



**CHENNAI METROPOLITAN WATER SUPPLY AND
SEWERAGE BOARD**

CHENNAI- 600 002

STANDARD BIDDING DOCUMENT

(Followed for Two Cover System with e-Procurement - Value above 4.00 Crore)



**CHENNAI METROPOLITAN WATER SUPPLY AND
SEWERAGE BOARD
CHENNAI- 600 002**

NATIONAL COMPETITIVE BIDDING

**BID DOCUMENT
FOR**

CONTRACT NO:

BID DOCUMENT

VOLUME - I

**INVITATION FOR BIDS
INSTRUCTIONS TO BIDDERS
CONDITIONS OF CONTRACT
CONTRACT DATA**

**SUPERINTENDING ENGINEER (CONTRACTS & MONITORING)
CHENNAI METROPOLITAN WATER SUPPLY & SEWERAGE BOARD**

No.1, Pumping Station Road, Chintadripet, Chennai 600 002.

Telephone: 044 –29520299, 044- 28451300

E-mail : secandm@gmail.com

Details of Tender

NAME OF WORK .

CONTRACT NO
PERIOD OF DOWNLOADING FROM TO
OF BID DOCUMENT

DATE OF PRE-BID MEETING

LAST DATE AND TIME UPTO 3.00 PM
FOR SUBMISSION OF BID

DATE AND TIME OF AT 3.30 PM
OPENING OF TECHNICAL
BIDS

COMPLETION PERIOD OF
CONTRACT

OFFICER INVITING BIDS SUPERINTENDING ENGINEER
(CONTRACTS & MONITORING)
CMWSS BOARD
No.1, Pumping Station Road, Chintadripet, Chennai 600 002.

PLACE OF ONLINE OFFICE OF THE SUPERINTENDING ENGINEER
OPENING OF TECHNICAL (CONTRACTS & MONITORING)
BIDS CMWSS BOARD
No.1, Pumping Station Road, Chintadripet, Chennai 600 002.

ADDRESS FOR OFFICE OF THE SUPERINTENDING ENGINEER
COMMUNICATIONS (CONTRACTS & MONITORING),
No.1, Pumping Station Road, Chintadripet, Chennai 600 002..
Phone No. 044-2845 1300, 044-29520299, Extn. 254
Email : secandm@gmail.com

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SECTION - 1

1. NOTICE INVITING TENDER THROUGH E-TENDER (NIT)

CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD
NOTICE INVITING TENDER THROUGH E-TENDER
NATIONAL COMPETITIVE BIDDING

e-bids are invited from the eligible bidders for the following work as per the procedure of CMWSSB under two cover system conforming to the Tamil Nadu Transparency in Tenders Act, 1998 and Rules 2000.

Sl. No	Name of work and Tender No.	Bid Security	Pre-bid meeting Date	e-Bid Submission closing Date	e-Bid Opening Date
1.					
2.	Bids must be submitted online only through website www.tntenders.gov.in and the Bid Documents will be available in Website: www.tntenders.gov.in <u>Bids received through any other mode will be rejected as non-responsive.</u>				
3.	Bid security by online transfer only through Tamil Nadu Government eProcurement System. The Bidder shall submit scanned copy of online transaction statement towards Bid Security as part of Technical Bid				
4.	Availability of tender documents- website:, www.tntenders.gov.in and e-bid submission is permitted through portal www.tntenders.gov.in . For all other details refer bid document in the website from _____.				

SUPERINTENDING ENGINEER
(CONTRACTS & MONITORING)

SECTION 2: INSTRUCTIONS TO BIDDERS (ITB)

Special Instructions for submission of Technical Bids

1. Bidders from India should, however, be registered with the Government of Tamil Nadu or other State Governments/Government of India, or State/Central Government Undertakings. Bidders from India, who are not registered as above, on the date of bidding, can also participate provided they get themselves registered by the time of contract signing, if they become successful bidders.
2. For submission of the bid, the bidder is required to have Digital Signature Certificate (DSC) from one of the Certifying Authorities authorised by Government of India for issuing DSC. Aspiring bidders who have not obtained the user ID and password for participating in e-procurement in this Project, may obtain the same from the website. The Technical Bid shall be digitally signed using DSC token while uploading.
3. Bids comprise two Parts, namely the Technical Part and the Financial Part, and both parts must be submitted simultaneously online on (*website*) on or before hours on (*date*) and the 'Technical Part' of the bids will be publicly opened online on ----- (*date*) at hours, in the presence of the bidders' designated representatives who wish to attend. The "Financial Part" shall remain unopened in the e-procurement system until the second public Bid opening for the financial part. Any bid or modifications to bid (including discount) received outside e-procurement system will not be considered. If the office happens to be closed on the date of opening of the bids as specified, the bids will be opened on the next working day at the same time and venue. The electronic bidding system would not allow any late submission of bids.
4. The bidders should submit the EMD by online transfer only through Tamil Nadu Government eProcurement System portal.
5. All credentials including the Notarized copies of performance certificates and Bankers certificates enclosed for the bids should be identified as the documents submitted by the bidder over their signature with office seal
6. Any document / credential submitted without signature of authorized persons will not be considered for evaluation.
7. Bidders should produce the originals for the performance / client certificate for verification whenever required with the copies of those certificates enclosed along with the bid.
8. Bidder should furnish all the details pertaining to the Qualification Criteria in Abstract Qualification Information and sign the declaration with full signature. If the space

available in the Table is insufficient, additional sheets may be furnished in the specified format separately with declaration.

9. The downloaded documents shall be properly submitted through online along with necessary documents without any additional cost.
10. The bidder shall furnish a certificate to the effect that no correction/ alteration on the bid document as found in the web site was made by him and he shall abide by all the terms, conditions and specifications contained in the bid document. No cost towards bid document shall be required to be paid by the bidders. When there is alteration / correction found in the bid document (downloaded documents) submitted by the bidder then the uploaded version of the bid document and replies to queries & addendum of the department will be binding on the bidder. If the bidder does not accept the uploaded version of the department in case of alteration / correction found in the submitted document of the bidder then the bid is liable for rejection with forfeiture of bid security.
11. All the rules and regulations of the Tamil Nadu Transparency in Tenders Act, 1998, Tamil Nadu Transparency in Tenders Rules, 2000 are applicable even though not specifically mentioned in the bid document. Any conditions not mentioned in the bid document and available in the said Acts and Rules thereof will be invoked as and when required by the Management.
12. Other details can be seen in the bidding document. The Employer shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates, the Employer shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.

2: Instructions to Bidders

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A. General

1. Scope of Bid

- 1.1 The Chennai Metropolitan Water Supply and Sewerage Board invites bids for the work of “_____” (as defined in these documents and referred to as "the works") detailed in the table given in Invitation for Bids.
- 1.2 The successful bidder will be expected to complete the works by the intended completion date specified in the Contract data.
- 1.3 Throughout these Bidding documents, the terms bid and Tender and their derivatives (bidder/Tenderer, bid/tendered, bidding/Tendering, etc.) are synonymous and day means calendar day. Singular also means plural.
- (a) The term “**ES**” means environmental and social (including Sexual Exploitation, and Abuse (SEA), and Sexual Harassment (SH));
- (b) “**Sexual Exploitation and Abuse**” “**(SEA)**” means the following:
- (i) “**Sexual Exploitation**” is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another.
- (ii) “**Sexual Abuse**” is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;
- (c) “**Sexual Harassment**” “**(SH)**” is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by the Contractor’s Personnel with other Contractor’s or Employer’s Personnel;
- (d) “Contractor’s Personnel” is as defined in Sub-Clause 1.1 of the General Conditions of Contract; and
- (e) “**Employer’s personnel**” is as defined in GCC Sub-Clause 1.1 of the General Conditions of Contract.

2. Source of Funds

- 2.1 Atal Mission for Rejuvenation and Urban Transformation (AMRUT) 2.0 for 25% of the project cost and balance 75% of the project cost in the form of loan from Metropolitan Infrastructure Development Fund (MIDF) vide G.O. (Ms) No.23 dated 31.01.2022, MA & WS (Metro water) Dept., for the work of “_____”

3. Eligible Bidders

- 3.1 All the bidders except those who have been debarred/ banned by the Board/ Government of Tamil Nadu are eligible to bid for this tender. Payments will be made only in Indian Rupees.
- 3.2 All bidders shall provide in Section 3, Forms of Bid and all Qualification Information required under this contract.

3.3 Deleted

3.4 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Employer in accordance with sub-clause 37.1.

3.5 Bidders shall provide declaration of undertaking for Social and Environmental Responsibility in accordance with sub-clause 38.

4. Qualification of the Bidder

4.1 All bidders shall provide in Section 3, Forms of Bid and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

4.2 Pre-qualification was not undertaken for this contract.

4.3 All bidders shall include the following information and documents with signature of the authorized person with seal before uploading in their bids in Section 3:

Sl.No	Description	Remarks (Yes/No)
1	Copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit the Bidder	
2	Total monetary value of construction work performed for each of the qualifying period	
3	Experience in works of a similar nature and details of the work completed successfully during the qualifying period, and details of works under way or contractually committed; and clients who may be contacted for further information on those contracts	
4	Major items of construction equipment proposed to carry out the Contract	
5	Qualifications and experience of key site management and technical personnel and that of ESHS personnel in handling environmental, health and safety (ESHS) issues, with special focus on occupational health and safety (OHS) on site proposed for the Contract	
6	Reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past five years. The reports should be signed by auditor and should be notarized	
7	Authority to seek references from the Bidder's bankers.	
8	Evidence of adequacy of working capital for this contract (access to line (s) of credit and availability of other financial resources);	

Sl.No	Description	Remarks (Yes/No)
9	Information regarding any litigation or arbitration resulting from contracts executed by the Bidder in the last eight years or currently under execution. The information shall include the names of the parties concerned, the disputed amount, cause of litigation, and matter in dispute	
10	Proposals for subcontracting components of the Works which in aggregate add to more than 20 percent of the Bid Price (for each, the qualifications and experience of the identified sub-contractor in the relevant field should be annexed)	
11	The proposed methodology and program of construction including Environmental and Social Management Plan as indicated in Annexure-II, backed with equipment planning and deployment, duly supported with broad calculations and quality control procedures proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications within the stipulated period of completion as per milestones	
12	All the credentials furnished by the bidder towards satisfying the qualification criteria shall be duly certified by a "Notary Public" and the certified credentials should have office seal with the signature or the initial of the bidder or their authorized signatory	
13	The credentials to meet the qualification criteria as per the clause 4.5A shall be from the client /Employer. No Self-certification will be accepted	
14	The bidder shall comply to ESHS requirements listed in Annexure II	
15	Code of Conduct for Contractor's personnel (ES) form	

