



# भारत हेवी इलेक्ट्रिकल्स लिमिटेड

( भारत सरकार का उपक्रम )

## BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

### TCN - 03

Ref: PSER: SCT:KLN-C-1912:18:TCN-03

Date: 23-08-2018

Sub	Tender Change Notice (TCN)- 03	
Job	PACKAGE 14: CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR CHP ,AHP & MISC.WORK FOR 2X660 MW MAITREE RAMPAL PROJECT, BANGLADESH.	
Ref	1.0	Tender no: <b>PSER:SCT:KLN-C1912:18.</b>
	2.0	BHEL's NIT, vide reference no: PSER:SCT:KLN-C1912:6961, Date: 24-07-2018.
	3.0	BHEL's TCN-01, vide reference no: PSER:SCT:KLN-C-1912:18:TCN-01, Date: 14-08-2018.
	4.0	BHEL's TCN-02, vide reference no: PSER: SCT:KLN-C-1912:18:TCN-02, Date: 18-08-2018.
	5.0	Other References, if any.

With reference to above, following points/documents, relevant to tender, may please be noted and complied with while submitting the offer.

1. Revised **PRICE SCHEDULE VOLUME-III, R-1** is attached **superseding VOLUME-III PRICE SCHEDULE, REV-0** issued earlier along with NIT. Bidder shall quote as per this revised Volume-III, Rev-1 only
2. Revised 'No deviation certificate' is attached. Bidder to submit 'No deviation certificate' as per attached format only.
3. All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,  
for BHARAT HEAVY ELECTRICALS LTD

Dy. Manager (SCT)

Encl: As Above.

पावर सेक्टर पूर्वी क्षेत्र ( मुख्यालय )

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960

फोन/Phone : बोर्ड/EPABX : (033) 2339 8000

**FORMAT FOR NO DEVIATION CERTIFICATE**  
**(To be submitted in the bidder's letter head)**

BHARAT HEAVY ELECTRICALS LIMITED,  
Power Sector - Eastern Region,  
Plot no 9/1, DJ Block, Sector – II, Salt Lake City,  
Kolkata – 700 091

Sub	No Deviation Certificate.	
Job	PACKAGE 14: CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR CHP ,AHP & MISC.WORK FOR 2X660 MW MAITREE RAMPAL PROJECT, BANGLADESH.	
Ref	1.0	Tender no: <b>PSER:SCT:KLN-C1912:18.</b>
	2.0	BHEL's NIT, vide reference no: PSER:SCT:KLN-C1912:6961, Date: 24-07-2018.
	3.0	BHEL's TCN-01, vide reference no: PSER: SCT:KLN-C-1912:18:TCN-01, Date: 14-08-2018.
	4.0	BHEL's TCN-02, vide reference no: PSER: SCT:KLN-C-1912:18:TCN-02, Date: 18-08-2018.
	5.0	BHEL's TCN-03, vide reference no: PSER: SCT:KLN-C-1912:18:TCN-03, Date: 23-08-2018.
	6.0	All other pertinent issues till date.

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/ modified the tender documents as appeared in the website/ issued by you and in case of such observance at any stage, it shall be treated as null and void.

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT. We hereby confirm our unqualified acceptance to all terms & conditions, unqualified compliance to technical specification, integrity pact (if applicable) and acceptance to reverse auctioning process.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized  
representative of the bidder)

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION DJ-9/1, SECTOR-II, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960

फोन/Phone : बोर्ड/EPABX : 033-2339 8000/ 2339 8236

<b>VOLUME-III</b>	
<b>PRICE SCHEDULE, REV-01</b>	
<b>PACKAGE 14: CIVIL, STRUCTURAL &amp; ARCHITECTURAL WORKS FOR CHP,AHP &amp; MISC.WORK FOR 2X660 MW MAITREE RAMPAL PROJECT, BANGLADESH.</b>	
<b>TENDER DOCUMENT NO : PSER:SCT:KLN-C1912:18</b>	
<b>PREAMBLE</b>	
01	This preamble forms part of tender document and schedule of items. The tenderer should read this preamble carefully before filling in rates for various items. Clauses under this preamble shall be read in conjunction with various volumes of tender and other tender sections as applicable and shall have precedence over any contrary statement mentioned anywhere in this document.
02	The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions. Drawings enclosed with the tender are only preliminary and for tender purposes and giving some idea of the work involved. The work is to be executed as per drawings & documents, which shall be furnished during execution.
03	Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.
04	Unless specifically mentioned otherwise in the tender document, the tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of all temporary piping, structures, valves, pumps, tanks & other misc. equipment, strengthening of roads/culverts/bridges etc. including arranging all clearances etc. required for carrying out different activities & tests, materials, levies, taxes (except service tax), transport, layout, repairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the complete tender document and this schedule.
05	The quantities of the various items mentioned in this schedule of items are approximate, based on very preliminary information and may vary to any extent or be deleted altogether. The quoted rates of each item will remain firm throughout the period of execution including extension, for reasons whatsoever, as long as variation in the total value of work executed under any part of this contract including extra items, if any but excluding any price variation remains, <b>within plus minus thirty percent (± 30%)</b> of the awarded price as per LOI.
06	Prior written approval of BHEL shall be sought by the contractor in case quantity variation of any item crosses +50% (plus fifty percent) limit during execution and approval to be obtained before execution of further quantity for this item.
07	In case Sealed /Paper Price Bids are opened for finalisation of the tender, for any Item Rate/BOQ based contract, possibility of variation of quantity/addition/deletion of items can not be ruled out. Under such circumstances, after execution of work, if it is observed that standing as L-1 is changed based on actual quantity executed, the bidder shall give suitable rebate to maintain your standing as L-1. Since this aspect can be assessed at the end of execution, necessary adjustment will be effected at the end of execution in final bill. This condition shall not be applicable where the tender is finalised through Reverse Auction.
08	BHEL reserve the right to rationalize the rates, quoted by L-1 bidder against unit rate items and/ or other optional items with respect to item-wise lowest rates (amongst the participating bidders), before placement of order.
09	The rates quoted shall be inclusive of cleaning of site of any vegetation, dressing , clearing of old structures and leveling etc. including fixing of grid pillars, benchmarks etc. required for commencement of site activities. No separate payment will be made towards the same. However, if separate rate for such item is available in the rate schedule, the same shall be considered.
10	Rates shall be quoted in figures and in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English language.
11	All works item wise shall be measured upon completion and paid for at the rates quoted and accepted as per BHEL approved payment schedule/billing break-up.
12	The tender shall be deemed to have visited site and made himself aware of all the site conditions, studied the specifications and details of work to the done within the time schedule attached and to have acquainted himself of the conditions prevailing at site.
13	No splitting of the job is envisaged. Decision of BHEL in this regard shall be final and binding to the bidders.
14	Bidders are not allowed to alter the Price Schedule format including item description, quantity etc. and the offer is liable for rejection if the bidders submit their prices in Price Schedules modified by them. BHEL reserves the right to reject the offers of bidders who submit offers in Price Formats which are modified/ altered by them. Also putting any comments instead of rates/price in the designated column of the rate schedule shall make the offer liable for rejection.
15	Bidders to note that for Civil &/Structural packages, against a particular item against a ST No. appearing in more than one schedule of the BOQ, same rate must be quoted in all schedules for that particular items with same descriptions. If by error, different rates are quoted in different schedules for same ST No. (i.e. item with same description), then the higher of the rates shall be considered for evaluation but awarding shall be done with the lower rate, if the bidder becomes L-1."
16	For Lumpsum Service Contract : The items/components indicated in the tender is indicative and may vary to any extent. No compensation shall be payable in case of any variation in the items/components listed in the bill of quantities if the executed weight remains within the variation limit. However, in case of deletion of any item or addition of new items over and above the items listed or variation of existing quantity beyond variation limit specified, adjustment (i.e. Payment or recovery as the case may be ) shall be done on pro-rata basis based on the Rate per MT worked out from the quoted lump-sum Price and the total weight of components listed /indicated in price schedule plus 15% weight variation limit.
17	Engineer's decision shall be final and binding on the contractor regarding clarification of items in the schedule with respect to the other sections/volumes of the contract.
18	In case of tender for Civil and/or Structural works, if the Non-schedule items are not quoted by the bidder, it will be treated at par with rate of corresponding item of CPWD/PWD/DSR/BPWD schedule as prescribed in the tender/BOQ cum Rate Schedule.
19	No interest, whatsoever, shall be payable by BHEL on the security deposit, any bank guarantee submitted or any amount due to successful bidder/contractor.
20	Size and weights of various items are mentioned in the attached BOQ cum rate/price schedule for reference purpose only & these shall not be taken into consideration for quoting/calculating amount in the rate schedule. These shall be utilised as per relevant sections of tender. Bidders shall quote for each item in the rate column, taking unit as mentioned in the quantity column. Rates shall be filled in both figures and words. Amount shall be calculated based upon these rates multiplied by the mentioned quantity for the respective items.
21	Bidder's Total price shall be considered for evaluation unless stated otherwise.
22	In case of BOP packages, if Bidder does not quote/indicate the price for freight chages against indicated rate schedule, the same shall be considered as 2% of basic price and adjusted with the total quoted price against each item keeping the total quoted price unaltered.

**VOLUME-III  
PRICE SCHEDULE, REV-01**

**PACKAGE 14: CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR CHP,AHP & MISC.WORK FOR 2X660 MW MAITREE RAMPAL PROJECT, BANGLADESH.**

**TENDER DOCUMENT NO : PSER:SCT:KLN-C1912:18**

**SCH-1 : TOTAL PRICE**

SL NO	DESCRIPTION	PRICE SCHEDULE REF	TOTAL QUOTED PRICE (IN USD)
1.0	<b>PACKAGE 14: CIVIL, STRUCTURAL &amp; ARCHITECTURAL WORKS FOR CHP,AHP &amp; MISC.WORK FOR 2X660 MW MAITREE RAMPAL PROJECT, BANGLADESH.</b>	SCH 2 - BREAK UP OF TOTAL PRICE	<u><b>IN FIGURES:-</b></u> <u><b>IN WORDS:-</b></u>
2.0	<b>NON-SCHEDULE ITEM</b> Quote % above or % below or at par for items not covered as above of this schedule. The rate shall be derived from Schedule of Rates 2014, PWD, Govt. of Bangladesh		
1a)	Rate of complete item	_____ % above/ _____ % below/ <b>at par</b> of BPWD Rate Schedule 2014	
1b)	Rate of supply of material at site only	_____ % above/ _____ % below/ <b>at par</b> of BPWD Rate Schedule 2014	
1c)	Rate for execution complete excluding supply of materials.	_____ % above/ _____ % below/ <b>at par</b> of BPWD Rate Schedule 2014	

**NOTE**

1.0	Bidder shall quote total price for total price of SCH-1- Part only at sl no 1 above. All other amounts/ rates of each item of works in respective schedules/ parts will be derived based on allocated percentages. As such, any uncalled figure/ amount noted at any other place/ schedule of Volume-III will not be recknoed & will stand null & void.
2.0	Bidder to note that total price at sl no 1.0 above shall be considered for evaluation & awarding. As such grand total price should be complete in all respect for the full scope defined and considering all terms and conditions.
3.0	Bidder to note that SCH-2 is Break-up of Total Price.
3.1	Bidder to note that SCH-3 covers SERVICE of respective items, unless specified otherwise in the description of items.
3.2	Bidder to note that SCH-4 is Break-up of TOTAL PRICE BREAK UP FOR GROUND IMPROVEMENT WORK unless specified otherwise in the description of items.
3.3	Bidder to note that SCH-5 is Break-up of SUPPLY unless specified otherwise in the description of items.
3.4	Bidder to note that SCH-6 is Break-up of O&M of Solid waste managment plantunless specified otherwise in the description of items.
4.0	Bidder's quoted total priceat Sl. no 1 above respectively shall be apportioned into amount of various items of works based on allocated percentages against respective item, in respective schedules/ parts. As such, bidder shall not indicate/ quote any amount/ rate in these schedules/ parts and any amount/ rate quoted against any item shall not be taken into cognizance/ account and offer may be liable for rejection.

**VOLUME-III  
PRICE SCHEDULE, REV-01**

**PACKAGE 14: CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR CHP,AHP & MISC.WORK FOR 2X660 MW MAITREE RAMPAL PROJECT, BANGLADESH.**

**TENDER DOCUMENT NO : PSER:SCT:KLN-C1912:18**

**SCH-1 : TOTAL PRICE**

5.0	Based on the itemwise percentage allocations, the amount for the individual items of the Bill of Quantity shall be arrived at. The rates of individual items shall be derived from the amount against each items after rounded off .
6.0	Bidders to note that this is an item rate contract. Payment shall be made for the actual quantities of work executed at the unit rate arrived at as per SI No.7below.
7.0	Unit rates of each item of works of respective schedules/ parts will be derived by dividing derived amount by corresponding quantities. In deriving the unit rates of each item in this manner, figures only upto 2 decimal places will be taken into account. Any adjustment, if required, due to such methodology, will be effected in final bill.
8.0	Successful bidder shall draw a schedule of quantities of various items of work of SCH-5 and obtain BHEL's approval/ clearance in writing before procurement, supply, etc.
9.0	Any item as per scope of work, if not included in the price quoted above and shown separately will not be taken cognizance of and the offer shall be liable for rejection.
10.0	Price format shall not be changed by bidder in any case and it may lead to cancellation of their offer.
11.0	The quantity of items may vary during execution mainly due to actual requirement etc. The unit rates work out from the overall amount quoted & accepted by BHEL shall be considered and no separate unit rates shall be allowed. Unit rates shall be valid throughout the contract period.
12.0	For payment of non schedule items, the rate shall be derived from Schedule of Rates 2014, PWD, Govt. of Bangladesh.

