



**BHARAT HEAVY ELECTRICALS LIMITED  
CENTRALISED STAMPING UNIT & FABRICATION  
PLANT  
Jagdishpur**

**TENDER FOR CONSTRUCTION OF FABRICATION SHOP  
AND ASSOCIATED WORKS INCLUDING ARCHITECTURAL  
WORKS AT JAGDISHPUR**

**Tender Enquiry No: BHE/FP/CVL/014**

**SECTION III**

**SPECIAL CONDITIONS OF CONTRACT**

**BHARAT HEAVY ELECTRICALS LIMITED  
(A GOVERNMENT OF INDIA UNDERTAKING)  
CSU & FP  
Industrial Area  
Jagdishpur (UP) 227817**

**SECTION-III****SPECIAL CONDITIONS OF CONTRACTS****1. INTRODUCTION**

- 1.1. The terms and conditions mentioned in this section are in addition to what are stated in Section – II (General Conditions of Contract) of the tender document. In case of any contradiction between the terms and conditions given in Section - II and those specified in this Section- III, the terms and conditions of this Section–3 shall prevail.

**2. SITE LOCATION**

- 2.1. Bharat Heavy Electricals Ltd. is setting up a manufacturing plant at Jagdishpur; district Sultanpur UP, for production of fabricated components. New facility will be located adjacent to the existing Insulator Plant (IP) and upcoming centralized stamping unit (CSU) of BHEL. The site area is about 31.6 Acre. The site location is about 80 KM south east of Lucknow on Lucknow Varanasi highway and approx 55 KM from Sultanpur and 210 Km from Varanasi. The nearest Airport is at Lucknow.

**3. SCOPE OF WORK :**

- 3.1. The scope of work will broadly cover construction of the following buildings / facilities:
- Fabrication shop and associated facilities including steel structure fabrication , erection & painting.
  - Electrical building housing DG sets , transformers and associated switchyard
  - Any other infrastructural work and building within the BHEL premises / BHEL land at Jagdishpur Industrial area.
  - Associated water supply distribution and sewerage system of plant & township
  - Canteen, material stores
  - Compressor house, acetylene plant house, Oxygen plant house, X-ray room/ pit/lab
  - HT /LT sub station and metering room
  - Earthing pits
  - Bore wells and underground and overhead tanks in plant and township.

- 3.2. The erection of steel structures is also included in the present tender. **Steel such as reinforcement steel and structural steel as per specific mention in BOQ items shall be supplied by BHEL as free issue material.**
- 3.3. The bidder's scope shall broadly include construction of all the civil, structural & architecture works related to buildings and foundations which includes earth work, plain & reinforced cement concrete, reinforcement, scaffolding, formwork, masonry work, floor finishing, skirting, plastering, painting, roof finishes, doors / windows / ventilators /rolling shutters, internal & external plumbing, water supply, water proofing, drainage & sewerage, metal cladding, fencing, roads, MS embedment etc.; as well as supply of all materials, consumables, labour, tools and plants, transportation and storage, sample testing etc.; all complete as per BOQ, specifications and drawings.
- 3.4. In addition to above the bidder's scope shall also cover submission of drawings/designs details/ brochures / technical write ups / manufacturer's test certificates and field test results etc, as applicable, along with source of supplies for the bought out items pertaining to his scope of supplies and execution for the following –
- a) Bar bending schedule of reinforcement steel
  - b) Shutterings details including propping, scaffolding etc.
  - c) Aluminium sections and sectional details
  - d) Cement, sand ,aggregates, bricks etc
  - e) Plasticizers, additives
  - f) Certified Concrete mix designs from technical institutes such as IITs/ BHU or equivalent accredited laboratory along with lab and field trial details.
  - g) False ceiling, Cavity flooring
  - h) Tiles and misc. floorings
  - i) Water supply and sanitary items
  - j) Water proofing items
  - k) Composite panel and structural glazing
  - l) Anti-weeding chemical treatment of ground.
  - m) Any other item as per BOQ and specifications.
- 3.5. The specific technical requirements for work to be executed under this Contract shall be as per Section V. **The applicability of specifications shall be limited to the scope of civil works only as specified in the BOQ.** Mechanical /Electrical items indicated are for general information only.
- 3.6. The scope of work will also include such other related works although they may not be specifically mentioned above and all such incidental items not specified but reasonably implied and necessary for completion of the job as a whole and as desired and as directed by the engineer. The detail scope of work covered above

is not a comprehensive list of items of work involved. The detail scope of work may vary considerably depending on the actual construction requirements.

- 3.7. Unless otherwise specified, the work to be provided by the contractor for the items mentioned in the "Bill of Quantities" shall include but not be limited to the following.
- a) Furnishing all labour, materials, supervision, construction plans, equipment, supplies, transport, to and from the site, fuel, electricity, compressed air, water, transit and storage insurance and all other incidental items and temporary works not shown or specified but reasonably implied or necessary for the proper completion, maintenance and handling over the works, except in accordance with the stipulations laid down in the contract documents and additional stipulations as may be provide by the engineer during the course of works.
  - b) Furnishing samples of all materials required by the engineers for testing / inspection and approval for use in the works. The engineer for final incorporation in the works may retain the samples.
  - c) Furnishing test reports for the products used or intended to be used, if called for the specifications or if so desired by the engineer.
  - d) Giving all notices, paying all fees, taxes etc., in accordance with the general conditions of contract, that is required for all works including temporary works.
  - e) Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
  - f) Carrying out topographic survey of required area and establish levels and coordinates at suitable intervals from existing grid levels and coordinates furnished by the owner established bench marks, setting out the locations and levels of proposed structures, constructions and marking of reference pillars and other identification works etc., The contractor shall provide BHEL such a assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used.
  - g) Providing all incidental items not shown or specified but reasonably implied or necessary for the successful completion of the work in accordance with contract.
  - h) Make necessary storage arrangement / sheds of adequate capacity to store cement within his normal scope without any extra cost to BHEL.
  - i) Arrange necessary T & P and IMTEs for carrying out the work. A list of such T & P and IMTEs required for such work as a minimum is given in **Annexure SCC-I and SCC-II**.
- 3.8. BHEL is ISO 9001-2000, ISO 14001-1996 and OHSAS 18001-1999 certified company. The contractor in all respects shall organize his work, systems,

environment, process control documentation, tools, plant, inspection, measuring and testing equipments etc. as per instructions of Engineer.

- 3.9. The contractor shall also comply with applicable legislation and regulations with regards to Health, safety and environmental aspects for minimizing risk arising from occupational health, safety hazards, controlling pollution and wastage.
- 3.10. BHEL and their Consultant may depute their representative for checking and supervision of important stages of work. The contractor shall be required to provide all facilities for inspection of works at no extra cost to BHEL. Any defect in quality of work or deviations from drawings / specifications pointed out during such inspection shall be made good by the contractor in the same way as if pointed out by the BHEL Engineer, without any cost implication to BHEL.

#### 4. TIME SCHEDULE

- 4.1. The contractor is required to commence the work within 15 days from the date of issue of letter of intent unless BHEL decides to fix any other later date.
- 4.2. Entire work as detailed in tender specification shall be completed within **20 months** as per the programs / milestones indicated in **Cl 4.3 below** .The date of start of work shall be taken as given in Letter of Intent.
- 4.3. The period of completion for the following major mile stones is as follows :(To be reckoned from the date of issue of LOI )

Fabrication shop	
(a) Handing over of shop for erection of cladding	: 10 months
(b) Completion of all works	: 20 months
- 4.4. The start date for the above works shall be as indicated in the Annexure SCC – IV and as directed by BHEL from time to time. The Contractor shall ensure that the above major works are completed in time.
- 4.5. Contractor has to mobilise adequate resources to meet his commitments to BHEL as indicated from time to time. **In case due to reasons not attributable to the contractor, the work gets delayed and additional manpower / resources have to be mobilized so as to expedite the work to meet various milestones, same shall be done within the quoted rates as per Rate Schedule, at no extra cost to BHEL.** In the event the contractor fails to respond to these requirements, BHEL shall take appropriate actions to meet it's commitments in line with the provisions of General Conditions of Contract.
- 4.6. In case due to reasons not attributable to the contractor, the work gets delayed and scheduled completion gets extended, time extension will be granted by BHEL but in no case over run compensation will be payable.
- 4.7. The work under the scope of this contract is deemed to be completed in all respects, only when all the works are carried out as per satisfaction of BHEL. The decision of BHEL on completion date shall be final and binding on the contractor.

**5. TAKING OVER OF WORKS BY BHEL**

- 5.1. All works shall be taken over by BHEL in part or in full when it has been completed in all respects and/or can be put to use satisfactorily. The complete work under the contract shall be taken over only after completion of all punch points, pending work, rework wherever required, site clearing and reconciliation of materials.
- 5.2. The guarantee period shall start only after the complete work under the contract has been taken over by BHEL.

**6. PRICE**

- 6.1. Price quoted shall be fixed and not subject to any escalation whatsoever during the period of execution of the Contract including the extended period, if any.
- 6.2. The quoted price shall include all taxes and duties on input materials and all taxes on Contract execution including Works Contract Tax.
- 6.3. All Taxes and Duties payable as extra to the quoted price should be specifically stated in the offer. BHEL will not be liable for payment of Taxes and Duties not specifically mentioned in the offer.
- 6.4. **No price variation /over run charges** on account of any increase whatsoever, (irrespective of whether escalation is steep/ unanticipated) will be payable during the entire period of execution of Contract including extended period, if any.

**7. SALES TAX / WORKS CONTRACT TAX**

- 7.1. Sales tax on transfer of property in goods involved in works contract is applicable as per laws in force in U.P. state .The contractor shall register him self with the sales tax authorities of the state and submit proof of such registration to BHEL along with the first RA bill. Deduction of tax at source shall be made as per the provisions of law. The TDS shall be deducted from the bills of the contractor and deposited with the UP trade tax authorities. Present rate of TDS on this account is 4 % (Four percent). If UP Trade tax authorities allows compounding scheme then the tax at source shall be deducted accordingly.
- 7.2. Contractor shall get his organization registered with concerned sales tax authorities within 30 days of award of this contract. The delay on this account and delay in bringing the material shall be to contractor's account and no extension of time shall be allowed on this account. The sales tax registration for this contract shall be forwarded to BHEL. In case the contractor is already registered for sales tax with Govt. Authorities he must quote his registration no., while submitting their tender.
- 7.3. Contractor has to make his own arrangement at his cost for completing the formalities, if required, with Sales Tax Authorities, for bringing their materials, plants, and equipment at site for the execution of the work under this contract.

