and shuttering including strutting, propping etc. and removal of form for :		
11.1	Foundations, footings, bases of columns, etc. for mass concrete	Sqm	132.00
11.2	Columns, Pillars, Piers, Abutments, Posts and Struts	Sqm	10.80
11.3	Lintels, beams, plinth beams, girders, bressumers and cantilevers	Sqm	129.60
11.4	Suspended floors, roofs, landings, balconies and access platform	Sqm	78.00
12.	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :Cement mortar 1:4 (1 cement : 4 coarse sand)	Cum	52.50
13.	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more	Kg.	56861.95
14.	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more	Kg.	294.38
15.	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	Cum	87.50
16.	12 mm cement plaster of mix : 1:4 (1 cement: 4 coarse sand).	Sqm	210.00
17.	20 mm cement plaster of mix : 1:4 (1 cement: 4 coarse sand)	Sqm	210.00
18.	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, 110 mm diameter	Mtr.	120.00
19.0	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.		
19.1	Coupler : 110 mm	Each	40.00
19.2	Single tee with door : 110x110x110 mm	Each	50.00
19.3	Bend : 110 mm bend	Each	25.00
19.4	Shoe : 110 mm Shoe	Each	20.00

20.	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete. : 110 mm	Each	120.00
21.	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : : Two or more coats on new work	Sqm	6000.00
22.	Finishing walls with Acrylic Smooth exterior paint of required shade : New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	Sqm	420.00
23.	Providing and fixing pre-coated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %) total coated thickness with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns' epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self-drilling /self-tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	Sqm	673.00
24.	Providing and fixing pre-coated galvanised steel sheet roofing accessories 0.50 mm (+0.05 %) total coated thickness, Zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self-drilling/ self-tapping screws complete : Ridges plain (500 - 600mm)	Meter	68.00
25.	Providing and fixing pre-coated galvanised steel sheet roofing accessories 0.50 mm (+0.05 %) total coated thickness, Zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self-drilling/ self-tapping screws complete :: Gutter (600 mm over all girth)	Meter	85.00
26.	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required: In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete	Kg.	6000.00
<u>B. ELECTRICAL WORKS</u>			
27.	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required. a) Upto 35 sq. mm	Meter	50.00
28.	Laying of one number additional PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground in the same trench in one tier horizontal formation	Meter	30.00

	including excavation, sand cushioning, protective covering and refilling the trench etc as required. a) Upto 35 sq. mm		
29.	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required. a) Upto 35 sq. mm	Meter	30.00
30.	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required. a) Upto 35 sq. mm	Meter	10.00
31.	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface/metal surface as required. Upto 35 sq. mm (clamped with 1mm thick saddle)	Meter	50.00
32.	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required. Upto 35 sq. mm (clamped with 1mm thick saddle)	Meter	200.00
33.0	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.		
33.1	4 X 16 sq. mm (28mm)	Each	6.00
33.2	3½ X 35 sq. mm (32mm)	Each	4.00
34.	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required. Group C	Each	20.00
35.	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit, and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required. Group C	Each	18.00
36.	Wiring for light / power plug with 2x4 sq mm FRLSH PVC insulated copper conductor single core cable in surface/recessed steel conduit along with 1 No 4 sq.mm FRLSH PVC insulated copper conductor single core cable for loop earthing as required.	Meter	120.00
37.0	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLSH PVC insulated copper conductor, single core cable in surface/recessed steel conduit as required.		
37.1	2 x 2.5 sq. mm + 1 x 2.5 sq. mm earth wire	Meter	70.00
37.2	2 x 4.0 sq. mm + 1 x 4.0 sq. mm earth wire	Meter	10.00
37.3	2 x 6.0 sq. mm + 1 x 6.0 sq. mm earth wire	Meter	18.00
38.0	Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess/cable tray including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.		
38.1	20mm	Meter	150.00
38.2	25mm	Meter	100.00

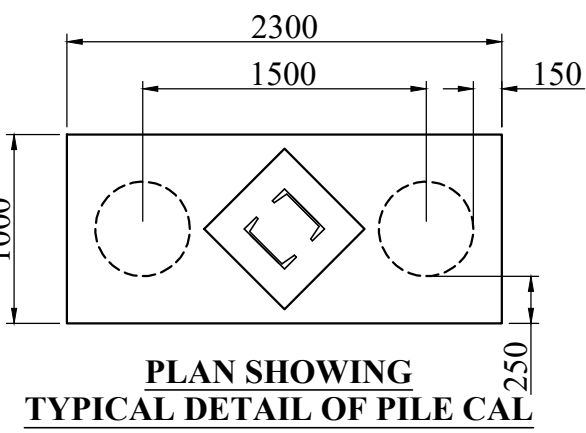
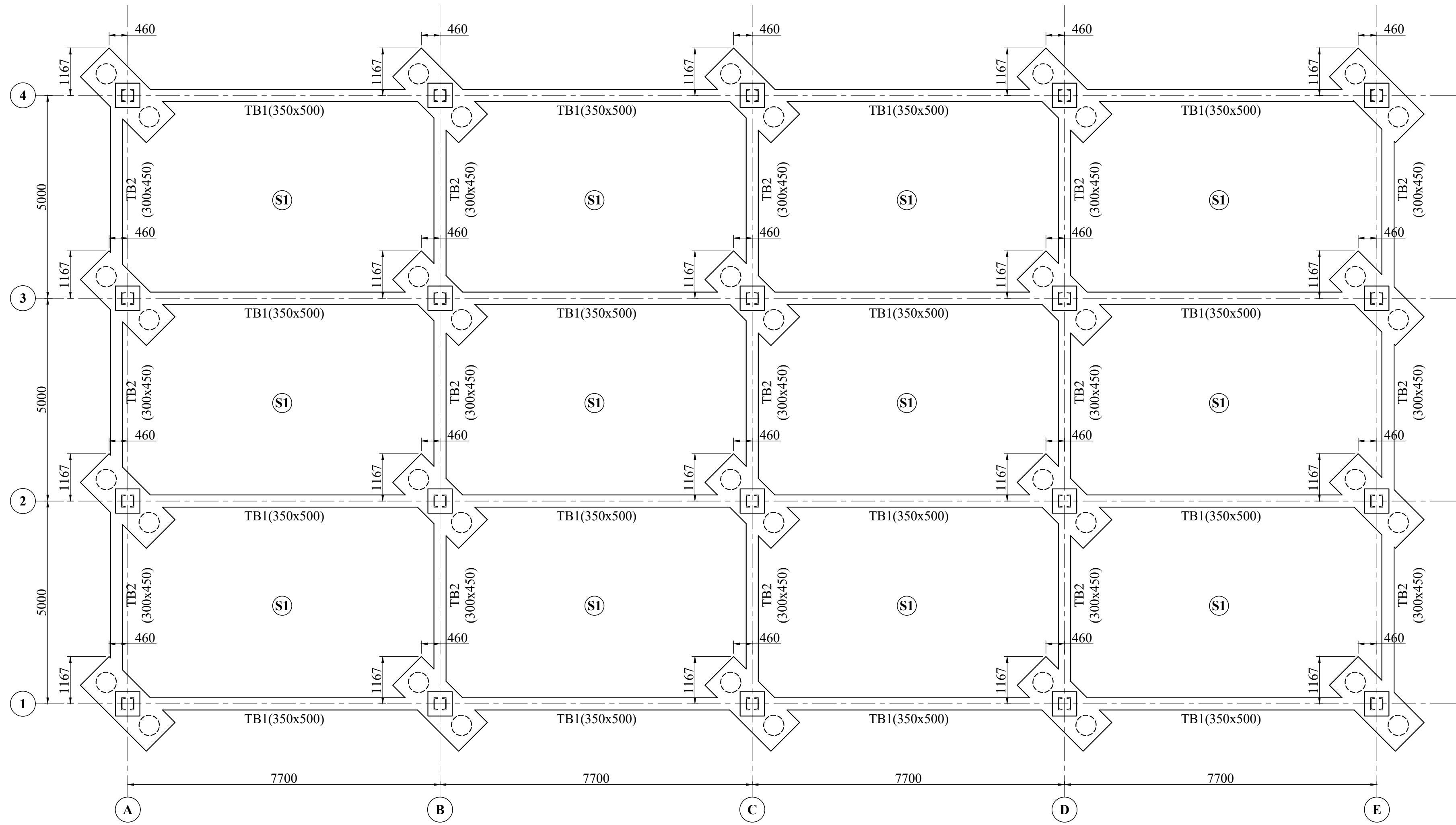
39.0	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.		
39.1	3 x 1.5 sq. mm	Meter	120.00
39.2	3 x 2.5 sq. mm	Meter	100.00
39.3	3 x 4.0 sq. mm	Meter	80.00
39.4	3 x 6.0 sq. mm	Meter	30.00
40.0	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in surface/recess etc. as required.		
40.1	1 or 2 Module (75mmX75mm)	Each	6.00
40.2	3 Module (100mmX75mm)	Each	16.00
40.3	6 Module (200mmX75mm)	Each	10.00
40.4	8 Module (125mmX125mm)	Each	10.00
41.	Supplying and fixing 3 pin, 5 A ceiling rose on the existing junction box/ wooden block including connections etc. as required.	Each	38.00
42.	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required. 6 pin 15/16 A socket outlet	Each	16.00
43.	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Each	30.00
44.	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required	Each	20.00
45.	Installation, Testing, Commissioning of high/ medium bay light fittings of all sizes and shapes complete with all accessories including connections etc. as required.	Each	20.00
46.	Installation ,Testing, Commissioning of wall bracket /ceiling fittings/Led fittings complete with all accessories i.e chain hook etc for hanging over false ceiling including connections etc. as required.	Each	20.00
47.	Installation, testing and commissioning of ceiling fan, including down rods of standard length (upto 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable etc. as required	Each	10.00
48.	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required. Upto 450 mm sweep	Each	7.00
49.	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	Each	2.00
50.	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)	Meter	30.00