<b>VOLUME-III</b>			
<b>PRICE SCHEDULE, REV-01</b>			
<b>PACKAGE 14: CIVIL, STRUCTURAL &amp; ARCHITECTURAL WORKS FOR CHP,AHP &amp; MISC.WORK FOR 2X660 MW MAITREE RAMPAL PROJECT, BANGLADESH.</b>			
<b>TENDER DOCUMENT NO : PSER:SCT:KLN-C1912:18</b>			
<b>SCH-2 : BREAK UP OF TOTAL PRICE SCHEDULE</b>			
<b>SL NO</b>	<b>DESCRIPTION</b>	<b>PRICE SCHEDULE REF</b>	<b>ALLOTTED PERCENTAGE FOR AMOUNT OF EACH ITEM( Nearest to the 6 decimal points) W.R.T THE TOTAL OF QUOTED PRICE IN SCH-1</b>
<b>1.0</b>	SERVICE	<b>SCH 3 -SERVICE</b>	81.1871580%
<b>2.0</b>	SERVICE-GROUND IMPROVEMENT	<b>SCH 4 -SERVICE-GROUND IMPROVEMENT</b>	0.8619100%
<b>3.0</b>	SUPPLY	<b>SCH 5-SUPPLY</b>	17.6200260%
<b>4.0</b>	O&M	<b>SCH 6-O&amp;M</b>	0.3309060%
	<b>TOTAL ALLOTTED PERCENTAGE</b>		<b>100.0000000%</b>

VOLUME-III PRICE SCHEDULE, REV-01				
PACKAGE 14: CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR CHP,AHP & MISC.WORK FOR 2X660 MW MAITREE RAMPAL PROJECT, BANGLADESH.				
TENDER DOCUMENT NO : PSER:SCT-KLN-C1912:18				
SCH-3 : SERVICE				
ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	ALLOTTED PERCENTAGE FOR AMOUNT OF EACH ITEM (Nearest to the 6 decimal points) W.R.T THE TOTAL OF QUOTED PRICE IN SCH-1
<b>100 EARTH WORK</b>				
	Earth work In excavation, backfilling and disposal including necessary men/women, materials, equipment, loading, transportation, unloading, dewatering etc as per specification, drawing, relevent laws of Bangladesh, relevant BS (or equivalent international standard) Standards approved by BIFPCL/BHEL and as directed by engineer- in-charge for the following.			
A101	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, dewatering (but excluding special type of dewatering viz. well point method), shoring & strutting (wherever required, except using of temporary Steel sheet piling work . If shoring is required with temporary Steel sheet piling work as per BHEL's approved excavation scheme then it will be paid separately as per item No. 2516), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead up to 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	233941.000	0.8125180%
b	Depth exceeding 2 m but not exceeding 4 m	CUM	60400.000	0.2617600%
A102	Extra over ST No. 101 for dewatering of ground water by well point method as per relevant Bangladesh/BS Standards/Specifications or Equivalent International standards approved by BIFPCL/BHEL.	CUM	9200.000	0.0183800%
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 250 mm thickness using/with selected approved 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	Each layer compacted so as to achieve at least 98% maximum dry density as per ASTM D-1557.	CUM	489.000	0.0019390%
e	Each layer compacted so as to achieve at least 85% relative density as per ASTM D-4253 & ASTM D-4254	CUM	2714.000	0.0096760%
A108	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 250 mm thickness using/with selected earth directly from excavation within a lead upto 1 Km and compacted as specified including watering, ramming/compaction by manual/mechanical means, dressing etc all complete for the following.			
a	Each layer compacted so as to achieve at least 98% maximum dry density as per ASTM D-1557.	CUM	38.000	0.0000770%
e	Each layer compacted so as to achieve at least 85% relative density as per ASTM D-4253 & ASTM D-4254	CUM	152.000	0.0002850%
A109	Extra over ST No. 101 and 103 to 108 for carriage of material/earth for every 500 m or part thereof beyond an initial lead of 1 Km.	CUM	215963.000	0.0730160%
A111	Supplying and filling sand (grading limits as per specification) upto any depth under floors, around foundations, plinths etc. in layers not exceeding 250 mm thickness and compacted so as to achieve at least 85% relative density as per ASTM D-4253 & ASTM D-4254 including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	369.000	0.0022410%
<b>A 200 CONCRETE WORKS (EXCEPT ROAD WORKS)</b>				
	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, cleaning and rendering the exposed surface with cement sand mortar to give a smooth and even surface (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc, preparation of scheme for concreting, getting it approved by engineer, maintaining and submitting records of concreting, complete as per drawing, specifications, relevant laws of Bangladesh, manufacturer's recommendation, relevant BS standards/equivalent international standards and as approved by BIFPCL/BHEL and as per direction of engineer in charge for the following.[Type –I cement as per ASTM C150-16 with C3A content limited to 5 to 8 % shall be used . Supply of cement is in the scope of contractor. No separate payment shall be given against supply of cement by contractor]			
A201	Concrete of grade C8/10 as per BS EN-206 and BS 8500 or equivalent international standard (with 40 mm graded aggregate) as mass filling course, lean concrete, leveling course, mud mat, under and around foundation/floors at any depth below finished floor level etc.	CUM	8	0.0023620%
AA201	Concrete of grade C8/10 as per BS EN-206 and BS 8500 or equivalent international standard (with well graded picked jhama brick chips conforming to ASTM C33 including breaking chips and screening) as mass filling course, lean concrete, leveling course, mud mat, under and around foundation/floors at any depth below finished floor level etc.	CUM	63	0.0167380%
A203	Concrete of grade C12/15 as per BS EN-206 and BS 8500 or equivalent international standard (with 40 mm graded aggregate) as lean concrete, leveling course, mud mat, under and around foundation/floors at any depth below finished floor level etc.	CUM	246.000	0.0816070%
AA203	Concrete of grade C12/15 as per BS EN-206 and BS 8500 or equivalent international standard (with well graded picked jhama birck chips conforming to ASTM C33 including breaking chips and screening) as lean concrete, leveling course, mud mat, under and around foundation/floors at any depth below finished floor level etc.	CUM	110.000	0.0328430%
A204	Concrete under floors, paving, plinth protection, pipe encasing etc complete with 20 mm nominal size graded aggregate at any depth below finished floor level for the following grades.		0.000	
b	Grade C16/20 as per BS EN-206 and BS 8500 or equivalent international standard	CUM	14.000	0.0048100%
A205	Providing and laying Design Mix cement concrete conforming to BS EN-206 and BS 8500 or equivalent international standard for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size in foundations/substructure, grade slab, paving, drains, under floors etc at any level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to BS EN 934 (latest) or equivalent international standard to achieve required slump in concrete all complete as per specification & drawing for the following.			
a	Grade C20/25	CUM	233.000	0.0886160%

b	Grade C25/30	CUM	382.000	0.1494770%
c	Grade C30/37	CUM	226.000	0.0909210%
A206	Providing and laying Design Mix cement concrete conforming to BS EN-206 and BS 8500 or equivalent international standard for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size in <b>superstructure</b> at all level above finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to BS EN 934 (latest) or equivalent international standard to achieve required slump in concrete all complete <b>as per specification &amp; drawing for the following.</b>			
c	Grade C30/37	CUM	1198.000	0.4838010%
AA211	Providing and <b>encasing</b> of structural steel member with <b>concrete</b> as per BS EN-206 and BS 8500 or equivalent International code 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. (Payment of welded wire mesh, chicken wire mesh shall be made separately)			
b	C20/25 grade	CUM	18.000	0.0062540%
			0.000	
			0.000	
AA212	<b>Screed concrete</b> conforming to relevant BS code or equivalent international code with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at any level or thickness, drains etc complete as per following.			
a	1:2:4 (1 part cement, 2 part sand, 4 parts of aggregate by volume)	CUM	39.000	0.0129380%
A213	Providing and laying Design Mix cement concrete as per BS 8500 and BS EN 206 or equivalent International code for reinforced concrete works using graded aggregate for Concrete in <b>precast works</b> 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, transporting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate and as per specification and drawing for following grades.			
b	C 40/50 grade	CUM	78.000	0.0345400%
A214	Providing and laying Design Mix cement concrete as per BS 8500 and BS EN 206 or equivalent International code for reinforced concrete works using graded aggregate for Concrete in <b>water retaining/conveying structures</b> including addition of suitable plastisizer cum waterproofing cement additives conforming to BS 934 or equivalent international standard to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and conforming to limits of permeability as per relevant BS code or equivalent international code and specification with 20 mm nominal size graded aggregate for following grades. Watertightness is to be ensured including structural grouting if required.			
b	C 30/37 grade	CUM	60.000	0.0304990%
C 200	<b>CONCRETE WORKS</b>			
	Placing of concrete work including cost of labour, materials (unless otherwise specified in BOQ/contract specification) and equipment for handling, transportation, placing, vibrating and curing, cleaning and rendering the exposed surface with cement sand mortar to give a smooth and even surface (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like transit mixer, concrete pump etc, preparation of scheme for concreting, getting it approved by engineer, maintaining and submitting records of concreting, complete as per drawing, specifications, relevant laws of Bangladesh, manufacturer's recommendation, relevant BS standards/equivalent international standards and as approved by BIFPCL/BHEL and as per direction of engineer in charge for the following. (RMC SHALL BE PROVIDED BY BHEL AT BATCHING PLANT IN PROJECT PREMISES . TRANSPORTATION FROM THE BATCHING PLANT UP TO THE POURING POINT SHALL BE UNDER THE SCOPE OF CONTRACTOR)			
C201	Concrete of grade C8/10 as per BS EN-206 and BS 8500 or equivalent international standard (with 40 mm graded aggregate) as mass filling course, lean concrete, leveling course, mud mat, under and around foundation/floors at any depth below finished floor level etc.	CUM	136	0.0063450%
CC201	Concrete of grade C8/10 as per BS EN-206 and BS 8500 or equivalent international standard (with well graded picked jhama brick chips conforming to ASTM C33 including breaking chips and screening) as mass filling course, lean concrete, leveling course, mud mat, under and around foundation/floors at any depth below finished floor level etc.	CUM	1071	0.0449330%
C203	Concrete of grade C12/15 as per BS EN-206 and BS 8500 or equivalent international standard (with 40 mm graded aggregate) as lean concrete, leveling course, mud mat, under and around foundation/floors at any depth below finished floor level etc.	CUM	4178.000	0.2190760%
CC203	Concrete of grade C12/15 as per BS EN-206 and BS 8500 or equivalent international standard (with well graded picked jhama birck chips conforming to ASTM C33 including breaking chips and screening) as lean concrete, leveling course, mud mat, under and around foundation/floors at any depth below finished floor level etc.	CUM	1878.000	0.0885460%
C204	Concrete under floors, paving, plinth protection, pipe encasing etc complete with 20 mm nominal size graded aggregate at any depth below finished floor level for the following grades.		0.000	
b	Grade C16/20 as per BS EN-206 and BS 8500 or equivalent international standard	CUM	106.000	0.0057540%
C205	Laying Design Mix cement concrete conforming to BS EN-206 and BS 8500 or equivalent international standard for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size in <b>foundations/substructure, grade slab, paving, drains, under floors</b> etc at any level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to BS EN 934 (latest) or equivalent international standard to achieve required slump in concrete all complete <b>as per specification &amp; drawing for the following.</b>		0.000	
a	Grade C20/25	CUM	3955.000	0.2377730%
b	Grade C25/30	CUM	6498.000	0.4018420%
c	Grade C30/37	CUM	3835.000	0.2437610%
C206	Laying Design Mix cement concrete conforming to BS EN-206 and BS 8500 or equivalent international standard for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size in <b>superstructure</b> at all level above finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to BS EN 934 (latest) or equivalent international standard to achieve required slump in concrete all complete <b>as per specification &amp; drawing for the following.</b>			
c	Grade C30/37	CUM	20361.000	1.2635240%
CC211	<b>Encasing</b> of structural steel member with <b>concrete</b> as per BS EN-206 and BS 8500 or equivalent International code 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. (Payment of welded wire mesh, chicken wire mesh shall be made separately)			
b	C20/25 grade	CUM	306.000	0.0167980%