**8. SERVICE TAX**

- 8.1. Contractor's price/ rates shall be exclusive of service tax and cess on output services.
- 8.2. Contractor shall deposit the service tax with the concerned tax authorities, such amount will be paid by BHEL. Contractor shall submit to BHEL documentary evidence of service tax registration and remittance records of such tax immediately after depositing the tax with the concerned authorities. Contractor shall obtain prior written consent from BHEL before billing the amount towards such taxes.
- 8.3. The prevailing rate of service tax is 4.12 % (Four point one two percent) effective from 01/03/2008, inclusive of education cess and SAH education cess under works contract (composition scheme for payment of service tax) Rules, 2007

**9. INCOME TAX**

- 9.1. Income Tax at the prevailing rate on gross value of work done and applicable surcharge and education cess shall be deducted from the running bills as per relevant rules unless exempted by the Income Tax Authorities.

**10. NEW TAXES/ LEVIES**

- 10.1. In case the Government imposes any new tax/ levy on the output services/ goods / work after the award of work, the same shall be reimbursed by BHEL at actuals. All necessary documents as required by BHEL shall have to be provided by the contractor. However, in the event of delay in work execution solely attributable to the contractor the new taxes/ levies imposed during the delay period shall not be reimbursed to the contractor.
- 10.2. In case any tax/levy/duty etc becomes applicable after the date of bidder's offer, the bidder/ Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of the Price Bid. Claim for any such impact after opening the price bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.
- 10.3. No reimbursement on account of increase/ decrease in the rate of taxes, levies, duties etc on input goods/ services/ work shall be made. Bidder has to make his own assessment of the impact of future variation if any, in rates/ duties/ levies etc in his price bid.

**11. MODELITIES OF TAX INCIDENCE ON BHEL**

- 11.1. Wherever the relevant tax laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL will have the right to adopt the appropriate one considering the amount of tax liability on BHEL as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the contractor for discharging the obligation of BHEL in respect of the tax liability to the contractor.

- 11.2. The contractor shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, misc. charges, deposits, duties, tools, royalties, commissions or other charges which may be levied on the input goods and services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.

## **12. RATE SCHEDULE CUM BOQ**

- 12.1. Contractor shall fully understand description and scope of work before quoting. The scope of work and responsibility of the contractor as mentioned under this specification shall be covered within the quoted / finally accepted rates.
- 12.2. The Tenderer shall quote the prices/rates for entire scope of work as per the rate schedule only, in part II - price bid. Conditional price bids or price bids with any deviation / clarification etc. are liable to be rejected. No cutting / erasing / over writing shall be done.
- 12.3. Quantities mentioned in the rate schedules are approximate only and liable for variation both on positive and negative sides. The tentative contract value (CV) for entire scope of work shall be calculated as per finally quoted / accepted item rates & the quantities indicated in Rate Schedule cum BOQ.
- 12.4. In addition to the above, the Contractor shall also submit the rates as asked for in the **Annexure: SCC-III**.

## **13. EVALUATION OF THE OFFERS**

- 13.1. Comparison of the prices & determination of lowest bidder shall be as per Price Schedule for the complete scope.
- 13.2. The grand total price of all the items in BOQ shall be the basis for deciding the lowest bidder.

## **14. VARIATION IN SCOPE OF WORK / DEVIATION LIMIT**

- 14.1. BHEL reserves the right to add or delete items of scope of work depending upon the final requirement. For such addition or deletion the Contract price shall be adjusted based on the quoted unit price. Such variation is not expected to be more than  $\pm 30\%$ . The price quoted by the Contractor shall be valid for such variation. Variation beyond the above limit can be executed on mutually agreed rates.

## **15. EXTRA WORK**

- 15.1. The Contractor shall, when requested by BHEL, perform extra work at mutually agreed rates.

**16. TERMS OF PAYMENT**

- 16.1. The Contractor shall be paid monthly running bill of **95%** of the value of the work actually executed on site provided the work has been executed to the satisfaction of the Engineer.
- 16.2. The balance **5%** of the bill value shall be released as follows--
- (a) The **2.5%** of the bill value shall be payable on taking over of complete works by BHEL and passing of the final bill.
  - (b) The balance **2.5%** of bill value will be payable on completion of the guarantee period.
- 16.3. From the amount payable, recovery such as advances, security deposit, taxes etc. would be made.
- 16.4. Measurement of work completed shall be done by the Contractor and submitted to BHEL for checking and approval. For this purpose, Contractor shall submit hard copies as well as a soft copy in the floppy / CD containing abstract & detailed measurement sheets of the bill. The measurement sheets and the bill will be checked and approved by BHEL for further processing, or returned to the Contractor for correction and resubmission. The certificate of Engineer regarding such approval and passing of sums shall be final and conclusive against the Contractor.
- 16.5. The abstract of the measurements and RA bill shall be entered in BHEL Measurement Book and signed and dated by both parties as per the provisions of the General Conditions of Contract.
- 16.6. All running bill payments shall be regarded as advance payments against the final bill. Any certificate relating to the work done during monthly running bills may be modified by any subsequent interim certificates or by the final certificates and no certificate of the Engineer supporting an advance payment shall of itself be conclusive evidence that any work or materials to which it relates are in accordance with the contract.
- 16.7. In case any amount is withheld by BHEL during course of execution of work on account of non-compliance of contract requirement, the same shall be recovered / released from the contractors bills as deemed fit by the engineer-in-charge of BHEL and the decision of engineer-in-charge shall be final in this regard and binding on the contractor.
- 16.8. **Payment against bulk supplies:** Payment to the tune of 75 % of the value of bought out items such as cement, paints or any other item as decided by BHEL which are purchased in bulk may be made provided the contractor supplies to site all the quantities in bulk for each item with prior permission of BHEL Engineer and submit the documents along with an indemnity bond as required by the

engineer before submitting claim. The amount thus paid shall be recovered in the subsequent running bills upon execution of such items and its incorporation in the permanent works.

## **17. GUARANTEE**

- 17.1. The works constructed by the Contractor shall be guaranteed for a period of 12 (twelve) months from taking over by BHEL. During this period the Contractor shall attend to all the matters relating to the Contract work as required by BHEL.

## **18. PENALTY FOR DELAY**

- 18.1. If the Work is not completed within the specified period and any extension thereof, the Contractor shall be liable to pay penalty for delay in completion of work @ 0.5% of the total Contract value for every week of delay or part thereof, subjected to a maximum of 10 % of the Contract value without BHEL being required to establish and prove the actual loss/damage suffered by BHEL on account of such delay.

## **19. COMPLETION CERTIFICATES/ NOC FROM LOCAL STATUTORY BODIES**

- 19.1. Contractor has to arrange at his own cost to obtain building/ work completion certificates as required to be obtained from the local statutory bodies of central and state govt.. However, any fees required for obtaining such NOCs shall be paid by BHEL on production of relevant depository challans/ receipts from such Govt. authorities.

## **20. DRAWINGS**

- 20.1. Following drawings are enclosed for reference purpose only.

(a) layout of plant

- 20.2. The construction of the works shall be taken up on the basis of construction drawings which shall be issued after award of the work.

**Annexure: SCC-I****INDICATIVE LIST OF T&Ps TO BE ARRANGED BY THE CONTRACTOR AT HIS OWN COST**

<b>SL NO</b>	<b>EQUIPMENT</b>	<b>QUANTITY</b>
1.	CONCRETE MIXTURE M/Cs & BATCHING PLANT.	AS PER REQUIREMENT
2	CONCRETE VIBRATORS	AS PER REQUIREMENT
3	HYDRA CRANE 8 / 10 T	1 NO
4	MOBILE CRANE 15/18 T	1 NO
5	15/20 MT TRAILORS WITH PULLING UNIT	1 NO
6	WATER TANKER	AS PER REQUIREMENT
7	DEWATERING PUMP	AS PER REQUIREMENT
8	POWER / HAND WINCHES	AS PER REQUIREMENT
9	WELDING MACHINES	AS PER REQUIREMENT
10	HEATING OVEN	AS PER REQUIREMENT
11.	DG SETS OF REQUIRED CAPACITY	AS PER REQUIREMENT
12	PORTABLE OVENS	AS PER REQUIREMENT
13	ROAD ROLLERS	AS PER REQUIREMENT
14	EXCAVATORS AND DUMPERS	AS PER REQUIREMENT
15	EARTH COMPACTOR	AS PER REQUIREMENT
16	CAST- IN SITU PILING RIGS & TESTING EQUIPMENT	AS PER REQUIREMENT

NOTES

- 1 The above list specifies only major T&Ps (may not be complete to be deployed by the contractor). All additional / other tools and plants including trucks & devices, tackles, machines, measuring instruments etc. in good and safe working conditions which are required for satisfactory & timely completion of work shall also be deployed by the contractor within finally accepted rate / price.
- 2 Other terms and conditions regarding above items please also refer clause 38 T&P/IMTEs).

**Annexure- SCC-II****INDICATIVE LIST OF IMTEs TO BE ARRANGED BY THE CONTRACTOR AT HIS OWN COST**

SL NO	EQUIPMENT	QTY
1	THEODOLITE ONE SECOND ACCURACY	1 NO
2	DUMPY LEVEL UPTO 350 MM	2 NO
3	COMPRESSION STRENGTH TESTING EQUIPMENT	1 NO
4	CONSTRUCTION MATERIAL TEST EQUIPMENT	AS PER REQUIREMENT
5	CONCRETE CUBE MOULD (150 X 150 X 150 ) mm	5 SET
6	CONCRETE slump cone	2 SET
7	COARSE AGGREGATE SIEVES & SAND SIEVER	1 SET
8	SIEVE SHAKER	1 NO
9	AGGREGATE IMPACT TEST MACHINE	AS PER REQUIREMENT
10	HEATING OVEN	1 NO
11	PHYSICAL BALANCE FOR LAB WORK	1 NO
12.	TOTAL STATION THEODOLITIE	1 NO

**NOTES:**

1. The above list specifies only major IMTEs (may not be complete to be deployed by the contractor). Contractor has to set up the field laboratory with facilities required for material & concrete testing. All additional / other IMTEs / measuring instruments etc. in good and safe working conditions which are required for satisfactory & timely completion of work shall also be deployed by the contractor within finally accepted rate / price.
2. Other terms and conditions regarding above items please also refer clause 38 T&P/IMTEs).