51.	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	Meter	20.00
52.	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	Meter	100.00
53.0	Fixing of following ways surface/ recess/over iron structure mounting, vertical loadline DB type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required.		
53.1	8 way (4 + 24), Double door	Each	2.00
53.2	12 way (4 + 36), Double door	Each	1.00
54.0	Fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.		
54.1	Single pole	Each	35.00
54.2	Double pole	Each	2.00
54.3	Triple pole	Each	4.00
54.4	Triple pole and neutral	Each	4.00
55.0	Fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.		
55.1	63 A, 25 KA, TP MCCB	Each	2.00
55.2	100 A, 25 KA, TP MCCB	Each	1.00
56.	Fixing of TPN MCB distribution board in weather proof cabinet with IP 65 protection on wall / recessed surface or as per the site requirement. 8 Module	Each	1.00
57.0	Providing, laying and fixing following dia G.I. pipe (medium class) in ground complete with G.I. fittings as required excluding excavation and refilling.		
57.1	32 mm	Meter	30.00
57.2	50 mm	Meter	20.00
58.	Excavation of the cable trenches in hard rock not exceeding 1.5 metres in width, and lift upto 1.5 metres, including getting out the excavated soil and disposal of excavated soil as directed within a lead of 50 metres.	Cum	5.00
59.0	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray (Galvanisation thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.		
59.1	150 mm width X 50 mm depth X 1.6 mm thickness	Meter	100.00
59.2	300 mm width X 50 mm depth X 1.6 mm thickness	Meter	60.00

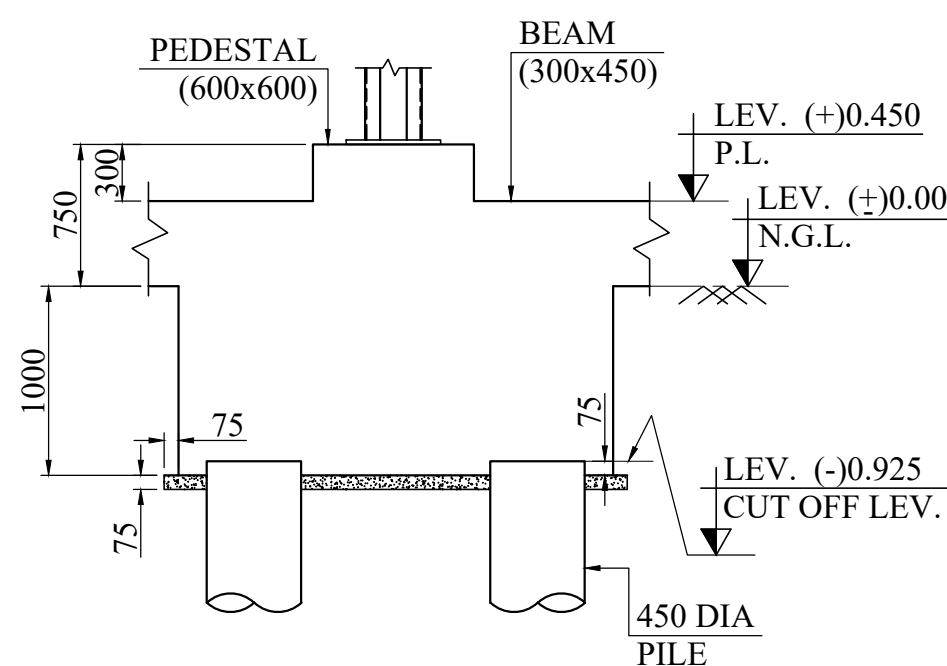
60.0	Supplying and installing following size of perforated Hot Dipped Galvanised Iron covered cable tray " bends " (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.		
60.1	150 mm width X 50 mm depth X 1.6 mm thickness	Each	12.00
60.2	300 mm width X 50 mm depth X 1.6 mm thickness	Each	12.00
61.0	Supplying and installing following size of perforated Hot Dipped Galvanised Iron covered cable tray " Tee " (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.		
61.1	150 mm width X 50 mm depth X 1.6 mm thickness	Each	6.00
61.2	300 mm width X 50 mm depth X 1.6 mm thickness	Each	6.00
62.0	Supplying and installing following size of perforated Hot Dipped Galvanised Iron covered cable tray " Reducer " (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc as required.		
62.1	150 mm width X 50 mm depth X 1.6 mm thickness	Each	4.00
62.2	300 mm width X 50 mm depth X 1.6 mm thickness	Each	6.00
63.	Supplying and fixing following way, Vertical three pole and neutral double door (for both Single/Three Phase Outgoing) , sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing suitable for 63 A incomer etc. as required. (But without MCB/RCCB/Isolator) 4 way (4 + 12), Double door.	Each	2.00
64.	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required	Each	25.00
65.	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required. Single pole and neutral	Each	24.00
66.	Supplying and fixing following rating, three phase and neutral(TPN), 415 volts, miniature circuit breaker (MCB), "C" curve, 10 KA breaking capacity in the existing MCB DB complete with connections, testing and commissioning etc. as required 63 A.	Each	2.00
67.	Supplying and fixing following rating, three pole(TP), 415 volts, miniature circuit breaker (MCB), "C" curve, 10 KA breaking capacity in the existing MCB DB complete with connections, testing and commissioning etc. as required 63 A.	Each	4.00
68.	Supply of 1 Phase, 1.5 TR split type of 5 star rating Inverter type Air-conditioners along with high wall type indoor unit suitable for operation on 230±10%, 50 Hz, 1 phase power supply (along with necessary wiring from nearest power source to the required	Each	2.00