CC212	<b>Screed concrete</b> conforming to relevant BS code or equivalent international code with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at any level or thickness, drains etc complete as per following.			
a	1:2:4 (1 part cement, 2 part sand, 4 parts of aggregate by volume)	CUM	661.000	0.0346600%
C213	Laying Design Mix cement concrete as per BS 8500 and BS EN 206 or equivalent International code for reinforced concrete works using graded aggregate for Concrete <b>in precast works</b> 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, transporting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate and as per specification and drawing for following grades.			
b	C 40/50 grade	CUM	78.000	0.0054570%
C214	Laying Design Mix cement concrete as per BS 8500 and BS EN 206 or equivalent International code for reinforced concrete works using graded aggregate for Concrete <b>in water retaining/conveying structures</b> including addition of suitable plasitizer cum waterproofing cement additives conforming to BS 934 or equivalent international standard to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and conforming to limits of permeability as per relevant BS code or equivalent international code and specification with 20 mm nominal size graded aggregate for following grades. Watertightness is to be ensured including structural grouting if required.			
b	C 30/37 grade	CUM	1020.000	0.0819200%
D200	<b>Placing of concrete work including cost of labour, materials (unless otherwise specified in BOQ/contract specification) and equipment for handling, transportation, placing, vibrating and curing, cleaning and rendering the exposed surface with cement sand mortar to give a smooth and even surface (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like transit mixer, concrete pump etc, preparation of scheme for concreting, getting it approved by engineer, maintaining and submitting records of concreting. complete as per drawing, specifications, relevant laws of Bangladesh, manufacturer's recommendation, relevant BS standards/equivalent international standards and as approved by BIFPCL/BHEL and as per direction of engineer in charge for the following. (RMC SHALL BE PROVIDED BY BHEL AT POURING POINT BUT DEVELOPMENT OF ACCESS ROAD FROM NEAREST SITE ROAD TO POURING POINT IS UNDER THE SCOPE OF CONTRACTOR)</b>			
D203	<b>Concrete of grade C12/15 as per BS EN-206 and BS 8500 or equivalent international standard (with 40 mm graded aggregate) as lean concrete, leveling course, mud mat, under and around foundation/floors</b> at any depth below finished floor level etc.	CUM	492.000	0.0192660%
DD203	<b>Concrete of grade C12/15 as per BS EN-206 and BS 8500 or equivalent international standard (with well graded picked jhama birck chips conforming to ASTM C33 including breaking chips and screening) as lean concrete, leveling course, mud mat, under and around foundation/floors</b> at any depth below finished floor level etc.	CUM	221.000	0.0077910%
D204	Concrete under floors, paving, plinth protection, pipe encasing etc complete with 20 mm nominal size graded aggregate at any depth below finished floor level for the following grades.			
b	Grade C16/20 as per BS EN-206 and BS 8500 or equivalent international standard	CUM	10.000	0.0004050%
D205	Providing and laying Design Mix cement concrete conforming to BS EN-206 and BS 8500 or equivalent international standard for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size <b>in foundations/substructure, grade slab, paving, drains, under floors</b> etc at any level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to BS EN 934 (latest) or equivalent international standard to achieve required slump in concrete all complete <b>as per specification &amp; drawing for the following.</b>			
a	Grade C20/25	CUM	466.000	0.0209120%
b	Grade C25/30	CUM	149.000	0.0068790%
c	Grade C30/37	CUM	451.000	0.0214030%
D206	Providing and laying Design Mix cement concrete conforming to BS EN-206 and BS 8500 or equivalent international standard for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size <b>in superstructure</b> at all level above finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to BS EN 934 (latest) or equivalent international standard to achieve required slump in concrete all complete <b>as per specification &amp; drawing for the following.</b>			
c	Grade C30/37	CUM	2395.000	0.1110080%
DD211	Providing and <b>encasing</b> of structural steel member with <b>concrete</b> as per BS EN-206 and BS 8500 or equivalent International code 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. (Payment of welded wire mesh, chicken wire mesh shall be made separately)			
b	C20/25 grade	CUM	36.000	0.0014760%
DD212	<b>Screed concrete</b> conforming to relevant BS code or equivalent international code with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at any level or thickness, drains etc complete as per following.			
a	1:2:4 (1 part cement, 2 part sand, 4 parts of aggregate by volume)	CUM	78.000	0.0030540%
D213	Laying Design Mix cement concrete as per BS 8500 and BS EN 206 or equivalent International code for reinforced concrete works using graded aggregate for Concrete <b>in precast works</b> 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, transporting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate and as per specification and drawing for following grades.			
b	C 40/50 grade	CUM	8.000	0.0004180%
D214	Laying Design Mix cement concrete as per BS 8500 and BS EN 206 or equivalent International code for reinforced concrete works using graded aggregate for Concrete <b>in water retaining/conveying structures</b> including addition of suitable plasitizer cum waterproofing cement additives conforming to BS 934 or equivalent international standard to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and conforming to limits of permeability as per relevant BS code or equivalent international code and specification with 20 mm nominal size graded aggregate for following grades. Watertightness is to be ensured including structural grouting if required.			
b	C 30/37 grade	CUM	120.000	0.0072000%
	<b>Misc Concrete related work</b>			

216	<b>Chipping of concrete</b> 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	480	0.0010330%
217	Extra over and above St No 216 for <b>cutting of reinforcement</b> , 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	144	0.0000270%
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	144	0.0014780%
<b>300 FORM WORKS</b>				
<b>Providing, fixing and removing formwork at any elevations for all structures, as per specifications and including all labour, material, scaffoldings and centering complete including pockets etc. complete as per drawing, specifications, relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL and as per direction of engineer in charge for the following.</b>				
A301	<b>Fairface form work</b> with good quality water proof ply wood (Plywood lining for form shall be of timber, which is resin bonded and water repellent) of minimum 12 mm thickness and smooth surface <b>below finished ground floor level</b> for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc including providing 25mmx25mm chamfer at all exterior corners.	SQM	79458.000	1.6851350%
A302	<b>Fairface form work</b> with good quality water proof ply wood (Plywood lining for form shall be of timber, which is resin bonded and water repellent) of minimum 12 mm thickness and smooth surface <b>above finished ground floor level</b> for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies etc. for all heights including rubbing the concrete surface with carborundum stone to make smooth finish and providing 25mmx25mm chamfer at all exterior corners.	SQM	51610.000	1.2135100%
ISG 303	Providing ,fixing & removing curved type of shuttering including staging, propping (cost incl. of submitting supporting design & drawing and approval etc.) at all locations, heights and levels above or below ground with Slip Formwork complete as per specification and directions of engineer incharge	SQM	14000.000	0.3950200%
A304	Providing, fixing and removing <b>formwork in block-outs/pockets</b> 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	1800.000	0.0198060%
b	Pockets of depths more than 150mm and upto 300 mm depth	Each	420.000	0.0083910%
c	Pockets of depths more than 300mm and upto 600 mm depth	Each	400.000	0.0151100%
<b>400 REINFORCEMENT</b>				
<b>Reinforcement work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc at all level as per specification, relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL drawings and as directed by engineer - in - charge for the following</b>				
401	Straightening, cutting, bending, placing in position at any level, binding of <b>mild steel reinforcements</b> conforming to Grade ASTM-Designation A615-80, grade: 40 / BST I (22/34) in concrete including cost of reinforcement and binding wire, labour, scaffolding, transportation to & from stores etc. all complete as per specifications & drawings.	MT	6.000	0.0036480%
402	Straightening, cutting, bending, placing in position at any level, binding in position of <b>steel reinforcements of grade B500B</b> conforming to <b>BS 4449:2005+A:2009</b> including cost of reinforcement steel, binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. <b>(REINFORCEMENT STEEL SHALL BE SUPPLIED BY BHEL AS FREE OF COST AS PER TCC)</b>	MT	6560.000	2.0681030%
A405	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 be conducted 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	EACH	20.000	0.0002860%
b	16mm Reinforcement bar	EACH	120.000	0.0027480%
c	20mm Reinforcement bar	EACH	120.000	0.0039170%
407	Straightening, cutting, bending, placing in position at any level, binding in position <b>high yield strength steel reinforcements in brickwork/Autoclave Aerated Concrete blocks</b> including cost of reinforcement and binding wire, labour, scaffolding etc. complete all as per specifications & drawings.	MT	20.000	0.0130970%
<b>500 WATER PROOFING WORKS</b>				
<b>Water proofing works including all labour, material, (unless otherwise specified in BOQ/contract specification) equipment, transportation, handling, curing, sampling, testing etc at any level as per specification, drawings, relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL and as directed by engineer - in - charge.</b>				
501	Providing and laying <b>underbed grading plaster with cement mortar 1:4</b> (1 cement : 4 sand) and average thickness of 15 mm including preparation of surface, batching, mixing, leveling etc. all complete.	SQM	8856.000	0.0462740%
A502	Providing and laying <b>rigid insulation (extruded polystyrene blocks)</b> having maximum heat transmission coefficient of 0.45 W/(sqm K) as per relevant BS Code or equivalent international code in suitable panels over roofs and providing of expansion joint at intervals and filling with sealant in both directions as per the recommendation of manufacturer. The block shall be strong enough to withstand without deformation the workload and standard loads expected on the roof. Cost shall include making of fillets, cleaning & preparation of surface, expansion joints including filling with sealants at suitable intervals etc all complete as per specification for following. All insulation used should be CFC & HCFC free.			
a	Average 75 mm thickness	SQM	8856.000	0.1347380%

506	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 ASTM standards to form an elastomeric membrane with overall dry film thickness 1.5 mm subject to minimum 500 gm/sqm/coat application rate. Item includes surface preparation, polyscrim cloth /fabric, polymerised mortar base preparation etc all complete as per specifications and directions of engineer in charge.	SQM	8856.000	0.3184720%
507	Providing and laying wearing course consisting of 25mm thick plain cement concrete (1 part cement, 2 part sand, 4 parts of aggregate by volume) 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 polysulphide compound etc all complete.	SQM	8856.000	0.1698520%
508	Providing and laying cement concrete chequered flooring tiles of 22 mm thickness and size 300x300 mm conforming to relevant BS or equivalent international code 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 (polysulphide sealant) and providing expansion gap in both directions filled up with polysulphide joint sealant, underbed (as per drawings) etc all complete. (Water proofing paid elsewhere) (including cost of cement for tiles making)	SQM	8856.000	0.2027880%
A509	Providing and applying two coats of bitumen of suitable grade as per relevant BS or equivalent international code @ 1.7kg/sqm with 1% antistripping compound in foundation, wall, column etc on concrete surfaces exposed to soil / ash including surface preparation etc. all complete.	SQM	35193.000	0.3785930%
512	Anti termite chemical treatment of soil with Chloropyrifos emulsifiable concentrates (1%) conforming to relevant BS code or equivalent international code all complete.	SQM	400.000	0.0021640%
	<b>600 JOINTS AND FILLERS</b>		0.000	
			0.000	
	<b>Joints &amp; fillers including all labour, material, equipment, transportation, handling etc at any level as per specification, drawings, relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL and as directed by engineer - in - charge.</b>		0.000	
601	Supplying & installation of bitumen impregnated fibre board conforming to relevant BS code or equivalent international code as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete.		0.000	
a	12 mm wide joints.	SQM	40.000	0.0009770%
b	20 mm wide joints.	SQM	40.000	0.0014320%
c	25 mm wide joints	SQM	141.000	0.0066220%
d	50 mm wide joints	SQM	20.000	0.0016950%
601A	Supply and installation of Polystyrene flexible board (CFC & HCFC free) conforming to relevant BS code or equivalent international code (min density 25Kg/Cum) as joint filler at joint of concrete including nailing, installation as per manufacturers instruction etc. all complete.			
c	25 mm wide joints	SQM	40.000	0.0001650%
603	Supplying and filling in position hot applied bitumin sealing compound conforming to relevant BS code or equivalent international code including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.			
a	12mm X 25mm	RM	40.000	0.0000840%
b	20mmX25mm	RM	40.000	0.0001160%
c	25mmX25mm	RM	45.000	0.0001870%
d	50mmX25mm	RM	20.000	0.0001160%
605	Providing and sealing of joints with premium grade silicon sealant ( Silpruf of GE silicon or approved equivalent) conforming to relevant BS code or equivalent international code including cleaning of joints, raking out groove, joint filler tapes, application of primer, curing, scaffolding etc. all complete as per manufacturer's recommendation (The sealant should have VOC content limited to 250 grams per litre) for following size groove:			
a	25mmX25mm	RM	60.000	0.0014400%
b	50mmX25mm	RM	58.000	0.0026920%
602	Providing and applying polysulphide based sealant conforming to relevant BS code or equivalent international code in expansion joints in concrete including cleaning of joints, raking out groove, application of primer, scaffolding etc. all complete (The sealant should have VOC content limited to 250 grams per litre) for following size grooves:			
c	25mmX25mm	RM	298.000	0.0081700%
603	Supplying and filling in position hot applied bitumin sealing compound conforming to relevant BS code or equivalent international code including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.			
a	12mm X 25mm	RM	40.000	0.0000840%
b	20mmX25mm	RM	40.000	0.0001160%
c	25mmX25mm	RM	45.000	0.0001870%
d	50mmX25mm	RM	20.000	0.0001160%
605	Providing and sealing of joints with premium grade silicon sealant ( Silpruf of GE silicon or approved equivalent) conforming to relevant BS code or equivalent international code including cleaning of joints, raking out groove, joint filler tapes, application of primer, curing, scaffolding etc. all complete as per manufacturer's recommendation (The sealant should have VOC content limited to 250 grams per litre) for following size groove:			
a	25mmX25mm	RM	60.000	0.0014400%
b	50mmX25mm	RM	58.000	0.0026920%
606	Providing and fixing PVC water stops in joints conforming to relevant BS code or equivalent international code all complete for the following:			
b	230 mm wide and 8 mm thick	RM	400.000	0.0065040%
c	150 mm wide and 6 mm thick	RM	40.000	0.0006500%
	<b>700 MS EMBEDMENTS</b>		0.000	
			0.000	
	<b>Embedments including all labour, material (unless otherwise specified in BOQ/specification), equipment, transportation, handling etc. at any level as per specification, drawings, relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL and as directed by engineer - in - charge.</b>			
701	Fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.	MT	21.000	0.0221500%
702	Supply, Fabrication, transportation, delivery at site and erection, installation and alignment of mild steel foundation bolt assembly conforming to relevant	MT	18.000	0.0759670%
703	Same as above items 701 & 702 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	49.000	0.0330870%
b	Mild steel foundation bolt assembly conforming to relevant BS or equivalent international code in concrete along with nuts, lock nuts (as per relevant BS)	MT	262.000	0.1705510%
704	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	Quintal	40.000	0.0022360%
b	PVC pipes / conduits of all diameters	Quintal	46.000	0.0133110%
c	UPVC pipes / conduits of all diameters	Quintal	42.000	0.0117670%
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:			
iv	HST M16	EACH	96.000	0.0017230%
v	HST M20	EACH	40.000	0.0013810%
vi	HST M24	EACH	8.000	0.0003620%
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.:			
iv	HAS-E5.8 M16	EACH	20.000	0.0007430%
v	HAS-E5.8 M20	EACH	16.000	0.0010170%
vi	HAS-E5.8 M24	EACH	8.000	0.0006910%
	<b>800 GROUTING</b>			
	<b>Grouting including all labour, material (unless otherwise specified in BOQ/specification), equipment, roughening surface, cleaning, ramming, curing etc. at any level unless otherwise specified as per specification, drawings, relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL and as directed by engineer - in - charge.</b>			
801	Providing & grouting with <b>cement slurry mix</b> of approved ratio using <b>pressure pump</b> 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	2320.000	0.0639630%
802	Providing & grouting of pocket holes, pipe sleeves under base plates, machinery, pipe supporting structures etc. with <b>mix 1:1 (1 cement :1 sand)</b> using non shrink admixture etc. all Complete.	CUM	72.000	0.0831420%
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 <b>mix 1:1:2 (1 cement : 1 coarse sand : 2 aggregate of 6 mm down graded stonechips )</b> using non shrink admixture. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	108.000	0.1170150%
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 <b>ConbextraGP-1 or equivalent</b> . (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	24.000	0.0736370%
805	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 <b>Conbextra GP-2 or equivalent</b> . (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	12.000	0.0368190%
	<b>900 DOORS, WINDOWS, VENTILATORS, LOUVERS</b>			
	<b>Doors (including master key system), windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material (unless otherwise specified in BOQ/specification), equipments, transportation, handling, preparation of working drawings etc. at any level as per specification, drawings, relevant laws of Bangladesh, relevant BS Standards or Bangladesh National building code or Equivalent International standards approved by BIFPCL/BHEL and as directed by engineer - in - charge.</b>			
904	Fixing <b>single or double steel door shutters</b> with <b>45mm thk flush design shutter</b> 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, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete as per specification.	SQM	294.000	0.0074730%
908	Providing and fixing <b>steel windows/ventilator</b> with steel sections as per relevant BS code or equivalent international code including all fittings, metal beadings, hold fasts, shop and final painting ,glazing etc. all complete. (Glazing shall be paid separately)			
a	<b>openable type</b>	SQM	100.000	0.0068300%
b	<b>fixed type</b>	SQM	92.000	0.0047140%
A909	Providing and fixing <b>anodised aluminium work</b> of Jindal, Hindalco or other equivalent approved make for door frames, doors, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to relevant BS standard or equivalent international standard anodised and electro color dyed to required shade according to relevant BS standard or equivalent international standard (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-metallic protection etc. including preparation 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 separately). Weight of aluminium section only shall be measure.	Kg	60545.000	1.9446550%
A912	Fixing <b>pressed steel frames</b> fabricated from <b>16 gauge M.S sheet</b> 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.	Kg	1080.000	0.0013280%
913	Fixing in position <b>rolling shutter of hot rolled double dipped galvanised steel</b> double walled hollow sections 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, primer & shop coats of approved enamel paint etc, all complete as per relevant BS code or equivalent international code and specification of approved make of following types: The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanised steel plate and securely rivetted with stiffening angles.			
a	<b>Hand Operated</b>	SQM	64.000	0.0034190%
b	<b>Mechanically Operated</b>	SQM	51.000	0.0032650%