**ANNEXURE: SCC -III****ANALYSIS OF UNIT RATE QUOTED**

Sl.no.	Description	Percentage of the unit rate quoted	Remarks
1.	Salary & Wages of Staff & workers		
2.	Consumables (a) Gases (b) Welding Electrodes (c) P.O.L. (d) Others		
3.	Depreciation & maintenance for T & Ps		
4.	Depreciation & maintenance for other items		
5.	Establishment and administrative expences of site		
6.	Overheads		
7.	Profit		

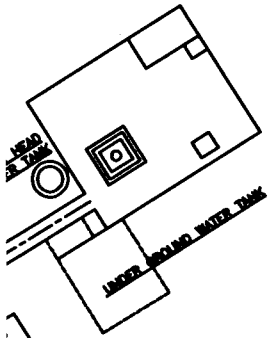
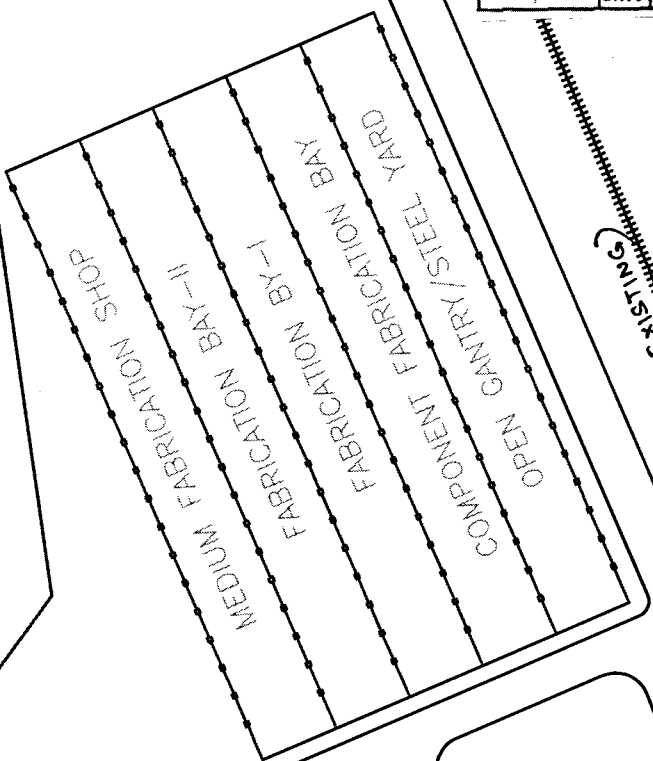
(Signature of tenderer)  
With Stamp

PRELIMINARY  
FOR TENDER PURPOSES ONLY

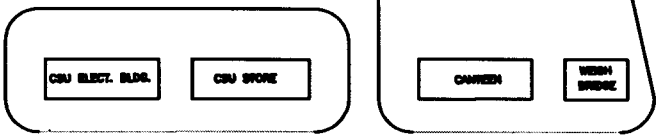
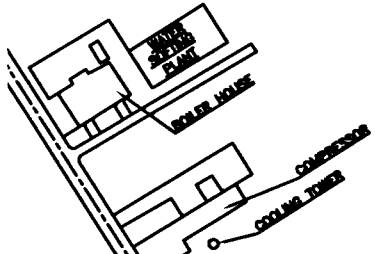
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	SKETCH NO	FP/LAY/001
	DATE 01/05/08	REV NO 00



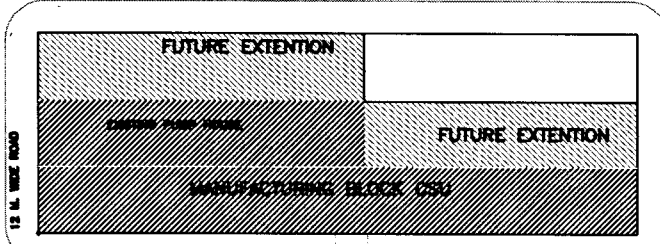
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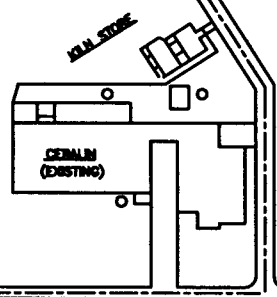
EXISTING  
INSULATOR PLANT



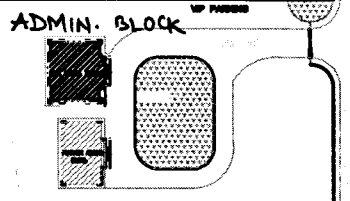
12 M. WIDE ROAD



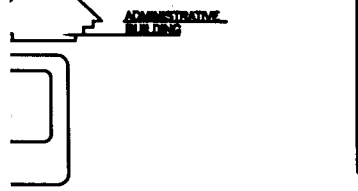
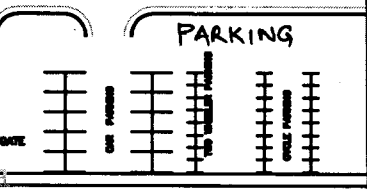
CSU COMPLEX



RELOCATED PUMP HOUSE WITH FIRE PUMPS



ADMIN. BLOCK



L HIGHWAY  
TO SULTANPUR →

NATIONAL HIGHWAY

CISF  
UNIT  
BHEL  
JAGDISHPUR





**BHARAT HEAVY ELECTRICALS LIMITED  
CENTRALISED STAMPING UNIT & FABRICATION  
PLANT  
Jagdishpur**

**TENDER FOR CONSTRUCTION OF FABRICATION SHOP  
AND ASSOCIATED WORKS INCLUDING  
ARCHITECTURAL WORKS AT JAGDISHPUR**

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**SECTION IV**

**BILL OF QUANTITIES AND PRICE SCHEDULE**

**BHARAT HEAVY ELECTRICALS LIMITED  
(A GOVERNMENT OF INDIA UNDERTAKING)  
CSU & FP  
Industrial Area  
Jagdishpur (UP) 227817**



**Fabrication Plant, Jagdishpur**  
**TENDER ENQUIRY No. BHE/FP/CVL/014**

**BILL OF QUANTITIES AND PRICE SCHEDULE FOR CONSTRUCTION OF FABRICATION SHOP AND ASSOCIATED WORKS INCLUDING ARCHITECTURAL WORKS AT JAGDISHPUR**  
**(Incl.Corrigendum-I)**

SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
1	EARTH WORK IN EXCAVATION, BACKFILLING AND DISPOSAL AS PER SPECIFICATION, DRAWINGS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-					
1.1	Layout of building including making of reference pillars etc. complete.	Sq.M.	38,400			
1.2	Earth work in excavation in foundation trenches in ordinary soil including all lead and lift and disposal of surplus earth as directed	Cu.M.	34,560			
1.3	Anti-termite treatment by injecting chemical emulsion and creating a chemical barrier under foundations and floors, junction of wall and floor, along the external perimeter of expansion joints, as per IS 6313 (part-II 1981) at the rate as specified.	Sq.M.	27,325			
1.4	Filling of Earth in foundation trenches etc. with ordinary soil with 1.5m lift and 50m lead including dressing, and ramming.	Cu.M.	23,086			
1.5	Sand filling in plinth under floors including watering, flooding, ramming, consolidating and dressing complete including supply of all material, labour and T&P required for proper completion of work, and also including all royalties, duties paid for sand supply from river banks.	Cu.M.	8,448			
1.6	Supply and filling of good earth as per specifications including filling in layers, watering, compacting, consolidating as per specifications upto required OMC/MDD and levelling, dressing complete. Work to include supply of material, labour, T &Ps, royalties paid for supply and required for successful completion of work as directed by engineer for all leads and lifts.	Cu.M.	19,200			
2	PROVIDING AND PLACING CONCRETE WORK INCLUDING COST OF LABOUR, MATERIALS AND EQUIPMENT FOR HANDLING, TRANSPORTATION, BATCHING, MIXING, PLACING, VIBRATING AND CURING, (EXCLUDING COST OF CENTERING, SHUTTERING AND REINFORCEMENT) COMPLETE AT ALL ELEVATIONS AS PER DRAWING, SPECIFICATIONS UNLESS SPECIFIED OTHERWISE AND AS DIRECTED BY ENGINEER AND INCLUDING COST OF MIX DESIGN AND APPROVED ADMIXURES FOR THE FOLLOWING INCLUDING. MS SCAFFOLDINGS AND CLAMPS FOR SUPPORTS AT HEIGHTS:					
2.1	Providing and laying cement concrete in 1:4:8, cement, coarse sand and 40mm gauge stone aggregates under foundation, floors & Grade Beams and curing complete excluding cost of form work and including cost of all materials and T&P required for proper completion of work	Cu.M.	2,500			
2.2	R.C.C.[M20] works below ground in Footings, Pile cap, Column, ground floor slab and pedestal with cement, coarse sand (F.M.-2.2) and 20mm gauge graded stone aggregates in the proportion to produce M-20 concrete excluding cost of reinforcement and shuttering and including cost of all materials and T&P required for proper completion of work.	Cu.M.	5,500			
2.3	R.C.C.[M20] works above ground at any level in Column, Gantry brackets with cement, coarse sand (F.M.-2.2) and 20mm gauge graded stone aggregates in the proportion to produce M-20 concrete excluding cost of reinforcement and shuttering and including cost of all materials and T&P required for proper completion of work.	Cu.M.	2,504			



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**(Incl. Corrigendum-I)**

SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
2.4	R.C.C.[M20] works in <b>Beams</b> with cement, coarse sand (F.M.-2.2) and 20mm gauge graded stone aggregates in the proportion to produce M-20 concrete excluding cost of reinforcement and necessary shuttering cantering etc. and including cost of all materials and T&P required for proper completion of work.	Cu.M.	1,430			
2.5	R.C.C.[M20] works in <b>Lintels, Sun-shades Fins</b> etc with cement, coarse sand (F.M.-2.2) and 20mm gauge graded stone aggregates in the proportion to produce M-20 concrete excluding cost of reinforcement and necessary shuttering cantering etc. and including cost of all materials and T&P required for proper completion of work.	Cu.M.	192			
2.6	R.C.C. [M20] works in roof <b>Slabs</b> with cement, coarse sand (F.M.-2.2) and 20mm gauge graded stone aggregates in the proportion to produce M-20 concrete excluding cost of reinforcement and necessary shuttering centering etc. and including cost of all materials and T&P required for proper completion of work.	Cu.M.	1,600			
2.7	Concrete of grade M-25 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size <b>in foundations</b> , under floors etc at any level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete excluding cost of reinforcement and necessary shuttering cantering etc. and including cost of all materials and T&P required for proper completion of work.	Cu.M.	5,000			
2.8	Concrete of grade M-25 conforming to IS:456 with coarse sand and graded hard stone aggregate 20mm nominal size <b>in superstructure</b> at all heights from finished floor level at any level, shape, position or thickness complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete. excluding cost of reinforcement and necessary shuttering cantering etc. and including cost of all materials and T&P required for proper completion of work.	Cu.M.	1,000			
2.9	Breaking existing concrete work including dismantling or demolishing at any level including <b>cutting reinforcements</b> , removing the rubbish within a lead of 2Km. inside or outside plant area as directed, including making good the broken edges/surface with cement mortar, painting, finishing to match with existing finishing, scaffolding/supporting at any level, all complete and as directed by Engineer.	Cu.M.	326			
2.10	Dismantling and Demolishing all types of brick work including stacking of serviceable material and disposal of unserviceable material within 1 Km lead from the dismantled structure.	Cu.M.	384			
2.11	Boring, Providing and installing cast in situ single under reamed piles of specified diametre and length below pile cap in M35 cement concrete, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and the length of the pile to be embedded in pile cap including all material, labour, T & P, IMTEs and as directed by engineer. Also including cost of concrete but excluding cost of reinforcement which shall be measured item 4 of this BOQ ( Length of pile for payment shall be measured upto the bottom of pile cap)					
2.11(a)	450mm dia. piles	Metre	600			



