



VOLUME - I

NOTICE INVITING TENDER (NIT)

NEW BUILDING PROJECT GROUP
Plot no. 25, Sec-16A, Noida(UP)

CONTRACTOR

Mohit

(Sign with name, designation and date)

Sub: Design, Engineering, Supply, Installation, Testing & Commissioning of Membrane Bioreactor (MBR) technology based 160 KLD capacity Sewage Treatment Plant (STP) at BHEL, Plot no. 25, Sec-16A, Noida(UP)

Sealed offers in two-part bid system are invited from reputed & experienced bidders (meeting PRE QUALIFICATION CRITERIA as mentioned in the tender) for the subject procurement by the undersigned on behalf of BHARAT HEAVY ELECTRICALS LIMITED. Following documents/information with respect to the tender may please be referred and bid be submitted in compliance with the requirement contained therein.

SN	Particulars	Description	
i	BROAD SCOPE OF WORK	Design, Engineering, Supply, Installation, Testing & Commissioning of Membrane Bioreactor (MBR) technology based 160 KLD capacity Sewage Treatment Plant (STP) at BHEL, Plot no. 25, Sec-16A, Noida(UP)	
ii	DETAILS OF TENDER DOCUMENTS		
a	Volume-I	Notice Inviting Tender (NIT)	Applicable
b	Volume-II	General Conditions of Contract (GCC)	Applicable
c	Volume-III	Special Conditions of Contract (SCC)	Applicable
d	Volume-IV	Technical Conditions of Contract (TCC)	Applicable
e	Volume-V	Forms & Procedures	Applicable
f	Volume-VI	Unpriced Bid	Applicable
g	Volume-VII	Price Bid	Applicable
h	Volume-VIII	List of Approved Makes	Applicable
i	Volume-IX	Tender Drawing(s)	Applicable
iii	ISSUE OF TENDER DOCUMENTS	Tender documents shall be available on BHEL website www.bhel.com & Central Public Procurement Portal website www.eprocure.gov.in for downloading from 06.06.2020.	Applicable
iv	PRE BID MEETING	Pre bid meeting shall be held online through Videoconferencing on 12.06.2020 at 1430 HRS. Prospective bidders, who are interested to attend the meeting should contact the following person: Name: Mohit Arora Phone:+91 9871841566 Email: mohitarora@bhel.in	Applicable
v	DUE DATE & TIME OF OFFER SUBMISSION	Date: 29.06.2020 Time: 1400 HRS	Applicable
vi	VENUE FOR BID SUBMISSION	Bids may be submitted to any of the following BHEL officials available at New Building Project Group (NBPG) office, Plot no. 25, Sec-16A, Noida (UP). 1) Name: Rajan Yadav Designation: Dy G M Phone:+91 9810506306 Email: admry@bhel.in 2) Name: Mohit Arora Designation: Dy. Mgr.	Applicable

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		Phone:+91 9871841566 Email: mohitarora@bhel.in	
vii	OPENING OF TENDER	Date: 29.06.2020, Time: 1430 HRS Notes: (1) In case the due date of submission & opening of tender becomes a non-working day, then the due date & time of offer submission and opening of tenders shall get extended to the next working day. (2) Bidders may depute authorized representative to witness the opening of tender along with authorization letter.	<i>Applicable</i>
viii	EMD AMOUNT	₹ 1,45,000/-	<i>Applicable</i>
ix	COST OF TENDER	-----	<i>Not Applicable</i>
x	LAST DATE FOR SEEKING CLARIFICATION	Date: 26.06.2020 Along with soft version also, addressing to contact address given below: 1) Name: Rajan Yadav Designation: Dy G M Deptt: NBP Address: BHEL, Plot no. 25, Sec-16A, Noida(UP) Phone:+91 9810506306 Email: admry@bhel.in 2) Name: Mohit Arora Designation: Dy. Mgr. Deptt: NBP Address: BHEL, Plot no. 25, Sec-16A, Noida(UP) Phone:+91 9871841566 Email: mohitarora@bhel.in	<i>Applicable</i>
xi	LATEST UPDATES	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc., to Tender Specifications will be hosted in BHEL webpage (www.bhel.com ->Tender Notifications --> View Corrigendums) and not in the newspapers. Bidders to keep themselves updated with all such information	<i>Applicable</i>

1.0 GENERAL INSTRUCTIONS

- 1.1 Tenderers are advised to study all the tender documents carefully. Any submission of tender by the tenderer shall be deemed to have been done after careful study and examination of the tender documents and with full understanding of the implications thereof. The specifications and terms & conditions shall be deemed to have been accepted. Non-compliance with any of the requirements and instructions in the Tender Enquiry may result in rejection of the tender(s).
- 1.2 Purchase orders/ Work orders/ Contracts, agreements and amendments thereto shall be binding, if

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made or confirmed by the Buyer in writing. Only the Purchasing/ Contracting department of the Buyer is authorized to issue the Purchase Order (Contract/Work Order) or any amendment thereto. Any document purporting to be a Contract/Order or an amendment thereto issued by any person, not from the Purchasing Department of the Buyer, will not be binding on the Buyer and will not be deemed to create any mutual rights and obligations for the Buyer and the Supplier/Bidder.

1.3 In the event of conflicts or discrepancies among the Contract Documents, interpretations will be based on the following order of precedence:

- i. Amendments/ Clarifications/ Corrigenda/ Errata etc., issued in respect of the tender documents by BHEL.
- ii. Notice Inviting Tender (NIT)
- iii. Price Bid / BOQ
- iv. Technical Conditions of Contract (TCC).
- v. Special Conditions of Contract (SCC).
- vi. General Conditions of Contract (GCC).
- vii. Forms and Procedures.

1.4 In the tender, wherever references are being made for any particular web links, bidder to properly apprise itself about these web links before submission of the bid.

2.0 **PROCEDURE FOR SUBMISSION & OPENING OF TENDERS**

2.1 Bids shall be submitted strictly in accordance with the requirements of tender documents. Incomplete offers are liable to be rejected.

2.2 Tenders shall be submitted in **Two parts** on or before the Due Date and time of bid submission indicated in the NIT.

PART – I: Techno-Commercial Bid

Comprising of the following in sequence with proper indexing:

- a. Covering letter/Offer forwarding letter of Tenderer
- b. EMD of prescribed amount and in prescribed form.
- c. Supporting documents as required in line with Pre-Qualification criteria. It shall be specifically noted that all credential certificates issued by clients shall distinctly bear the name of organization, contact no, FAX no, etc.
- d. All Amendments/ Correspondences/ Corrigenda/ Clarifications/ Changes/ Errata etc., pertinent to this NIT
- e. Duly filled-in annexures, formats etc. as required under this Tender Specification/NIT
- f. Volume – I : Notice inviting Tender (NIT)
- g. Volume – II : General Conditions of Contract (GCC)
- h. Volume – III : Special Conditions of Contract (SCC)
- i. Volume – IV : Technical Conditions of Contract (TCC)
- j. Volume – V : Forms & Procedures
- k. Volume – VI: Unpriced bid price bid format duly signed by the tenderer along with techno-commercial bid by mentioning “Quoted” in the column where quote is to be offered by the bidder.
- l. Volume - VIII: List of approved makes
- m. Volume – IX: Tender drawings
- n. Any other details preferred by bidder with proper indexing.

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PART – II: Price Bid

Containing Prices to be submitted in original, strictly, as per Price Schedule of BHEL (Volume – VII) for complete scope of Tender Enquiry. Prices to be entered in words as well as figures. All prices to be quoted in INDIAN RUPEES only. Bids with prices quoted in currency other than Indian Rupees, are liable to be rejected.

NOTE:

Offers are liable to be rejected for changes made by bidders in the Price Schedule.

- 2.2.1 PART-I (Techno-Commercial bid) shall be opened on Due Date and time of bid opening specified in the NIT/ RFQ, or extension thereof, in presence of bidders who may like to attend. Incomplete offers are liable to be rejected.
- 2.2.2 PART-II containing prices shall be submitted along with Part-I but in a separate sealed cover. Corrections/ amendments shall be properly authenticated; else the offer is liable to be rejected. Intimation for Part-II opening shall be given to all the techno-commercially acceptable bidders and opening of bids shall be done in presence of tenderers who may like to attend.
- 2.2.3 Bidder shall deposit EMD in the prescribed form as mentioned in the tender conditions. EMD shall be enclosed with techno-commercial bid. In case of non-submission of EMD of prescribed amount in prescribed form, BHEL reserves the right to reject the tender without giving an opportunity to the bidder for re-submission. BHEL's decision in this regard shall be final & binding on the bidders.
- 'One Time EMD' will not be considered for this tender. All the bidders who have 'One Time EMD' with BHEL and want to participate in this tender, would also submit the requisite amount of EMD.
- 2.2.4 Any discount/ revised offer submitted by a bidder on its own shall be accepted provided it is received on or before the due date and time of offer submission. The discount shall be applied on pro-rata basis to all items unless specified otherwise by the bidder. Unsolicited discounts/revised offers given after due date and time of offer submission shall not be accepted.

In case, there is no change in the technical scope and/or specifications and/or commercial terms & conditions, the bidder/s shall not be allowed to change his/their price bids after the due date of offer submission, within the validity period.

In case of changes in scope and/or technical specification and/or commercial terms & conditions, having price implications, techno-commercially acceptable bidders shall be asked by BHEL (after freezing the scope, technical specifications and commercial terms & conditions) to submit the impact of such changes on their price bid. A cut-off date and time shall be given to all the techno-commercially acceptable bidders to submit the impact on their price bids.

In the event of any bidder, after finalizing the technical specification & scope of supply, opting to revise and submit their latest price bid instead of submitting impact on their price bid asked by BHEL, then their original price (i.e. the previous bid) shall also be opened.

Price Impact/ Discount/ Revised Price Bid shall be duly superscribed as:

"Price Impact / Discount/ Revised Price Bid (Part-II) (delete whichever is not applicable), Revision No. against Tender Enquiry No. _____ dated _____"

- 2.3 After technical & commercial examination of the offers received and clarifications obtained (if required), Part-II (Revised Price Bid/ Original Price Bid along with Price Impact and Discount, if

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any) shall be opened, for which the date and time shall be intimated to technically and commercially acceptable bidders, in case of public opening. BHEL may opt to finalize the prices through Reverse Auction amongst technically and commercially acceptable bidders. BHEL reserves the right to open the earlier price bids, if any, submitted by the bidder(s), if required.

- 2.4 No correspondence shall be entertained from the tenderers after opening of Part-II (Price bid), except clarifications (if any) asked by BHEL in writing.
- 2.5 Only one representative of the bidder will be permitted to be present for tender opening. The representative to be present for tender opening should have proper authentication/ Photo Identity Proof, which needs to be produced on demand by BHEL.
- 2.6 BHEL may negotiate the tender with L1 bidder after price bid opening.
- 2.7 The Tenderers are required to quote for the complete scope as mentioned in tender enquiry and BOQ. Tenders for part of the work or incomplete work in any respect are liable to be rejected. Tenderers shall certify in the Techno- commercial bid that rates for all the items have been quoted.

2.8 BID SUBMISSION

2.8.1 Paper Bid:

- 2.8.1.1 Bid/ Quotation must be enclosed in sealed cover(s) as per requirements of the tender enquiry, on which the tender enquiry number and the due date & time MUST BE written. Covering letter of tender submission shall be as per relevant annexure under Forms and procedures.

MARKING ON ENVELOPES

- 2.8.1.2 Following shall be superscribed on the envelopes which shall be addressed by name and designation to the official inviting tender:

PART-I: 1. TENDER ENQUIRY No. AND ITEM DESCRIPTION
2. DUE DATE & TIME FOR OPENING
3. "TECHNO-COMMERCIAL BID".

PART-II: 1. TENDER ENQUIRY No. AND ITEM DESCRIPTION
2. DUE DATE & TIME FOR OPENING
3. "PRICE BID".

- 2.8.1.3 Both Parts - I & II shall be submitted in separate sealed covers duly superscribed as indicated above and shall be enclosed further in a main cover duly sealed and superscribed as:

"TENDER FOR _____ AGAINST TENDER ENQUIRY NO. _____ DUE ON _____ CONTAINING PART-I & PART-II BIDS"

- 2.8.1.4 Envelope not marked with tender enquiry number is liable to be ignored and may not be opened.
- 2.8.1.5 Tenders shall be addressed to BHEL officials by name & designation as given in NIT and sent to the following address:

Bharat Heavy Electricals Ltd.
New Building Project Group (NBPG),

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(Sign with name, designation and date)



Plot No. 25, Sector – 16A, NOIDA – 201 301 (U.P.)

Attention: 1) Mr. Rajan Yadav, DGM (NBP)
2) Mr. Mohit Arora, Dy. Mgr. (NBP)

- 2.8.1.6 Tenders can either be deposited in person or sent by Courier/ Registered or Speed Post to the above mentioned address. It shall be bidders' responsibility to ensure that tenders are delivered in time.
- 2.8.1.7 Name of vendor's dealing person with Contact No(s), Email ID and Address of correspondence shall be provided in the bid.
- 2.8.1.8 Tenders received after the Due Date and Time of submission shall be rejected.
- 2.8.1.9 Unsolicited tenders will not be entertained.
- 2.8.1.10 Unless otherwise specified in NIT, offers from consortium/ JVs shall not be considered.

Note: Bid should be free from Erasure, cutting, overwriting, whitener or corrective fluid etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid, else bid shall be liable for rejection

3.0 **AUTHORITY FOR TENDER SIGNING**

A person signing the tender or any other document in respect of Order/ Contract on behalf of the tenderer, without disclosing his authority to do so shall be deemed to warrant that he has the authority to bind the tenderer. If it is discovered at any time that the person so signing had no authority to do so, BHEL may, without prejudice to any other right or remedy, cancel the Order/ Contract and make or authorize the purchase of the stores at the risk and cost of such tenderer and hold such tenderer liable to BHEL for all costs and damages arising from cancellation of the Order/ Contract including any loss which BHEL may sustain on account of such purchase. An authorized representative / agent can represent only one bidder for the given package.

4.0 **CLARIFICATIONS REQUIRED BY BIDDERS**

Technical and commercial clarifications required before submission of the tender should be addressed to the official(s) inviting the tender.

5.0 **DEVIATIONS FROM NIT**

- Tenders shall be submitted strictly in accordance with the requirements of tender documents. In case of any deviations (Commercial as well as Technical) from NIT, the tenderer(s) are liable to be rejected and BHEL's decision in this regard shall be final.
- NIT specifies firm price. However, if bidder(s) insists for price variation clause (PVC), BHEL reserves the right to reject the offer with PVC.

6.0 **VALIDITY OF OFFER**

Vendors' offers shall be submitted with the following validity periods:

- Original offer shall be valid for six months from Part-I opening date (including extensions, if any) unless specified otherwise in NIT.

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- ii. If revised price bid/ price impact is asked by BHEL, the validity of the same shall be two months from the date of price bid opening or six months from Part-I opening (including extensions, if any), whichever is later.
- iii. In case where Reverse auction (RA) is conducted, the validity of the same shall be two months from the date of successful RA completion or six months from Part-I opening (including extensions, if any), whichever is later.
- iv. In case of negotiation, validity of offer shall be two months from receipt of revised price /negotiated final price or six months from Part-I opening (including extensions, if any), whichever is later.
- v. Offers with shorter validity than above are liable to be rejected

7.0

LANGUAGE & CORRECTIONS

- i. The Bid shall be in English language. All correspondence and documents relating to the bid exchanged between the bidder and BHEL shall also be in ENGLISH language. However, any technical document/ literature etc. printed in a language other than English shall be accompanied by its true English translation duly signed for its correctness. Any document submitted with the bid but not in English language shall not be treated as part of the bid document. The responsibility for the correctness of the translations if any solely rests on the bidder and BHEL shall not be responsible for any loss/likely loss arising out of error in translation whatsoever. In such cases, for the purpose of interpretation of the bid, the English translation shall prevail.
- ii. Tenderer shall quote the rates in English language and Indo-Arabic numerals only. Total Price shall be entered in figures as well as in words. For the purpose of tender, metric system of units shall be used.
- iii. All entries in the tender shall either be typed or written legibly in ink. Cancellations, corrections, insertions, erasements, over-writing (if unavoidable) shall be authenticated with signature and seal by the bidder.

8.0

PRICE DISCREPANCY

Following shall be considered for evaluation and ordering for non-conformities/ errors/ discrepancies in price bid:

- i. Bidders should quote total price in “figures” with corresponding words in price bid format.
- ii. If, in the price structure quoted for the required goods/ services/ works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly., unless in the opinion of BHEL there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.
- iii. If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected.
- iv. If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject of (ii) and (iii) above.
- v. If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target

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date up to which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of BHEL, the bid is liable to be ignored.

9.0 **TENDERER TO INFORM HIMSELF FULLY**

- a. Tenderer shall closely peruse all clauses, specifications & drawings etc. indicated in tender documents before quoting. In case of any doubt about meaning of any portion of tender specifications or discrepancies or omissions in drawings/ tender document or clarifications regarding scope of work etc., tenderer shall contact the official(s) inviting the tender for clarifications, before submitting the offer.
- b. Tenderer shall make independent enquiries as to conditions and circumstances affecting cost estimates, and possibility of executing supplies/ works as described. Tenderer shall be deemed to have inspected and examined the site and its surroundings and to have satisfied himself as to the form and nature of the site, the quantities and materials necessary for completion of the work and means of transport and access to the site, the accommodation required, general labour position at site and to have quoted prices taking into consideration the risks, contingencies and other circumstances which may influence or affect execution of the Order/ Contract.
- c. It is the responsibility of tenderer to keep himself informed about all taxes & duties applicable on materials/ services as prevailing at the time of tendering. If the rates assumed by tenderer are less than the tariff rates prevailing at the time of tendering, the tenderer will be himself responsible for such under quotations.

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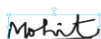
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ANNEXURE - 1**PRE QUALIFYING REQUIREMENTS (PQR)**

The Bidders who fulfill the following requirements shall be eligible to apply. Joint ventures/ Consortium bidders are not accepted.

- a. Experience of having successfully executed similar orders during last 7 years ending last day of month previous to the one in which tenders are invited. 'Similar' orders shall mean 'execution of Supply, Installation & Commissioning of at least 1 (One) No. Membrane Bioreactor (MBR) technology based Sewage Treatment Plant (STP) of capacity equal to or more than 160 KLD for any Central Govt. / State Govt./ PSUs/ Public Limited Company/ Private Limited Company'.
- b. Bidder must have valid PAN no. and GST no.

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**DOCUMENTS REQUIRED**

The tenderers should submit documents in support of possessing Qualifying requirements as under, duly certified and stamped by their authorized signatory:

SN	Documents Required
1	Details of order(s) successfully completed in support of qualification requirements as per format given in Forms and Procedures along with Purchase orders / Work orders / LOA (Letter of Award) along with BOQ (as applicable) and Commissioning reports.
2	Copy of PAN No. & GST registration certificate.

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ANNEXURE - 2

1	Name and Address of the Tenderer		
2	Details about type of the Firm/Company		
3	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
4	Details of alternate Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
		APPLICABILITY (BY BHEL)	ENCLOSED BY BIDDER
5	Whether the format for compliance with PRE QUALIFICATION CRITERIA (ANNEXURE-1) is understood and filled with proper supporting documents referenced in the specified format	Applicable	YES / NO
6	Details of similar orders successfully completed in support of qualification requirements as per format along with Purchase orders / Work orders / LOA along with BOQ (as applicable) and Commissioning reports.	Applicable	YES / NO
7	Copy of PAN & GST Registration	Applicable	YES / NO
8	Un-priced price bid format duly signed by the tenderer along with techno-commercial bid by mentioning "Quoted" at the place where quote is to be offered by the bidder.	Applicable	YES / NO
9	Whether all pages of the Tender documents including annexures, appendices etc. are read understood and signed	Applicable	YES / NO
10	Declaration by Authorised Signatory	Applicable	YES / NO
11	No Deviation Certificate	Applicable	YES / NO
12	Declaration confirming knowledge about Site Conditions	Applicable	YES / NO
13	Declaration for relation in BHEL	Applicable	YES / NO
14	Non-Disclosure Certificate	Applicable	YES / NO
15	Bank Account Details for E-Payment	Applicable	YES / NO
16	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable	YES / NO
17	Participation confirmation in Reverse Auction if resorted by BHEL	Applicable	YES / NO
18	Authorization of representative who will participate in the online Reverse Auction Process	Applicable	YES / NO
19	EMD of prescribed amount and in prescribed form.	Applicable	YES / NO

DATE :

AUTHORISED SIGNATORY
(With Name, Designation and Company seal)

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ANNEXURE - 3

Feedback Form: From where did you get information reg. this tender

1	BHEL WEBISTE (TENDER NOTIFICATION)	
2	CENTRAL PUBLIC PROCUREMENT PORTAL OF GOVERNMENT OF INDIA (CPP PORTAL)	
3	EMAIL COMMUNICATION FROM BHEL	
4	ANY OTHER SOURCE	

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10.0 **ETHICS IN BUSINESS DEALINGS/ SUSPENSION OF BUSINESS DEALINGS**

In order to protect the commercial interests of BHEL, it becomes necessary to take action against bidders/ Suppliers/ suppliers / contractors by way of suspension of business dealings, who either fail to perform or are in default without any reasonable cause, cause loss of business/ money/ reputation, indulge in malpractices, cheating, bribery, fraud or any other misconduct or formation of cartels so as to influence the bidding process or influence the price etc. Suspension of Business Dealings could be in the form of “Hold” or “Banning” a bidders/ Suppliers/ suppliers / contractors. Detailed guidelines are available at www.bhel.com. Bidders should get themselves acquainted with these guidelines.

11.0 **INTEGRITY COMMITMENT**

Integrity commitment, performance of the contract and punitive action thereof:

a. Commitment by BHEL:

- BHEL commits to take all the measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL, during the tender process will treat all Bidder(s) in a transparent and fair manner, and with equity.

b. Commitment by Bidder/Supplier:

- The Bidder/Supplier commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which it is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of Indian penal code, 1860 or any other law in force in India.
- The Bidder/Supplier will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issued from time to time by BHEL / GOVT. OF India.
- The Bidder/Supplier will perform/execute the contract as per the contract terms & conditions and will not default without reasonable causes, which causes loss of business/money/reputation, to BHEL.

If any Bidder/Supplier during Pre-tendering/tendering/post-tendering/award/execution/post-execution stage indulges in mal-practices, cheating, bribery, fraud or and other misconduct of formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner; which tantamount to an offence punishable under any provision of the Indian penal code, 1860 or any other law in force in India, then, action may be taken against such Bidder/Supplier as per the extent guidelines of the company (Fraud Prevention Policy, suspension of Business dealings with suppliers/contractors etc.) available on www.bhel.com and/or under applicable legal provisions.

12.0 **REVERSE AUCTION**

- BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on www.bhel.com) for this tender. RA shall be conducted among all the techno-commercially qualified bidders.
- Price bids of all techno-commercially qualified bidders shall be opened and same shall be

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considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.

- iii. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids.
- iv. BHEL will inform bidders the details of service provider who will provide business rules, all necessary training and assistance before commencement of online bidding.
- v. Bidders are advised to read the 'Business Rules' indicating details of RA event carefully, before reverse auction event.
- vi. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit 'Process compliance form' (to the designated service provider). Non-submission of 'Process compliance form' by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com).

13.0 **REJECTION OF TENDER AND OTHER CONDITIONS**

13.1 Acceptance of tender will rest with BHEL and does not bind him to accept the lowest or any tender and reserves to itself full rights for the following without assigning any reasons whatsoever:

- i. To reject any or all the tenders.
- ii. To increase or decrease the quantities.
- iii. To reject the offer(s), if any commercial or technical deviation given in offer.

13.2 Standard pre-printed conditions of tenderer attached to offer will not be accepted.

13.3 BHEL will not be bound by any new power of attorney granted by tenderer or by changes in composition of the firm made subsequent to award of Order/ Contract. BHEL may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Supplier/ Contractor concerned.

13.4 If tenderer gives wrong information/furnishes false documents/certificates etc., whether during the bidding stage or subsequent to award of contract, then, BHEL reserves the right to reject such an offer at any stage or cancel the Order/ Contract, if awarded, and forfeit the bank guarantee. Such actions/omission may also invite action by BHEL as per extant guidelines for suspension of business dealing with supplier/contractor (as available on www.bhel.com)

13.5 **DEALING WITH BIDDERS UNDER SUSPENSION**

The offers of the bidders who are under suspension as also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firm is available on BHEL web site www.bhel.com

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14.0 DISCOUNT

Discount offered shall be valid for full duration of offer validity. Any conditional discount shall not be considered for evaluation.