c	<b>Electrically operated</b> including Hand crank with continuous chain reel for emergency operation	SQM	128.000	0.0087420%
914	Providing and fixing solid core <b>PVC Frame with solid core PVC door Shutters (25 thk)</b> of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.	SQM	56.000	0.0078810%
915	Providing, fixing and fitting of <b>glazing of first grade class</b> in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete.		0.000	
c	5.5 mm thick clear float glass	SQM	400.000	0.0268510%
e	6mm thick Polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges.	SQM	5200.000	0.4911500%
f	4 mm thick ground glass	SQM	80.000	0.0049820%
hA	Two nos. 4 mm thick clear float glass hermetically sealed and separated by 16 mm thick air gap for thermal insulation (only single elevation area to be measured)	SQM	2826.000	0.3521310%
i	Two nos. 6 mm thick clear toughened glass hermetically sealed and separated by 12 mm thick air gap for thermal insulation (only single elevation area to be measured)	SQM	1211.000	0.2011810%
k	One outer 6mm thick reflective toughened glass and one inner 6mm thick clear toughened glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).	SQM	240.000	0.0434260%
A915	Providing and fixing G.I. Mosquito Net of 1.5mm x 1.5mmx 27 Gauge of any size, any shape, any color in steel/Aluminum/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete as directed by Engineer -in - Charge. (Frame cost is excluded and shall be paid separately in other item).	SQM	60.000	0.0007490%
917	Providing and fixing <b>12 mm thick BWP particle board</b> , decorative veneer (prelaminated) on both sides, as panels in aluminium framed door shutter, fixed with necessary snap-on-beading etc. all complete (excluding aluminium works).	SQM	96.000	0.0065890%
	<b>1000 BRICKWORK</b>			
	<b>Brickwork masonry including all labour, material (unless otherwise specified in BOQ/specification), equipment, transportation, handling, scaffolding etc. at all levels as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.</b>			
1001	Providing <b>brick work</b> 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 <b>below plinth</b> including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.			
c	Using <b>burnt clay bricks</b> as per relevant BS code or equivalent international code with crushing strength of 75 Kg/cm2	CUM	120.000	0.0377390%
1001A	Providing masonry work with Autoclaved Aerated Concrete (AAC ) block (600 mm x 200 mm, thickness ranging from 100 mm to 200 mm and conforming to Category I of BS EN 771-4) in cement mortar 1:6 (1 part cement, 6 part sand of fineness 1.1) in walls, chambers etc. at all depths, places and positions <b>below plinth</b> including raking out joints, curing, scaffolding etc complete (excluding plastering and painting) complete as per relevant BS or equivalent international standards, drawings, specifications, manufacturer's recommendations.	CUM	40.000	0.0158400%
1001AA	Providing masonry work with Autoclaved Aerated Concrete (AAC ) block (600 mm x 200 mm, thickness ranging from 201 mm to 400 mm and conforming to Category I of BS EN 771-4) in cement mortar 1:6 (1 part cement, 6 part sand of fineness 1.1) in walls, chambers etc. at all depths, places and positions <b>below plinth</b> including raking out joints, curing, scaffolding etc complete (excluding plastering and painting) complete as per relevant BS or equivalent international standards, drawings, specifications, manufacturer's recommendations.	CUM	100.000	0.0414940%
1002	Providing <b>brick work</b> in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position <b>above plinth</b> including raking out joints, curing, scaffolding etc complete excluding plastering and painting.			
c	Using <b>burnt clay bricks</b> as per relevant BS code or equivalent international code with crushing strength of 75 Kg/cm2	CUM	1735.000	0.6013690%
1002A	Providing masonry work with Autoclaved Aerated Concrete (AAC ) block [600 mm x 200 mm, thickness ranging from 100 mm to 200 mm, maximum thermal conductivity of 0.18 W/(mK) and conforming to Category I of BS EN 771-4] in cement mortar 1:6 (1 part cement, 6 part sand of fineness 1.1) in walls, chambers etc. at all depths, places and positions <b>above plinth</b> including raking out joints, curing, scaffolding etc complete (excluding plastering and painting) complete as per relevant BS or equivalent international standards, drawings, specifications, manufacturer's recommendations.	CUM	404.000	0.1752960%
1002AA	Providing masonry work with Autoclaved Aerated Concrete (AAC ) block [600 mm x 200 mm, thickness ranging from 201 mm to 400 mm, maximum thermal conductivity of 0.18 W/(mK) and conforming to Category I of BS EN 771-4] in cement mortar 1:6 (1 part cement, 6 part sand of fineness 1.1) in walls, chambers etc. at all depths, places and positions <b>above plinth</b> including raking out joints, curing, scaffolding etc complete (excluding plastering and painting) complete as per relevant BS or equivalent international standards, drawings, specifications, manufacturer's recommendations.	CUM	3386.000	1.5332960%
1003	Providing <b>brick work</b> in cement mortar 1:4 (1 cement 4 coarse sand) in <b>partition walls</b> , chambers etc. in thickness 115mm at all heights, places and position above or below plinth/graded level including raking out joints, curing, scaffolding etc complete excluding plastering and painting as per specification.		0.000	
c	Using <b>burnt clay bricks</b> as per relevant BS code or equivalent international code with crushing strength of 75 Kg/cm2	SQM	336.000	0.0145000%
1004	Providing <b>brick soling</b> 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). <b>Using brick on edge.</b>		0.000	
c	Using <b>burnt clay bricks</b> as per relevant BS code or equivalent international code with crushing strength of 75 Kg/cm2	SQM	228.000	0.0076670%
1005	Providing <b>brick soling</b> 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.)- <b>Using flat bricks.</b>		0.000	
c	Using <b>burnt clay bricks</b> as per relevant BS code or equivalent international code with crushing strength of 75 Kg/cm2	SQM	100.000	0.0020160%
1006	<b>Breaking</b> 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	12.000	0.0005470%
1006A	<b>Breaking</b> of existing masonry work of autoclave aerated concrete blocks 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	12.000	0.0005740%
1007	Providing and <b>encasing</b> of structural steel member with <b>brick masonry work</b> around flanges, webs etc. and filling the gap between steel and masonry by minimum 12mm thick mortar. Encased member shall be wrapped with chicken wire mesh with 50mm lap etc. complete as per specification. (Chicken wire mesh to paid separately)	CUM	20.000	0.0066730%

1007A	Providing and encasing of structural steel member with autoclave aerated concrete block masonry work around flanges, webs etc. and filling the gap between steel and masonry by minimum 12mm thick mortar. Encased member shall be wrapped with chicken wire mesh with 50mm lap etc. complete as per specification. (Chicken wire mesh to paid separately)	CUM	20.000	0.0070070%
1008	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	40.000	0.0003790%
1009	Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar etc. complete.	CUM	4.000	0.0002170%
1009A	Making openings in existing masonry work of autoclave aerated concrete blocks in wall or partition wall including making good the broken edges/surface with cement mortar etc. complete.	CUM	4.000	0.0002280%
1010	Supply and placing in position mild steel wire fabric of square mesh 25 mm size and wire diameter of 2 mm for encasing of steel sections in brick/autoclave concrete blocks/concrete including cutting, bending, fixing etc. complete.	SQM	400.000	0.0022620%
1011	Filling existing brick wall/ partition wall opening at all level including making good the broken edges/surface with cement mortar, 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	20.000	0.0009210%
1011A	Filling existing autoclave aerated concrete wall/ partition wall opening at all level including making good the broken edges/surface with cement mortar, 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	20.000	0.0009620%
1011B	Filling existing autoclave aerated concrete wall/ partition wall opening at all level including making good the broken edges/surface with cement mortar, 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. (All AAC blocks should have flyash content more than 40%. The contractor should submit the documents certifying the percentage of flyash content of required quality in AAC blocks.)	SQM		
1012	Providing and filling brick bats in soak pits all complete.	CUM	12.000	0.0007660%
			0.000	
	<b>1100 DAMP PROOF COURSE</b>		0.000	
			0.000	
	Damp proof course including all labour, material (unless otherwise specified in BOQ/specification), equipment, transportation, handling, shuttering, centering, curing etc at any level as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.		0.000	
1101A	Providing Damp Proof Course 40mm thick 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 conforming to BS 6398 or equivalent international code shall be applied one before & one after the DPC.	SQM	785.000	0.0185540%
	<b>1200 CEMENT MORTAR PLASTER</b>			
	Cement mortar plaster including making grooves wherever required including all labour, material (unless otherwise specified in BOQ/specification), scaffolding, curing etc at any level as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, 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 1:6 on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.	SQM	20002.000	0.1955010%
1202	Providing 12mm thick plaster inside the building/boundary wall in cement mortar 1:6 on walls finished to a smooth finish as per specification all complete.	SQM	19229.000	0.1317980%
1204	Providing 6mm thick plaster on ceiling in cement mortar 1:4 finished to a smooth all complete.	SQM	15532.000	0.0926140%
1207	Forming groove of uniform size from 12X12 mm upto 25X15 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	3080.000	0.0033130%
1208	Providing drip course on plastered surface at all elevations for all type of work such as chajjas, parapet, projections etc. including scaffolding, finishing etc. complete with all labour, tools and plants as per specification, drawing and instructions of engineer in charge.	RM	512.000	0.0005510%
1210	Ruled pointing in masonry in CM 1:3 (1 cement and 3 fine sand) including raking out joints, curing etc. complete.	SQM	0.000	
			0.000	
	<b>1300 FINISHES TO CONCRETE / PLASTERED SURFACES</b>		0.000	
			0.000	
	Finishes, painting to concrete, plastered surfaces including all labour, material (unless otherwise specified in BOQ/specification), equipment, surface preparation, scaffolding etc. at any level as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.		0.000	
1304B	Two or more coats of acrylic distemper of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete.	SQM	29490.000	0.0987980%
1305	Providing and applying two or more coats of acrylic emulsion paint of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	3141.000	0.0151570%
1306	Providing and applying 2 or more coats of chlorinated rubber acid/alkali resistant 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, 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	418.000	0.0045870%
1310B	Providing and applying clear silicon water repellent of approved make on concrete surface at all heights including material, labour, scaffolding, curing etc including primer coat complete as per specification.	SQM	600	0.0086860%
1312A	Providing and applying 2 mm thick polymer based water resistant putty (wall putty) on walls including preparation of surface, staging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	SQM	18672.000	0.0659990%
1313	Providing and applying ready made Epoxy Paint over areas other than steel structure with suitable pigments of approved shade as per specification and direction of Engineer. The epoxy paint shall be a two pack material and shall be resistant to water, splash, spillage & acidic environment. The epoxy paint coating shall be of 150micron thickness over epoxy primer.	SQM	1712.000	0.0244160%