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**(Incl. Corrigendum-I)**

SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
2.11(b)	550mm dia. piles	Metre	2,400			
2.12	Extra over item no.2.11 for boring providing and installing cast in situ double under reamed piles, instead of single under ream of specified diameter and length. ( Only the quantity of extra bulbs are to be paid)	1 bulb	192			
2.13	Conducting Vertical load test (initial and routine test)of piles above 50 tones and upto 100 tonne capacity pile in accordance with IS 2911 (Part-IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer-in-charge and including all material, labour, T &P, IMTEs etc.	Each test	8			
2.14	Conducting Cyclic vertical load testing of pile in accordance with IS code of practice IS: 2911 (part IV) including preparation of pile head etc for single pile upto 50 tonne capacity including all material, labour, T &P, IMTEs and as directed by engineer.	Each test	4			
2.15	Conducting Lateral load testing of single pile in accordance with IS code of practice IS: 2911 (Part IV) for determining safe allowable lateral load on pile above 50 tonne and upto 100 tonne Capacity piles including all material, labour, T &P, IMTEs and as directed by engineer.	Each test	3			
3.0	<b>FORMWORK</b>					
	<b>SUPPLYING, FIXING AND REMOVING FORMWORK AT ANY ELEVATION INCLUDING ALL LABOUR, MATERIAL, MS SCAFFOLDING WITH CLAMPS COMPLETE INCLUDING POCKETS ETC. AND INCLUDING PROPPING, SCAFFOLDINGS, SHUTTERING OIL ETC AS PER SPECIFICATIONS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:</b>					
3.1	<b>Ordinary form work below finished ground floor level</b> for foundations, footings, bases of columns, walls, columns pilasters, beams, mass concrete, trenches etc.	Sq.M.	12,288			
3.2	<b>Fairface form work above finished ground floor level</b> for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc for all heights.	Sq.M.	16,067			
3.3	<b>Extra over item no.3.1 &amp; 3.2 for curved form work</b> for beams, walls, trenches etc as per specification.	Sq.M.	384			
4	<b>REINFORCEMENTS</b>					



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
4.1	Taking reinforcement steel material from BHEL. Straightening, cutting, bending, placing in position at any level, binding in position of tor steel reinforcements confirming of grade Fe-415 confirming to IS:1786 including cost of binding wire, labour, transportation to & from stores to work site, unloading of steel from BHEL trailer/ trucks, verification, sagregation dia-wise etc complete all as per specifications, drawings and as directed by Engineer. Authorised lapping shall be measured. <b>Reinforcement steel shall be supplied by BHEL as free issue material. Scrap generated shall be deposited at BHEL stores. Contractor shall make arrangement for unloading of steel directly from BHEL lorry, verification, sagregation of steel dia-wise, stacking in contractor's steel yard, security of material and it's insurance.</b>	MT	1,800			
5	<b>WATER PROOFING AS PER SPECIFICATIONS, DRAWINGS AND SPECIALISED MANUFACTURER'S RECOMMENDATIONS.</b>					
5.1	<b>Providing and mixing approved water proofing compound in concrete or cement mortar</b> for works wherever specified or directed as per specification/ manufacturer's instructions, testing of samples for water proofing etc complete. (8Kg/cum consumption is the average consumption considered)	KG	1,152			
5.2	Supplying and laying one layer of <b>TAR felt</b> or any other equivalent approved material at the junction of wall and roof as per direction, including necessary overlap, giving coat of approved mastic paint below the Tar felt and including supply of all material, labour and T&P required for proper completion of work.	Sq. M.	19			
5.3	Providing and laying <b>Brick Koba Water Proofing</b> treatment with 10 years of performance guarenteed to vertical and horizontal surfaces of depressed portions of WC, Kitchen, Roof Terracing etc., consisting of -	Sq. M.	1,900			
	1st course of applying cement slurry @4.4kg/sqm. Mixed with water proofing compound 'Impermo' of Snowcem or equivalent conforming to IS 2645 in recommended proportions.					
	2nd course of laying Cement Concrete using broken bricks/ brick bats 25mm to 100mm size with 50% of cement mortar 1:5 (1 cement: 5 Course sand) admixed with proprietary water proofing compound conforming to IS: 2645 over 20mm thick layer of cement mortar of mix 1:5 (1 cement: 5 course sand) admixed with proprietary water proofing compound confirming to IS: 2645 to required slope and treating simillarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.					
	After two days of proper curing applying a second coat of cement slurry admixed with proprietary water proofing compound confirming to IS: 2645					
	3rd course of finishing the surface with 20mm thick jointless cement mortar plaster of mix 1:3 (1 cement : 3 coarse sand) admixed with proprietary water proofing compound mixed as per manufacturers specification and finally finishing the surface with trowel with neat cement slurry and making of 300x300mm square.					
	The whole terrace so finished shall be flodded with water for a minimum period of two weeks for curing and for final leak test and after the surface is dried up then apply 4th course of blown or residual bitumen applied hot at 1.7kg per sqm on area.					



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
	5th course of 400micron thick PVC sheet. (Overlaps at joints of PVC sheet shall not be less than 100mm wide and pasted to each other with hot blownbitumen @ 1.7kg/sqm). The average thickness of above treatment shall be 120mm and minimum thickness at khurras as 65 mm and the work shall be carried out under strict supervision of approved specialised agency for proprietary items and as directed by engineer.					
5.4	Providing and laying <b>protective wearing course</b> of average thickness 25 mm thick PCC (1:2:4) with 6 mm down aggregate laid in 1200 square mm panels alternatively cast reinforced with 0.56 mm dia galvanised chicken wire mesh with a gap of 6 mm between two adjacent panels gaps shall be filled with silicon sealant 6 mm deep filled over baker rod for expansion and contraction all complete with labour, material, equipment and as per specification/drawing and to the satisfaction of engineer .	Sq.M.	1,229			
5.5	Making Khurras 45x45 Cm with average minimum thickness of 5 Cm cement concrete 1:2:4 ( 1 cement:2 course sand: 4 graded stone aggregate of 20 mm nominal size) over PVC sheet 1m x 1m x 400 microns, finished with 12 mm cement plaster 1:3 (1 cement: 3 coarse sand) and a coat of neat cement rounding the edges and making and finishing the outlet complete.	Each	31			
5.6	Screed concrete 1:2:4 conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size <b>on the roof</b> at any level or thickness to maintain the required grade complete.	Cu.M.	154			
5.7	Applying 3 coats of bitumen of approved make on foundations before backfilling including supply of material,workmen and tools and plants required for application and as directed and approved by engineer.	Sq.M.	2,669			
6	<b>SUPPLYING &amp; INSTALLATION OF PREMOULDED JOINT FILLER OF APPROVED MAKE IN BETWEEN EQUIPMENT FOUNDATIONS, MAT FOUNDATIONS, PILE CAPS, WALLS, BASEMENT SLABS ETC. COMPLETE INCLUDING LABOUR, EQUIPMENT AND MATERIALS, SEALING OF JOINTS INCLUDING COST OF SEALING COMPOUND (POLYSULFIDE BASE SEALANT AS PER IS:12118) ETC. COMPLETE AS PER SPECIFICATIONS AND DRAWINGS OR AS DIRECTED BY ENGINEER FOR THE FOLLOWING: (Depth of the joint considered as 500 mm )</b>					
6.1	12mm thick joints.	Sq.M.	77			
6.2	20mm thick joints.	Sq.M.	1,344			
6.3	25mm thick joints.	Sq.M.	250			
7	<b>M.S. EMBEDMENTS INCLUDING STEEL SUPPLY BY CONTRACTOR</b>					
7.1	Supply, fabricating and fixing of <b>embedments, MS inserts</b> , pipe sleeves, guide rails, angle pieces, rungs of various diameters, plates of dimensions as required including cost of all labour, materials and equipment, transportation, loading, unloading, handling, welding, cutting, drilling, scaffolding and setting complete as per specifications, drawings and as directed by Engineer.	Kgs	25,000			



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**(Incl. Corrigendum-I)**

SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
7.2	Supply, fabrication, transportation, delivery at site and erection, installation and alignment of <b>MS Foundation bolts</b> ( Grade- 1 of IS: 432 & IS: 2062) assembly in concrete along with nuts, locknuts ( IS: 1363, IS: 1364 & IS: 3138), washers, anchor plates, stiffener plates, protective tapes etc. upto & inclusive of 50mm diameter and upto 2000mm long, for columns including pipe sleeves, templates wherever necessary etc. all complete as per specifications and directed by the Engineer.	Kgs	15,000			
8	<b>GROUTING AS PER SPECIFICATION FOR THE FOLLOWING:</b>					
8.1	Providing and <b>grouting of pocket holes</b> , pipe sleeves of any shape and size under base plates after erection of necessary structural steel work, machinery with <b>mix 1:1:2</b> (one part Cement : 1part Sand : 2 parts of 6mm down graded stone chips) at any elevation including roughening surface, cleaning, ramming, curing etc complete (non-shrink hand grout using approved admixture) as per specification and as directed by the Engineer.	Cu.M.	125			
9	<b>DOORS, WINDOWS, VENTILATORS, LOUVERS, ROOF VENTILATORS, ROLLING SHUTTERS, PARTITIONS ETC. COMPLETE INCLUDING FRAMING, KICK PLATES, STOPPERS AS PER SPECIFICATION, DRAWINGS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-</b>					
9.1	Providing and fixing <b>40mm thick solid core flush door shutters (single or double)</b> with commercial faces and hard board edges. Core of solid core doors shall be of block board or wood particle board of approved make including all fixtures, Godrej make Mortice lock with 3 no keys and 2No master keys for each building with handle on both sides, shop painting/polishing as per specification all complete including test certificates. Flush door shutters to be of decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3ply veneering with vertical grains or cross bands and face veneers on both faces of shutters including ISI marked Stainless Steel butt hinges with necessary screws, including cost of all materials and T&P required for proper completion of work. (Rate to include cost towards aluminium tower bolts and door stoppers)	Sq.M.	154			
9.2	Providing and fixing anodized extruded <b>aluminium windows and ventilators</b> (single or double shutter) powder coated with approved colour including aluminium frame conforming to IS:1948, IS:1949 fabricated from extruded sections of INDAL , JINDAL or approved equivalent having minimum 2 mm wall thickness as per IS:1285, IS:733 and electro color coating of minimum 15 microns thickness. <b>Glazing shall be clear float glass of 5.0mm thickness of approved make e.g SaintGobain, Modifloat Etc</b> including snap fit type beading, concealed screws, fixtures with handle on both sides etc complete. Rates to include cost of floor springs . Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required.	Sq.M.	572			