15.0 EVALUATION CRITERIA**15.1 TENDER EVALUATION**

- a. Techno-commercial Bids submitted by the tenderer will be opened first and evaluated for fulfilling the Pre-Qualification criteria and other conditions in NIT/Tender documents, based on documentary evidences submitted along with the offer.
- b. In case the same qualifying experience is claimed by more than one agency, then the agency who has executed the order as per documentary evidence submitted shall only be qualified. Scope of qualifying order should be totally with the agency who has executed. Further, BHEL reserves the right to ask for further proofs including submission of TDS certificates for the said job.
- c. In case the qualifying experience is claimed by private organizations based on Work Order / Purchase order and commissioning reports from another private organization, BHEL reserves the right to ask for further proofs including submission of TDS certificates for the said job.
- d. Bidders shall be given an opportunity to withdraw the deviations/ furnish clarifications/ documents by appropriate cut-off date by authorized BHEL executive.
- e. In case the price quoted by two or more bidders is same, then L-1 bidder shall be decided by calling snap bids from such bidders.
- f. Price Bids of unqualified bidders shall not be opened and their price bids shall be returned after issue of LOI/LOA to successful bidder and receipt of unqualified acceptance from the successful bidder. Reasons for rejection shall be intimated in due course after issue of LOI/LOA to successful bidder and receipt of unqualified acceptance from the successful bidder.
- g. In case of changes in scope and/or technical specification and/or commercial terms & conditions, having price implications, techno-commercially acceptable bidders shall be asked to submit the impact (either positive or negative, as decided by BHEL) of such changes on their price bid on or before the cut-off date. If the bidder submits impact opposite of the asked for (positive or negative), the impact will be considered as ZERO for evaluation as well as ordering. If BHEL does not specify the type of impact (positive or negative), bidders shall be free to quote the impact in positive or negative. Bidder's query/ correspondence etc. with respect to this tender shall not be entertained after opening of Price bid, except from L1 bidder. The offers of the bidders who are under suspension by BHEL and also the offers of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site, www.bhel.com.

15.2 COST EVALUATION

Tenders will be evaluated on the basis of total cost to BHEL for the complete scope viz., Supply of STP, its installation, testing & commissioning, taking into consideration loadings, if any, and all available financial advantages, including those available from Owner, taxation authorities etc. Order will be placed on the lowest bidder for the complete scope as per tender for which the bidder has qualified in the Techno-commercial Bid and subsequently has emerged as lowest bidder in the

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evaluation of Price bid / Reverse auction.

16.0 MICRO, SMALL & MEDIUM ENTERPRISES

- a. Any Bidder falling under MSE category, shall furnish the following details & submit documentary evidence/ Govt. Certificate etc. in support of the same along with their techno-commercial offer.

Type under MSE			SC/ST owned	Others
Micro				
Small				

Note: - If the bidder does not furnish the above, offer shall be processed construing that the bidder is not falling under MSE category.

- b. Extant regulations of Govt. of India will be applicable. Preferences as mentioned in "Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012" shall be given to Micro and Small enterprises. Payment to MSEs will be governed as per the prevailing Act. MSE Bidders/ as defined by the MSMED Act as amended from time to time can avail the intended benefits only if they submit along with the offer, attested copies of either EM II certificate/ Udyog Aadhar Memorandum certificate having deemed validity (five years from the date of issue in acknowledgement in EM III Udyog Aadhar) or valid NSIC certificate or EM III Udyog Aadhar Memorandum certificate along with attested copy of a CA certificate (Format enclosed under Forms & procedure where deemed validity of EM II certificate/Udyog Aadhar Memorandum certificate of five years have expired) applicable for the relevant financial year (latest audited) or such other document as may be stipulated in the MSMED Act or its rules/regulations as amended from time to time and/or by the Buyer. The deemed validity will be assessed on the date of Part-I bid opening. Non-submission of such documents as stipulated herein will lead to consideration of their bids at par with other Bidders. No benefit shall be applicable for the concerned for the tender enquiry, if any deficiency in the above required documents is not submitted before the price bid opening. Documents should be notarized or attested by a Gazetted officer. This provision for MSE will apply subject to the condition that the participating MSE meets the tender requirements.
- c. MSEs shall be exempted from payment of earnest money at the time of tender submission.
- d. Participating MSEs quoting price within price band of L1+15 % shall be considered for award of complete scope of work by bringing down their price to L1 price in a situation where L1 price is from someone other than a MSE. In case of more than one such MSE, MSE with lowest price shall be given the first option to match the L1 price. However, MSEs owned by the Scheduled Caste or the Scheduled Tribe entrepreneurs shall be given the preference for matching the L1 price irrespective of their standing in comparative statement of MSE bidders within price band of L1+15 %.
- e. However, credentials of all MSE suppliers will be verified before considering the intended benefits for MSE suppliers at the time of tender evaluation.
- f. In case of any change in the MSE status of the Bidder. it shall be the responsibility of the Bidder to notify the change as a part of the bid document. If at a later date it comes to the knowledge of BHEL, that the change in the status has not been intimated by the Bidder and the order was obtained under the premise of an MSE, then BHEL may reject the bid or, as the case may be, cancel the order and take necessary steps for suspension of the business dealing against the Bidder as per the extant guidelines for suspension of business dealings with suppliers/ contractors of BHEL (as available on www.bhel.com).
- g. In case if all the items being procured under the enquiry fall under category of reserved items as

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defined in "Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012" and if any of the MSE bidder(s) is techno-commercially qualified then the price bids of only MSE bidders shall be opened. If no MSE bidder is techno-commercially qualified, then price bids of all techno-commercially qualified Bidders shall be opened.

17.0 BHEL FRAUD PREVENTION POLICY

The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <https://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice. BHEL Fraud prevention policy is also uploaded on www.bhel.com.

18.0 TENDERING COST

Tender documents are free of cost. However, Bidder shall bear all costs associated with the preparation and submission of its bid at its end. BHEL, shall in no case, be responsible or liable for these costs, regardless of the conduct or the outcome of the bidding process.

19.0 AVAILABILITY OF SPARES

Vendor to keep BHEL informed by giving six-month advance notice for discontinuation of manufacturing of the spares, mentioned/ required in the order.

20.0 SPLITTING OF ORDER

All the items of this tender shall be procured from a single source. There shall be no splitting of order and a single order shall be placed on successful bidder for the complete scope.

21.0 MAKE IN INDIA

For this procurement, Public Procurement (Preference to Make in India), Order 2017 dated 15.06.2017, 28.05.2018 & 29.05.2019 and subsequent Orders issued by the respective Nodal Ministry shall be applicable even if issued after issue of the NIT but before finalization of contract/ POWO against the NIT. In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and / or local content in respect of this procurement, same shall be applicable. Bidders are requested to go through the above mentioned orders and furnish the required documents as specified in the NIT.

22.0 START UP VENDORS

Bidder who intends to participate as "Startups" company should fulfil all the conditions of Startups as directed by Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce & Industry, Govt. of India and his eligibility shall be valid as on bid closing date. They will also enclose the Certificate of Recognition issued by DIPP and submit applicable documents along with their offer for availing the benefits as per GOI guidelines.

Further, necessarily, they have to submit the declaration to the effect on their letterhead as prescribed below and must be signed and stamped by the authorized person.

DECLARATION IN CASE OF START-UP COMPANIES

We are a "Start-up" company and we are meeting all conditions and therefore eligible as Start-up company as on the date of tender bid closing. We are also enclosing copy of certificate of recognition issued by Department of Industrial Policy and Promotion, Ministry of Commerce & Industry, Govt. of India.

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Bidders, falling under the category of startups, are required to fulfill the Pre-Qualification Requirements (PQR) as mentioned in the tender terms. Those startups, which do not meet the Pre-Qualification Requirements, their bids shall be summarily rejected by BHEL.

23.0 **RELAXATION OF NORMS FOR STARTUPS & MSMEs**

Start-ups and MSEs are exempted from paying of EMD. Ref. DPE/5(1)/2014-Fin dated 8th Nov'16 circulating Dept. of Expenditure OM No. 20/2/2014.PPD (PT.) dated 25th July, 2016.

24.0 **EXPORT ADMINISTRATION REGULATIONS**

If a delivery includes such technology and / or supply that is subject to the export regulations, the Supplier shall obtain due permissions, approvals, license etc. as applicable from time to time under laws in force.

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VOLUME - II

GENERAL CONDITIONS OF CONTRACT (GCC)

NEW BUILDING PROJECT GROUP
Plot no. 25, Sec-16A, Noida(UP)

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1.0 **ISSUANCE OF PURCHASE ORDER AND RECTIFICATION OF ERRORS**

Issuance of Purchase order by BHEL shall result in a binding contract between the Supplier/ Contractor and Buyer. Supplier/Contractor shall acknowledge the LOA/ Purchase Order issued by BHEL (BHEL) within 7 days of its receipt. Supplier/ Contractor should examine the LOA/ Purchase Order immediately upon receipt and bring to the notice of BHEL, within 7 days of receipt, any discrepancy/errors with regard to scope of work, rates, taxes & duties, agreed terms & conditions etc. for due rectification. If the Supplier/ Contractor fails to give such acknowledgement within seven days, *LOA/ Purchase order issued shall be deemed as having no discrepancy/ errors. In case of any clerical error in the LOA/ Purchase order with respect to agreed Terms & Conditions, BHEL reserves the right to issue correction(s) as and when noticed.*

2.0 **INTENT OF CONTRACT**

Nothing in this document, unless otherwise specified, is intended to, or shall be deemed to, establish any partnership or agency between the parties.

3.0 **PRICES**

Prices shall be firm for the entire scope of work in line with the tender documents and subsequent clarifications/ confirmations till completion of contract.

4.0 **TAXES AND DUTIES**

- 4.1 Contractor shall submit GST compliant tax invoice containing all the particulars as stipulated under Invoice Rules of GST law. Payment shall be made to the contractor only after submission of GST compliant Tax invoice. The successful bidder shall raise GST compliant tax invoice affixing GSTIN of BHEL's unit availing the services. GST shall be paid against documentary evidence.
- 4.2 Invoice submitted should be in the format specified under GST Laws viz., all details as mentioned in Invoice Rules like GSTIN Registration number, invoice number, Quantity, rate, value, taxes with nomenclature – CGST, SGST, IGST mentioned separately, HSN (Harmonized System of Nomenclature) Code / SAC (Services Accounting Code) Code etc.
- 4.3 BHEL reserves the right to protect its interest against any loss on account of availability of GST credit, wherever such GST ITC is available as per GST Law provisions.
- 4.4 GSTIN of BHEL will be provided to the contractor along with the purchase order.
- 4.5 Payment to the contractor will be subjected to TDS as per rules in force from time to time. The Tax Deduction at Source (TDS) shall be done as per the provisions of Income Tax Act & GST, as amended from time to time and a certificate to this effect shall be provided to the contractor by BHEL.
- 4.6 The contractor shall ensure strict compliance under GST Act & Rules including any amendments thereof, so that the Input Tax Credit is available to BHEL. In case of any loss to BHEL on account of the contractor's non-compliance, incl. all penalty(s) levied by the govt. authorities, the same shall be recovered from the contractor.
- 4.7 Applicable GST shall also be recoverable from the contractor in case of LD recovery / penalty on account of breach of terms of the contract.

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4.8 The contractor has to give an undertaking that GST as mentioned in the invoice has been / will be paid and also file returns as per respective extant GST rules.

4.9 Any new / change in statutory levy as and when made applicable by the Government shall become applicable against documentary evidence.

4.10 **OTHER TAXES & LEVIES**

All taxes/ duties/ Cess other than GST shall be deemed to be included in the Ex-Works prices. No variation for such taxes and levies shall be paid in any circumstance, unless specifically agreed upon, even if the same are mentioned anywhere in the bids by the bidders.

4.11 **CUSTOM DUTY**

4.11.1 Applicable Customs Duty/ IGST/ Goods and Services Compensation Cess under Goods and Services Tax (Compensation to States) Act, 2017 element for imported items shall be included in the Ex-Works prices unless specified in the price format of the NIT.

4.11.2 Supplier/ Contractor shall arrange for his own import license, if required, since BHEL will not provide any import license. Therefore, Supplier/ Contractor alone shall be responsible for any delay in getting import license or non-availability of the same or completion of other related formalities. BHEL shall not be responsible for any financial liability, whatsoever, on this account.

5.0 **ENGINEERING DOCUMENTS SUBMISSION**

Successful contractor has to submit drawings, requisite technical documents as per tender, for approval by BHEL within 30 days from the date of placement of PO. BHEL will approve all the documents within 15 days of the submission of last drawing(s) / document(s) by the contractor. Material has to be manufactured and supplied strictly as per the drawings / documents approved by BHEL.

6.0 **EARNEST MONEY DEPOSIT**

a. EMD is to be paid by tenderers for securing fulfilment of any obligations in terms of the NIT.

b. **Modes of deposit:**

The EMD may be accepted only in the following forms:

- i. Cash deposit as permissible under the extant Income Tax Act (before tender opening).
- ii. Electronic Fund Transfer credited in BHEL account (before tender opening).
- iii. Banker's cheque/ Pay order/ Demand draft, in favour of BHEL (along with offer).

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- iv. Fixed Deposit receipt (FDR) issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL).
- c. EMD shall be enclosed with techno-commercial bid. In case of non-submission of EMD of prescribed amount in prescribed form, BHEL reserves the right to reject the tender without giving an opportunity to the bidder for re-submission. BHEL's decision in this regard shall be final & binding on the bidders.
- d. Bidders falling under MSMED category / Start-ups as per tender conditions, shall be exempted from submission of EMD amount.

e. Forfeiture of EMD:

EMD by the Tenderer will be forfeited, if:

- i. After opening the tender and within the offer validity period, the tenderer revokes his tender or makes any modification in his tender which is not acceptable to BHEL.
- ii. The Contractor fails to commence the work within the period as per LOA / Purchase order.

EMD by the tenderer shall be withheld in case any action on the tenderer is envisaged under the provisions of extant "Guidelines on Suspension of business dealings with suppliers/ contractors" and forfeited/ released based on the action as determined under these guidelines.

- f. EMD shall not carry any interest.
- g. EMD given by all unsuccessful tenderers shall be refunded normally within fifteen days of award of order.
- h. EMD of successful tenderer will be retained and shall be returned after submission of Contract Performance Bank Guarantee as per tender terms.

7.0 BANK GUARANTEE

Wherever Bank Guarantees are to be furnished/submitted by the supplier / contractor, the following shall be complied with:

- a. Bank Guarantees shall be from Scheduled Banks / Public Financial Institutions as defined in the Companies Act.
- b. The Bank Guarantees shall be as per prescribed formats.
- c. It is the responsibility of the bidder to get the Bank Guarantees revalidated/extended for the required period (subject to a minimum period of six months), as per the advice of BHEL. BHEL shall not be liable for issue of any reminders regarding expiry of the Bank Guarantees.

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d. In case the Bank Guarantees are not extended before the expiry date, BHEL reserves the right to invoke the same by informing the concerned Bank in writing, without any advance notice/communication to the concerned bidder.

e. Bidders to note that any corrections to Bank Guarantees shall be done by the issuing Bank, only through an amendment in an appropriate non-judicial stamp paper.

f. The Original Bank Guarantee shall be sent directly by the Bank to BHEL under Registered Post (Acknowledgement Due), addressed to the concerned BHEL executive.

8.0 **TRANSPORTATION & FREIGHT CHARGES**

All dispatches shall be through road carriers, on freight pre-paid basis. Road Permit/E-way bill, if required, will be arranged by Supplier / Contractor.

9.0 **MODE OF PAYMENT/ NON PAYMENT OF INTEREST**

- a. Payments shall be made directly to the Supplier / Contractor by E-transfer. Supplier / Contractor to provide necessary information for the same as per relevant annexure.
- b. Notwithstanding anything to the contrary contained in any other document comprising the contract, no interest shall be payable by BHEL to the Supplier/Contractor on any money or balances including but not limited to the security amount, bank guarantee amount, EMD, retention money, any bills or any amount withheld which may become due owing to difference or misunderstanding or any dispute between BHEL and the Supplier / Contractor, or any delay on the part of BHEL in making periodical or final payment or any other aspects incidental thereto.

10.0 **RECOVERY OF OUTSTANDING AMOUNT**

In event of any amount of money being outstanding at any point of time against the Supplier / Contractor due to excess payment, imposition of penalty, invocation of risk and cost clause or any other reason whatsoever, in the present order/ contract or any other order/ contract from any BHEL Unit, the outstanding amount shall be recovered from the payments due to the Supplier/ Contractor from the following:

- i. Dues available in the form of bills payable to Supplier / Contractor, BGs against the same contract.
- ii. Dues payable to Supplier / Contractor against other contracts in the same Region/Unit/Division of BHEL.
- iii. Dues payable to Supplier / Contractor against other contracts in the different Region/Unit/Division of BHEL.
- iv. Any other mode as deemed fit by BHEL at its sole discretion.

11.0 **DELIVERY / COMPLETION SCHEDULE**

- a. Supply of plant/ equipment/ stores shall not be considered complete until they have been inspected and accepted at the place and destination specified for delivery by the time

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stipulated under the terms & conditions of the Order/ Contract. Mere payment by itself shall not constitute acceptance of the goods or materials in any manner, whatsoever.

- b. Terms of delivery shall be FOR dispatch station.

12.0 **INSPECTION AND TESTING AT SUPPLIER'S / CONTRACTOR'S PREMISES**

- a. BHEL or its representative shall have at all reasonable times access to Supplier's / Contractor's premises or works and shall have the power at all reasonable times to inspect drawings of any portion of the work or examine the materials and workmanship of the plant/ equipment/ stores during their manufacture, and if part of the plant/ equipment/ stores is manufactured at other premises, the Supplier / Contractor shall arrange for inspection, examination and testing by BHEL as if the plant/ equipment/ stores is manufactured on the Supplier/ Contractor's premises.

Such inspection, examination and testing by itself shall not relieve the Supplier/ Contractor from any obligation under the Order/ Contract.

- b. Supplier/ Contractor shall give BHEL reasonable notice of any material being ready for testing and BHEL shall (unless the inspection of tests is voluntarily waived) attend at the Contractor's premises within seven (7) days of the date on which the material is notified as being ready. All standard shop tests, physical and chemical tests required by the standards or as may be prescribed or approved as per Order/ Contract shall be conducted by the Contractor. BHEL/ Inspection Agency reserves the right to waive any of the above tests requirements and to prescribe new tests, if found necessary, to complete the work so as to conform to the best practices. Copies of the shop test certificates shall be bound with the instruction manuals referred to in "Supplier/ Contractor's documents, drawings and instruction manuals".

In case of delay in witnessing of inspection beyond stipulated time (i.e. 7 days from the date on which the material is notified as being ready), by BHEL arising due to reasons not attributable to Supplier / Contractor, BHEL will extend the delivery period for such delay in carrying out inspection. If BHEL is not able to witness inspection up to 15 days, then, in addition to delay beyond stipulated period, extension in delivery time of 7 days' for arranging fresh inspection will be given.

- c. Where the Order/ Contract provides for tests/ inspections at the premises or works of the Supplier/ Contractor or any sub-contractor, the Supplier/ Contractor, except specified otherwise, shall provide free of charge such assistance, labour, materials, electricity, fuel, water, stores, apparatus, measuring instruments and test equipment including any other facilities as may be reasonably required to carry out such tests efficiently.

13.0 **INSPECTION MEASURING AND TEST EQUIPMENTS**

- a. Inspection Measuring and Test Equipment (IMTE) whether used by the Supplier/ Contractor or sub-contractor shall be calibrated, maintained and controlled. Calibration shall be valid and IMTE maintained in sound condition during usage.
- b. In addition to above, Supplier/ Contractor shall ensure the following:

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- i. Measurement uncertainty is known and consistent with required measurement capability of the IMTE.
- ii. Selection of IMTEs is compatible with the necessary accuracy and precision of required measurement.
- iii. IMTEs are calibrated at the required intervals against certified equipment having known valid relationship to nationally recognized standards, at recognized calibration labs.
- iv. Calibration records are available and traceable to the particular IMTE.
- v. In case, during recalibration, the IMTE is found out of calibration, report on action taken to validate the previous results along with both calibration records of the IMTE to be furnished to Inspection Agency.
- vi. IMTEs are stored, handled and preserved such that accuracy and fitness are maintained and safeguarded from adjustments.

Note -BHEL's decision on acceptability of the product in such cases shall be binding.

- c. Responsibility of usage of valid and calibrated IMTEs by his sub-contractor(s) shall be of the Supplier/ Contractor.
- d. In case, calibration records are required by BHEL, copies of the same shall be furnished.
- e. Supplier/ Contractor shall be fully responsible for the Quality of products supplied by sub-contractors.

14.0 **MATERIAL DESPATCH CLEARANCE CERTIFICATE (MDCC)**

- a. When the tests have been satisfactorily completed at Supplier/ Contractor's works, BHEL shall issue an inspection report that effect within seven (07) days after completion of the tests, but if the tests were not witnessed by BHEL or its representative, the material acceptance report would be issued within seven (07) days after receipt of the test certificates by BHEL.
- b. BHEL will issue MDCC to the Supplier/ Contractor within 7 days based on inspection report/ test certificates/Certificate of Conformance as applicable.

In case of delay in issuance of MDCC beyond 7 days stipulated time (i.e. from the date of successful inspection report), by BHEL arising due to reasons not attributable to Supplier/ Contractor, BHEL will extend the delivery period for such delay in issuing MDCC. If BHEL is not able to issue MDCC up to 15 days, then, in addition to delay beyond stipulated period, 7 days' additional time shall be given to the Supplier/ Contractor to facilitate for arranging logistics arrangements.

- c. Supplier/ Contractor shall not dispatch any material before issue of MDCC by BHEL.

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- d. Satisfactory completion of tests or issue of MDCC shall not bind BHEL to accept the supply/ equipment should it, on further tests after erection, be found not to comply with the contract provisions.

15.0 **INSURANCE**

- a. Supplier / Contractor shall arrange transit insurance policy or Comprehensive All Risk (CAR) Insurance Policy for total supply & services covering transit risks & loss, destruction or damage during handling at Site, Storage, civil works, erection, testing and commissioning up to trial run including theft, sabotage, fire, lightning and other natural calamities.
- b. Supplier / Contractor shall inform the details of insurance to BHEL.
- c. Insurance as applicable for field work such as third party liability, workmen compensation, Supplier/ Contractor's own Tools & Plants and automobile shall be arranged by the Supplier/ Contractor.
- d. Quoted Prices are to be inclusive of transit insurance.

16.0 **INTER-CHANGEABILITY AND CHANGES** (Applicable for spares and replacements)

- a. All similar components or parts of similar equipment supplied by Supplier/ Contractor shall be interchangeable with one another.
- b. Even though all the work and materials necessary for satisfactory completion of the scope may not be detailed in the specifications and schedules, the cost will be considered to be within the contract price and no extra charges shall be payable.

17.0 **PACKING**

- a. Packing shall be in conformity with specifications and shall be such as to ensure prevention of damages, corrosion, deterioration, shortages, pilferage and loss in transit or storage.
- b. In case of shipment by sea, the packing shall be sea-worthy and of international standards.
- c. Packing List shall be submitted as per standard format along with advance set of documents for claiming payment which must indicate:
 - i. No. of boxes
 - ii. Packing size.
 - iii. Gross weight and net weight of each package.
 - iv. Contents of the package with cross reference to BoM item code no. or item serial no.
 - v. Quantity of each item separately.

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The Packing list must cover all the BoM items and supplier to give the following undertaking in the Packing List:

“The Packing List provided herewith is as per the BoM approved under PO No.-dated-”

18.0 **PACKING FOR SPARES**

Different types of spares i.e. start-up/ commissioning spares and initial spares (Mandatory spares and recommended O&M spares) are to be packed separately. Mandatory and Recommended Spares shall not be packed with main equipment but shall be packed separately.

Packing of Mandatory Spares/Recommended spares should have a Red color band all around the container / package and words “MANDATORY /RECOMMENDED SPARES” written in red color. Project, Package description, BHEL’s PO No. and date also be clearly mentioned on the box. One copy of laminated packing slip shall be placed inside the container and one copy shall be pasted on the cover of the container.

19.0 **COLOUR CODING OF TAGS/ MARKING/ STICKERS**

- a. Aluminum stickers are required to be attached to large components but plastic sheet tags should be tied with small components, giving details like purchase order, description of the component, quantity etc.
- b. Tags should be of the color as mentioned below:

Main equipment	: Yellow or White tag
Mandatory spares	: Pink or Red tag
Start-up/ Commissioning spares	: Blue tag
O&M spares	: Green tag

- c. Similar color scheme to be followed, wherever, stickers are pasted on components.

20.0 **STORAGE INSTRUCTIONS**

Successful tenderer shall be required to submit detailed instructions for storage of supplies within three months of date of issue of LOA/ Order/ Contract. In case, storage instruction available in technical specification of the tender, same shall be followed by the vendors.

21.0 **MATERIAL RECEIPT CERTIFICATE**

Supplier/ Contractor shall arrange Material Receipt Certificate from the site, duly signed by BHEL after receipt & physical verification of the material at site, wherever E&C is in the scope of Supplier/ Contractor.