4.4 Bids submitted by a Joint Venture/ consortium of two or three firms as partners shall comply with the following requirements:

- [a] the bid shall include all the information listed in Sub-clause 4.3 above;
- [b] the bid and, in case of a successful bid, the Agreement, shall be signed so as to be legally binding on all partners;
- [c] one of the partners shall be nominated as being in charge, and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners;
- [d] the partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the Joint Venture/

consortium and the entire execution of the contract, including payment, shall be done exclusively with the partner in charge;

- [e] all partners of the Joint Venture/ consortium shall be liable jointly and severally for the execution of the contract in accordance with the contract terms, and a statement to this effect shall be included in the authorization mentioned under [c] above, as well as in the bid and in the Agreement [in case of a successful bid];
- [f] The Joint Venture/ consortium agreement should indicate precisely the role of all members of Joint Venture/ consortium in respect of planning, design, construction equipment, key personnel, work execution, and financing of the project. All members of Joint Venture/ consortium should have active participation in execution during the currency of the contract. This should not be varied/modified subsequently without prior approval of the employer;
- [g] The Joint Venture/ consortium agreement should be registered in **Chennai as per the Registration Act, Rules & conditions and Registration Department** before execution of the contract agreement so as to be legally valid and binding on partners; and the registration fee as prescribed by the government for the registration of the **Joint Venture/ consortium agreement shall be borne by the bidder. Registration of the Joint Venture/ consortium agreement required to be done only by successful bidder before execution of the agreement.**
- [h] a copy of the Joint Venture/ consortium Agreement entered into by the partners shall be submitted with the bid. Alternatively, a Letter of Intent to execute a Joint Venture/ consortium Agreement in the event of a successful bid shall be signed by all partners and submitted with the bid, together with a copy of the proposed Agreement.

4.5 A. To qualify for award of the contract, each bidder in its name should have performed / executed the following during the period 01.04.2019 to 31.03.2024

Sl. No	Qualification Criteria	Minimum Required Qualification
1.	Must have achieved the annual financial turnover in any one financial year during 2019-20 to 2023-24 not less than the amount given (Rs. in lakh)	
2.	Satisfactorily completed any single work of value not less than the amount given (Rs. in lakh)	

3	Should have satisfactorily completed and tested min. no. of RCC wells in sewage pumping stations of min. size and depth in a single contract. (Nos) a. dia of well - 4.0m b. depth of well -4.0m		The qualification from Sl.No.3 to 6 pertains to sewer works
4	Should have supplied, laid, jointed & tested and successfully completed DWC PE/SW pipes in gravity sewers of size 200mm and above to a minimum length given in any one year. (Length in m)		
5	Should have supplied, laid, jointed & tested and successfully completed CI/DI/RCC/PSC pipes of size 400mm and above to a minimum length given in any one year. (Length in m)		
6	Should have supplied and commissioned pump sets of different capacities in a single contract totaling to the HP		
7	Should have satisfactorily completed and tested one RCC Underground water retaining tank of minimum capacity in ML in a single contract.		The qualification from Sl.No.7 to 10 pertains to water works
8	Should have satisfactorily completed and tested one RCC overhead tank of minimum capacity in ML in a single contract.		
9	Should have supplied, laid, jointed & tested and successfully completed DI/MS/HDPE pipes of size 250mm dia and above to a minimum length given in any one year. (Length in m)		
10	Should have supplied and commissioned pump sets of different capacities in a single contract totaling to the HP		

- For item nos. 2 to 10 of the statement, the experience of the bidders as on date of bid submission will be considered for evaluation
- Any bidder (Individual/Joint Venture/Consortium) who has been debarred/ black listed by any State/ Central Government Departments, or State / Central Undertakings/ Boards/ Corporations, Municipalities and Municipal Corporations, Urban Developments Authorities, International Funding agencies such as World Bank, KfW, JICA, ADB, etc. will be disqualified from participation in the tender.(Format enclosed)

- Joint Venture/ consortium bids are acceptable

The Bid Security of a Joint Venture/ consortium shall be in the name of the Joint Venture/ consortium that submits the Bid. If the Joint Venture/ consortium has not been legally constituted into a legally enforceable Joint Venture/ consortium at the time of bidding, the Bid Security shall be in the name of any one of the members as named in the letter of intent.

- However, the Bid security of a Joint Venture/ consortium can also be submitted by the Lead Member of the Joint Venture/ consortium in his name.

Financial turnover and cost of completed works of previous years shall be given weightage of 5% per year based on rupee value to bring them to 2024-2025 price level and that will be considered for the qualifying criteria

B. Each bidder should further demonstrate:

- (a) Availability (either owned or leased or by procurement against mobilization advances) of the following key and critical equipment for this work:

Civil		
Concrete mixture with hopper	2 nos	10 Cu. ft. capacity each
Needle vibrators	2 nos	20-50mm needle each
Earth mover (J.C.B.)	5 nos	0.5 Cu.M.each
Trucks/tippers/dumpers	5 nos	6-10 Tonnes,each
Dewatering pumps	100HP	Various capacity
Mobile DG set	2 nos	10KVA
DG set	6 Nos	63 KVA
Mechanical		
Hydraulic mobile crane	5 nos	Boom height 6 m (20 T)
Chain Pulley Block	5 nos	5 T capacity
Tools and plants for jointing pipes	5 nos	
Pipe cutting machinery	3 nos	
Welding Transformers for Structural Steel work welding.	3 nos	
Drilling machine	3 nos	Upto 16 mm drill size
Pipe bending machine	3 nos	
Mechanical wrenches	3 nos	
Set of torque wrenches for tightening flange joints up to 1600 NB	3 sets	
Electrical		
Earth Tester	3 nos	500V
Megger	3 nos	500V
Soil resistivity measurement kit	1 no	Four peg method
Multimeter	3 nos	0-500 VAC
		0-100 AAC
		0-20 ADC
		0-2000ADC
Set of Crimping Tool for all sizes of cables (Copper & Aluminum)	3 sets	
Tong tester	3 nos	0-500A
Tester	3 nos	2KVHV
Clip on type Ammeter	3 nos	0-500A

The bidders should, however, undertake their own studies and furnish with their bid, a detailed construction planning and methodology supported with layout and necessary drawings and calculations (detailed) as stated in clause 4.3 (k) above to allow the Employer to review their proposals. The numbers, types and capacities of each plant/equipment shall be shown in the proposals along with the cycle time for each operation for the given production capacity to match the requirements.

- (b) Availability for this work of a Project Manager with B.E (civil) degree with minimum of 8 years experience or diploma in Civil Engineering with minimum 15 years in a Project similar to the present work and other key personnel with adequate experience as indicated in the Contract Data; and
- (c) Liquid assets and/or availability of credit facilities of not less than **Rs _____ Lakhs.** (*Credit lines/letter of credit/certificates from Banks for meeting the funds requirement etc.*)
- (d) To qualify for a package of contracts for which bids are invited, the bidder must demonstrate having availability of the key and critical equipment and key personnel with adequate experience to meet the aggregate of the qualifying criteria for the participating packages.

C. Deleted

4.6 Joint Venture/ consortium is permitted in this tender. Only a maximum of 3 partners are allowed in a Joint Venture/ consortium.

- (1) In respect of Turnover as per the clause 4.5A of ITB, the lead partner should meet not less than 50 % of the qualifying criteria and other partners should meet individually not less than 25% of the qualifying criteria and all the partners should collectively meet 100% of the qualification criteria.
- (2) In respect of qualification criteria towards single work value, under sl.no: 2, 3,6,7,8 &10 as per clause 4.5 A above, the bidders on his own (or) any one of the partners of the Joint Venture/ consortium should have completed successfully the works specified, as stipulated in the bid document for which necessary documentary evidence should be produced to the satisfaction of CMWSS Board.
- (3) In respect of qualification criteria related to pipe laying as per item 4, 5 & 9 of clause 4.5A, the Bidder on his own or the Joint Venture/ consortium partners together should satisfy the criteria as stipulated in the bid document for which necessary documentary evidence should be produced to the satisfaction of CMWSS Board.

Sub-contractor's experience and resources will not be taken into account in determining the Bidder's compliance with the qualifying criteria. However, the experience of the bidder to the extent of work done as a sub-contractor in past and duly certified by the owner of the Project will be considered.

4.7 Bid Capacity Criteria: Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the value put to Tender. The available bid capacity will be assessed at the time of technical evaluation of Bids itself with reference to value put to Tender. In case of the Bidders who do not satisfy the requirement of the Bid Capacity, their bids will be treated as non-responsive and their price bids will not be opened.

Similarly, the available bid capacity will be assessed during financial evaluation of Bids with reference to the quoted value of the bidders. The available bid capacity of the lowest responsive bidder should be more than their quoted value. If not, this will be

treated as non-responsive and the next lowest responsive bidder will be considered for the price evaluation and so on

Assessed Available Bid capacity = (A*N*1.5 - B)

where

A = Maximum value of engineering works executed in any one year during the last five years (updated to **2021-22** price level) taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the works for which bids are invited – 30/12 years

B = Value at **2021-22** price level, of existing commitments and on-going works to be completed during the next 30 months.

The statement showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be furnished.

In case of the Bidders / Joint Venture/ consortium Partners who formed part of Joint Venture/ consortium in the past including for ongoing works, the references A & B would be determined based on the details for such partners who undertook / proposed to undertake physical execution of the works and in proportion to their participation in such joint ventures / consortiums.

The assessed bid capacity of each of the Joint Venture/ consortium partners should be more than the required bid capacity. The required bid capacity for Joint Venture/ consortium partners would be determined on the basis of their participation in the Joint Venture/ consortium for the purpose of this tender.

However, to qualify for the Bid capacity requirement, the lead partner should meet not less than 50% of the required Bid capacity and other partners should meet individually not less than 25% of the Bid capacity requirement. However, all the partners should collectively meet 100% of the Bid capacity requirement.

