



BHARAT HEAVY ELECTRICALS LIMITED

**Tender for Preparation of Engineering Design, Documents
,Drawings and consultancy services for civil, structural,
architectural, electrical, plumbing & sanitary, fire systems, air-
conditioning & ventilation systems, landscaping etc and other
related infrastructural works for Fabrication Plant and township
at Jagdishpur**

Tender Enquiry No: BHE/FP/CVL/001

SECTION III

SPECIAL CONDITIONS OF CONTRACT

**BHARAT HEAVY ELECTRICALS LIMITED
(A GOVERNMENT OF INDIA UNDERTAKING)**

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 consists of preparation of designs, documents and drawings for all areas of the plant and providing assistance during project execution. The design work shall include architectural, civil, structural, electrical, ventilation, plumbing, sanitary, landscaping and other related works required for construction of the complete plant and conducting geo-technical investigation and topographical survey of plant and township. Based on the documents prepared by the Contractor, BHEL will issue separate tender(s) for appointment of construction Contractors.
- 3.2 The specific technical requirements for work to be executed under this Contract shall be as per Section V i.e Technical Specifications. **The applicability of specifications shall be limited to the scope of works only as specified in the BOQ and technical specifications.**
- 3.3 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.
- 3.4 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) 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.
- c) Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
- d) 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.
- e) Providing all incidental items not shown or specified but reasonably implied or necessary for the successful completion of the work in accordance with contract.
- f) Make necessary storage arrangement / sheds of adequate capacity to store cement within his normal scope without any extra cost to BHEL.
- g) 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-II.**

3.5 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.

3.6 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.

3.7 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.

- 3.8 Persons so deployed shall have to work in extended hours whenever required. Workmen provided as per the above provisions shall be fully trained and experienced in the nature of work for which they are deployed. In case of requirement they may be redeployed as per requirements by the engineer.

4 TIME SCHEDULE

- 4.1 The Contractor shall start the work immediately after receipt of the Letter of Intent.
- 4.2 The time for completion of all works shall be 36 months from the date of Letter of Intent. Major works shall be completed as per mile stones at 4.1 below. The submission of As Built drawings, field quality site supervision and visits to site and office of BHEL shall be on regular basis throughout the contract period. The As Built drawings shall be prepared after completion of construction and the site and office visits shall be up to the date of commissioning of the Plant or beyond as desired by BHEL.
- 4.3 The schedule of submission of documents and drawings to BHEL shall be as per Annexure AA. The Contractor will be required to submit documents and drawings as per the construction schedule finalised by BHEL.
- 4.4 Commissioning of the plant is planned for April' 2010
- 4.1 The period of completion from the date of issue of LOI for the following six major works is as follows:
- a) Soil investigation & topographical survey and submission of soil report : 2 months
 - b) Submission of technical specifications, de-packaging, field quality plan, bill of quantities and estimates for floating works tenders : 1 month
 - c) Complete engineering & submission of all design and drawings for main Plant in phases : 10 months
 - d) Complete engineering & submission of all design and drawings for balance of Plant in phases : 5 months
 - e) Complete engineering & submission of all design and drawings for township in phases : 7 months
 - f) Submission of as-built drawings : 36 months
- 4.2 The start date for the above works shall be as directed by BHEL from time to time. The Contractor shall ensure that the above major works are completed in time.
- 4.3 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 its commitments in line with the provisions of General Conditions of Contract.

4.4 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.

4.5 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 PRICE

5.1 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.

5.2 The quoted price shall include all taxes and duties on input materials and all taxes on Contract execution including Works Contract Tax.

5.3 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.

5.4 **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.

5.5 The billing break-up shall be as per Price Schedule and terms of payment. BHEL reserves the right to get all or any item(s) executed and payment shall be made only for item(s) executed by the bidder.

6 SALES TAX / WORKS CONTRACT TAX

6.1 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.

6.2 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.

6.3 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.

7 SERVICE TAX

7.1 Service Tax and cess on service tax as applicable on output services shall be payable extra over and above the quoted price. The contractor under provisions of relevant act/law to collect the service tax and cess from BHEL and deposit the same with the concerned tax authorities as 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.

8 INCOME TAX

8.1 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.

9 NEW TAXES/ LEVIES

9.1 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.

9.2 In case any tax/levy/duty etc becomes applicable after the date of bidder's offer, the bidder/ Contractor must convey it's 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.