1315	Providing and applying two or more coats of <b>Acrylic based weather coat paint</b> of approved brand and manufacture and required 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. all complete to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellent and extremely durable with color fastness as per specification.	SQM	20002.000	0.1100460%
1316	One coats of <b>cement wash (minimum 2 Kg cement mixed with 1 liter of water)</b> of approved brand and manufacture to give an even shade including a priming coat as per specifications.	SQM	2800.000	0.0098970%
A1317	Providing and applying french polish (minimum 2 coats) on wood surface made from best quality shelac, denatured spirit and other suitable alcohol solu	SQM	44.000	0.0003420%
			0.000	
	<b>1400 FLOORING AND SKIRTING</b>		0.000	
			0.000	
	<b>Flooring and skirting at any level including base layer, labour, material (unless otherwise specified in BOQ/specification), equipments, transportation, handling, curing, polishing etc. at any level as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.</b>		0.000	
1401	Providing and laying 50 mm thick <b>heavy duty cement concrete in flooring with metallic hardener pigmented topping</b> 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 12.5mm 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	31762.000	1.0641000%
1402	Providing and laying 25 mm thick heavy duty cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates ) flooring with metallic hardener pigme	SQM	379.000	0.0079800%
1403	Providing and laying <b>precast polished heavy duty cement concrete tiles (Carborundum topping pigment content is 3.5 kg per 50 kg of cement)</b> of size 300X300X25 thick of approved shade as per relevant BS or equivalent international code including minimum 20 mm cement mortar bedding of 1:3 (1 cement : 3 sand) jointed with neat cement slurry @4.4 kg/sqm labour, material etc. all complete with pigment to match the shade of the tiles including rubbing, curing, grindig and polishing complete with laying as per relevant BS or equivalent international code etc. all complete for following:			
a	Laid in floors	SQM	400.000	0.0398220%
b	Laid in skirting	SQM	26.000	0.0028170%
1404	Providing and laying <b>interlocking C25/30 Grade concrete blocks</b> in paving with approved colour and pattern including jointing sand, bedding layer of sand (35 mm thick) as per specifications and recommendations of manufacturer inclusive of cost of cement for paver manufacturing.		0.000	
b	<b>80 mm</b>	SQM	40.000	0.0013820%
			0.000	
			0.000	
1405	Providing and laying 50 mm thick floor finish with <b>25mm thk Terrazo Tiles</b> including cement mortar bedding of 1:3 (1 cement : 3 sand) with neat cement slurry etc. all complete.	SQM	0.000	
1412	Providing and laying 18-20mm thick <b>polished Granite stone</b> of approved color and texture in flooring with brass/ stainless steel strips. Under bed shall average 30mm thk 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 @3.3 kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete.	SQM	108.000	0.0192960%
1414	Providing and laying polished Granite stone 18-20mm thk in skirting and dado with 6mm thick projection from adjacent plaster minimum 12 mm thick cer	SQM	8.000	0.0013970%
1416	Providing and laying <b>vitrified ceramic tiles of polished variety</b> from reputed / approved manufacturer, complete including epoxy grout, 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			
a	600x600x10 mm thick tiles In flooring	SQM	350.000	0.0312080%
b	600x600x10mm thick tiles In skirting and dado upto specific height	SQM	35.000	0.0031100%
c	300x300X7 mm thick tiles In flooring	SQM	112.000	0.0093220%
d	300x400x7mm thick tiles In skirting and dado upto specific height	SQM	484.000	0.0401360%
1417	Providing and laying <b>vitrified ceramic tiles of matt finish</b> from reputed / approved manufacturer including epoxy grout, 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			
c	300x300X7 mm thick tiles In flooring	SQM	1001.000	0.0754400%
1419	Providing and laying granite stone slab of 20mm thickness single piece for wash basin / sink slab /facia of black or approved colour including 20mm und	SQM	22.000	0.0044260%
1422	Providing & fixing <b>Acid / Alkali resistant (Chemical resistant) tiles</b> conforming to relevant BS or equivalent international code in <b>flooring/Dado</b> and shall be laid over bitumastic lining of min 12mm thick ( to be laid in layers of 6mm each). The tiles shall be applied with 6mm thick Potassium Silicate bedding mortar as per relevant BS or equivalent international code and including preparation of surface, application of bitumen primer, curing etc. all complete for following thicknesses. The tiles should be abrasion resistant & durable.			
a	20mm thick	SQM	504.000	0.0573010%
1427	Providing and fixing <b>glazed ceramic tiles of approved color and design of size 200x300mm / 300x300mm / 300x400mm in dado of approved size</b> , projecting 6mm uniformly from adjacent plaster or wall finish. The mix for 20 mm 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 @3.3 kg/sqm including pigments, curing etc all complete for following thicknesses:		0.000	
b	7mm thick	SQM	106.000	0.0048610%
1428A	Providing and laying <b>2 mm thick antistatic PVC flooring / skirting</b> of approved shade,as per relevant BS or equivalent international code and laying as per relevant BS or equivalent international code all complete.	SQM	260.000	0.0035240%
1428B	Providing and laying <b>6.5 mm thick heavyduty PVC tiles in flooring / skirting</b> of approved shade,as per relevant BS or equivalent international code and laying as per relevant BS or equivalent international code all complete.	SQM	146.000	0.0049500%
1429	Providing and fixing <b>removable type flooring system</b> consisting of <b>fire resistant particle board</b> of size 600X600X35 mm with 0.05 mm thick aluminium foil lining at bottom and with 2 mm thick anti static PVC topping including proprietary floor supporting system complete as per specification.	SQM	480.000	0.0610050%
1430	Providing and fixing <b>dividing strips</b> 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	379.000	0.0018410%
1432	Providing and laying Epoxy screed (trowel applied minimum 5 mm thick) and epoxy seal coat in flooring/skirting of approved shade,as per relevant BS or equivalent international code and laying as per relevant BS or equivalent international code all complete.	SQM	1031.000	0.0563430%

1500 ROOFING / SIDE CLADDING			
	<b>Roofing / side cladding work including all labour, material (unless otherwise specified in BOQ/specification), equipment, transportation, handling, scaffolding, laps, hooks, washers, corner pieces etc. at any level as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.</b>		
1501	Fixing permanently color coated galvanised MS troughed metal sheet decking plate of approved colour and conforming to relevant BS or equivalent international code over roof purlins for cast-in-situ roof slab as per relevant BS or equivalent international code and specification. Bare metal thickness of deck plate shall be minimum 0.7mm with minimum trough depth of 44 mm having minimum yield strength of 250 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 silicon modified polyester paint of minimum 20 micron DFT on exposed surface (facing operating floor) and minimum 7 micron on other face over epoxy primer applied over hot dipped galvanising @ 275 gm/sqm 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.		
a	Span Upto 1800mm	SQM	13786.000
1502	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 BS code or equivalent international code and specification.	QUINTAL	600.000
1503	Fixing External sheet of Permanent colour coated metal cladding for wall/ roof with troughed high strength tensile steel sheets of minimum 0.75 mm bare metal thickness [designed for applicable loads (dead, live, wind etc.) for a span of 1.5m] having minimum yield strength 350 MPa and hot dipped galvanized with a minimum zinc coating weight of 275 gsm total both sides including pre-treatment by "chemical conversion" of the zinc coating to a non-metallic surface with corrosion inhibiting and adhesion additives, nominal 8 micron thick anti-corrosive pigmented epoxy primer on both sides, nominal 70 micron thick TF epoxy barrier coat with special flexibilizer compounds applied on both sides and baked to a hard corrosion resistant finish, nominal 40 micron thick urethane exterior coating on outer face, fixing to supports / rails by concealed/non concealed fixing system (as approved by BIFPCL/BHEL), corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The sheet shall have minimum 500 mm cover width, minimum 42mm height crests at maximum 250mm c/c with special male/female side laps and anti-siphoning features to prevent leakage.	SQM	123847.000
1505	Fixing Internal sheet of Permanent colour coated metal cladding for wall/roof with troughed high strength tensile steel sheets of minimum 0.75 mm bare metal thickness [designed for applicable loads (dead, live, wind etc.) for a span of 1.5m] having minimum yield strength 350 MPa and hot dipped galvanized with a minimum zinc coating weight of 275 gsm total both sides including pre-treatment by "chemical conversion" of the zinc coating to a non-metallic surface with corrosion inhibiting and adhesion additives, nominal 8 micron thick anti-corrosive pigmented epoxy primer on both sides, nominal 70 micron thick TF epoxy barrier coat with special flexibilizer compounds applied on both sides and baked to a hard corrosion resistant finish, nominal 20 micron thick stoving polyester decorative finish on exposed face, fixing to supports / rails by concealed/non concealed fixing system (as approved by BIFPCL/BHEL), Z spacers, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The sheet shall be fixed directly to side runners and Z spacers as per relevant BS code or equivalent international code. The sheet shall be fixed at the rate not more than 1500 mm center to center to hold the insulation and external sheeting. The sheet shall have minimum 980 mm cover width, minimum 28mm height crests at maximum 195mm c/c with special male/female side laps and anti-siphoning features to prevent leakage.	SQM	59458.000
1506	Providing and fixing non combustible insulation of resin bonded mineral wool of minimum 60 mm nominal thickness having maximum heat transmission coefficient of 0.75 W/(sqm K) and conforming to relevant BS or equivalent international code having a minimum density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for cladding/under deck insulation including application of glue and tying with lacing wire, for glass/rock wool as per manufacturer's recommendations.	SQM	59458.000
			0.000
			0.000
			0.000
	<b>False ceiling including all labour, material (unless otherwise specified in BOQ/specification), equipment, transportation, handling, suspension system etc at any level as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.</b>		
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 preparation 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. The false ceiling should have minimum noise reduction factor of 0.5.		0.000
a	12 mm thick GRG board with galvanised light gauge steel load bearing supporting GI frame and finished flat (seamless).	SQM	595.000
1603	Providing and fixing permanently colour coated aluminium false ceiling of approved colour and Luxalon 84 C or approved equivalent with corrosion resistant aluminium alloy panels of minimum thickness 0.5mm including 50mm thick mineral wool insulation(density 48 kg/cum) conforming to relevant BS or equivalent international code 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 all complete. Suitable M.S. channel grid 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) The false ceiling should have minimum noise reduction factor of 0.5.	SQM	80.000
	<b>Rain water down take pipes including all labour, material (unless otherwise specified in BOQ/specification), transportation, 2 coats of approved paint over one primary coat, fixtures, accessories etc at any level as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.</b>		
1705	Providing and fixing UPVC down take pipes of 110mm diameter- Class C as per BS 3505:1986 or equivalent international code all complete.	RM	68.000



1706	Providing and fixing UPVC down take pipes of 160mm diameter- Class C as per BS 3505:1986 or equivalent international code all complete.	RM	2738.000	0.0723740%
1707	Providing and fixing GI down take pipes conforming to relevant BS code or equivalent international code of medium duty all complete for following diameters.		0.000	
b	150 mm Dia	RM	200.000	0.0212080%
c	200 mm Dia	RM	120.000	0.0159080%
1708	Providing and fixing HDPE down take pipes conforming to relevant BS code or equivalent international code as per specification of following diameters.			
a	110 mm Dia	RM	0.000	
b	160 mm Dia	RM	280.000	0.0082530%
<b>1800 MISCELLANEOUS WORKS</b>				
Miscellaneous works including all labour, material (unless otherwise specified in BOQ/specification), equipment etc. at any level unless otherwise specified as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, 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 230 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	74637.000	10.9976470%
1803	Anti termite chemical treatment of soil with Chlorpyrifos/Lindane E.C. 20% with 1% concentration conforming to relevant BS code or equivalent international code all complete. (Plinth area of building at ground floor only shall be measured for payment)	SQM	8743.000	0.0472960%
1810	Laying and fixing rails and guide rails in concrete for transformer, rail track including cutting of rails, joining of rails, anchoring lugs etc all complete.	MT	28.000	0.0342050%
A1812	Laying of earthing mats/rods of "tinned copper" or "steel rod cladded /bonded with copper" (excluding laying inside concrete members) including risers, transportation from yard stores, loading, unloading, cutting to length, thermo welding/brazing, 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	4	0.0014430%
AA1812	Laying of earthing mats/rods of "tinned copper" or "steel rod cladded /bonded with copper" inside concrete members (pile, pile cap, pedestals, columns, slabs, beams etc.) including risers, transportation from yard stores, loading, unloading, cutting to length, thermo welding/brazing, connection to reinforcement by GI wire (supply of GI wire included in the item), 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	8	0.0031090%
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.	EACH	40.000	0.0588910%
1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 900 g/sqm etc. all complete.	Kg	1120.000	0.0039930%
1826	Supply and laying approved quality rounded pebbles / gravels of 40mm size in transformer yards.	CUM	1114.000	0.2273880%
ISG 1837	Providing, loading, transporing, unloading and laying 500 micron HDPE Liner for Stock pile area.	SQM	210000.000	0.7939120%
ISG 1839	Supplying and filling clay of high plasticity including spreading, watering, ramming/ compaction by manual/ meachanical means, dressing, royalty (if any) etc. all complete.	CUM	33600.000	0.2736740%
ISG 1840	Providing, loading, transporting, unloading and laying & compaction of 300 mm thick minor quality coal in stock pile area.	CUM	50400.000	9.7453670%
ISG 1841	Providing & laying granular sub-base in layers of required thickness with crushed rock or other approved local material like brick metal, stone screening & blinding material including screening, sorting, spreading to template including carriage, spreading & consolidation of blinding material etc all complete as per specification.	CUM	42000.000	10.1388380%
<b>2000 FENCING AND GATES</b>				
Fencing and gates including all labour, material (unless otherwise specified in BOQ/specification), equipment etc at any level as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.				
2001	Supplying and erecting in position 1.8 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating ) of mesh size 75mm x 75mm. The diameter of the hot dip galvanised steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing of height of 600 mm confirming to relevant BS code or equivalent international code at top of chain link fencing shall be provided with 3 strands of barbed wire hot dip galvanised wire of 12G comprising of 2 ply of wires with barbs of 16G spaced at 100mm. Cost to include for GI hook bolts, rings & washers, hot dip galvanised tension wires, line wires, 25X6 mm GI flat stretcher bar at end posts, accessories, connection to posts etc. all complete. (Post shall be paid separately)	RM	422.000	0.0235160%
2008	Supply, fabrication and fixing of mild steel posts for fencing including painting etc all complete.	MT	8.000	0.0291120%
2009A	Installing in position and testing PVC coated galvanised MS Gates out of rectangular hollow sections, channels, joists, angles, flats, plates, pipes 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 etc. all complete (mesh & barbed wire to be paid separately uner item no 2001).	MT	6.000	0.0067120%
<b>2100 WATER SUPPLY</b>				
Water supply work including men, material (unless otherwise specified in BOQ/specification), equipment etc. at any level as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.				
2101	Providing and fixing in position tested heavy duty type chromium plated (CP) brass long neck bib cocks including sockets, union, nuts etc all complete - Nominal size 1/2	EACH	48.000	0.0022970%
2102	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc all complete - Nominal size 1/2	EACH	48.000	0.0015110%
2104A	Providing and fixing uPVC pipes conforming to BS:3505 pipes shall be concealed, complete for internal works with sockets, unions, elbows, tees, nipples etc conforming to BS 4346 or equivalent and clamps including cutting and making good the walls etc all complete for following sizes:		0.000	
a	Nominal size 1/2	RM	368.000	0.0015950%
b	Nominal size 3/4	RM	192.000	0.0011150%
c	Nominal size 1	RM	125.000	0.0009070%
d	Nominal size 1 1/4	RM	256.000	0.0022350%
e	Nominal size 1 1/2	RM	184.000	0.0018720%

