

Corrigendum - 3 dated 24/11/2025 to CPC Tender No. BHEL/CPC/UKI/C_MPH_TYARD/26/054

Work Description - Civil, Structure and Architecture Works of BTG Island-I consisting of Power House Building including all Foundation/ Facility/ Structure inside the Building, Control Room Building, TG Foundation including Deck, Transformer Yard, Fire Protection & Detention System (Within Terminal Point), Fire Fighting Pipe Pedestal/ Trenches (Within Terminal Point), Pipe/ Cable Rack (Within Terminal Point), Area Paving (Within Terminal Point), ETP/STP (Within Terminal Point), etc.” at GSECL 1x800 MW Ultra Super Critical Unit No. 7 On Ash Dyke Area at Ukai TPS.

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A) BOQ CUM RATE SCHEDULE is revised and attached as **Annexure-1** of this Corrigendum.

B) Standard Guidelines for Worker’s Accommodation / Establishments at BHEL-Project Sites (Annexure-A, Chapter XII of TCC) is revised and attached as **Annexure -2** of this corrigendum.

C) Some of the Bidders sought clarifications in regard to the published tender specification. The clarifications issued by BHEL are as below;

Sl. No.	Reference Clause of Tender Document / Existing Provision	Bidder’s Query	BHEL’s Clarification
1	BOQ CUM RATE SCHEDULE	Clarification on the GST status for specific items in the Rate Schedule: - The Rate Schedule for ST No. 2308, A 2308, B 2308, and 2318 indicates that the rates are inclusive of all taxes and duties. - However, Chapter VIII, Clause 8.2 of the General Technical Conditions (TCC) states that the contractor's price/rates shall be exclusive of GST	Bidder to refer Revised BOQ CUM RATE SCHEDULE, attached as Annexure-1 of this corrigendum.
2	General	Please provide approved vendors list	Bidder to refer approved Vendor list attached with Tender Documents, which is again reproduced as Annexure-3 of this corrigendum, for reference purpose. For any new vendors, separate due approval to be taken by the bidder.
3	TCC Chapter-II, Scope of Works	Whether EOT erection is in Bidders scope or not	EOT erection is not included in the scope, bidder to refer clause 2.0 SCOPE OF WORKS for further clarification.
4	General	Regarding RA bill payments, we request you to pay 70% of RA bill to be paid after certification and balance to be paid within 30 days.	Tender conditions shall prevail.

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5	General	HR Compliance – Is it possible if Delta pay to SC and then Sc to pay to workers or do we need to pay directly to workers?	Bidder to refer GCC Clause 1.15.9.
6	General	Distance of fabrication yard and material yard from working site.	The bidder shall visit project site and acquire full knowledge and information about conditions prevailing at site and, in and around plant premises. Contact Details of BHEL Site officials are mentioned at Clause 1.6 of Chapter -I of TCC.
7	General Conditions of Contract Clause 2.13	As mobilization advance is against mobilization of equipment's, do we need to submit the BG against advance?	Bidder to refer GCC Clause 2.13 – SECURED RECOVERABLE ADVANCES & TCC Clause 7.2.
8	General Conditions of Contract Clause 2.22	Retention amount in cash collected against RA bills shall be released against BG of equivalent amount.	Bidder to refer GCC Clause 2.22.
9	General	Location of Single point for water and electricity.	The bidder shall visit project site and acquire full knowledge and information about conditions prevailing at site and, in and around plant premises. Contact Details of BHEL Site officials are mentioned at Clause 1.6 of Chapter -I of TCC.
10	General	Location of facilities for bidder near working area.	The bidder shall visit project site and acquire full knowledge and information about conditions prevailing at site and, in and around plant premises. Contact Details of BHEL Site officials are mentioned at Clause 1.6 of Chapter -I of TCC.

Note:

- 1) All other terms and conditions against this NIT shall remain unchanged.
- 2) This corrigendum is to be submitted duly signed and stamped along with the Techno-commercial bid (Part- I).

**for BHARAT HEAVY ELECTRICALS LTD
Manager/ SCT- CPC**

ANNEXURE-1

REVISED BOQ CUM RATE SCHEDULE

Tender No. BHEL/CPC/UKI/C_MPH_TYARD/26/054, PROJECT: 1x800 MW Ultra Super Critical Unit No. 7 On Ash Dyke Area at Ukai TPS						
BOQ CUM RATE SCHEDULE (PRICE BID) - REV01						
SCOPE OF WORK:-						
Civil, Structure and Architecture Works of BTG Island-I consists of Power House Building including all Foundation/ Facility/ Structure inside the Building, Control Room Building, TG Foundation including Deck, Transformer Yard, Fire Protection & Detention System (Within Terminal Point), Fire Fighting Pipe Pedestal/ Trenches (Within Terminal Point), Pipe/ Cable Rack (Within Terminal Point), Area Paving (Within Terminal Point), ETP/STP (Within Terminal Point), etc.						
ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY * 100)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
A1.1	Construction of Worker's Accommodation sheds (120-125 workers) having adequate no. of rest rooms along with toilets etc. including associated civil and structural works on built, own and operate basis (ownership of sheds shall be in line with TCC) as per attached drawing, Standard Guidelines for Worker's Accommodation / Establishments at Project Site and Clause 3.10 of TCC for development of labour colony. Payment shall be released on completion of each shed/set as per attached drawing. Cement & Steel shall be in bidder's scope.	Set	6.00	₹ 50,00,000.00	₹ 3,00,00,000.00	FIXED AMOUNT
A1.2	Payment for Lease of land provided for labour colony area including all statutory clearances, expenses for agreement and any other incidental charges, etc. Mode of measurement:- Say Duration is 3 years, land lease area is 5 acres and Cost per acre of land for 1 year is Rs A. Unit Rate(per acre per month) shall be = Rs A / 12 and Total Amount payable finally - Rs A / 12 x 36 months(3 years) x 5 Acres. Note:- In case, land is provided by BHEL/ Customer, this BOQ item shall not be operated.	Acre-Month	70.00	₹ 24,000.00	₹ 16,80,000.00	FIXED AMOUNT
100	EARTH WORK: Earth work in excavation, backfilling and disposal including all labour, equipments etc complete as per specification, drawing and as directed by engineer- in-charge for the following.					
101	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 1Km, spreading/levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	28477.00			0.2493057674
b	Depth exceeding 2 m but not exceeding 4 m	CUM	5000.00			0.0547164746
c	Depth exceeding 4 m but not exceeding 6 m	CUM	4000.00			0.0547164746
d	Depth exceeding 6 m but not exceeding 8 m	CUM	500.00			0.0085722477
A102	Extra over ST No. 101,103,104,105 & 106 for dewatering of ground water by sump pump method as per IS 9759.Ground water table shall be lowered up to 1 m below the founding level to make the site workable for foundation construction till backfilling up to ground level. Mode of measurement shall be the quantity of excavation of soil including ash below ground water table to founding level of the footing.	CUM	25000.00			0.5015676835
103	Earth work in excavation in soft rock including weathered rock which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with excavator machine etc but does not require chiselling or blasting including setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 1 Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	14239.00			0.2038665623
b	Depth exceeding 2 m but not exceeding 4 m	CUM	2014.00			0.0345290137
c	Depth exceeding 4 m but not exceeding 6 m	CUM	620.00			0.0127781207
d	Depth exceeding 6 m but not exceeding 8 m	CUM	122.00			0.0030150601
105	Earth work in excavation in hard rock requiring controlled blasting including wedging, line drilling, pre shearing etc as required, setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, necessary licenses/statutory clearances for blasting, supply, storage & handling of blasting materials, stacking/disposal of surplus excavated material within a lead upto 1Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	11391.00			0.4601849755
b	Depth exceeding 2 m but not exceeding 4 m	CUM	20144.00			0.9772916818
c	Depth exceeding 4 m but not exceeding 6 m	CUM	6199.00			0.3606692961
d	Depth exceeding 6 m but not exceeding 8 m	CUM	1215.00			0.0848734595
106	Earth work in excavation in hard rock requiring chiselling (pneumatic rock breaker attachment with excavator machine, etc.) including setting out, levelling, removing of surface water accumulated due to rain but excluding dewatering to lower the ground water table, dressing the sides & bottom, all lifts, stacking/disposal of surplus excavated material within a lead upto 1Km, spreading / levelling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	570.00			0.0281735128
b	Depth exceeding 2 m but not exceeding 4 m	CUM	1007.00			0.0596911140
c	Depth exceeding 4 m but not exceeding 6 m	CUM	310.00			0.0220507393
d	Depth exceeding 6 m but not exceeding 8 m	CUM	61.00			0.0052123826
A107	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 300mm compacted thickness using/with selected materials from compulsorily excavated earth available within a lead upto 1 Km and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete.for the following.					
a	at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	114724.00			1.1612991732
b	at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	12747.00			0.1429815348
109	Extra over ST No. 101 and 103 to 108 for carriage of material/earth for every 500m or part thereof beyond an initial lead of 1km including spreading / levelling of disposed materials.					
b	Carriage for disposal of serviceable/unserviceable material/ earth	CUM	1022400.00			1.3985530899

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A110	Earth work in backfilling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 300 mm thickness so as to achieve required compaction with approved borrowed soil (borrowed soil to be arranged by the bidder) and compacted as specified including supplying borrowed soil, royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, testing, all lead and lifts etc all complete as per specification, drawing and as directed by the engineer for the following:					
a	at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	29700.00			1.3406904181
b	at least 95% maximum dry density as per IS-2720 (Part-VIII)	CUM	3300.00			0.1564891173
B111	Supplying and filling "Crushed stone sand (M-Sand) / River / natural sand upto any depth under floors, around foundations, plinths etc. in layers not exceeding 200 mm thickness and compacted so as to achieve at least 85% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	656.00			0.1210226280
112	Extra over item no. 101 for shoring and strutting in trenches including packing cavities (wherever required as instructed by engineer) all complete as per specification and as directed by engineer in charge.					
a	upto depth of 2m	SQM	565.00			0.0158696015
b	Depth exceeding 2 m but not exceeding 4 m	SQM	128.00			0.0044940464
200	CONCRETE WORK: Providing and placing concrete work including cost of labour, materials (unless otherwise specified in BOQ/contract specification) and equipment for handling, transportation, batching, mixing, placing, vibrating and curing (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.					
A201	Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as mass filling course, lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level of ground floor upto depth of 10m from FFL of ground floor. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224)	CUM	100.00			0.0349091108
A202	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors below finished floor level of ground floor upto depth of 10m from FFL of ground floor. (For depth greater than 10m from FFL of ground floor, extra over for additional depth to be paid in Item No A224)	CUM	6555.00			2.2882922112
A203	Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors,plinth protection etc. complete below finished ground floor level of ground floor upto depth of 10m from FGL FFL of ground floor. (For depth greater than 10m from FGL FFL of ground floor, extra over for additional depth to be paid in Item No A224) (Minimum cement content shall be 300kg/cum)	CUM	200.00			0.0698182215
A204	Concrete of grade M20 (1 part cement, 1.5 part sand, 3 parts of 10-20 mm graded aggregate by volume) under floors, paving, plinth protection, pipe encasing etc complete below finished ground floor level of ground floor upto depth of 10m from FGL FFL of ground floor. (For depth greater than 10m from FGL FFL of ground floor, extra over for additional depth to be paid in Item No A224). (Minimum cement content shall be 340kg/cum)	CUM	80.00			0.0269423921
A205	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in foundations/substructure, grade slab, paving, drains, trenches, under floors, duct banks etc for any shape, position or thickness etc complete all including with addition of high performance PCE-based BIS approved water reducing admixture of Type-G as per ASTM C-494 of approved make FOSROC/STP/SIKA/BASF or Equivalent having minimum water reduction capability of 30% to achieve required slump in concrete complete as per specification & drawing below finished ground floor level of ground floor upto a depth of 10m from FGL FFL of ground floor (For depths greater than 10m from FGL FFL of ground floor, extra over for additional depth to be paid in Item No A224), for the following.					
b	M 25 Grade (Minimum cement content shall be 375kg/cum)	CUM	16351.00			6.0688385632
c	M 30 Grade (Minimum cement content shall be 400kg/cum)	CUM	656.00			0.2449167766
d	M 35 Grade (Minimum cement content shall be 400kg/cum)	CUM	1951.00			0.7326734748
A206	Providing and laying Design Mix cement concrete of grade conforming to IS:456 & IS 10262-2009 for reinforced concrete works with sand and graded hard stone aggregate of 20mm nominal size in superstructure for any shape, position or thickness etc complete including with addition of high performance PCE-based BIS approved water reducing admixture of Type-G as per ASTM C-494 of approved make FOSROC/STP/SIKA/BASF or Equivalent having minimum water reduction capability of 30% to achieve required slump in concrete all complete as per specification & drawing upto 10m level above finished ground floor level of ground floor (For height greater than 10m from FGL FFL of ground floor, extra over for additional height to be paid in Item No A225), for the following.					
b	M 25 Grade (Minimum cement content shall be 375kg/cum)	CUM	6389.00			2.5671085797
A207	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works of grade mentioned below in machine foundations for TG, ID/FD/PA fans, BFP, Mills, FGD,etc at all elevations below/above finished floor level of ground floor but including TG foundation Columns, BFP foundation Columns with addition of suitable plasticizer conforming to IS 9103(latest) or ASTM C494 to achieve a slump in the range of 100 mm -150 mm in concrete as per manufacturer's recommendation with 20 mm nominal size graded aggregate in concrete all complete as per specification & drawing all complete.					
a	M 30 Grade (Minimum cement content shall be 400kg/cum)	CUM	1504.00			0.6351692643
b	M 35 Grade (Minimum cement content shall be 400kg/cum)	CUM	3049.00			1.2943268693

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A208	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 of grades mentioned below for reinforced concrete works using graded aggregate in top decks of all machine foundations supported on vibration isolation system (excluding supply and installation of vibration system) and top deck of TG foundation, top deck of frame type of other machine foundation at all levels including addition of suitable plastisizers conforming to IS9103 to achieve a slump in the range of 150 mm - 180 mm in concrete as per manufacturers recommendation, preparation of scheme for concreting, getting it approved by engineer, labour, materials, equipment, handling, batching, transporting, mixing, pumping, placing, leveling, vibrating, compacting, curing, testing, cleaning and rendering the exposed surface with cement sand mortar to give a smooth and even surface, maintaining and submitting records of concreting, petrographic examination and potential reactivity of aggregate etc. all complete as per specification, drawing and instructions of engineer, including UPV testing as directed by engineer in charge, rectification of the defects in concreting observed by ultra-sonic pulse velocity (UPV) testing by cement/epoxy grout etc, but excluding formwork, staging, reinforcement, embeddments and temperature control of concrete. Payment terms - a) After casting 75% ; b) After receipt of ultrasonic test report - 25%.					
b	M 35 Grade	CUM	1344.00			0.9015874267
209	Extra over St. No. 205 to 208 for controlling of temperature of fresh concrete to less than 23 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc. All complete as per specification, drawing and instruction of engineer in charge.	CUM	4393.00			0.4807389456
210	Extra over ST Nos. 205 to 207 for conducting UPV test for concrete at all levels including all equipments, making necessary arrangements, staging, submission of report etc. all complete as directed by engineer in charge and as per specification.	CUM	5897.00			0.3226630505
211	Providing and encasing of structural steel member with concrete using nominal aggregate size of 12.5mm down. Encased member shall be wrapped with welded wire mesh/chicken wire mesh with proper lap etc. complete as per specification for the following grades					
b	M 25 Grade (Minimum cement content shall be 375kg/cum)	CUM	251.00			0.0876218680
212	Screed concrete conforming to IS 456 with sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof upto 10m level above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 225) or thickness, drains etc complete as per following.					
a	01:02:04	CUM	441.00			0.1539491785
213	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in precast works like roof slabs/trench covers, fins, lintels, chajas, beams, columns, wall panels, facias etc.at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transpoting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with M30 grade concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing for following grades.					
b	M25	CUM	312.00			0.1992533251
A214	Providing and laying Design Mix cement concrete as per IS:456, IS 3370 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in water retaining/conveying structures including addition of suitable plastisizer confirming to IS 9103 and crystalline waterproofing cement additives to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and crystalline waterproofing conforms to limits of permeability as per ACI212-3R10(chapter-15,PRAH), BS8102 Type-B and IS 2645 and specification with 20 mm nominal size graded aggregate upto depth of 10m from FGL FFL of ground floor, (For depth greater than 10m from FGL FFL of ground floor, extra over for additional depth to be paid in Item No A224). for following grades.Crystalline waterproofing additive reduces permeability by more than 90%,tested as per DIN 1048-V, ensuring waterproof concrete with self-healing capabilities for cracks up to 0.5 mm with valid test results. The recommended dosage rate should be 0.8% by weight of total cementitious content or such lower dosages, allowing the concrete to withstand 16 bars of hydrostatic pressure and reduces chloride diffusion coefficient more than 45%, tested as per ASTM C 1556, resistant to sulphate attack and resistance to Alkali-Silica Reaction (ASR).The product should certified under NSF 61, and accredited from IRC & MoRTH.Watertightness is to be ensured including structural grouting if required.					
b	M 30 Grade (Minimum cment content shall be 400kg/cum)	CUM	50.00			0.0203727674
215	Dismantling concrete work for all types of structures at all levels including stacking of servicable material to a lead of 500 m and disposal of unservicable material upto a lead of 2 km, cutting of reinforcement, labour, equipment, safety precautions etc all complete as per drawings, specification and instructions of engineer in charge.					
a	Plain cement concrete of all grades	CUM	106.00			0.0116095592
b	Reinforced cement concrete of all grades	CUM	221.00			0.0372645638
216	Chipping of concrete in reinforced concrete work, cutting pockets, making openings at all levels and according to shapes, disposal of waste materials upto a lead of 2 km as directed by engineer including equipment, safety precautions, making good the broken surface etc all complete as per specification, drawing, instructions of engineer in charge but excluding cutting of reinforcement.	CUDM	1107.00			0.0079751998
217	Extra over and above St No 216 for cutting of reinforcement, all sizes and types including labour, equipment, return of cut reinforcement to store etc all complete as per specification, drawings and instructions of engineer in charge. Measurement shall be on the cross sectional area of reinforcement cut.	SQCM	177.00			0.0001129895
218	Cutting Reinforced concrete with mechanised tools like Core drilling machine etc. for cutting pockets, holes, cores in slab, beam, column or foundation as per direction of engineer in charge.	CUDM	111.00			0.0018827939
219	Providing and applying curing compound (water based) of approved make where ever required as per manufacturer's specification.	SQM	1500.00			0.0179196454
222	Cutting of groove of 10mm X 40mm size with groove cutting machine in concrete paving all complete.	RM	450.00			0.0029957270
223	Cutting of existing concrete/ RCC work inside control room/ pump house or anywhere inside boundary using power tools of (DD2E of HILTI/ BOSCH make) with low noise and dust including cutting reinforcements, removing the rubbish within a lead of 1 km, including making good the broken edges/ surface with cement mortar, painting, finishing to match with existing finishing, scaffolding/ supporting at any level, all complete and as directed by Engineer (measurements shall be taken as per cutting surface area).	SQM	44.00			0.0110023887
A224	Extra over item no. 201 to 205, A201 to A205 and 214, A214 for depth below FGL FFL of ground floor (Finished ground floor level of ground floor) as per following:					
a	Depth exceeding 10m from FFL but not exceeding 20m	CUM	800.00			0.0272123267
A225	Extra over item no. 206,A206,and 212,A212 for height above FGL FFL of ground floor (Finished ground floor level of ground floor) as per following:					

ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY * 100)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
a	Height exceeding 10m from FFL but not exceeding 20m	CUM	2823.00			0.1199675120
b	Height exceeding 20m from FFL but not exceeding 30m	CUM	1500.00			0.1147678054
c	Height exceeding 30m from FFL but not exceeding 40m	CUM	900.00			0.0918416026
d	Height exceeding 40m from FFL but not exceeding 50m	CUM	1200.00			0.1429194316
300	FORMWORK: Providing, fixing and removing formwork at all elevations for all structures, as per specifications and including all labour, material, scaffoldings and centereing etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.					
301	Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams & slabs (for which scaffolding work not required for vertical support of bottom face of formwork), mass concrete, trenches, grade slab, paving etc.including chamfering of edges as per drawing, specification and instruction of engineer in charge.					
a	Upto Depth 10m From FGL	SQM	37646.00			2.1525499396
302	Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth surface above finished ground floor level for columns, beams, suspended/intermediate floors, roofs, lintels, cantilevers, staircases, landings, balconies, etc. including chamfering of edges as per drawing.for all heights as per specification, drawing and instruction of engineer in charge.					
a	For Height Upto 20m from FGL	SQM	2464.00			0.1739195974
b	For Height More Than 20m from FGL	SQM	3006.00			0.2362996614
303	Fairface Formwork with good quality water proof ply wood of minimum 18mm thickness and smooth surface for TG superstructure (above base raft level for columns, connected beams & TG Deck only) including preparation of scheme, designing, submission and approval of staging drawing with sufficient props, braces and ties at every tier of height of approx. 4m for all heights complete including chamfering of edges, deshuttering as per drawing,specification, and instruction of engineer in charge..	SQM	2667.00			1.2469619179
304	Providing, fixing and removing formwork in block-outs/pockets and openings (below 0.1 sqm plan area) at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.					
a	Upto 150 mm depth	Each	25.00			0.0005403252
b	Pockets of depths more than 150mm and upto 300 mm depth	Each	50.00			0.0017919645
c	Pockets of depths more than 300mm and upto 600 mm depth	Each	50.00			0.0031735555
d	Pockets of depths more than 600mm and upto 1000 mm depth	Each	50.00			0.0049472812
e	Pockets of depths more than 1000mm and upto 1500 mm depth	Each	25.00			0.0035565708
f	Pockets of depths more than 1500mm and upto 2000 mm depth	Each	25.00			0.0046896578
305	Extra over item no.301 and 302 for curved form work for foundations, footings, beams, walls, trenches, domes, arches etc as per specification.					
a	Extra for Curve Shuttering for Item No. 301	SQM	100.00			0.0011399266
b	Extra for Curve Shuttering for Item No. 302	SQM	156.00			0.0022050739
307	Fairface formwork with filmface/laminated plywood for RCC Overhead Tanks (with a minimum 15.00m height of supporting RCC columns from FGL) including columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches, etc. for all heights above FGL all complete as per specification, drawing and instruction of engineer in charge.	SQM	550.00			0.1369279776
400	REINFORCEMENT WORK : Reinforcement work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge.					
401	Providing, straightening, cutting, bending, placing in position at any level, binding of mild steel reinforcements conforming to grade 1 of IS:432 part 1 in concrete including cost of reinforcement and binding wire, labour, scaffolding, transportation to & from stores etc. all complete as per specifications & drawings. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	5.00			0.0381524298
403	Transportation, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500D or 500EQR or HCRM or any other Grade confirming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer.(BHEL to supply steel free of cost)	MT	3038.00			3.3752727329
405	Providing & fixing of Rebar in existing concrete surface by inserting reinforcement bar with Epoxy based suitable bonding compound of Hilti or equivalent make (HIT-RE-500 of Hilti or equivalent make) for interconnection of new R.C. structure with existing R.C. structure. Depth of drilled hole should be suitable to develop maximum recommended strength as per approved manufacturer's recommendation. This item includes supply of all materials including bonding chemicals, T&P required to execute the work, cost of all labour, transportation of chemical, staging to reach work place etc. all complete as directed by Engineer - in - Charge. Random Pull out non destructive test as directed by engineer shall beconducted to ensure strength of bond and same is included in this item. Reinforcement bar shall be paid separately under item no. 402, 403, 405 as applicable.					
a	12mm Reinforcement bar	Nos.	25.00			0.0013907104
b	16mm Reinforcement bar	Nos.	38.00			0.0034480498
c	20mm Reinforcement bar	Nos.	50.00			0.0065978949
406	Supply and fixing reinforcement bar couplers (of approved manufacturer's as per the relevant IS code) in position for steel reinforcements of TMT steel of grade Fe-500D or 500EQR or any other Grade confirming to IS:1786 including , labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer.(Agency has to supply reinforcement bar couplers).					
a	12mm dia	Nos.	13.00			0.0000675748
b	16mm dia	Nos.	50.00			0.0002735824
c	20mm dia	Nos.	38.00			0.0002633686
d	25mm dia	Nos.	25.00			0.0002599033
e	28mm dia	Nos.	20.00			0.0002535197
f	32mm dia	Nos.	15.00			0.0002421204
g	36mm dia	Nos.	10.00			0.0002133943
h	40mm dia	Nos.	10.00			0.0002881734

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B409	Supply and Fixing of Hard Drawn Steel Wire fabric including straightening, cutting, bending, placing in position at grade slabs / plinth levels / pavings etc. binding in position of grade Fe-500 (min.) conforming to IS:1566 including cost of steel, binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer.	MT	3.00			0.0217467892
500	Roof Treatment works: Roof treatment works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, curing, sampling, testing etc at all level as per specification, drawings and as directed by engineer - in - charge.					
501	Providing and laying underbed/topping grading plaster with cement mortar 1:4 (1 cement : 4 sand) and average thickness of 25 mm including preparation of surface, batching, mixing, leveling etc. all complete.	SQM	8823.00			0.2075882857
AA506	Providing and applying PU based 100% solid content of approved make water proofing treatment with epoxy based or equivalent material based primer with an application rate of minimum 200gm persqm and two successive liquid coatings of high solids content urethane pre-polymers or equivalent material based finish coats as per relevant IS/ASTM standards to form an elastomeric membrane with overall dry film thickness 1.5 mm subject to minimum 500 gm/sqm/coat application rate. The coating shall be applied with a total consumption of 1.6kg/sqm to achieve total system DFT of min.1.5mm. The elastomeric membrane shall be of two component, instant setting, spray applied hybrid polyurea polyurethane liquid elastomeric seamless waterproofing membrane. Item includes surface preparation. The coating shall have high viscosity, more than 450% elongation and forming a perfectly smooth permanently flexible seamless membrane which should have good adhesion to roof substrates. The cured film should have a very low water absorption rate (0.5% maximum at ambient temperature after 7 days), reinforcing layer of polyscrim cloth (non woven polyscrim cloth of 100% polyester with min. weight of 40gsm/sqm) or geo-textile non woven polyster (150 gsm), polymerised mastic base preparation, primer, making of fillets, cleaning & preparation of surface, vacuum removal of loose sand, expansion joints & sealing at suitable intervals, application by using a pneumatic machine as per manufactures recommendations, grouting the porous area with cementitious grout, proper coving between slab and wall junctions and priming the surface with two component solvent free epoxy primer etc. all complete as per specifications, drawings and direction of engineer in charge. Water proofing treatment shall also be carried out into the drain pipe or out-lets by at least 100 mm. The application of waterproofing treatment shall be carried by authorised applicator of approved Manufacturer of Waterproofing materials.. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	8488.00			0.8359801850
B506	Providing and applying PU based water proofing treatment with one coat of polyurethane or any other equivalent material based primer with an application rate of minimum 6 sq.m per litre and two successive liquid coatings of high solids content urethane pre-polymers or equivalent material based finish coats as per relevant IS/ASTM standards to form an elastomeric membrane with overall dry film thickness 1.5 mm subject to nominal rate of total liquid coating application shall not be less than 1.6 kg. /Sq.M. excluding primer coat. Reinforcing layer of polyester scrim cloth shall be placed over the 1st coat when the coat is tacky and fine silica sand shall be spread over the final coat when coat is tacky to obtain a rough surface. The exposed surface of elastomeric membrane shall be protected by providing extruded high density dimpled polyurethane membrane. The top surface of elastomeric membrane shall be protected by providing 20 mm thick PCC of grade M20 (using 12.5 mm size aggregate) cast in panel of maximum size 1.5 m x 1.5m. The surface shall be dry and smooth before application. Item includes surface preparation, polyscrim cloth /fabric, polymerised mortar base preparation, etc all complete as per specifications and directions of engineer in charge. (They may be rubber or P.V.C. In case of water bars being used at the construction joint, fixing of the same has to be done carefully so that the water bar is not disturbed during concreting). Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	200.00			0.0207375439
507	Providing and laying wearing course consisting of 25mm thick plain cement concrete of grade M15 (1:2:4) with graded aggregate of 12.5mm size cast in panels of maximum size 1.2mx1.2m and reinforced with 0.56 mm dia. galvanised chicken wire mesh and sealing of joints (in grooves of 6mm X 6mm) using silicon /elastomeric compound etc all complete.	SQM	8354.00			0.3938690643
510	Providing and laying cement concrete chequered flooring tiles of 22 mm thickness and size 300x300 mm conforming to IS 13801 with 8 mm thick 1:4 cement mortar over the top most layer of roofing treatment in pathway or entire area with fine joints including sealing of joints (silicon/elastomeric sealant) and providing expansion gap in both directions including underbed(as per drawings) filled up with (silicon/elastomeric) joint sealant etc all complete. (Water proofing paid elsewhere)(including cost of cement for tiles making) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	2206.00			0.1438395803
A516	Providing and applying two coats of a cement-based, two-component, polymer-modified flexible protective and waterproofing slurry shall be applied on the walls and floor. Each coat shall be approximately 1 mm thick. Prior to application, surface shall be rendered absolutely dry, clean, dust free. The slurry shall be applied using a brush to ensure uniform coverage and proper adhesion etc. all complete as per specification and as guided by engineer-in-charge.	SQM	400.00			0.0180199590
A517	Providing and laying Cinder / foam concrete blocks in the toilets,pantry,sunken slab etc. after water proofing and laying of plumbing pipes complete as directed by engineer in charge.	CUM	7.00			0.0017720842
A518	Providing and laying water proofing treatment for wet areas like toilets,kitchen,pantry for sunken slab etc.material with min.two coats of Acrylic Polymer Modified Flexible Cementitious Waterproofing Coating material like penetron SF-50 or equivalent make applied @ 0.70 to 0.8 0 Kg./m2 per coat .The First layer shall be of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm.The Second layer shall be of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm.The integral waterproofing coat applied (confirming to IS 2645) , while maintaining a gap of 4 to 8 hours between the coats all complete with water ponding test as per IS Code and as directed by engineer in charge	SQM	60.00			0.0033760065
B519	Providing and laying an angular fillet around parapet wall junction at roof level of min.75mm x 75mm, shall be trowel applied in cement-sand mortar in 1:3 proportion. A latex based bonding agent should be added (10% by weight of cement) and also a glass cloth must be inserted while the angle fillet is being constructed etc. all complete as per specificatio & as directed by engineer in charge.	RM	376.00			0.0315115825
600	JOINTS AND FILLERS: Joints & fillers including all labour, material, equipment, transportation, handling etc at all level as per specification, drawings and as directed by engineer - in - charge.					

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601	Supplying & installation of bitumen impregnated fibre board confirming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	12 mm wide joints.	SQM	80.00			0.0045451152
b	20 mm wide joints.	SQM	75.00			0.0051228299
c	25 mm wide joints	SQM	1250.00			0.1247079650
d	50 mm wide joints	SQM	350.00			0.0730920906
603	Providing and applying polysulphide based sealant conforming to IS:12118 in expansion joints in concrete including cleaning of joints, raking out groove, application of primer, scaffolding etc. all complete for following size grooves (10 mm thick baker rod to be paid separately):					
a	25mmX25mm groove size	RM	125.00			0.0072385336
b	50mmX25mm groove size	RM	350.00			0.0383334501
604	Supplying and filling in position hot applied bitumin sealing compund (Grade A) confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.					
a	10mm X 40mm	RM	50.00			0.0003055003
b	12mm X 25mm	RM	75.00			0.0003966944
c	20mmX25mm	RM	100.00			0.0006930753
A604	Supplying and filling in position Nito Bond sealing compund confirming to indian standard including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.					
a	10mm X 40mm	RM	100.00			0.0006748365
b	12mm X 25mm	RM	50.00			0.0002918212
c	20mmX25mm	RM	125.00			0.0009575383
605	Supplying and installation of commercial quality of expanded polystyrene products from reliable manufacturers as approved by the Engineer, as filler material in joints including nailing, installation as per manufacturer's recommendation etc. all complete.					
a	12 mm wide joints.	SQM	50.00			0.0003419780
b	20 mm wide joints.	SQM	50.00			0.0004331721
c	25 mm wide joints	SQM	50.00			0.0004970080
d	50 mm wide joints	SQM	150.00			0.0033787423
A605	Supplying and installation of commercial quality of expanded polystyrene products from reliable manufacturers as approved by the Engineer, as filler material in joints including nailing, installation as per manufacturer's recommendation etc. all complete.					
Ae	100 mm wide joints with polystyrene board of type-1 conforming to IS: 4671 with density 20 Kg/cum	SQM	1571.00			0.3290819314
606	Providing and installing PVC joint sealing strips of minimum 3mm thickness and minimum width 100 mm at the construction, expansion and isolation joints from reputed manufacturers as a continuous diaphragm to contain the filler material and/ or to exclude passage of water or any other material into or out of the structure, without any longitudinal joint; and shall be procured and installed in largest practicable lengths having a minimum number of transverse joints with jointing procedure as per the manufacturer's recommendations including the material and tools required for jointing, testing, protection, etc all complete. The joints in rubber seals shall be vulcanished as needed.	RM	200.00			0.0026263908
A606	Providing and installing PVC joint sealing strips of minimum 1mm thickness and minimum width 100 mm at the construction, expansion and isolation joints from reputed manufacturers as a continuous diaphragm to contain the filler material and/ or to exclude passage of water or any other material into or out of the structure, without any longitudinal joint; and shall be procured and installed in largest practicable lengths having a minimum number of transverse joints with jointing procedure as per the manufacturer's recommendations including the material and tools required for jointing, testing, protection, etc all complete. The joints in rubber seals shall be vulcanished as needed.	RM	100.00			0.0009666577
B606	Providing and installing rubber joint sealing strips of minimum 3mm thickness and minimum width 100 mm at the construction, expansion and isolation joints from reputed manufacturers as a continuous diaphragm to contain the filler material and/ or to exclude passage of water or any other material into or out of the structure, without any longitudinal joint; and shall be procured and installed in largest practicable lengths having a minimum number of transverse joints with jointing procedure as per the manufacturer's recommendations including the material and tools required for jointing, testing, protection, etc all complete. The joints in rubber seals shall be vulcanished as needed.	RM	150.00			0.0021613007
A610	Providing and fixing ribbed PVC water stops in joints conforming to IS 12200 & IS 15058 all complete for the following: (Bulb or Kicker type)					
b	230 mm wide and 8 mm thick	RM	2500.00			0.1126247435
Ab	230 mm wide and 10 mm thick	RM	100.00			0.0047329751
d	230 mm wide and 6 mm thick	RM	100.00			0.0031826749
611	Providing and fixing copper water stops in joints of deep underground structure all complete for the following:					
Ac	250 mm wide and 2.0 mm thick	RM	1679.00			0.6835050683
612	Providing and applying approved fire retardant sealant in joints/openings including cleaning of joints/openings, raking out groove, application of primer, scaffolding etc. all complete (10 mm thick baker rod is to be paid separately).					
a	25mmX25mm	RM	100.00			0.0087272777
b	50mmX25mm	RM	100.00			0.0168253159
613	Providing and fixing G.I strips minimum 1.5mm thk and 150mm wide including fixing accessories etc. all complete.	Kg	200.00			0.0047968109
614	Providing and fixing aluminium strips minimum 18 SWG thk and 300mm wide over expansion joints with minimum lap of 50mm length including brass / aluminium screws, rawl plugs etc. all complete.	Kg	200.00			0.0109432949
615	Providing and fixing 300 mm wide Stainless steel strips over expansion joints with minimum lap of 50mm length including stainless steel screws, rawl plugs etc. all complete.	Kg	100.00			0.0059549763
700	MS EMBEDMENTS: Embedments including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.					