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
9.3	Providing and fixing <b>anodized extruded aluminium doors</b> (single or double shutter) part pannelled and part glazed with prelaminated flat pressed particle board (NOVAPAN, ECOBOARD etc) of approved colour and make. Aluminium sections shall be powder coated with approved colour with aluminium frame conforming to IS:1948, IS:1949 fabricated from extruded sections of INDAL, JINDAL or approved equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and electro color coating of minimum 15 microns thickness. Glazing shall be clear float glass of 6.0mm thickness of approved make e.g SaintGobain, Modifloat Etc including snap fit type beading, concealed screws, fixtures, Godrej make Mortice lock Godrej make Mortice lock with 3 no keys for each door and 2 master keys for each building with handle on both sides etc complete. Aluminium section shall be smooth, free of stains,rust free, straight, mitred & jointed mechanically wherever required. Prelaminated board shall be 12mm thickness with all fixtures. Rates to include cost of floor springs of approved make	Sq.M.	46			
9.4	Providing and fixing <b>aluminium glazed partition part</b> pannelled and part glazed with prelaminated flat pressed particle board (NOVAPAN, ECOBOARD etc)boards of approved colour and make. Aluminium sections shall be powder coated with approved colour and of extruded sections of INDAL, JINDAL or approved equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and electro color coating/ powder coated of minimum 15 microns thickness. Glazing shall be clear float glass of 5.5mm thickness of approved make e.g SaintGobain, Modifloat Etc including snap fit type beading, concealed screws, hold fast, fixtures (like tower bolts, handles, door stoppers with rubber shoes, "L" drops, stays, floor springs, hydrolic door closers etc),C.P. brass/ stainless steel screws, providing and fixing hinges/pivots, and making provisions for fixing of fittings where ever required including the cost of PVC/neoprene gas fits all complete, Godrej make Mortice lock with 3 no keys for each door and 2 master keys for each building with handle on both sides,  necessary fillingup of gaps at the junctions,at top, bottom and sides, etc complete. Rates to include cost of floorsprings of approved make. Aluminium section shall be smooth, rust free, straight, mitred & jointed mechanically wherever required.	SQM	19			
9.5	Providing and fixing of over <b>head hydraulic door closers</b> of "Yale" make or approved equivalent & quality as directed by Engineer.	NOS	8			
9.6	Supply and fixing ceiling fan Hook Box made of 18 gauge M.S. sheet and 16mmØ rod	Nos	61			
9.7	Supply and fixing powder coated rolling shutters of approved make and with mechanical arrangement for opening and closing including all standard accessories as per specifications made of required size MS laths 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 complete including the cost of providing and fixing necessary 27.5 cm long wire springs grade No 2 and MS top cover of required thickness for rolling shutters. The lath size shall be 80x 1.25mm MS laths with 1.25 mm thick top cover including ball bearing for rolling shutters and as directed by engineer.	Sq.M.	500			
10	<b>BRICKWORK MASONRY INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR, SCAFFOLDING ETC. COMPLETE AS PER SPECIFICATIONS, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING INCLUDING. MS SCAFFOLDINGS AND CLAMPS FOR SUPPORTS AT HEIGHTS:-</b>					



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
10.1	Providing <b>Brick work of thickness between 230mm and 254mm</b> with 1st class bricks of class designation 100 in 1:4 cement and sand (F.M. 1.25) mortar in <b>foundation &amp; plinth</b> , including supply of all materials, labour and T&P required for proper completion of work as directed by engineer but excluding plastering and painting, using bricks of best locally available quality of nominal dimensions as per specification including supply of all material, labour and T & P required for proper completion of work.	Cu.M.	494			
10.2	Providing <b>Brick work of thickness between 230mm and 254mm with 1st class bricks of class designation 100 in cement mortar 1:4</b> (1cement : 4 coarse sand) in walls, chambers etc. at all heights, places and position <b>above plinth</b> including raking out joints, curing, scaffolding, complete but excluding plastering and painting, using bricks of best locally available quality of nominal dimensions as per specification including supply of all material, labour and T & P required for proper completion of work.	Cu.M.	2,500			
10.3	Providing <b>Brick work with 1st class bricks of class designation 100 of thickness between 115mm and 127mm</b> in cement mortar 1:3 (1 cement : 3 coarse sand) in <b>partition walls, chambers etc.</b> at all heights, places and position above or below plinth/graded level including providing 2 nos. 6mm dia. MS bars at every third layer, raking out joints, curing, scaffolding etc. all complete using bricks of best locally available quality of nominal dimensions excluding plastering and painting as per specification. Cost of providing reinforcement shall be measured separately under item 4.1	Sq.M.	5,760			
10.4	Making <b>openings</b> in existing finished <b>brick wall or partition wall</b> including making good the broken edges/surface with cement mortar, fixing concrete section as lintel (concrete section to be paid separately), painting, finishing to match with existing finishing, scaffolding/ staging works, gas cutting of reinforcement/structural work, cleaning and removing of all debris within 1 Km lead etc. all complete and as directed by Engineer.	Sq.M.	403			
11	<b>DAMP PROOF COURSE INCLUDING ALL MATERIALS, LABOUR, SHUTTERING, CENTERING, CURING ETC., COMPLETE WITH THICKNESS AS SPECIFIED/SHOWN ON DRAWINGS OR AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-</b>					
11.1	Damp Proof Course 25mm thick 1:1.5:3 concrete (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound. Two layers of hot bitumen coating 85/25 grade as per IS:702 @ 1.7Kg./sqm shall be applied before & after the DPC as per specification.	Sq.M.	653			
12	<b>CEMENT MORTAR PLASTER INCLUDING MAKING GROOVES WHEREVER REQUIRED, ALL MATERIALS, SCAFFOLDING, CURING ETC. COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING INCLUDING. MS SCAFFOLDINGS AND CLAMPS FOR SUPPORTS AT HEIGHTS:-</b>					
12.1	10mm thick plastering in 1:4 cement and sand (FM 1.25) mortar over brick work and RCC work including rounding, chamfering, etc. finished smooth including cost of all material labour and T&P required for proper completion of work.	Sq.M.	23,274			
12.2	15mm thick plastering in 1:4 cement and sand (FM 1.25) mortar over wall or half brick wall and RCC including rounding, chamfer, etc. finished smooth including cost of all material labour and T&P required for proper completion of work	Sq.M.	16,128			



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
12.3	10mm thick plastering in 1:3 cement and coarse sand (FM 2.2) mortar in ceiling including rounding, chamfer, etc. finished smooth including cost of all material labour and T&P required for proper completion of work.	Sq.M.	1,732			
12.4	Providing 15mm thick neat plaster in cement mortar 1:4 (1 cement:4 sand) in drains/culverts as per specification.	Sq.M.	307			
13	<b>FINISHES, PAINTING TO CONCRETE, PLASTERED SURFACES, SURFACE PREPARATION INCLUDING ALL MATERIALS, LABOUR, SCAFFOLDING ETC. ALL COMPLETE AS PER SPECIFICATION, DRAWING AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING INCLUDING. MS SCAFFOLDINGS AND CLAMPS FOR SUPPORTS AT HEIGHTS:-</b>					
13.1	Two or more coats of <b>white washing with lime</b> to give an even shade on ceiling including a priming coat complete.	Sq.M.	2,112			
13.2	Two or more coats of <b>colour wash</b> as per IS 627 of approved brand and manufacture to give an even shade on walls including a priming coat as per specifications.	Sq.M.	1,920			
13.3	Two or more coats of <b>water proofing cement paint</b> of approved brand and manufacture & of required shade to give an even shade on walls complete.	Sq.M.	13,210			
13.4	Two or more coats of <b>distempering with oil bound washable distemper</b> as per IS:428 of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete over P.O.P.	Sq.M.	10,000			
13.5	Painting walls with two coats of Plastic Emulsion paint of approved brand and manufacturer of required shade over new surface including one priming coat of water proof oil bound approved primer and finished with BIRALA or equivalent Putty after thoroughly brushing the surface to give an even shade including cost of all material, labour and T&P required for proper completion of work.	Sq.M.	4,000			
13.6	Painting walls with two coats of Acrylic Smooth exterior paint "Trump/Apex paint" or equivalent of required shade over new work (two or more coats applied @3.28ltr/10sqm) over and including base coat of water proofing cement paint "Snowcem Plus" or equivalent applied @2.20kg/10sq. including curing, cost of all material, labour and T&P required for proper completion of work.	Sq.M.	8,000			
13.7	Painting two coats with high gloss super synthetic enamel paint such as Luxol3, or equivalent approved brand or manufacturer over one coat of red oxide paint on steel and other metal surfaces after cleaning and brushing the surface free of dirt, dust, rust etc. to give an even shade including cost of all material, labour and T&P required for proper completion of work.	Sq.M.	5,760			
14	<b>FLOORING AND SKIRTING INCLUDING BASE LAYER AND ALL MATERIALS, LABOUR, CURING, POLISHING ETC. COMPLETE IN ALL RESPECTS AS SHOWN ON DRAWINGS, DESCRIBED IN SPECIFICATIONS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:-</b>					
14.1	Providing and laying <b>granite stone slab</b> of 20mm thickness single piece for wash basin slab of black or approved colour with cutting and opening complete.	Sq.M.	115			