9.3 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.

10 MODELITIES OF TAX INCIDENCE ON BHEL

10.1 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.

- 10.2 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.

11 RATE SCHEDULE CUM BOQ

- 11.1 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.
- 11.2 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.
- 11.3 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.
- 11.4 In addition to the above, the Contractor shall also submit the rates as asked for in the **Annexure: SCC-III**.

12 EVALUATION OF THE OFFERS

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

13 VARIATION IN SCOPE OF WORK / DEVIATION LIMIT

- 13.1 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.

14 EXTRA WORK

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

15 TERMS OF PAYMENT

- 15.1 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.
- 15.2 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.
- 15.3 From the amount payable, recovery such as advances, security deposit, taxes etc. would be made.
- 15.4 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.
- 15.5 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.
- 15.6 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.
- 15.7 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.

15.8 Progress payments for items shall be made as follows:

S No	BOQ & Price Schedule Item No	Activity	Payment - % of price quoted in Price Schedule
1	1.01, 1.02	Submission of de packaging, package wise Technical Specification and BOQ for floating tender(For a, b, and c separately)	100
2	1.03, 1.04 & 1.06	Design, drg. Submission for plant , BOP, township etc (For a, b, and c separately)	
		-Submission of preliminary drawings for planning	25
		-Submission of released for construction approved drawings	70
		- As built Drawings	5
2	1.05, 1.07	Submission of design documents and construction drawings for plant and township development: (For a, b, and c separately)	
		- Plot plan, Roads, Drainage & sewage System ,land development, boundary wall ,sewage treatment plant	25
		- Bore well /UG tank/ OH tank	10
		- Water distribution & fire fighting system	20
		- Cable trenches, piping & Composite layout plan	15
		- Common toilets (shop/ township)	5
		- Street lighting ,cabling & other facilities	5
		- Parking shed, cycle stand. Fencing and other miscellaneous works	5
		- Landscaping works	5
		-security gate house	5
		- As built Drawings	5

16 GUARANTEE

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

17 PENALTY

- 17.1 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 7.5% of the Contract value without BHEL being required to establish and prove the actual loss/damage suffered by BHEL on account of such delay.
- 17.2 The scope of work should be executed with the best engineering and architectural practices in vogue and standard codes of practice of BIS/ CPWD specs.. However, in case of discrepancies and mistake observed in design, drawings, estimation and soil testing report submitted by the bidder which tend amounts to indirect or direct loss to BHEL at any stage of work, suitable penalty shall be imposed upon the contractor based upon evidences which establish mistake in design, drawing , estimation and soil report.

18 COMPLETION CERTIFICATES/ NOC FROM LOCAL STATUTORY BODIES

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

19 DRAWINGS

- 19.1 Following drawings are enclosed for reference purpose only.
- (a) Site plan of plant Drg no FP/LAY/001
 - (b) Site plan of township Drg No FP/LAY/002

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	4 SET
6	CONCRETE slump cone	4 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**

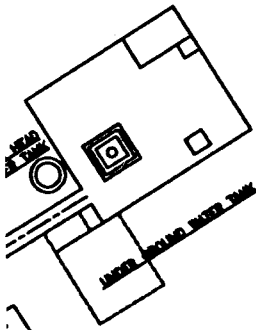
Sl.no.	Description	Percentage of the unit rate quoted	Remarks
1.	Salary & Wages of Staff & workers		
2.	Consumables		
	(a) Gases		
	(b) Welding Electrodes		
	(c) P.O.L.		
	(d) Others		
3.	Depreciation & maintenance for T & Ps		
4.	Depreciation & maintenance for other items		
5.	Establishment and administrative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