22.0 **BHEL'S RIGHT OF REJECTION**

- a. Notwithstanding any approval of BHEL or its representative in respect of plant/ equipment/ stores or materials or other particulars or work or workmanship involved in performance of order/ contract (with or without any test carried out by Supplier/ Contractor or BHEL / BHEL’s Inspection Agency, and notwithstanding delivery of the

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plant/ equipment/ stores where so provided to BHEL, it shall be lawful for BHEL or its representative, to reject the plant/ equipment/ stores or any part/ portion of consignment thereof, within 60 days after actual delivery at the stipulated place or destination, if such plant/ equipment/ stores or part/ portion of consignment thereof is not in conformity with terms and conditions of order/ contract whether on account of any loss, storage, deterioration or damage before dispatch or otherwise, whatsoever.

- b. Rejected goods or materials shall be removed by Supplier/ Contractor within a period of 30 days from the date of receipt of notice of such rejection. The expenses to be incurred in respect thereof shall be borne entirely by the Supplier/ Contractor.

23.0 **RISK IN STORES**

Supplier/ Contractor shall perform the order/ contract in all respects in accordance with terms and conditions thereof. Stores and every constituent part thereof, whether in possession or control of the Supplier/ Contractor, his agents or servants, or a carrier, or in joint possession of Supplier/ Contractor, his agent or servants and BHEL, his agents or servants, shall remain in every respect at the risk of Supplier/ Contractor until their actual delivery to consignee at the stipulated place or destination or where so provided in acceptance of offer, until their delivery to a person specified by BHEL as interim consignee for the purpose of dispatch to the consignee. Supplier/ Contractor shall be solely responsible for all losses, destructions, damages or deterioration to the plant/ equipment/ stores from any cause whatsoever, while the plant/ equipment/ stores await dispatch after approval by BHEL.

24.0 **SHORTAGES / DAMAGES**

Any shortages or damages during unloading and handling at site, including at the time of erection and commissioning, shall be made good by the Supplier/ Contractor at his risk and cost, to meet the project schedule. In case of faults/ discrepancies in any material, component, sub-assembly, assembly, etc., the same shall be supplied/ replenished free of cost to enable the equipment to be put to service.

25.0 **CONFIDENTIALITY**

Supplier/ Contractor shall, at all times, undertake to maintain complete confidentiality of all data, information, software, drawings & documents, etc. belonging to BHEL and also of systems, procedures, reports, input documents, manuals, results and any other company documents discussed and/ or finalized during the course of execution of order/ contract. i.e. Supplier/Contractor shall in no way share or use such intellectual property of BHEL to promote his own business with others. BHEL reserves the right to claim damages from the Supplier/Contractor, or take appropriate penal action as deemed fit against the Supplier/Contractor, for any infringement of the provisions contained herein.

26.0 **INTELLECTUAL PROPERTY & LICENCES**

If any patent, design, trademark, trade secret or any other intellectual property rights apply to the delivery or accompanying documentation/drawings, Buyer shall be entitled to the legal use thereof free of charge by means of a non-exclusive, assignable, transferrable, sub-licensable, worldwide, perpetual license. All intellectual property rights that arise due to the execution of the delivery by the Supplier / Contractor and by its employees or third parties involved by the Supplier / Contractor for the performance of the contract shall be promptly notified by the Supplier / Contractor to the Buyer and shall be deemed to belong to the Buyer. The Supplier / Contractor shall be obligated to cooperate with the Buyer and

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do everything necessary to obtain or perfect the above mentioned rights in favor of the Buyer.

The Supplier / Contractor represents and guarantees that the delivery does not infringe on any of the intellectual property rights of third parties. In the event a third party makes a claim, the Supplier / Contractor shall also be obligated to do everything necessary to obtain or establish the alternate acceptable arrangement pending resolution of any (alleged) claims by third parties.

The Supplier / Contractor agrees to indemnify, defend and hold harmless the Buyer, its officers, employees, agents, representatives, successors, assignees buying or using the goods or services specified herein, against any actual or alleged infringement of such intellectual property interests, claims by third parties in this regard and shall pay to the Buyer merely on demand without demur and without requiring the Buyer to furnish any proof of such claim, such sum as indicated in the demand towards any liabilities, damages, penalties, injuries, claims, demands, actions, cost and expenses etc. suffered as a result thereof.

The Supplier / Contractor agrees that its liability under this clause shall be unlimited.

27.0 DEFAULT/ BREACH OF CONTRACT, INSOLVENCY AND RISK PURCHASE

- a. In case of delays (beyond the maximum late delivery period as per Penalty clause) in successful completion of system, or if there be defective supplies or non-fulfilment of any other terms and conditions of the Contract as enumerated subsequently in this clause, then, without prejudice to its right to recover any expenses, losses or damages to which the Buyer may be put to incur or sustain by reason of the Supplier/Contractor's default or breach of Order/Contract or to suspend business dealings with the Supplier/Contractor in terms of the Buyers' Guidelines for Suspension of Business Dealings as applicable from time to time, the Buyer shall also be entitled to cancel the Order/ Contract either in whole or portion thereof without compensation to Supplier / Contractor. On the occurrence of any of the acts/omissions mentioned below, the Buyer may if it so desires, procure upon such terms and in such manner as deemed appropriate, plant/ equipment/ stores not so delivered or others of similar description where plant/ equipment/ stores exactly complying with particulars are not, in the opinion of the Buyer (which shall be final), readily procurable, at the risk and cost of the Supplier / Contractor.

The Supplier / Contractor shall be liable to the Buyer for any excess costs incurred thereof and the Supplier / Contractor shall continue the performance of the Order/Contract to the extent not cancelled under the provisions of this clause. The Supplier / Contractor shall, on no account be entitled to any gain on such repurchases. If the Bidder does not agree to this Risk Purchase clause, BHEL reserves the right to reject the bid/offer of the Bidder.

The order/contract may be cancelled in whole or part thereof and Risk & Cost Clause in line with terms and conditions of PO/Contract may be invoked by the Buyer in any of the following cases:

- i. If the Supplier/Contractor fails to deliver the goods or materials or any installment thereof within the period(s) fixed for such delivery or the Supplier's poor progress of the supply/services vis-à-vis delivery/execution timeline as stipulated in the contract, backlog attributable to the Supplier including unexecuted portion of supply does not appear to be executable within balance period available;
- ii. Delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications/execution methodology;

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- iii. Withdrawal from or repudiation/abandonment of the supply/services by the Supplier / Contractor before completion as per contract or if the Supplier / Contractor refuses or is unable to supply goods or materials covered by the order/Contract either in whole or in part or otherwise fails to perform the Order/Contract.
- iv. Non supply by the Supplier / Contractor within scheduled completion/delivery period as per contract or as extended from time to time for reasons attributable to the Supplier / Contractor;
- v. Termination of Contract on account of any other reason(s) attributable to the Supplier / Contractor.
- vi. Assignment, transfer, sub-letting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
- vii. If the Supplier / Contractor be an individual or a Sole Proprietorship, in the event of death or insanity of the Supplier / Contractor.
- viii. If the Supplier/Contractor being an individual or if a partnership firm thereof, shall at any time be adjudged insolvent or shall have a receiving order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any assignment of the order/Contract or enter into any arrangement or composition with his creditors or suspend payment or if the firm dissolved under the Partnership Act;
- ix. If the Supplier/Contractor being a Company is wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the debenture holders and creditors is appointed or circumstances have arisen which entitles the Court of debenture holder and creditors to appoint a receiver, liquidator or manager
- x. Non- Compliance to any contractual condition or any other default attributable to the Supplier.

Such defaulting vendor/Supplier shall not be eligible to participate in re-tendering conducted on account of risk purchase made due to fault of such vendor/Supplier.

- b. BHEL's right to go for Risk and Cost, Calculation of Risk and Cost amount, recovery options to BHEL are given in detail in relevant annexure.

28.0 **TERMINATION OF CONTRACT**

- a. BHEL shall have the right to cancel Order/ Contract, wholly or in part, in case they are obliged to do so, on account of any decline, diminution, curtailment or stoppage of their business.

BHEL shall have the right to cancel order/ contract at the risk and cost of Supplier/ Contractor in case either the Supplier/ Contractor himself or any of his representative or agent is found to have been a previous employee (rank of Executive Director or General Manager Incharge having powers of Executive Director or General Manager having powers of Executive Directors) of BHEL immediately before retirement and has within a period of one year of such retirement accepted the employment of the Supplier/ Contractor either as a Supplier/ Contractor or as an employee without having obtained prior permission of BHEL.

- b. In case of cancellation of main supply order/ contract, all other associated orders/ contracts like mandatory spares/ recommended spares/ E&C/ supervision of E&C would also get cancelled.

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29.0 TRANSFER, SUB-LETTING/ ASSIGNMENT/ SUB-CONTRACTING

- a. Supplier/ Contractor shall not sublet, transfer or assign order/ contract or any part thereof or interest therein or benefit or advantage thereof save with the prior consent in writing of BHEL. In the event of Supplier/ Contractor sub-letting, transferring or assigning order/ contract or any part thereof or interest therein or benefit or advantage thereof without such permission, BHEL shall be entitled to cancel the Order/ Contract and to purchase the plant/ equipment/ stores from elsewhere at risk and costs of Supplier/ Contractor and the Supplier/ Contractor shall be liable for any loss or damage which BHEL may sustain in consequence of or arising out of such risk purchase.
- b. If Supplier/ Contractor is an individual or proprietary concern and the individual or the proprietor dies or the partnership is dissolved or substantially affected, then unless BHEL is satisfied that legal representative of individual Supplier/ contractor or proprietor of proprietary concern and surviving partners of partnership firm are capable of carrying out and completing the order/ contract, BHEL shall be entitled to cancel the order/ contract as to its incomplete portion and without being in any way liable to payment of any compensation to estate of Supplier/ contractor and/ or to surviving partners of Supplier's/ contractor's firm on account of cancellation of the order/ contract.
- c. Decision of BHEL that legal representatives of deceased Supplier/ contractor or surviving partners of the Supplier's/ contractor's firm cannot carry out and complete the order/ contract shall be final and binding on the parties hereto.
- d. Terms and Conditions shall not get affected in case of merger/ amalgamation/ takeover/ re-arrangement etc.

30.0 FORCE MAJEURE

- a. Notwithstanding anything contained in the contract, neither the Supplier nor the Buyer shall be held responsible for total or partial non execution/non- performance of any of the contractual obligations, in case such execution/performance is impeded/prevented due to occurrence of a 'Force Majeure' event not within the reasonable control of the party affected, which materially interferes or directly affects the performance of the obligations or duties under the contract.

Force Majeure event means an event beyond the control of the parties to the contract including but not limited to war, Military operations of any nature, Act of God, earthquakes, floods, fire, quarantine restrictions, acts of public enemy, blockades, civil war, explosion, epidemics, insurgency, change in law or government policy etc.

- b. The party claiming to be affected by such Force Majeure event shall notify/inform the other party in writing without delay within a reasonable period of the occurrence and cessation of such event specifying the Force Majeure event and its effect on performance of contractual obligations. In the event of the parties hereto not agreeing that a force majeure event has occurred, the parties shall submit the dispute(s) for resolution pursuant to the provisions hereunder, provided that the burden of proof as to whether a force majeure event has occurred shall be upon the party claiming such an event.

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- c. If it is agreed between the parties that a Force Majeure event has occurred and its effect continues for a period of 36 months, then either party shall be free to cancel the contract. However, if the effect of such event ceases within this period of 36 months, the performance of the obligations put on hold shall be resumed immediately.
- d. Notwithstanding the above provisions, BHEL shall reserve the right to cancel the Order/ Contract, wholly or partly, in order to meet the overall project schedule and make alternative arrangements for completion of delivery and other schedules.
- e. If a war like situation has developed in a country where Suppliers's works (of this PO) is located or there is political instability or civil war and Indian Embassy located in that country/Indian Government forbids or advises for not having any business dealings in that country/ region/zone, then BHEL reserves the right to cancel the order/Contract without incurring any liability for any kind of payment or compensation to the Supplier on that account.

31.0 **INDEMNIFICATION**

Supplier/ Contractor shall fully indemnify and keep indemnified BHEL against all claims /losses/damages/demands/expenses of any nature of whatsoever nature arising during the course and out of the execution of this Order/ Contract in connection of this contract.

32.0 **SETTLEMENT OF DISPUTES**

- a. Except as otherwise specifically provided in the Order/ Contract, all disputes concerning questions of the facts arising under the Order/ Contract, shall be decided by BHEL, subject to written appeal by the Supplier/ Contractor to BHEL, whose decision shall be final.
- b. Any dispute or difference shall be, to the extent possible, settled amicably between the parties hereto, failing which the disputed issues shall be settled through arbitration.
- c. Supplier/ Contractor shall continue to perform the order/ contract, pending settlement of dispute(s).

33.0 **ARBITRATION & CONCILIATION**

a. **CONCILIATION**

If at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation, effect, interpretation or breach of the agreement, contract), which the Parties are unable to settle mutually, arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee (IEC) to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators under BHEL Conciliation Scheme.

Notes:

- i. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.

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- ii. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.
- iii. The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in Forms & Procedure to this GCC. The Procedure together with its Formats will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in this GCC.
- iv. The Contractor/ supplier hereby agrees that BHEL may make any amendments or modifications to the provisions stipulated in the Procedure to this GCC from time to time and confirms that it shall be bound by such amended or modified provisions of the Procedure with effect from the date as intimated by BHEL to it.
- v. The venue of conciliation shall be Delhi/ Delhi-NCR.

b. **ARBITRATION**

Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the Parties, in respect of any dispute or difference; arising out of the formation, breach, termination, validity of execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the contract, then, either Party may, by a notice in terms of Section 21 of Arbitration & Conciliation Act in writing to the other Party commence arbitration. The notice shall as far as possible contain the particulars of all claims to be referred to arbitration.

The arbitration shall be conducted by Sole Arbitrator to be appointed mutually by the Competent Authority of BHEL (BHEL) & Supplier within the statutory period as applicable. As far as practicable, names of 2 or more persons shall be forwarded to the Supplier for seeking consent of the Supplier to one of the names proposed for appointment as arbitrator in the case. If the parties fail to agree on the name of Sole Arbitrator, then appointment shall be made as per the provisions of section 11 of the Arbitration & Conciliation Act.

The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the Parties. The language of Arbitration shall be English.

Subject as aforesaid, the provisions of Arbitration of Conciliation Act 1996 (India) or statutory modification/ Amendments or re-enactments thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceedings under this clause. The seat and venue of arbitration shall be Delhi/ New Delhi/ PO issuing agency city.

The cost of arbitration shall be borne equally by the parties' subject to the final apportionment of the cost of the arbitration as per the award/order of the arbitrator.

Subject to the arbitration in terms of Clause above, the Courts at Delhi-NCR shall have exclusive jurisdiction over any matter arising out of or in connection with this contract.

Notwithstanding the existence or any dispute or difference and/or reference for the arbitration, the Contractor shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.

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c. **IN CASE OF CONTRACT WITH PUBLIC SECTOR ENTERPRISE (PSE) OR A GOVERNMENT DEPARTMENT & INSTITUTES, THE FOLLOWING SHALL BE APPLICABLE**

In the event of any dispute or difference relating to the interpretation and application of the provisions of the commercial contract between Central Public Sector Enterprises(CPSEs)/Port Trusts inter se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning railways, Income Tax, Customs and Excise Departments) such dispute or difference shall be taken up by either party for resolution through Administrative Mechanism for Resolution of CPSEs Disputes(AMRCD) as mentioned in Department of Public Enterprises(DPE) office Memorandum No. 4 (1)/2013-DPE(GM)/FTS-1835 dated 22.05.2018 as amended from time to time.

A copy of the extant Department of Public Enterprises (DPE) Office Memorandum is available on Govt. of India website and the same shall apply with any amendments as made from time to time.

34.0 **LAWS GOVERNING THE CONTRACT**

- a. Contract, including all matters connected with contract, shall be governed by the Indian Law, both substantive and procedural, for the time being in force including modification thereto, and shall be subject to the exclusive jurisdiction of the Indian courts at Delhi-NCR.

It shall be responsibility of the vendor to ensure compliance of Labor laws, safety regulations, workmen compensation, insurance, BOCW act or other relevant acts.

- b. **HEALTH SAFETY AND ENVIRONMENT GUIDELINES (HSE)** of BHEL are available on www.bhel.com vendor section for compliance for erection (composite) contracts.

35.0 **JURISDICTION OF COURT**

Courts at Delhi-NCR shall have exclusive jurisdiction to decide the dispute, if any, arising out of or in respect of the contract(s) to which these conditions are applicable.

36.0 **HOLD ON CONTRACT EXECUTION CASES OTHER THAN FORCE MAJEURE**

In case of uncertainty regarding lifting of HOLD on contract execution relating to any activity put by Buyer/BHEL (because of any reason other than Force Majeure), the contract/Purchase Order may be short closed by Buyer/BHEL after 3 years from date of imposition of HOLD without prejudice to any claim of either party with regard to the executed portion of the contract. However, all future obligations of the Buyer and Supplier with respect to the contract/Purchase Order shall come to end in case of such short closure.

37.0 **NON DISCLOSURE AND INFORMATION OBLIGATIONS**

All drawing and technical documents or technical information whether contained in physical form or in electronic form or any oral information that is subsequently transcribed in to physical/electronic form etc. (hereinafter referred to as "Technical Information") relating to the product or it's manufacture submitted by one party to the other, prior or subsequent to the formation of contract, shall remain property of the disclosing party. Technical Information belonging to one party and received by the other party, shall be treated as Confidential Information and shall not, without the express written consent of

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such disclosing party, be used by the receiving party or any of its agents, employees, representatives etc., for any other purpose, other than that, for which such Technical Information was provided. Such Technical Information shall not, without the prior written consent of the disclosing party, otherwise be used or copied, reproduced, transmitted or communicated to a third party.

The Supplier shall provide Buyer with all information pertaining to the delivery in so far as it could be of importance to Buyer. The Supplier shall not reveal confidential information (including price) to its own employees not involved with the tender/ Contract & its execution and delivery or to third parties, or to make use of such information pertaining to any data, designs, drawings, specifications and other information furnished to it by the Buyer, unless Buyer has agreed to this in writing beforehand. The Supplier shall not be entitled to use the Buyer's name in advertisements and other commercial publications without prior written permission from Buyer.

Upon completion, cancellation or termination of this order, Supplier shall return to the Buyer all such data, designs drawings, specifications and other information, including copies made by Supplier.

DRAWINGS, PATTERNS & TOOLS: All drawings, patterns & tools supplied by BHEL or made at BHEL's expense are BHEL's property. These cannot be used or referred to any other party and must only be used in the execution of BHEL's orders. These should be preserved at the Supplier's/ contractor's cost for a period of not less than 5 years. Patterns & tools should be returned to BHEL within 90 days of issue of the same or completion of work, whichever is later.

Bidder/Supplier/ Contractor shall, at all times, maintain complete confidentiality of all technical information including data, information, software, drawings & documents, etc. belonging to the Buyer and also of systems, procedures, reports, input documents, manuals, results and any other company documents discussed and/ or finalized during the course of execution of order/ contract.

The Confidentiality obligation of the Supplier under this Agreement shall survive the Expiration/early termination of this contract. The above undertaking in this clause shall, however, not apply to Technical Information which:

- i. through no fault of the receiving Party, is or comes in public domain through publication or otherwise, or
- ii. the receiving Party can establish was in its possession, without any restrictions as to its disclosure at the time of its receipt, or
- iii. is subsequently lawfully acquired by the receiving Party independently of the other Party, or
- iv. receiving Party is required to disclose to comply with applicable law, rule, regulation, or court order or other compulsory process of a court or other governmental body.

If the Supplier, in order to perform its Contract needs to disclose to a subcontractor or suppliers the Technical Information received from the other Party e.g. for the purpose of use, manufacture, repair, maintenance and purchase, then such first mentioned Party shall have the right to do so to the extent needed for such purpose, but shall first obtain from such subcontractor or supplier a confidentiality undertaking consistent with the provisions of this Clause and submit to BHEL for records. In case of failure of Supplier to

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ensure compliance of this clause, the Supplier shall be liable to compensate BHEL for any damage/ loss whatsoever suffered by BHEL, as a result, of breach of this clause.

38.0 **NON WAIVER OF DEFAULTS**

If any individual provision of the Contract is held by a Court or any other Responsible Authority to be unlawful, invalid, void or unenforceable, that provision shall be deemed to be deleted from the Contract and shall be of no force or effect and this Contract shall remain in full force and effect as if such provision had not originally been contained in this Contract and the other provisions shall not be affected. In the event of any such deletion, the Parties shall negotiate in good faith, in order to agree to terms of a mutually acceptable and satisfactory alternative provision in place of the provision so deleted.

No waiver shall be effective, unless, it is communicated in writing to the other party. A waiver accorded on one occasion shall not constitute a continuing waiver in respect of such/similar breach/event in future and separate waiver shall be necessary for each event/breach.

The failure of BHEL to exercise any contractual right or remedy or to enforce any of the terms and conditions of this Order/Contract or to exercise any right or privilege granted to BHEL under this Contract or under law shall not constitute a waiver thereof or constitute a waiver of any right or remedy arising from any other breach of the Contract nor shall it release the Supplier from any of the warranties or obligations of the Order/Contract and the same shall continue in full force and effect.

39.0 **QUALITY ASSURANCE DOCUMENTS**

The supplier / contractor shall be required to submit the following Quality Assurance Documents (in original + one copy) within 2 weeks after dispatch of the equipment.

- a) Test report of components.
- b) Non-destructive examination results/ reports including radiography interpretation reports.
- c) Welder identification list listing welders and welding operator's qualification procedures and welding identification symbols.
- d) Sketches and drawings used for indicating methods of traceability of the radiographs to the location of the equipment.
- e) Stress relief time temperature charts.
- f) Factory test results for testing required as per applicable codes and standards referred to in the specification.
- g) Inspection Report duly signed by BHEL or its representative and supplier / contractor for the agreed inspection hold points. During course of inspection the following will also be recorded:
 - i. When some important repair work is involved to make the job acceptable, the repair works remain part of the accepted product quality.
 - ii. Letter of conformity certifying that that requirement is in compliance with finalised Specification requirements.

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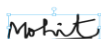
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VOLUME - III

SPECIAL CONDITIONS OF CONTRACT (SCC)

NEW BUILDING PROJECT GROUP
Plot no. 25, Sec-16A, Noida(UP)

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1. TERMS OF PAYMENT

1.1 SUPPLY PAYMENT

75% payment of price of STP system, as per PO/ approved billing schedule, along with taxes and duties (as applicable), shall be paid against receipt and verification of material at site as per the PO/ approved billing schedule, to the satisfaction of BHEL.

1.2 ERECTION & COMMISSIONING PAYMENT

20% payment of price of STP system, as per PO/ approved billing schedule, along with taxes and duties (as applicable), shall be paid on successful commissioning of the complete system/ package. Payment shall be released only after submission of all the final documents for the package viz., Protocols, As-built drawings, O&M Manual, Final drawings, Inspection documents, etc., duly certified by BHEL.

1.3 HANDING OVER PAYMENT

- i. 5% payment of price of STP system, as per PO/ approved billing schedule, along with taxes and duties (as applicable), shall be paid on successful completion of Trial run and handing over of complete system/ package to the BHEL as per order/contract.

Note (for clause 1.3): If the Trial run and Handing over of complete system/package to BHEL is not conducted up to 12 months from E&C completion, for reasons not attributable to the supplier / contractor, then last 5% payment under clause 1.3 will be released against Bank Guarantee of an equivalent amount (excluding taxes, duties), valid for 12 months, provided other conditions of clause 1.1 & 1.2 are complied with. This bank guarantee will be in addition to Contract Performance Bank Guarantee for 5% of the contract value (excluding taxes, duties) as mentioned in the contract.

1.4 RELEASE OF PAYMENT

Supplier / contractor shall submit billing documents for payment directly to BHEL. Payment will be released within 60 days after submission of complete documents as per clause below or as per order / contract (45 days for vendors qualified and registered as Micro or Small as per MSMED Act).

1.5 DOCUMENTS TO BE SUBMITTED BY SUPPLIER / CONTRACTOR

1.5.2 FOR CLAIMING SUPPLY PAYMENTS (Original + 1 copy)

- i. GST compliant invoice
- ii. LR
- iii. Packing List: Must be indicating No. of boxes, Packing size, Gross weight and net weight of each package, Contents of the package with cross reference to BoM item code no. or item serial no. and Quantity of each item separately.
- iv. Guarantee Certificate
- v. Duty drawback (if applicable) documents: As per applicable law
- vi. Respective documents as specified in the relevant clause(s).

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- i. Dispatch Clearance.
- vii. Insurance Intimation
- viii. Performance Bank Guarantee

1.5.2 FOR CLAIMING PAYMENT FOR ERECTION, COMMISSIONING AND HANDING OVER
(Original + 1 copy)

- i. GST compliant invoice
- ii. Respective documents as specified in the relevant clause(s).