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A701	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including surface preparation by manual cleaning and provided with primer coat of chlorinated rubber based zinc phosphate primer of minimum 50 micron dry film thickness (DFT), welding, bolting, cutting, drilling, scaffolding, setting etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	224.00			2.0372738182
B702	Supply, Fabrication, transportation, delivery at site and erection, installation and alignment of mild steel foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling etc. all complete. All threaded and other surfaces of foundation bolts shall be coated with temporary rust preventive fluid and during execution of civil works, the dried film of coating shall be removed using organic solvents. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	57.00			0.6292985513
703	Same as above items 701, A701, A702 & B702 with BHEL supplied material free of cost including loading, transportation, unloading etc. all complete from BHEL store to plant site.					
A	Mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc.	MT	40.00			0.0913145005
B	Mild steel/Galvanised foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc.	MT	40.00			0.0902602964
704	Supplying, fabricating, erecting and installing following items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete.					
a	MS pipes of all diameters	kg	4000.00			0.0401254147
b	PVC pipes / conduits of all diameters	kg	550.00			0.0186583178
c	UPVC pipes / conduits of all diameters	kg	390.00			0.0167158830
d	Expansion anchor fasteners (galvanised) of HILTI make(HUD-1 Universal Fastners) or equivalent of safe tensile capacity as specified below for brick work with expansion sleeve of A6 polyamide:					
i	8mm Dia	Nos	25.00			0.0001025934
ii	10mm Dia	Nos	25.00			0.0001367912
iii	12mm Dia	Nos	25.00			0.0001709890
iv	14mm Dia	Nos	13.00			0.0001398918
e	Expansion fasteners (mechanical galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with expansion sleeve of stainless steel:					
i	HST M8	Nos	25.00			0.0006064409
ii	HST M10	Nos	25.00			0.0008344262
iii	HST M12	Nos	25.00			0.0014978635
iv	HST M16	Nos	25.00			0.0026127117
v	HST M20	Nos	25.00			0.0045642659
vi	HST M24	Nos	25.00			0.0093382783
f	Chemical Expansion fasteners (galvanised)of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with anchoring rod,nuts,washers,chemicals all complete,etc:					
i	HAS-E5.8 M8	Nos	25.00			0.0011080086
ii	HAS-E5.8 M10	Nos	25.00			0.0013633522
iii	HAS-E5.8 M12	Nos	25.00			0.0017600466
iv	HAS-E5.8 M16	Nos	25.00			0.0030025665
v	HAS-E5.8 M20	Nos	25.00			0.0047922512
vi	HAS-E5.8 M24	Nos	25.00			0.0066708502
707	Providing, laying and fixing rails(52kg/rm) and guide rails in concrete for transformer, rail track including cutting of rails, joining of rails, anchoring lugs etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	66.00			0.5713237107
800	GRROUTING: Grouting including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, roughening surface, cleaning, ramming, curing etc. at all level , drawings and as directed by engineer - in - charge.					
801	Providing & grouting with cement slurry mix of approved ratio using pressure pump for water retaining concrete structures as per approved procedure including cost of nipples/ nozzles, cement, admixture, curing, pressure pumps, slurry agitator etc. all complete. Cost shall include fixing of nipples at maximum 500 mm centre to centre spacing, cutting of nipples after completing of grouting, making good of the nipple hole with appropriate non-shrink cement paste, water tightness test etc. all complete wherever specified in the drawing.	SQM	15.00			0.0011326310
802	Providing & grouting of pocket holes, pipe sleeves under base plates, machinery, pipe supporting structures etc. with mix 1:1 (1 cement :1 sand) using non shrink admixture etc. all Complete.	CUM	5.00			0.0109501345
803	Providing & grouting of pocket holes, pipe sleeves and under base plate of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with mix 1:1:2 (1 cement : 1 coarse sand : 2 aggregate of 6 mm down graded stonechips) using non shrink admixture as per specification, drawing and direction of engineer-in-charge. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	5.00			0.0106792879
804	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with ConbextraGP-1 or equivalent as per specification, drawing and direction of engineer-in-charge. (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	25.00			0.1052220604

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806	Providing Chemical (epoxy) injection grouting with pressure pump for water retaining concrete structures conforming to IS:6494, including fixing nozzles, cost of approved chemical, admixture, curing etc. all complete . Payment shall be made as per the consumption of chemical grout.	Kg	50.00			0.0075827914
900	DOORS & WINDOWS: Doors, windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, preparation of working drawings etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
904	Providing and fixing single or double steel door shutters with 45 mm thick flush design shutter comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, air tight, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	154.00			0.1968392343
906	Providing and fixing anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and anodized and electro color coating of required shade as per IS 1868 (minimum anodized coating of grade AC15). fixed with rawl plugs, expansion fasteners,SS screws / fixing clips necessary filling of gaps at junctions, at top, bottom & sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear float glass of 6mm thickness including snap fit type beading, concealed screws, fixtures, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Glazing shall be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	KG	1420.00			0.1019130816
AA906	Providing and fixing electrically sensor operated, self operable/closing, approved anodized aluminium framed glass door with 12 mm thk. tinted glass, all complete. Automatic Sliding operating system comprising of Advanced DC brushless motor, Automatic Reversing Safety Device, Suitable for door weight 100 kg, Opening speed : 90-110cm /sec (adjustable), Closing Speed : 40-110cm/sec (adjustable), opening time : within 1-9 seconds after door stopped in opening, controller : 8 Bit micro computer, Motor (Dortexor equivalent) : DC12V, 35W brushless motor, Power Voltage : AC 110V - 240V. 50Hz - 60Hz, Power Consumption : 45W including Infra Red Sensors 2No both sides, rails & top & bottom as required, any aother accessories as required etc. all complete of best make and quality as approved by Engineer in charge. The door shall be double panel sliding door of approx. area 5 sq.m. to 7.5 sq.m. each. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	278.00			0.4790507599
D906	Providing and fixing anodized extruded aluminium sliding window (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and anodized and electro color coating of required shade as per IS 1868 (minimum anodized coating of grade AC15). fixed with rawl plugs, expansion fasteners,SS screws / fixing clips necessary filling of gaps at junctions, at top, bottom & sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear float glass of 6mm thickness including snap fit type beading, concealed screws, fixtures, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Glazing shall be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	KG	9122.00			0.6546838949
B907	Providing and fixing automatically closing fire proof steel flush insulated doors along with frame of minimum 46mm thk flush shutter design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm center to center of approved make conforming to IS:3614 (part 1), & CBRI tested- ISI marked for both Single leaf & Double leaf, comply IS/ISO 3008,satisfying latest NBC code & LPA regulations and shall carry a unique label with certification/test report number,fire rating embossment, fixed at all elevations, with or without removable panels,with panic bar,panic trim,smoke seal with following fire rating using galvanised MS sheets for frames conforming to IS 277, made out of minimum 1.6mm (16 SWG) for both frame and shutter, G.I. sheet (min.zinc coating 120 gsm), and leaves, mineral wool / PUF/ any other fire retardant insulation material filled with required density, mastic caulking and grouting the frame, reinforcing and insulating the shutters with fire retardant material, with panic devices, including all fittings, fire rated vision glass, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (min.64 kg/cum density) complete and shall be fire proof as per IS:3614, NBC, LPA requirements and as per specification. Fire Rated Door Shop drawings shall be submitted by the approved fabricator/manufacturer like Navair,4C Fire, shakti hormann or equivalent for approval before execution. Minimum ratings shall be 2 Hrs. All hardware fittings shall be 2 Hours fire rated. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	245.00			0.6728238653
908	Providing and fixing steel windows/ventilator with steel sections as per IS:1038, IS:1361 & IS:7452 latest revision including all fittings, metal beadings, hold fasts, shop and final painting ,glazing etc. all complete. (Glazing shall be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	Openable type	SQM	25.00			0.0065750964
b	fixed type	SQM	25.00			0.0042245678

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909	Providing and fixing anodised aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-metalic protection etc. including preperation of working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc.), CP brass/stainless steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid seperately).Weight of aluminium section only shall be measure. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	Kg	2281.00			0.1637068586
B909	Providing and fixing anodised aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections(of minimum 3mm wall thickness) including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285,(Grade of Aluminium shall be Alloy 63400) anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-metalic protection etc. including preparation of fabrication/working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc. of Dorma, doorset or equivalent.), CP brass/stainless steel screws of SS304 Grade, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid separately).Weight of aluminium section only shall be measured. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	Kg	2281.00			0.1637068586
A910	Providing, fabricating, designing, supplying and fixing of Aluminium composite panel cladding (ACP) in pan shape in solid or metallic colour,wooden colour,stone finish of approved shades made out of 4mm thick aluminium composite panel (weight of panel should be minimum 8.1 kg/sqmt) material	SQM	3660.00			1.7038983763
911	Providing and fixing of door closers as per IS 3564 ,of approved make & quality all complete of following type : Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	Over head hydraulic door closures	Each	25.00			0.0046463406
b	Floor mounted Hydraulic door closers	Each	25.00			0.0101020291
912	Providing and fixing pressed steel frames fabricated from 16 gauge M.S sheet mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars ,paintings etc all complete as per specifications. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	Kg	2989.00			0.0553335852
A913	Providing and fixing in position rolling shutter of tested, bright, cold rolled, annealed MS strip slats of not less than 0.9 mm thick for shutters upto 4.5 m wide and not less than 2.25 mm thick for shutters 5.5 m wide and above machine rolled at 75mm rolling centres interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs, top cover, red lead or zinc chromate primer & shop coats of approved enamel paint etc, all complete as per IS 6248 and technical specification of approved make of following types: The bottom slat shall be coupled to a lock plate fabricated from 3mm thick annealed steel plate and securely rivetted with stiffening angles.(partly coiled and slat/full slat). Hoods shall be formed of not less than 20 G steek, suitable reinforced to prevent sag.Guides shall be of such depth as to retain the shutter under a wind pressure of min. 100 Kg/Sq.M or as specified in Schedule. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	Mechanically Operated	SQM	17.00			0.0074305884
c	Electrically & Mechanically operated	SQM	58.00			0.0325871260
B913	Providing and fixing in position rolling grills constructed out of 6 mm dia. rods at 35 mm on centres running horizontally flexible connected with vertical links spaced not more than 200 mm centres. End locks shall be heavy type M.C.I./C.I. and shall be provided at each end of alternate slats mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs, top cover, red lead or zinc chromate primer & shop coats of approved enamel paint etc, all complete as per IS 6248 and specification of approved make of following types: Bottom bars shall be finished with two angles not less than 6 mm thick for external shutters. Hoods shall be formed of not less than 20 gauge steel, suitable reinforced to prevent sag. Locks shall be slide bolt and hasp, or cylinder lock operable from one or both sides with provision for securing hand chain with pad-lock, provision for removable handle for hand cranks etc. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	Mechanically Operated	SQM	17.00			0.0077856072
c	Electrically & Mechanically operated	SQM	58.00			0.0341421682

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A914	Providing and fixing Solid core PVC doors (25 thk double skin) with PVC frame of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	23.00			0.0067328622
915	Providing, fixing and fitting of glazing of first grade class in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
c	5.5 mm thick clear float glass	SQM	486.00			0.0792004554
Ac	6 mm thick clear float glass	SQM	172.00			0.0290493411
d	6 mm thick wired glass	SQM	591.00			0.1012700719
e	Providing and fixing of 3.0mm (min.) thick fire retardant and UV resistant polycarbonate clean toughed profile sheet of approved make conforming to IS 14434 in cladding and roof as per specification all complete.	SQM	490.00			0.1091210652
f	4 mm thick ground glass	SQM	70.00			0.0103797152
Ag	12 mm thick tinted glass	SQM	219.00			0.0599145397
h	6 mm thick clear toughened safety glass	SQM	219.00			0.0453353350
i	Two nos. 6 mm thick clear toughened float glass hermetically sealed and separated by 12 mm thick air gap for thermal insulation (only single elevation area to be measured)	SQM	150.00			0.0546480790
k	One outer 6mm thick tinted heat-reflecting type float glass and one inner 6mm thick plain float glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).	SQM	200.00			0.0760011832
Ak	One outer 6mm thick safety glass and one inner 6mm thick clear glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).	SQM	489.00			0.1838161662
916	Supplying and fixing weather stripping of approved make and quality to doors as per instructions of engineer in charge and specification complete.	RM	150.00			0.0041447729
918	Providing and fixing steel louvered window with ISMC 100 frame all round including verticals with 18G pressed steel louvers, painting etc. all complete.	SQM	75.00			0.0253405673
919	Providing and fixing 1 mm thk. MS sheet sliding shutters with frame and diagonal braces of 50X50X6 angle iron, 3 mm MS gusset plates at junction and corners, 25 mm dia pulley, 50X50X6 angle and T-iron guide at the top and bottom respectively including painting etc. all complete.	SQM	100.00			0.0478860347
A920	Providing and erecting Roof skylight structure with 6mm thick embossed clear translucent polycarbonate IR sheet, both side UV coated, minimum 55% light transmission, solar control, approved make, texture and shade, fixed to powder coated Aluminium section with 60mm width top & bottom with EPDM rubber gasket in approved shape like dome, pyramidal etc, sealing of joints with sealent, screws with pvc cap, self tapping screws, EPDM rubber gasket.etc as per drawing, standards, specification, instruction of engineer in charge etc all complete.(Structural Steel will be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	1850.00			0.5390256701
A921	Providing & fixing Fully Glazed non load bearing fixed partition with 120 minutes Fire Rating,with valid fire test certificate from national or international lab with Partition Frame manufactured from cold rolled profiles of minimum 1.5 mm steel sheet pressed to form a profile of nominal size 50mm x 50 mm on all sides & fixed to the supporting construction by means of M 10 X 120 or bigger steel bolts at 150mm from the edges & every 500mm c/c. The frame shall be finished with etch primer for scratch resistance and shall be powder coated of approved shade and color. The glass panels shall be Toughened interlayered minimum 14mm thick,Contraflam Lite, Non Wired, with 120 minute fire rating for integrity and radiation control (EW 120) and insulation (I 20),with 30minute full insulation, with a light transmission of 86% and a sound reduction of 38 dB and manufactured in Intertek & TUV audited facility and compliant to class 1(B)1 category of Impact Resistance as per EN 12600. The glass shall be tested for 5000 hours of UV resistance as per EN ISO 12543-4.The glass shall provide bi-directional (symmetrical) fire protection. The glass should be held in its place with the help of 1.25 mm cold rolled steel beading and Kerafix 2000 ceramic tape or as per the test evidence with cross section of 4 x 15 mm as per the test evidence. The beading shall be clipped on using stainless steel self-tapping screws fixed at a distance of 70 mm from the edges and 150 mm c/c henceforth. The glass panes are to be supported on non- combustible 5 mm thick calcium silicate setting blocks. The installation shall be through trained and certified by Vetrotech certified Installer.The maximum glazing size shall be as per details design and drawings. The profile has to be fixed to the supporting construction by means of M10 or bigger steel bolts at every 150 mm from the edges and every 500 mm (approx.) c/c.The partitions shall offer C4 level of wind resistance when tested as per EN12211 and shall provide class 4 level of air permeability as per EN 1026.The partitions shall also be tested for class 5 of impact resistance when tested as per EN 13049.The partitions shall have water tightness level of 8A when tested as per EN 1027. The item shall include intumescent putty and fire resistant acrylic sealants and the total assembly shall satisfy the fire resistance criteria of stability, integrity & radiation control and partial insulation (EW120).Fire Rated partition shall be of Makes- Saintgobain,Nauvair, Matrix or equivalent. all complete as per specification.(item includes the cost of glazing) Design,Shop drawings along with hardwares for the item with all construction and anchoring details, etc.along with fire rating test reports shall be got approved before execution.Design, Shop drawings along with hardwares for the item with all construction and anchoring details, etc. along with fire rating test reports shall be got approved before execution. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	200.00			0.5217763015

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A922	Providing and fixing Electrically operated sliding doors, self operable/closing, G.I. framed with fire resistant glass, with Fire resistant glazed door system shall be of uniform profile 50X50 mm with 14mm EI 20 glass for Interior application. Fire Resistant Glazed Door System shall have 120 minutes of integrity and radiation control (EW 120) with symmetrical (Bi-Directional) fire protection. The frames shall be cold rolled profiles as per EN standard EN 10327/ Indian Standard IS 513. The door frames are cold rolled from 1.6 mm steel sheet to form a profile of 50 mm x 50 mm on all sides. The door shutter shall have the top rail, side rail and bottom rail dimensions of 50 mm x 50 mm. The glass must be minimum 14mm clear,120 min fire rated for Integrity, Radiation control (EW 120) and partially insulation (EI 20) Non Wired Toughened Interlayered glass with a light transmission of 86% and a sound reduction of 38 dB and manufactured in UL & TUV audited Facility and including UL-EU Certification and compliant to class 1(B)1 category of Impact Resistance as per EN 12600. The glass shall be tested and certified for no formation of bubbles or yellowing after 5000 hours of exposure to UV radiation by TUV Rheinland as per EN 12543-4. The shutters shall be fixed to the frame using Weld-on hinges of dimensions 179mm X 20mm. The profiles shall have grooves to incorporate Fire Resistant gaskets. The glass shall be held in its place with the help of 1.5 mm cold rolled steel beading and Kerafix 2000 ceramic tape with cross section of 4 x 15 mm as per the test evidence. Beading shall be clipped on using Stainless Steel selftapping screws fixed at a distance of 70 mm from the edges and 150 mm c/c henceforth. The glass panes are to be supported on non-combustible 6 mm Calcium Silicate setting blocks. The door shall be fitted with offset pull handle and door closer of Dorma (TS 73V, TS 83V, TS93V), Geze (TS 2000NV) or equivalent. The inactive leaf (in case of double leaf only)shall be fixed to the frame using a tower bolt at meeting edge at top or as per the tested evidence. The doors shall be manufactured in a TUV audited facility. The maximum glazing size shall be as per the test certification. The profile has to be fixed to the supporting construction by means of M10 or bigger steel bolts at every 150 mm from the edges and every 500 mm (approx.) c/c. The doors shall offer C4 level of wind resistance when tested as per EN12211 and shall provide class 4 level of air permeability as per EN 1026. The door shall also be subjected to durability tests as per EN 12400 for C5 classification (200,000 cycles) all complete as per specification. The door shall have water tightness level of 8A when tested as per EN 1027. Fire Rated Door shall be of Makes- Saintgobain,Nauvair, Matrix or equivalent. all complete as per specification.(item includes the cost of glazing) Design,Shop drawings along with hardwares for the item with all construction and anchoring details, etc.along with fire rating test reports shall be got approved before execution. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	100.00			0.8135245439
A923	Providing & fixing minimum 30mm thick Hermetically sealed double glass (DGU) consisting of Fire resistant glass of minimum 14mm thick, clear, toughened,interlayered borosilicate glass,120 minutes fire rated for both integrity & radiation control ,remain transparent under both fire and non fire condition and 6mm thick toughened tinted glass with min.10mm air gap filled with inert gas. The partitions shall be 120 minutes Fire Rated,Fully Glazed non load bearing fixed partition with valid fire test certificate from national or international lab with Partition Frame manufactured from cold rolled profiles Min.1.5 mm galvanized steel sheet (zinc coating not less than 120 gm/sqm) pressed to form a profile of nominal size 50mm x 50 mm on all sides or suitable profile to accommodate the glass & fixed to the supporting construction by means of M 10 X 120 or bigger steel bolts at 150 mm from the edges & every 500mm c/c .The frame shall be finished with etch primer for scratch resistance and shall be powder coated of min. 30 micron of approved shade and color.The glass panels shall be interlayered minimum 14mm thick, 120 minute fire rating and partially insulated (EW120), with 30minute full insulation, Non Wired Toughened Interlayered glass having a sound reduction of greater than 37dB, light transmission of 87% and compliant to class 1(B)1 category of impact resistance as per EN 12600. The glass should be manufactured in UL & TUV audited Facility and including UL-EU Certification.The glass shall be tested for 5000 hours of UV resistance as per EN ISO 12543-4.The glass shall provide bi-directional (symmetrical) fire protection. The glass should be held in its place with the help of 1.25 mm cold rolled steel beading and Kerafix 2000 ceramic tape or as per the test evidence with cross section of 4 x 15 mm as per the test evidence. The beading shall be clipped on using stainless steel self-tapping screws fixed at a distance of 70 mm from the edges and 150 mm c/c henceforth. The glass panes are to be supported on non-combustible 5 mm thick calcium silicate setting blocks. The installation shall be through trained and certified by Vetrotech certified Installer.The maximum glazing size shall be as per details design and drawings. The profile has to be fixed to the supporting construction by means of M10 or bigger steel bolts at every 150 mm from the edges and every 500 mm (approx.) c/c.The partitions shall offer C4 level of wind resistance when tested as per EN12211 and shall provide class 4 level of air permeability as per EN 1026.The partitions shall also be tested for class 5 of impact resistance when tested as per EN 13049.The partitions shall have water tightness level of 8A when tested as per EN 1027.The item shall include intumescent putty and fire resistant acrylic sealants and the total assembly shall satisfy the fire resistance criteria of stability, integrity & radiation control and partial insulation (EW120) all complete as per specification.Fire Rated partition shall be of Makes- Saintgobain,Nauvair, Matrix or equivalent. all complete as per specification.(item includes the cost of glazing)Design,Shop drawings for the item with all construction and anchoring details along with fire rating test reports of complete system shall be got approved before execution. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	160.00			0.4194200164