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
14.2	Providing and laying <b>Heavy Duty dust pressed Ceramic Tiles</b> of size 300x300 (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 13755 of NITCO, ORIENT, SOMAY KAJARIA, SPARTECH or equivalent make in colours such as white, Ivory, Grey, Fume Red Brown, laid on 20mm thick cement mortar 1:3 (cement : 3 coarse sand) including pointing the joints with white cement and matching pigment etc., complete including cost of all materials and T&P required for proper completion of work thick of reputed manufacturer of approved finish shade and colour.	Sq.M.	96			
14.3	Providing and fixing <b>White glazed tiles of size 150x150mm, 5.5mm to 6mm thk in dado</b> , projecting 6mm uniformly from adjacent plaster or wall finish. The mix for underbed plaster shall consist of 1part cement and 3 parts coarse sand by weight, fairly moist but firm, tiles shall be pressed over under bed by applying cement slurry, including pigments, curing etc all complete.	Sq.M.	230			
14.4	<b>Providing and laying screed concrete 1:1.5:3</b> by volume laid in slope (with 6 to 10mm nominal size stone chips) including all labour, materials, scaffolding etc. complete for all lifts, all leads and of 50 mm average thickness.	Sq.M.	1,152			
14.5	Providing and laying 50 mm thick <b>heavy duty I.P.S flooring</b> in specified panels with glass strips with <b>metallic hardener pigmented topping</b> comprising of uniform graded treated iron particles <b>in flooring</b> . Under layer of 38mm thick cement concrete mix 1:2:4 ( 1 part cement, 2 parts sand and 4 parts stone chips 12.5 mm well graded ) laid on top of 230mm boulder soling with aggregates of size 63mm & down packed with small aggregates of size 12.5mm and down and moorum compacted with roller including top layer of 12mm thick metallic concrete complete. Proportion of the metallic hardener shall be as specified or as indicated by the manufacturer. However, in absence of any such direction 1 part metallic hardener shall be mixed dry, with 4 parts cement, by weight. To this mixture 6 mm nominal size stone chips shall be added in proportion of 1 part cement (mixed with hardener) to 2 parts of stone chips by volume and uniformly mixed. Minimum quantity of water shall be added to make it workable.	Sq.M.	30,000			
14.6	Providing and laying 50 mm thick heavy duty cement concrete with metallic hardener pigmented topping comprising of uniformly graded treated iron particles <b>in skirting and dado</b> . Under layer of 38mm thick cement concrete mix 1:2:4 ( 1 part cement, 2 parts sand and 4 parts stone chips 12.5 mm well graded ) and top layer of 12mm thick metallic concrete complete in proportion as specified in item 14.5 above.	Sq.M.	845			
15	<b>PROVIDING AND FIXING RAIN WATER DOWN TAKE PIPES INCLUDING ALL SPECIALS AND ACCESSORIES ETC. COMPLETE AS PER SPECIFICATION.</b>					
15.1	Providing and fixing PVC (heavy duty) rain water drainage system and down commers of size 160mm of approved colour and make including all couplers, end caps, tee, elbow with outlets, clamps, brackets, clips, rubber gaskets, lock, specials, bends, shoe, heads and necessary accessories etc complete as per specifications and as directed by engineer.	RM	4,608			
16	<b>MISCELLANEOUS ITEMS</b>					



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**BILL OF QUANTITIES AND PRICE SCHEDULE FOR CONSTRUCTION OF FABRICATION SHOP AND ASSOCIATED WORKS INCLUDING ARCHITECTURAL WORKS AT JAGDISHPUR**  
**(Incl. Corrigendum-I)**

SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
16.1	Providing and fixing in position 25mm wide and 25mm thick blown bitumen in expansion joints as per specification.	RM	211			
16.2	Clearing the area including antiweeding, uprooting of trunks, vegetation, grass bushes etc. including removing of existing rubbish and broken insulators and its disposal upto 1 km inside or outside plant area as directed and dressing and levelling the ground at existing grade and work to be executed as approved by engineer. rates to include cost of all supplied materials, labours and T & Ps for successful execution of the item.	Sq.M.	30,000			
16.3	Providing and fixing bitumen impregnated fibre joint filling board of 25 mm thickness, fillers along with PVC water bar etc for expansion joint in water retaining structures all complete as per specifications, drawing and as directed by Engineer.	RM	211			
16.4	Providing and laying 50 mm thick interlocking machine made clay brick paver flooring over 150 mm thick bed of lean concrete 1:5:10 ( 1 cement: 5 coarse sand: 10 graded stone aggregate)	Sq.M.	384			
16.5	Supplying and laying of rounded gravels 40mm thick in transformer yards, switch yard floors etc. as directed by Engineer.	Cu.M.	96			
16.6	Supplying and erecting in position 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating ) of mesh size 75 mm. The diameter of the steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing conforming to IS 298 at top of chain link fencing shall be provided with 4 stands of height of 600 mm including all accessories as per specification all complete. Excavation, Concrete ,reinforcement and backfilling quantities as per drawing for erecting chain link fencing shall be measured in relevant items of this BOQ.	Sq.M.	269			
16.7	Providing and fixing fire proof steel door shutters (single or double shutter) conforming to IS:3614(part-1 & part-2). Shutters shall be minimum 60mm thick flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers with mineral wool insulation, primer and epoxy based painting including door frame, all fittings complete as per specification. and shall be TAC approved with minimum 2 hrs. fire rating.	Sq.M.	46			
16.8	Providing and encasing of structural steel member with masonry work around flanges, webs etc and filling the gap between steel and masonry by minimum 12mm thick mortar. Encased member shall be wrapped with chicken wire mesh with 50mm lap etc complete as per specification.	Cu.M.	38			
16.9	Providing services of unskilled manpower at BHEL office with skills in dealing with the office environment .(one manmonth is calculated on the basis of normal working hours as per minimum wages act)	Manmonth	50			



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
16.10	Providing services of semiskilled manpower at BHEL office e.g Plumber, Electrician, Carpenter etc with skills in dealing with the office environment as well as possessing proficiency of their assigned work and having skills to execute assigned work with good workmanship .(one manmonth is calculated on the basis of normal working hours as per minimum wages act)	Manmonth	20			
16.11	Providing and fixing UV stabilised fibreglass reinforced plastic sheet roofing up to any pitch including fixing with polymer coated 'J' or 'L' hooks, bolts & nuts 8 mm dia GI plain/ bitumen washers but excluding the cost of purlin , rafters, trusses etc. The sheets to confirm as per IS: 10192 and IS 12866. The sheets shall be opaque or translucent, clear or pigmented, textured or smooth as specified with 2mm thick corrugated or step-down or flat as specified.	Sqm	500			
16.12	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within plant premises .	Sqm	10,000			
16.13	Dismantling barbed wire or flexible wire rope in fencing including making rolls and stacking in BHEL stores within plant premises.	Kgs.	2,000			
17	<b>M.S. GATES.</b>					
17.1	Supply, fabrication, erection of motorised <b>M.S entrance gates as per drawing and specifications complete with all fixtures</b> .Excavation, Concrete ,reinforcement and backfilling quantities as per drawing for erecting gate shall be measured in relevant items of this BOQ .	Kgs.	4,000			
18	<b>SANITARY</b>					
	<b>SUPPLY AND FIXING SANITARY ITEMS AS PER ITEM DESCRIPTION INCLUDING ALL ACCESSORIES, SPECIALS, BENDS ETC. AND INCLUDING ALL MATERIAL, LABOUR, T&amp;Ps ACCORDING TO MANUFACTURER'S SPECIFICATION , DRAWINGS AND AS APPROVED AND DIRECTED BY ENGINEER</b>					
18.1	Providing & fixing White Vitreous China water closet <b>Squatting Pan Orissa Pattern W.C.</b> , Pan ( PARRYWARE, HINDUSTAN or approved equivalent make)of size 580x440 with integral type Foot Rest, Flush Pipe & Over flow arrangement with 100 mm sand cast Dron- P or S Traps 10 ltr. Low level P.V.C. flushing Cistern ( of approved make) with fittings, CI/MS brackets 32mm dia. Flush Pile with fittings and clamps.	Each	58			
18.2	Providing & fixing White Vitreous China Flat back or wall corner type, lipped front Urinal Basin ( PARRYWARE, HINDUSTAN or approved equivalent make)of size 460x260x350 size with 5ltrs white PVC two way electronic controlled automatic flushing cistern with standard flush pipe and C.P. brass spreaders with fitting and CS/MS brackets.	Each	69			
18.3	Providing & fixing White Vitreous China <b>Squatting Plate ( PARRYWARE, HINDUSTAN or approved equivalent make)</b> with an integral longitudinal flushing pipe, white PVC automatic flushing cistern, Perryware/Hindware/Seabrid/Orient (coral) with fitting standard size G.I. flush pipe for back and front flush with standard	Each	23			



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
18.4	White Vitreous China Wash Basin ( PARRYWARE, HINDUSTAN or approved equivalent make) of size 630x450 with CS/MS brackets, 32 mm C.P. brass Waste of standard pattern, including painting of fittings and brackets, with single 15m C.P. Brass Pillar Cock.	Each	69			
18.5	Providing & fixing PVC Flexible waste Pipe, of 40mm dia. for sink or wash basin coupling etc. complete.	Each	138			
18.6	Providing & fixing Stainless Steel Jali (Grating) with or without hole for waste pipe for N. Trap. Weight not less than 70 grms.	Each	219			
18.7	Providing & fixing Mirror of superior quality and size 600mmx450mm with bevelled edge with 6mm thick hard board back fixed to wall with wooden cleats and C.P. brass screws & washers complete.	Each	69			
18.8	Providing & fixing Mirror of superior quality of Rectangular shape 1500x450mm with plastic moulded frame of approved make and shade with 6mm thick hard board back complete.	Each	8			
18.9	Providing & fixing CI Water or Vent pipe 100 mm internal dia.	RM	780			
18.10	Providing & fixing CI Water or vent pipe 75 mm internal dia.	Each	530			
18.11	Providing & fixing 100mm dia. Inlet & 75mm dia outlet, Sand cast Iron Nahani Trap of self cleaning design with sand cast iron screwed down or hinged grating with or without vent arm complete.	Each	204			
18.12	Providing & fixing Cutting holes in brick masonry or R.C.C. for 100/75mm dia sand cast iron pipes and making good the same with cement concrete 1:3:6 cement, coarse sand and 12.5mm nominal size grit and plastering the surface with 1:4 mortar	Each	150			
18.13	Providing and laying non-pressure NP2 class (light duty) RCC pipes with collors jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc. complete for following dia. Of pipes.					
18.13.1	150mm	RM.	250			
18.13.2	250 mm	RM.	400			
18.13.3	450 mm	RM.	300			
19.00	<b><u>WATER SUPPLY</u></b>					
	SUPPLY AND FIXING WATER SUPPLY AS PER ITEM DESCRIPTION INCLUDING ALL ACCESSORIES, SPECIALS, BENDS ETC. AND INCLUDING ALL MATERIAL, LABOUR, T&Ps ACCORDING TO MANUFACTURER'S SPECIFICATION , DRAWINGS AND AS APPROVED AND DIRECTED BY ENGINEER					