(Signature of tenderer)
With Stamp

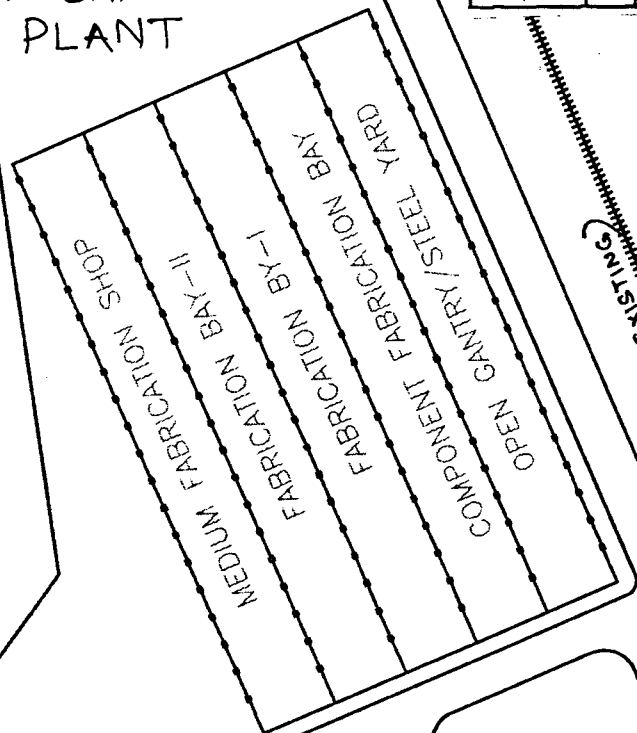
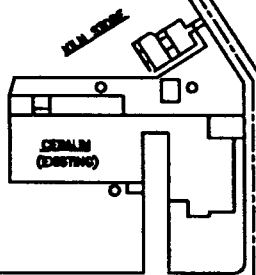
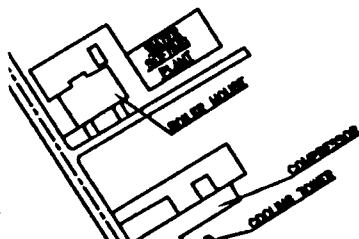
PRELIMINARY
FOR TENDER PURPOSES ONLY

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

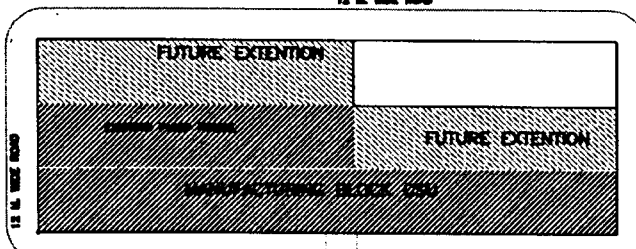
FABRICATION PLANT



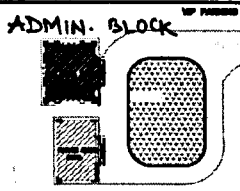
EXISTING
INSULATOR PLANT



RAILWAY LINE (EXISTING)



CSU COMPLEX (UNDER CONSTRUCTION)