2105A	Providing and fixing uPVC pipes conforming to BS:3505 for external work with sockets, unions, elbows, tees, nipples etc conforming to BS 4346 or equivalent including trenching & refilling etc all complete for following sizes:			
a	Nominal size 1/2	RM	96.000	0.0004160%
b	Nominal size 3/4	RM	144.000	0.0008370%
c	Nominal size 1	RM	192.000	0.0013930%
d	Nominal size 1 1/4	RM	672.000	0.0058660%
e	Nominal size 2	RM	336.000	0.0039040%
f	Nominal size 3	RM	288.000	0.0041870%
2106	Providing and fixing 700mmx500mmx6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws etc all complete.	EACH	22.000	0.0008630%
2107	Providing and fixing 700mmx127mmx6mm thk clear glass with C.P Guard rails and mounted on C.P. brackets etc all complete.	EACH	19.000	0.0008790%
2108	Providing and fixing 25 mm diameter stainless steel towel rails (600mm X 25mm) with CP mounting brackets all complete.	EACH	22.000	0.0006650%
2111	Providing and fixing stainless steel / C.P. liquid soap dispenser. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc all complete.	EACH	22.000	0.0008890%
2112	Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. sll complete.	EACH	22.000	0.0004540%
2113	Providing and fixing chromium plated brass shower rose 100 mm dia with 15 or 20 mm inlet dia all complete.	EACH	3.000	0.0000770%
2114	Providing & fixing in position UV resistant glass-fibre reinforced polyethylene water tank conforming to relevant BS or equivalent international code including making all necessary inlet & outlet pipes, fixture, ball cocks, valves, visible outside water level gauge etc all complete as per specification for following capacities . Pipes shall be paid separately under ST No. 2105A.			
aA	500 liters capacity	EACH	10.000	0.0031960%
a	1000 litres capacity	EACH	2.000	0.0012780%
ISG 2118	Supply and laying in soil Geo Textile(1.8mm thickness) , wrapping the drain, including pipe, which will act as filter medium, and avoiding the fine particles being washed in to the drains.	SQM	7536.000	0.0081070%
	<b>2200 SANITARY WORKS</b>			
	<b>Sanitary work including all labour, material (unless otherwise specified in BOQ/specification), equipment etc. at any level as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.</b>			
2201	Supply and fixing glazed vitreous china Wash Basin (minimum size 580x450 mm) conforming to relevant BS code or equivalent international code of approved shape with R.S. or C.I. brackets painted white, nominal size 1/2 chromium plated brass hot & cold mixing faucets with nylon washers, chromium plated brass chain with rubber plug, nominal size 1 1/4 chromium plated brass bottle trap and waste of standard pattern, nominal size 1 1/4 dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, fittings, cutting and making good the walls where required etc all complete.			
a	White	EACH	22.000	0.0051630%
2202	Providing and fixing approved vitreous china laboratory sink of size 600x400x200mm conforming to relevant BS code or equivalent international code with R.S. or C.I. brackets, chromium plated brass chain with rubber plug nominal size 1 1/2, CP brass waste and nominal size 1 1/2 CP brass trap with necessary union complete including painting the fittings, cutting and making good the wall where required etc. all complete.	EACH	6.000	0.0008680%
2204	Providing and fixing colour glazed vitreous china European type water closet conforming to relevant BS code or equivalent international code 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, hand spray with angle valve and hand trigger, 100 cm long hose, toilet roll holders, necessary C.P connections etc all complete.			
a	Floor mounted	EACH	11.000	0.0049590%
b	Wall mounted	EACH	11.000	0.0053820%
2205	Providing and fixing colour glazed vitreous asian squatting (minimum 500x400mm) water closet conforming to relevant BS code or equivalent international code with all fittings including foot rests, low level 12.5 litre PVC flushing cistern with valveless fittings, hand spray with angle valve and hand trigger, 100 cm long hose, toilet roll holders, necessary C.P connections etc all complete.	EACH	11.000	0.0026670%
2206	Providing and fixing colour flat back glazed vitreous china urinals of size 440x265x355 mm with photo voltaic control flushing system as per relevant BS code or equivalent international code with flush pipes, lead pipes, gratings, traps and necessary C.P. fittings etc. all complete.	EACH	22.000	0.0073010%
2207	Supply, laying and jointing UPVC pipes conforming to BS EN 13476 or equivalent international code 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.			
b	110mm dia pipes	RM	280.000	0.0053790%
c	160mm dia pipes	RM	224.000	0.0054120%
d	200mm dia pipes	RM	10144.000	0.3707140%
2208	Providing, laying light duty non pressure RCC pipes conforming to BS 5911 (equivalent to NP3 class) with collars jointed with stiff mixture of cement mortar including testing of joints etc all complete for following.			
a	200mm dia	RM	91.000	0.0044890%
2208A	Providing, laying circular RCC pipes for use in trench construction conforming to BS 5911 or equivalent international code with collars jointed with stiff mixture of cement mortar including testing of joints etc. all complete for following.		0	
b	300mm dia	RM	64	0.0046740%
c	450mm dia	RM	60	0.0061120%
b	600mm dia	RM	100	0.0148730%
e	900mm dia	RM	240	0.0610490%
2209	Providing, laying light duty non pressure RCC pipes conforming to BS 5911 (equivalent to NP2 class) with collars jointed with stiff mixture of cement mortar including testing of joints etc all complete for following.		0.000	
a	150mm dia	RM	320.000	0.0109170%
2211	Providing and fixing C.I Manhole heavy duty cover of size 600mmx450mm including frame from reputed manufacture etc. all complete.	EACH	43.000	0.0059510%
2212	Providing and fixing circular heavy duty C.I. manhole cover of 600 mm dia with frame etc. all complete.	EACH	22.000	0.0027950%
2215	Providing and fixing C.I. floor traps size 100 mm Inlet and 100 mm Outlet Sand Cast Iron S&S as per relevant BS code or equivalent international code	EACH	48.000	0.0019770%
2219	Providing and fixing white/colored vitreous urinal partitions of size 675x325x85mm all complete.	EACH	11.000	0.0006870%
2220	Providing and fixing eye and face drinking water fountain (combined unit with receptacle conforming to relevant BS code or equivalent international code) all complete as per specification.	EACH	8.000	0.0061670%
	<b>2300 STRUCTURAL STEEL</b>			

	<b>Structural steel works including all labour, material (unless otherwise specified in BOQ/specification), equipments, transportation, handling etc. at any level as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.</b>			
2301	Supply, fabrication, erection and alignment of <b>structural steel with mild steel</b> conforming to BS EN 10025-2, pipes/chequered plate, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, bunkers, silos, hoppers, 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 1 coat of redoxide zinc-chromate primer (one coat at shop), connection design & preparation of fabrication drgs, collection of steel from stores, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, erection bolts & nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating, 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, 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 specification, relevant BS code or equivalent international code. Including appointment of a separate agency, approved by BHEL, for review and approval of fabrication drgs, in consultation with BHEL.( <b>STRUCTURAL STEEL SHALL BE SUPPLIED BY BHEL AS FREE OF COST AS PER TCC</b> )			
a	For Built up sections composed of Structural plates only (Grade S355) including stiffeners e.g. plated columns, girders, etc. (other than coal bunker)	MT	222.000	0.2494230%
b	For built up section composed of "rolled sections (Grade S275)" or "rolled sections (Grade S275) and plates (Grade S275)" including stiffeners (other than coal bunker)	MT	222.000	0.2618960%
d	For all other items (Grade S275) not covered above e.g. rolled sections, pipes, chequered plate, seal plates etc	MT	40.000	0.0449410%
2301A	Erection and alignment of <b>structural steel with mild steel</b> conforming to BS EN 10025-2 or equivalent, pipes/chequered plate, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins,			
a	For Built up sections composed of Structural plates only (Grade S355) including stiffeners e.g. plated columns, girders, etc. (other than coal bunker)	MT	7995	3.5931320%
b	For built up section composed of "rolled sections (Grade S275)" or "rolled sections (Grade S275) and plates (Grade S275)" including stiffeners (other than coal bunker)	MT	10748	5.0715490%
c.1	For Ash Silo / Bunker (excluding liner) i.e. bunker wall, stiffeners, ring beam etc	MT	642	0.3173780%
d	For all other items (Grade S275) not covered above e.g. rolled sections, pipes, chequered plate, seal plates etc	MT	1314	0.5905410%
2302	Extra over ST NO. 2301 for preparing, <b>blast cleaning of steel structures</b> to near white metal surface(Sa 2 1/2 ) and applying Zinc-epoxy primer in 1 coat of minimum 80 micron (DFT), instead of primer coat of red oxide zinc-chromate, including touch-up painting etc all complete as per specification.	MT	444.000	0.0856610%
2305	Providing and applying one coats of <b>epoxy high solid finish paint</b> with minimum 80 micron total dry film thickness (DFT) of approved make and shade to achieve an even shade over steel sections already having primer coats and keeping overall DFT with primer not less than 160 microns including protection, cleaning, rectification of damaged primer, scaffolding etc. all complete as per specification.	MT	12158.000	1.4558920%
2305A	Providing and applying two coats of <b>epoxy high solid intermediate paint</b> with minimum 80 micron total dry film thickness (DFT) of each coat (total 160 micron DFT of both the coats) and 1 coat of 2-comp polyurethane <b>finish paint</b> with minimum 50 micron total dry film thickness (DFT) of approved make and shade to achieve an even shade over steel sections already having primer coats and keeping overall DFT with primer not less than 290 microns including protection, cleaning, rectification of damaged primer, scaffolding etc. all complete as per specification.	MT	6799.000	1.3027460%
2306	Laying and clamping of <b>crane rails</b> over the crane girder at all elevations as per relevant BS code or equivalent international code including all fixtures, clamps, testings etc. all complete as per drawing and specification.	MT	4	0.0079720%
2306A	laying in position, fixing and clamping of stacker and portal reclaimers machines - <b>crane rails</b> over the concrete as per relevant BS code or equivalent international code including all fixtures, clamps, testings etc. all complete as per drawing and specification. ( Supply of Rails and Rail fixers are in BHEL ISG scope). cost including loading, transportation, unloading etc. all complete from BHEL store to plant site.	MT	600.000	0.7972320%
2307	Erection and alignment of factory made <b>electroforged galvanised grating units</b> with mild steel (having minimum galvanisation of 610 g/sqm) conforming to relevant BS code or equivalent international code in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete.	MT	224.000	0.2874710%
2307A	Supplying, fabrication, erection and alignment of factory made <b>electroforged galvanised grating units</b> with mild steel (having minimum galvanisation of 900 g/sqm) conforming to relevant BS code or equivalent international code in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete.	MT	56	0.3543090%
2308	Erection and alignment of factory made <b>galvanised welded grating units</b> with mild steel conforming to relevant BS code or equivalent international code in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including 1 coat of redoxide zinc-chromate primer (one coat at shop), fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete.	MT	60.000	0.0887250%
2309	Extra over above ST NO. 2301 for <b>finishing the steel</b> with hot dipped galvanisation @ 900 gm/sqm over blast cleaned steel surfaces instead of painting with one coat of red oxide zinc-chromate primer all complete.	MT	200.000	0.1508830%
2309A	Providing and applying one coat of <b>Epoxy high solid finish paint</b> over galvanized surfaces (galvanization to be paid separately) with minimum 125 micron total dry film thickness (DFT) of approved make and shade to achieve an even shade all complete as per specification.	MT	560.000	0.0804670%
2309B	Providing and applying one coat of <b>Epoxy high solid intermediate paint</b> over galvanized surfaces (galvanization to be paid separately) with minimum 125 micron total dry film thickness (DFT) and 1 coat of <b>2-Comp. polyurethane finish paint</b> with minimum 50 micron total dry film thickness (DFT) of approved make and shade to achieve an even shade all complete as per specification.	MT	100.000	0.0167670%