	outdoor and indoor units) having high EER Compressor with Indoor & Outdoor Copper coil refrigeration having aluminum fins firmly bonded to copper pipe and copper pipe insulation assembled in zinc coated steel frame with Eco friendly R-32 or equivalent Refrigeration Gas alongwith copper conductor PVC insulated PVC sheathed multicore power cable from indoor to outdoor unit. The indoor unit should have real time clock, operating facility from cordless remote, along with time and temperature display. Outdoor unit to be installed as Directed by Engineer-in-Charge.		
69.	ITC of the following TR split type of Inverter Air-conditioners along with Outdoor/ Indoor unit suitable to operate on 1/3 Phase Power supply. Suitable for 1/1.5 TR Split Inverter AC along with its Control Cable.	Job	2.00
70.	Supply and fixing of extra copper refrigerant piping complete with suction / liquid line, insulation (i.e. cunifoam with neoprene / rubber lining), and all the accessories i/c Control Cable as per site requirement as directed by Engineer-in-Charge. Suitable for 1/1.5 TR Split Inverter AC along with its Control Cable	Meter	10.00
71.	Supplying and fixing of 20 A, 240 V single phase Air conditioner ON/OFF starter switch including connection on existing 2 modular box modular box.	Each	2.00
72.	Supply of following LED High Bay light of innovative die-cast Aluminum/Magnesium Alloy IP65 light fixture having efficacy > 110 lumen/watt and High efficiency long life minimum CCT of 5000 to 6500K i/c necessary electronic driver, high power LED lamp suitable to operate on 230V ac power supply with connector etc as per tender specifications complete as required. 40 Watt LED High Bay Light (Havells : STUPEWGP40WLED757SSYMTOPCGRY or Equivalent under AAI Approved Make)	Each	8.00
73.	Supply of following size 1.1 kv grade, XLPE insulated and PVC inner sheathed Aluminum conductor armored power cable conforming to IS: 7098(Part 1)1988/ IS: 7098 (Part 1) with up to date amendments etc. complete as required 4C x 16 Sq. mm.	Meter	200.00

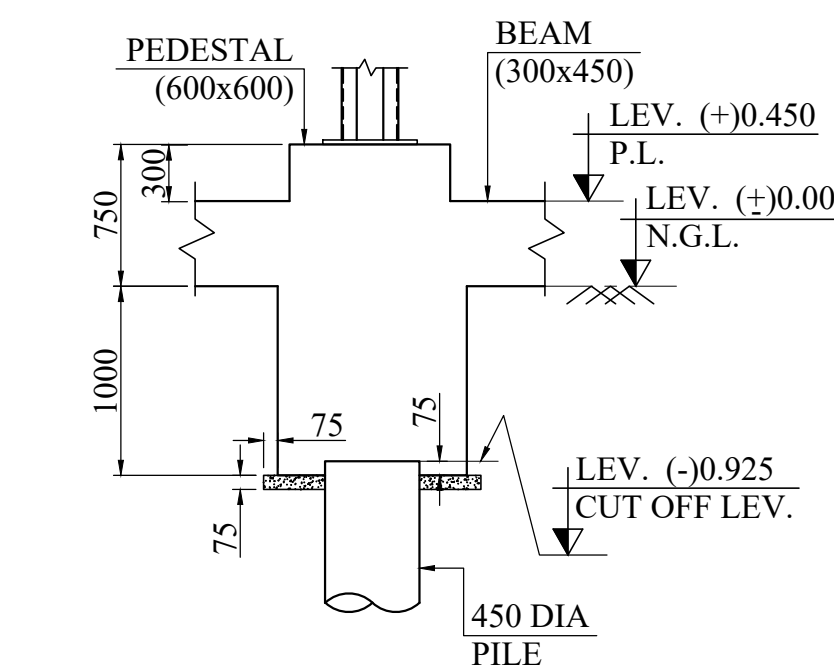
Note: - Rate should be quoted excluding GST.