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A924	Providing and fixing of fully glazed steel fire door (single/ double leaf) with 120 minutes fire rating, of integrity and radiation control (EW 120) fabricated with min.1.5 mm thick galvanized steel sheet. The door frames are manufactured from cold rolled min.1.5 mm thk. galvanized steel sheet (zinc coating not less than 120 gm/sqm) pressed to form a profile of 50 mm x 50 mm on all sides. The door shutter would have the top rail, side rail and bottom rail dimensions of 50 mm x 50 mm. The overall door opening shall be as per tested evidence and tested as per EN 1634-1 in an accredited international laboratory. The frame shall be finished with approved fire resistant primer or Powder coating of min. 30 micron as per approved shade. The sections have a special insulating infill. The test is conducted in IFTS as per EN 1634-1: 1999. The glass panels shall be interlayered minimum 14mm thick, 120 minute fire rating and partially insulated (EW120), with 30 minute full insulation, Non Wired Toughened Interlayered glass, with a light transmission of 86% and a sound reduction of 37 dB and manufactured in UL & TUV audited Facility and including UL-EU Certification. The glass should be compliant to class 1(B)1 category of Impact Resistance as per EN 12600. The glass should be held in its place with the help of 1.6 mm GI beading and a special ceramic tape with cross section of 5 x 20 mm as per the test evidence. The shutters should be fixed to the frame using weld-on hinges of dimensions 179mm X 20mm. The profiles shall have grooves to incorporate fire-resistant gaskets. The doors shall incorporate drop down seal at the bottom. The glass should be held in its place with the help of 1.25 mm cold rolled steel beading and Kerafix 2000 ceramic tape with cross section of 4 x 15 mm or as per the test evidence. The beading shall be clipped on using stainless steel self-tapping screws fixed at a distance of 70 mm from the edges and 150 mm c/c henceforth. The glass panes are to be supported on non-combustible 5 mm thick calcium silicate setting blocks. The door should be fitted with offset pull handle and door closer of Dorma (TS 73V, TS 83V, TS93V), Geze (TS 2000NV), Concealed door closer or equivalent. The inactive leaf should be fixed to the frame using a tower bolt at meeting edge at top or as per the tested evidence. The doors shall be manufactured in an Intertek & TUV audited facility. The door shall also be subjected to durability tests as per EN 12400 for C5 classification (200,000 cycles). The shutters should be fixed to the frame using Dorma SS Ball Bearing Hinges of size 100 mm x 89 mm and 3 mm thickness or equivalent. Beading should be attached using 4 mm x 35 mm SS screws at a distance of 75 mm from the edges and 150 mm c/c henceforth. The door should be fitted with Dorma Mortise Sash lock 952F and door closer TS 68 of Dorma make or equivalent. The inactive leaf should be fixed to the frame using 1200mm long tower bolt. All complete as per specification and Design, Shop drawings, along with hardware for the item with all construction and anchoring details along with fire rating test reports shall be got approved before execution. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	100.00			0.3242498283
A925	Providing and fixing dry wall partition up to ceiling height with 12.5 mm thick double skin fire rated Glass Reinforced Gyproc plaster board conforming to IS: 2095: Part 1:2023 (Board with BIS certification marks) Type F / EN520:2004-TYPE-F / ASTM C473/C1396-TYPE X, having thermal conductivity 0.24w/m²k., with 100 mm overall thickness of partition, consisting of G.I. frame and required board, including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 gms/sqm (both side inclusive), consisting of floor and ceiling channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floor and ceiling at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia. meter 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34 mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610 mm centre to centre by 6 mm dia. bolts and nuts, including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 mm long dry wall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre. The boards are to be fixed to the frame work with joints staggered to avoid through cracks, M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each) to be provided at the horizontal joints of two boards, fixed to the studs using metal to metal flat head screws, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and two coats of primer suitable for board as per manufacture's specification and direction of engineer in charge all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	200.00			0.0217224404
A926	Providing and fixing MIN.12.5 mm thick water resistant, fire resistant Cementitious board consists of higher density core with an aerated gypsum core with glass fibre and other additives encased in, and firmly bonded to strong paper liners and conforming to IS 2095 Part 1:2023 Type F / EN520:2004-Type-F / ASTM C473/C1396-Type X, having thermal conductivity 0.24w/m²k. Partition wall with GI Framework and 12 mm thick bison board cladding on either side of GI section (50x38mm) in horizontal & vertical framework 600 mm c/c spacing as required for suitable rigidity & fixed above false ceiling partition walls as required all complete, including Additional support and height adjustment clips shall be provided for light fixtures, A.C. ducts etc. jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners joint finisher and two coats of primer suitable for board as per manufacture's specification and direction of engineer in charge all complete. The work to be complete as per specifications, drawings and direction of engineer. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	100.00			0.0530111444
A927	Providing and fixing electrically operated, self operable/closing, approved anodized aluminium framed glass door with 12 mm thk. tinted glass, all complete. Automatic Sliding operating system comprising of Advanced DC brushless motor, Automatic Reversing Safety Device, Suitable for door weight 100 kg, Opening speed : 90-110cm /sec (adjustable), Closing Speed : 40-110cm/sec (adjustable), opening time : within 1-9 seconds after door stopped in opening, controller : 8 Bit micro computer, Motor (Dortexor equivalent) : DC12V, 35W brushless motor, Power Voltage : AC 110V - 240V. 50Hz - 60Hz, Power Consumption : 45W including Infra Red Sensors 2No both sides, rails & top & bottom as required, any other accessories as required etc. all complete of best make and quality as approved by Engineer in charge. The door shall be double panel sliding door of approx. area 5 sq.m. to 7.5 sq.m. each. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	50.00			0.2711748480

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A928	Providing and fixing of frameless toughened Glass fixed partition on patch fittings, made of 12 mm thick, including fittings, hardware etc all complete as per specification. The glass shall be firmly fixed through extruded aluminum extrusions on top, bottom and extreme sides. The glass panels shall be easily removed and refitted (during breakage) without using any special tools. The junction of glass to glass shall be properly secured using extruded PVC or sealant. Sealant shall be properly filled using molded rubber pattern /tool. Finish: anodized or powder coated as per architects drawings / specs. Safety film shall be applied on the glass to avoid shattering. The glass to be used should be from the approved manufacturers of glass Saint Gobain or equivalent make. The glass shall be distortion free and free from thermal stresses, including all fittings and fixtures of approved make Dorma or equivalent complete as per specification, drawing and instructions of engineer in charge. Fabrication drawings should be prepared and approved by engineer in charge before commencement of work as per site condition. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	50.00			0.0622855869
A929	Providing and fixing Frameless single/ double leaf fully glazed doors (with etching film having Project / Purchaser's Logo and other design) on stainless steel patch fitting with 12mm thick toughened glass, ss handles (both side), Floor spring, door closure, locking arrangement, including all fittings and fixtures of approved make Dorma or equivalent complete as per specification, drawing and instructions of engineer in charge. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	1200mmx2500mm	each	2.00			0.0074742704
b	1800X2500mm	each	1.00			0.0056057028
c	2000x2500mm	each	1.00			0.0062285587
1000	BRICKWORK: Brickwork masonry including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding etc. at all levels as per specification, drawings and as directed by engineer - in - charge.					
1001	Providing brick work in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers etc. in thickness varying from 230mm to 460mm at all depths, places and positions below plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2 (including cost of cement for brick making)	CUM	115.00			0.0657974726
1002	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm upto 10m level above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 1014), places and position above plinth including raking out joints, curing, scaffolding etc complete but excluding plastering and painting.					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2 (including cost of cement for brick making)	CUM	4652.00			3.3752141863
b	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 50 kg/cm2 (including cost of cement for brick making)	CUM	355.00			0.2394374688
1003	Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls, chambers etc. in thickness 115mm upto 10m above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 1015), places and position above or below plinth/graded level including providing two nos. 6 mm diameter MS bars at every fourth layer, raking out joints, curing, scaffolding etc complete excluding plastering and painting as per specification. (Reinforcement payment shall be made separately as per applicable BOQ in 400 Series)					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2 (including cost of cement for brick making).	SQM	2730.00			0.2429849203
1004	Providing brick soling including spreading of earth, ramming, watering including 25mm thick cushion of sand complete but excluding excavation and disposal of surplus earth (excavation and disposal of surplus earth shall be measured under applicable item). Using brick on edge.					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2 (including cost of cement for brick making)	SQM	25.00			0.0016939309
1005	Breaking of existing brick work at all levels including plastering, removing the rubbish up to a distance of 500 m including transportation, loading, unloading etc. all complete as directed by the engineer.	CUM	67.00			0.0120917025
1006	Providing and encasing of structural steel member with masonry work around flanges, webs etc. and filling the gap between steel and masonry by minimum 12mm thick mortar of 1:6 upto 10m level above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 1014). Encased member shall be wrapped with chicken wire mesh with 50mm lap etc. complete as per specification. (Chicken wire mesh to be paid separately)					
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2 (including cost of cement for brick making)	CUM	15.00			0.0089543511
1007	Providing and laying 75 mm thick bed of dry brick aggregate including of excavation, disposal of surplus earth spreading of earth, ramming, watering etc. complete in all respects as directed by the engineer.	SQM	15.00			0.0003023085
1008	Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar 1:6 etc. complete.	CUM	5.00			0.0010031354
1009	Supply and placing in position mild steel wire fabric (Chicken Wire Mesh) of square mesh 25 mm size and wire diameter of 2 mm for encasing of steel sections in concrete including cutting, bending, fixing etc. complete.	SQM	25.00			0.0004673699
1010	Filling existing brick wall/ partition wall opening at all level including making good the broken edges/surface with cement mortar 1:6, painting, finishing to match with existing finishing, scaffolding/supporting at any level, removal of debris upto a lead of 1 km including loading, unloading, transportation etc. all complete.	SQM	5.00			0.0005043035
1011	Providing and filling brick bats in soak pits all complete.	CUM	5.00			0.0006748365
1014	Extra over item no. A1002, 1006, 1012 & 1013 for height above FFL (Finished Floor Level) as per following:					
a	Height exceeding 10m from FFL but not exceeding 20m	CUM	1381.00			0.1038997456
b	Height exceeding 20m from FFL but not exceeding 30m	CUM	1381.00			0.1870195422
c	Height exceeding 30m from FFL but not exceeding 40m	CUM	1381.00			0.2493593895
d	Height exceeding 40m from FFL and above	CUM	100.00			0.0210658427
1015	Extra over item no. 1003 for height above FFL (Finished Floor Level) as per following:					
a	Height exceeding 10m from FFL but not exceeding 20m	SQM	800.00			0.0040125415
b	Height exceeding 20m from FFL but not exceeding 30m	SQM	800.00			0.0072225746
c	Height exceeding 30m from FFL but not exceeding 40m	SQM	800.00			0.0096300995

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A1016	Providing and fixing 250 thick wall with dry wall construction technology etc all complete as per specification.	SQM	2322.00			0.2850192104
1100	DAMP PROOF COURSE: Damp proof course including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, shuttering, centering, curing etc at all level as per specification, drawings and as directed by engineer - in - charge.					
1101	Providing Damp Proof Course of following thickness with 1:1.5:3 concrete (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound all complete. Two layers of hot bitumen coating 85/25 grade as per IS:702 @ 1.7Kg./sqm shall be applied one before & one after the DPC.					
b	50mm thick	SQM	274.00			0.0098449529
1200	PLASTERING: Cement mortar plaster including making grooves wherever required including all labour, material (unless otherwise specified in BOQ/contract specification), scaffolding, curing etc at all level as per specification, drawings and as directed by engineer - in - charge.					
1201	Providing 18mm thick plaster in two layers outside the building/boundary wall in cement mortar as applicable upto 10m above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 1206) on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete					
a	Cement Mortar 1:6	SQM	22442.00			0.7060695953
1202	Providing 12mm thick plaster internal/external surfaces of building/boundary wall in cement mortar as applicable above finished floor level (For height greater than 10m from FFL, extra over for additional height to be paid in Item No 1206) on walls finished to a smooth finish as per specification all complete.					
a	Cement Mortar 1:6	SQM	22444.00			0.5792333419
b	Cement Mortar 1:4	SQM	2730.00			0.0704556685
1204	Providing 6mm thick plaster on ceiling in cement mortar 1:4 finished to a smooth all complete.	SQM	2160.00			0.0488508685
1206	Extra over Item 1201 to 1202 for plastering on exterior walls over & above 10m height from FGL.					
a	Height exceeding 10m from FGL but not exceeding 20m	SQM	8000.00			0.0328298847
b	Height exceeding 20m from FGL but not exceeding 30m	SQM	8000.00			0.0590937925
c	Height exceeding 30m from FGL but not exceeding 40m	SQM	8000.00			0.0787917234
d	Height exceeding 40m and above	SQM	1000.00			0.0114904597
A1207	Forming groove of uniform size from 12X12 mm upto 20X15 mm in plastered surface as per approved pattern, using wooden battens nailed to the under layer, including removal of wooden battens, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer in charge.	RM	260.00			0.0008772875
1208	Providing and laying encasement to box type steel beams at all levels with lath plaster 50 mm nominal thickness with cement plaster (1:4) over chicken wire mesh including all labour, materials, equipment, handling, transporting, mixing, placing, leveling, curing and cleaning, finishing the exposed surfaces etc including centering and shuttering all complete as per specification, drawing and instructions of engineer in charge (chicken wire mesh to be paid separately)	SQM	260.00			0.0140840206
1209	Ruled pointing in masonry in Cement Mortar 1:3 (1 cement and 3 fine sand) including raking out joints, curing etc. complete.	SQM	50.00			0.0008617845
1210	Providing drip course in cement mortar(1:4) in parapet, chajjas, window/door heads, architectural facias, fins,etc all complete with all labour, T&Ps as per specification, drawing and instruction of engineer.	RM	100.00			0.0002735824
1300	FINISHES TO CONCRETE / PLASTERED SURFACES: Finishes, painting to concrete, plastered surfaces including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, surface preparation, scaffolding etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A1305	Providing and applying two or more coats of acrylic emulsion plastic paint with low VOC (volatile organic compound) as per IS 15489, relevant latest code of approved brand, shade and manufacturer guidelines Nerolac / JK / Sakarni / Asian or equivalent to give smooth, hard, durable & glossy finish over a coat of primer over prepared plastered surface as per manufacturers guidelines. Note: The paint should have VOC content limit less than 50 grams per litre. All necessary documentation (certificates, manufacturer declarations) should be provided by the contractor to engineer in charge	SQM	20080.00			0.2893261265
1306	Providing and applying 2 or more coats of acid/alkali resistant paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying bitumen primer confirming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, complete as per specifications.	SQM	4032.00			0.1323700953
1308	Providing and applying 2 or more coats of Chlorinated Rubber paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying chlorinated rubber zinc phosphate primer confirming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, inclusive of intermediate coat of Titanium dioxide / micaceous iron oxide complete as per specifications.	SQM	1400.00			0.0287261491
1309	Two or more coats of fire resistant transparent paint (@3.5 sqm per litre per coat) as per IS 162 on all woodwork over french polish as per IS 348 or flat oil paint as per IS 137 of approved grade and manufacture to give an even shade as per specifications. French polish payment will be made separately.	SQM	250.00			0.0116728479
A1314	Providing and applying resin bonded granular textured finish, shall consist of crushed stone/special quality Silica quartz chips of .5 mm to 2.5 mm size and of approved natural color/shade and bonded with synthetic resins, acrylic modified exterior adhesives and additives altogether in a single pack mix, applied on cured and dried plaster surface with a dry film nominal thickness of 2.5 mm from approved manufacturer Asian ,Luxture,sakarni, JK max or equivalent. The final finished coating shall be fungus resistant, UV resistant, water resistant & repellent and extremely durable with color fastness as per the specifications/manufacturer's specifications, instructions and satisfaction of Engineer-in-charge	SQM	2839.00			0.4321042983
A1316	Providing and applying average 2 mm thickness plaster of paris punning on walls punning over pastered walls of approved brand and manufacturer JK wall max, Sakarni or equivalent, including preparation of surface, removing dust, dilapidated plaster wherever necessary. staging at all heights etc. to achieve a smooth even surface all complete as per specification and as directed by engineer.	SQM	25565.00			0.2984163568
A1317	Providing and applying average 2 mm thickness white cement based putty punning over pastered walls of approved brand and manufacturer JK wall max, Sakarni or equivalent, including preparation of surface, removing dust, dilapidated plaster wherever necessary. staging at all heights etc. to achieve a smooth even surface all complete as per specification and as directed by engineer.	SQM	25565.00			0.3100732457