1.6 CONTRACT PERFORMANCE BANK GUARANTEE

- a. Supplier / Contractor shall submit Contract Performance Bank Guarantee as per relevant annexure under Forms & procedures for 5% of Order/ Contract value (excluding taxes, duties) along with submission of documents for supply payment to cover the due performance of Order / Contract and to fulfill the guarantee conditions stipulated in the Order/ Contract. Validity of BG shall be till completion of all contractual liability or warranty period, whichever is later.
- b. Value of the Bank Guarantee (at the time of submission) shall remain unchanged throughout its validity period.
- c. BHEL reserves the right to encash the bank guarantee and forfeit the amount in the event of any default, failure or neglect on part of the Supplier / Contractor in fulfillment of performance of the Order/ Contract or in the event GST credit is delayed / denied to BHEL due to non/delayed receipt of goods and / or tax invoice or expiry to timeline prescribed in the relevant act for availing such Input Tax Credit or any other reasons not attributable to BHEL.
- d. Equivalent amount shall be recovered from payment due to the Supplier/ Contractor, before releasing any payment, in absence of a valid bank guarantee.
- e. Bank Guarantees shall be from Consortium Bank as per list and directives on www.bhel.com.
- f. The expiry of claim period should be kept min. of three months after BG validity.
- g. In case of private sector banks, a clause to be incorporated in the text of bank guarantee that it can be enforced by being presented at any branch of the bank located in the Delhi-NCR.

1.7 WARRANTY PERIOD FOR STP

- a. Supplier / Contractor shall warrant that the plant/ equipment/ stores supplied shall be free from all defects and faults in design & engineering, material, workmanship & manufacture and shall be of the highest grade and consistent with the established and generally accepted standards and in full conformity with the Order/ Contract specifications, drawing or samples, if any.
- b. Warranty period of the complete plant shall be 12 calendar months from the date of handing over of the complete plant to BHEL, after successful commissioning and trial run as per tender terms. Supplier/ Contractor's liability in respect of any complaints, defects and claims shall not be limited to supply and installation of replaced parts free of charge, or repair of defective parts to the extent that such replacements are attributable to or arise

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from faulty workmanship, material or design, in the manufacture, of the plant / equipment / stores but at the option of BHEL, to the payment of the value, expenditure and damages as mentioned hereafter, provided defects on being discovered are brought to the notice of the Supplier/ Contractor before the expiry of the warranty period.

- c. The warranty of individual equipment of the plant offered by the respective manufacturers shall be passed on to BHEL as it is, if it is more than the warranty period mentioned above. Supplier / Contractor to submit Original Warranty Certificates to BHEL from the Manufacturer.
- d. All replacements and repairs during the warranty period shall be delivered and completed promptly and satisfactorily within a period of 3 working days from the time of reporting the defect/ loss/ rejection etc.
- e. All the replaced and replenished plant/ equipment/ stores shall also be warranted as per above clause.
- f. Decision of BHEL with regard to Supplier/ Contractor's liability and the amount involved, if any, payable by Supplier/ Contractor under the warranty shall be final, conclusive and binding.

1.8 **DELIVERY FAILURE AND TERMINATION / LIQUIDATED DAMAGES**

Timely dispatch/delivery and completion of other schedules as stipulated in Order/Contract shall be the essence of Order/Contract. If the Supplier/Contractor fails to complete the dispatch/delivery and other schedules within the time period stipulated in Order/Contract, or within any extension of time granted by BHEL, it shall be lawful for BHEL to recover damages for breach of Order/Contract and hereunder.

1.9 **PENALTY CLAUSE FOR STP**

- a. The complete system under scope is to be completed within the completion time mentioned in the contract. Required clearances, approvals, drawings, materials and other inputs in the scope of BHEL shall be made available to the supplier / contractor in time matching with the approved delivery schedule. Delay in completion that may take place beyond contractual schedule OR any extension thereof for the reasons attributable to the supplier / contractor shall be subject to imposition of penalty on contractor @ half ($\frac{1}{2}$) percent and applicable GST thereon, of the total contract price (main supply and E&C) excluding GST per week or part thereof, subject to a maximum of ten (10) percent of the total contract price (main supply and E&C) excluding GST. In case of any amendment/ revision, Penalty shall be linked to the amended/ revised contract delivery date(s).
- b. BHEL reserves the right to purchase from elsewhere on account of and at the risk and cost of Supplier/ Contractor, with notice to Supplier/ Contractor, the plant/ equipment/ stores due for delivery but not so delivered, or their equivalent without cancelling the Order/ Contract in respect of plant/ equipment/ stores not yet due for delivery. The manner and method of such purchase shall be at the discretion of BHEL.
- c. BHEL reserves the right to cancel the Order/ Contract or a portion thereof for the plant/ equipment/ stores not so delivered at the risk and cost of the Supplier/ Contractor and the Supplier/ Contractor shall be liable to BHEL for any excess cost thereof.

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- d. Supplier/ Contractor shall continue performance of the Order/ Contract, under all circumstances, to the extent not cancelled.

1.10 TIME OF COMPLETION

- a. **Time as the essence of the contract:** The time allowed for completing the system as entered in the tender shall be strictly observed by the Supplier / Contractor and shall be deemed to be of the essence of the Contract. The Work shall proceed with due diligence until Final Completion. The Supplier / Contractor shall comply with the time schedule as mentioned in the contract. In the event of the Supplier / Contractor failing to comply with the time schedules as applicable, he shall be liable to pay penalty as provided for in this Contract.
- b. Supplier / Contractor is required to furnish complete drawings / technical documents to BHEL for approval within 30 (Thirty) days of award of LOI / Purchase order by BHEL. Complete drawings / documents shall be approved by BHEL within 7 (Seven) days from the date of submission of complete drawings / documents by supplier / contractor to BHEL. Post approval of drawings / documents by BHEL, entire system as detailed in tender specification shall be completed viz., supplied, installed, tested and commissioned within 5 months (150 days), from the date of approval of drawings / documents by BHEL. Trial run shall be undertaken for a period of one (1) month after commissioning. BHEL will take over the system after successful completion of trial run.
- c. The entire scope shall be completed by the supplier / contractor within this time schedule or within such extended periods of time, as may be allowed by BHEL under relevant clause of the tender.

1.11 EXTENSION OF TIME FOR COMPLETION

- a. If the completion of work as detailed in the scope of work gets delayed beyond the contract/ completion period, the Supplier/ contractor shall request for an extension of the contract and BHEL at its discretion may extend the contract.

Pending finalization of extension of time, payment to vendors for supply/services executed during such periods will be done only in excess of maximum penalty amount as per penalty clause mentioned in the contract. On finalization of extension of time, payments to vendor shall be regularized in line with approved time extension.

- b. However, if any 'Time extension' is granted to the Supplier/ contractor to facilitate continuation of work and completion of contract, due to backlog attributable to the Supplier/ contractor alone, then it shall be without prejudice to the rights of BHEL to impose penalty in line with the relevant clause for the delays attributable to the Supplier/ contractor, in addition to any other actions, BHEL may wish to take at the risk and cost of Supplier/ contractor.

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VOLUME - IV

TECHNICAL CONDITIONS OF CONTRACT (TCC)

NEW BUILDING PROJECT GROUP
Plot no. 25, Sec-16A, Noida(UP)

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1. NAME OF WORK

Turnkey job of Design, Engineering, Supply, Installation, Testing & Commissioning of **160 KLD Sewage Treatment Plant based on MBR Technology** complete with electro-mechanical works necessary equipment, interconnecting piping network etc.

2. GENERAL

The main source of effluent is wastewater resulting from Toilets and Kitchens waste etc. The scope of work includes design, drawings, getting approvals from statutory bodies, coordinating during construction, erection, commissioning, trial run and obtaining test results of completely below ground sewage treatment plant with electrical, mechanical, piping and controls. The treated effluent should be fit to reuse for Flushing, Landscaping and Make-up water for HVAC cooling towers. The work is required to be carried out on a turnkey basis covering a guarantee of satisfactory performance as per the standards laid for a period of One (1) year from the date of handing over.

3. BASIC DATA ON INFLUENT RAW WASTE WATER (SEWAGE)

Following shall be the Parameters for design of Sewage Treatment Plant.

Table 1.0

PARAMETERS	VALUE
Daily Average Flow	160 M ³ / Day
pH	6.0 - 8.5
BOD ₅	250 - 400 Mg/L
Total Suspended Solids	250 - 500 Mg/L
COD	500 - 750 Mg/L
Oil & Grease	up to 100 Mg/L
Inflow time	8 hrs.
Peak factor	3

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Temperature

Ambient

Standards of the Sewerage Discharge after treatment shall be as follows:

As stipulated by State Pollution Control Board (PCB), the treated effluent quality shall be within the following values for various parameters.

Waste water after treatment below shall be suitable for recycling in flushing, landscaping & make-up water for HVAC cooling towers.

Table 2.0

PARAMETERS	VALUE
Turbidity (NTU)	< 2
Total Suspended Solids	Less than 10 mg/L
pH	6.5 – 8.3
Temperature °C	Ambient
Oil & Grease	< 10 mg/L
Total Kjeldahl Nitrogen as N	10 mg/L
NH ₄ -N	5 mg/L
BOD ₅	Less than 5 mg/L
COD	Less than 50 mg/L
Dissolved Phosphorous as P	1 mg/L
Nitrate Nitrogen as N	10 mg/L
Faecal Coliform in 100 ml	Nil

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Colour	Colourless
Odor	Aseptic which means not septic and no foul odour
E.coli	Nil

4. DESIGN CRITERIA

- The STP shall be designed on the basis of wastewater flow and quality parameters as mentioned above in Tables 1.0 & 2.0. The supplier / contractor to submit an offer for STP considering these values the basis for design criteria.
- The plant shall function in aerobic condition only. Formation of any anaerobic / septic condition in the bio-reactor shall not be allowed.
- The “Manual on sewerage and sewage treatment”, “Manual on water supply and treatment” and other relevant BIS / PCB / Ministry of environment publications shall be followed.

5. STATUTORY APPROVALS

On placement of order, supplier / contractor shall submit and obtain approval and permission of State Board for Control of Pollution and any other statutory authority whose approval may be required for the installation and commissioning of the sewage treatment plant for the proposed process and disposal arrangement. The supplier / contractor shall make presentation and all submittals required by the authority.

On satisfactory completion of the installation and commissioning of the plant and getting desired effluent results, the supplier / contractor shall obtain the No Objection Certificate (NOC) from the competent authority.

6. SCOPE OF WORK

The tender is invited on turnkey basis for Design, Engineering, Supply, Installation, Commissioning, trial run of Sewage Treatment Plant (STP) to give treated effluent quality as per central / State Pollution Control Board as well as that specified above.

The supplier / contractor will be solely responsible for smooth commissioning and trial running of the sewage treatment plant. In case, it is found in the later stage that some additional fixtures / equipment are required to be added in order to achieve desired quality, the supplier / contractor would be liable to provide the same without any extra charges.

Following items are within the scope of contract. The basic flow diagram is attached herewith. The supplier / contractor will be required to submit the Detailed Process and shop drawings incorporating various equipment details. These detailed drawings shall be submitted to BHEL for comments & approval.

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Supplier / contractor has to submit all the technical details of equipment used for operation of plant and shop drawings to BHEL for approval. All the works shall be carried out as per final "valid for construction drawings" approved by BHEL.

Supplier / contractor's scope includes Engineering of the System along with the detailed hydraulic calculations, chemical dosage calculations, including preparation of detailed equipment drawings, piping, electrical & instrumentation, and other items of work required for installation and commissioning of the plant.

- a) Complete interconnecting piping between various units including supply of all materials like pipes, fittings, all valves, gaskets, flanges, nuts and bolts including all materials required for necessary pipe supports and associated civil works, etc., complete.
- b) Supply, installation and commissioning of all the equipments required for the sewage treatment plant as per the individual equipment specification and details given.
- c) All electrical works including all electrical motors for the various equipment, cabling, STP electrical panel, starters, etc., will be provided by the supplier / contractor. The scope of work includes coordinating with civil contractor for necessary civil works like construction of panel foundations, cable trenches, cable supports, lighting of entire plant as per drawing etc., Complete Commissioning of all the equipment after the electricity is supplied, will be within the scope of supplier / contractor.
- d) The supplier / contractor has to provide the details of electrical power requirements of the various equipment, total installed load and operational load.
- e) All temporary sheds, office, godowns, etc. required for storage of materials and for supplier / contractor's supervisory personnel at site shall be in supplier's / contractor's scope.
- f) Scope of contract for piping includes construction of necessary masonry valve chambers wherever necessary, removable type MS painted covers and extension spindles for valves.
- g) The entire STP is proposed to be constructed below ground level.
- h) Preparing shop drawings for approval of BHEL.
- i) Make of all piping/Equipment/Motors/Cables and Pumps shall be got approved by BHEL before Supply & Installation. The decision of BHEL in this regard shall be final and binding on the supplier / contractor.
- j) All equipment GA drawings shall be submitted to BHEL for approval prior to fabrication/ ordering. The fabricated and brought-out equipment shall be inspected at Supplier / Contractor / Manufacturer workplace by BHEL and shall be dispatched to site only after obtaining clear dispatch instructions in writing from BHEL.
- k) It is obligatory on the part of the intending bidder to visit the site of work prior to submitting the offer and familiarize himself with local / site / soil conditions, availability of men, materials and machinery for successful and timely execution of the works. No extra shall be paid, in case, supplier / contractor fails to ascertain correct site conditions before submitting the offer.
- l) Any other item, not specifically / mentioned in this tender, but essential for proper and successful commissioning and running of the STP, is also to be included in the scope of contract.
- m) Supplier / contractor has to coordinate with Civil & MEP contractors to establish the plant and to commission the plant successfully.

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- n) Obtain No Objection Certificate (NOC) that the plant is meeting the State Pollution Board requirements.

The scope of work of the supplier / contractor is within the given limits: -

- i. Sewage Inlet up to STP bar screen chamber.
- ii. Treated water at the outlet header of the treated water tank.
- iii. Sludge at the outlet header of the sludge disposal pumps.
- iv. Electrical feeder at the inlet of STP electrical panel
- v. Service water line at a convenient location near STP.

7. TEST / COMMISSIONING AND TRIAL RUNNING OF INDIVIDUAL COMPONENT

The Supplier / Contractor shall have to test each equipment used for the plant for at least 72 hours continuous running with designed load and to the full satisfaction of BHEL. Any defects found, has to be rectified by the supplier / contractor at his own cost immediately and within reasonable time to be decided by BHEL.

Necessary Instruments, Gauges, Labour / Supervisory Staff, Laboratory analysis etc., are to be furnished / provided by the Supplier / Contractor free of cost to BHEL.

8. COMMISSIONING AND TRIAL RUN OF PLANT AND HANDING OVER

After successful commissioning of the plant, the supplier / contractor shall trial run it for a period of one month. During trial runs as described above, the Supplier / Contractor shall satisfy BHEL in all respects regarding the satisfactory quality of effluent, quality of materials, equipments and workmanship used in the plant. Only after satisfying itself/ himself regarding the above points, BHEL will take over the plant and such date of taking over shall be deemed as date of handing over for all purposes, like warranties, and payment terms mentioned elsewhere in this tender. The warranty period described elsewhere in the tender shall start from the date of handing over.

9. TESTS (SAMPLING & ANALYSIS OF TREATED WATER)

During the commissioning & trial run period, the supplier / contractor has to undertake certified Laboratory testing and sampling of treated effluent of all parameters as required by statutory authority. In case, Laboratory Test Report do not reflect desired result, all necessary action(s) followed by laboratory testing till satisfactory result are achieved, will be the responsibility of the supplier / contractor.

Moreover, pH, TSS & COD parameters should be checked & logged by supplier / contractor on daily basis during trial run.

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10. TRAINING OF OPERATOR

Supplier / contractor shall provide necessary training for operators nominated by BHEL during commissioning, trial run. After completion of training to the operators nominated by BHEL, the Supplier / contractor shall certify the operator's performance to carry over the plant maintenance and operation efficiently. BHEL to provide 5 (Five) operators during commissioning / trial run stage for training purpose.

11. TREATMENT SCHEME

The treatment scheme shall be based on Membrane Bioreactor based Biological Treatment followed by UV System. The STP will consist of following stages:

1st Stage – Primary Treatment, which comprises of screening, oil and grease trap.

2nd Stage – Secondary or biological treatment, which comprises of Anoxic & Aeration Tank, MBR Tank equipped with submerged membrane.

3rd Stage – Disinfection, which comprises of UV System

4th Stage – Sludge Treatment, which comprises of Screw Pumps and Filter Press.

a) TREATMENT UNITS

Above Treatment Scheme shall comprises of the following units –

- 1) Bar Screen Chamber with Screen
- 2) Oil & Grease Chamber with Oil & Grease Separator
- 3) Equalization Tank
- 4) Air Blowers
- 5) Fine Screen
- 6) Anoxic Tank
- 7) Aeration Tank
- 8) MBR Module equipped with hollow fiber membranes
- 9) Permeate Suction Pump
- 10) Backwash Pump
- 11) Raw Sewage Transfer Pumps
- 12) Sludge Recycling Pumps
- 13) UV System
- 14) Treated Water Tank
- 15) Sludge Holding Tank
- 16) Screw Pumps with Filter Press
- 17) Piping & Cabling
- 18) STP Electrical Panel

12. PROCESS DESCRIPTION

a. Screening

The Sewage is led into a Bar Screen Chamber provided with SS Bar Screen. Bar screen shall be provided at inlet point in the bar screen chamber. Screen with openings generally of uniform size having 10 mm opening to remove suspended or floating matters in sewage to be provided. The velocity shall be maintained so as to avoid settling of grit or organic matter. Bar screen shall be so designed that it can be cleaned manually from outside of tank.

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b. Oil & Grease Chamber

The raw sewage after passing through Bar Screen shall be taken into an oil & grease trap for removal of oil and grease from the effluent. Oil & Grease Separator also to be provided to separate oil & grease from the trap.

c. Equalization Tank

The Equalization Tank is provided to balance fluctuating flow and engineered to deliver a constant rate of flow to the treatment system. Aeration of Equalization Tank will be kept with adequate numbers of coarse air bubble air diffusers to avoid any smell and sedimentation problems. The raw sewage is pumped using submersible non-clog pumps of suitable capacity.

d. Anoxic Tank

The Anoxic Reactor will reduce the ammonical nitrogen by completing the de-nitrification reaction. The process involves the de-nitrification of waste streams through the use of bacteria which breaks down the nitrate in the waste to use as an oxygen source. This breakdown of nitrate from the waste stream release oxygen and nitrogen gas. The oxygen is consumed by the bacteria and the nitrogen gas releases to the atmosphere. The waste stream then has acceptable nitrogen levels as per the environment requirement.

e. Aeration Tank

The reactor is equipped to perform suspension growth of microorganism (mixed liquor) in 8000-15000 MLSS. The air shall be provided through an air diffusion system for biological treatment of sewage in the reactor.

f. MBR tank with submerged membrane bioreactor

In MBR Tank, fine pore diffusers and PVDF hollow fiber submerged membrane are provided. The efficiency of BOD removal is considered as between 90 – 97% in this bioreactor.

The MBR tank contains highly concentrated biomass, so called activated sludge, which transforms the organic matter of the wastewater into carbon dioxide, water and biomass. The activated sludge is kept in aerobic conditions at all times by continuous aeration.

The membranes come in stacks called cassettes. The cassettes are mounted on to a skid with an easy removal mechanism. The skid with the cassette construction ensures that the replacement costs for the membrane are kept to the minimum.

The filtrate from the MBR will be removed by MBR filtrate pumps. The suction of the pump is connected to the MBR filtrate headers in the skid. Return activated sludge pumps are provided in the MBR chamber to maintain the continuous circulation of the mixed liquor between the aeration tank and the MBR Chamber.

Permeate of membrane is further treated with UV System and stored in Treated Water Tank.

The excess sludge from the aeration tank will be taken out at regular intervals from the recirculation line. The sludge will be stored in sludge holding tank and then pumped through screw pump to filter press and solid cakes formed are carted out. Sludge cake should be stored in proper place as per the norms and guidelines.

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13. DETAILS OF ELECTRICAL WORKS

I. GENERAL SPECIFICATION OF EQUIPMENT

- a) 1 NO. LT Panel, cubicle type suitable for floor mounting and comprising incoming power Control switch, Ammeters, Voltmeter, Phase Indicating Lamps MCBs and Starters for the feeders all complete. Also to be provided are Automatic Level Controller for actuating the Raw Effluent / Treated effluent. Necessary Auto manual Selector Switches shall also be provided.
- b) Local push button starters shall also be provided near the Aerator equipments and mounted in weatherproof enclosures.
- c) Necessary power wiring by armoured PVC Cables or by PVC insulated wire in conduit from LT Panel to equipment motors shall be provided with necessary tray/ support etc., complete and internal lighting of entire DSTP Plant as shown in the drawing.
- d) Necessary earthing as per I.E. rules.
- e) Lighting shall be as per IS requirements and the make and size of cables used should be approved from BHEL.
- f) Energy meter (approved make) should be provided in the panel.
- g) The switchboard shall be metal clad, totally enclosed, rigid, compartmentalized design, floor mounting, air insulated, extensible cubicle type for use on medium voltage power, 3 phases 4 wire 50 cycles system.
- h) The equipment shall be designed for operation in high ambient temperature and high humidity tropical atmospheric conditions. Means shall be provided to facilitate ease of inspection, cleaning and repairs for use in installations, where continuity of operation is of prime importance.

II. STANDARDS

Following equipments shall conform to the requirements of:

- a) Moulded Case Circuit Breaker (MCCB) - IS 13947 - 1, 2 / IEC 60947 - 1 & 2
- b) Miniature Circuit Breaker (MCB) - IS 8828 – 1996 / IEC 898 - 1995
- c) Contactors - IS 13947 - 1, 4
- d) Indicating Instrument - IS 1248
- e) Residual Current Circuit Breaker (RCCB) - IS 12640 - 1988 / IEC 1008
- f) HRC fuse link - IS 9224 and BS 8 : 8
- g) Current Transformer - IS 2705 and IEC 185

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- h) Potential Transformer - IS 3156
- i) Relay - IS 3231 & IS 8686 (For Static Relays)

III. CONSTRUCTION

3.1. The switchboard shall be-

- a) CRCA Sheet steel enclosed, indoor floor mounted freestanding cubicle type.
- b) Made up of the requisite vertical sections modular type which when coupled together shall form continuous switchboards.
- c) Dust, vermin and damp proof and enclosure protection not less than IP 52.
- d) Each feeder / instrument compartment shall be provided with a hinged door interlocked with MCCB/SFU inside the compartment such that door can only be opened when MCCB/SFU in off position.
- e) Readily extendable as required by the addition of vertical sections after removal of the end covers.
- f) Switchboards shall have access to the feeders, bus bars, cable termination, cable alley, etc. as required.

3.2. Each vertical section shall comprise-

- a) A front-framed structure of rolled/folded CRCA sheet steel. Angle section of minimum 3 mm thickness rigidly bolted together. This structure shall house the components contributing to the major weight of the equipment such as circuit breaker cassettes, fuse switch units, main horizontal bus bars, vertical risers and other front mounted accessories.
- b) The structure shall be mounted on a rigid base frame of folded CRCA sheet steel of minimum 6 mm thickness and 75 mm height. The design shall ensure that the weight of the components is adequately supported without deformation or loss of alignment during transit or during operation.
- c) A cable chamber housing the cable end connections and power/control cable terminations. The design shall ensure generous availability of space for ease of installation and maintenance of cabling and adequate safety for working in one vertical/horizontal section without coming into accidental contact with live parts of the adjacent section.
- d) A cover plate at the top of the vertical section, provided with a ventilating hood where necessary. Any aperture for ventilation shall be covered with a perforated sheet having less than 1 mm diameter perforations to prevent entry of vermin.
- e) Front and rear doors fitted with dust excluding neoprene gaskets with fasteners designed to ensure proper compression of the gaskets. When covers are provided in place of doors generous overlap shall be ensured between sheet steel surfaces with closely spaced fasteners to preclude the entry of dust.

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- 3.3.** The total height of the panel shall not be more than 2300 mm unless otherwise specified and maximum height of switch operating handle shall not be more than 1800mm from FFL. The total depth of the panel shall be adequate to cater for proper cabling space.
- 3.4.** Doors shall be of minimum 14-gauge sheet steel and covers/partitions of 16-gauge sheet steel. All sheet steel work forming the exterior of switchboards shall be smoothly finished, leveled and free from flaws. The corners should be rounded.
- 3.5.** The Components in the switchboards shall be so arranged as to facilitate ease of operation and maintenance and at the same time to ensure necessary degree of safety.
- 3.6.** Components forming part of the switchboards shall have the following minimum clearances:

Between phases	-	32mm
Between phases and neutral	-	26mm
Between phases and earth	-	26mm
Between neutral and earth	-	26mm

When, for any reason, the above clearances are not available, suitable insulation barrier / shielding shall be provided. Clearances shall be maintained during normal service conditions.

Creepage distances shall comply to those specified in relevant standards.