2309C	Extra over above ST NO. 2301 for finishing the grating units/bolts/inserts with Cold galvanisation @ 610 gm/sqm over blast cleaned steel surfaces insi	MT	40.000	0.0279000%
2310	Fixing in position of <b>permanent mild steel bolts (class 4.6 as per relevant BS code or equivalent international code)</b> and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work etc all complete.	Quintal	28.000	0.0073610%
2311	<b>Fixing in position of high strength structural bolts</b> (of property class 8.8, 10.9 as per relevant BS code or equivalent international code) and high strength structural hardened and tempered nuts conforming to relevant BS code or equivalent international code with hardened and tempered washers etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete.	Quintal	400.000	0.2126960%
2311A	<b>Fixing in position of BHEL Supplied high strength structural bolts</b> (of property class 8.8, 10.9 as per relevant BS code or equivalent international code) and high strength structural hardened and tempered nuts conforming to relevant BS code or equivalent international code with hardened and tempered washers etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete.	Quintal	3400	1.8385130%
			0.000	
2312	<b>Dismantling of steel structure</b> , 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	160.000	0.0458290%
2313	Addition to, alterations in and/or modification of <b>"Erection Marks"</b> 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	160.000	0.1090370%
b	In fabrication yard	MT	160.000	0.0858740%
2314	<b>Re-erection of dismantled fabricated structural steel</b> 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 dismantled 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	160.000	0.0678260%
2317	Fixing in position <b>PTFE type sliding bearings</b> of reputed manufacturer, individual bearing suitable for required vertical loads as per the construction drawings and for maximum displacement of ±175 mm including all taxes, duties, transportation, installation, drilling, bolting, erecting, aligning etc all complete for following vertical loads.		0.000	
a	20 Tons	EACH	8	0.0017450%
b	25 Tons	EACH	8	0.0019740%
c	40 Tons	EACH	8	0.0021460%
d	50 Tons	EACH	8	0.0023180%
e	60 Tons	EACH	176.000	0.0560480%
f	100 Tons	EACH	142.000	0.0492930%
2320	Supply, fabrication and fixing of <b>GI pipe hand railing (900 mm high)</b> of 32 mm/40 mm dia (Medium Grade) including transportation, loading/unloading, painting etc. all complete..	MT	309	2.2846090%
2321	Conducting <b>radiography test on welds</b> wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	420	0.1045510%
2322	Conducting <b>ultrasonic test on welds</b> wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	420	0.0136060%
2323	Conducting <b>ultrasonic test on steel plates</b> as per ASTM-A435 or equivalent wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	SQM	560	0.0085720%
2324	Conducting <b>magnetic particle test on welds</b> wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	480	0.0114040%
2325	Conducting <b>dye penetration test on welds</b> 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	640	0.0135530%
2400	<b>Providing Road Work including necessary material, labour, machinery, transportation etc as per specification, drawing, relevant laws of Bangladesh, relevant BS Standards (or equivalent international standard approved by BIFPCL/BHEL) and as directed by the Engineer-in-charge for the following.</b>			
2401A	<b>Preparation of sub grade</b> by excavating earth to required depth for all types of soil/rock, dressing to camber and compacting the base (top layer of minimum 500 mm thickness) to 85% relative density (ASTM D-4253 and D-4254) for free draining soils containing less than 15% by weight finer than 75 micron sieve non plastic material' or '98% of the maximum density as determined by ASTM D-1557 for soils containing more than 15% material passing the 75 micron sieve' including making good the undulation etc and disposal of surplus earth within a lead upto 1 km etc. all complete.	CUM	12372.000	0.0304210%
2403A	Providing, stacking & laying <b>wet mix material in layers of required thickness for shoulder</b> consisting of crushed gravel or crushed rock, including watering, compaction with road roller to required camber etc all complete.	CUM	1600.000	0.2858210%
2404A	Providing & laying <b>granular sub-base</b> in layers of required thickness with crushed rock or other approved local material like brick metal, stone screening & blinding material including screening, sorting, spreading to template & consolidation with road roller including carriage, spreading & consolidation of blinding material etc all complete as per specification.	CUM	4240.000	1.0235400%
2413	Providing & laying <b>edge protection</b> on both edges of black topping using brick on edge (bricks with crushing strength of 75 kg/cm2) with full brick width (230 mm) etc all complete.	RM	0.000	
2414A	Supply and laying <b>150mm dia non pressure RCC pipes</b> conforming to BS 5911 or equivalent in raised shoulders as rain water drains as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste etc all complete.	RM	1300.000	0.0443520%
A2400	<b>Providing and placing concrete work including cost of labour, materials and equipment for handling, transportation, batching, mixing, placing, vibrating, shuttering, formwork and curing (excluding cost of reinforcement), with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specification and as per direction of engineer in charge for the following.[Type –I cement as per ASTM C150-16 with C3A content limited to 5 to 8 % shall be used . Supply of cement is in the scope of contractor. No separate payment shall be given against supply of cement by contractor]</b>			

A2412A	Supplying and laying 400mmx100mmx325mm deep <b>precast concrete kerb stone</b> of grade C40/50 as per BS EN-206 and BS 8500 or equivalent international standard with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete.	RM	350.000	0.0082730%
A2417A	Providing & laying <b>dry lean concrete</b> of required thickness of <b>grade C8/10</b> as per BS EN-206 and BS 8500 or equivalent international standard (with well graded picked jhama birch chips conforming to ASTM C33) including breaking chips and screening including providing and fixing formwork, compaction, finishing, curing etc all complete.	CUM	74.000	0.0196600%
A2418A	Providing and laying <b>cement concrete of grade C25/30</b> conforming to BS EN-206 and BS 8500 or equivalent international standard with coarse sand and graded hard stone aggregate of 20mm nominal size with approved admixture (if required), provision for necessary joints including compaction, finishing to lines and grades, curing and providing & fixing forwork etc. all complete. (Excluding the cost of reinforcement and dowel bar)	CUM	167.000	0.0653470%
C2400	<b>Placing concrete work including cost of labour, materials and equipment for handling, transportation, batching, mixing, placing, vibrating, shuttering, formwork and curing (excluding cost of reinforcement), with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specification and as per direction of engineer in charge for the following.(RMC SHALL BE PROVIDED BY BHEL AT BATCHING PLANT IN PROJECT PREMISES . TRANSPORTATION FROM THE BATCHING PLANT UP TO THE POURING POINT SHALL BE UNDER THE SCOPE OF CONTRACTOR)</b>			
C2412A	Supplying and laying 400mmx100mmx325mm deep <b>precast concrete kerb stone</b> of grade C40/50 as per BS EN-206 and BS 8500 or equivalent international standard with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete.	RM	5946.000	0.0221140%
C2417A	Laying <b>dry lean concrete</b> of required thickness of <b>grade C8/10</b> as per BS EN-206 and BS 8500 or equivalent international standard (with well graded picked jhama birch chips conforming to ASTM C33) including breaking chips and screening including providing and fixing formwork, compaction, finishing, curing etc all complete.	CUM	1258.000	0.0527790%
C2418A	Laying <b>cement concrete of grade C25/30</b> conforming to BS EN-206 and BS 8500 or equivalent international standard with coarse sand and graded hard stone aggregate of 20mm nominal size with approved admixture (if required), provision for necessary joints including compaction, finishing to lines and grades, curing and providing & fixing forwork etc. all complete. (Excluding the cost of reinforcement and dowel bar)	CUM	2839.000	0.1755660%
D2400	<b>Placing concrete work including cost of labour, materials and equipment for handling, placing, vibrating, shuttering, formwork and curing (excluding cost of reinforcement), with mechanised equipments like concrete pump etc. complete as per drawing, specification and as per direction of engineer in charge for the following.(RMC SHALL BE PROVIDED BY BHEL AT POURING POINT BUT DEVELOPMENT OF ACCESS ROAD FROM NEAREST SITE ROAD TO POURING POINT IS UNDER THE SCOPE OF CONTRACTOR)</b>		0.000	
D2412A	Supplying and laying 400mmx100mmx325mm deep <b>precast concrete kerb stone</b> of grade C40/50 as per BS EN-206 and BS 8500 or equivalent international standard with 20 mm nominal size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste, making drainage opening where required etc all complete.	RM	700.000	0.0019580%
D2417A	Laying <b>dry lean concrete</b> of required thickness of <b>grade C8/10</b> as per BS EN-206 and BS 8500 or equivalent international standard (with well graded picked jhama birch chips conforming to ASTM C33) including breaking chips and screening including providing and fixing formwork, compaction, finishing, curing etc all complete.	CUM	148.000	0.0046400%
D2418A	Laying <b>cement concrete of grade C25/30</b> conforming to BS EN-206 and BS 8500 or equivalent international standard with coarse sand and graded hard stone aggregate of 20mm nominal size with approved admixture (if required), provision for necessary joints including compaction, finishing to lines and grades, curing and providing & fixing forwork etc. all complete. (Excluding the cost of reinforcement and dowel bar)	CUM	334.000	0.0154190%
<b>REINFORCEMENT</b>				
2420A	Providing and fixing in position <b>MS dowel bar</b> reinforcement conforming to AASHTO M-31/ASTM-Designation A615 of <b>Grade-60</b> including surface painted with bitumen and greasing, dowel end caps with cotton fills etc all complete as per specification, drawing and as directed by Engineer.	MT	24.000	0.0729690%
<b>MISCELLANEOUS</b>				
2423A	Supplying & installation of <b>bitumen impregnated fibre board</b> conforming to relevant BS code or equivalent international code as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete.			
b	20 mm wide joints.	SQM	140	0.0050130%
2424A	Supplying and filling in position <b>hot applied bitumin sealing compound</b> of specified thickness conforming to relevant BS code or equivalent international code including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.	RM	4840.000	0.0101160%
2428	Providing and laying Impermeable <b>plastic sheeting 125 microns</b> thick laid flat without creases conforming to relevant BS code or equivalent international code etc all complete as per specification, drawing and as directed by Engineer.	SQM	15180.000	0.0130640%
2429	Providing <b>brick work</b> in cement mortar 1:6 (1 part cement 6 parts coarse sand) of 100mm in thickness at road edge including curing etc. all complete excluding plastering and painting.		0	
c	Using <b>burnt clay bricks</b> as per relevant BS code or equivalent international code with crushing strength of 75 Kg/cm2	CUM	148	0.0465450%
A2430	Designing, providing, fixing and installing in position guard rails (Railings shall be of galvanized steel, which shall be epoxy-painted) including foundation, supporting posts, signs, glass reflector elements, painting etc all complete as per specification, relevant laws of Bangladesh, AASHTO guidelines/equivalent relevant International standards, approved by BIFPCL/BHEL and as directed by Engineer.	RM	100.000	0.0040790%
A2431	Designing, providing, fixing and installing in position Plastic guideposts including signs, glass reflector elements, painting etc all complete as per specification, relevant laws of Bangladesh, AASHTO guidelines/equivalent relevant International standards, approved by BIFPCL/BHEL and as directed by Engineer.	Each	6	0.0003530%

2500	<b>PILING WORK: Piling works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. as per specification, drawings and as directed by engineer - in - charge.</b>			
2516	Design, supplying, installing of sheet pile for earth protection around foundation as per accepted scheme including material, labour, equipment, consumable etc. all complete complying all safety norms and removal of sheet pile after completion of foundation work. this item to be executed after approval of execution scheme by BHEL Engineer. [mode of measurement : Area shall be calculated on the basis of exposed sheet pile area above founding level inside excavated pit]. Payment shall be made 70% after installation and 30% after removal of sheet pile.	SQM	1000	0.4076830%
3001	Total lump sum price for the <b>SERVICES PART of Solid waste managment plant</b> comprising of receipt at site, unloading, handling, transportation & storage at site, in site transportation, assembly, minor civil works, erection & commissioning, final painting at site, trial run at site and carrying out performance guarantee /Functional / Demonstration tests at site (As applicable), training of customer/ client O&M staff ( if applicable) & final handing over to end customer in flawless condition for project and package specified above complete with all accessories for the total scope defined as per BHEL NIT & tender technical specification, amendment & agreements till placement of order.	SET	1.000	0.3012090%
<b>TOTAL ALLOTTED PERCENTAGE</b>				<b>81.1871580%</b>

<b>VOLUME-III PRICE SCHEDULE, REV-01</b>				
<b>PACKAGE 14: CIVIL, STRUCTURAL &amp; ARCHITECTURAL WORKS FOR CHP,AHP &amp; MISC.WORK FOR 2X660 MW MAITREE RAMPAL PROJECT, BANGLADESH.</b>				
<b>TENDER DOCUMENT NO : PSER:SCT:KLN-C1912:18</b>				
<b>SCH-4 : GROUND IMPROVEMENT WORK</b>				
<b>ST. NO</b>	<b>DESCRIPTION OF ITEM</b>	<b>UNIT</b>	<b>Quantity</b>	<b>ALLOTTED PERCENTAGE FOR AMOUNT OF EACH ITEM( Nearest to the 6 decimal points) W.R.T THE TOTAL OF QUOTED PRICE IN SCH-1</b>
1	Design and execution of ground improvement with dynamic compaction on engineering and execution basis for the specified area (s) so as to achieve at least 80% of relative density for the top existing dredged sand fill (about 6m thick layer) including preparation of drawings and getting it approved, conducting field trials for validation of design, providing necessary equipments, labours, plants & tools, machineries, quality testing/quality control etc all complete as required/as per specification and as directed by engineer-in-charge.	SQM	19750	0.8559220%
2	Excavating trial pit of size 3m x 3m at various locations up to a maximum depth of 3m below ground level for conducting plate load test in all types of soil which can be excavated with pick axe/crow bar etc including sheeting or shoring the sides for the purpose of stability, dewatering and maintaining the pit dry at all times and backfilling of the pit with excavated material etc all complete as per specification and as directed by the engineer-in-charge.	CUM	70	0.0006650%
3	Conducting plate load test at specified depth using 600mmx600mmx25mm mild steel plate as per ASTM 1195 and submission of approved test report etc as per specification, drawing and as directed by the engineer-in-charge. The rate shall include mobilization of necessary testing equipments etc to the project site and demobilization of the same after completion of tests.	EACH	2	0.0053230%
<b>TOTAL ALLOTTED PERCENTAGE</b>				<b>0.8619100%</b>