4.8 Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

- made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
- record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.; and/or participated in the previous bidding for the same work and had quoted unreasonably high bid prices and could not furnish rational justification to the employer.
- Disqualification/Debaring done due to works executed in any State/ Central Government Departments, or State / Central Undertakings/ Boards/ Corporations, Municipalities and Municipal Corporations, Urban Developments Authorities will disqualify any entity from participation in the tender. A self-declaration to this effect in the form of affidavit in Rs.100/- e-stamp paper duly notarized to be provided. (Format enclosed)

- The Bidder should be financially solvent and should not be at risk or have any pending cases by its creditors for initiation of any Corporate Insolvency Resolution Process (CIRP) or any liquidation proceeding before the National Company Law Tribunal (NCLT). The financial status of the company in this regard is to be certified by a Third Party Chartered Accountant.

5. One Bid per Bidder

- 5.1** Each bidder shall submit only one bid for one package either individually or as a partner in a Joint Venture/ consortium subject to clause 22. A bidder who submits or participates in more than one Bid that have been permitted or requested will cause all the bids with the Bidder's participation to be disqualified.

6. Cost of Bidding

- 6.1** The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs.

7. Site visit

- 7.1** The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The bidder shall also give a certificate to the effect that he has inspected the site. The costs of visiting the Site shall be at the Bidder's own expense.

B. Bidding Documents

8. Content of Bidding Documents

- 8.1 The set of bidding documents comprises the documents listed in the table below and addenda issued in accordance with Clause 10:

Section	Description
1	Invitation for Bids
2	Instructions to Bidders
3	Forms of Bid and Qualification Information
4	Conditions of Contract
5	Contract Data
6	Forms of Securities
7	Specifications
8	Bill of quantities
9	Drawings
10	Declaration

- 8.2 The downloaded documents should be completed and submitted through online tender portal www.tntenders.gov.in.

9. Clarification of Bidding Documents

- 9.1 A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing or by mail/ e-mail at the Employer's address indicated in the invitation to bid.

The Employer will respond to any request for clarification, provided that such request is received earlier than 2 days prior to the deadline for submission of Bids. Description of clarification sought and the response of the Employer shall be uploaded for information of all Bidders without identifying the source of request for clarification.

Should the clarification result in changes to the essential elements of the bidding document, the Employer shall amend the bidding document through the issue of an Addendum pursuant to Clause 10. It is the bidder's responsibility to check on the e-procurement system, for any addendum/ amendment/ corrigendum to the bidding document.

- 9.2.1 The bidder or his official representative is invited to attend a pre-bid meeting which will take place at **Chennai Metropolitan Water Supply and Sewerage Board, No.1, Pumping Station Road, Chintadripet, Chennai 600 002** on _____ at **11.30 a.m.**

- 9.2.2** The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 9.2.3** The bidder is requested to submit any questions in writing or mail and on the e-portal to reach the Employer not later than one week before the meeting.
- 9.2.4** Minutes of the meeting, including the text of the questions raised (without identifying the source of enquiry) and the responses given will be posted online. Any modification of the bidding documents listed in Sub-Clause 8.1 which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 10 and not through the minutes of the pre-bid meeting. It is the bidder's responsibility to check on the e-procurement system, for any addendum/ amendment/ corrigendum to the bidding document.
- 9.2.5** Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

10. Amendment of Bidding Documents

- 10.1** Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addenda. However, extensions of submission of bids if any shall be issued before the deadline for opening of bids.
- 10.2** Any addendum thus issued shall be part of the bidding documents and shall be posted online. It is the bidders' responsibility to verify the online tender portal for the latest information related to this bid document.
- 10.3** To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may, at its discretion, extend the due date for submission of bids, in accordance with Sub-Clause 20.2 below.

C. Preparation of Bids

11. Language of the Bid

- 11.1** All documents relating to the bid shall be in the English language.

12. Documents comprising the Bid

- 12.1** The bid submitted by the bidder shall comprise the following:
Technical Bid
(a) Bid Security.
(b) Technical Bid;
(c) Qualification Information Form and Documents;
(d) The Bid (in the format indicated in Section 3)
(e) Joint Venture/ consortium Agreement

Financial Bid

(f) Priced Bill of quantities

and any other materials required to be completed and submitted by bidders in accordance with these instructions. The documents listed under Sections 3 and 8 of Sub-Clause 8.1 shall be filled in without exception.

12.2 Deleted

13. Bid Prices

13.1 The contract shall be for the whole works as described in Sub-Clause 1.1, based on the priced Bill of Quantities submitted by the Bidder.

13.2 The bidder shall fill in rates and prices and line-item total (both in figures and words) for all items of the Works described in the Bill of Quantities along with total bid price (both in figures and words). Items for which no rate or price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities.

13.3 All duties and other levies (other than GST) payable by the contractor under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder. The Tenderer shall quote the price schedule exclusive of GST and GST rates and amount to be shown separately in the BoQ. Any statutory variations in duties / levies, which take effect from a date subsequent to the due date for receipt of tender, shall be to CMWSS Board's account.

13.4 The rates and prices quoted by the bidder shall be subject to adjustment during the performance of the Contract in accordance with the provisions of Clause 47 of the Conditions of Contract.

14. Currencies of Bid and Payment

14.1 The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees.

15. Bid Validity

15.1 Bids shall remain valid for a period not less than (120 days) **one hundred and twenty days** after the deadline date for bid submission specified in Clause 20. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.

15.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period for the completion of evaluation provided that sum total of all extensions shall ordinarily not exceed 180 (one hundred and eighty) days. The request and the bidders' responses shall be made in writing. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of

his bid security for a period of the extension, and in compliance with Clause 16 in all respects.

15.3 The contract is subjected to price adjustment.

15.4 In case the evaluation of tenders and award of contract is not completed within extended validity period, all the tenders shall be deemed to have become invalid.

16. Bid Security

16.1 The Bidder shall furnish, as part of his Bid, a Bid security for an amount of **Rs. _____ Lakh.**

The bidders should submit the Bid security by online transfer only through Tamil Nadu Government eProcurement System. The Bidder shall submit scanned copy of online transaction statement towards Bid Security as part of Technical Bid.

In case of Joint Venture/ consortium, the Bid Security shall be in the names of any one of the members as named in the letter of intent.

16.2 Deleted

16.3 Any bid not accompanied by an acceptable Bid Security and not secured as indicated in Sub-Clauses 16.1 above shall be summarily rejected by the Employer.

16.4 The Bid Security of unsuccessful bidders will be returned as promptly as possible upon the award of contract and on written request from the unsuccessful bidder. The bid security of the bidder who has refused to extend the bid validity as provided in 15.2 shall be refunded after the initial bid validity based on written request from the bidder. Employer shall pay no interest on the bid security.

16.5 The Bid Security of the successful bidder will be discharged when the bidder has signed the Agreement and furnished the required Performance Security.

16.6 The Bid Security may be forfeited

(a) if the Bidder does not accept the correction of the Bid Price, pursuant to Clause 27; or

(b) in the case of a successful Bidder, if the Bidder fails within the specified time limit to

(i) furnish the required Performance Security; or

(ii) sign the Agreement.

16.7 Bidders cannot withdraw their bid after opening of Technical bid opening during the period of bid validity.

17. Alternative Proposals by Bidders

17.1 Alternative proposal will not be considered.

18. Format and Signing of Bid

- 18.1** The Bidder shall prepare the documents comprising the bid as described in Clause 12 of these Instructions to Bidders, along with the Form of Bid.
- 18.2** The Bid shall be **digitally signed** using **DSC token** on behalf of the Bidder, pursuant to Sub-Clauses 4.3. All pages of the bid where entries or amendments have been made shall be **digitally signed by a DSC token**.
- 18.3** The Bid shall contain no alterations or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the bidder, in which case such corrections shall be **digitally signed by a DSC token** by the person or persons signing the bid.
- 18.4** The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.
- 18.5** The Bid documents & Price Bid documents uploaded in the pdf format should not be changed or converted to any other format while downloading.

D. Online Submission of Bids

19. Submission of Bids:

19.1 Procedure for E- submission

- 19.1.1 Bidder should do the registration in the e – tender site using the option available. Then the Digital signature registration has to be done with the e-token, after logging into the site. The e-token may be obtained from one of the authorized Certifying authorities such as SIFY/TCS/nCode etc. The list and addresses of the DSC vendors can be seen in https://tntenders.gov.in/nicgep/app?component=%24DirectLink_0&page=DSCInfo&service=direct&session=T&sp=SDSCAddress.pdf
- 19.1.2 Bidder then should login to the site using user id and the corresponding passwords.
- 19.1.3 The e-token that is registered should be used by the bidder and should not be misused by others.
- 19.1.4 After downloading the tender schedules, the Bidder should go through them carefully and then submit the documents as directed; otherwise, the bid will be rejected.
- 19.1.5 If there are any clarifications, this may be obtained online through the e-tender site, or thro' the contact details. Bidder should take into account the corrigendum published before submitting the bids online.
- 19.1.6 Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender schedule and they should be in the prescribed format.
- 19.1.7 The bidder should read all the terms & conditions mentioned in the bid document and accept the same to proceed further to submit the bids.