- 3.7.** All insulating material used in the construction of the equipment shall be of non-hygroscopic material treated to withstand the effects of high humidity, high temperature and tropical ambient service conditions.
- 3.8.** Functional units such as circuit breakers, fuse switches, MCCBs, etc. shall be arranged in multi-tier formation except that not more than two air circuit breakers shall be housed in a single vertical section.
- 3.9.** Metallic/insulated shrouding shall be provided within vertical sections and between adjacent sections to ensure prevention of accidental contact with: Main bus bars and vertical risers during operation, inspection or maintenance of functional units and front mounted accessories.
- 3.10.** Fault withstand capacity of Panel including Bus Bar / MCCB / ACB shall be as per applicable standards.
- 3.11.** Cable terminations of one functional unit, should not obstruct when working on those of adjacent unit/units.
- 3.12.** All covers providing access to live power equipment/circuits shall be provided with tool operated fasteners to prevent unauthorized access.
- 3.13.** Provision shall be made for permanently earthing the frames and other metal parts of the switchgear by two independent distinct connections.
- 3.14.** Only CRCA steel sheets shall be used for fabricating the cubicle.

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3.15. Thickness tolerance for sheets shall be as applicable in relevant IS.

3.16. Metal Treatment and Finish: - The panel shall have nine tank pretreatment process comprising of degreasing, rinsing, derusting, rinsing, phosphatising, rinsing, and passivation followed by powder coat painting having a paint thickness of 60 micron or as specified of approved shade of siemens grey (Shade RAL 7032). The powder paint will be subjected to oven heated process.

Note:

- Provide detailed specification with guarantee details of the equipments.
- Provide efficiency curves and catalogues for the equipments used.
- Provide GA drawings and shop drawings before start of the work.
- Provide as built drawing after completion of project.
- Supplier / contractor to furnish the manual for operation and maintenance with trouble shooting by his experience.
- Supplier / contractor to furnish the list of spare parts, which are frequently required for trouble free operation.

14. BHEL SCOPE

The following Civil works shall be in BHEL scope.

a	Bar Screen chamber-1.
b	Oil / Grease removal chamber.
c	Bar Screen chamber-2.
d	Raw sewage Collection cum Equalization tank. (Capacity : 1 chamber of 95 KL effective volume)
e	Anoxic tank (Capacity : 1 chamber of 10 KL effective volume)
f	Aeration tank (Capacity : 1 chamber of 55 KL effective volume)
g	MBR tank (Capacity : 1 chamber of 15 KL effective volume)
h	Sludge thickener cum digester (Sludge Holding tank) (Capacity : 1 chamber of 20 KL effective volume)
i	Treated water storage tank (Capacity : 1 chamber of 75 KL effective volume)
j	Plant room drainage sump (1.5 x 1.5 x 1.5 m) to collect the waste water from the back washes, drains etc.
k	Stairs, Railing, equipment's foundation etc.

Note: Bar screen, inlet outlet, overflow arrangements shall be in STP supplier / contractor's scope.

15. SUPPLIER / CONTRACTOR SCOPE

Following is the detailed description of STP in the scope of Supplier / Contractor.

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SN	DESCRIPTION
I	SEWAGE TREATMENT PLANT
	Design, Engineering, supplying, installation, testing and commissioning of aerobic Sewage Treatment Plant based on MBR Technology process (with air diffuser system), completely below ground with total effluent handling capacity of 160 m ³ per day. The raw effluent collection / equalization sump with screen shall be a part of the STP. The STP shall be designed as per RCC water retaining structures being constructed by BHEL as per drawing enclosed.
	The Plant shall be complete with a central Electrical Power and Control panel fully pre/site wired and with all power and control cables to all pumps and equipment including all instrumentation, water level controllers and other controls. All the equipment, piping, pumps, blowers and electrical are to be housed in a plant room to be built below grade level. Puddle flange, inlet, outlet overflow, vent, M.S. cover, drain channel with M.S. gratings, rungs, sump to house pumps will be included.
	Nature of Effluent : Commercial sewage from toilet use and kitchen waste etc
	The rates will include all pumps, piping, valves, controls, membrane modules, blowers, diffusers, central Electrical Power and Control panel (STP Electrical panel) with all power and control cables to all pumps and equipment including all instrumentation, water level controllers and other controls.
	BASIC DATA ON INFLUENT RAW WASTE WATER Total Suspended Solids (TSS) : 250 - 500 mg/lit BOD ₅ : 250 - 400 mg/lit COD : 500 - 750 mg/lit pH : 6.0 - 8.5 Oil / Grease : upto 100 mg/lit Inflow time : 8 HRS Peak factor : 3 Temperature : Ambient
	TREATED EFFLUENT WASTE WATER QUALITY As stipulated by State Pollution Control Board (PCB), the treated effluent quality shall be within the following values for various parameters. The treated water quality should be fit for Recycling in Flushing , Landscaping and Make-up water for HVAC cooling towers – Turbidity (NTU) : < 2 Total Suspended Solids (TSS) : < 10 mg/lit pH : 6.5 - 8.3 Temperature °C : Ambient Oil / Grease : < 10 mg/lit Total Kjeldahl Nitrogen as N : 10 mg/lit NH ₄ -N : 5 mg/lit

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	BOD5 : < 5 mg/lit COD : < 50 mg/lit Dissolved Phosphorous as P : 1 mg/lit Nitrate Nitrogen as N : 10 mg/lit Faecal Coliform in 100 ml : Nil Colour : Colourless Odor : Aseptic which means not septic and no foul odour E.coli : Nil
	The STP shall be designed based on the attached details and parameters. The capacities of various tanks has been fixed and the balance system shall be designed accordingly. The supplier / contractor has to submit detailed calculations of system and equipment he proposes to install.
	Approval from pollution board at initial & various other stages of works including preparation of report / drawings as per pollution board requirement, arrangement of raw sewage for testing & commissioning. Supplier / Contractor shall include the cost of all chemicals consumed during testing & commissioning and the cost of such items of works which are not explicitly mentioned above, but are mandatory to have pollution board approval. (All fees paid to statutory authorities shall be reimbursed by BHEL against proof of deposit.)
	The STP should follow all the concern Indian and Local norms.
	The Supplier / Contractor shall have to submit detailed P & I diagram, schematic diagram and shop drawings of the plant indicating all sleeves etc., for the various component and additional component if so required for the complete working of the STP also indicating all components in plant room including recycle supply pumps for flushing and irrigation. The drawings will have to be submitted to BHEL for approval before start of work.
	The scope of work includes design, engineering, drawings, installation, commissioning, trial run and obtaining test results of completely below ground sewage treatment plant with electrical, mechanical, piping and controls.
	The supplier / contractor will be solely responsible for smooth running of the sewage treatment plant and overall functioning of STP. In case it is found in the later stage that some additional fixtures / equipment are required to be added in order to achieve desired quality, the supplier / contractor would be liable to provide without any extra charges. The supplier / contractor will also be responsible to ensure the agreed capacity of the plant is fulfilled.
	Supplier / contractor shall provide Ventilation system in the plant room / tanks including exhaust fans, ducts etc.
	The STP shall consist of following units but not limited to these unit as may be required by the Supplier / contractor / manufacturer's design to achieve the desired quality parameters in treated effluent.
	ELECTRO MECHANICAL WORKS
	Supply, installation, testing and commissioning of following electro mechanical works and equipments -
a	2 nos. S.S. 304 bar screen having 10 mm opening of suitable size with suitable lifting arrangements complete as required.
b	1 nos. S.S. 304 mechanical fine screen (screw type) with automatic self-cleaning system and 2-3 mm opening complete as required.

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c	Non clogging type submersible raw sewage pumps for transfer of raw sewage to screen chamber-2 capable of handling solids minimum 50 mm, in CI casing and impeller, SS shaft, IP 68, Class F / B insulation, mechanical seal complete with all accessories, motor of required capacity, Pressure gauge on delivery line with isolation valve, level controller (with wiring) to control the level of sump automatically including bypass line from pump outlet to nearest bypass sewage manhole as per site with all valves. (for Bypass connection, battery limit of STP supplier / contractor is From Raw Sewage Transfer Pumps to up to 2 meters outside from STP unit). Flow rate : 7 Cu M / Hr at 17 meter head. Qty : 2 nos (1W+1S)
d	Air diffuser system with Twin type rotary air blowers (with VFD) (with Acoustic Enclosure) capable of delivering min. 200 cum/hr (each) of free air at 0.5 kg/cm ² driven through "V" belt or directly coupled through flexible coupling to a TEFC motor of suitable HP Suitable for 415 $\pm$ 10% volts, 3 phase, 50 cycles A/C supply with diffusers complete with valves & air distribution grid complete as required. Qty : 2 nos (1W+1S)
e	Air diffuser system with Twin type rotary air blowers (with VFD) (with Acoustic Enclosure) capable of delivering min. 100 cum/hr (each) of free air (blower capacity should be suitable as per membrane manufacturer) at 0.5 kg/cm ² driven through "V" belt or directly coupled through flexible coupling to a TEFC motor of suitable HP Suitable for 415 $\pm$ 10% volts, 3 phase, 50 cycles A/C supply with diffusers complete with valves & air distribution grid complete as required. Qty : 2 nos (1W+1S) (for MBR Module)
f	SITC of Disc type, EPDM membrane based, non-clog type air dispersion system capable of handling 3-5 cfm of air with oxygen transfer efficiency of 3-4% per/meter water depth. (coarse air bubble type diffusers for equalisation tank & sludge holding tank)
g	SITC of Tube type, silicon membrane based, non-clog type air dispersion system capable of handling 3-5 cfm of air with oxygen transfer efficiency of 3-4% per/meter water depth. (Imported fine bubble membrane diffusers for Aeration & MBR tank)
h	MBR Reactor Module - 1 Set
	Supply, installation, testing & commissioning of MBR Modules (with SS Housing) as per approved makes of 0.04 Microns ultrafiltration membranes with SS – 304 skid for housing the membranes & air grid for scouring the sludge, permeate S.S piping, backwash pump (1w+1s) etc. complete as required.
	Capacity : 160 KLD
	Membrane Configuration: Hollow Fibre
	Membrane type: Ultrafiltration
	Pore Size (um):0.04
	Material of construction of membrane: PVDF
	Material of Module Spacer & frame: PP
	Adherence (membrane to frame): Ultrafiltration
	pH: 3 ~ 13
	Normal Operating Suction Pressure : <= 5 PSI
	CIP Frequency (Maintenance + Recovery Cleaning): 4 Times in a Year (MAXIMUM)
	Recovery of permeate through MBR System (%): 95%
	Flow Direction: Outside In
	Average Flux (Rate) (m ³ /m ² /Hr): 30
	Mechanical Warranty for Membranes : 2 years full replacement + 3 years additional warranty (Note - Original Certificate from Membrane Manufacturer/ Supplier is required)

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	MOC of Frames: SS 316
i	1 no. belt type mechanical oil separator of suitable capacity with HDPE Drum.
j	1 no. Submersible Mixer along with motor of suitable capacity for Anoxic Tank. The submersible mixer shall be suitable for 415±10% volts 3 Phase AC supply.
k	Supply, installation, testing & commissioning of multi tubes Disinfection system (UV) comprising of U.V Reactor in a close circuit chamber suitable for waste water application. Max. operating pressure at 120 psig, electronic ballast type operating frequency 30 kHz - 50 kHz, cabinet safety standard rating IP54, material of treatment chamber SS 316L and UV dosage (uW-sec/cm2) = >60000. Flow rate of 10 cum/hr. Qty. = 1 Set
l	Providing, fixing, testing and commissioning of horizontal / vertical, 2 pole, three phase, 50 HZ, AC, centrifugal pumps in stainless steel construction, TEFC induction motor directly coupled to the pump, IP55 protection, class F insulated, 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 PCC foundation, bolts grouted in CC blocks of 1:2:4, suitably rated DOL / star-delta starter fixed inside main electrical panel complete with level controller, necessary wiring, pressure gauge on the delivery side and strainer on suction side, including non-return valve and isolating valves on suction and delivering sides as required, including suction and delivery headers complete in all respects. The duty of pump shall be -
	MBR Permeate Pump with VFD - 2 nos (1W+1S), having discharge : 10000 lit/hr (each) at 15 meter head
	2 nos. (1w+1s) flushing water transfer pumps and 2 nos. (1w+1s) irrigation water transfer pumps will be installed in STP Pump Room.
m	Non clogging type horizontal centrifugal Sludge recycling pumps capable of handling solids up to 8 mm, having C.I. casing, C.I. impeller, SS shaft, chrome steel shaft sleeve, IP 55, Class B insulation, mechanical seal complete with all accessories, motor of required capacity, Pressure gauge on delivery line with isolation cock, level controller (with wiring) to control the level of sump automatically. Flow rate : 27 Cu M / Hr at 10 meter head. Qty : 2 nos (1W+1S)
n	Non clogging type horizontal screw type filter press feed pumps capable of handling solids up to 8 mm having capacity 1 cuM/hr at 40 meter head. Qty : 2 nos (1W+1S) to feed filter press having C.I. MOC complete with all accessories, Pressure gauge on delivery line with isolation cock, level controller (with wiring) to control the level of sump automatically.
o	Providing, fixing, testing and commissioning of filter press with manual operation mechanism, for drying the organic sludge from tube settler of 23 nos of 18"x 18" sizes PP/PVC plates. The filter press should be with filter cloth, handle effluent water tray, sludge disposal tray, poly-dosing system complete in all respects.
p	Membrane CIP system
	Hypo solution dosing pump (1 set) comprising of 200 Litres capacity FRP tank with inlet / outlet connection, piping & valves along with metering (0-6 LPH) pump for membrane cleaning system complete in all respects.
	Supply and fixing of citric solution dosing (1 set) comprising of 200 Liters capacity FRP tank inlet/outlet connection, piping & valves along with metering (0-6 LPH) pump for membrane cleaning system complete in all respects.
	Provide a spare doser (1set), to be kept as a backup for above dosing system in the case of any exigency.
	Note: - The supplier / contractor shall include the cost of any other dosing system along with FRP tank & fittings if needed as per membrane manufacturer requirement.
q	Plant room drainage sump with 2 nos submersible dewatering pumps having 6 lps discharge at 14 meter head in CI casing and impeller, SS shaft, 40 mm min particle size, 50 Hz, 400 volts, IP68, F / B class insulation with float valve / level controller, piping, valves, nrv etc., complete.
	The outlet pipe from Dewatering Pumps to be connected to Equalization Tank.

CONTRACTOR



(Sign with name, designation and date)

	1 nos. Dewatering Pump Control unit for two nos. three phase pumps, to operate Pumps alternatively and in case of Excess inflow into the Sump, Both Pumps Will Start Automatically with Magnetic Water Level Controllers, Audio, Visual & Alarm Including All Standard Accessories Like Ammeter, Auto Manual switch, DOL Starter, Indicating Lights, And Pumps On/ Off Lights, Protection MCB, Dry Running Protection etc., complete in all respect.
r	Providing and fixing all piping (1 lot) (as described below) and isolation control Ball / butterfly valves (Min. PN 16) of required sizes and numbers with all accessories, fittings, supports, clamps, double flanged flexicon rubber expansion joint with rubber gasket as per system pressure, nuts, bolts, washers, puddle flanges for all tanks, other flanges, NRV's, flow control valves, flow measurement device, SS 304 screen strainers at suction of clear water pumps, for making the system complete in all respects with anti-corrosive protection. Butterfly Valve : Cast Iron Wafer type butterfly valves (PN 16) as per IS:13095, with SS disc, SS shaft, SS seating rings, SS internal fastening, EPDM seat, CS external nuts-bolts. Check Valve : Cast Iron body dual plate wafer type check valve (NRV) (PN 16) with SS disc, SS stem, EPDM seat, spring & pin, SS stem, SS internal fastening, CS external fastening. PVC Flexible Braided Hose Pipe: Submerged piping for raw sewage transfer pumps. MS Epoxy coated (Class 'C') : Air grid piping (non - submerged) SS 304 Piping : Submerged piping for MBR Module / Tank uPVC (Sch 80) : All other piping within STP Unit. The various pipe sizes should be selected that the Maximum velocity in any pipe should not exceed 1.50 mps. Min. 80 mm pipe dia is required in individual line of raw sewage transfer pumps and min. 80 mm uPVC Sch 80 pipe to be considered for each dewatering pumps outlet and common header will be 100 mm dia. Pipes support should also be added as per the code requirement. Also, plant & its piping must be installed keeping in mind the ease of Operationability & maintainability of the system.
s	Supply & fixing in position ISI marked cast iron Wafer type butterfly valves (PN 16) as per IS:13095, with SS disc, SS shaft, SS seating rings, SS internal fastening, EPDM seat, CS external nuts-bolts including transporting to worksite etc. including testing, Complete as per drawings & directions of BHEL. 200 MM NB (gear operated) (Location : Raw Sewage Inlet)
t	Supply, installation, testing & commissioning of the Programmable Logic Controller (PLC) /HMI based plant control system for automatic operation and supervisory control of the MBR system. Interlocking arrangement with supply pumps, suction pumps, Blower, chemical cleaning tank, modulating or shut-off valves including necessary wiring, magnetic switches & sensors complete to make the system functional with following Note: - Power backup of 15 minutes is required for PLC System through online UPS. Construction: Non Compartmentalized Type Skid Mounted, MCC Cum PLC Control panel will be free standing; vertical, fabricated from CRCA steel sheet 14/16 G conforming to degree of protection IP-52 or better. Cable entry will be from bottom. System Voltage: 380 to 410 Volts & 50HZ (415 V $\pm 10\%$, AC, 50 HZ $\pm 5\%$ for India). Surge protection to be provided at every applicable point.

CONTRACTOR



(Sign with name, designation and date)

Design, fabrication, assembling, wiring, supply, installation, testing and commissioning of motor control centre (STP Electrical Panel) shall be fabricated out of 14 gauge CRCA sheet steel in form in 3b formation with reinforcement of suitable size angle iron, channel 'T' sections irons and flats wherever necessary. Cable gland plates shall be provided on top as well as at the bottom of the panels. Panels shall be treated with all anticorrosive process before painting as per specifications with 2 coats of red oxide primer and final approved shade of powder coated paint. 2 Nos. earthing terminals shall be provided for 3 phase, 4 wire, 50 Hz supply system. Lifting hooks shall also be provided in case of large panels. Approval shall be taken from BHEL for each panel before fabrication. Cadmium Plated hardware shall be used in fabrication of panels. Quoted rates shall be inclusive of cables (in accordance to specification) from panel to each motor / equipment.
The incoming MCCB shall be of Four Pole microprocessor based with inbuilt O/L & S/C release with E/F protection and all Outgoings MCCB's shall be of Three Pole thermal-magnetic based with inbuilt O/L & S/C release.
All MCCB's shall be of min Ics = 25 KA breaking capacity, Ics = 100% Icu, with rotary handle & pad locking arrangement, with adjustable O/L & S/C trip setting as per load requirement. All TP MCCB shall be with solid isolable neutral link. The breaking capacity specified is Ics value.
Cyclic timers will be provided for all type of pumps for alternate working of standby pumps.
The fault withstanding capacity of panel shall be 10 KA rms for 1 sec.
BUS BAR of suitable current rating at 500 Volts, 3 phase 50 HZ TPN high conductivity electrolytic Aluminium bus bar with conductivity on min 57 to 58% of suitable length, insulated by heat shrinkable sleeves. The current density of bus bar shall be minimum 1.00 sq mm / amp.
The above board shall be complete with 3 nos. phase indicating lights, flush mounted Ammeter, Voltmeter, CT's, PT's, selector switches, protective fuses etc. at Incomer with all inter connections by min. 1.5 sq.mm. Copper wires.
The scope includes all electrical items as required to operate the system automatically/ manually such as water level controller for automatic operation of pumps, Digital type level indicator with magnetic SS level probes for Equalization Tank, Aeration Tank, MBR Tank & Treated Water Tank, electrical wiring, armoured aluminium power cables and copper control cables between panel to various pumps & equipments, cable terminations, double compression glands, earthing wire till main panel, GI perforated cable trays to carry power and control cables from panel to various equipments including supports, with all accessories complete as required. [Only main incoming power supply cable to STP Electrical panel and earthing pit shall be provided by BHEL]. (Note : - All Level Controller & Indicator in Sewage Tanks shall be suitable for sewage application)
KWHR meter with RS 485 communication port, CT's with accuracy class 1.0 will be provided in Flushing water supply pumps and Horticulture water supply pump feeders for energy consumption record.
The following pumps shall be controlled by the panel : (The ampere rating will be as per the final selection of equipment)
(a) Mechanical Screen - 1 Nos.
(b) Raw Sewage Pumps - 2 Nos.
(c) Air Blowers - 4 Nos.
(d) Cleaning Pump - 2 Nos.
(e) Oil Separator - 1 Nos.
(f) Submersible Mixer - 1 Nos.
(g) Permeate Pumps - 2 Nos.
(h) Sludge Recycling Pumps - 2 Nos.

CONTRACTOR



(Sign with name, designation and date)

	(i) Screw Pumps - 2 Nos.
	(j) Flushing & Irrigation Water Transfer Pumps - 4 nos. 40 Amp TP MCB 10 KA)
	(k) Dewatering Pumps Control Unit (for 2 Nos. Dewatering Pumps)
	(l) UV System - 1 Nos.
	(m) Doser - 3 Nos.
	(n) STP Ventilation Feeders - 2 no 40 amp TP MCCB
	(o) Spare Feeders - 2 nos 63 amp FP MCCB
	Note: Puddle flanges will be provided by BHEL.
u	Supply, Installation, testing & commissioning of electro-magnetic type flow meter to be installed at raw sewage pump outlet line.
v	Supply, Installation, testing & commissioning of Instruments (1 lot) like - Pressure Indicators, Rotameters, Differential Pressure Transmitter, Air Flow Transmitter, Electrical Actuated Valves (Diffuser Control Valves) on / off types, DO Sensor, Level Switch, Vacuum Gauge, Ejector etc. complete in all respects.

16. EXCLUSIONS

The following are excluded from Supplier / contractor scope of work: -

- 1) All civil works including construction of RCC water retaining structures (Tanks), Plant room and equipments foundation. Only foundation drawing of equipments to be provided by the Supplier / contractor.
- 2) Preparation of Structure Drawing of RCC water retaining structures (Tanks) and Plant room.
- 3) Creation of Earthing pits.

CONTRACTOR



(Sign with name, designation and date)



VOLUME - V

FORMS & PROCEDURES

NEW BUILDING PROJECT GROUP
Plot no. 25, Sec-16A, Noida(UP)

CONTRACTOR

Mohit

(Sign with name, designation and date)



ANNEXURE-A

OFFER FORWARDING LETTER / TENDER SUBMISSION LETTER

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

Offer Reference No:.....

Date:.....

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : Submission of Offer against Tender Specification No:

I/We hereby offer to carry out the scope of work detailed in the Tender Specification issued by Bharat Heavy Electricals Limited in accordance with the terms and conditions thereof. I/We have carefully perused the following listed documents connected with the above work and agree to abide by the same.

1. Amendments/Clarifications/Corrigenda/Errata/etc., issued in respect of the Tender documents by BHEL
2. Notice Inviting Tender (NIT)
3. General Conditions of Contract (GCC)
4. Special Conditions of Contract (SCC)
5. Technical Conditions of Contract (TCC)
6. Tender Drawings
7. Forms and Procedures
8. Unpriced Bid
9. Price Bid

Should our offer be accepted by BHEL for Award, I/we further agree to furnish 'Contract Performance Bank Guarantee' for the contract as provided for in the Tender Conditions within the stipulated time as may be indicated by BHEL.

I/We further agree to execute all the scope referred to in the said Tender documents upon the terms and conditions contained or referred to therein and as detailed in the appendices annexed thereto.

Authorised Representative of Bidder

Name:

Signature:

Address:

Place:

Date:

CONTRACTOR

Mohit

(Sign with name, designation and date)



ANNEXURE-B

BANK GUARANTEE FOR PERFORMANCE SECURITY

Bank Guarantee No: _____

Date: _____

To,

NAME

& ADDRESSES OF THE BENEFICIARY

Dear Sirs,

In consideration of the Bharat Heavy Electricals Limited 1 (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office at1 through its Unit at..... (name of the Unit) having awarded to (Name of the Vendor / Contractor / Supplier) having its registered office at2 hereinafter referred to as the 'Vendor/Contractor/Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No.....dated3 valued at Rs 4 (Rupees)/ FC (in words) for..... 5 (hereinafter called the 'Contract') and the Vendor/Contractor/Supplier having agreed to provide a Contract Performance Guarantee, equivalent to % (.... Percent) of the said value of the Contract to the Employer for the faithful performance of the Contract,

we, , (hereinafter referred to as the Bank), having registered/Head office at and inter alia a branch at being the Guarantor under this Guarantee, hereby, irrevocably and unconditionally undertake to forthwith and immediately pay to the Employer a maximum amount Rs 6 (Rupees) without any demur, immediately on first demand from the Employer and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate reasons for its such demand.

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.

We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Vendor/Contractor/ Supplier in any suit or proceeding pending before any Court or Tribunal, Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the Vendor/Contractors/Supplier shall have no claim against us for making such payment.