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**SCH-4: SUPPLY**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	ALLOTTED PERCENTAGE FOR AMOUNT OF EACH ITEM( Nearest to the 6 decimal points) W.R.T THE TOTAL OF QUOTED PRICE IN SCH-1
	<b>S400 REINFORCEMENT</b>			
	<b>Reinforcement work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling etc at all level as per specification, relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL drawings and as directed by engineer - in - charge for the following</b>			
S401	Providing of <b>mild steel reinforcements</b> conforming to Grade ASTM-Designation A615-80, grade: 40 / BST I (22/34) in concrete including cost of reinforcement and binding wire, labour, scaffolding, transportation to & from stores etc. all complete as per specifications & drawings.	MT	6	0.0145940%
S407	Providing of <b>high yield strength steel reinforcements</b> in <b>brickwork/Autoclave Aerated Concrete blocks</b> including cost of reinforcement and binding wire, labour, scaffolding etc. complete all as per specifications & drawings.	MT	20	0.0523870%
	<b>700 MS EMBEDMENTS</b>			
	<b>Embedments including all labour, material (unless otherwise specified in BOQ/specification), equipment, transportation, handling etc. at any level as per specification, drawings, relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL and as directed by engineer - in - charge.</b>			
S701	Supply of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.	MT	21	0.0516830%
S704	Supplying of following items for all kind of works			
a	MS pipes of all diameters	Quintal	40.000	0.0126740%
b	PVC pipes / conduits of all diameters	Quintal	46.000	0.0754350%
c	UPVC pipes / conduits of all diameters	Quintal	42.000	0.0666810%



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**SCH-4: SUPPLY**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	ALLOTTED PERCENTAGE FOR AMOUNT OF EACH ITEM( Nearest to the 6 decimal points) W.R.T THE TOTAL OF QUOTED PRICE IN SCH- 1
	<b>S900 DOORS, WINDOWS, VENTILATORS, LOUVERS</b>			
	<b>Doors (including master key system), windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material (unless otherwise specified in BOQ/specification), equipments, transportation, handling, preparation of working drawings etc. at any level as per specification, drawings, relevant laws of Bangladesh, relevant BS Standards or Bangladesh National building code or Equivalent International standards approved by BIFPCL/BHEL and as directed by engineer - in - charge.</b>			
S904	Providing of <b>single or double steel door shutters</b> with <b>45mm thk flush design shutter</b> 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, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete as per specification.	SQM	294	0.0423170%
SA912	Providing of <b>pressed steel frames</b> fabricated from <b>16 gauge M.S sheet</b> 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.	Kg	1080	0.0052780%
S913	Providing of <b>rolling shutter of hot rolled double dipped galvanised steel</b> double walled hollow sections 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, primer & shop coats of approved enamel paint etc, all complete as per relevant BS code or equivalent international code and specification of approved make of following types: The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanised steel plate and securely rivetted with stiffening angles.			
a	<b>Hand Operated</b>	SQM	64	0.0079790%
b	<b>Mechanically Operated</b>	SQM	51	0.0076170%

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**SCH-4: SUPPLY**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	ALLOTTED PERCENTAGE FOR AMOUNT OF EACH ITEM( Nearest to the 6 decimal points) W.R.T THE TOTAL OF QUOTED PRICE IN SCH-1
c	<b>Electrically operated</b> including Hand crank with continuous chain reel for emergency operation	SQM	128	0.0203950%
	<b>S1500 ROOFING / SIDE CLADDING</b>			
	<b>Roofing / side cladding work including all labour, material (unless otherwise specified in BOQ/specification), equipment, transportation, handling, scaffolding, lops, hooks, washers, corner pieces etc. at any level as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.</b>			
S1501	<b>Designing, providing of permanently color coated galvanised MS troughed metal sheet decking plate</b> of approved colour and conforming to relevant BS or equivalent international code over roof purlins for cast-in-situ roof slab as per relevant BS or equivalent			
a	Span Upto 1800mm	SQM	13786.000	0.8152510%
S1502	Providing of <b>shear connectors</b> of mild steel studs having 16mm dia and minimum 75 mm projected length above purlin passing through metal decking as per relevant BS code or equivalent international code and specification.	QUINTAL	600.000	0.4147150%
S1503	Designing, providing of <b>External sheet of Permanent colour coated metal cladding for wall/ roof with troughed high strength tensile steel sheets of minimum 0.75 mm</b> bare metal thickness [designed for applicable loads (dead, live, wind etc.) for a span of 1.5m] having minimum yield strength 350 MPa and hot dipped galvanized with a minimum zinc coating weight of 275 gsm total both sides including pre-treatment by "chemical conversion" of the zinc coating to a non-metallic surface with corrosion inhibiting and adhesion additives, nominal 8 micron thick anti-corrosive pigmented epoxy primer on both sides, nominal 70 micron thick TF epoxy barrier coat with special flexibilizer compounds applied on both sides and baked to a hard corrosion resistant finish, nominal 40 micron thick urethane exterior coating on outer face, fixing to supports / rails by concealed/non concealed fixing system (as approved by BIFPCL/BHEL), corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The sheet shall have minimum 500 mm cover width, minimum 42mm height crests at maximum 250mm c/c with special male/female side laps and anti-siphoning features to prevent leakage.	SQM	123847.000	5.2454490%

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**SCH-4: SUPPLY**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	ALLOTTED PERCENTAGE FOR AMOUNT OF EACH ITEM( Nearest to the 6 decimal points) W.R.T THE TOTAL OF QUOTED PRICE IN SCH-1
S1505	Designing, providing of <b>Internal sheet of Permanent colour coated metal cladding for wall/roof with troughed high strength tensile steel sheets of minimum 0.75 mm</b> bare metal thickness [designed for applicable loads (dead, live, wind etc.) for a span of 1.5m] having minimum yield strength 350 MPa and hot dipped galvanized with a minimum zinc coating weight of 275 gsm total both sides including pre-treatment by "chemical conversion" of the zinc coating to a non-metallic surface with corrosion inhibiting and adhesion additives, nominal 8 micron thick anti-corrosive pigmented epoxy primer on both sides, nominal 70 micron thick TF epoxy barrier coat with special flexibilizer compounds applied on both sides and baked to a hard corrosion resistant finish, nominal 20 micron thick stoving polyester decorative finish on exposed face, fixing to supports / rails by concealed/non concealed fixing system (as approved by BIFPCL/BHEL), Z spacers, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The sheet shall be fixed directly to side runners and Z spacers as per relevant BS code or equivalent international code. The sheet shall be fixed at the rate not more than 1500 mm center to center to hold the insulation and external sheeting. The sheet shall have minimum 980 mm cover width, minimum 28mm height crests at maximum 195mm c/c with special male/female side laps and anti-siphoning features to prevent leakage.	SQM	59458.000	2.7120160%
	<b>1800 MISCELLANEOUS WORKS</b>			
	<b>Miscellaneous works including all labour, material (unless otherwise specified in BOQ/specification), equipment etc. at any level unless otherwise specified as per relevant laws of Bangladesh, relevant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.</b>			
S1810	Providing of <b>rails and guide rails in concrete</b> for transformer, rail track including cutting of rails, joining of rails, anchoring lugs etc all complete.	MT	28	0.0798120%
	<b>S2000 FENCING AND GATES</b>			

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ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	ALLOTTED PERCENTAGE FOR AMOUNT OF EACH ITEM( Nearest to the 6 decimal points) W.R.T THE TOTAL OF QUOTED PRICE IN SCH-1
	<b>Fencing and gates including all labour, material (unless otherwise specified in BOQ/specification), equipment etc at any level as per relevant laws of Bangladesh, relavant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.</b>			
S2009A	Supply & febrication of <b>PVC coated galvanised MS Gates</b> out of rectangular hollow sections, channels, joists, angles, flats, plates, pipes including stiffners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, bronze aluminium ball bearing arrangements, castor wheels etc. all complete (mesh & barbed wire to be paid seperately uner item no 2001).	MT	6	0.0201350%
	<b>S2300 STRUCTURAL STEEL</b>			
	<b>Structural steel works including all labour, material (unless otherwise specified in BOQ/specification), equipments, transportation, handling etc. at any level as per relevant laws of Bangladesh, relavant BS Standards or Equivalent International standards approved by BIFPCL/BHEL, specification, drawings and as directed by engineer - in - charge.</b>			
2306	Providing of <b>crane rails</b> over the crane girder at all elevations as per relevant BS code or equivalent international code including all fixtures, clamps, testings etc. all complete as per drawing and specification.	MT	5	0.0232530%
S2307	Supplying & fabrication of factory made <b>electroforged galvanised grating units</b> with mild steel (having minimum galvanisation of 610 g/sqm) conforming to relevant BS code or equivalent international code in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete.	MT	224	0.6707590%

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ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	ALLOTTED PERCENTAGE FOR AMOUNT OF EACH ITEM( Nearest to the 6 decimal points) W.R.T THE TOTAL OF QUOTED PRICE IN SCH-1
S2308	Supplying & fabrication of factory made <b>galvanised welded grating units</b> with mild steel conforming to relevant BS code or equivalent international code in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including 1 coat of redoxide zinc-chromate primer (one coat at shop), fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete.	MT	60	0.2070240%
S2309	Extra over above ST NO. S2308 for <b>finishing the steel</b> with hot dipped galvanisation @ 900 gm/sqm over blast cleaned steel surfaces instead of painting with one coat of red oxide zinc-chromate primer all complete.	MT	50	0.0880130%
S2309C	Extra over above ST NO. S2308 for finishing the grating units/bolts/inserts with Cold galvanisation @ 610 gm/sqm over blast cleaned steel	MT	50	0.0813750%
S2310	Providing of <b>permanent mild steel bolts (class 4.6 as per relevant BS code or equivalent international code)</b> and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work etc all complete.	Quintal	28.000	0.0171740%
S2311	<b>Providing of high strength structural bolts</b> (of property class 8.8, 10.9 as per relevant BS code or equivalent international code) and high strength structural hardened and tempered nuts conforming to relevant BS code or equivalent international code with hardened and tempered washers etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete.	Quintal	3400	4.2898300%
S2317	Providing of <b>PTFE type sliding bearings</b> of reputed manufacturer, individual bearing suitable for required vertical loads as per the construction drawings and for maximum displacement of ±50 mm including all taxes, duties, transportation, installation, drilling, bolting, erecting, aligning etc all complete for following vertical loads.			
a	20 Tons	EACH	8	0.0040700%
b	25 Tons	EACH	8	0.0046060%
c	40 Tons	EACH	8	0.0050070%
d	50 Tons	EACH	8	0.0054090%
e	60 Tons	EACH	176	0.1307700%
f	100 Tons	EACH	142	0.1150090%

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**SCH-4: SUPPLY**

ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	ALLOTTED PERCENTAGE FOR AMOUNT OF EACH ITEM( Nearest to the 6 decimal points) W.R.T THE TOTAL OF QUOTED PRICE IN SCH-1
S3001	Total lump sum price for <b>SUPPLY PART of Solid waste managment plant</b> comprising of design (i.e. Preperation and submission of drawing/ documents including " As Built " drawings and O&M Manuals) , engineering, manufacture, fabrication, assembly, inspection / testing at vendor's & sub-vendor's works, painting, maintenance tools & tackles (as applicable),fill of lubricants & consumables,Chemicals, alongwith spares for erection , startup and commissioning as required, forwarding, proper packing, shipment and delivery at site, preperation of drawings in 3D (if applicable) for project and package specified above complete with all accessories for the total scope defined <b>in tender technical specification</b> , amendment & agreements till placement of order.	SET	1	2.2633100%
S3002	Total lumpsum price for <b>Mandatory spares for SUPPLY PART of Solid waste managment plant</b> comprising of manufacture, fabrication, assembly, inspection / testing (as applicable) at vendor's & sub-vendor's works, painting, forwarding, proper packing, shipment, delivery at site & guarantee as per tender technical specification above, amendment & agreements till placement of order.	Lot	1	0.0699990%
<b>TOTAL ALLOTTED PERCENTAGE</b>				<b>17.6200260%</b>

VOLUME-III PRICE SCHEDULE, REV-01				
PACKAGE 14: CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR CHP,AHP & MISC.WORK FOR 2X660 MW MAITREE RAMPAL PROJECT, BANGLADESH.				
TENDER DOCUMENT NO : PSER:SCT:KLN-C1912:18				
SCH-5: O&M				
ST. NO	DESCRIPTION OF ITEM	UNIT	Quantity	ALLOTTED PERCENTAGE FOR AMOUNT OF EACH ITEM( Nearest to the 6 decimal points) W.R.T THE TOTAL OF QUOTED PRICE IN SCH-1
3003	Total lump sum price for complete <b>O&amp;M of Solid waste managment plant</b> till handing over of SWM plant to end customer (BIFPCL) plus one year for the total scope defined as per tender technical specification, amendment & agreements till placement of order.	Months	18	0.3309060%
<b>TOTAL ALLOTTED PERCENTAGE</b>				<b>0.3309060%</b>