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A1319	Providing and applying two or more coats of Exterior quality acrylic based emulsion/weather coat paint with low VOC (volatile organic compound) as per IS 15489, relevant latest code of approved brand, shade over one coat of primer after necessary cleaning/ washing, preparing the surface using coir brush/ wire brush, sand paper, including filling of cracks with putty wherever required etc. and Approved manufacturer guidelines Nerolac /Asian/ Sakarni /Jk maxx or equivalent to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guidelines. Note: The paint should have VOC content limit less than 50 grams per litre. All necessary documentation (certificates, manufacturer declarations) should be provided by the contractor to engineer in charge	SQM	11354.00			0.1283918428
1320	Providing and applying acid alkali and oil resistant high build, solvent free, self smoothing, seamless epoxy based amine cured floor finish 150 microns over primer on C.C. flooring	SQM	350.00			0.0109797726
1400	FLOORING AND SKIRTING: Flooring and skirting at all level including base layer, labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, curing, polishing etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 12.5 mm well graded) and top layer of 12mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete for following (Quoted item rate shall be inclusive of providing glass joint strips):	SQM	4624.00			0.2441536642
A1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with non metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 12.5 mm 20 well graded) and top layer of 12mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete for following (Quoted item rate shall be inclusive of providing glass joint strips):	SQM	8394.00			0.4210159136
1404	Providing and laying interlocking M30 Grade concrete blocks in paving with approved colour and pattern and should be laid on the subbase and bedding of sand minimum 50mm thick as per specifications and recommendations of manufacturer.(inclusive of cost of cement for paver manufacturing) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	60mm	SQM	400.00			0.0345808119
A1404	Providing and laying interlocking concrete blocks of minimum M35 grade underlain by 20mm thick layer of sand followed by 200mm thick 63 mm and down aggregate with interstices filled with selected moorum/ non-expansive soil etc all complete as per specifications and recommendations of manufacturer.(inclusive of cost of cement for paver manufacturing) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
Ac	80mm	SQM	1027.00			0.1067682568
A1406	Providing and laying mirror polished Kota stone of minimum 25mm thk in in flooring/sirting/dao. Under bed shall average 25mm thk of 1 cement : 2 sand : 4 stone aggregates by volume and brought to proper level. The kota stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry @4.4kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	1306.00			0.2172375360
A1412	Providing and laying 18-20mm thick polished Granite stone of approved color and texture in flooring/skirting/dado with brass/ stainless steel strips. Under bed shall average 30 mm thick of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level. The granite stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry @3.3kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete.(Brass /stainless steel strips to be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	480.00			0.1831907569
B1412	Providing and laying 25mm thick polished Granite stone of approved color and texture in flooring/skirting/dado with brass/ stainless steel strips. Under bed shall average 30 mm thick of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level. The granite stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry @3.3kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete.(Brass /stainless steel strips to be paid separately) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	500.00			0.2099288741
A1416	Providing and laying vitrified ceramic tiles of mirror polished variety of size 600x600/400x400 from reputed / approved manufacturer, complete including underbed of cement mortar 1:3 minimum 20mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	12mm thick tiles In flooring	SQM	3527.00			0.4644505806
c	7mm thick tiles In skirting and dado upto specific height	SQM	400.00			0.0434448808

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B1416	Providing and laying digitally glazed vitrified ceramic tiles of polished and matt variety of size 600x600 / 800x800 of approved shade, colour, pattern and make from reputed / approved manufacturer as Simpolo,Varmora or equivalent , complete including 40mm average thick underbed of cement mortar 1:4 for flooring with neat cement slurry and 12mm thick underbed for dado/skirting with cement mortar 1:3 with neat cement slurry @3.3Kg/sqm etc.,3mm groove joints as per approved pattern pointed neatly with 3X4mm stainless epoxy grout SP- 100 of Laticrete, Luxture or approved equivalent in approved colour to match colour of tile etc. all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	9 to10 mm thick tiles In flooring	SQM	1402.00			0.1966397015
b	9 to10 mm thick tiles In skirting and dado upto specific height	SQM	100.00			0.0147004928
A1417	Providing and laying vitrified ceramic tiles of matt finish of size 600x600mm from reputed / approved manufacturer Simpolo, varmora or equivalent complete including underbed of cement mortar 1:3 minimum 20mm thick underbed for flooring and 12mm thick underbed for dado/skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	12mm thick tiles In flooring	SQM	651.00			0.0974812296
c	7mm thick tiles In skirting and dado	SQM	50.00			0.0059595360
B1417	Providing and laying Digitally vitrified ceramic tiles of matt finish of size 600x600mm from reputed / approved manufacturer Simpolo, varmora or equivalent complete including minimum 40 mm thick underbed of cement mortar 1:4 for flooring and 12mm thick underbed of cement mortar 1:3 for dado / skirting with neat cement slurry @3.3Kg/sqm etc. all complete for following Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	9 to10mm thick tiles In flooring	SQM	216.00			0.0314378976
d	9 to10mm thick tiles In skirting and dado upto specific height	SQM	403.00			0.0611172990
A1418	Providing and laying 12 mm thk heavy duty anti-skid fully vitrified tiles of make 'MARBONITE' or 'FERRASTONE of BOSS Profile limited' or equivalent in flooring and skirting over 40 mm thick underbed of 1 part cement and 3 parts coarse sand by weight mixed with sufficient water, cement slurry 3.3kg/sqm complete as per specification laid in pattern of following sizes Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	400X400 mm	SQM	227.00			0.0279878415
b	600X600 mm	SQM	140.00			0.0206062243
A1419	Providing and laying granite stone slab of 20mm thickness large single piece for platform/wash basin / sink slab /facia of black or approved colour including 20mm underbed of cement mortar 1:3 with cutting,making corners,moulding and opening etc. all complete Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	100.00			0.0485973488
A1422	Providing & fixing Acid / Alkali resistant (Chemical resistant) tiles comply to IS:4457 and shall be laid over bitumastic lining of min 12mm thick (to be laid in layers of 6mm each). The tiles shall be applied in flooring/Dado of reputed / approved manufacturer Simpolo,varmora,Naya Rangoli or equivalent of approved finish, shade and colour with 6mm thick Potassium Silicate bedding mortar as per IS:4441, 4443 & 4832 and including preparation of surface, application of bitumen primer, curing, pointing joint of bedding 20mm deepx6mm wide with epoxy/Furane mortar etc. all complete for following thicknesses. The tiles should be abrasion resistant & durable. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
b	20mm thick	SQM	1582.00			0.4622382112
c	38mm thick	SQM	300.00			0.0943585604
A1424	Providing & fixing chemical resistant (AR)(Acid / Alkali) bricks (115mm thick) conforming to IS:4860 in the floor of neutralization pit. Surface on which lining to be applied shall be prepared in accordance with IS:2395. Bitumen primer as per IS:158 followed by 18mm thick bituminastic followed by 6mm thick potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR bricks shall be filled with resin type of mortar conforming to IS:4832, part II, seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End sealing shall be done with bituminastic AR bricks shall be laid with 6mm wide & 50mm deep pointing (epoxy / furnace / CNSL) & acid curing shall be done all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	48.00			0.0245655084

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B1424	Providing & fixing chemical resistant (AR)(Acid / Alkali) tiles (75mm thick) conforming to IS:4457 in the floor of neutralization pit. Surface on which lining to be applied shall be prepared in accordance with IS:2395. Bitumen primer as per IS:158 followed by min.12mm thick bituminastic followed by 6mm thick potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR tiles shall be filled with resin type mortar of reputed / approved manufacturer Berger,Naya Rangoli, or equivalent conforming to IS:4832, part II, seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End sealing shall be done with bituminastic AR bricks shall be laid with 6mm wide & 50mm deep pointing (epoxy / furnace / CNSL) & acid curing shall be done all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	48.00			0.0202450956
1427	Providing and fixing glazed ceramic tiles of approved color and design of size 200x300mm / 300x300mm in dado of approved size, projecting 6mm uniformly from adjacent plaster or wall finish. The mix for 20mm thick underbed plaster shall consist of 1part cement and 3 parts sand by weight. fairly moist but firm, tiles shall be pressed over under bed by applying cement slurry @ 3.3kg/sqm including pigments, curing etc all complete for following thicknesses: Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	5mm thick	SQM	757.00			0.0731759892
1428	Providing and laying 3mm thick antistatic PVC flooring / skirting of approved shade,as per IS:3462 and laying as per IS:5318 all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	250.00			0.0225249487
A1429	Providing and fixing Removable type flooring system (raised access floor) consisting of of fire resistant Cementitious panels of 600 x 600x 35 mm and Laminated with 1.2 mm thick fire retardant food grade antistatic laminate top finish to ensure max bonding to the steel surface. Cementitious panels shall be steel welded construction, with an enclosed bottom pan of 64 hemispherical and top plain sheet which are fuse welded at multiple location to form a panel. The panel is coated with 40-60-micron epoxy coat after cleaning, de-greasing, phosphate by several tank processes & is heated to achieve max adhesion to the panel surface & corrosion resistance. The inner empty core of the panel is injected with a light weight fire retardant, non-combustible cementitious compound at high pressure to fill in all the crevices of the panel and ensures support of not less than 90% of the top surface area of the panel. Pedestal (300mm – 800 mm) must be 25mm dia. pipe with min.2.0 mm thickness with bottom plate of 100x100x min.2.0mm thick & top plate must be 75x75x3.0 mm. All pedestal shall be tightening to Stringer of 20x30x575x1.0 mm Rectangular tube. The system shall be design and taken approval for Uniformly distributed load (UDL) of 13 KN (1300 kg/ sqm), for the same all complete as per specification. Cavity area below the false flooring shall be made dust proof by using Polyurethane paint etc complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	300.00			0.1894557932
1430	Providing and fixing dividing strips in joints of cast in situ floorings at various elevations, finishing, all labour, material etc. complete as per drawing, specification and instructions of engineer in charge.					
a	Glass strips 40 mm wide and minimum 6 mm thick.	RM	25.00			0.0002074666
b	Aluminium strips 40 mm wide and minimum 3 mm thick	RM	25.00			0.0003488175
c	Brass strips 20 mm wide and minimum 4 mm thick.	RM	25.00			0.0010031354
A1431	Providing and fixing, laying min.11mm wooden panel flooring and skirting of pergo, robina or equivalent multi-layered engineered wooden planks treated with VOC free lacquers and stains to provide extra strengthening, longevity and durability to planks. In all planks each layers are arranged at cross grain to each other for provide the balancing and stability to all three layers. Top layer of flooring is made up of about 3.0 mm thick thermosetting re-polish able natural veneer setting on a core of about 10 mm thick pine wood that produce natural characteristic of wood with 2.0mm thick bottom ply based veneer balancing layer. The planks are joint to each other through plankloc system with glue less technology system and laid on 2mm thick dual barrier underlay protecting sheet having anti bacterial, Anti-termite, fire-resistant, noise reduction, high wear and abrasion resistance, water resistant properties. The system includes all accessories like beading, Quadrant, Veneered/solid wood skirting, end profile etc.as per as per manufacturer specification and approved by Engineer Incharge. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	300.00			0.0874369264
A1432	Providing and applying ready made self levelling Epoxy flooring with min.4mm thick on the prepared concrete substrate including the following all complete as per specification and direction of Engineer:-a) Primer @ 300gm/sqm, b) First layer of epoxy flooring @ 6.3kg/ sq m for approx. 3mm thickness. c) Primer @ 100gm/sq m for the second coat and top final decorative (as per approved colour) epoxy topping @ 1.7Kg/ sq m for approx. 1 mm thickness. The Application includes the surface preparation of concrete substrate with Captive Shot Blasting Machine or Light Grinding to form the required anchor profile on the floor substrate followed by application of epoxy resin based moisture barrier underlay including filling of saw cut joints with epoxy cementitious resin based moisture barrier underlay, as per reputed/approved manufacturer Fosroc,Naya rangoli or equivalent, in approved finish, shade and colour. Application of self smoothing epoxy floor topping of epoxy based resin over epoxy resin based moisture barrier underlay including application of solvent free epoxy resin as per specification and instruction by enginner incharge. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	6812.00			0.5243049322

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A1437	Providing Dielectric epoxy based coating as per IS: 15652 shall be provided with suitable primer. The minimum dielectric strength for insulating floor (for all switchgear rooms up to and including 11 KV switchgear) shall be 45 KV ac rms (Class B as per Table-4 of IS-15652: 2006). The minimum thickness of insulation coating shall be 2000 microns for switchgear rooms up to 11 KV or as per the lab certificate fulfilling the dielectric strength requirement, whichever is higher. Dielectric test reports as per IS-2584 from a NABL accredited laboratory shall be submitted. Further, test reports for adhesion, tensile strength, scratch hardness, shore hardness, abrasion resistance shall be submitted in line with requirement of relevant national/international standard. The coating shall be high gloss finish and top color of coating shall be decided during the detailed engineering. Arc flash boundary and golden yellow safe boundary shall be provided. The item includes preparation and submission of procedure of coating and conducting dielectric testing in a NABL accredited laboratory on a sample prepared during application at site, all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	2449.00			0.4645355735
1500	ROOFING / SIDE CLADDING: Roofing / side cladding work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, scaffolding, laps, hooks, washers, corner pieces etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A1502	Designing, providing and fixing permanently color coated galvanised M.S. sheet (hot dipped galvanising @ 275 gm/sqm) approved colour and conforming to class3 of IS 14246 over roof purlins for cast-in-situ roof slab as per relevant IS code and specification. Bare metal thickness of deck plate shall be minimum 0.8mm with minimum trough depth of 44 mm having minimum yield strength of 350 MPa and shall serve as permanent shuttering to the roof slab 100mm thick measured over crest of metal decking & shall have adequate strength to support weight of green concrete and imposed loads of min 150 kg/sqm during construction between purlins as per manufacturer's recommendations/ calculations/ test certificates for approval including fixing of plates to purlins, side lapping, end lapping etc. all complete for below mentioned spans. The sheet shall be permanently coated with Polyfluro Vinyl Coating (PVF2) of minimum dry film thickness (DFT) 20 microns over suitable primer on outer face and Inner face of the sheet shall be provided with silicon modified super polyester paint of minimum DFT 7 microns over suitable primer including fixing of sheet to purlin with self drilling white zinc plated heat treated carbon steel screws of minimum 5.6 mm dia @ 260mm c/c in the trough and stich screws between two adjacent sheets and sealing with epoxy sealant. Measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	Span Upto 1800mm	SQM	29586.00			4.6784522719
b	Span Exceeding 1800mm and upto 2500 mm	SQM	3501.00			0.5536152709
1503	Providing and fixing shear connectors of mild steel studs having 16mm dia and minimum 75 mm projected length above purlin passing through metal decking as per relevant IS codes and specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	QUINTAL	67.00			0.1527501582
1506	Designing, providing and fixing External sheet of Permanent colour coated metal cladding with troughed M.S. sheets of 0.6mm bare metal thickness having minimum yield strength 250 MPa and zinc-aluminium alloy coating not less than 150 gm/sqm total on both sides including fixing to supports / rails by concealed fixing system, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The exposed face of the sheet shall be permanently colour coated with Polyfluro Vinyl Coating (PVF2) of minimum dry film thickness (DFT) 20 microns over suitable primer. Inner face of the sheet shall be provided with silicon modified super polyester paint of minimum DFT 7 microns over suitable primer etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	23238.00			2.4900236455
A1508	Designing, providing and fixing inner sheet of permanently color coated galvanised M.S. sheet of minimum 0.6mm bare metal thickness having minimum yield strength 250 MPa and hot dipped galvanising @ 275 gm/sqm including fixing to supports / rails by concealed fixing system, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The exposed face of the sheet shall be permanently colour coated with Polyfluro Vinyl Coating (PVF2) of minimum dry film thickness (DFT) 20 microns over suitable primer. Inner face of the sheet shall be provided with silicon modified super polyester paint of minimum DFT 7 microns over suitable primer etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	11949.00			1.5887513857
A1514	Providing and installing resin bonded glass wool 50 mm nominal thickness conforming to IS 8183 having a density of 48kg/cum using minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.56 mm dia and 25 mm mesh GI wire netting, fixed at various elevations with rawl plugs including clips, etc complete as per specifications. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	959.00			0.0851813309
B1514	Providing and installing 50mm thick underdeck glass insulation with 0.05 mm thick aluminium foil & 0.6 mm x 25mm mesh wire netting and fixed to the ceiling with 2 mm wire ties fixed at various elevations with rawl plugs including clips,etc all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	1850.00			0.1643226925
1600	FALSE CEILING: False ceiling including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, suspension system etc at all level as per specification, drawings and as directed by engineer - in - charge.					