We the bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract/satisfactory completion of the performance guarantee period as per the terms of the Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

We BANK further agree with the Employer that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Vendor/Contractor/Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Vendor/Contractor/Supplier and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Vendor/Contractor/Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Vendor/Contractor/Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Vendor/Contractor/Supplier and notwithstanding any security or other guarantee that the Employer may have in relation to the Vendor/Contractor/Supplier 's liabilities.

This Guarantee shall remain in force up to and including..... 7 and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or

CONTRACTOR

(Sign with name, designation and date)



insolvency of the Vendor/Contractor/Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

Unless a demand or claim under this guarantee is made on us in writing on or before the8 we shall be discharged from all liabilities under this guarantee thereafter.

We, BANK lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a. The liability of the Bank under this Guarantee shall not exceed6
- b. This Guarantee shall be valid up to7
- c. Unless the Bank is served a written claim or demand on or before..... 8 all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We,Bank, have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

Dated..... ..

For and on behalf of

Place of Issue..... ..

(Name of the Bank)

1 NAME AND ADDRESS OF EMPLOYER i.e. Bharat Heavy Electricals Limited

2 NAME AND ADDRESS OF THE VENDOR / CONTRACTOR / SUPPLIER.

3 DETAILS ABOUT THE NOTICE OF AWARD/ CONTRACT REFERENCE

4 CONTRACT VALUE

5 PROJECT/SUPPLY DETAILS

6 BG AMOUNT IN FIGURES AND WORDS

7 VALIDITY DATE

8 DATE OF EXPIRY OF CLAIM PERIOD

Note:

1. The BG should be on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is higher. The Stamp Paper/e-stamp paper shall be purchased in the name of Vendor/Contractor/Supplier/Bank issuing the guarantee.

or & On behalf of Guarantee issuing bank

(Office Seal)

Name:

E-mail ID:

Contact number:

CONTRACTOR

Mohit

(Sign with name, designation and date)

**ANNEXURE-C****FORM for EXTENSION OF VALIDITY OF BANK GUARANTEE**

1. To be typed on non-judicial Stamp Papers of value as applicable in the State of India from where the BG has been issued or the State of India where the BG shall be operated

2. The non-judicial stamp papers shall be purchased in the name of the Party on whose behalf the BG is being issued or the BG issuing Bank

BANK GUARANTEE No:

Date:.....

To

(Write Designation and Address of Officer of BHEL inviting the Tender)

Dear Sir

Sub : Validity of Bank Guarantee No:..... Dated for
..... Rs in favour of yourself, expiry date, on
account of M/s in respect of Contract
Number....., (herein after called the Original bank Guarantee)

At the request of M/s....., we Bank, having
its branch Office at and having Head office at
....., do hereby extend our liability under the above mentioned Bank Guarantee
number..... dated for a further period ofMonths/years from
..... to expire on

Except as provided above, all other terms and conditions of the Original Bank Guarantee No
..... Dated..... shall remain unaltered and binding on us.

Kindly treat this extension as an integral part of the original Bank Guarantee to which it would be
attached.

Yours faithfully

Signature.....

Name & Designation.....

Power of Attorney/Signing Power No

Seal of Bank

CONTRACTOR

Mohit

(Sign with name, designation and date)

ANNEXURE-D**(RISK AND COST CLAUSE)**

1. BHEL reserves the right to terminate the contract or withdraw portion of work and get it done through other agency, at the risk and cost of the contractor *after due notice of a period of 14 days' by BHEL* in any of the following cases:
 - i) If the Supplier/Contractor fails to deliver the goods or materials or any instalment thereof within the period(s) fixed for such delivery or the Supplier's poor progress of the supply/ services vis-a-vis delivery/execution timeline as stipulated in the Contract, backlog attributable to Supplier including unexecuted portion of supply does not appear to be executable within balance available period;
 - ii) Delivers goods or materials not of the contracted quality and failing to adhere to the contract specifications;
 - iii) Withdrawal from or repudiation/ abandonment of the supply/ services by Supplier before completion as per contract or if the Supplier refuses or is unable to supply goods or materials covered by the Order/Contract either in whole or in part or otherwise fails to perform the Order/Contract;
 - iv) Non-supply by the Supplier within scheduled completion/delivery period as per Contract or as extended from time to time, for the reasons attributable to the Supplier;
 - v) Termination of Contract on account of any other reason (s) attributable to Supplier.
 - vi) Assignment, transfer, subletting of Contract without BHEL's written permission resulting in termination of Contract or part thereof by BHEL.
 - vii) If the Supplier be an individual or a sole proprietorship Firm, in the event of the death or insanity of the Supplier;
 - viii) If the Supplier/Contractor being an individual or if a firm on a partnership thereof, shall at any time, be adjudged insolvent or shall have a receiving order for administration of his estate made against him or shall take any proceeding for composition under any Insolvency Act for the time being in force or make any assignment of the Order/Contract or enter into any arrangement or composition with his creditors or suspend payment or if the firm dissolved under the Partnership Act;
 - ix) If the Supplier/Contractor being a company is wound up voluntarily or by order of a Court or a Receiver, Liquidator or Manager on behalf of the debenture holders and creditors is appointed or circumstances shall have arisen which entitles the Court of debenture holder and creditors to appoint a receiver, liquidator or manager;
 - x) Non-compliance to any contractual condition or any other default attributable to Supplier.

1.1 Risk & Cost Amount against Balance Work:

Risk & Cost amount against balance work shall be calculated as follows:

$$\text{Risk \& Cost Amount} = [(A-B) + (A \times H/100)]$$

Where,

A= Value of Balance scope of Work (*) as per rates of new contract

B= Value of Balance scope of Work (*) as per rates of old contract being paid to the contractor at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

H = Overhead Factor to be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

CONTRACTOR



(Sign with name, designation and date)

1.2 * Balance scope of work (in case of termination of contract):

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work for calculating risk & cost amount.

Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

NOTE: In case portion of work is being withdrawn at risk & cost of contractor instead of termination of contract, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work' for calculating Risk & Cost amount.

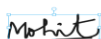
2. Recoveries arising out of Risk & Cost and Penalty or any other recoveries due from Contractor

Without prejudice to the other means of recovery of such dues from the Supplier recoveries from the Supplier on whom risk & cost has been invoked shall be made from the following:

- a) Dues available in the form of Bills payable to Supplier, BGs against the same contract.
- b) Dues payable to Supplier against other contracts in the same Region/Unit/ Division of BHEL.
- c) Dues payable to Supplier against other contracts in the different Region/Unit/ division of BHEL.

In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor.

CONTRACTOR



(Sign with name, designation and date)



ANNEXURE-E

DECLARATION BY AUTHORISED SIGNATORY OF BIDDER

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : Declaration by Authorised Signatory

Ref : 1) NIT/Tender Specification No:,

2) All other pertinent issues till date

I/We, hereby certify that all the information and data furnished by me with regard to the above Tender Specification are true and complete to the best of my knowledge. I have gone through the specifications, conditions, stipulations and all other pertinent issues till date, and agree to comply with the requirements and Intent of the specification.

I further certify that I am authorised to represent on behalf of my Company/Firm for the above mentioned tender and a valid Power of Attorney to this effect is also enclosed.

Yours faithfully,

(Signature, Date & Seal of Authorized
Signatory of the Bidder)

Date:

Enclosed : Power of Attorney

CONTRACTOR

Mohit

(Sign with name, designation and date)



ANNEXURE-F

REFUND OF GUARANTEE MONEY
BHARAT HEAVY ELECTRICALS LIMITED

Ref No:

Date:

1. Name and Address of Contractor :
2. LOI No & Date :
3. Purchase Order & Date :
4. Name of the work undertaken :
5. Date of commencement of the Work :
6. Date of Completion of the Work :
7. Period of Warranty :
8. Date on which the Final Bill was paid :
9. Last date of making good the defect during Warranty Period :
10. Expenditure incurred by BHEL during Warranty Period, if any, recoverable :
11. Date on which Guarantee Money refund falls due as per Contract :
12. Amount of Guarantee Money to be refunded :
13. Less Amounts recoverable (with details)
 - a. Amount spent by BHEL on maintenance :
 - b. Payments made by BHEL on behalf of Contractor :
 - c. Court dues/penalties/compensation :
 - d. Other recoveries for Services, etc :
 - e. Total of 'a' to 'd' :
14. Net Amount recommended for release (12-13) :

Date: _____

Signature of BHEL Engineer

CONTRACTOR

Mohit

(Sign with name, designation and date)

**ANNEXURE-G****CERTIFICATE TO BE FURNISHED BY THE CONTRACTOR**

I/We have no claim or demand outstanding against BHEL _____, for the work done or for labour or material supplied or any other account arising out of or connected with the Contract Agreement/LOI/PO (No _____) dated _____) and the payment of this bill shall be in full and final settlement of all my/our claims and demands including the 'Deposits' of the Contract Agreement/LOI /PO referred to.

Signature of Contractor

Date:

CERTIFICATE TO BE FURNISHED BY BHEL

1. Certified that

- a. The payment recommended for release is in order and there are no demands other than those included in the claim outstanding from the Contractor.
- b. Contract Warranty period is over and the Contractor has carried out the works required to be carried out by him during the period of Warranty to our satisfaction, and all expenses incurred by the Company on carrying out such works have been included for adjustment.
- c. All objections raised so far have been settled.
- d. A note for refund of Guarantee Amount has been made in the Measurement Book and Contract Agreement/Purchase Order.

Signature of BHEL Engineer

Date:-----

FOR USE IN ACCOUNTS DEPARTMENT

Passed for Rs _____ (Rupees _____ only)

Accountant

Accounts Officer

ACKNOWLEDGE BY THE CONTRACTOR

Received Rs _____ in full and final settlement of my/our claim

Signature of Contractor

Date:

CONTRACTOR

(Sign with name, designation and date)

**ANNEXURE-H****POWER OF ATTORNEY FOR SUBMISSION OF TENDER/SIGNING CONTRACT AGREEMENT**

(To be typed on non-judicial Stamp Papers of appropriate value as applicable and Notarised)

KNOW ALL MEN BY THESE PRESENTS, that I/We do hereby make, nominate, constitute and appoint Mr., whose signature given below herewith to be true and lawful Attorney of M/s..... hereinafter called 'Company', for submitting Tender/entering into Contract and inter alia, sign, execute all papers and to do necessary lawful acts on behalf of Company with M/s Bharat Heavy Electricals Ltd, having its registered office at BHEL House, Siri Fort, Asiad, New Delhi - 110049 in connection with
.....
..... vide Tender Specification No : _____, dated _____.

And the Company do hereby agree to ratify and confirm all acts, deeds, things or proceedings as may be lawfully done by the said attorney and by or on behalf of the company and in the name of the company, by virtue of the powers conferred herein and the same shall be binding on the company and shall have full force and effect.

IN WITNESS WHEREOF the common seal of the company has been hereunto affixed in the manner hereinafter appearing on the document.

Dated at _____, this _____ day of _____

Director/CMD/Partner/Proprietor

Signature of Mr.....(Attorney)

Attested by:

Director/CMD/Partner/Proprietor

Witness

Notary Public

CONTRACTOR

Mohit

(Sign with name, designation and date)



ANNEXURE - I

NO DEVIATION CERTIFICATE

(To be typed and submitted on the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : No Deviation Certificate Ref : 1) NIT/Tender Specification No:,

2) All other pertinent issues till date

We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website / issued by BHEL and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred NIT/Tender Specification.

We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions, and acceptance to Reverse Auctioning process.

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

Thanking you,

Yours faithfully,

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

CONTRACTOR

Mohit

(Sign with name, designation and date)



ANNEXURE - J

DECLARATION CONFIRMING KNOWLEDGE ABOUT SITE CONDITIONS

(To be typed and submitted on the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub: **Declaration confirming knowledge about Site conditions**

Ref : 1) NIT/Tender Specification No:,

2) All other pertinent issues till date

I/We, _____ hereby declare and confirm that we have visited the Project Site as referred in BHEL Tender Specifications and acquired full knowledge and information about the Site conditions including Wage structure, Industrial Climate, the Law & Order and other conditions prevalent at and around the Site. We further confirm that the above information is true and correct and we shall not raise any claim of any nature due to lack of knowledge of Site conditions.

I/We, hereby offer to carry out work as detailed in above mentioned Tender Specification, in accordance with Terms & Conditions thereof.

Yours faithfully,

(Signature, Date & Seal of
Authorized Representative of the
Bidder)

Date:

Place:

CONTRACTOR

Mohit

(Sign with name, designation and date)



ANNEXURE - K

DECLARATION FOR RELATION IN BHEL

(To be typed and submitted on the Letter Head of the Company/Firm of Bidder failing which the offer of Bidder is liable to be summarily rejected)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Declaration for relation in BHEL**

Ref : 1) NIT/Tender Specification No:,

I/We hereby submit the following information pertaining to relation/relatives of Proprieter/Partner(s)/Director(s) employed in BHEL

Tick(√) any one as applicable:

1. The Proprieter, Partner(s), Director(s) of our Company/Firm DO NOT have any relation or relatives employed in BHEL

OR

2. The Proprieter, Partner(s), or Director(s) of our Company/Firm HAVE relation/relatives employed in BHEL and their particulars are as below:

(i)

(ii)

Signature of the Authorised Signatory

Note:

1. Attach separate sheet, if necessary.
2. If BHEL Management comes to know at a later date that the information furnished by the Bidder is false, BHEL reserves the right to take suitable against the Bidder/Contractor.

CONTRACTOR

Mohit

(Sign with name, designation and date)



ANNEXURE - L

NON - DISCLOSURE CERTIFICATE

(To be typed and submitted on the Letter Head of the Company/Firm of Bidder)

NON - DISCLOSURE CERTIFICATE

I/We understand that BHEL is committed to Information Security Management System as per their Information Security Policy.

Hence, I/We M/s..... who are submitting offer for providing services to BHEL against Tender Specification No:_____, hereby undertake to comply with the following in line with Information Security Policy of BHEL, _____

- To maintain confidentiality of documents & information which shall be used during the execution of the Contract.
- The documents & information shall not be revealed to or shared with third party which shall not be in the business interest of BHEL.

(Signature, date & seal of
Authorized Signatory of the bidder)

Date:

CONTRACTOR

Mohit

(Sign with name, designation and date)



ANNEXURE - M

BANK ACCOUNT DETAILS FOR E-PAYMENT

(To be given on Letter head of the Company /Firm of Bidder, and ENDORSED (SIGNED & STAMPED)
BY THE BANK to enable BHEL release payments through Electronic Fund Transfer (EFT/RTGS)

1. Beneficiary Name :
2. Beneficiary Account No. :
3. Bank Name & Branch :
4. City/Place :
5. 9 digit M ICR Code of Bank Branch :
6. IFSC Code of Bank Branch :
7. Beneficiary E-mail ID (for payment confirmation) :

CONTRACTOR

(Sign with name, designation and date)

**ANNEXURE - N****FORMAT FOR SEEKING CLARIFICATION**

(To be typed and submitted on the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub: **Request for Clarification**

Ref : 1) NIT/Tender Specification No:,

2) All other pertinent issues till date

S.N.	Reference clause of Tender Document	Existing provision	Bidder's query	BHEL's clarification
1				
2				
3				
4				
5				
6				

Yours faithfully,

(Signature, date & seal of Authorized Representative of the Bidder)

CONTRACTOR

(Sign with name, designation and date)



ANNEXURE - O

**DETAILS OF SIMILAR WORKS SUCCESSFULLY COMPLETED IN SUPPORT OF
QUALIFYING REQUIREMENTS**

SN	Name of Project	Client	LOI / PO ref. no.	PO Value (in Rs.)	Date of Start	Date of Completion	Performance (Satisfactory / Unsatisfactory)	Supporting documents

CONTRACTOR



(Sign with name, designation and date)



ANNEXURE - P

PROFORMA FOR HINDRANCE REGISTER

SN	Nature of Hindrance	Items that could not be executed due to this hindrance	Date of start of hindrance	Date of removal of hindrance	Over-lapping period, if any	Net hindrance in days	Weightage of this hindrance	Net effective days of hindrance	References	Sign of Engr.-in-charge(s)	Contractor / Contractor's representative sign. with name & date	Remarks of Project Manager
1	2	3	4	5	6	7	8	9	10	11	12	13

CONTRACTOR

Mohit

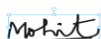
(Sign with name, designation and date)

ANNEXURE - Q

PROFORMA FOR SITE ORDER BOOK

SN	Date	Remarks of Inspecting Officer with signatures	Remarks of Compliance Agency with signature, Name & Date	Date of compliance of Instructions by contractor/ contractor's representative with Signature, Name & Date	Final remarks of engineer-in- charge with signature, designation & date
1	2	3	4	5	6

CONTRACTOR



(Sign with name, designation and date)



ANNEXURE - R

**AUTHORIZATION OF REPRESENTATIVE WHO WILL PARTICIPATE IN THE
ONLINE REVERSE AUCTION PROCESS**

SN	Description	Details
1	NAME & DESIGNATION OF OFFICIAL	
2	POSTAL ADDRESS (COMPLETE)	
3	TELEPHONE NOS. (LAND LINE & MOBILE BOTH)	
4	FAX NO.	
5	E-MAIL ADDRESS	
6	NAME OF PLACE/ STATE/ COUNTRY, WHEREFROM HE/SHE WILL PARTICIPATE IN THE REVERSE AUCTION	

Director/CMD/Partner/Proprietor

CONTRACTOR

(Sign with name, designation and date)

ANNEXURE - S**BRIEF PROCEDURE FOR CONDUCT OF CONCILIATION PROCEEDINGS**

1. The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided herein:
2. The party desirous of resorting to Conciliation shall send an invitation/notice in writing to the other party to conciliate specifying all points of Disputes with details of the amount claimed. The party concerned shall not raise any new issue thereafter. Parties shall also not claim any interest on claims/counter-claims from the date of notice invoking Conciliation till the conclusion of the Conciliation proceedings. If BHEL is to initiate Conciliation, then, the invitation to Conciliate shall be extended to the concerned Stakeholder in **Format 7** hereto. Where the stakeholder is to initiate the Conciliation, the notice for initiation of Conciliation shall be sent in **Format-8** hereto.
3. The party receiving the invitation/notice for Conciliation shall within 30 days of receipt of the notice of Conciliation intimate its consent for Conciliation along with its counter-claims, if any.
4. The Conciliation in a matter involving claim or counter-claim (whichever is higher) up to Rs 5 crores shall be carried out by sole Conciliator nominated by BHEL while in a matter involving claim or counter-claim (whichever is higher) of more than Rs 5 crores Conciliation shall be carried out by 3 Conciliators nominated by BHEL. The appointment of Conciliator(s) shall be completed and communicated by the concerned Department/Group of BHEL Unit/Division/Region/Business Group to the other party and the Conciliator(s) within 30 days from the date of acceptance of the invitation to conciliate by the concerned party in the **Format-9**. The details of the Claim, and counter-claim, if any, shall be intimated to the Conciliator(s) simultaneously in **Format-5**.
5. The Parties shall be represented by only their duly authorized in-house executives/officers and neither Party shall be represented by a Lawyer.
6. The first meeting of the IEC shall be convened by the IEC by sending appropriate communication/notice to both the parties as soon as possible but not later than 30 days from the date of his/their appointment. The hearings in the Conciliation proceeding shall ordinarily be concluded within two (2) months and, in exceptional cases where parties have expressed willingness to settle the matter or there exists possibility of settlement in the matter, the proceedings may be extended by the IEC by a maximum of further 2 months with the consent of the Parties subject to cogent reasons being recorded in writing.
7. The IEC shall thereafter formulate recommendations for settlement of the Disputes supported by reasons at the earliest but in any case within 15 days from the date of conclusion of the last hearing. The recommendations so formulated along with the reasons shall be furnished by the IEC to both the Parties at the earliest but in any case within 1 month from the date of conclusion of the last hearing.
8. Response/modifications/suggestions of the Parties on the recommendations of the IEC are to be submitted to the IEC within time limit stipulated by the IEC but not more than 15 days from the date of receipt of the recommendations from the IEC.
9. In the event, upon consideration, further review of the recommendations is considered necessary, whether by BHEL or by the other Party, then, the matter can be remitted back to

CONTRACTOR

(Sign with name, designation and date)

the IEC with request to reconsider the same in light of the issues projected by either/both the Parties and to submit its recommendations thereon within the following 15 days from the date of remitting of the case by either of the Parties.

10. Upon the recommendations by the Parties, with or without modifications, as considered necessary, the IEC shall be called upon to draw up the Draft Settlement Agreement in terms of the recommendations.
11. When a consensus can be arrived at between the parties only in regard to any one or some of the issues referred for Conciliation the draft Settlement Agreement shall be accordingly formulated in regard to the said Issue(s), and the said Settlement Agreement, if signed, by the parties, shall be valid only for the said issues. As regards the balance issues not settled, the parties may seek to resolve them further as per terms and conditions provided in the contract.
12. In case no settlement can be reached between the parties, the IEC shall by a written declaration, pronounce that the Conciliation between the parties has failed and is accordingly terminated.
13. Unless the Conciliation proceedings are terminated in terms of para 22 (b), (c) & (d) herein below, the IEC shall forward his/its recommendations as to possible terms of settlement within one (1) month from the date of last hearing. The date of first hearing of Conciliation shall be the starting date for calculating the period of 2 months.
14. In case of 3 members IEC, 2 members of IEC present will constitute a valid quorum for IEC and meeting can take place to proceed in the matter after seeking consent from the member who is not available. If necessary, videoconferencing may be arranged for facilitating participation of the members. However, the IEC recommendations will be signed by all members. Where there is more than one (1) Conciliator, as a general rule they shall act jointly. In the event of differences between the Members of IEC, the decision/recommendations of the majority of the Members of IEC shall prevail and be construed as the recommendation of the IEC.
15. The Draft Settlement Agreement prepared by the IEC in terms of the consensus arrived at during the Conciliation proceedings between the Parties shall be given by the IEC to both the parties for putting up for approval of their respective Competent Authority.
16. Before submitting the draft settlement agreement to BHEL's Competent Authority viz. the Board Level Committee on Alternative Dispute Resolution (BLCADR) for approval, concurrence of the other party's Competent Authority to the draft settlement agreement shall be obtained by the other party and informed to BHEL within 15 days of receipt of the final draft settlement agreement by it. Upon approval by the Competent Authority, the Settlement Agreement would thereafter be signed by the authorized representatives of both the Parties and authenticated by the members of the IEC.
17. In case the Draft Settlement Agreement is rejected by the Competent Authority of BHEL or the other Party, the Conciliation proceedings would stand terminated.
18. A Settlement Agreement shall contain a statement to the effect that each of the person(s) signing thereto (i) is fully authorized by the respective Party(ies) he/she represents, (ii) has fully understood the contents of the same and (iii) is signing on the same out of complete freewill and consent, without any pressure, undue influence.
19. The Settlement Agreement shall thereafter have the same legal status and effect as an arbitration award on agreed terms on the substance of the dispute rendered by an arbitral tribunal passed under section 30 of the Arbitration and Conciliation Act, 1996.
20. Acceptance of the Draft Settlement Agreement/recommendations of the Conciliator and/or

CONTRACTOR

A handwritten signature in blue ink, appearing to read 'Mohit', is located at the bottom left of the page.

(Sign with name, designation and date)

signing of the Settlement Agreement by BHEL shall however, be subject to withdrawal/closure of any arbitral and/or judicial proceedings initiated by the concerned Party in regard to such settled issues.

21. Unless otherwise provided for in the agreement, contract or the Memorandum of Understanding, as the case may be, in the event of likelihood of prolonged absence of the Conciliator or any member of IEC, for any reason/incapacity, the Competent Authority/Head of Unit/Division/Region/Business Group of BHEL may substitute the Conciliator or such member at any stage of the proceedings. Upon appointment of the substitute Conciliator(s), such reconstituted IEC may, with the consent of the Parties, proceed with further Conciliation into the matter either de-novo or from the stage already reached by the previous IEC before the substitution.
22. The proceedings of Conciliation under this Scheme may be terminated as follows:
 - a. On the date of signing of the Settlement agreement by the Parties; or,
 - b. By a written declaration of the IEC, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of the declaration; or,
 - c. By a written declaration of the Parties addressed to the IEC to the effect that the Conciliation proceedings are terminated, on the date of the declaration; or,
 - d. By a written declaration of a Party to the other Party and the IEC, if appointed, to the effect that the Conciliation proceedings are terminated, on the date of the declaration; or,
 - e. On rejection of the Draft Settlement Agreement by the Competent Authority of BHEL or the other Party.