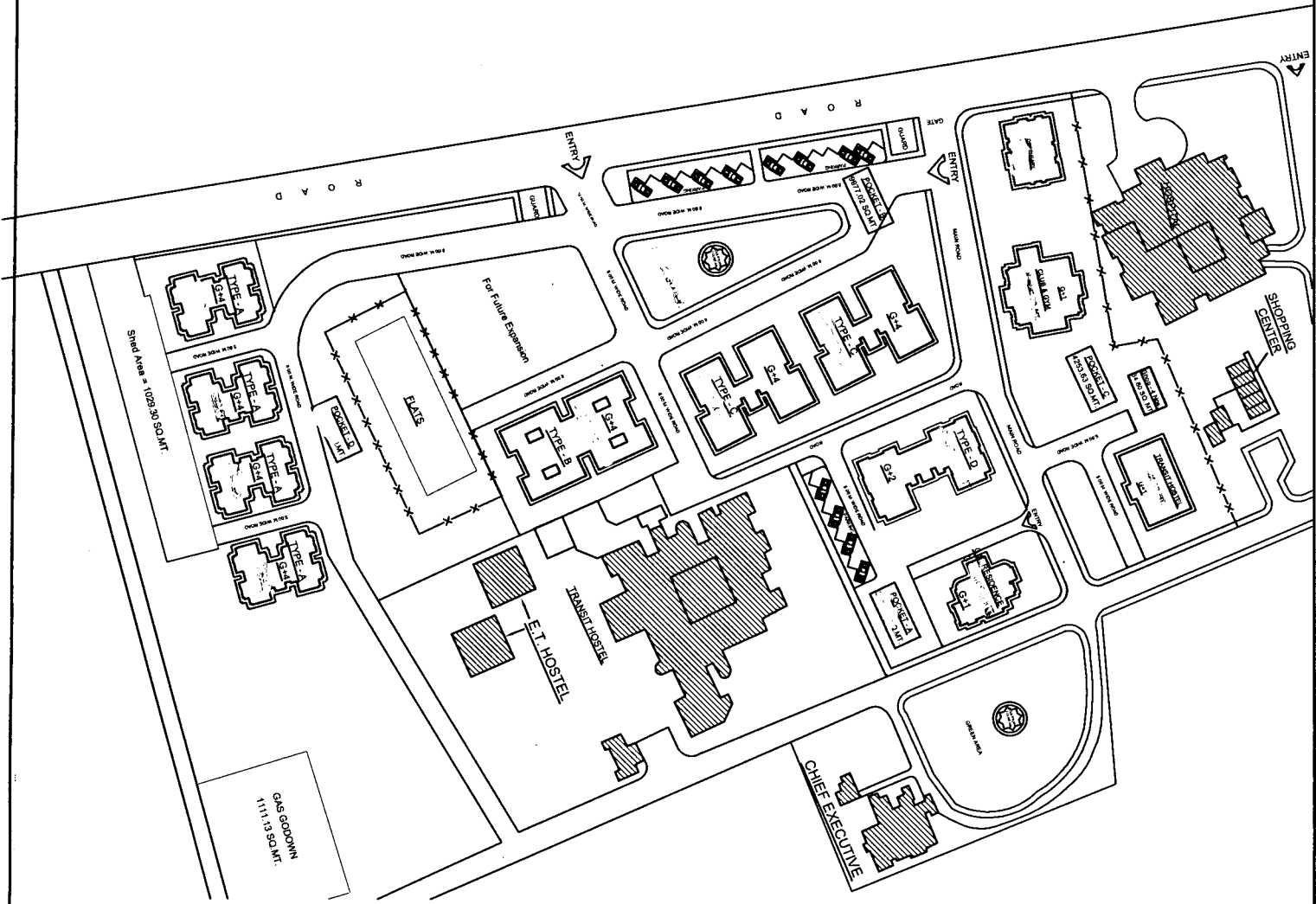
PARKING

L HIGHWAY

TO SULTANPUR

NATIONAL HIGHWAY

CISF
UNIT
BHEL
JAGDISHPUR



PRELIMINARY
FOR TENDER PURPOSES ONLY

TOWNSHIP LAYOUT.	
SKETCH NO	RP/LAY/002
DATE	REV NO
00	



BHARAT HEAVY ELECTRICALS LIMITED
Jagdishpur


**Tender for Preparation of Engineering Design,
Documents ,Drawings and consultancy services for
civil, structural, architectural, electrical, plumbing &
sanitary, fire systems, airconditioning & ventilation
systems, landscaping etc and other related
infrastructural works for Fabrication Plant and
township at Jagdishpur**


Tender enquiry No: BHE/FP/CVL/001


SECTION - 4

PRICE SCHEDULE and BILL OF QUANTITIES

FABRICATION PLANT, JAGDISHPUR						
BILL OF QUANTITIES (BOQ) AND PRICE SCHEDULE						
SL NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE		AMOUNT
				In Figure, Rs	In Words, Rs	
1.00	Design, Drawing ,engineering and architectural consultancy for plant and township: The detailed scope of work shall be as per the technical specifications of tender and individual items of BOQ					
1.01	Preparation and submission of Technical Specification de-packaging with field quality plan / quality checks including BOQ & estimated price schedule for floating tender for main plant , auxilliary buildings and services for complete infrastructure development for industrial plant. (Payment for each sub-item detailed under item 1.01 shall be regulated as per percentage billing schedule attached with terms of payment in SCC attached with the tender)					
a)	Civil Works	LumpSum (LS)	1			
b)	Electrical Works	LS	1			
c)	Services & other works	LS	1			
1.02	Preparation and submission of Technical Specification de-packaging with field quality plan / quality checks including BOQ & estimated price schedule for floating tender for complete township development including services (Payment for each sub-item detailed under item 1.02 shall be regulated as per percentage billing schedule attached with terms of payment in SCC attached with the tender)					
a)	Civil Works	LS	1			
b)	Electrical Works	LS	1			
c)	Services & other works	LS	1			
1.03	Preparation and submission of Design Documents & detailed architectural and structural drawings, inspection report formats etc as per field quality plan for all stages of work including vetting of designs and drawings from IITs/BHU etc or other engg. institution of repute for manufacturing plant :					
a)	Civil Works	SqM	24,000			
b)	Electrical Works	SqM	24,000			
c)	Services & other works	SqM	24,000			