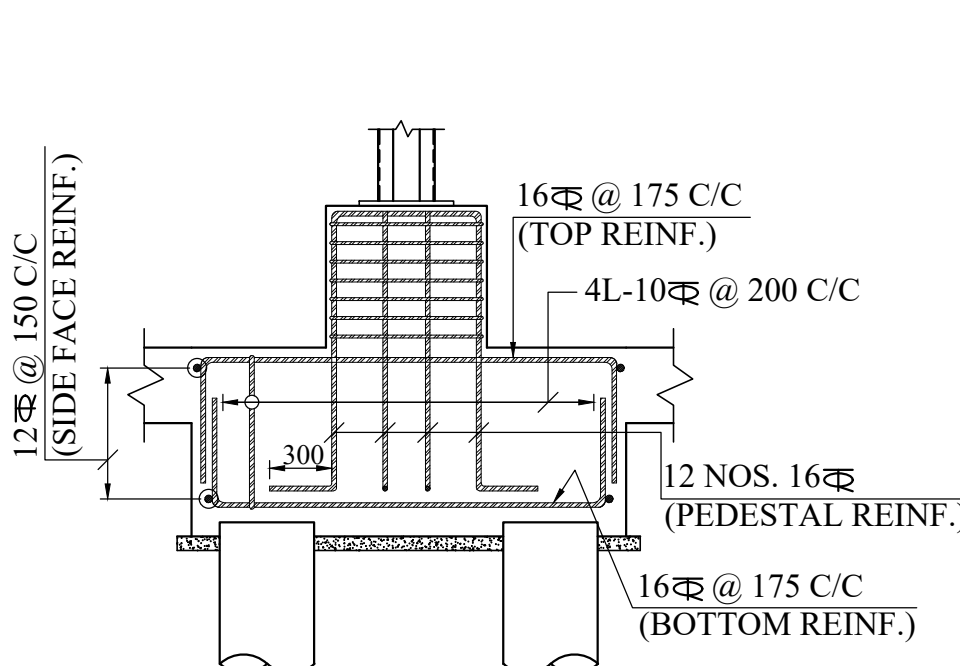
PILE CAP LAYOUT PLAN
SCALE:- 1:75



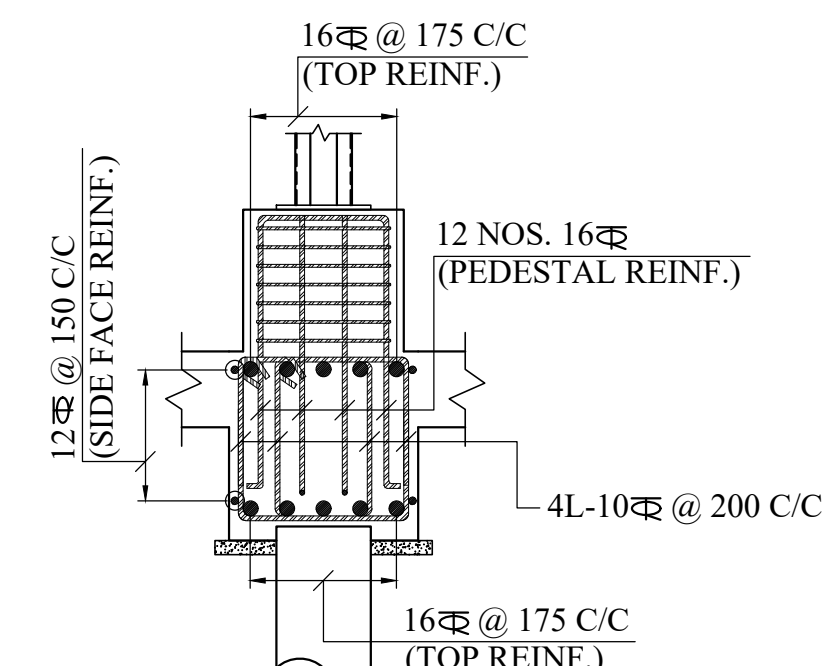
TYPICAL LONG SECTION SHOWING
DIMENSION DETAIL OF PILE CAL



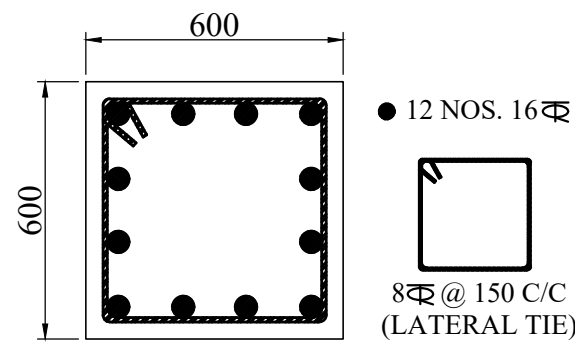
TYPICAL CROSS SECTION SHOWING
DIMENSION DETAIL OF PILE CAL



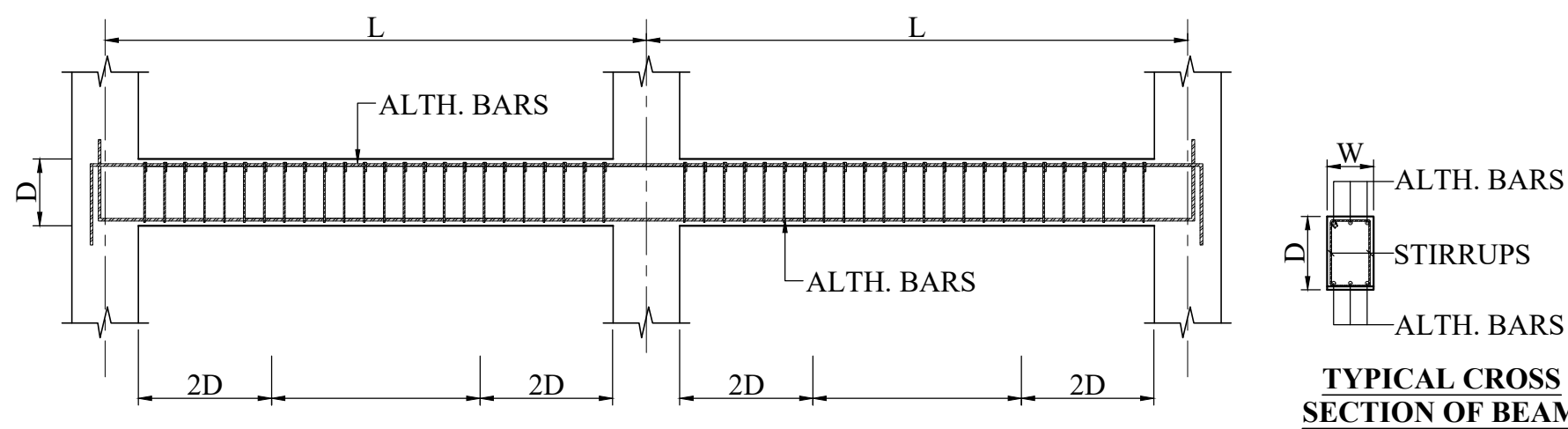
TYPICAL LONG SECTION SHOWING
DIMENSION DETAIL OF PILE CAL
(BEAM NOT SHOWN FOR CLARITY)



TYPICAL CROSS SECTION SHOWING
DIMENSION DETAIL OF PILE CAL
(BEAM NOT SHOWN FOR CLARITY)



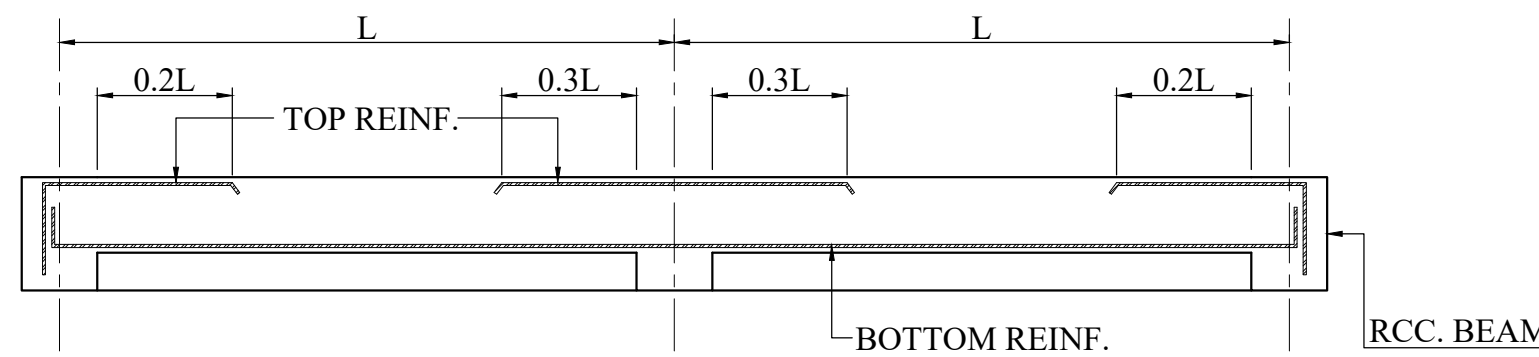
TYPICAL CROSS SECTION
OF PEDESTAL



TYPICAL LONG SECTION OF BEAM

BEAM REINFORCEMENT SCHEDULE

BEAM MKD.	SECTION (mm)	AT SUPPORT		AT MIDSPAN		STIRRUP	
		TOP	BOTTOM	TOP	BOTTOM	AT SUPPORT	AT MIDSPAN
TB1	350x500	3 NOS. 25 (ALTH.)	3 NOS. 25 (ALTH.)	3 NOS. 25 (ALTH.)	3 NOS. 25 (ALTH.)	2L-8 (ALTH.)	2L-8 (ALTH.)
TB2	300x450	3 NOS. 16 (ALTH.)	3 NOS. 16 (ALTH.)	3 NOS. 16 (ALTH.)	3 NOS. 16 (ALTH.)	2L-8 (ALTH.)	2L-8 (ALTH.)

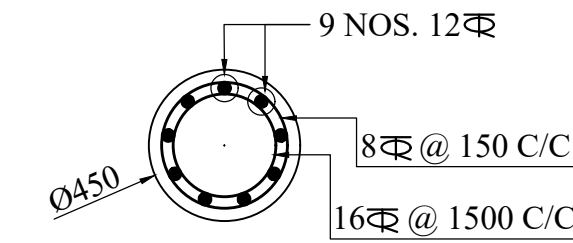


TYPICAL SLAB REINFORCEMENT DETAILS

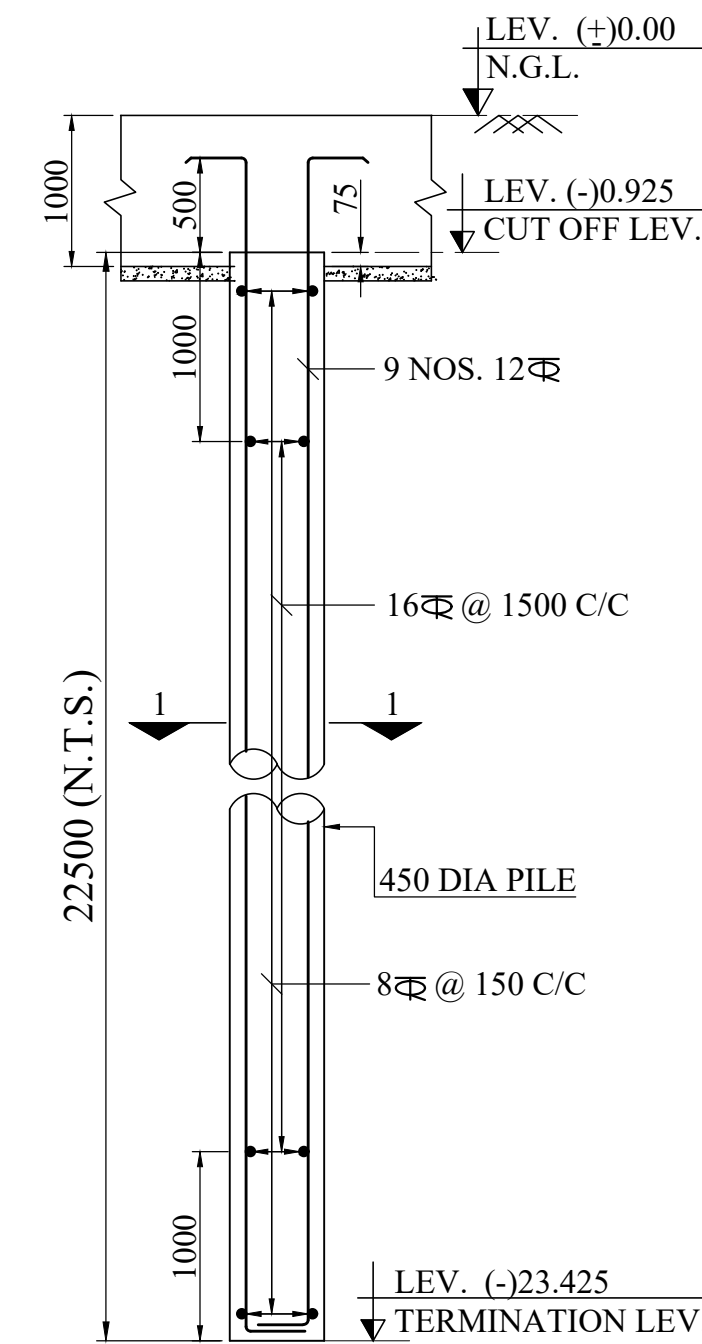
SLAB REINFORCEMENT SCHEDULE

PANEL MKD.	THICKNESS	LONGER DIRECTION		SHORTER DIRECTION	
		TOP	BOTTOM	TOP	BOTTOM
S1	250 MM.	16 (ALTH.)	12 (ALTH.)	16 (ALTH.)	12 (ALTH.)