SI No	Particulars	Amount
1	Sitting fees	Each Member shall be paid a Lump Sum fee of Rs 75,000/- for the whole case payable in terms of paragraph No.27 herein below.
2	Towards drafting of settlement agreement	In cases involving claim and/or counter-claim of up to Rs 5crores. Rs 50,000/- (Sole Conciliator) In cases involving claim and/or counter-claim of exceeding Rs 5 crores but less than Rs 10 crores.
SI No	Particulars	Amount
		Rs 75,000 (per Conciliator) In cases involving claim and/or counter-claim of more than Rs 10 crores. Rs 1,00,000/- (per Conciliator) Note: The aforesaid fees for the drafting of the Settlement Agreement shall be paid on the, Signing of the Settlement Agreement after approval of the Competent Authority

CONTRACTOR



(Sign with name, designation and date)

		or Rejection of the proposed Settlement Agreement by the Competent Authority of BHEL.
3	Secretarial expenses	Rs 10,000/- (one time) for the whole case for Conciliation by a Sole Member IEC. Where Conciliation is by multi member Conciliators –Rs 30,000/- (one time)- to be paid to the IEC
4	Travel and transportation and stay at outstation Retired Senior Officials of other Public Sector Undertakings (pay scale wise equivalent to or more than E-8 level of BHEL)	As per entitlement of the equivalent officer (pay scale wise) in BHEL.
	Others	As per the extant entitlement of whole time Functional Directors in BHEL. Ordinarily, the IEC Member(s) would be entitled to travel by air Economy Class.
5	Venue for meeting	Unless otherwise agreed in the agreement, contract or the Memorandum of Understanding, as the case may be, the venue/seat of proceedings shall be the location of the
SI No	Particulars	Amount
		concerned Unit / Division / Region / Business Group of BHEL. Without prejudice to the seat/venue of the Conciliation being at the location of concerned BHEL Unit / Division / Region / Business Group, the IEC after consulting the Parties may decide to hold the proceedings at any other place/venue to facilitate the proceedings. Unless, Parties agree to conduct Conciliation at BHEL premises, the venue is to be arranged by either Party alternately.

23. The parties will bear their own costs including cost of presenting their cases/evidence/witness(es)/expert(s) on their behalf. The parties agree to rely upon documentary evidence in support of their claims and not to bring any oral evidence in IEC proceedings.
24. If any witness(es) or expert(s) is/are, with the consent of the parties, called upon to appear at the instance of the IEC in connection with the matter, then, the costs towards such witness(es)/expert(s) shall be determined by the IEC with the consent of the Parties and the cost so determined shall be borne equally by the Parties.

CONTRACTOR



(Sign with name, designation and date)

25. The other expenditures/costs in connection with the Conciliation proceedings as well as the IEC's fees and expenses shall be shared by the Parties equally.
26. Out of the lump sum fees of Rs 75,000/- for Sitting Fees, 50% shall be payable after the first meeting of the IEC and the remaining 50% of the Sitting Fees shall be payable only after termination of the conciliation proceedings in terms of para 22 hereinabove.
27. The travelling, transportation and stay at outstation shall be arranged by concerned Unit as per entitlements as per Serial No. 4 of the Table at para 23 above, and in case such arrangements are not made by the BHEL Unit, the same shall be reimbursed to the IEC on actuals limited to their entitlement as per Serial No. 4 of the Table at Para 23 above against supporting documents. The IEC Member(s) shall submit necessary invoice for claiming the fees/reimbursements.
28. The Parties shall keep confidential all matters relating to the conciliation proceedings. Confidentiality shall extend also to the settlement agreement, except where its disclosure is necessary for purposes of its implementation and enforcement or as required by or under a law or as per directions of a Court/Governmental authority/ regulatory body, as the case may be.
29. The Parties shall not rely upon or introduce as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the Disputes that is the subject of the Conciliation proceedings:
 - a. Views expressed or suggestions made by the other party in respect of a possible settlement of the Disputes;
 - b. admissions made by the other party in the course of the Conciliator proceedings;
 - c. proposals made by the Conciliator;
 - d. The fact that the other Party had indicated his willingness to accept a proposal for settlement made by the Conciliator.
30. The Parties shall not present the Conciliator(s) as witness in any Alternative Dispute Resolution or Judicial proceedings in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
31. None of the Conciliators shall act as an arbitrator or as a representative or counsel of a Party in any arbitral or judicial proceeding in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.
32. The Parties shall not initiate, during the Conciliation proceedings, any arbitral or judicial proceedings in respect of a Disputes that is the subject matter of the Conciliation proceedings except that a Party may initiate arbitral or judicial proceedings where, in his opinion, such proceedings are necessary for preserving his rights including for preventing expiry of period of limitation. Unless terminated as per the provisions of this Scheme, the Conciliation proceedings shall continue notwithstanding the commencement of the arbitral or judicial proceedings and the arbitral or judicial proceedings shall be primarily for the purpose of preserving rights including preventing expiry of period of limitation.
33. The official language of Conciliation proceedings under this Scheme shall be English unless the Parties agree to some other language.

CONTRACTOR

A handwritten signature in blue ink, which appears to read 'Mohit', is located at the bottom left of the page.

(Sign with name, designation and date)

**Format 5 to BHEL Conciliation Scheme, 2018 STATEMENT OF CLAIMS/COUNTER CLAIMS TO BE SUBMITTED TO THE IEC BY BOTH THE PARTIES**

1. Chronology of the Disputes
2. Brief of the Contract/MoU/Agreement/LOI/LOA
3. Brief history of the Disputes:
4. Issues:
5. Details of Claim(s)/Counter Claim(s):

SN	Description of claim(s)/Counter Claim	Amount (in INR) or currency applicable in the contract	Relevant contract clause

6. Basis/Ground of claim(s)/counter claim(s) (along with relevant clause of contract).

Note– The Statement of Claims/Counter Claims may ideally be restricted to maximum limit of 20 pages. Relevant documents may be compiled and submitted along with the statement of Claims/Counter Claims. The statement of Claims/Counter Claims is to be submitted to all IEC members and to the other party by post as well as by email.

FORMAT-7**FORMAT FOR NOTICE INVOKING CONCILIATION CLAUSE BY BHEL FOR REFERRING THE DISPUTES TO CONCILIATION THROUGH IEC**

To,

M/s. (Stakeholder's name)

Subject: **NOTICE FOR INVOCATION OF THE CONCILIATION CLAUSE OF THE CONTRACT BY BHEL**

Ref: ContractNo/MoU/Agreement/LOI/LOA & date _____.

Dear Sir/Madam,

As you are aware, with reference to above referred Contract/MoU/Agreement/LOI/LOA, certain disputes have arisen, which, in spite of several rounds of mutual discussions and various correspondences have remained unresolved. The brief particulars of our claims which arise out of the above- referred Contract/MoU/Agreement/LOI/LOA are reproduced hereunder:

Sl. No.	Claim description	Amount involved

CONTRACTOR

Mohit

(Sign with name, designation and date)



As you are aware, there is a provision in the captioned Contract/MoU/Agreement/LOI/ LOA for referring disputes to conciliation.

In terms of Clause -----of Procedure i.e., Annexure ----- to the Contract/MoU /Agreement / LOI / LOA, we hereby seek your consent to refer the matter to Conciliation by Independent Experts Committee to be appointed by BHEL. You are invited to provide your consent in writing to proceed with conciliation into the above mentioned disputes within a period of 30 days from the date of this letter along with details of counter-claims, if any, which you might have with regard to the subject Contract/ MoU/ Agreement/ LOI/ LOA.

Please note that upon receipt of your consent in writing within 30 days of the date of receipt of this letter by you, BHEL shall appoint suitable person(s) from the BHEL Panel of Conciliators.

This letter is being issued without prejudice to our rights and contentions available under the contract and law.

Thanking you

Yours faithfully

Representative of BHEL

FORMAT-8

FORMAT FOR NOTICE INVOKING CONCILIATION CLAUSE BY A STAKEHOLDER FOR REFERRING THE DISPUTES TO CONCILIATION THROUGH IEC

To,

BHEL (Head of the Unit/Division/Region/Business Group)

Subject: **NOTICE FOR INVOCATION OF THE CONCILIATION CLAUSE OF THE CONTRACT BY A STAKEHOLDER**

Ref: ContractNo/MoU/Agreement/LOI/LOA& date_____.

Dear Sir/Madam,

As you are aware, with reference to above referred Contract/MoU/Agreement/LOI/LOA, certain disputes have arisen, which, in spite of several rounds of mutual discussions and various correspondences have remained unresolved. The brief particulars of our claims which have arisen out of the above- referred Contract/MoU/Agreement/LOI/LOA are enumerated hereunder:

Sl.No.	Claim description	Amount involved

As you are aware, there is a provision in the captioned Contract/MoU/Agreement/LOI/ LOA for referring inter-se disputes of the Parties to conciliation.

We wish to refer the above-said disputes to Conciliation as per the said Clause of the captioned Contract/MoU/Agreement/LOI/ LOA. In terms of Clause -----of Procedure i.e., Annexure ----- to the Contract/MoU /Agreement / LOI / LOA, we hereby invite BHEL to provide its consent in writing to

CONTRACTOR

(Sign with name, designation and date)



proceed with conciliation into the above mentioned disputes within a period of 30 days from the date of this letter along with details of counter-claims, if any, which it might have with regard to the subject Contract/ MoU/ Agreement/ LOI/ LOA and to appoint suitable person(s) as Conciliator(s) from the BHEL Panel of Conciliators.

This letter is being issued without prejudice to our rights and contentions available under the contract and law.

Thanking you

Yours faithfully

Representative of the Stakeholder

FORMAT-9

FORMAT FOR INTIMATION TO THE STAKEHOLDER ABOUT APPOINTMENT OF CONCILIATOR/IEC

To,

M/s. (Stakeholder's name)

Subject: **INTIMATION BY BHEL TO THE STAKEHOLDER AND CONCILIATOR(S) ABOUT APPOINTMENT OF CONCILIATOR/IEC**

Ref: ContractNo/MoU/Agreement/LOI/LOA& date_____.

Sir,

This is with reference to letter dated ----- regarding reference of the disputes arising in connection with the subject Contract No/MoU/Agreement/LOI/LOA to conciliation and appointment of Conciliator(s).

In pursuance of the said letter, the said disputes are assigned to conciliation and the following persons are nominated as Conciliator(s) for conciliating and assisting the Parties to amicably resolve the disputes in terms of the Arbitration & Conciliation Act, 1996 and the Procedure ---- to the subject Contract /MoU/Agreement/LOI/LOA, if possible. Name and contact details of Conciliator(s)

a)

b)

c)

You are requested to submit the Statement of Claims or Counter-Claims (strike off whichever is inapplicable) before the Conciliator(s) in Format 5 (enclosed herewith) as per the time limit as prescribed by the Conciliator(s).

Yours faithfully,

Representative of BHEL

CC: To Conciliator(s)... for Kind Information please.

Encl: As above

CONTRACTOR



(Sign with name, designation and date)

ANNEXURE - T**Certificate by Chartered Accountant on letter head****(only for those who are submitting EM-II Certificate)**

(To be submitted along with Part-1 Bid)

This is to certify that M/s, (hereinafter referred to as 'company') having its registered office at is registered under MSMED Act-2006, (Entrepreneur Memorandum No (Part-11) dtd:, Category: (Micro/Small)). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as per the latest audited financial yearas per MSMED Act-2006 is as follows:

1. For Manufacturing Enterprises: Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.0.1722(E) dated October 5, 2006: Rs.....Lacs
2. For Service Enterprises: Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006: Rs.....Lacs (Strike off whichever is not applicable)

The above investment of Rs.....Lacs is within permissible limit of Rs.....Lacs forMicro / Small (Strike off which is not applicable) Category under MSMED Act-2006. **Or** The company has been graduated from its original category (Micro/ Small) (Strike off which is not applicable) and the date of graduation of such enterprise from its original category is (dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such enterprise from its original category as notified vide S.O.No.3322(E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:**(Signature)****Name****Membership number****Seal of Chartered Accountant****CONTRACTOR**

(Sign with name, designation and date)



VOLUME - VI

UNPRICED BID

NEW BUILDING PROJECT GROUP
Plot no. 25, Sec-16A, Noida(UP)

CONTRACTOR

Mohit

(Sign with name, designation and date)

**UNPRICED BID****NO RATES SHALL BE QUOTED IN THIS ANNEXURE**

Scope: Design, Engineering, Supply, Installation, Testing & Commissioning of Membrane Bioreactor (MBR) technology based 160 KLD capacity Sewage Treatment Plant (STP) at BHEL, Plot no. 25, Sec-16A, Noida(UP)

SN	DESCRIPTION	QTY	UNIT	RATE (Rs.)	AMOUNT (Rs.)
A	GRAND TOTAL COST OF SEWAGE TREATMENT PLANT OF 160 KLD CAPACITY BASED ON MEMBRANE BIOREACTOR MBR TECHNOLOGY (EXCLUDING GST)	1	NO		
	AMOUNT IN WORDS: Rupees.....				
	GST @ 18% ON A ABOVE (B)			NOT TO BE FILLED BY THE BIDDER	
	COST TO BHEL (i.e. C = A + B)			NOT TO BE FILLED BY THE BIDDER	

Note:

1) Bidders are required to mention 'QUOTED' at the place; where rates have been quoted by the bidders in numerals as well as in words in the Price bid. No rates are to be quoted by the bidders in this unpriced bid format.

2) Unpriced bid to be necessarily enclosed by the bidders along with their Techno-commercial (Part-I) bid.

CONTRACTOR

(Sign with name, designation and date)



VOLUME - VII

PRICE BID

NEW BUILDING PROJECT GROUP
Plot no. 25, Sec-16A, Noida(UP)

CONTRACTOR

Mohit

(Sign with name, designation and date)

PRICE BID

Scope: Design, Engineering, Supply, Installation, Testing & Commissioning of Membrane Bioreactor (MBR) technology based 160 KLD capacity Sewage Treatment Plant (STP) at BHEL, Plot no. 25, Sec-16A, Noida(UP)

SN	DESCRIPTION	QTY	UNIT	RATE (Rs.)	AMOUNT (Rs.)
A	GRAND TOTAL COST OF SEWAGE TREATMENT PLANT OF 160 KLD CAPACITY BASED ON MEMBRANE BIOREACTOR MBR TECHNOLOGY (EXCLUDING GST)	1	NO		
AMOUNT IN WORDS: Rupees.....					
GST @ 18% ON A ABOVE (B)				NOT TO BE FILLED BY THE BIDDER	
COST TO BHEL (i.e. C = A + B)				NOT TO BE FILLED BY THE BIDDER	

Note:

- 1) Bidders are required to quote their rates (only in Indian Rupees) in the Price bid. Total price of the package [Grand Total (A)] is to be quoted by the bidders which shall form the basis for comparison for deciding lowest (L1) bid.
- 2) The price quoted shall include freight, insurance, Packing and forwarding, Loading and unloading charges. Price quoted shall be FOR, BHEL, Sec-16A, Noida.
- 3) Bidders to quote the Grand total price in numerals as well as in words.
- 4) Price quoted (Grand Total) shall be exclusive of GST. BHEL shall add GST @ 18% on A and cost to BHEL (C), thus, calculated will be compared for deciding L1 bidder.
- 5) The terms and conditions of the contract are mentioned in the General Conditions of Contract (GCC), Special Conditions of Contract (SCC) and Technical Conditions of Contract (TCC).
- 6) The price quoted by the bidders shall be inclusive of all labour, material, tools, plant, equipment etc., required for completing the contractual obligations.
- 7) The price bid should not contain any conditions. Conditional price bid shall be summarily rejected by BHEL.
- 8) The bidder should consider all relevant terms & conditions while quoting.
- 9) The item description should be read in conjunction with the technical specification written in any part / section of the tender document, as applicable.

CONTRACTOR



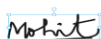
(Sign with name, designation and date)

VOLUME - VIII

LIST OF APPROVED MAKES

NEW BUILDING PROJECT GROUP
Plot no. 25, Sec-16A, Noida(UP)

CONTRACTOR

A handwritten signature in blue ink, which appears to read 'Mohit', is placed within a rectangular box. The box has a light gray border and a small gray triangle in the bottom right corner.

(Sign with name, designation and date)

LIST OF APPROVED MAKES

Pumps	
Equipment / Material / Component	Approved makes
Centrifugal Pumps	Kirloskar / Crompton / Grundfos / Xylem / Ebara
Centrifugal Pumps (Horizontal / Vertical) (with VFD)	Grundfos / Xylem / Ebara
Screw Pumps	Roto / UT / Tushaco / Rotomac
Submersible Pumps	Grundfos / Xylem / KSB / Ebara
Dosing Pumps / Doser	Milton Roy India / Positive Metering Pumps / Toshcon
Dewatering Pumps	Grundfos / Xylem / KSB / Ebara
Sludge Pumps	Kirloskar / Tushaco
Sewage Pumps	Grundfos / Xylem / KSB / Ebara

Piping	
Equipment / Material / Component	Approved makes
GI / MS Pipes	Jindal / Prakash Surya / Tata
GI Pipes Fittings	Unik / UNCO / R Brand
HDPE Pipes	Reliance / Duraline / Supreme / Jain / Oriplast
uPVC / PVC Sch 40 & 80 Water Supply Pipes, Valves & Fittings	Supreme / Astral / Finolex / Ashirwad
SS Pipes	Apex Tubes / Ratnamani / Remi / Prakash Steelage
CI / Cast Steel / Bronze Gate construction of Butterfly / Globe / Butterfly / NRV / Check Valves	Venus / Audco / Advance / SKS / Kirloskar
Strainer	CIM / Audco / Advance / Kirloskar

Mechanical Equipment	
Equipment / Material / Component	Approved makes

CONTRACTOR



(Sign with name, designation and date)

Air Blowers	Everest / Usha / Kay / Beta
Diffused Aeration / Air Dispersion system	EDI / Thermax / Geo Miller / Micro / ITT System / Envirotech / Norton / Rehau / MM Aqua
U V Sterilizer / Disinfection system (UV)	Creative / Alfa
Filter Press	Sachin Filtech / Pharmatech
Membrane Module / MBR Reactor Module	GE / Siemens / Huber / Torey / Koch
Mechanical Step Screen	Jash / Wastech / Ecologix
Mechanical Fine Screen	Jash / Wastech / Ecologix

Instrumentation	
Equipment / Material / Component	Approved makes
Pressure Indicator	Manometer India/ H Guru Instruments/ General Instruments/AN Instruments/ Forbes Marshall / Bells / Emerald / Japson / Waree Instruments
Level Sensor & Indicator	Toshniwal Bros./ABB/ Bells Controls / Forbes Marshal / Pune Techtrol / Level tech / Elegant / Cirrus
Flow Instrument System	Resemount (I) Pvt. Ltd/ABB/ E&H/ Forbes Marshall / SB Electromech /Waree Instruments/ Level tech Systems
Gas Meter	Fluid Components/ MKS Instruments/ Kurtz Instruments /Forbes Marshall/ABB
pH meters	A-LMI/ Rosemont / Toshniwal /E&H/ Fobres Marshal / Ultraline
Analyser- Conductivity	Fobes Marshall /.A- LMI / Rosemont / Forbes Marshall / Kent
Bulk Water Meter	Aquamet / Kaycee / Kent
Electro-magnetic type Flow Meter	Forbes Marshall / ABB
DO Sensor	Forbes Marshall / Hach / Electronet

ELECTRICAL

CONTRACTOR



(Sign with name, designation and date)

Equipment / Material / Component	Approved makes
MCB / RCCB / RCBO / DB	L&T / Hager / ABB / Legrand / Schneider
Industrial outlet	L&T / Hager / ABB / Legrand / Schneider
Electrical Control Panel	Advance / Adlec / Ambit / Tricolite / Milestone / Vidyut control / RST / Dynamic
Switchgear & Accessories	ABB / Schnieder / L&T / Siemens
MCCB (Microprocessor)	ABB (T max) / L & T (D sine) / Schneider (Compact NXS / NS) / Siemens (3VL) / Legrand (DPX)
Switch Fuse Unit With HRC Fuses	L & T / ABB / Schnieder / Siemens / GE
Contactors / Relays	L & T / Siemens / ABB / Schneider
Ammeters / Voltmeters and metering equipments	L & T / Siemens / Automatic Electric / Neptune / Enercon
Selector Switches	Kaycee / Salzar / L&T
LED lights	Philips / L&T / Vaishno / Siemens
PVC Insulated Copper Conductor Wires	Finolex / Polycab / Skytone / RR
PVC / XLPE Insulated 11 KV / 1.1 KV Cables	Finolex / Polycab / Skytone / RR
Lugs	Dowells / 3D / C.C.I. / 3 M / Comet / Hex
Cable Glands	Siemens / Comet / Grippwel
MS Conduits and Accessories	B.E.C. / AKG / MK
Fluorescent Tube Fitting	PHILIPS / WIPRO / Bajaj
Ceiling Fans / Exhaust Fans / Air Circulators	Crompton / Bajaj / Usha

CONTRACTOR



(Sign with name, designation and date)



VOLUME - IX

TENDER DRAWINGS

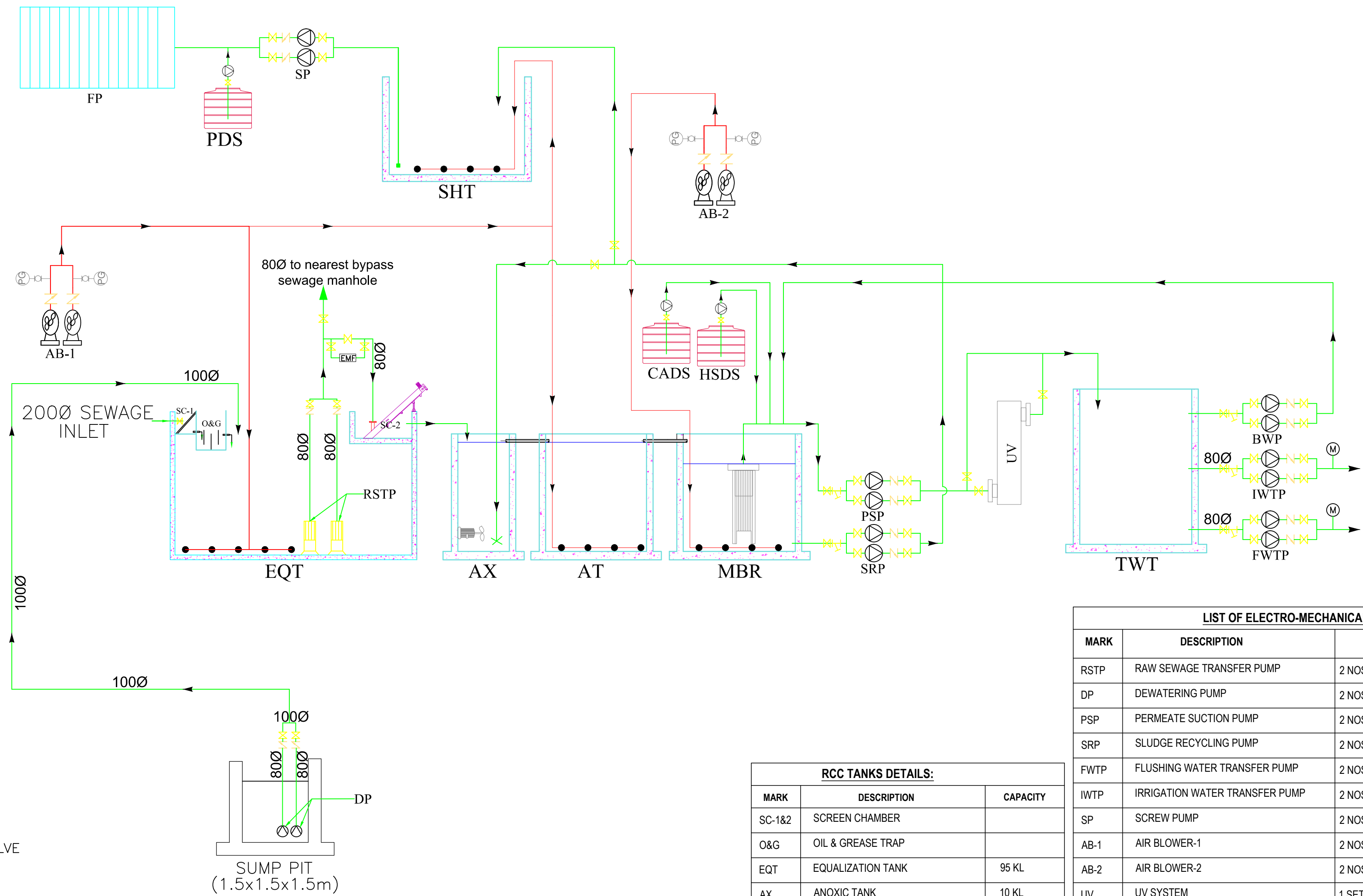
NEW BUILDING PROJECT GROUP
Plot no. 25, Sec-16A, Noida(UP)

CONTRACTOR

Mohit

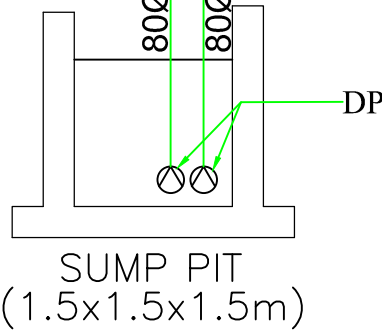
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LEGEND :