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1601	Providing and fixing glass fibre reinforced gypsum plaster board (GRG) ceiling (having gypsum core mixed with glass fibre) system consisting of metal supporting grid system forming panels of specified size, suspended from RCC slab/structural steel or catwalkway grid above with 4 mm (minimum) galvanised wires (rods) with special height adjustment clips, including preperation of working drawing, providing openings for AC ducts, return air grills, light fixtures etc (but excluding the cost of catwalkway grid) all complete as per drawings, specification and instructions of the engineer. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	12 mm thick GRG board with galvanised light gauge steel load bearing supporting GI frame and finished flat (seamless).	SQM	120.00			0.0121908305
b	12 mm thick GRG board in profile (dome, curved profiled etc.) with galvanised light gauge steel load bearing supporting GI frame and finished smooth (seamless).	SQM	120.00			0.0182862458
1602	Providing, fixing and laying light weight mineral fiber tile false ceiling of minimum thickness 15 mm and exposed surface semi-perforated with depth of perforation as 4 mm and humid resistance of 95% RH and fire performance of class 0/1 as per BS 476 with metal suspension grid system with galvanized Tees of section 24 X 38 mm for main runners of approved colour and make as per specification including 50mm thick mineral wool insulation (density 48kg/cum) as per IS:8183 bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc. The size of tiles shall be 600 X 600 mm or 600 X 1200 mm. Required MS channel shall be measured & paid extra under respective item unit rate. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	950.00			0.1862639988
A1603	Providing and fixing permanently colour coated aluminium false ceiling of approved colour of Luxalon 150C,300C, of Hunter douglas, Newage or approved equivalent with corrosion resistant aluminium alloy (Al grade 3105, Al-Mg AA 5050) panels of minimum thickness 0.6mm with perforation patterns in combination with built-in non-woven tissue, acoustic fleece for providing good acoustic properties with NRC 0.55. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures, A.C. ducts etc all complete. Suitable M.S. channel grid with minimum MC 75 shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. (Materials for structural platform grid made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No 2301) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	932.00			0.4511424397
A1604	Providing, fixing and laying permanently colour coated aluminium false ceiling of approved colour with stove enamel finish in LINEAR and SQUARE type with corrosion resistance aluminium alloys luxalon panels of approved make of Hunter Douglas, Newage or equivalent. Panel ceiling system shall consist of rolled formed, coil coated aluminium precoated magnesium alloy (Al-Mg AA 5050) carrier and panels of minimum 0.9 mm and 0.6 mm thickness respectively. The ceiling system shall be of approved pattern. The system shall be complete with edge cover profile, special panels, carrier splice, etc. The carrier shall be suspended from roof by 4 mm diameter galvanized steel wire hangers having special height adjustment clips made from spring steel at maximum spacing of 1.2 m c/c both ways. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75 @ 1.2m) grid shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. complete with cut-outs etc. (Materials for structural platform grid for movement made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No 2301) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	932.00			0.3737138861
A1606	Providing and Fixing minimum 12mm thick Gypsum board plain/perforated acoustic false ceiling tiles (600x600mm) of India Gypsum, Gyproc or equivalent make in plan or elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc. including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete as per architectural design and detail. metal suspension system as per ASTM C-635 shall be hot dipped M.S. galvanized (grade 180 as per IS:277) nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24mm wide exposed flange surface shall be permanently color coated. suspension system shall be as per manufacturer's specification supported over movement platform. The work to be complete as per specifications, drawings and direction of engineer. (Materials for structural platform grid for movement made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No 2301) Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	130.00			0.0154710832

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A1607	Providing and Fixing 12mm thick water resistant Calcium silicate board Gyproc or equivalent in plan or elevation with aluminium grid, metal suspension system, anchor fastener adjustable hangers etc. including two or more coats of acrylic emulsion paint of approved colour to give an even shade with smooth finish all complete as per architectural design and detail. Metal suspension system as per ASTM C-635 shall be hot dipped M.S.galvanized (grade 180 as per is :277) and nominal size of T-section shall be 24 x 38 mm or 24 x 25 mm cross runners. 24mm wide exposed flange surface shall be permanently color coated. Suspension system shall be as per manufacturer's specification. Movement platform of structural steel shall be provided if required for the movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc. (Structural steel works for platform for movement is separately payable under relevant items of BOQ). The work to be complete as per specifications, drawings and direction of engineer. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	SQM	130.00			0.0166328963
1700	RAIN WATER DOWN TAKE PIPES: Rain water down take pipes at all level including all labour, material (unless otherwise specified in BOQ/contract specification), transportation, 2 coats of approved paint over one primary coat, fixtures, accessories etc as per specification, drawings and as directed by engineer - in - charge.					
A1704	Providing and fixing galvanised MS down take pipes of 80 mm dia- Medium quality as per IS:1239(part-I) all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	810.00			0.0932204577
1707	Providing and fixing GI down take pipes conforming to IS:1239 /IS:3589 of medium duty all complete for following diameters. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	100 mm Dia	RM	281.00			0.0356963896
b	150 mm Dia	RM	3080.00			0.5600705381
c	200 mm Dia	RM	140.00			0.0384292040
1800	MISCELLANEOUS: Miscellaneous works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge.					
1801	Providing and Filling in trenches, plinths, area paving and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 200 mm in thickness including breaking of stone boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	4938.00			0.7060964064
A1801	Providing and Filling in trenches, plinths, area paving, grade slab and other underground structures with graded stone aggregate of 40 mm size rammed, consolidated in layers not exceeding 200 mm in thickness including breaking of stone boulders to required sizes, filling the interstices with selected fine sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	1078.00			0.1541457930
1802	Supply and laying approved quality Stone aggregate 40mm size in transformer yards.	CUM	77.00			0.0201670334
A1804	Providing and fixing weep holes in Retaining wall, drains, toe wall etc consisting of 100 mm dia HDPE pipe sleeves with single side covering for the pipe mouth with galvanised welded wire fabric of 20 mm sq. opening all complete.	EACH	100.00			0.0021339425
1807	Anti termite chemical treatment of soil with Chlorpyriphos/Lindane E.C. 20% with 1% concentration conforming to IS:8944 and as per IS 6313 all complete. (Plinth area of building at ground floor only shall be measured for payment). Drilling 12mm dia hole @300 c/c using material one liter per hole.	SQM	8823.00			0.2204619778
1808	Laying of earthing mats/rods including risers, transportation from yard stores, loading, unloading, cutting to length, welding, protective painting of joints etc. all complete. (Excavation & Back filling shall be paid separately under respective item of earth work. Earthing mats/rods shall be supplied by BHEL free of cost)	MT	60.00			0.0814783023
1809	Construction of below ground earthing system test pits as per drawing / sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing and specification (excavation & backfilling only will be paid under applicable BOQ items & cement/steel to be supplied by BHEL free of cost)	NO	18.00			0.0184438292
1810	Construction of below ground earthing system test links as per drawing/ sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing & specification (excavation & backfilling only will be paid under applicable BOQ items & cement/steel to be supplied by BHEL free of cost)	NO	18.00			0.0141660953
1811	Construction of below ground earthing system earth electrodes as per drawing and specification. (Excavation and backfilling only will be paid under applicable BOQ items & steel shall be supplied by BHEL free of cost.)	NO	18.00			0.0013542327
1812	Construction of below ground earthing system - Earth connection and riser pig tails as per drawing and specification. (Excavation and backfilling only will be paid under applicable BOQ items& steel shall be supplied by BHEL free of cost.)	NO	18.00			0.0010899522
1813	Providing Earthing pit as per drawing with charcoal & salt, GI pipes, GI earth electrodes, GI wire, GI strips, brick chamber with covers including associated earthwork etc. all complete.	NO	18.00			0.0581088960
1814	Construction of below ground earthing system test pits as per drawing/ sketches including brickwork, plaster, providing & fixing GI strips/pipes, GI wires, covers etc as per drawing & specification including associated earthwork.	NO	18.00			0.0326526034
1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 900 g/sqm etc. all complete.	Kg	200.00			0.0024622414
1818	Fire proofing of steel structures with VERMICULITE cementious coating including supply of all materials for vermiculite materials, reinforcement mesh (3mm thick wire, 50x50 size mesh) , nuts, tie wires, weldings, suface preparation, curing, staging, compatible paintings etc. all complete.	CUM	25.00			0.2825148373
1819	Supply & fixing expanded metal steel sheet conforming to IS:412. Size of mesh shall be 10mmX40mm with strands of 2.5mm width and 1mm thickness to the structural steel for facilitating fireproofing works.	SQM	125.00			0.0053804533

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1821	Sprinkling of water by water tanker fitted with perforated GI pipe (portable tanker minimum 3000 litre capacity) for roads and miscellaneous area within plant boundary, for dust suppression and reduction of suspended material at site for day to day work, as directed by BHEL site engineer (water for this purpose shall be provided by BHEL free of cost and utilisation of machine will be in terms of Tank-hour put in actual use for water sprinkling).	TANK-HR	400.00			0.0391405181
1822	Providing & filling Bentonite Powder (Sodium base) mixed with water in electronic earthing pit as per drawing & direction below ground level including all materials, transportation, labour, incidental etc all complete as per specification.	CUM	5.00			0.0079699105
1823	Providing and laying cinder filling in the toilets, roads, etc complete as directed by engineer in charge.	CUM	15.00			0.0023131390
A1841	Supplying, fabrication and installation of 200mm nominal dia PVC pipes in concrete / Duct bank for all kind of works, including setting material in concrete, layout, cutting, forming, grinding, jointing etc. all complete as per specification and as guided by engineer-in-charge. (Concrete, Reinf. paid separately)	RM	1125.00			0.1323454729
2000	FENCING AND GATES: Fencing and gates including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc at all level as per specification, drawings and as directed by engineer - in - charge.					
A2001	Supplying and erecting in position 2.4 m high PVC coated G.I. welded wire mesh fencing of minimum 4 mm diameter (including PVC coating) of mesh size 75mmX75mm of height 2.4m above the toe wall with a 600mm high galvanized concertina at the top, such that total fence height of 3.0m above the toe wall is achieved. The diameter of the steel wire for chain link fence (excluding PVC coating) shall not be less than 2.5 mm. The PVC coated chain link will be stretched by the clips at 0.5m intervals to three strands of galvanized high tensile spring steel wire (HTSSW) of 2.5 mm diameter interwoven with chain link wire mesh and kept under tension which in turn are attached to the fence post with security nuts and bolts. On every fourth post a clamping strip will be threaded through the links of chain link and bolted to the fence post with the help of security nuts and bolts. Above the chain link a 600mm high tensile serrated galvanized wire (HTSW) concertina made with wire diameter of 2.5mm will be stretched to 6m and attached to two strands of galvanized HTSSW of 2.5 mm diameter by means of clips at 1m intervals. These two HTSSW strands will be attached to the fence posts with 12 mm security fasteners. All nuts, bolts, fasteners, clamping strips, clamps, clips, etc., shall be galvanized. Cost to include for GI hook bolts, rings & washers, hot dip galvanized tension wires, 25X6 mm GI flat stretcher bar at end posts, accessories etc. all complete. (Structural post shall be separately under item 2007). Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	RM	520.00			0.1292694950
A2008	Supply, fabrication and fixing of mild steel posts for fencing including chlorinated rubber paint over a suitable primer etc all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	7.00			0.0646095779
A2009	Supply, fabrication and installing in position and testing galvanized MS Gates made of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffeners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, bronze aluminium ball bearing arrangements, castor wheels, provision for wicket gate of size 1.0MX2.1M, paintings etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	10.00			0.1118240591
2100	WATER SUPPLY: Water supply work including men, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A2101	Providing and fixing in position tested heavy duty type chromium plated (CP) brass wall mounted mixture including sockets, union, nuts etc all complete - 15mm nominal bore.	NOS	15.00			0.0014869202
B2101	Providing and fixing in position tested heavy duty type chromium plated (CP) brass wall mounted sink mixture including sockets, union, nuts etc all complete - 15mm nominal bore.	NOS	45.00			0.0044607606
C2101	Providing and fixing in position tested heavy duty type chromium plated (CP) brass pillar tap including sockets, union, nuts etc all complete - 15mm nominal bore.	NOS	30.00			0.0029738404
A2102	Providing and fixing in position CP brass angular stop cock of approved quality including all specials etc all complete- 15mm nominal bore.	NOS	45.00			0.0039642086
2103	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality including all specials etc all complete for following sizes:					
a	25mm nominal bore.	NOS	15.00			0.0014869202
b	50mm nominal bore.	NOS	15.00			0.0021476216
2104	Providing and fixing GI pipes class B medium class conforming to IS:1239 pipes shall be concealed and painted with anticorrosive paint, complete for internal works with GI sockets, unions, elbows, tees, nipples etc and clamps including cutting and making good the walls etc all complete for following sizes:					
a	15 mm nominal bore.	RM	50.00			0.0021476216
b	20 mm nominal bore.	RM	50.00			0.0023664875
c	25 mm nominal bore.	RM	125.00			0.0070789439
d	50 mm nominal bore.	RM	3.00			0.0002303564
2105	Providing and fixing GI pipes class B complete for external work with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following sizes:					
a	15 mm nominal bore.	RM	50.00			0.0016414942
b	20 mm nominal bore.	RM	50.00			0.0018649198
c	25 mm nominal bore.	RM	13.00			0.0006046170
d	50 mm nominal bore.	RM	3.00			0.0001999887
A2106	Providing and fixing 600mmx450mmx5.5mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws etc all complete as per specification.	NOS	15.00			0.0020354529

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B2106	Providing and fixing 5.5mm thk mirror from basin counter top to bottom of false ceiling and full length of counter in control room from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws etc all complete as per specification.	SQM	35.00			0.0175899787
A2109	Providing and fixing 600 mm long and 20mm dia chromium plated brass pipes wall mounted towel rail with C.P. Brackets etc all complete.	NOS	15.00			0.0014431470
2110	Providing and fixing C.P. Soap holder mounted with C.P. screws etc all complete.	NOS	15.00			0.0011285273
A2110	Providing and fixing SS liquid Soap holder mounted with C.P. screws etc all complete.	NOS	15.00			0.0012420640
A2112	Providing and fixing CP wall mounted toilet paper holder with suitable cover cum cutter fitted with CP screws etc. all complete.	NOS	15.00			0.0010833862
2113	Providing and fixing chromium plated brass shower rose 100mm dia with 15 or 20 mm inlet dia shower arm all complete.	NOS	15.00			0.0010738108
2114	Providing & fixing in position P.V.C. water tank of Syntex or approved equivalent including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete for following capacities. GI pipes shall be paid separately under ST No. 2105. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	500 litres capacity	NOS	5.00			0.0037754367
b	1000 litres capacity	NOS	5.00			0.0075508735
c	2000 litres capacity	NOS	3.00			0.0090610482
d	5000 litres capacity	NOS	2.00			0.0151017470
A2115	Providing and fixing grab bars, barrier-free access and appropriate fittings and fixtures for toilets for handicapped etc. all complete.	NOS	15.00			0.0028001156
A2117	Providing and fixing robehook of approved make as per indian standard etc. all complete as per specification.	NOS	15.00			0.0006825880
A2118	Providing and fixing Janitor room of approved make as per indian standard etc. all complete as per specification.	NOS	15.00			0.0136791186
B2119	Providing and fixing automatic hand dryer of approved make as per indian standard etc. all complete as per specification.	NOS	3.00			0.0014127794
A2120	Providing and fixing glass selves of size 610X127X6mm glass approved make as per indian standard etc. all complete as per specification.	NOS	30.00			0.0024978071
2200	SANITARY: Sanitary work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A2201	Supply and fixing glazed vitreous china Wash Basin (size 550x440mm) of approved make conforming to IS:2556 part 4 of oval shape with R.S. or C.I. brackets painted white, 15mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug, 32mm chromium plated brass bottle trap and waste of standard pattern, 32mm dia chromium plated brass trap unions, CP waste coupling, plastic connection pipe with chromium plated nuts, fittings, cutting and making good the walls where required etc all complete.					
a	White	EACH	8.00			0.0110746145
b	Colored	EACH	8.00			0.0112511663
A2203	Providing and fixing stainless steel kitchen sink of size 600x400x200mm conforming to IS: 13983 including all fittings etc. all complete.	EACH	3.00			0.0022518565
2204	Providing and fixing colour glazed vitreous china European type water closet conforming to IS:2556 with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre PVC flushing cistern (same colour as WC) with valveless fittings, 2 way bibcock with health faucet necessary C.P connections etc all complete as per specification, drawings and as per direction of Engineer-in-charge.					
a	Floor mounted	EACH	8.00			0.0078478016
b	Wall mounted	EACH	8.00			0.0127379953
2205	Providing and fixing colour glazed vitreous indian type Orissa pattern (580x440mm) water closet conforming to IS:2556 part 3 with all fittings including foot rests, low level 12.5 litre PVC flushing cistern with valveless fittings, 2 way bibcock with health faucet necessary C.P connections etc all complete.	EACH	30.00			0.0228359207
A2206	Providing and fixing white flat back glazed vitreous china urinals of size 590x480x380mm with photo voltaic control flushing system as per IS:2556 (part 6, section 1) with flush pipes, lead pipes, gratings, traps and necessary C.P. fittings etc. all complete.	EACH	30.00			0.0815412262
B2206	Providing and fixing waterless Bio Urinals with enclosure satisfying indian standard or equivalent including maintenance of toilet in hygienic condition till COD of the unit, flush pipes, lead pipes, gratings, traps, necessary C.P. fittings etc. all complete as per specification.	EACH	3.00			0.0232345302
A2207	Supply, laying and jointing UPVC SWR pipes of class 3 as per IS:4985 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	75mm dia pipes	RM	50.00			0.0020199499
b	110mm dia pipes	RM	50.00			0.0032191526
c	160mm dia pipes	RM	50.00			0.0044457136
d	200mm dia pipes	RM	25.00			0.0032510705
B2207	Supply, laying and jointing CPVC pipes satisfying relevant indian standard including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	75mm dia pipes	RM	38.00			0.0016876385
b	110mm dia pipes	RM	50.00			0.0035428917
c	160mm dia pipes	RM	50.00			0.0048925648
d	200mm dia pipes	RM	25.00			0.0035770895
2208	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc all complete for following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					

ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY * 100)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
a	200mm dia	RM	30.00			0.0035757216
b	300mm dia	RM	60.00			0.0114521581
c	450mm dia	RM	60.00			0.0145983554
d	600mm dia	RM	60.00			0.0179688902
e	900mm dia	RM	30.00			0.0121525290
2211	Providing and fixing C.I Manhole heavy duty cover of size 600mmx450mm including frame from reputed manufacture etc. all complete.	EACH	15.00			0.0235527065
A2211	Providing and fixing C.I Manhole heavy duty cover of size 600mmx600mm including frame from reputed manufacture etc. all complete.	EACH	15.00			0.0266934321
2213	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber(Clay Brickwork in 1:6 mortar, 12mm plaster in 1:6 mortar & 1:2:4 Cement Concrete) and water tight CI cover with 300x300mm (inside). The weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg etc all complete for following sizes:					
a	100x100mm P or S Type.	EACH	15.00			0.0031161032
b	150x100mm P or S Type.	EACH	15.00			0.0034348267
c	150x150mm P or S Type.	EACH	15.00			0.0039464257
2215	Providing and fixing 100mm heavy duty UPVC floor traps with 100 mm inlet and 100 mm outlet & C.P jalli all complete.	EACH	25.00			0.0046600198
A2216	Providing and installing approved brand single tap water cooler of 80 L cooling capacity with RO system etc. all complete as per specification	EACH	3.00			0.0159112772
A2217	Providing and installing approved brand single tap water cooler of 150 L cooling capacity with RO system etc. all complete as per specification	EACH	2.00			0.0148024479
2219	Providing and fixing eye and face drinking water fountain (combined unit with receptacle conforming to IS: 10592) all complete as per specification.	EACH	1.00			0.0019034950
2220	Providing and fixing heavy duty cast iron pipes for above and below ground sanitary works with water tight lead joint, fixing clamps, excavation, filling, disposal etc. all complete for the following. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	75mm dia pipes	RM	50.00			0.0064793425
b	100mm dia pipes	RM	25.00			0.0042017693
c	150mm dia	RM	13.00			0.0033751857
d	200mm dia pipes	RM	13.00			0.0050361043
e	250mm dia pipes	RM	5.00			0.0031183831
2223	Providing and fixing vertical wall mounted water geysers/heaters(minimum 5 star rating) of required capacity including all connections & fittings(angular stop cock and brass connection pipes, etc.) all complete as per specification.					
a	15 Litres	Each	8.00			0.0097110799
b	25 Litres	Each	3.00			0.0047428240
2300	STRUCTURAL WORKS: Structural steel works including all labour, material (unless otherwise specified in BOQ/contract specification), equipments unless otherwise specified, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.					
A2301	Erection of shop fabricated (field connections will be bolted type unless noted otherwise) Mild structural steel, Medium and High Tensile structural steel with rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc including loading,transportation, unloading,collection of steel from stores, alignment, true to line, level, plumb & dimension,temporary erection bolts & nuts assembly, visual inspection, non destructive and special testing, rectification and correction of defective bolting works, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, touch-up painting, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete as per approved drawing, specification and approval of engineer in charge. The work shall be satisfactorily completed with required tightening of HSFG bolts.The shop fabricated structure shall be supplied in variable length to the maximum length of 10 meters -12 meters and all erection work on ground or at any elevation is included in this item. Payment shall be made for weight of structure but not for temporary erection bolts & nuts. High strength (HSFG) bolt including nuts and washer shall be paid separately. Payment Break-up: 1. On completion of erection - 60% 2. On Completion of welding/bolting, alignment - 40%	MT	10400.00			17.9621054052

ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY * 100)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
D2301	Fabrication (Site Welded as per specification), transportation from fabrication yard and erection of Mild structural steel (Grade designation E250/E350) conforming to IS 2062. Plates beyond 40mm thickness shall be vacuum degassed & furnace normalised and shall also be 100% ultrasonically tested as per ASTM –A578 level BS2.)with rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc collection of steel from stores, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, erection bolts & nuts (weight of temporary erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 20o C for welding over 20 mm and upto 40 mm & 66o C for welding over 40 mm and upto 63 mm & 110o C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, surface preparation by means of manual or mechanical power tools as per IS:1477 part 1, touch-up painting, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete. This item is excluding appointment of a separate agency, approved by BHEL, for connection design & preparation of fabrication drgs (Using 3D model software like Tekla or equivalent) preparation and submission of fabrication drgs in consultation with BHEL. (Rate shall be exclusive of surface preparation and primer) Payment Break-up: 1. On completion of fabrication - 60% 2. On Completion of erection, welding/bolting, alignment - 40%	MT	240.00			0.7560065858
E2301	Erection of shop fabricated (field connections will be welded type unless noted otherwise) Mild structural steel (Grade designation E250), Medium and High Tensile structural steel (Grade designation E350 or higher) with rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc including loading,transportation,unloading,collection of steel from stores, machining,welding, electrodes and other consumables, alignment, true to line, level, plumb & dimension,erection bolts & nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 20o C for welding over 20 mm and upto 40 mm & 66o C for welding over 40 mm and upto 63 mm & 110o C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating,testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete as per approved drawing, specification and approval of engineer in charge. Payment Break-up: 1. On completion of erection - 60% 2. On Completion of welding/bolting, alignment - 40%	MT	220.00			0.4179663820
A2302	Extra over ST NO. A2301 & B2301 for blast cleaning of steel structures to near white metal surface (Sa 2 1/2) finish of ISO 8501-1 with surface profile 40-60Micron and applying two coats of zinc ethyl silicate primer (having minimum 80% of metallic Zinc content in dry film, solid by volume minimum 60%±2%) of minimum 70 micron (total DFT), one coat shall be applied at shop and second coat shall be applied at site after erection including touch-up painting etc all complete as per specification.The primer coat shall be applied in shop immediately after blast cleaning by airless spray technique. Zinc dust composition and properties shall be Type-II as per ASTM D520-00.	MT	240.00			0.1049680848
A2304	Extra over ST No. A2301 & B2301 for providing and applying Intermediate coat having two component polyamide cured epoxy with MI Content (containing lamellar MI minimum 30% on pigment, solid by volume minimum 80% ±2%) of minimum 180 microdots. This coat shall be applied after an interval of minimum 24 hours (from the application of primer coat) by airless spray technique including protection, touch-up painting, cleaning, scaffolding etc. all complete as per specification.	MT	240.00			0.0534689389
A2305	Extra over ST No. A2301 & B2301 for providing and applying finish coat of two pack aliphatic Isocyanate cured acrylic finish paint (solid by volume minimum 55% ±2%) with Gloss retention (SSPC Paint Spec No 36, ASTM D4587, D 2244, D523) of Level 2 (after minimum 1000 hours exposure, Gloss loss less than 30 and colour change less than 2.0ΔE) and minimum 70micron DFT. This coat shall be applied after an interval of minimum 10 hours and within six (6) months (from the completion of Intermediate coat), Colour and shade of the coat shall be as approved by the employer including protection and cleaning, scaffolding etc. all complete as per specification.	MT	240.00			0.0472969206
2308	Supplying, fabrication, erection and alignment of factory made galvanised welded grating units(minimum 610 g/sqm galvanisation) with mild steel conforming to IS:2062 in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. fixing clamps, fittings, fixtures, packing, grinding, drilling, welding, edge preparation, etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	249.00			3.0150801996
A2308	Supplying, fabrication, erection and alignment of FRP grating in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. fixing clamps, fittings, fixtures, packing, grinding, drilling, etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	1.00			0.0151359448

ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY * 100)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
B2308	Supplying, fabrication, erection and alignment of FRP chequered plate in flooring, platforms, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. fixing clamps, fittings, fixtures, packing, grinding, drilling, etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	1.00			0.0192997773
2309	Extra over above ST NO. 2301/2308 for finishing the grating units/bolts/inserts with hot dipped galvanisation @ 610 gm/sqm over blast cleaned steel surfaces instead of painting with two coats of red oxide zinc-chromate primer all complete.	MT	249.00			0.7749332879
2311	Providing and fixing in position of permanent mild steel bolts (class 4.6 as per IS : 1367 and grade 'C' as per IS: 1363) and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	KG	1086.00			0.0133699706
2312	Providing and fixing in positing of high strength structural bolts (of property class 8.8 and product grade 'C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class '8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	KG	96569.00			1.2593331304
A2312	Providing and fixing in positing of high strength structural bolts (of property class 10.9 and product grade 'C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class '8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	KG	105618.00			1.5796055270
2313	Dismantling of steel structure, lowering of material and carriage of the dismantled material up to field fabrication shop / projects storage including temporary dismantling, cutting, re-welding, supporting, and restoring to correct position all temporarily dismantled members, re-alignment of all adjacent connected members to their correct positions (weight of such adjacent members and temporarily dismantled members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	56.00			0.0531420992
2314	Addition to, alterations in and/or modification of "Erection Marks" including cutting of parts, gauging of welds, cutting, grinding, fabrication, welding, drilling holes, straightening, removal of bends, raising to the required level, painting, transportation, return of unutilised steel pieces to the project store, temporarily dismantling, cutting, re-welding, supporting and restoring to correct position of all the temporarily dismantled members, realignment of adjacent connected members (weight of such temporarily dismantled and adjacent members not payable) etc all complete for the following:					
a	In erected position	MT	56.00			0.1343975230
b	In fabrication yard	MT	56.00			0.1136534132
2315	Re-erection of dismantled fabricated structural steel members including carriage of modified "Erection Marks" from the field fabrication shop to erection site, lifting to required position, aligning in position, tack welding, final welding and touch up painting including temporary dismantling and re-erection of temporarily dismantled members, cutting, rewelding, supporting and restoring to the correct position of all temporarily dismnnated members, re-alignment of adjacent connected members(weight of such temporarily dismantled members and adjacent members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	56.00			0.0862039818
2318	Providing and fixing in position PTFE type sliding bearings of reputed manufacturer, individual bearing suitable for required vertical loads as per the construction drawings and for maximum displacement of ±50 mm including transportation, installation, drilling, bolting, erecting, aligning etc all complete for following vertical loads. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%					
a	20 Tons	EACH	8.00			0.0081928801
b	25 Tons	EACH	8.00			0.0095804899
c	40 Tons	EACH	14.00			0.0240495321
d	50 Tons	EACH	8.00			0.0165178093
e	60 Tons	EACH	12.00			0.0289384491
f	100 Tons	EACH	4.00			0.0105712229
2320	Supply, fabrication and fixing of stainless steel pipe hand railing conforming to SS 409 of 32 mm/40 mm dia including transportation, loading/unloading etc. all complete.. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	3.00			0.0808572703
A2321	Supply, fabrication and fixing of hot dip galvanised MS pipe (Medium Class) hand railing of 32 mm/40 mm dia having rate of galvanisation 610gm/sqm including GI toe guard min 6mm thick & min 150 mm wide, transportation, loading/unloading etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	18.00			0.2051867796

ST NO	ITEM DESCRIPTION	UOM	QTY	RATES = TOTAL QUOTED PRICE * WEIGHTAGE / (QUANTITY * 100)	AMOUNT (INR) = RATE * QUANTITY	WEIGHTAGE (UPTO 10 DECIMAL POINT)
B2321	Supply, fabrication and fixing of FRP pipe hand railing including transportation, loading/unloading etc. all complete as per specification. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT	1.00			0.0146265344
2322	Supply, fabrication and fixing of GI pipe hand railing (900 mm high) of 32 mm/40 mm dia (Medium Grade) including transportation, loading/unloading, painting etc. all complete. Payment Breakup: a) Supply & Receipt of material at site - 60% b) Execution & Services Associated with the item - 40%	MT				
2323	Conducting radiography test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	56.00			0.0510125340
2324	Conducting ultasonic test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	56.00			0.0063171994
2325	Conducting ultasonic test on steel plates as per ASTM-A435 or equivalent wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	SQM	112.00			0.0057911917
2326	Conducting magnetic particle test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	56.00			0.0041825273
2327	Conducting dye penetration test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges etc. all complete (over and above the work already specified in the specifications.)	RM	56.00			0.0045451152
2328	Supply, fixing lightning arrester and air terminal over roof of power house building, pump house and other structures including all materials, labour, electrodes etc complete (all materials to be supplied by the contractor).	NO	1.00			0.0004871590
	TOTAL AMOUNT				₹ 3,16,80,000.00	100

Corrigendum - 3 dated 24/11/2025 to CPC Tender No. BHEL/CPC/UKI/C_MPH_TYARD/26/054

ANNEXURE-2

Revised Standard Guidelines for Worker's Accommodation / Establishments at BHEL-Project Sites

Standard Guidelines for Worker's Accommodation at BHEL-Project Sites.

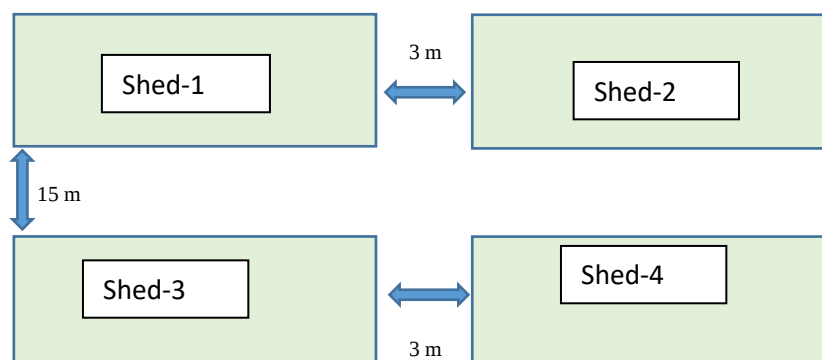
Annexure-A

Standard Guidelines for Worker's Accommodation / Establishments at BHEL-Project Sites.

1) Key Parameters for Construction of Workers' Accommodation / Establishments at Project Sites: -

To ensure the well-being, safety, and comfort of all construction workers, the following parameters shall be adhered to during the development of labour accommodations and associated facilities:

- a) **Land Arrangement:** - The contractor shall arrange suitable land for the labour colony at their own cost, preferably within five kilometres of the project site. The land must be properly levelled and dressed by the contractor. All arrangements for electricity and drinking or service water shall also be made by the contractor within their quoted price. However, BHEL may provide land on a sharing basis for worker establishments if such land is made available to BHEL by the project owner.
- b) **Utilities – Water and Electricity:** - The contractor shall make suitable arrangements for the water network and electricity for all worker establishments. Installation of total electrical layout including transformers (if required), proper electrical wiring and fittings shall be provided to ensure safety and reliability.
- c) **Welfare, Health, and Sanitation Facilities:** - The agency shall provide and maintain facilities for safety, welfare, drinking water, sanitation, hygiene, and biennial health check-ups for all construction workers. These facilities must be available both at workplaces and within the labour and staff colonies.
- d) **Layout and Approval:** - All worker accommodation sheds, barracks, and hutments shall be constructed as per the layout plan approved by BHEL. The construction of temporary colonies, huts, and toilets must follow the attached drawings and shall only commence after obtaining prior approval from the BHEL site. A general layout plan for accommodating 120 workers, including toilet facilities, has been provided. If the agency needs to deploy a larger or smaller number of workers, the number and size of sheds may be adjusted accordingly in consultation with BHEL. The proposed layout of worker accommodations must be reviewed and approved by BHEL before construction begins. The design and construction of all worker accommodation sheds must be uniform and in line with the stipulated guidelines. This uniformity will ensure an organized and aesthetically pleasing appearance of the labour establishment colony.
- e) **Space and Layout Requirements:** - Each accommodation barrack shall have a minimum clear ceiling height of 3(three) metres. There should be at least 3(three) feet of spacing between beds to maintain hygiene and privacy. Only standard metal beds are permitted; substandard types will not be accepted by BHEL. Each hall should be equipped with wardrobes or shelves with locking arrangements for the secure storage of personal belongings. Each worker must be provided a minimum space of 3.6 square metres. A minimum spacing of three metres must be maintained between two barracks side-by-side and fifteen metres between barracks front-to-front. A typical layout plan of the labour colony, illustrating these requirements, is attached for reference.



Annexure-A

Standard Guidelines for Worker's Accommodation / Establishments at BHEL-Project Sites.

- f) **Facilities for Women Workers:** - Separate and exclusive facilities must be provided for women workers. These shall include separate sheds, bathrooms, and toilets, designed to ensure privacy, safety, and comfort

2). Facilities to be Provided at Labour Establishment

a) Toilet, Bathing & Washing: -

- i). Sufficient numbers of toilets, urinals and bathing room within each barrack/shed with complete water supply system. Minimum 1 nos. urinal cum toilet for every 10 persons and 1 no. bathing room for every 10 persons should be ensured. There should not be any open bathing place in the labour colony to maintain proper hygiene.
- ii). Septic tank/Bio-digester with proper inlet/outlet connection to be provided for each shed of adequate size as per applicable standard codes / specifications to cater the requirement of minimum 120 workers.
- iii). Suitable / proper arrangements for washing clothes & drying washed clothes shall be made.
- iv). Toilet and Bathing Room doors shall be of metal frame with PVC doors (25 thk. double skin) of approved make and as per specification, drawing and instructions of BHEL Engineer In-charge.

b) Service & Drinking Water: -

- i.) Proper storage facilities for both service water & drinking water in the labour colony.
- ii.) Bore wells (wherever feasible) to be provided to draw the ground water with submersible pumps of adequate capacity and associated piping and fittings for filling overhead water tank and for connection with Water Treatment Plant. Borewell should be of adequate capacity to fulfil the water requirement (both drinking and service water) for both 'Worker Accommodation Sheds' and 'Medical Centre' building.
- iii.) In case ground water is the source for both service & drinking purpose, water purification plant/RO system should be installed for both service & drinking water purpose.

c) Medical Facilities: -

- i). One Medical centre (24 x7 working), well finished & furnished, of approx. 150 sqm shall be constructed by the contractor in the labour establishment area for the workmen. Relevant drawing of medical centre & list of equipments is attached.
 - Doctor's room with attached toilet.
 - Nurses Room with attached toilet.
 - Dispensary area.
 - Procedure room/hall (Balance area) with common toilets.
- ii). Deployment of Two (2) MBBS-qualified Doctors and Four (4) trained Male/Female Nurses to ensure round-the-clock (24 x 7) medical services with running medicines.
- iii). Dedicated ambulance in the labour colony for 24x7 hrs emergency medical situation fully equipped with ventilation and life support facilities.
- iv). Periodic medical check-ups and free medicines shall be provided to all workers/labourers at free of cost

Annexure-A

Standard Guidelines for Worker's Accommodation / Establishments at BHEL-Project Sites.

- v). The management of the medical centre like monthly cost distribution, ensuring timely availability of adequate medical staff like doctors, nurses, lab technician shall be responsibility of Project Site Contractor Association and the same shall be monitored by BHEL Site HR along with respective package in charges.
- vi). Recurring expenses like payments for medical staffs such as doctors, nurse, ambulance services, consumables, medical instruments/devices & running medicines cost has to be borne by the availing agencies on sharing basis as decided by BHEL Site. No cost shall be borne by the workers/labours at site.

d) Safety, Cleaning & Hygiene: -

- i). The regular cleaning and housekeeping of labour establishments, storage water tank, open areas should be ensured by the agencies to maintain proper hygiene. Dedicated persons to be deployed for cleaning of toilets on daily basis.
- ii). Proper ventilation and lighting in both day & night. Proper false ceiling (in extreme hot conditions) & ceiling fans/coolers shall be provided in the barracks.
- iii). Readily accessible adequate first aid boxes, minimum 4 numbers each of fire extinguishers & dust bins shall be provided in each barrack/shed.
- iv). Centralised garbage dumping storage area in the labour colony & its regular clearance should be ensured by the agencies.
- v). Suitable arrangement for regular Pest / ants / Rodent / Rats / Snakes / Mosquito control in the labour colony shall be made with a reputed firm/ organisation by the vendor at their cost. Window mesh for prevention from mosquito shall be ensured.
- vi). Proper surface water drainage system to be followed by the agencies as per BHEL approved layout plan of the labour colony. No water logging should take place in and around labour colony even during peak rainy season.
- vii). Proper security deployment 24x7 for labour establishment by the respective agency along with provision for fencing/boundary wall and gate for labour colony.
- viii). **The contractor shall ensure availability of support personnel** such as an electrician, plumber, and other essential technicians on a **need-based** and **as-required** basis for the labour colony.

e) General Points: -

- i). Proper approach road to the labour colony & its connectivity with each barrack with necessary hard surfacing preferably with brick flat soling/paver blocks/PCC paving.
- ii). Separate kitchen facilities with dining hall & clean cooking fuel (without smoke) should be used uniformly in labour establishments to avoid health hazards.
- iii). Space for recreation facilities of the workers like playground etc. The maintenance of the recreation facilities should be ensured by the agencies on sharing basis. Also, weekly or fortnightly games/get-together/entertainment to be organised by the vendor for building motivation & team spirit amongst the labour.
- iv). Proper transportation arrangement / conveyance for going to work place from labour colony would have to be ensured by agency. No two-wheelers would be permitted inside plant premises.
- v). Flooring for Worker's accommodation sheds, kitchen shed, washing area and other sheds i.e. pump house for water treatment plant along with RO system

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Standard Guidelines for Worker's Accommodation / Establishments at BHEL-Project Sites.

shall be of cement concrete flooring with metallic hardener. Flooring details shall be as under:

- a) Providing and laying 50 mm thick heavy-duty cement concrete in flooring with metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring.
 - b) Under layer of 38mm thick cement concrete mix 1:2:4 (1 cement: 2 sand: 4 stone aggregates 12.5 mm 20 well graded) and
 - c) top layer of 12mm thick metallic concrete of mix 1:2 (1 cement hardener mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete.
- vi). Supply and fixing of metal frame bed for each worker accommodation shed of size min. 6 feet by 3 feet and min. 3-inch thick coir mattress for each bed. Top of bed shall be made of minimum 18 mm thick ply wood board using standard quality commercial plywood. Bed frames shall be strong and durable enough for comfortable and standard use.
- Note: Make & model shall be approved from BHEL Engineer-In-charge before procurement.**
- vii). Supply and fixing of calibrated energy meter (digital) separately for each shed i.e. 1 no. for each shed.

f) Electrical Guidelines: -

- i). Illumination Design Requirements
 - Lighting system shall be designed using best engineering practices ensuring **uniform, reliable, glare-free** illumination.
 - Lighting fixtures must be finished to avoid bright spots from direct or reflected light.
 - Diffusers/louvers shall be made of **impact-resistant, non-yellowing polystyrene**.
- ii). Minimum Illumination Levels & Fixture Types

Location	Avg. Lux Level	Minimum Fixture Requirement
Inside Sheds	200 Lux	LED Batten/Tube, IP20 or better
Kitchen & Toilets	200 Lux	LED Batten/Tube/Downlighter, IP54 or better
Street Lighting	20 Lux	LED street lights, IP55 or better
Peripheral Lighting	10 Lux (min. 10m width from wall)	LED street/flood lights, IP55 or better

- iii). Lighting System Components
 - System shall include distribution boards, isolating lighting transformer, lighting panels, fixtures, junction boxes, receptacles, switch boards, poles/masts, conduits, cables and wires.
 - Coverage must include interior sheds, toilets, kitchen, street lighting, and area lighting.
- iv). Outdoor Lighting Control
 - All outdoor lighting must operate through an **automatic synchronous timer**.
 - Bypass provision shall be included in the lighting panel.
- v). LED Performance Requirements
 - Minimum LED chip efficacy: **≥ 120 lm/W**.
 - Minimum luminaire efficacy: **≥ 100 lm/W**.