- NOTE:-
- THIS DRAWING IS TO BE READ ALONG WITH ALL RELEVANT ARCHITECTURAL DRAWING.
 - ALL DIMENSIONS ARE IN MM. AND LEVELS ARE IN METER UNLESS MENTIONED OTHERWISE.
 - NO DIMENSIONS SHALL BE SCALED OUT. ONLY FIGURED DIMENSIONS ARE TO BE TAKEN.
 - GRADE OF CONCRETE AS PER I.S.456-2000
 - (i)PILE- M25
 - (ii)PILE CAP- M25
 - (iii)BEAM- M25
 - GRADE OF REINFORCEMENT IS Fe500 (TMT BAR) CONFORMING TO I.S.1786-2008
 - CLEAR COVER TO REINFORCEMENT FOR
 - (i)PILE- 50MM.
 - (ii)PILE CAP- SIDE- 50 MM. BOTTOM-75 MM
 - (iii)BEAM- 25 MM
 - (iv)PEDESTAL- 40 MM.
 - NET SAFE BEARING CAPACITY OF 450 MM DIA CONCRETE PILE FOR
 - (i)VERTICAL COMPRESSION- 32 TON
 - (ii)LATERAL LOAD- 1.80 TON
 - LAP/DEVELOPMENT LENGTH 50D (WHERE D=DIA OF THE BAR) LAP ARE TO BE PLACED IN STAGGERED MANNER AND NOT MORE THAN 50% OF BARS SHALL BE LAPPED/SPICED AT ANY SECTION.
 - BACK FILLING OF FOUNDATION AND PLINTH FILLING SHOULD BE DONE WITH COMPACTED FINE SAND.
 - THE N.G.L. IS CONSIDERED AS (+) 0.00
 - ANY AMBIGUITY IN THE DRAWING SHOULD BE IMMEDIATELY BROUGHT TO THE NOTICE OF THE CONSULTANT BEFORE COMMENCING THE WORK.
 - ALL MATERIALS SHALL CONFORM TO RELEVANT I.S. CODES.