- VALVE
- NON RETURN VALVE
- STRAINER
- DIFFUSER
- PRESSURE GAUGE
- ELECTRO-MAGNETIC FLOW METER
- WATER METER



...	...	...
rev. no.	date	revision

RCC TANKS DETAILS:		
MARK	DESCRIPTION	CAPACITY
SC-1&2	SCREEN CHAMBER	
O&G	OIL & GREASE TRAP	
EQT	EQUALIZATION TANK	95 KL
AX	ANOXIC TANK	10 KL
AT	AERATION TANK	55 KL
MBR	MEMBRANE BIO REACTOR	15 KL
SHT	SLUDGE HOLDING TANK	20 KL
TWT	TREATED WATER TANK	75 KL

LIST OF ELECTRO-MECHANICAL UNITS:				
MARK	DESCRIPTION	QTY.	FLOW RATE / CAP.	HEAD
RSTP	RAW SEWAGE TRANSFER PUMP	2 NOS. (1W+1S)	7 CUM/HR	17 M
DP	DEWATERING PUMP	2 NOS.	6 LPS	14 M
PSP	PERMEATE SUCTION PUMP	2 NOS. (1W+1S)	10 CUM/HR	15 M
SRP	SLUDGE RECYCLING PUMP	2 NOS. (1W+1S)	27 CUM/HR	10 M
FWTP	FLUSHING WATER TRANSFER PUMP	2 NOS. (1W+1S)	NOT IN THE SCOPE OF STP CONTRACTOR	
IWTP	IRRIGATION WATER TRANSFER PUMP	2 NOS. (1W+1S)		
SP	SCREW PUMP	2 NOS. (1W+1S)	1 CUM/HR	40 M
AB-1	AIR BLOWER-1	2 NOS. (1W+1S)	200 CUM/HR	
AB-2	AIR BLOWER-2	2 NOS. (1W+1S)	100 CUM/HR	
UV	UV SYSTEM	1 SET	10 CUM/HR	
FP	FILTER PRESS (18 X 18 INCH - 23 PLATES)	1 SET		
BWP	BACKWASH PUMP	2 NOS. (1W+1S)		
PDS	POLY DOSING SYSTEM	1 SET		
HSDS	HYPO SOLUTION DOSING SYSTEM	1 SET		
CADS	CITRIC ACID DOSING SYSTEM	1 SET		

project
BHEL Corporate Tower
At MDI Complex, Plot-25, Sector 16-A, Noida (U.P.)

title
Schematic Flow Diagram
Sewage Treatment Plant 160 KLD

drg. no.
BHEL / STP-01

date
30-01-2019

scale
N.T.S.

released for
Tender

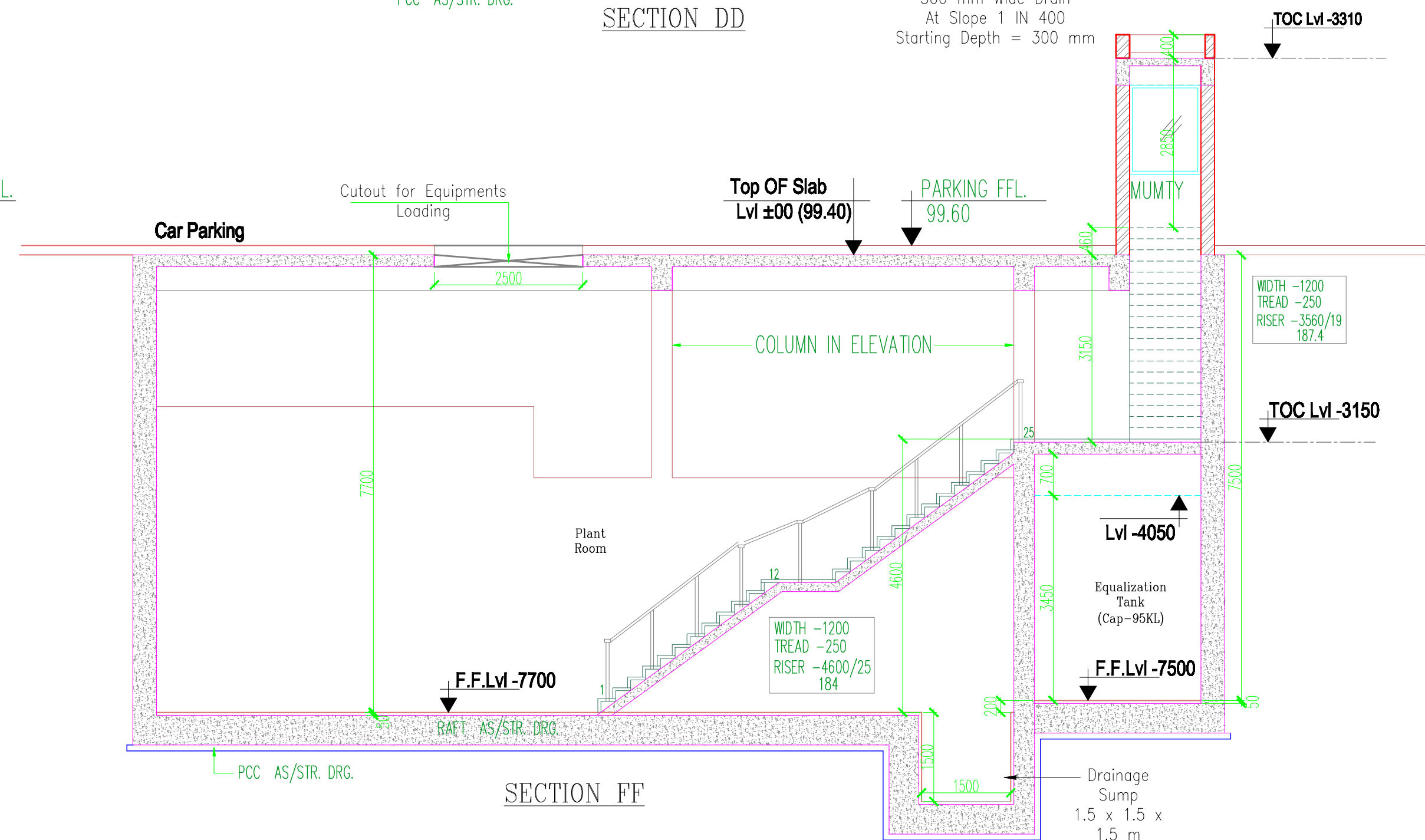
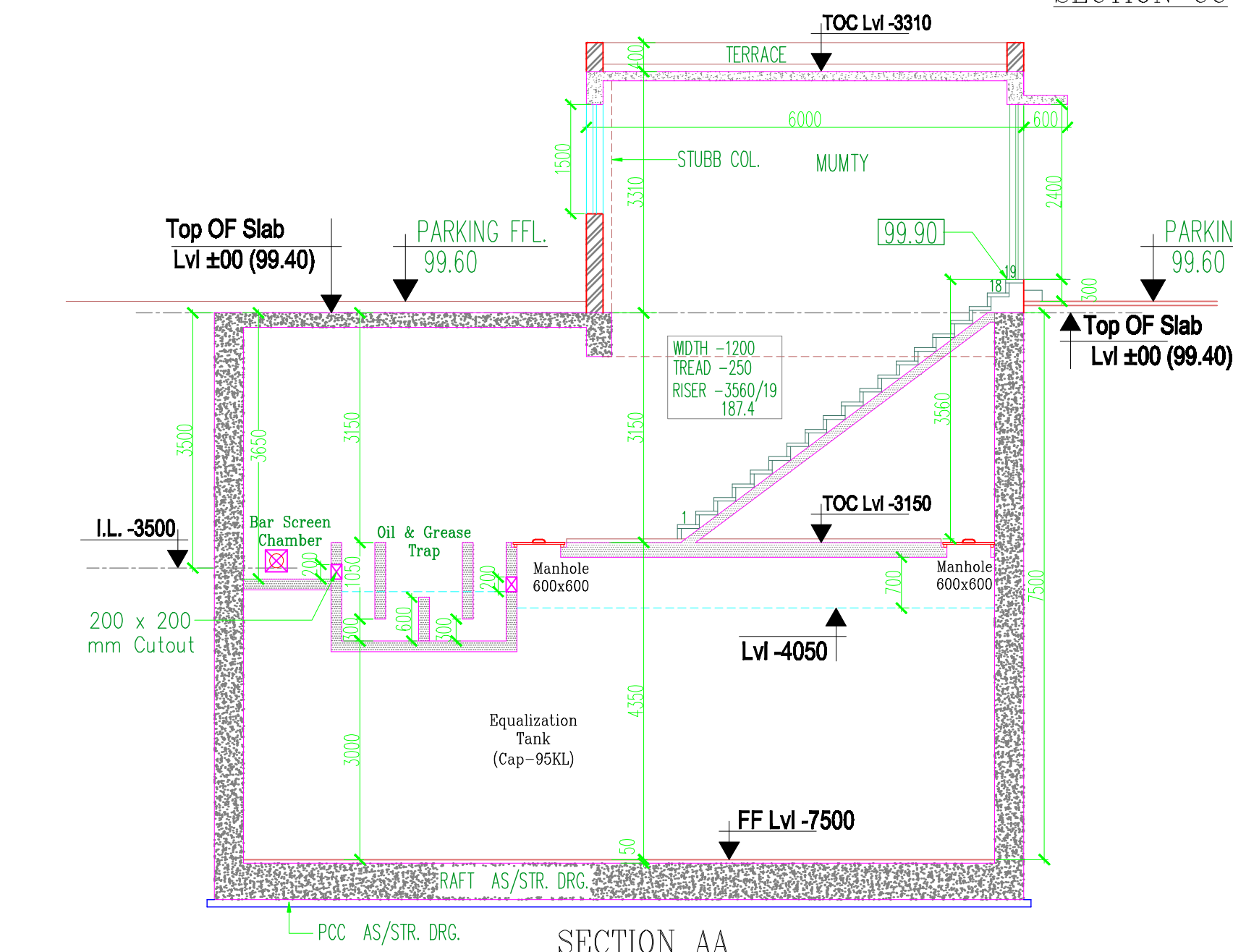
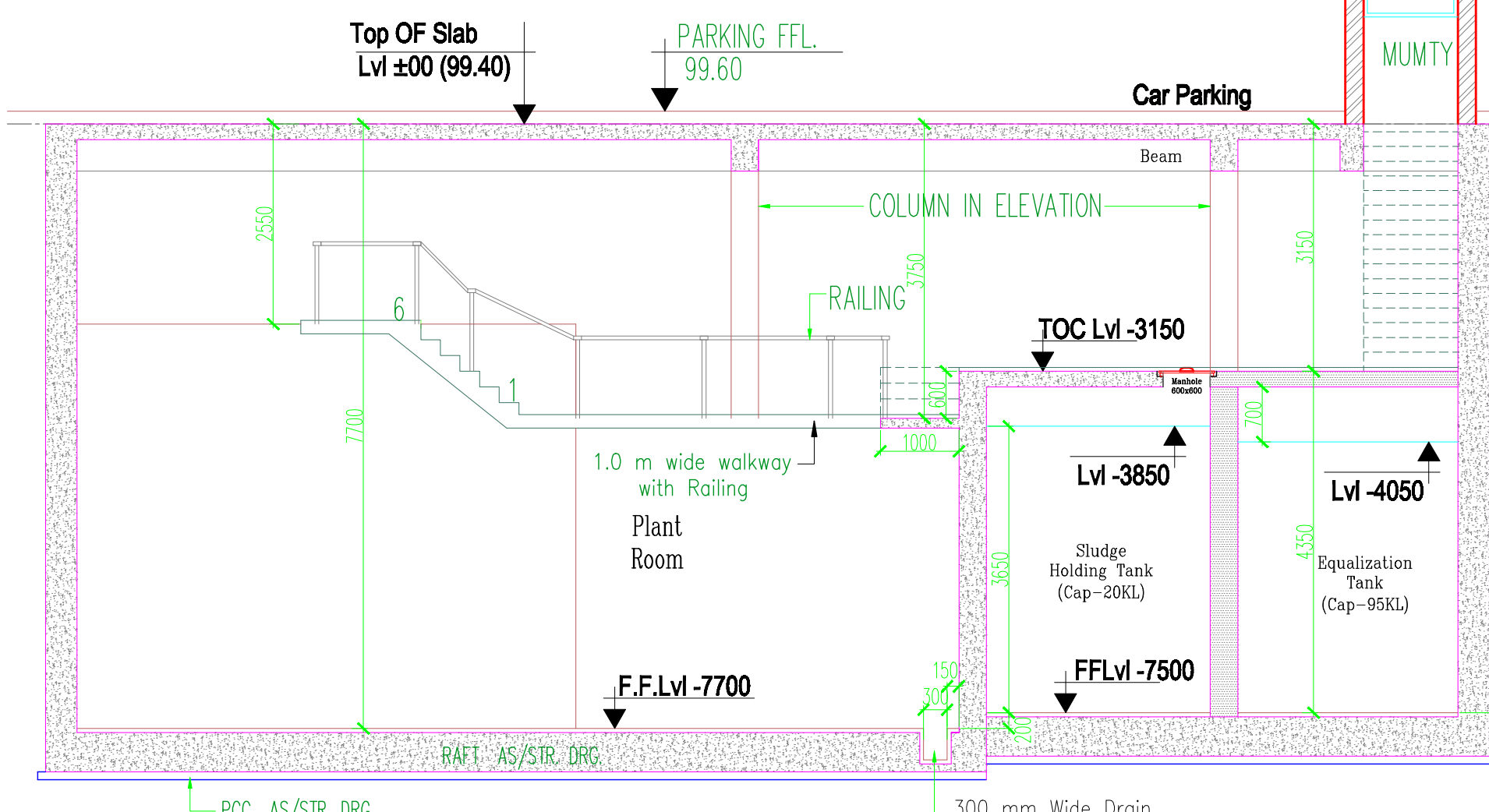
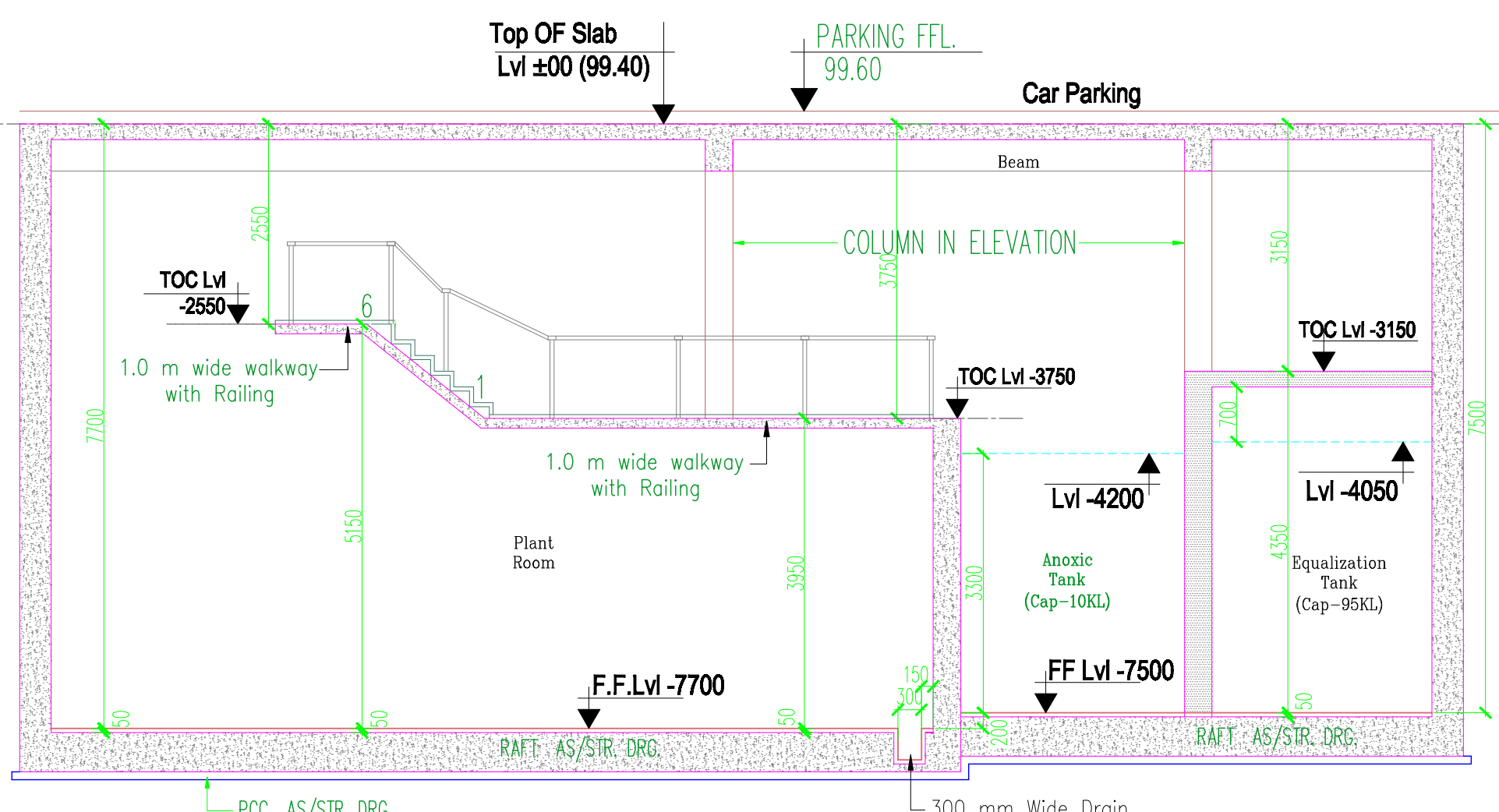
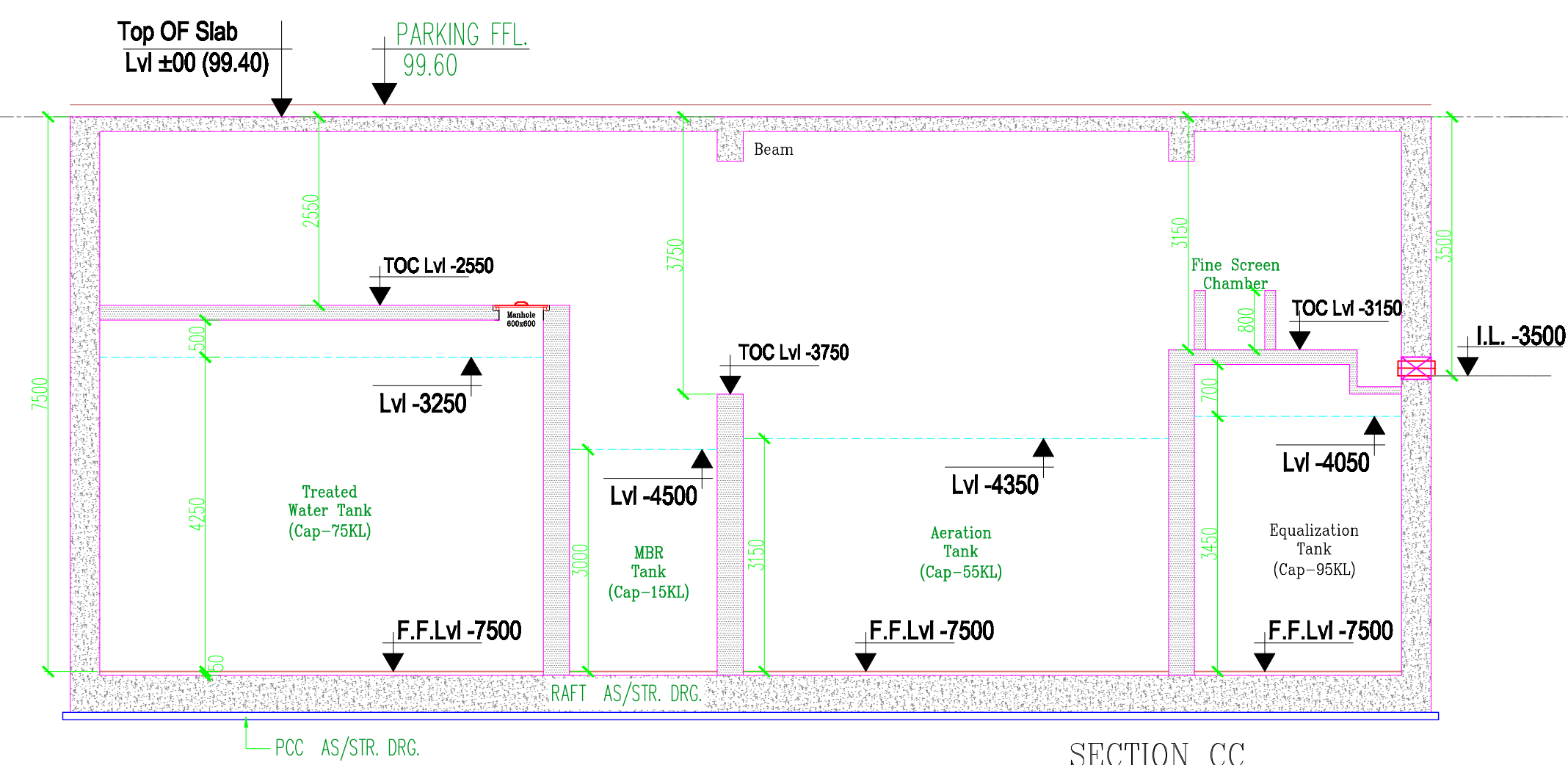
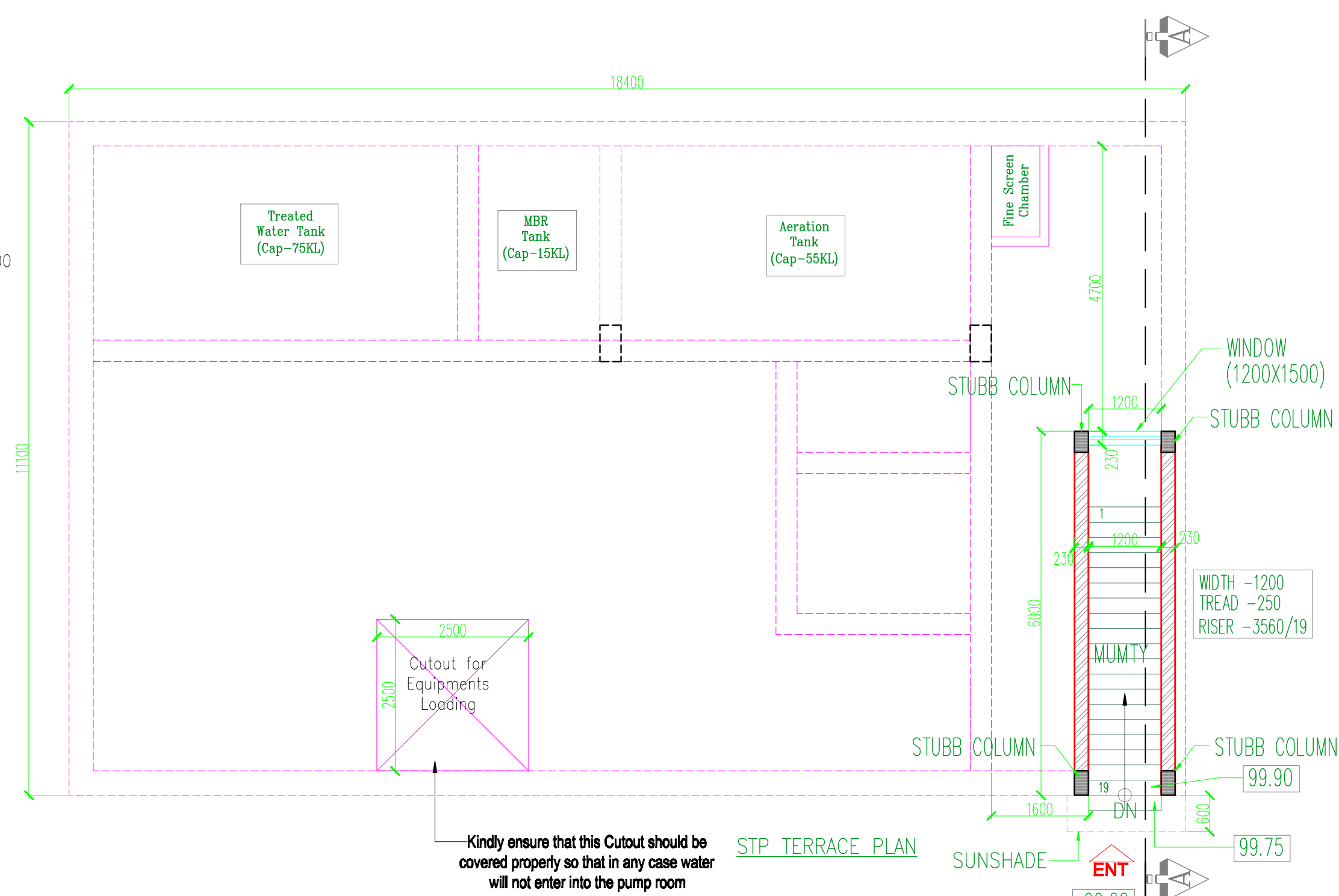
drawn by
Shikha Kalra

ckd by
Anand Havelia

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title

STP DETAIL
(Cap. 160 KLD)

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