 FABRICATION PLANT, JAGDISHPUR						
BILL OF QUANTITIES (BOQ) AND PRICE SCHEDULE						
SL NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE		AMOUNT
				In Figure, Rs	In Words, Rs	
1.04	Preparation and submission of Design Documents & detailed architectural and structural drawings, inspection report formats etc as per field quality plan for all stages of work including vetting of designs and drawings from IITs/BHU etc or other engg. institution of repute for balance of plant & auxilliary buildings :					
a)	Civil Works	SqM	10,000			
b)	Electrical Works	SqM	10,000			
c)	Services & other works	SqM	10,000			
1.05	Preparation and submission of Design Documents & detailed architectural and structural drawings, inspection report formats etc as per field quality plan for all stages of work including vetting of designs and drawings from IITs/BHU etc or other engg. institution of repute for plant development e.g boundary wall, roads, drains,sewerage system, bore well/ OH tank, Water distribution system,fire fighting system,land development,shop toilets,parking and cycle stand, landscaping, security gates etc:(Payment for each sub-item detailed under item 1.05 shall be regulated as per percentage billing schedule atatched with terms of payment in SCC attached with the tender)					
a)	Civil Works	SqM	110,000			
b)	Electrical Works	SqM	110,000			
c)	Services & other works	SqM	110,000			

 FABRICATION PLANT, JAGDISHPUR						
BILL OF QUANTITIES (BOQ) AND PRICE SCHEDULE						
SL NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE		AMOUNT
				In Figure, Rs	In Words, Rs	
1.06	Preparation and submission of Design Documents & detailed architectural and structural drawings, inspection report formats etc as per field quality plan for all stages of work including vetting of designs and drawings from IITs/BHU etc or other engg. institution of repute for township buildings					
a)	Civil Works	SqM	37,000			
b)	Electrical Works	SqM	37,000			
c)	Services & other works	SqM	37,000			
1.07	Preparation and submission of Design Documents & detailed architectural and structural drawings, inspection report formats etc as per field quality plan for all stages of work including vetting of designs and drawings from IITs/BHU etc or other engg. institution of repute for complete township development e.g boundary wall, roads, drains,sewerage system, bore well/ OH tank, water distribution system,fire fighting system,land development,parking, security gate houses, sewage treatment plant,cable trenches, landscaping etc:(Payment for each sub-item detailed under item 1.07 shall be regulated as per percentage billing schedule attched with terms of payment in SCC attached with the tender)					
a)	Civil Works	SqM	52,000			
b)	Electrical Works	SqM	52,000			
c)	Services & other works	SqM	52,000			
1.08	Submission of a 3D glass enclosed scale models of (CSU & FP) plant and township of size 2 nos x 2m x 1.5 m along with submission of isometric view coloured drawings of plant and township architectural view in requisite sets as per specifications	LS	1			

<div>  FABRICATION PLANT, JAGDISHPUR </div>						
BILL OF QUANTITIES (BOQ) AND PRICE SCHEDULE						
SL NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE		AMOUNT
				In Figure, Rs	In Words, Rs	
1.09	Services for daily site supervision for field quality control of work execution at site and other allied works (one manmonth shall be calculated on the basis of normal working hours as per minimum wages act)	Manmonth	60			
1.10	Visit to site at Jagdishpur (Duration of visit: 2 Days) .	Each	50			
1.11	Additional stay per day at Jagdishpur during the visit as per BHEL requirement	Each	25			
1.12	Visit to BHEL office at New Delhi (Duration of visit: 1 Days) .	Each	30			
1.13	Additional stay per day at Delhi during the visit as per BHEL requirement	Each	15			
2.00	Topographical survey and soil investigation:					
	The works to be executed under supervision and instructions of IIT/ IT-BHU officials (arranged by the bidder) and soil testing report/ recommendations to be accepted and approved by IIT/ IT-BHU .					
2.01	Carrying out topographical survey of plant and allied areas showing all permanent & general features and detailed contour survey by taking spot levels at 25m interval, carrying out cross section of canal/nallah by taking spot levels at 5m interval or less including removing hindrances which are interfering with the survey works and any other field works necessary for the completion of the said item, preparation and submission of all plans (maps), reports, floppy and originals etc all complete as per specification and instructions of the engineer-in- charge	Acres	40			
2.02	Carrying out bench mark from the nearest GTS bench mark or any other available source as approved by the engineer-in-charge to different locations in the project area including any other works required for completion of the said item etc all complete as per specification and instructions of the engineer-in-charge.(Construction of bench mark pillar to be paid separately)	Km	6			