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
19.1	Providing & fixing <b>Concealed G.I. pipe fitting of 15mm dia.</b> Nominal bore including G.I. fittings as required including painting with anti-corrosive bitumenastic paint and making good the chase	RM	795			
19.2	Providing and fixing <b>Open G.I. pipe fitting of 20mm dia.</b> Nominal bore including G.I. fittings as required including trenching and refilling including trenching and refilling.	RM	1,036			
19.3	Providing & fixing <b>Open G.I. pipe fitting of 32mm dia.</b> Nominal bore including G.I. fittings as required including trenching and refilling.	RM	346			
19.4	<b>Making connection of G.I. distribution branch</b> with G.L/PVC mains of size 50 to 80mm nominal bore including clamps etc. complete.	Each	12			
19.5	Providing and fixing <b>32mm dia. brass Gate Valve</b> ISI marked (IS: 778 Class 1, PN-1 Mpa) with wheel of approved quality (screwed end) 20 mm nominal bore.	Each	12			
19.6	Providing and fixing 20mm dia. Nominal bore Brass Ball Valve.	Each	23			
19.7	Providing and fixing 15mm dia. Nominal bore <b>Plasticized P.V.C. connection pipe</b> with brass union 45 cms. Length.	Each	219			
19.8	Providing and fixing <b>150mm dia. C.P. Brass Shower Rose</b> with 15mm dia inlet.	Each	23			
19.9	Providing and fixing 15mm dia. Nominal bore <b>C.P. Brass long body Bib Cock</b> of approved quality confirming to IS:8931 weighing not less than 690 gms.	Each	81			
19.10	Providing and fixing 15mm dia. Nominal bore <b>C.P. Brass Stop Cock (concealed)</b> of approved quality confirming to IS:8931.	Each	23			
19.11	Providing and fixing 15mm dia. Nominal bore <b>C.P. Brass Angle Valve</b> of approved quality confirming to IS:8931	Each	219			
19.12	Providing and placing on terrace <b>1000ltrs. Capacity high density polyethelene water storage tank of approved brand and manufacturer e.g Sintex</b> or equivalent with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes and the base support for tanks and including float ball valve of standard quality.	Each	23			
19.13	Supply and fixing <b>100mm internal dia S.W. Pipe</b> over a concrete bed laid in 1:4:8 Cement, fine sand (F.M. 1.25) and 40mm gauge stone aggregate including jointing of pipes with Jute and 1:1 cement and fine sand.	RM	415			
19.14	Supply and fixing 150x100mm size <b>square mouth S.W. Gully Trap</b> P type, with C.I. grating, brick masonry chamber, and water tight C.I. cover frame 300x300mm size inside The wt. of cover & frame to be not less than 7.2 kg.	Each	46			



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
19.15	Constructing brick masonry <b>Man holes chamber</b> in 1:4 cement mortar of inside size 900x800 and 450mm, with circular C.I. cover & frame( Heavy Duty) of size 560 internal diameter along with inside plaster 15mm thick with 1:3 cement mortar along with providing galvanised rungs as per drawing with a floating coat of neat cement and making channels in cement conc. 1:2:4 mix and finishing smooth including curing and testing.	Each	23			
19.16	Providing & fixing & testing in position of ISI marked (IS: 1239) GI pipes (class-B) complete with all GI fittings including trenching and refilling etc (external work ) including painting of GI pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality for following dia. pipes for <b>Main Water supply and distribution</b> including embedding the pipes 450mm below ground level, laid over soft sand bed including bends, Tees , specials, clamps etc. including complete supply as per manufacturer's specifications including cost of all material, labour and T & P required for proper completion of work.					
19.16.01	100 mm dia nominal bore	RM	1,700			
19.16.02	80 mm dia nominal bore	RM	300			
19.16.03	65 mm dia nominal bore	RM	250			
19.16.04	50 mm dia nominal bore	RM	500			
19.16.05	40 mm dia nominal bore	RM	500			
19.16.06	32 mm dia nominal bore	RM	500			
19.16.07	25 mm dia nominal bore	RM	100			
19.16.08	20 mm dia nominal bore	RM	250			
19.17	Providing & fixing & testing in position of ISI marked (IS: 1239) GI union in existing GI pipe line, cutting and threading the pipe and making long screws including excavation, refilling the earth or cutting of wall and making good the same complete wherever required including complete supply as per manufacturer's specifications including cost of all material, labour and T & P required for proper completion of work.					
19.17.01	100 mm dia nominal bore	Each	100			
19.17.02	80 mm dia nominal bore	Each	200			
19.17.03	65 mm dia nominal bore	Each	200			
19.17.04	50 mm dia nominal bore	Each	200			
19.17.05	40 mm dia nominal bore	Each	200			
19.17.06	32 mm dia nominal bore	Each	200			
19.17.07	25 mm dia nominal bore	Each	200			
19.17.08	20 mm dia nominal bore	Each	200			



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
19.18	Providing and laying & testing in position ISI marked (IS:1536) S & S Centrifugally cast (Spun) iron pipes (Class LA) suitable for tyton joints with rubber gasket 100 mm dia.	RM	250			
19.19	Providing and laying S&S CI standard specials such as tee, bends, collars tapers and caps etc as per IS: 1538. Suitable for tyton joints with rubber gasket upto 300 mm dia.	Quintal	5			
19.20	Providing push-on-joints to centrifugally (spun) cast iron pipes including testing of joints and including the cost of rubber gasket 100 mm dia.	Each	850			
19.21	Providing , fixing ISI marked (IS: 780) Class II (PN-1.6 Mpa) CI Sluice Valve (with cap) complete with bolts, nuts, rubber insertion flanges etc complete for 100 mm dia.	Each	5			
19.22	Constructing <b>brick masonry chamber</b> 300 x 300 x 500 mm, inside with F.P.S. brick work in cement mortar 1: 5 (1 cement : 5 fine sand) <b>for Stop Cock</b> , with C. I. surface box 100 x 100 x 75 mm (inside) with hinged cover fixed in cement concrete cover 1:2:4mix (1cement : 2 coarse sand:4 grade stone aggregate 20mm nominal size); necessary excavation, foundation concrete 1:5:10 (1 cement :5 fine sand: 10 graded stone aggregate 40mm nominal size) and inside plastering with cement mortar 1 : 3 (1 cement : 3 coarse sand ) 12 mm thick finished with a floating coat of neat cement complete as per standard design.	Each	20			
19.23	Constructing <b>brick masonry chamber</b> 600 x 600 x 750 mm inside with F.P.S. brick work in cement mortar 1:5 (1 cement : 5 fine sand) <b>for Sluice Valve</b> , with C. I. surface box 100 mm top diameter, 160 mm bottom diameter and 180mm deep (inside) with chained lid and RCC top slab with 1 : 2 : 4 mix (1 cement : 2 coarse sand : 4 grade stone aggregate 20 mm nominal size); necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1 : 3 (1 cement : 3 coarse sand ) 12 mm thick finished with a floating coat of neat cement complete as per standard design.	Each	4			
19.24	Design and Construction of <b>R.C.C. leakproof Under Ground Tank</b> with supply of all material, labour, shuttering, scaffolding, including supply, fixing and connecting ISI marked (IS 1536) CIDF (class-B) inlet, outlet, overflow and washout pipes and isolating valves complete as required including grouting of base and walls (design to meet fire norms and be approved by BHEL and their appointed architect )					
	200 KL capacity	Each	1			
19.25	Providing, fixing, testing and commissioning of single stage, horizontal, centrifugal, 2 pole, single/three phase, 50 HZ, AC, <b>monoblock pumps</b> (as per IS : 9079) incorporating C.I. casing and frame, carbon steel shaft, bronze shaft sleeve mounted on grease lubricated deep groove ball bearings, cast iron impeller, TEFC induction motor directly coupled to the pump, IP44 protection, class B insulated, C.I. body, hydraulically and dynamically balanced to give vibration free operation, with mechanical seal arrangement, fixed on a base plate with suitable vibration eliminator pads complete with RCC foundation, bolts grouted in 100 mm thick CC blocks of 1:2:4, electrical control panel with suitably rated DOL / star-delta starter fixed to wall complete with pressure gauge on the delivery side including provision of foot valve, non-return valve, isolating valves, strainer on suction and delivering sides as required, suction and delivery headers complete in all respects.. The duty of pump shall be -					
	(Make : Kirloskar/Mather & Platt)					
	Discharge : 2000 liter per minute at 50 meter head	set	2			



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
19.26	<b>Construction of bore well : All items include supply and fixing including labour, material and T&amp;P charges for complete work for drilling 600 /500 mm dia.bore hole with R.C.Machine.</b>					
19.26.01	Drilling 600 mm dia bore From Ground level to 65 metres.	RM	130			
19.26.02	Drilling 500 mm dia bore From 65 to 130 metres.	RM	130			
19.26.03	Drilling 450 mm dia bore Beyond 130 metres.	RM	4			
19.26.04	Extra for drilling in sand stone, stone and boulders etc. over and above rates in above item.	RM	2			
19.26.05	Supply of MS, ERW (As per IS : 4270) pipes & accessories at site of work for following diameters					
19.26.06	300 mm dia housing pipe	RM	100			
19.26.07	200 mm dia casing pipe	RM	100			
19.26.08	Supply of 150 mm dia LCG Johnson screen	RM	60			
19.26.09	Lowering of MS, ERW pipes / screen including jointing etc. complete into drilled hole for following diameters					
19.26.10	300 mm dia housing pipe housing pipe 7.1 mm thick	RM	100			
19.26.11	200 mm dia casing / screen pipe sloated	RM	160			
19.26.12	200 mm dia ms plain pipe 7.1mm barrel thickness	RM	20			
19.26.13	Providing and packing 1.6 to 4.8 mm size Lal Kuwan Pea gravel duly washed alround the pipe with shrouding charges.	cum	80			
19.27	Providing, fitting, fixing and lowering in position including cutting, jointing of following accessories.					
19.27.1	300 mm. dia. well cap	Each	2			
19.27.2	300 mm. dia. M.S. housing clamp, rings	Each	2			
19.27.3	300x 200 mm. dia. MS reducer, nipples	Each	2			
19.27.4	300x 200 mm MS centre guide ring	Each	16			
19.27.5	200 mm. dia. bail plug	Each	2			
19.27.6	300 mm dia M.S. Ring	Each	16			
19.27.7	200 mm dia M.S. Ring	Each	30			
19.27.8	Borewell assembly support made of ISMB 150x 3m long, ms plates,well plugs	Each	2			
19.28	Transport of Rig machine and equipments including octroi and taxes.	Lump sum	2			
19.29	Erection of Rig machine and its dismantling after completion of work.	Lump sum	2			
19.30	Transportation, Erection & Dismantling of over pumping unit at site	Lump sum	2			
19.31	Development of Tubewell by over pumping unit/ compressor	Hrs	300			
19.32	Chemical and bacteriological examination of water.	Job	2			
19.33	Sanitary sealing of tubewell as per specifications.	Job	2			
19.34	Disinfection of the tubewell	Job	2			