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- Indoor LED colour temperature: $\geq 5700\text{K}$ (cool daylight).
- Outdoor LED colour temperature: $\geq 4000\text{K}$.
- vi). Ceiling Fans
 - Provide **minimum 1 ceiling fan per 10 sq.m** area.
 - Fans shall be:
 - a) 240V $\pm 10\%$, 50 Hz single-phase,
 - b) Class 'E' or better insulated motor,
 - c) 1200 mm sweep, aerodynamically balanced aluminium blades,
 - d) BEE 5-star rated,
 - e) With stepped electronic regulator,
 - f) PF not less than 0.9.
- vii). Electrical Socket Outlets
 - Provide at least **one 6/16A, 240V AC universal socket** per 10 sq.m area.
 - Install sockets at an ergonomically appropriate operating height.
- viii). Street & Peripheral Lighting
 - Design street and peripheral lighting as per applicable engineering guidelines.
 - Peripheral lighting:
 - a) **Minimum 70W LED** fixture at every shed column.
 - b) **Minimum 120W LED** if column spacing exceeds 5 metres.
- ix). Flood Lights / High Mast
 - Provide flood light poles/high mast lighting in recreation areas based on site requirements.
- x). Illumination Testing & Compliance
 - Contractor must **demonstrate and record** average lux levels for all designated areas after installation.
 - Illumination levels must meet specification requirements to the satisfaction of the **Engineer-in-Charge**.

3). Compliances of Guidelines: -

The contractor shall maintain the labour colony for its workmen as per BHEL guidelines. 0.25 % of every RA Bill shall be linked on certification from BHEL for compliance with the guidelines of labour colony.

In case labour establishment is not completed as per the layout drawing and compliance with statutory norms/BHEL Guidelines and any penalty is imposed by Customer, same shall be recovered from contractor's RA Bill.

Regular visit of workmen establishment shall be done by team from BHEL to ensure implementation of above guidelines. Any irregularities observed shall have to be rectified by agencies on immediate basis.

In case, the report submitted by BHEL team is not satisfactory, necessary actions including recoveries (0.25% of RA Bill value) shall be done as per contract. In addition to the recoveries as per contract (0.25% of RA Bill value), expenses incurred (if any) for maintenance & rectification by BHEL shall be recovered from agency along with 5% overheads.

In case Owner/Customer specific guidelines & drawings w.r.t worker's establishment are available in any project, the same shall prevail over and above the BHEL guidelines. Also, in case of conflict of guidelines stipulated in BHEL HSE documents, the more stringent guidelines shall prevail.

Any other welfare measures which the Central Government considers, under the set of circumstances, as required for decent life of workers shall be ensured as per following applicable Labour Laws: -

- Contract Labour (Regulation & Operative) Act, 1970,

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- Inter-State Migrant Workmen (Regulation of Employment and Condition of Services) Act, 1979,
- The Building and Other Construction Workers Act, 1996.
- Labour Code on Occupational Safety, Health and Working Conditions issued by Government of India

Central Procurement Cell (CPC), BHEL-PSHQ

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Guidelines for Maintenance of Facilities at Labour Colony

Formation and Operation of Common Management Association (CMA) for Labour Colony & Medical Centre

1. Purpose

A “**Common Management Association (CMA)**” shall be formed to ensure uniform management, maintenance, and monitoring of the Labour Colony and Medical Centres constructed at Project Sites. The CMA shall aim to maintain consistent living, health, and welfare standards for all workers through shared responsibility, coordinated management, and standardized procedures.

2. Scope

This SOP/Guidelines shall apply to all contractors, subcontractors, and service providers engaged at the project site who are responsible for labour accommodation and welfare facilities, including medical centres and ambulance services.

3. Objectives

The primary objectives of the CMA are to:

- Establish a common management framework for Labour Colony and Medical Centres constructed at Project Sites.
- Ensure compliance with statutory and contractual welfare, health, and safety standards.
- Promote efficient use of shared resources such as medical staff, ambulances, and infrastructure.
- Standardize inspection, recordkeeping, and reporting practices.
- Facilitate joint welfare, health, and awareness programs for all workmen.

4. Composition of the CMA

The CMA shall comprise the following members: -

BHEL Project Director	Chairperson
BHEL Site HR	Secretary
BHEL Package In charge	Executive Member
Welfare/HSE (Health, Safety & Environment) Officer	Member (HSE)
One Representative from Each Major Contractor	Members (Working)
Senior Doctor / Chief Medical Officer	Medical Advisor
Nominated Contractor Representative (rotational every 6 months)	Secretary / Coordinator
Finance/Accounts Officer	Accounts Officer

4.1 Formation of Working Committees

To ensure effective day-to-day management of the Labour Colony and Medical Centre, the CMA shall form two dedicated **Working Committees** as follows:

A. Cleanliness & Housekeeping In charge

- **In-Charge:** Nominated by Project Director

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The Cleanliness & Housekeeping In charge shall:

- Conduct weekly inspections and record findings in the **Colony Inspection Register**.
- Identify maintenance issues and coordinate with contractors for timely rectification.
- Verify availability of cleaning materials, consumables, and manpower.
- Recommend improvements in hygiene standards, pest control measures, and sanitation infrastructure.

The In charge is authorized to:

- Issue instructions to all contractors regarding cleanliness and housekeeping improvements.
- Direct immediate corrective actions in case of hygiene deficiencies or unsafe conditions.
- Submit non-compliance reports to CMA Chairperson for necessary action, including penalties as per contract.
- Recommend temporary stoppage of colony facilities if conditions pose a health risk.

B. Medical & Health Services Committee (MHSC)

- **In-Charge:** BHEL HSE Officer

The Medical & Health Services In charge shall:

- Monitor functioning of the Medical Centre, availability of doctors, nurses, and ambulance staff.
- Ensure adequate medicines, consumables, and life-saving equipment in the Medical Centre.
- Conduct monthly health check-ups, vaccination drives, and awareness programs for workers.
- Review patient registers, incident reports, and emergency response records.
- Verify ambulance logbooks, maintenance, and 24×7 readiness.
- Coordinate with nearby hospitals for referrals and emergency support.
- Identify gaps in medical preparedness and propose enhancements.

The In charge is authorized to:

- Direct medical staff to ensure compliance with CMA standards and statutory requirements.
- Recommend immediate procurement of essential medicines or equipment during shortages.
- Authorize emergency use of ambulance or medical facilities without delay.
- Report non-compliance or negligence by any contractor to the CMA Chairperson.

4.2 Reporting

- Each committee shall submit a **Weekly Report** to the CMA Secretary.
- Key findings, non-compliance issues, and recommendations shall be reviewed in the monthly CMA meeting.

5. Responsibilities of CMA: -

5.1 General

- Ensure smooth operation and upkeep of labour colonies and medical centres.
- Conduct monthly inspections and audits to ensure compliance with approved standards.
- Develop and implement uniform maintenance and welfare procedures.
- Review and address issues related to worker accommodation, sanitation, and healthcare.

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5.2 Labour Colony Management

- Maintain cleanliness, hygiene, lighting, water supply, power, and sanitation systems.
- Ensure availability of safe drinking water and waste disposal arrangements.
- Oversee canteen, recreational, and welfare facilities.
- Attend to labour grievances promptly and maintain a grievance register.
- Ensure regular cleaning, disinfection, and maintenance of all toilets, bathrooms, and wash areas through a designated housekeeping agency. Proper usage of cleaning chemicals, disinfectants, and daily checklists shall be mandatory.
- Engage a separate specialized agency for landscaping, garden development, greenery improvement, and routine maintenance. The agency shall also support overall colony cleanliness and upkeep of open spaces.

5.3 Medical Centre Management

- Ensure 24 x 7 availability of doctors, nurses, and ambulance service.
- Procurement & Maintain adequate stock of medicines, consumables, and emergency equipment.
- Conduct regular medical check-ups, vaccination drives, and health awareness programs.
- Maintain patient records, stock registers, and incident reports in prescribed formats.
- Medicines & consumables shall be of high standard/reputed brands.

5.4 Labour Entry, Exit & ID Card Management

The CMA shall ensure the following procedures for control and security of labour movement at the Labour Colony and Project Site:

5.4.1 ID Card Issuance

- All workers shall be issued a **unique Labour ID Card** by their respective contractors upon joining.
- The standard format for labour ID cards shall be finalized by the CMA.
- The CMA shall maintain a **centralized Labour ID Register** indicating worker details, contractor name, date of issue, and validity.
- No worker shall be allowed entry into the Labour Colony or Project Site without a valid ID card.

5.4.2 Entry & Exit Control

- Entry and exit from the Labour Colony shall be controlled through a **security gate**, where ID cards must be shown and verified.
- Security personnel shall maintain a **Daily Attendance/Movement Register** for tracking resident workers.
- Workers returning after leave/holiday must present their ID card for re-validation.

5.4.3 Surrender of ID Cards

- **Workers proceeding on long leave (above 3 days)** shall surrender their ID cards to their contractor's representative or security in-charge.
- **Workers resigning or completing their work** must compulsorily surrender the ID card before final exit from the project.
- Contractors shall notify the CMA of all labour exits, and the surrendered ID cards shall be recorded and safely retained for audit.

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5.4.4 Misuse Prevention

- Any lost or damaged ID card must be reported immediately to the contractor and CMA.
- Duplicate ID cards may be issued only after due verification and approval from the CMA Secretary.
- Misuse of ID cards, unauthorized entry, or allowing others to use one's ID shall be treated as a security violation and dealt with as per project rules.

5.4.5 Monthly Review

- The CMA shall review:
 - Total labour count
 - Issued and surrendered ID cards
 - Discrepancies found during entry/exit audit
- Any mismatch shall be escalated to the Chairperson for necessary action.

6. Meetings

- CMA meetings shall be conducted once every month or more frequently as required.
- Minutes of Meetings (MoM) shall be prepared by the Secretary and circulated within 3 working days.
- The Chairperson shall review the previous month's action points for closure and compliance.

7. Reporting

- CMA shall prepare a Monthly Status Report including:
 - Labour colony occupancy and maintenance condition
 - Medical centre operations and staff attendance
 - Health check-ups, awareness sessions, and medical incidents
 - Issues identified and corrective measures taken
- The report shall be submitted to the BHEL HR Head for review and record.

8. Funding and Cost Sharing

8.1 A **Common Welfare Fund** shall be created to meet expenses related to the operation and maintenance of the labour colonies and medical centres under the CMA.

8.2 All contractors working under the project shall contribute to this fund as follows:

- **Fixed Expenses:**
Fixed expenses (such as infrastructure maintenance, common staff salaries, utilities, and insurance) shall be distributed among all contractors in proportion to their individual contract value on pro-rata basis.
- **Running Costs:**
Running or variable expenses (such as medicines, consumables, ambulance fuel, and equipment servicing) shall be shared as per actual usage or consumption, based on monthly records maintained by the CMA.

8.3 The CMA Secretary shall maintain a detailed cost register reflecting both fixed and running cost allocations.

8.4 All expenditures shall be approved by the CMA Chairperson and verified by the Project Management / Accounts team before disbursement.

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8.5 A monthly financial statement shall be circulated to all member contractors for review and reconciliation.

9. Compliance and Audit

- The CMA shall ensure strict compliance with Labour Welfare, Health, and Safety Regulations applicable to the project.
- Periodic audits and inspections shall be conducted by the Project/Corporate/ Headquarters HR & HSE Teams.
- Non-compliance or negligence by any contractor shall be reported to Project Management and may lead to penalty or deduction as per contract conditions.

10. Coordination with External Agencies

The CMA shall coordinate with:

- Local health and labour authorities for inspections and compliance.
- Nearby hospitals and emergency services for referrals and medical emergencies.
- Project HSE and Welfare Officers to align operations with overall project health and safety strategy.

11. Documentation

The following records shall be maintained and updated regularly under CMA supervision:

- Labour Colony Inspection Register
- Medical Centre Patient Register
- Medicine & Equipment Stock Register
- Ambulance Log Book
- Health Check-up & Awareness Program Register
- Monthly Meeting Minutes and Status Reports
- Cost Register (Fixed & Running Expenses)
- All documents/records shall also be prepared and saved in Digital format.

12. Review and Continuous Improvement

- The CMA's performance and activities shall be reviewed quarterly by Project/Corporate/ Headquarters HR & HSE Teams.
- Worker feedback and inspection findings shall be used for continuous improvement.
- This SOP shall be revised annually or as required by management or statutory authorities.

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Corrigendum - 3 dated 24/11/2025 to CPC Tender No. BHEL/CPC/UKI/C_MPH_TYARD/26/054

ANNEXURE-3

Approved Vendor List



**Approved Name of Firms of Manufactures of Civil Items Allowed to use
being supplied by contractors in civil works.**

Sr. No.	Name of approved Vendor List of Company & their Brand Name in Market	
	CEMENT	
1	A.C.C. Cement	A.C.C.
2	Ambuja Cement	Ambuja
3	Binani Cement	Binani
4	Birla Cement	Birla A-1
5	Gujarat Sidhee Cement	Sidhee
6	J.K. Cement	J.K.
7	J.K. Laxmi Cement	J.K. Laxmi
8	Sanghi Cement	Sanghi
9	Saurashtra Cement	Hathi
10	Shree Digvijay Cement (SDCC)	KAMAL
11	India Cement	Corromandal King
12	Ultratech Cement (L&T)	Ultra-tech
13	HI-BOND Cement	HI-BOND
14	Shree Cement Limited	Shree/Bangur/Rock Strong/Roofon/Bangur Power
	CONSTRUCTION CHEMICALS	
1	RedWop Chemicals	Rajkot
2	Samrock Chemicals	Ahmedabad
	Water Proofing & Wrapping Coating	
1	Bitumag Industries	Vadodara
2	A.R. Industries	Vadodara
3	Tiki Tar Danosa (India) Pvt. Ltd.	Halol
4	STP Ltd.,	Ankleshwar
	Flooring Tiles	
1	Asian Granito	Sabarkantha
2	Somany	Kaloal
3	Simpolo	Morbi
4	Varmora	Morbi
5	Sunheart	Morbi
6	Emcer	Morbi
7	Cengres	Ahmedabad

	TMT Bars	
1	Tata Iron & Steel Co. Ltd	TATA
2	Jindal	JINDAL
3	Lloyds	Lloyds
4	Essar Steel Ltd.	Essar
5	Steel Authority of India.	SAIL
6	Parmeshwar Steel Pvt ltd.	God TMT
7	Gallant Ispat Ltd.	Gallant TMX
8	Aditya Ultra Steel Pvt. Ltd.	KAMDHENU NXT & Kay 2 TMT
9	Mono steel India Ltd.	MONO TMT
10	Aashiana Rolling Mills Ltd.	Friends Steel
11	Electro Therm (I) Ltd.	ET TMT
12	H.K. Ispat .Pvt. Ltd.	Kothi
13	SRJ peety steel Pvt. Ltd.	SHREE OM TMT/SRJ TMT/KAPILA PURE STEEL
14	Nilkanth Concast Private Limited	Nilkanth
15	Shreeyam Power & Steel Industries Limited	National
16	Utkarsh Bars Private Limited	Utkarsh
17	Bhagyalaxmi Rolling Mill Pvt. Ltd	Polad
18	Shri Khatu Shyam Alloys Pvt. Ltd.,	Khatu TMT
19	Steefo Steels LLP, Ahmedabad	STEEFO TMT
20	Haq Steel & Metaliks Ltd.,Kutch	GERMAN TMX
21	K.B. Ispat Private Ltd., Bhavnagar	KB TMT
22	VMS TMT Private Ltd., Ahmedabad	KAMDHENU NXT & Kay 2 TMT
23	Briskon Multimetals LLP	
24	Kalika Steel Alloys Pvt. Ltd., Jalna	KALIKA 500 TMT
25	Anjar TMT Steel Pvt.Ltd.,Anjar	Welspun Shield
26	Shri Bajrang Power & Ispat Ltd.	Goel TMT & Pipes
27	Rajuri Steels &TMT Bars Pvt. Ltd.	Rajuri Steel
28	SMW Steel	Sangam
29	Rathi Steel & Metal Pvt. Ltd.	Icon Steel
30	Metarolls Ispat Pvt. Ltd.	Metarolls TMT
31	Sai Bandhan Infinium Pvt. Ltd.,	BANDHAN TMX

Remark:-

In addition to the above Approved Vendor List of GSECL, the approved vendor list of GUVNL and its subsidiary company i.e. GSECL/GETCO/MGVCL /PGVCL/DGVCL & UGVCL which are available on their website- in tender head including above mention various manufacturers are also to be treated as Approved Vendors.