- 19.1.8 The Bidder has to submit the tender document online well in advance before the prescribed time to avoid any delay or problem during the e-submission process.
- 19.1.9 The bidders should submit the EMD by online transfer only through Tamil Nadu Government eProcurement System. The Bidder shall submit scanned copy of online transaction statement towards Bid Security as part of Technical Bid.
- 19.1.10 The CMWSS Board will not be held responsible for any sort of delay or the technical difficulty faced in the submission of tenders online by the bidders.
- 19.1.11 The bidder should submit the bid documents by online mode through the site (<https://tntenders.gov.in>)
- 19.1.12 The online Bidding super scribed as “Technical Bid “contains Scanned copy of Bid Security, Pre-Qualification Documents and Tender document furnished by CMWSS Board to be submitted in the online bidding. The Tender document furnished by CMWSS Board uploaded in the PDF format should not be changed or converted to any other format while submitted in the online bidding.
- 19.1.13 The online bidding super scribed as “Price Bid “contains Price Bid Documents.
- 19.1.14 The Bid shall be **digitally signed using DSC token** on behalf of the Bidder. All pages of the Bid where entries or amendments have been made shall be **digitally signed using DSC token while uploading the bid**.
- 19.1.15 The tendering system will give an acknowledgement Message only after successful uploading of all the required bid documents. The acknowledgement is the bid summary. With the Bid No., Date & Time of submission of the bid with all other relevant details. The documents submitted by the bidders will be digitally signed with the e-token of the bidder and then submitted.
- 19.1.16 The acknowledgement should be printed and to be kept as a token of the submission of the bid. the acknowledgment will act as a proof of bid submission for a tender floated and will also act as an entry point to participate in the bid opening date.
- 19.1.17 Bidder should log into the site well in advance for bid submission so that he submits the bid in time i.e. on or before the bid submission time. If there is any delay, due to other issues, bidder only is responsible.
- 19.1.18 Each document to be uploaded thro’ online for the tenders should be less than 2 MB, If any document is more than 2 MB, it can be reduced through zip format and the same can be uploaded. It may be however noted that. If the file size is less than 1MB the transaction uploading time will be very fast.
- 19.1.19 The time setting fixed in the server side & displayed at the top of the tender site, will be valid for all actions of requesting, bid submission, bid opening etc., in the e-tender system. The bidders should follow this time only, during bid submission.
- 19.1.20 All the data being entered by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered will not be viewable by unauthorized persons during bid submission & not be viewable by anyone until the time of bid opening. Overall, the submitted tender documents become readable only after the tender opening by the authorized individual.

19.1.21 The Confidentiality of the bids is maintained since the secured Socket layer 128-bit encryption technology is used. Data storage encryption of sensitive fields is done.

19.2 Deleted

19.3 Deleted

19.4 The Technical Bid shall contain the **digitally signed document using DSC token** in the online bidding for the following in the sequence indicated below.

- i. Covering letter
- ii. Performance Certificate obtained from the clients as per Qualification Information
- iii. The Bid Security
- iv. Letter of Tender / Contractor's Bid with digitally signed using DSC token
- v. Declaration by the Bidder that his Bid is without any technical and commercial deviations in the format of the letter enclosed with the Bid.
- vi. Certified Power of Attorney authorizing a representative or representatives of the Firm to sign the Bid and all subsequent communication
- vii. Documentary evidence of unambiguous fulfillment of eligibility criteria for Bidding
- viii. Latest Income Tax Clearance Certificate and GST Certificate.
- ix. Bid document shall be digitally signed using DSC token.
- x. Full technical description of the items and services proposed by the Bidder including makes.
- xi. Details of Construction Equipment proposed for the execution of the works and makes.
- xii. Details of manpower proposed for the Project Management and Site Management including qualification and experience of the personnel.
- xiii. Work methodology and plan.
- xiv. Bar Chart and PERT charts for the execution of the works
- xv. Confirmation of performance guarantee and Defects Liability Period in accordance with Clause 35 of the Conditions of Contract.
- xvi. Confirmation of the commercial terms and conditions. **There shall be no reference to the price**
- xvii. List of concurrent commitments including a schedule of contracts under execution including values, percentage of works completed and the schedule date of completion of the work.

xviii. A self-declaration stating that there is no Disqualification/Debarment done due to works executed in any State/ Central Government Departments, or State / Central Undertakings/ Boards/ Corporations, Municipalities and Municipal Corporations, Urban Developments Authorities will disqualify any entity from participation in the tender in the form of affidavit in Rs.100/- e-stamp paper duty and notarized to be provided.

xix. Any other technical details

19.5 The "Technical Bid" shall **NOT** contain the following:

- i. Schedule of Prices of the Bid Document constituting the Lump Sum Bid Price.
- ii. Any indication either direct or indirect or implicit or explicit or implied regarding the Bid Price or its break up details or any other related price indication etc. shall be a cause for outright disqualification of the entire Bid.

19.6 Price Bid shall contain the **Bill of Quantities**.

20. Due date for Submission of the Bids

20.1 The bidders are requested to upload all related documents through e-tendering online system to the tender inviting authority well before **15.00 hrs. on _____**.

20.2 The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

21. Late Bids

The electronic bidding system would not allow any late submission of bids after due date and time as per server time.

22. Modification of Bids

22.1 Bidders are not allowed to withdraw their bids after deadline for submitting the bid.

22.2 Deleted

22.3 No bid may be modified after the deadline for submission of Bids.

22.4 Modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 15.1 above or as extended pursuant to Clause 15.2 may result in the forfeiture of the Bid security pursuant to Clause 16.

E. Public opening of Technical Parts of Bids

23. Bid Opening

23.1 The Employer will open all the **Technical Bids received through online**, in the presence of the Bidders or their representatives who choose to attend at 3.30 PM on the date and the place specified in Notice Inviting Tender through E-Tender. The financial parts of the bids shall remain un-opened in the e-procurement system, until the subsequent public opening, following the evaluation of technical parts of the bids. In the event of the specified date of Bid opening being declared a holiday for the Employer, the Bids will be opened at the appointed time and location on the next working day.

23.2 Deleted

23.3 Deleted

23.4 The Employer shall prepare minutes of the Bid opening, including the information such as Name of the Bidder, EMD remitted disclosed to those present.

F. EVALUATION OF BIDS – GENERAL PROVISION

24. Process to be Confidential

24.1 Information relating to the examination, clarification, evaluation, and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any effort by a Bidder to influence the Employer's processing of Bids or award decisions may result in the rejection of his Bid.

25. Clarification of Bids

25.1 To assist in the examination, evaluation, and comparison of Bids, the Employer may, at his discretion, ask any Bidder for clarification of his Bid, including breakdowns of the unit rates. The request for clarification and the response shall be in writing or by e-mail but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids in accordance with Clause 27.

25.2 Subject to sub-clause 25.1, no Bidder shall contact the Employer on any matter relating to its bid from the time of the bid opening to the time the contract is awarded.

If the Bidder wishes to bring additional information to the notice of the Employer, it should do so in writing.

- 25.3** Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidders' bid.

G. EVALUATION OF TECHNICAL PARTS OF BIDS

26. Examination of Bids and Determination of Responsiveness

- 26.1** Prior to the detailed evaluation of Bids, the Employer will determine whether each Bid (a) meets the eligibility criteria defined in Clause 3; (b) has been properly **digitally signed using DSC token** including document uploaded by CMWSSB; (c) is accompanied by the required securities and; (d) is substantially responsive to the requirements of the Bidding documents.
- 26.2** A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Bidding documents, the Employer's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.
- 26.3** If a Bid is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

27 Qualification of the Bidder

- 27.1** The *Employer* shall determine to its satisfaction whether the eligible Bidders that have submitted substantially responsive Bid - Technical Parts meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
- 27.2** The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 4.5. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the bidding document), or any other firm different from the Bidder.
- 27.3** If a Bidder does not meet the qualifying criteria specified in Section III, Evaluation and Qualification Criteria, its Bid shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

- 27.4** Only Bids that are both substantially responsive to the bidding document, and meet all Qualification Criteria shall have the Financial Parts of their Bids opened at the second public opening.

H. PUBLIC OPENING OF FINANCIAL PARTS OF THE BIDS:

28 Public Opening of BIDS

The Price Bid of technically qualified Bidders will be opened online by the Tender Inviting Authority, in the presence of Bidders / authorized representatives who choose to attend. The date of opening of the price bid will be intimated to all the Technically qualified Bidders after evaluation of the Technical Bids by the Tender Inviting Authority.

The Bidders names, the Bid prices, the total amount of each bid and such other details as the Tender Inviting Authority may consider appropriate, will be announced during the opening.

In the event of the specified date of bid opening being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day.

The electronic summary of the bid opening will be generated and uploaded online. The Employer will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online.

I. EVALUATION OF FINANCIAL PARTS OF BIDS

29 Correction of Errors

- 29.1** Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:

- (a) Where there is a discrepancy between the rates in figures and in words, the lower of the two will govern; and
- (b) Where there is a discrepancy between the unit and the line-item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

- 29.2** The amount stated in the Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount the Bid will be rejected, and the Bid security may be forfeited in accordance with Sub-Clause 16.6 (b).

30. Evaluation and comparison of Bids:

- 30.1** The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Clause 26 and as per Tamil Nadu Transparency in Tenders Act 1998 and Rules 2000.

- 30.2** In evaluating the Bids, the Employer will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:
(a) making any correction for errors pursuant to Clause 27;
- 30.3** Deleted
- 30.4** The estimated effect of the price adjustment conditions under Clause 47 of the *Conditions of Contract*, during the period of implementation of the Contract, will not be taken into account in Bid evaluation.
- 30.5** If the Bid of the successful Bidder is seriously unbalanced in relation to the Engineer's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the Employer may require that the amount of the performance security set forth in Clause 34 be increased at the expense of the successful Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

J. Award of Contract

31. Award Criteria

- 31.1** Subject to Clause 32, the Employer will award the Contract to the Bidder whose Bid has been determined to be substantially responsive to the Bidding documents and who has offered the lowest evaluated Bid Price, provided that such Bidder has been determined to be (a) eligible in accordance with the provisions of Clause 3, and (b) qualified in accordance with the provisions of Clause 4.

31.2 Deleted

32. Employer's Right to accept any Bid and to reject any or all Bids

- 32.1** Notwithstanding Clause 31, the Employer reserves the right to accept or reject any Bid, and to cancel the Bidding process and reject all Bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

33. Notification of Award and Signing of Agreement

- 33.1** The Bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by confirmed by letter. This letter (hereinafter and in the *Conditions of Contract* called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as

prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

- 33.2** The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 34.
- 33.3** The Agreement will incorporate all agreements between the Employer and the successful Bidder. On payment of the performance security (as per Clause 34.1 within 15 days of receipt of the Letter of Acceptance) by the successful bidder, the Employer will issue an unfilled document to the bidder who has to arrange for affixing the special adhesive stamp for a value not less than Rs.200/- and produce it back to the Employer. The Employer will then prepare complete set of documents in which the Employer and successful bidder will sign. This exercise of signing the agreement should be completed within 10 days from the date of receipt of the performance security from the successful bidder.
- 33.4** Upon the furnishing by the successful Bidder of the Performance Security, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful.