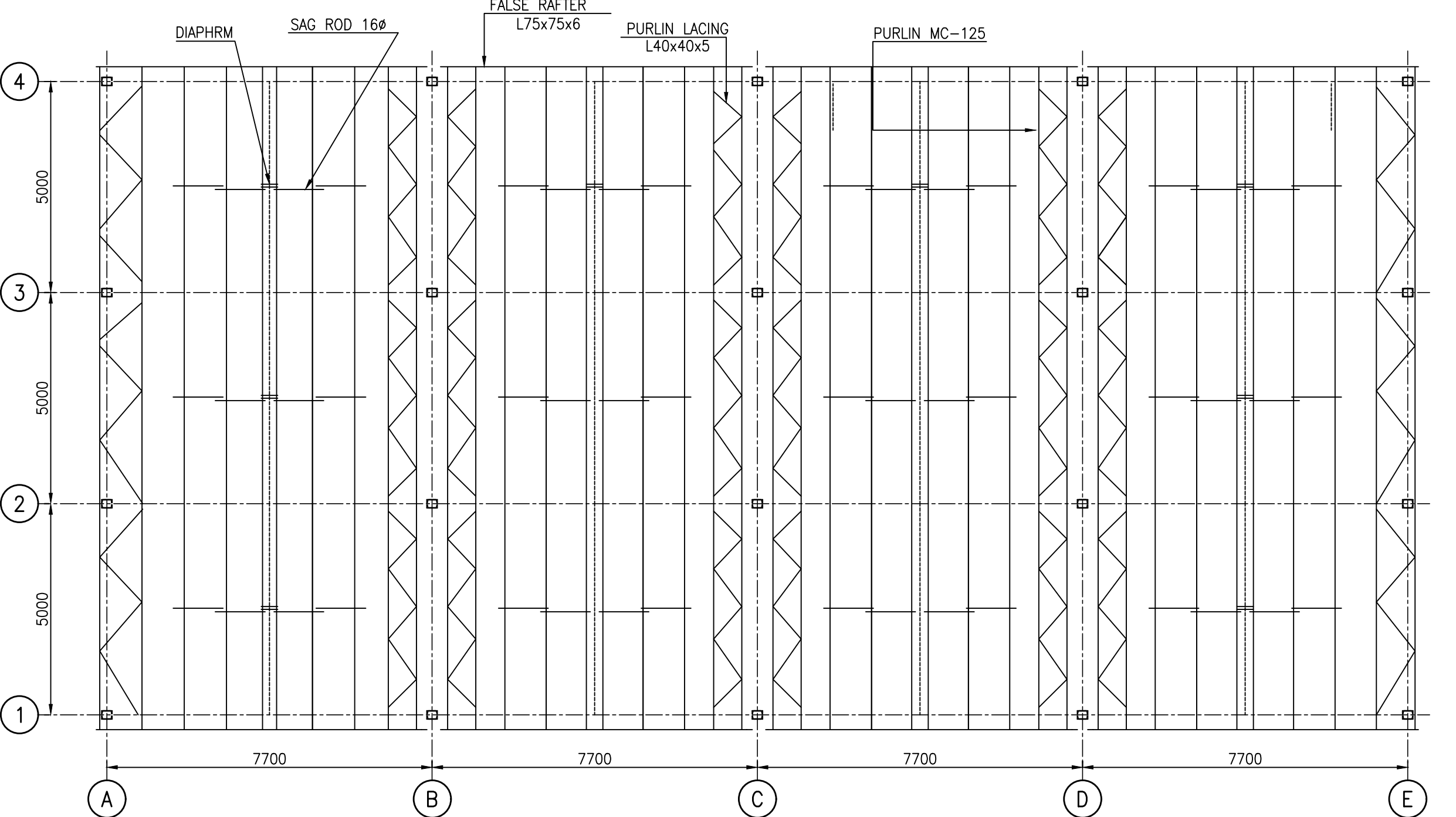
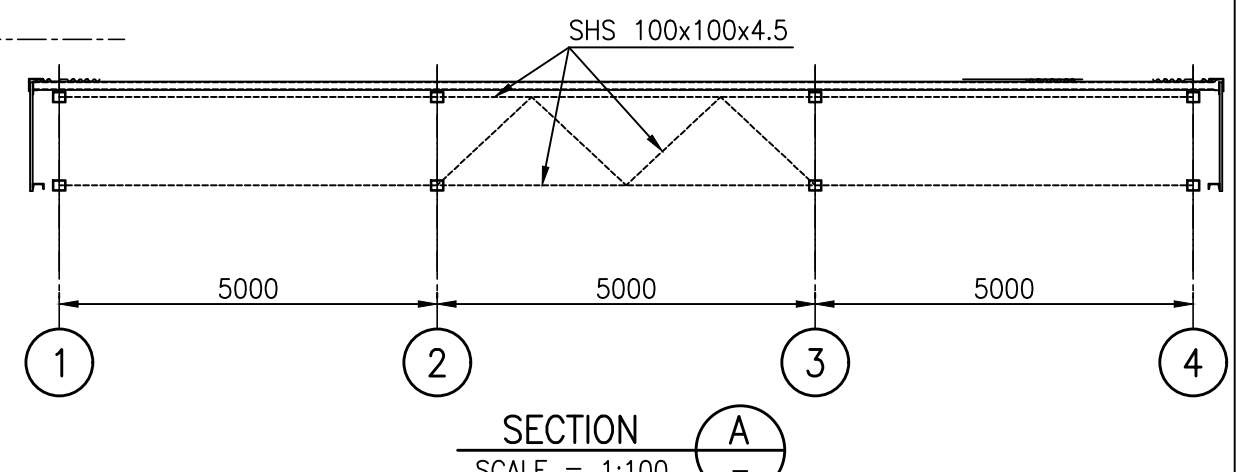
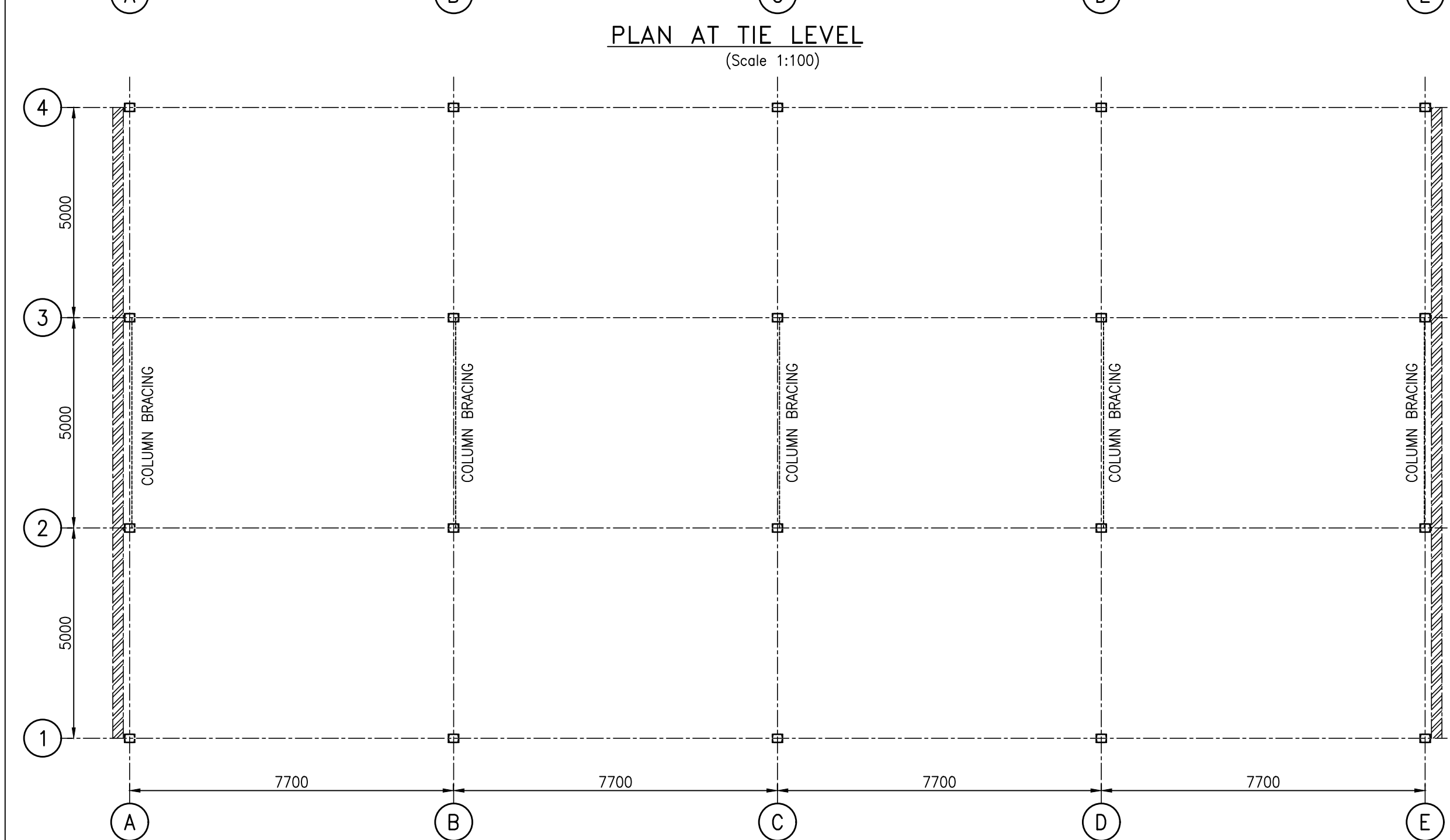
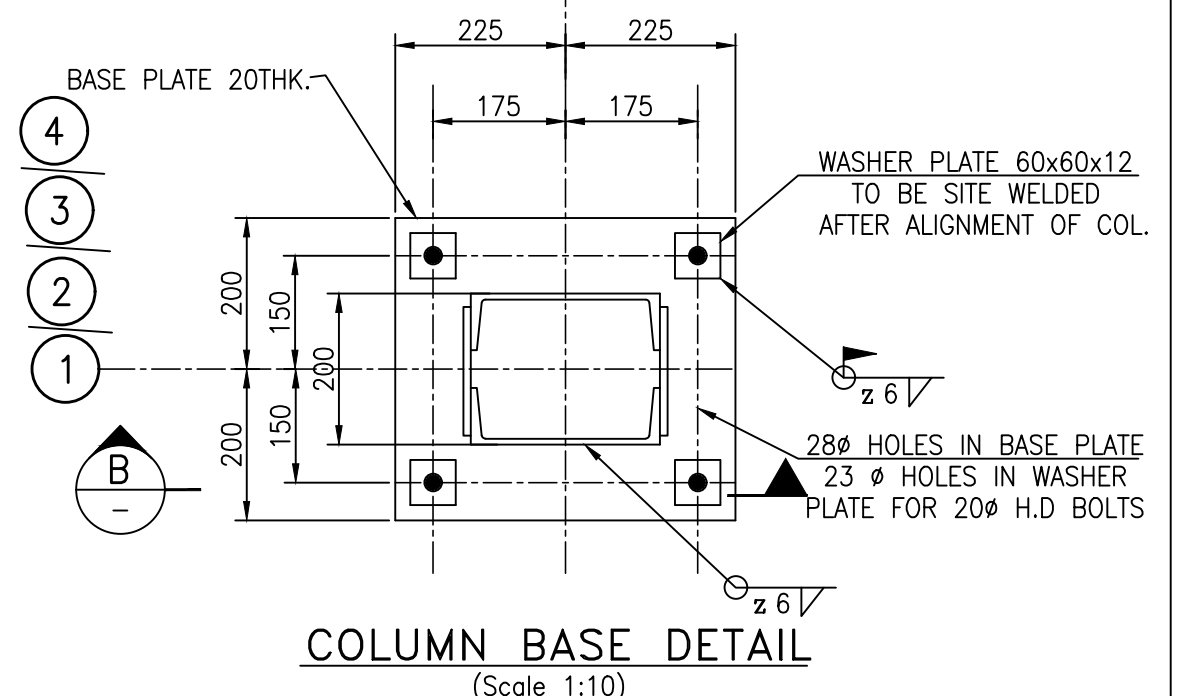