FABRICATION PLANT, JAGDISHPUR						
BILL OF QUANTITIES (BOQ) AND PRICE SCHEDULE						
SL NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE		AMOUNT
				In Figure, Rs	In Words, Rs	
2.03	Construction of bench mark pillar /reference pillar/grid pillar at different locations including removing hindrances, excavation, supply of materials, pillar marking, backfilling, white washing, painting on MS plate etc all complete as per specification, drawings and instructions of the engineer-in- charge.					
	a) Bench mark pillar	Each	15			
	b) Grid/reference pillar	Each	50			
2.04	Mobilisation of necessary equipments, men and materials to the project site for carrying out the geotechnical investigation and demobilisation of the same after completion of all the field works etc all complete as per specification, drawings and as directed by the engineer-in-charge.	LS	1			

FABRICATION PLANT, JAGDISHPUR						
BILL OF QUANTITIES (BOQ) AND PRICE SCHEDULE						
SL NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE		AMOUNT
				In Figure, Rs	In Words, Rs	
2.05	Making 150mm nominal diameter bore hole at various locations upto a maximum of 25m depth below ground level in all types of soil including laterite using suitable approved method of boring including chiselling, cleaning, providing casing pipes as required or as directed; performing standard penetration test at every 3m interval, at change of strata and at depths wherever undisturbed soil samples could not be collected; collection of undisturbed soil samples at every 3m interval and at change of strata; collection of disturbed soil samples and water samples, sealing and packing of samples, observation such as ground water table etc; transportation of all the collected samples to the laboratory and back filling of boreholes with sand on completion of the same etc all complete as per specification and as directed by the engineer-in-charge and as per BIS code of practice.	RM	250			
2.06	Conducting cyclic plate load test in various locations at specified depth complete as per specification, drawings and as directed by the engineer-in-charge. Rate to include cost towards making the pit of suitable size, maintaining it dry and backfilling etc as per BIS code of practice.	Each	5			
2.07	Performing dynamic cone penetration test at various locations using 65mm cone with circulation of bentonite slurry etc all complete as per specification, drawings and as directed by the engineer-in-charge.	Each	20			
2.08	Conducting laboratory test on soil samples at an approved accredited laboratory and field in-situ tests including preparation of soil samples to determine the following properties etc all complete as per specification for-- Bulk density and moisture content ,Sieve analysis,Hydrometer analysis ,Liquid limit and plastic limit,Shrinkage limit ,Specific gravity ,Swell pressure ,Free swell index ,Relative density,Unconfined compressive strength ,Direct shear test ,Triaxial shear test, Unconsolidated undrained test , One dimensional consolidation test,Standard Proctor compaction test,CBR test,Chemical analysis, coefficient of elastic uniform compression from open test pit, allowable load bearing pressure under the static loads separately and combined static and dynamic loads, spring constant for vertical deformation, poisson's ratio, young's modulus and shear modulus as per requirement of soil test report.	LS	1			

 FABRICATION PLANT, JAGDISHPUR						
BILL OF QUANTITIES (BOQ) AND PRICE SCHEDULE						
SL NO.	DESCRIPTION OF ITEMS	UNIT	QTY	RATE		AMOUNT
				In Figure, Rs	In Words, Rs	
2.09	Conducting chemical test on water samples to determine the carbonate, sulphate, chloride and nitrate contents, pH value, turbidity, organic matter and any other chemicals harmful to foundation material etc all complete as per specification.	Each	25			
2.10	Preparation and submission of geotechnical report approved and accepted by IIT/ IT-BHU comprising of geotechnical design parameters and recommendations , field and laboratory investigations and field testing related to sub soil investigations in 5 hard copies and 2 soft copies on CDs .The draft report in 3 hard copies to be presented first to BHEL including all field records, laboratory test results, graphs, analysis of test results and recommendation etc all complete as per specification.	LS	1			
					GRAND TOTAL=	