34. Performance Security payable at Chennai

- 34.1** Within 15 days of receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance Security in any of the forms given below for an amount to be calculated as per Clause 34.5 plus additional security for unbalanced Bids in accordance with Clause 29.5 of ITB and Clause 52 of CC.
- i. An irrevocable Bank Guarantee in the form given in Forms of Securities from a Nationalised / Scheduled commercial Banks in Chennai notified by RBI in the form given in Forms of Securities
 - ii. In the shape of NSC/NSS/KVP/Post Office Term Deposits valid for the required Contract period and pledged in favour of Managing Director, CMWSS Board payable at Chennai and shall have the necessary transfer endorsement of the Post Office.
 - iii. Fixed Deposit for the required period from Nationalized / Scheduled Bank/TNSC Bank in favour of Managing Director, CMWSS Board payable at Chennai. Banker's cheque/Bank Draft in favour of CMWSS Board payable at Chennai.

34.2 The performance security of a Joint Venture/ consortium shall be in the name of Joint Venture/ consortium. If the performance security is provided by the successful Bidder in the form of a Bank Guarantee, it shall be issued either (a) at the Bidder's option, by a Nationalized / Scheduled Indian bank or (b) by a foreign bank located in India and acceptable to the Employer.

34.3 Failure of the successful Bidder to comply with the requirements of Sub-Clause 34.1 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security.

34.4 Deleted

34.5 The value of performance security to be remitted for construction activity will be calculated by adopting the following formula:

a)	For contracts within any plus percentage and up to minus 5% of the contract value compared to the departmental estimated value for construction	2% of contract value
b)	For contracts above minus 5% and up to minus 15% compared to the departmental estimated value for construction	4% of contract value
c)	For contracts which are more than minus 15% compared to the departmental estimated value for construction	5% of contract value

35 Advance Payment and Security

35.1 The Employer will provide an Advance Payment on the Contract Price as stipulated in the Conditions of Contract, subject to maximum amount, as stated in the Contract Data.

36 Adjudicator

36.1 Standing Grievance Redressal Committee (SGRC)

If a dispute (of any kind whatsoever) arises between the Parties in connection with or arising out of the contract or execution of the works, including any dispute as to any opinion, instruction, representative, either party shall initially refer the same in writing to Employer. The Employer will constitute a Standing Grievance Redressal Committee with members of officers of the Board to resolve the disputes.

Accordingly, it is proposed that the following officials of CMWSSB may be formed as SGRC to resolve the disputes between CMWSSB and the Contractor.

Committee members for specified project:

- i. Chief Engineer
- ii. Superintending Engineer

General Committee Members:

- iii. Controller Of Finance
- iv. Internal Auditor

The Committee should be formed by the concerned execution wing for each projects separately after getting approval from the Competent Authority. The Chief Engineer and Superintending Engineer should be other than the Chief Engineer / Superintending Engineer entrusted with the execution of the project.

If any dispute is referred to the SGRC, it will within a week of receipt of such request acknowledge and convene a meeting with both the parties. The committee will go through the submitted documents, hear the parties and attempt at finding an amicable solution within 28 days of receipt of such reference by the SGRC. If any settlement is arrived at SGRC the same shall be recorded in writing as a settlement agreement and signed by the Contractor, Employer and all committee members. Such settlement shall be final and binding on the parties with regards to all disputes so resolved.

If the SGRC fails to settle all or part of the dispute within 28 days, the same shall be notified to the contractor. Thereafter it is left to the parties to refer the unresolved disputes to Adjudication / Arbitration. In such case, the party may give notice in writing its intention to refer such dispute to Adjudication / Arbitration.

36.2 Adjudicator

36.2.1 The Employer proposes that, Thiru. _____ be appointed as Adjudicator under the Contract, at a daily fee of Rs.2000/- plus boarding, lodging, traveling expenses at actual. If the Bidder disagrees with this proposal, the Bidder should so state in the Bid. If in the Letter of Acceptance, the Employer has not agreed on the appointment of the Adjudicator, the Adjudicator shall be appointed by The President, Institution of Engineers (Tamil Nadu State Center) Chennai at the request of either party.

37. Corrupt or Fraudulent Practices

37.1 The Employer requires that Bidders observe the highest standard of ethics during the evaluation and execution of such contracts. In pursuance of this policy, the Employer:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

- i. "Corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- ii. "Fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
- iii. "Collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- iv. "Coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

v. "Obstructive practice" is:

deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Employer investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

(b) will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

(c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing a contract.

37.2 Furthermore, Bidders shall be aware of the provision stated in sub-clause 59.2 of the Conditions of Contract.

38. Social and Environmental Responsibility

(a) comply with and ensure that all their Subcontractors and major suppliers, i.e. for major supply items comply with international environmental and labour standards, consistent with applicable law and regulations in the country of implementation of the respective Contract and international environmental treaties and;

(b) implement any environmental and social risks mitigation measures, as identified in the environmental and social impact assessment (ESIA) and further detailed in the environmental and social management plan (ESMP) as far as these measures are relevant to the Contract and implement measures for the prevention of sexual exploitation and abuse and gender-based violence.

SECTION 3. FORMS OF BID AND QUALIFICATION INFORMATION

Table of Forms:

- **CONTRACTOR'S BID**
- **ABSTRACT INFORMATION ON QUALIFICATION CRITERIA**
- **QUALIFICATION INFORMATION**
- **NOTICE TO PROCEED WITH THE WORK**
- **AGREEMENT FORM**

Contractor's Bid

Description of the Works :

To Address : The Superintending Engineer (C & M)
CMWSSB, No.1, Pumping Station Road, Chintadripet,
Chennai 600 002

GENTLEMEN,

We offer to execute the Works described above in accordance with the Conditions of Contract accompanying this Bid for the Contract Price stated in the Financial Bid.

We accept the proposal of advance Payment up to a maximum of **10%** of contract value for construction activities as per the Conditions prescribed by the Employer.

We accept the appointment of _____ as the Adjudicator. (OR)

We do not accept the appointment of _____ as the Adjudicator and propose instead that _____ be appointed as Adjudicator whose daily fees and biographical data are attached.

This Bid and your written acceptance of it shall constitute a binding contract between us. We understand that you are not bound to accept the lowest or any Bid you receive.

We undertake that in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely, "Prevention of Corruption Act, 1988) and

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

<u>Name and address of agent</u>	<u>Amount</u>	<u>Purpose of Commission or gratuity</u>
_____	_____	_____
_____	_____	_____

(if none, state "none")

We hereby confirm that this Bid complies with the Bid Validity and Bid Security required by the Bidding documents.

We attach herewith our current income tax and GST certificates.

Yours faithfully,

Authorized Signature:

Name & Title of Signatory : _____

Name of Bidder : _____

Address : _____

ABSTRACT INFORMATION ON QUALIFICATION CRITERIA

Details of Performance Certificate Cited for Meeting Qualification Criteria during the qualifying period from 01.04.2019 to 31.03.2024

Sl. No.	Qualification Criteria	Details of the work indicating the Contract No., Value, Date of Completion etc of the work cited	Page No. of Tech. Bid	Name of the Client/ Officials who issued the Certificate with Contract details such as address, Telephone Number and Cell Number	Head of the Organization with complete contact address, Telephone Number, email address, etc
1	Must have achieved the annual financial turnover in any one financial year during 2019-20 to 2023-24 not less than the amount given (Rs. in lakh)				
2	Satisfactorily completed any single work of value not less than the amount given (Rs. in lakh)				
3	Should have satisfactorily completed and tested min. no.of RCC wells in sewage pumping stations of min. size and depth in a single contract. a. dia of well - 4.0m b. depth of well -4.0m				
4	Should have supplied, laid, jointed & tested and successfully completed DWC PE/SW pipes of size 200mm and above to a minimum length given in any one year. (Length in m)				
5	Should have supplied, laid, jointed & tested and successfully completed CI/DI/RCC/PSC pipes of size 400mm and above to a minimum length given in any one year. (Length in m)				
6	Should have supplied and commissioned pump sets of different capacities in a single contract totaling to the HP				

I / We declare that the information furnished above are true to our knowledge and we have taken care to furnish the correct details with contact address, available communication facilities such as email, Telephone numbers, Mobile numbers etc.

**Signature of the bidder with Seal
Name and Title of the Signatory**

Qualification Information

The information to be filled in by the Bidder in the following pages will be used for purposes of pre-qualification as provided for in Clause 4 of the Instructions to Bidders. This information will not be incorporated in the Contract.

1. For Individual Bidders

**1.1 Constitution or legal status of Bidder
[Attach copy]**

Place of registration: _____

Principal place of business: _____

Power of attorney of signatory of Bid
[Attach]

**1.2 Annual financial turnover achieved in the last five years (in Rs. Crores).
(Please refer Sl.No. 1 at clause 4.5A of Instructions to Bidders)**

Sl.No.	Year	Financial turnover (Rs. in Crores) *	Page No. of Technical Bid
1	2019-2020		
2	2020-2021		
3	2021-2022		
4	2022-2023		
5	2023-2024		

Attach Certificate from Chartered Accountant along with Audited Balance Sheet.

**Signature of the bidder with Seal
Name & Title of Signatory:**

IMPORTANT NOTE

Bidders are requested to furnish the above details separately giving reference to the page numbers of the credential enclosed to the Technical Bid.

1.3.1 Works performed by the Bidder in a single Contract during the period from 01.04.2019 to the due date for this tender or its extension as detailed below:- (Please refer Sl.No. 2 at clause 4.5A of Instructions to Bidders (General))

Project Name	Name of the Employer *	Description of work	Agreement / Contract No. and Date	Value of contract (Rs. Lakhs)	Date of issue of work order	Stipulated period of completion	Actual date of completion *	Remarks explaining reasons for delay, if any and work completed	Credentials at Page No. of Tech. Bid

* *Enclose certificate(s) from Engineer(s)- in- charge.*

* *The experience of the bidder to the extent of work done as a Sub contractor in the past and duly certified by the owner of the Project will be considered*

Signature of the bidder with Seal

Name & Title of Signatory:

IMPORTANT NOTE

Bidders are requested to furnish the Credentials in support of details of Qualification Information furnished above giving reference to the page numbers of the credentials enclosed to the Technical Bid.