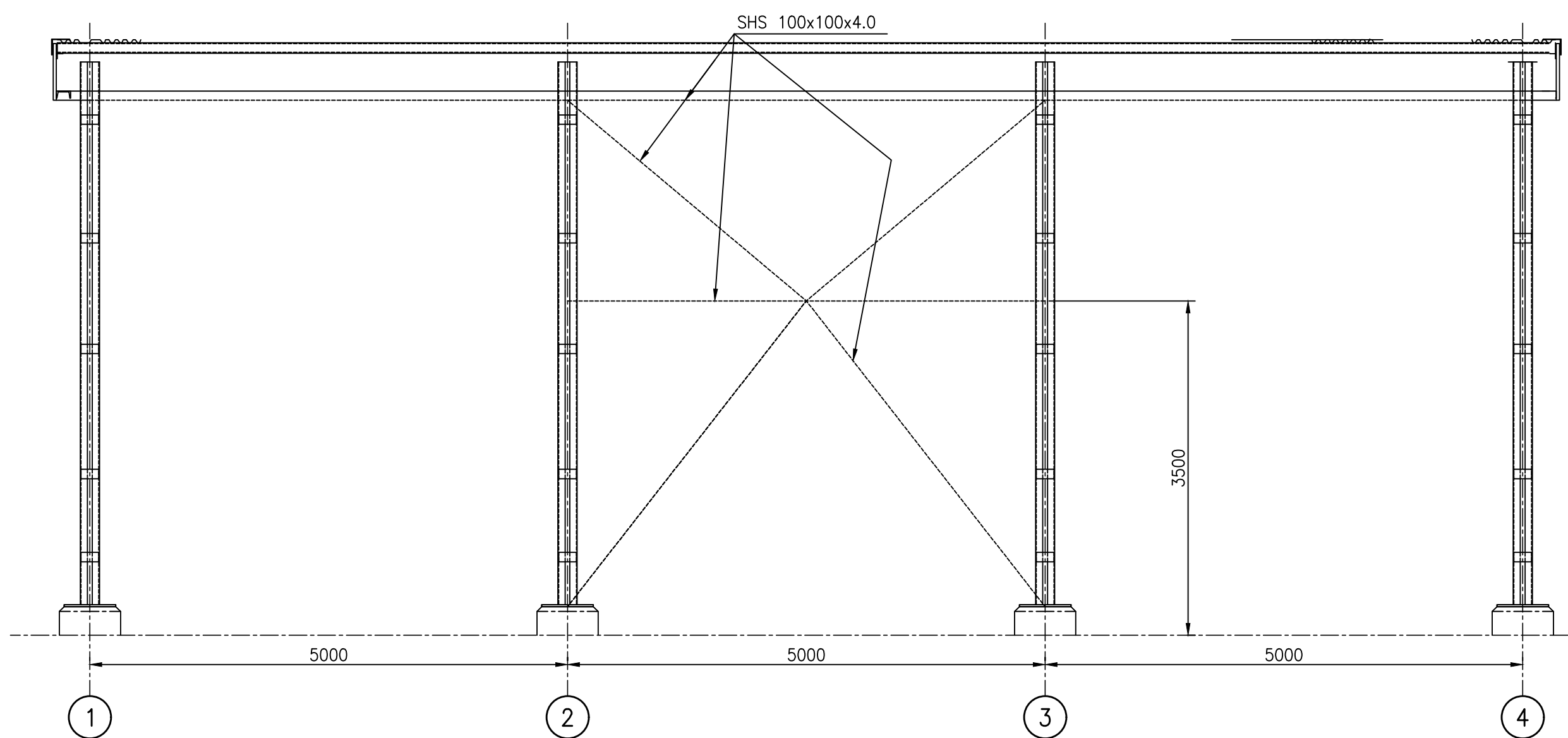
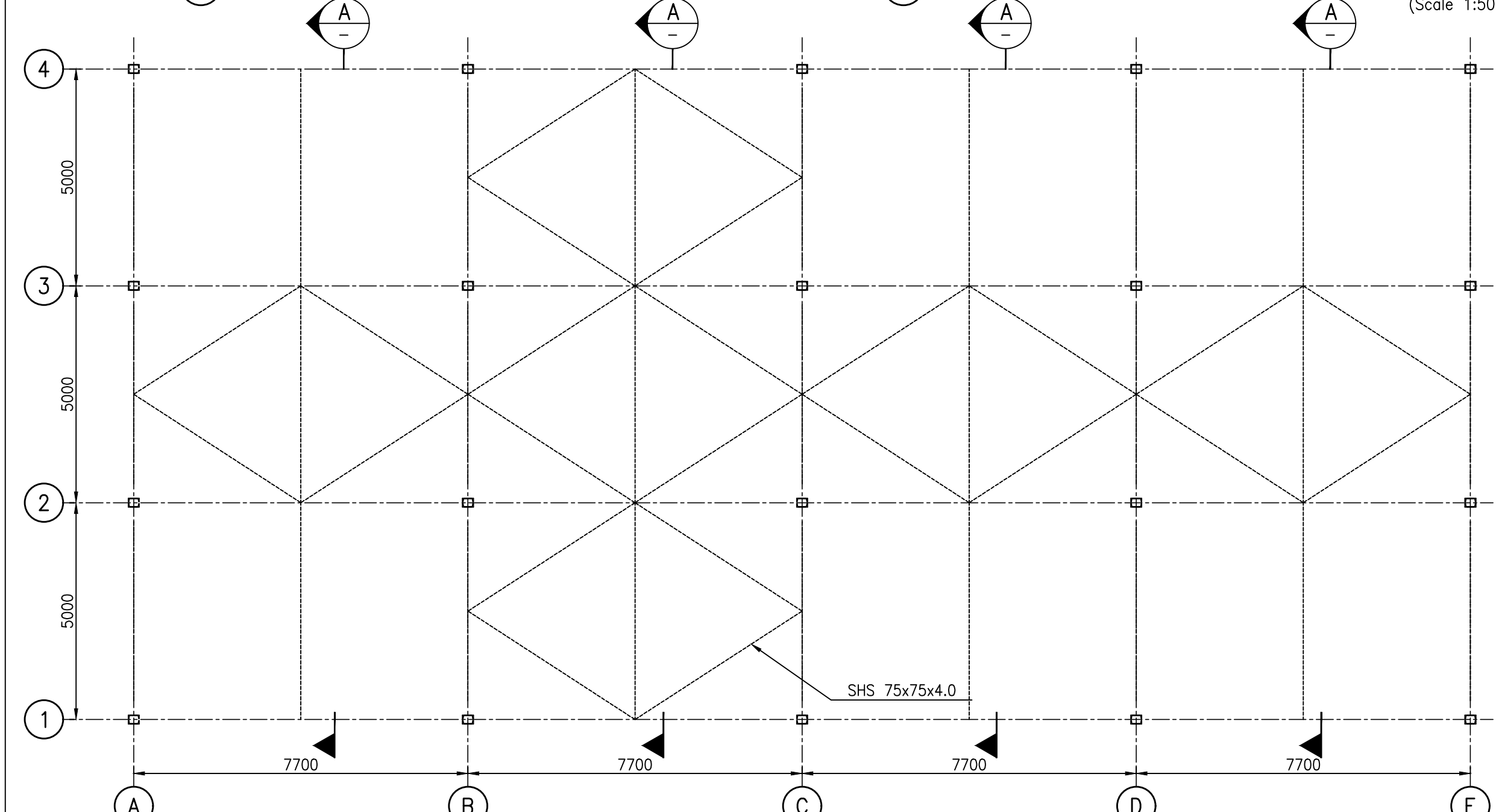
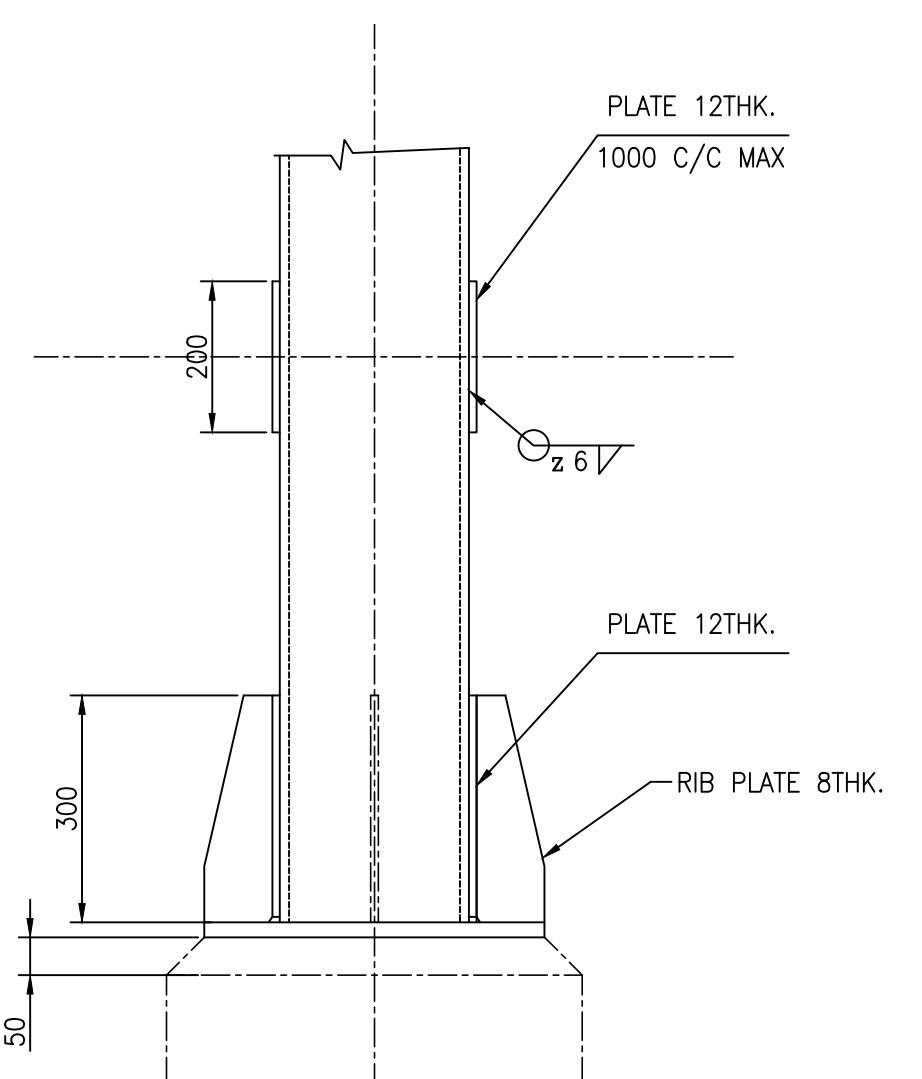
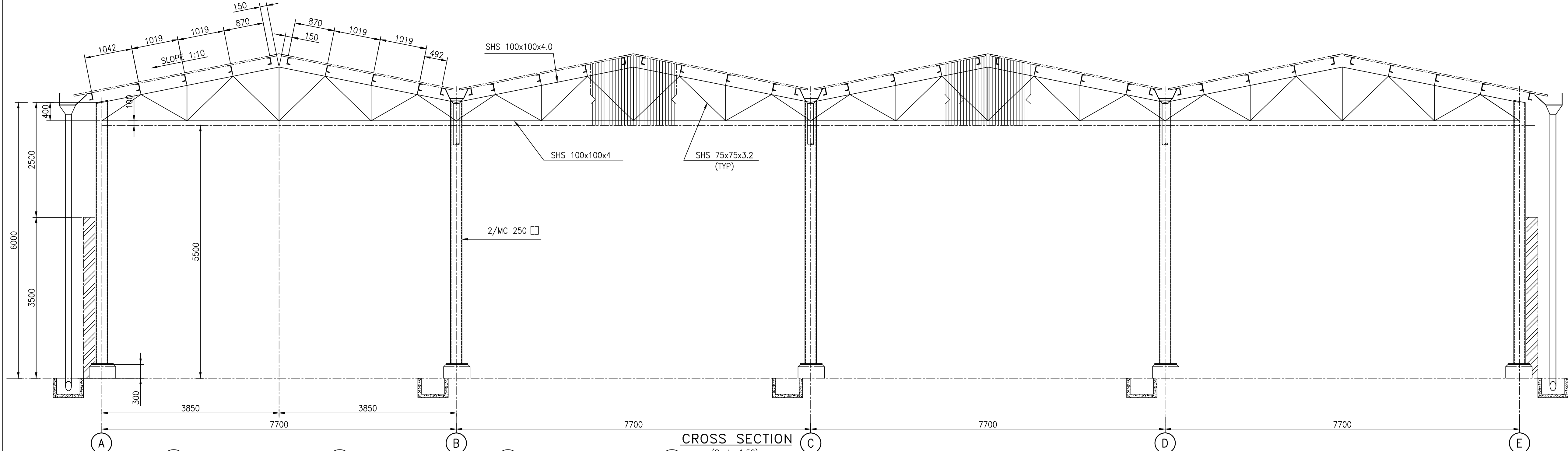
TYPICAL CROSS SECTION OF
450 DIA PILE