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
19.35	Construction of auxillary tubewell if required or water supply charges required for construction of tubewell	Job	2			
19.36	Providing submersible pump of approved make with suitable capacity motor having 2000 liter per minute discharge working on 415 Volts + 6% volts, 50 Hertz electrical supply and required head as per water table including electrical control panel /switchgears of legrand / ABB/ L&T make with S/D starter, ammeter, voltmeter, single phasing preventor cutouts, protection rings, transformer oil and all motor protection arrangement complete in all respects including main pipes and valves. (Pump make : KSB/Groundfos as approved by engineer)	Set	2			
19.37	Providing 80 mm dia. MS column pipe (heavy grade - class C, IS : 1239) threaded & socketed with interlocking arrangement complete.	RM	90			
19.38	Providing 80 mm. dia butterfly valve.	Each	4			
19.39	Providing 80 mm dia non return valve.	Each	2			
19.40	Providing 80 mm. dia. Rubber packing with nut & bolts.	Job	2			
19.41	Providing 80 mm dia CIDF Bend (IS : 1538)	Each	4			
19.42	Providing 80 mm dia CIDF Tee (IS : 1538)	Each	2			
19.43	Providing 80 mm dia CIDF Pipe (IS : 1538)	RM	6			
19.44	Providing 3 core PVC insulated armoured submersible cable.	RM	100			
19.45	Fabrication of tubewell connection line suitable for accommodating valves and pressure gauge by providing bends and Tees as required.	Job	2			
19.46	Providing pressure gauge 100 mm dial graduated 0-10 kg/cm <sup>2</sup> with gun metal isolating cock.	Each	2			
19.47	Fixing, testing and commissioning for erection and lowering of submersible pump, column pipe, valves, submersible cable up to the control panel, supporting clamps, cable clips, pressure gauge, connection line and all other accessories required for the proper completion of the work as desired on the site and by the Engg-in-charge.	Job	2			
19.48	Providing, erection, testing & commissioning of electro mechanical type liquid chlorinator pumping plant for disinfection complete in all respects	Set	2			
19.49	Supply and laying of 200mm MS DF pipe line incl. packing, nut bolts etc and supporting pillar at different heights as per requirements and as directed by engineer	RM	250			
19.50	Interconnection with old rising mains and providing and fixing CI special as per requirement e.g fixing of T-slucice valve etc	Job	2			



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SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
20.00	<b>STRUCTURAL STEEL WORKS:</b> All items for fabrication should include shop fabrication of complete structures involving rolled sections (including mild steel rounds), built up sections fabricated out of plates, rolled sections and combination of plates and rolled sections, in columns, beams, gantry girders and all types of steel structures and members, making shop fabrication drawings as per specifications including shop painting with a coat of primer and also inclusive of all necessary quality test to the satisfaction of engineer and loading, transportation for shop fabricated steel structures to site including unloading, stacking, handling, re-handling, preservation and verification of shop fabricated steel structures at site for the following details and sub-items. ( <b>Structural steel shall be supplied by BHEL as free issue material. Scrap generated shall be deposited at BHEL stores. Unloading of steel directly from BHEL lorry, it's verification, saggregation of steel type/size-wise, steel stacking in contractor's steel yard, security of steel and it's insurance shall be in contractor's scope</b> )					
20.01	Fabrication, erection, alignment, welding, primer painting (primer coat consisting of 2 coats of redoxide zinc-chromate as per IS:2074 & IS:1477 (Parts I & II). One coat to be applied at shop and the other after erection ) of structural steel made from mild steel conforming to IS:2062, pipes conforming to IS:1161/IS:1239, chequered plate conforming to IS: 3052 and mild steel rounds, at all elevations involving rolled sections (including mild steel rounds), built up sections fabricated out of plates, rolled sections and combination of plates and rolled sections, in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins, space frames, shear connectors, 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, diaphragm, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails, toeplates, MS Rungs, insert plates, edge angles, embedments, lugs, posts, stays,	MT	1,750			
	louvers, lacings, gusset plates, safety chains for walkways adjacent to crane girders etc, collection of steel from stores, transportation, straightening, making cutting plan, cutting, bending, rolling, grinding, drilling, bolting, erection bolts & nuts (weight of erection bolts & nuts not payable). Supply of permanent bolt of grade C mild steel bolts & nuts to be paid separately, assembly, edge preparation, preheating (& use of low hydrogen/ radiogenic electrodes as per specification) 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 (Scaffolding, Access ladders, Working Platforms etc.), setting column bases, surface preparation, touch-up painting, dismantling and removal of all temporary structures.					
20.02	Providing & application of synthetic enamel paint of Berger make and colour in coats of minimum 50 micron over steel sections(DFT) already having primer coats at all elevations to achieve an even shade with all materials, labour, equipment, handling, including protection and cleaning, scaffolding etc. complete as per specification, drawings and instructions of the Engineer.	MT	1,750			



**Fabrication Plant, Jagdishpur**  
**TENDER ENQUIRY No. BHE/FP/CVL/014**

**BILL OF QUANTITIES AND PRICE SCHEDULE FOR CONSTRUCTION OF FABRICATION SHOP AND ASSOCIATED WORKS INCLUDING ARCHITECTURAL WORKS AT JAGDISHPUR**  
**(Incl. Corrigendum-I)**

SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
20.03	Supplying, fabrication, transportation, erection and alignment of factory made <b>electroforged gratings</b> with steel conforming to IS:2062 at all elevations including preparation of design drawings and fabrication drawings in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads, fixing clamps etc. complete with other fittings and fixtures including all taxes, duties, transportation, packing, grinding, drilling, bolting (supply of permanent grade 'C' mild steel bolts and nuts to be paid separately under all welding, edge preparation, blast cleaning of steel surfaces to near white metal surface (Sa 2 1/2) followed by two coats of red oxide zinc-chromate primer and two coats of approved colour, enamel finish paint, testing, complete as per specifications, drawings and instructions of the Engineer.	MT	25			
20.04	Extra over item no 20.03 above for finishing the fabricated grating unit with hot dipped galvanisation @ 610 gm/sqm over blast cleaned steel surfaces, as per specifications, drawings and instructions of Engineer instead of painting with 2 coats of red oxide primer followed by two coats of enamel finish paint.	MT	25			
20.05	i) Supplying and fixing in position of permanent <b>mild steel bolts (class 4.6 as per IS : 1367 and grade 'C' as per IS: 1363)</b> and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work complete as per specification, drawings and instructions of the Engineer.	Quintal	50			
20.06	ii) Supply and fixing in positing of <b>high strength structural bolts</b> (of property class 8.8 and product grade 'C' as per IS: 1367) and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class '8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work complete as per specification, drawings and instructions of the Engineer.	MT	5			
20.07	<b>Dismantling of steel structure</b> at any elevation, lowering of material and carriage of the dismantled material up to field fabrication shop, or, return to 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) including scaffolding, staging, tools & tackles, gas cutting, welding, consumables, etc complete as per specification, drawings and instructions of the Engineer.	MT	5			
20.08	<b>Dismantling of G.I. sheet in cladding</b> at any elevation, lowering of material and carriage of the dismantled material up to field fabrication shop, or, return to projects storage including scaffolding, staging, tools & tackles, gas cutting, welding, consumables, etc complete as per specification, drawings and instructions of the Engineer.	SQM	500			
20.09	Addition to, alterations in and/or modification of " <b>Erection Marks</b> " either in erected position or in the shop including cutting of parts, gouging 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), complete as per specifications, drawings and instructions of the Engineer.					
20.09.01	In erected position	MT	10			



**Fabrication Plant, Jagdishpur**  
**TENDER ENQUIRY No. BHE/FP/CVL/014**

**BILL OF QUANTITIES AND PRICE SCHEDULE FOR CONSTRUCTION OF FABRICATION SHOP AND ASSOCIATED WORKS INCLUDING ARCHITECTURAL WORKS AT JAGDISHPUR**  
**(Incl. Corrigendum-I)**

SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
20.09.02	In fabrication yard	MT	10			
20.10	<b>Re-erection of dismantled fabricated structural steel members</b> requiring additions, modification, (dismantling and additions to, alterations in and/or modification to be paid separately 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) including scaffolding, staging, tools & tackles, gas cutting, welding, consumables, etc complete as per the specifications, drawings and instructions of the Engineer.	MT	42			
20.11	Conducting <b>radiography test</b> on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials and labour as per specifications complete (over and above the work already specified in the specifications).	RM	100			



**Fabrication Plant, Jagdishpur**  
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**BILL OF QUANTITIES AND PRICE SCHEDULE FOR CONSTRUCTION OF FABRICATION SHOP AND ASSOCIATED WORKS INCLUDING ARCHITECTURAL WORKS AT JAGDISHPUR**  
**(Incl.Corrigendum-I)**

SL NO.	DESCRIPTION OF ITEM OF WORK	UNIT	Qty	Rates		AMOUNT(Rs)
				In Figures, Rs	In Words, Rs	
20.12	Conducting ultrasonic test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges, materials and labour as per specifications complete (over and above the work already specified in the specifications).	RM	100			
20.13	Providing corrugated GS sheet roofing including vertical/ curved surface fixed with polymer coated J or L hooks, bolts and nuts 8 mm dia. With bitumen and GI limpet washers or with GI limpet washers filled with white lead and including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete (upto any pitch in horizontal/ vertical or curved surfaces) excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required. CGS Sheet to be 1.00 mm thick with zinc coating not less than 275 gm/sqm.	SQM	500			
					<b>SUB-TOTAL "A"=</b>	
21.00	Service tax including edu. cess and SAH edu. cess @ 4.12% on sub-total "A" as per SCC Clause 8.3				<b>SUB-TOTAL " B"=</b>	
					<b>GRAND TOTAL =(A+B)=</b>	