The certificates / credentials not mentioned in the above statement will not be considered for evaluation towards satisfying the qualification criteria

1.3.2 (a) Quantities of similar work executed by the Bidder during the period from 01.04.2019 to the due date for this tender or its extension. (Please refer SI.No. 4, 5 & 9 at clause 4.5A of Instructions to Bidders (General))

Year	Name of work	Name of Employer*	Quantity of work performed @			Remarks (Indicate contract Ref.) *	Page No. of Technical Bid
			laying of pipes				
			Dia	Material	Length		
2019-2020							
2020-2021							
2021-2022							
2022-2023							
2023-2024 & up to date of submission							

@ The item of Work for which data is requested should fully satisfy with that specified in ITB clause 4.5

* Enclose certificate(s) from Engineer(s) - in -charge.

* The experience of the bidder to the extent of work done as a Sub contractor in the past and duly certified by the owner of the Project will be considered.

Signature of the bidder with Seal

Name & Title of Signatory

IMPORTANT NOTE

Bidders are requested to furnish the Credentials in support of details of Qualification Information furnished above giving reference to the page numbers of the credentials enclosed to the Technical Bid.

The certificates / credentials not mentioned in the above statement will not be considered for evaluation towards satisfying the qualification criteria

1.4 Information on Bid Capacity (works for which Bids have been submitted and works which are yet to be completed) as on the date of this Bid.(Please refer clause 4.7 of Instructions to Bidders (General))

A) Existing commitments and on-going works

Description of work (1)	Place and state (2)	Contract No. & Date (3)	Name and Address of the Employer (4)	Value of Contract (Rs. Lakhs) (5)	Stipulated period of completion (6)	Value of works remaining to be completed * (7) (Rs.Lakhs)	Anticipated date of completion. (8)	Page No. of Technical Bid

1.4 B) Works for which Bids already submitted

Description of work (1)	Place and State (2)	Name & Address of Employer (3)	Estimated Value of works (Rs. Lakhs) (4)	Stipulated period of completion (5)	Date when decision is expected (6)	Remarks if any (7)	Page No. of Technical Bid

Signature of the Bidder

Name & Title of Signatory

IMPORTANT NOTE

Bidders are requested to furnish the details separately giving reference to the page number Technical Bid in which the credential are available.

- 1.5 The following items of Contractor's Equipment are essential for carrying out the Works. The Bidder should list all the information requested below. Refer also to sub-clause 4.3 (d) of the Instruction to Bidders.

Item of equipment	Requirement		Availability Proposals			Remarks regarding condition and from whom to be purchased/ or leased
			Owned / leased/ to be procured	Nos. / Capacity	Age/ Condition	
	Nos.	Capacity				
Civil						
Concrete mixture with hopper	8 nos.	10 Cu.ft. capacity each				
Needle vibrators	4 nos.	20-50 mm needle each				
Earth mover (J.C.B.)	4 nos.	0.5 Cu. M. each				
Trucks/tippers/dumpers	4 nos.	6 - 10 Tonnes, each				
Dewatering pumps	50 HP	Various capacity				
Mobile D.G Set	4 nos	10 KVA				
Mechanical						
Hydraulic mobile crane	4 nos.	Boom height 6 m (20 T)				
Chain Pulley Block	4 nos.	5 T capacity				
Tools and plants for jointing pipes	4 nos.					
Pipe cutting machinery	2 nos.					
Welding transformers for Structural Steel work welding.	4 no.					
Drilling machine	4 nos.	Upto 16 mm drill size				
Pipe bending machine	4 nos.					
Mechanical wrenches	4 nos					
Set of torque wrinches for tightening flange joints up to 1600 NB	4 sets					
Electrical						

Item of equipment	Requirement		Availability Proposals			Remarks regarding condition and from whom to be purchased/ or leased
			Owned / leased/ to be procured	Nos. / Capacity	Age/ Condition	
	Nos.	Capacity				
Earth Tester	4 nos.	500 V				
Megger	4 nos.	500 V				
Soil resistivity measurement kit	1 no.	Four peg method				
Multimeter	4 nos.	0 -500 V AC 0 - 100 A AC 0 - 20 A DC 0 - 2000A DC				
Set of Crimping Tool for all sizes of cables (Copper & Aluminum)	4 sets					
Tong Tester	4 nos.	0 - 500 A				
Tester	4 nos.	2 KV HV				
Clip on type Ammeter	4 nos.	0 - 500 A				

Signature of the Bidder

Name & Title of Signatory

IMPORTANT NOTE

Bidders are requested to furnish the details separately giving reference to the page number Technical Bid in which the credential are available.

1.6 Qualification and experience of key personnel proposed for administration and execution of the Contract. Attach biographical data. Refer also to sub-clause 4.3 (e) and 4.5 (B) (b) of Instructions to Bidders and sub clause 9.1 of Conditions of Contract.

Position	Name	Qualifications	Years of experience (general)	Years of experience in the proposed position
Project Manager				
Key personnel				
1. Civil Engineer				
2. Mechanical Engineer				
3. Electrical Engineer				
4. Instrumentation Engineer				
5. Environment, Health & Safety Manager(s)				
6. Labour Welfare officer				

1.7 Proposed subcontracts and firms involved. (Refer ITB Clause 4.3(j))

Sections of the works	Value of subcontract	Subcontractor (name and address)	Experience in similar work

Signature of the Bidder

Name & Title of Signatory

IMPORTANT NOTE

Bidders are requested to furnish the details separately giving reference to the page number Technical Bid in which the credential are available.

- 1.8 Financial reports for the last five years; balance sheets, profit and loss statements, auditors' reports, (in case of companies/corporations) etc. List them below and attach copies of documents.
- 1.9 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List them below and attach copies of support documents. (*Sample format enclosed*)
- 1.10 Name, address and telephone, telex and fax numbers of the Bidders' bankers who may provide references if contacted by the Employer.
- 1.11 Information on litigation history in which the Bidder is involved.

Other Party (ies)	Employer	Cause of Dispute	Amount Involved	Remarks showing present status

- 1.12 Deleted
- 1.13 Proposed work method and schedule. The Bidder should attach descriptions, drawings and charts as necessary to comply with the requirements of the Bidding documents. (Refer ITB Clause 4.1 and 4.3(k) including preparation of Environmental, Social, Health and Safety (ESHS) Methodology.

2.0 JOINT VENTURE/ CONSORTIUM

- 2.1 The information listed in 1.1 to 1.11 above shall be provided for each partner of the Joint Venture/ consortium
- 2.2 The information in 1.13 above shall be provided for Joint Venture/ consortium
- 2.3 Attach the power of attorney of the signatory (ie) of the bid authorizing signature of the bid on behalf of the Joint Venture/ consortium
- 2.4 Attach the agreement among all partners of the Joint Venture/ consortium (and which is legally binding on all partners) which shows the requirements as indicated in sub-clause 4.4 of the instruction to bidders
- 2.5 Furnish details of participation in the Joint Venture/ consortium as below

DETAILS OF PARTICIPATION IN THE JOINT VENTURE/ CONSORTIUM

PARTICIPATION DETAILS	FIRM 'A' (Lead Partner)	FIRM 'B'	FIRM 'C'	
Financial				
Names of the Banker(s)				
Planning				
Construction Equipment				
Key Personnel				

3.0 ADDITIONAL REQUIREMENTS

3.1 Bidders should provide any additional information required to fulfill the requirements of clause 4 of the Instruction to Bidders, if applicable.

IMPORTANT NOTE

Bidders are requested to furnish the **INFORMATION ON LITIGATION HISTORY IN WHICH THE BIDDER INVOLVED** and **DETAILS OF PARTICIPATION IN THE JOINT VENTURE/ CONSORTIUM** in the format prescribed separately along with full signature and Seal.

Appendix to Technical Part

Environmental and Social, Health Management Strategies and Implementation Plans

The Authority / the Client to add approved Environmental and Social Management Plan, and Environmental Monitoring Plan here.

Environmental Management Plan shall include Mitigation measures to avoid, minimize, mitigate and manage the potential impacts, and Environmental Monitoring Plan, to ensure Compliance to Environmental Guidelines, and standards of GoTN/GO. Suitable provision shall be provided based on the project to be decided by Tender Inviting Authority (however, (i) essential for all works and any related activities supported under SUSP. Screening can be used to decide on the impacts/risks).

With Technical Proposal, the Bidder shall prepare and submit Management Strategies for key aspects such as (these below or other key environmental aspects, as applicable to the work/activity)

1. a Waste Management Plan (including Construction & Demolition Wastes, Solid Wastes, Plastics, Sludge, Slurry, E-Waste, Hazardous Waste, Batteries etc.);
2. **Traffic Management Plan** Occupational and Community Health and Safety Management Plans (including details on High Energy Hazards & their critical controls);
3. Pollution Prevention and Management Plan;
4. Landscaping & Greenbelt Plans, in line with ESMP & their understanding of the Project.

The EMP, strategies and plans shall describe in detail the actions, materials, equipment, management processes, etc. that will be implemented by the Contractor, and its subcontractors.

all National /State Environmental Regulations shall be followed by the consultant/vendor as the case may be; and applicable permits / clearances shall be arranged before start of project activities.