TYPICAL LONG SECTION
OF 450 DIA PILE

DATE	REV.NO.	REVISIONS		CHK. BY. APPR. BY.
CLIENT : AIRPORT AUTHORITY OF INDIA NSCBI AIRPORT KOLKATA				
STRUCTURAL CONSULTANT : SARDIP CONSULTING ENGINEERS PVT LTD CJ-147, GROUND & FIRST FLOOR, SECTOR-II, SALT LAKE, KOLKATA-700091				
PROJECT : CFT GARAGE IN CONNECTION WITH FACE-LIFTING CUM UPGRADATION OF FSTC COMPLEX AT NARAYANPUR AT NSCBI AIRPORT, KOLKATA				
DSGN.	J.SEN	DATE	TITLE : GENERAL ARRANGEMENT & R.C.DETAIL OF PILE & PILE CAP OF CFT GARAGE	SCALE AS SHOWN
DRWN.	K.AMIN			DATE 24.03.2022
CHKD.	A.GUHA ROY			SIZE A1
DRG. NO. [S][A][R] / [2][0][2][2] / [0][2][9] / [S][T][R] / [A][A][I] / [G][R] / [1]				
RELEASED FOR ☐ PRELIMINARY ☐ TENDER ☐ INFORMATION ☒ APPROVAL ☐ CONSTRUCTION				
DRAWING STATUS ☐ ARCHITECTURAL ☒ STRUCTURAL ☐ ELECTRICAL ☐ PLUMBING				

- NOTE:-
1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH DRAWING NO 01
 2. THIS DRAWING IS TO BE READ ALONG WITH ALL RELEVANT ARCHITECTURAL DRAWING.
 3. ALL DIMENSIONS ARE IN MM. AND LEVELS ARE IN METER UNLESS MENTIONED OTHERWISE.
 4. NO DIMENSIONS SHALL BE SCALED OUT. ONLY FIGURED DIMENSIONS ARE TO BE TAKEN.
 5. ALL WELDS ARE MINIMUM 6 MM. LEG SIZE CONTINUOUS FILLET UNLESS OTHERWISE NOTED.
 6. ALL HOLES SHALL BE 21.5 DIA FOR M20 BOLTS UNLESS OTHERWISE NOTED.
 7. ERECTION BOLTS SHOWN THUS 
 8. PERMANENT BOLTS SHOWN THUS 
 9. ALL STRUCTURAL STEEL USED FOR WELDED STRUCTURES SHALL CONFORM TO IS:2062-1999 GRADE-A (Fe 410W A) EXCEPT FOR M.S. PLATES OVER 20 MM. THICK UNLESS WHICH SHALL CONFORM TO IS:2062-1999 GRADE-B (Fe 410W B)
 10. ALL GUSSET PLATE AND INCLINED MEMBERS LENGTHS ARE TO BE VERIFIED FROM ACTUAL SHOP LAYOUT.



DATE	REV. NO.	REVISIONS	CHK. BY.	APPR. BY.
CLIENT : AIRPORT AUTHORITY OF INDIA NSCB AIRPORT KOLKATA				
STRUCTURAL CONSULTANT : SARDIP CONSULTING ENGINEERS PVT LTD CJ-147, GROUND & FIRST FLOOR, SECTOR-II, SALT LAKE, KOLKATA-700091				
PROJECT : CFT GARAGE IN CONNECTION WITH FACE-LIFTING CUM UPGRADATION OF FSTC COMPLEX AT NARAYANPUR AT NSCB AIRPORT, KOLKATA				
DSGN.	J.SEN	DATE	TITLE : GENERAL ARRANGEMENT & SECTIONAL DETAILS OF SHED OF CFT GARAGE	
DRWN.	K.AMIN		SCALE AS SHOWN	
CHKD.	A.GUHA ROY		DATE 14.03.2022	
DRG. NO.	SAR/2022/029/STR/AAI/GR/2			SIZE A1
RELEASED FOR	☐ PRELIMINARY ☐ TENDER ☐ INFORMATION ☒ APPROVAL ☐ CONSTRUCTION			
DRAWING STATUS	☐ ARCHITECTURAL ☒ STRUCTURAL ☐ ELECTRICAL ☐ PLUMBING			