Environmental and Social Management Plan

Activity & Aspect	Anticipated Impact	Mitigation Measures	Responsibility of Mitigation	Cost of Mitigation Mgmt. measures	Monitoring Method & indicator	Monitoring Frequency & Cost
PRE-CONSTRUCTION. DESIGN AND PLANNING STAGE						
Implementation of Environmental aspects	Poor attention on Environmental impacts	<ul style="list-style-type: none"> Follow Exclusions, Screening, Environmental Guidance Manual. Avoid all High Risk areas / areas to be avoided as per regulations Before initiation of any works or related activities on site/s ESMP to be updated (to prepare C-ESMP) based on on-site conditions and in line with all applicable regulations. Prepare Traffic Management Plan., H&S management Plan, and Waste disposal Plan, Tree Plantation & Greening Plan and get ULB clearance before start of any activity on site 	Contractor, CMWSSB	Add lumpsum site visit cost of 2 lakhs & Environmental expert 3 man-day's cost and add in ESMP Cost Contractors Cost for updating of EMP	Check plans & its completeness, clearance	Nil
Appointment and Mobilization of Environment Expert & Safety Officer	Proper implementation Environmental & Safety Measures	<ul style="list-style-type: none"> The PIU/contractor will appoint qualified and experienced Environment expert & Safety Officers (ESO), who will be mobilized prior to start of works. The officers will dedicatedly work and ensure implementation of Environmental Management Plan including Occupational, Health and Safety measures during the project implementation. 	CMWSSB	Contractors Cost: Personnel Costs	Attendance register	Periodic
Consent, permits, clearances, NOCs etc.	Failure to obtain necessary permits, NOCs, etc. can result to design revisions and/or stoppage of works	<ul style="list-style-type: none"> Obtain all necessary consents, permits, clearance, NOCs, etc. prior to award of civil works. NO activity under the contract shall be in High Risk areas / areas to be avoided as per regulations Sewerage network shall be linked only to functional STPs with valid consent & all permits & follows National/State regulations House connections shall be provided only after the network is connected to a treatment unit; not before that. Ensure that all necessary approvals for construction to be obtained by contractor are in place before start of construction & Operations. Acknowledge in writing and provide report on compliance all obtained consents, permits, clearance, NOCs, etc. 	CMWSSB/ Contractor	ULB to discuss with Contractor & decide on payments for permissions, consents etc. Check Bid document for inclusion	Updated Record Book on consents permits etc.	Before commencement of any site activity / construction

All activities	Impacts on Air: Dust and Odour due to construction & O&M	<ul style="list-style-type: none"> Plan well material stacking areas, transport routes, provision of environmental controls / preventive measures in Design. Ensure sufficient hydraulic capacity to accommodate peak flows and adequate slope in gravity mains to prevent build-up of solids and hydrogen sulphide generation Odour Control Scrubber (Bio-Filter) unit shall be planned for all sewage pumping stations 	CMWSSB/ Contractor	DPR / Design	Check design	Before construction
All activities	Impact on Water: Leakage polluting waterbodies, water supply networks Nuisance due to leaks & overflows, Contamination of water supplies, Health issues Odour nuisance	<ul style="list-style-type: none"> Limit the sewer depth where possible. Sewers shall be away from water supply lines and drains (at least 1 m). In all cases, the sewer line should be laid deeper than the water pipeline (the difference between top of the sewer and bottom of water pipeline should be at least 300 mm) In unavoidable cases, where sewers are to be laid close to storm water drains, appropriate pipe material shall be selected & breakage / joints of water lines to be prevented. (stoneware pipes shall be avoided). For shallower sewers and especially in narrow roads, use small inspection chambers in lieu of machine holes. 	CMWSSB/ Contractor	DPR / Design	Check design	Before construction
All activities	Impact on Soil: leakage of sewage on soils, wastes and materials (cement, oil, chemicals used) on soil	<ul style="list-style-type: none"> Plan for leak detection mechanisms, and flow monitoring Plan waste and oil stacking mechanisms also considering floods 	Design Consultant & Contractor	DPR / Design	Check design	Before construction
All activities	Impacts on biodiversity: untreated sewage, sludge, wastes into waterbodies due to malfunctioning, poor scheduling of works, disturbance	<ul style="list-style-type: none"> Plan storage, treatment disposal of all products, by-products and wastes/waste water from sewerage network works, connected facilities & O&M avoiding key biodiversity areas and their buffers Facility and Network design Work scheduling & plans to confirm minimizing disturbance on fauna, flora including roadside trees After finalization of design no: of trees to be cut to be mentioned in the CESMP Minimize removal of trees by adapting to site conditions and with appropriate layout design/ alignment, Obtain prior permission for tree cutting from PI/ other authorities as applicable Plant and maintain during the contract period; 10 trees for each tree that is removed 	Design Consultant & Contractor	DPR / Design	Check design	Before construction
All activities	Impacts on health, disturbance, visual impacts on people –	<ul style="list-style-type: none"> Identify hazards, plan for those with OHS/CHS impacts, areas away from places used by people, night-time works/activities and discuss with all 	CMWSSB/ Contractor	DPR / Design	Check design	Before construction

	Workers and Communities	<p>authorities. Manual Scavenging to be prohibited.</p> <ul style="list-style-type: none"> Contractor shall have required machines & spare vehicles in good conditions during all times, to undertake mechanized sewer cleaning & similar activities. All emergency protocols to be in place for any work in sewers. Discuss with Traffic Police on traffic management & implement steps under their guidance. For shallower sewers and especially in narrow roads, use small inspection chambers in lieu of machine holes. Design machine hole covers to withstand anticipated loads and ensure that the covers can be readily replaced if broken to minimize silt/garbage entry. Design of RCC slab to consider both super imposed loads (human and equipment loads) and severe corrosion risk from sewer gas from within wells. 				
All activities	Noise & Vibration impacts: Headache and Irritation to workers on site on selection in appropriate mechanism/ pumping equipment	<ul style="list-style-type: none"> PI works, vehicle parking/ maintenance in areas away from works. Ensure supply of appropriate PPEs, plan for their storage use Procure good quality latest technology high pressure pumps that guarantee controlled noise Use acoustic enclosures – manufacturer specified, for all pumps, motors. Design sound mufflers for ventilators in the plant rooms; and soundproof doors Provide ear plugs to workers. Plan green belts around all SPS, LS, STPs etc. 	CMWSSB/ Contractor	DPR / Design	Check design for ISO certified pump dealers	Before works
Energy efficiency in project	High Energy consumption	<ul style="list-style-type: none"> Choice of pumps: Installation of VFDs at all pumping stations. All equipment to be certified and of good energy star ratings 	CMWSSB/ Contractor	DPR / Design	Check design	Before construction
Climate risks	Poor performance and issues due to flooding, breakage, leakage, inability to access/operate network, SPS, LS etc.	<ul style="list-style-type: none"> Design shall consider climate risks on construction and operations of the networks and other facilities 	CMWSSB/ Contractor	DPR / Design	Check design	Before construction

Controlled blasting	Ground vibrations Noise (air blast) Flying debris & dust	<ul style="list-style-type: none"> For the safety of humans and the structures (specifically old & heritage structures) within the area influenced by the blasting, the vibrations related impacts would be addressed by designing the blast charge by complying with the provisions elaborated in the applicable Indian regulations and standards. All records shall be maintained by the Contractor and PIU. An emergency response system shall be developed at the site level to address the situations emerging due to accidents or any other unfortunate incidents pertaining to human and structure safety. Training related to controlled blasting activity will be included in the overall safeguards training programme meant for PIU and Contractor. The project staff from the PIU, and contractors would undertake a pre-blasting survey of structures (including videography and/or photography) lying within the area of influence of blasting from the vibrations related impacts (preferably in the presence of the owners of the said structures) to assess and/or ascertain regarding the prevailing conditions of the structures prior to blasting activities. Traffic management plan should be implemented Necessary permission to be obtained for controlled blasting 	CMWSSB/ Contractor	DPR / Design	No report of Occupational Hazard	Frequently
CONSTRUCTION STAGE						
Construction of sewer network, sewage pumping stations and lifting stations Site are clearance, Earth excavation Construction materials handling and transport. Construction activities	Dust pollutant – Respiratory Illness, Eye irritation Increase in concentration of vehicle emission related pollutants such as carbon monoxide, sulfur oxides, particulate matter, nitrous oxides, and hydrocarbons. Excavated debris, soil disposal and management	<ul style="list-style-type: none"> Provide a dust screen around the construction sites of pumping and lifting stations. Barricade to be formed at the construction area above 2 m height on both sides; Concrete or metal Barricade shall be used in highly congested areas prone to traffic. Damp down the soil and any stockpiled material on site by water sprinkling. Use tarpaulins to cover the loose material (soil, sand, aggregate etc.) when transported by open trucks. Ensure that all the construction equipment, machinery is fitted with pollution control devices, which are operating correctly, and have a valid PUC certificate from Transport Department for pollutants. Remove the excavated soil of first section to the disposal site; as the work progresses sequentially, by the time second section is excavated, the first section 	CMWSSB/ Contractor	Include in Construction Cost for respective items Estimate lumpsum for day length of work – for dust screens, hard barricades with reflectors, lighting along sites, excavated soil transport each day & storage including rent for space allotted if private land,	No loss of native vegetation Heath issues reported Number of complaints registered	Quarterly

	<p>will be ready for back filling, use the freshly excavated soil for back filling, this will avoid stocking of material, and minimize the dust</p> <ul style="list-style-type: none"> • The excavated soil not required for backfilling shall be removed from construction or network laying area at the earliest for beneficial storage and/or reuse. It should be ensured that the soil would not fall back into the pit/on the workers or communities or traffic • Soil shall be covered with tarpaulin sheets during transportation. • Soil transportation shall not be done during peak hours and should avoid narrow and heavy traffic routes and important religious or tourist sites etc. • Earthen bund, to be provided around the storage areas for excavated soil and other construction material. • Completed earthworks to be sealed and/ or revegetated at the earliest with the help of landscape expert 		tarpaulin sheets, lumpsum for earthen bund around storage areas, and revegetation include – in per network length		
Traffic, Accidents, etc.	<ul style="list-style-type: none"> • Traffic management plan to be implemented. • Notice to be issued to the public • Transportation of construction material will be generally scheduled in night when the traffic is minimum; • Adequate lighting for night time. • Signage Boards alerting people on diversions, trenches, Heavy Equipment haul locations etc.. • Route for use by construction traffic with in site to be planned with proper signage, flagman, barriers and safety to minimize encountering of workers with vehicles as per National Road Safety Policy 2010. Route for movement of heavy machinery shall be designated to avoid the soil compaction in other areas; 	CMWSSB/ Contractor	<p>Include in Construction Cost for respective items</p> <p>Add for signages, flagmen charges for days of work</p>	<p>No disturbance to commutation of locals and vendors.</p> <p>Incident Reports</p>	Periodically
Noise and Vibration – Which may cause annoyance, head ache, high blood pressure etc.	<ul style="list-style-type: none"> • Use barriers and screens to block the direct path of sound level. • Noise and vibration monitoring will be carried out. • Controlled blasting to be executed as per site conditions (i.e., In narrow streets, smooth blasting method shall be implemented to control the noise level and ground born vibration • Blasting shall be carried out through a licensed Explosive Contractor with sufficient force to alert the public. • Coordination with the traffic police for providing 	CMWSSB/ Contractor	<p>Include in Construction Cost for respective items</p> <p>Lumpsum cost for noise barriers</p>	Compliance with CPCB noise standards	Periodically

		special precautions near schools and other sensitive locations				
	Mobilization of settled silt materials, and chemical contamination from fuels and lubricants during construction can contaminate by water.	<ul style="list-style-type: none"> All earthworks be conducted during the dry season to prevent the problem of soil/silt run-off during rains; Avoid stockpiling of earth fill especially during the monsoon season unless covered by tarpaulins or plastic sheets; do not stock earth/material close to edges of the trenches and the at least 100m away from the water bodies. Install temporary silt traps or sedimentation basins along the drainage leading to the water bodies; Place storage areas for fuels and lubricants away from any drainage leading to water bodies; Store fuel, construction chemicals etc., on an impervious floor, also avoid spillage by careful handling; provide spill collection sets for effective spill management; Pump out the water collected in the pits / excavations to a temporary sedimentation pond; dispose off only clarified water into drainage channels/streams after sedimentation in the temporary ponds. All the lubricants collected by chock pit and collected separately, disposed to authorized recycler. 	CMWSSB/ Contractor	<p>Include in Construction Cost for respective items</p> <p>Drainage channels around material storage areas Add Lumpsum</p>	No traffic during handling and transportation.	Weekly
All works	Snake, scorpion other reptile bites	<ul style="list-style-type: none"> Training/ awareness programs at all the stages of the project shall be conducted Awareness signages at all critical points and availability of first aid on site Contact details of fire brigade, nearest hospital and forest department shall be provided on site 	CMWSSB/ Contractor	Include in Signage Cost lumpsum	Incident reports	Monthly
All works	Unutilized reuse potential of C&D wastes, its transport creating impacts	<ul style="list-style-type: none"> The generated C&D wastes shall be stored at a designated area inside the premises/in dedicated areas. The waste shall be covered with tarpaulin to avoid emission from the dumping and runoff from the dumping to prevent water contamination It shall be tried to reuse C&D waste to the maximum extent within the site for other construction works which may need additional approvals based on type of materials/ purposes The remaining C&D waste shall be disposed as per the C&D waste rules 2016 	CMWSSB/ Contractor	Include in contractors' construction & demolition cost – lumpsum for cover, berm	Material / Waste Records	Monthly

Labour camp and labour facilities	Health & environmental impacts due to absence of housing, sanitation facilities etc.	<ul style="list-style-type: none"> • Labour camp design shall be approved by Engineer / PIU before commencing its construction or operations. Labour camp & site camp / rest areas shall ensure all facilities suggested by labour rules. • It shall be safe from pollution, climate impacts, accidents. • Contractor should ensure the provisions of appropriate facilities like, housing, water supply and sanitation facilities to the construction labour. • Labour accommodation and temporary shade near work sites shall provide protection from heat, rain, flooding, insects, snakes and mosquitoes. It should have adequate provisions for emergency such as fire safety, security, etc; • Provide adequate number of toilets, bathing area, kitchen, safe fuel/ LPG for cooking and uncontaminated water for drinking, cooking and washing; • Ensure adequate water supply in all toilets and urinals; Provide separate toilets/ bathrooms for women laborers and shall be separate from those for men (marked clearly in vernacular & other used languages). • Provide first aid medical kit at labour accommodation, temporary labour shed and working site; train the labour for usage of items in injury, emergency, coordinate with nearest government and private medical centers for the medical services, display the contact number of medical doctor(s) and keep a vehicle for emergency travel all the time; 	CMWSSB/ Contractor	Include in Labour cost lumpsum	Condition & facilities in camps and sites Health records of laborer's	Monthly
Social Impacts	Temporary loss of income Loss of access to houses and business. Quality of life will be adversely affected	<ul style="list-style-type: none"> • Two weeks prior to initiating works in the temporary impacts identified location to be updated by carrying out revalidation survey. • Inform all businesses and residents about the nature and duration of any work well in advance so that they can make necessary preparations; • Immediately consolidate the backfilled soil and restore the road surface; this will also avoid any business loss due to dust and access inconvenience of construction work; • Employee best construction practices, speed up construction work with better equipment, increase workforce, etc., in the areas with predominantly commercial, and with sensitive features like hospitals, and schools; 	CMWSSB/ Contractor		No of complaints registered	Periodically

		<ul style="list-style-type: none"> Consult businesses and institutions regarding operating hours and factoring this in work schedules 				
Occupational Health and Safety	Occupational hazards which can arise during work.	<ul style="list-style-type: none"> Develop and implement site-specific OHS Plan informed by OHS risk assessment seeking to avoid, minimize and mitigate risk, including control blasting, which shall include measures such as: <ul style="list-style-type: none"> HIRA to be carried out for all the sites. Tool box talks every day to be verified and certified. Induction Training to be provided for safety aspect & incident management and reporting. Safe and documented construction procedures to be followed for all site activities; ensuring all workers are provided with and use personal protective equipment; OHS training for all site personnel, Important to use PPEs and other safety measures. It is important to exclude public and intoxicated workers/others from the work sites; by ensuring watch and ward, fencing with gate where appropriate and protocols. Incident register to be maintained - Documentation of work-related accidents Provision of first aid box to all the work sites. Provision of Drinking water facilities for all construction sites. Comply with the Occupational health and Safety aspects of various labor related acts of India, WB EHS guidelines and OSHA guidance. Ensure work permit mechanism, for specialized work; especially upgradation and replacement of existing components of STP, gas evacuations, enclosed spaces, depths, foundations, tanks, TSPS etc. which may be risky Prepare and adopt EHS plan approved by PMC/ PIU which include measures as: (i) excluding the public/ unauthorized staff/workers from worksites; (ii) ensure all workers are provided with and required to use personal protective equipment (reflectorized vests, footwear, gloves, goggles and masks) at working times; (iii) providing (H&S) training for construction site personnel; (iv) documenting procedures to be followed for all site activities; and (v) maintaining accident reports and records Workers working at height, confined spaces, gaseous spaces and closed environments need to be given appropriate training and proper PPE before 	CMWSSB/ Contractor Through Safety officer	Include lumpsum cost based on no: of labourers for site facilities, medical checkups etc., PPEs	Complied with the Tamil Nadu Labour act.	Daily

		<p>undertaking work. SOP shall be prepared for ensuring work is carried out as per SOPs</p> <ul style="list-style-type: none"> • Adequate care and training for precautions to be taken to avoid and treatments in case of scorpion and snake bites during construction activities. Ensure that anti venom is available for treatment at site or in the nearest hospital/ health care center • Power tools not in proper condition should be replaced or prepared • Workers should use face shield or Goggles while welding and cutting work • Tagging shall be displayed in the Steel Scaffolding and shall be checked by safety engineer weekly, and the working platform should be at least 400 mm width for working at heights • Ensure Electrical DB are kept inside closed shed to prevent damage from water/dust, keep CO₂ fire extinguisher outside the shed for electrical fire fighting • Lifeline shall be provided at the edges of slab and worker should wear safety harness at height work • Proper standard ladder should be provided for access to areas at a suitable/appropriate length • Crane shall only be used to lift the materials not human being which is very unsafe practice • Safety Posters must be posted at site to motivate the worker for safe work • Safety Engineer should be available at site to give daily pep talks and submit the report daily. • Ensure that labor colony/ camp should be periodically sanitized and kept clean and hygienic. • Workers near high noise equipment to be provided with PPEs like ear plugs and earmuffs. • Handrails on both sides of walkways close to deep tanks and STPs need to be ensured. • Ensure that the contact details of the police or security company, fire brigade, nearest hospital, forest department and ambulance services are displayed on site (in languages which are comprehensible for the workers) and workers are trained to look at them and reach out for help when required. • Smaller switches at STP units to be installed with protection from rainwater to minimize electrical short circuit. 				
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		<ul style="list-style-type: none"> • Proper housekeeping should be done at site and all materials should be properly stacked with display board. Records shall be maintained for the same. • Cleaning/ maintenance, the inlet line and area of confined spaces like underground pumping stations shall be adequately vented to ensure that no toxic or hazardous gases are present in the line. • Ensure that there is no accumulation of solid/ construction or hazardous wastes on site, following proper plan for each for collection, treatment and disposal as per applicable rules and as agreed by the local body and PCB • Provide shaded areas for rest, mealtimes, drinking water and sanitation facilities. • Medical emergency facilities such as para medical staff. First aid facilities, isolation center for Covid -19/ or contagious health issue, ambulance service for incidences and accidents, tie up with government or private hospital for emergency services, etc. • Maintain necessary living accommodation and ancillary facilities in functional and hygienic manner in work camps. Ensure (i) uncontaminated water for drinking, cooking and washing, (ii) clean eating areas where workers are not exposed to hazardous or noxious substances; (iii) providing fire extinguisher at construction site and camps iv) fuel and cooking facilities in a safe and appropriate area (v) sanitation facilities are available at all times and (vi) waste management and segregation of wastes at camp and site. • restricted entry to site of excavation and buildings to prevent entry of children, outsiders and stray animals. 				
COVID -19 & -19 & Another pandemic	Health & Safety issues to the labors and community	<ul style="list-style-type: none"> • COVID-19 & other pandemic situations related hygiene facilities and guidance shall be made available for the labourers in the work site and accommodation • SOPs and guidelines issued by GOI and Go TN from time to time to prevent spread of COVID-19 & other pandemic situations are to be adhered in the work sites and camp area during sub-project implementation. 	CMWSSB/ Contractor	Include lumpsum cost	No health issues registered	Periodically
Monitoring of Baseline	Improper monitoring or failure to monitor may	<ul style="list-style-type: none"> • Adequate measures shall be taken and checked to control of baseline parameters of Air, Noise, Water 	CMWSSB/ Contractor	Added in monitoring costs	Compliance with Pollution	Monthly

parameters specific to Air, Noise, Water and Soil	result in contamination of site and vicinity	<p>and Soil pollution.</p> <ul style="list-style-type: none"> • Baseline parameters shall be recorded and ensure the confirmation till the completion of the project. • Periodic monitoring of all the above during construction. 			standards, data reported to PCB	
Chance finds	Damage / disturbance to artifacts	<ul style="list-style-type: none"> • Prepare and implement Chance Find Procedure, create awareness among the workers, supervisors and engineers about the chance finds during excavation work. Stop work immediately to allow further investigation if any finds are suspected. Follow chance find procedures. • Inform State Archaeological Department if a find is suspected and taking any action, they require to ensure its removal or protection in situ. • Contractor protects the site and reports to the Engineer/ PIU, and refers to local museums and the PIU for advice • Hand over artefacts to museum/ cultural management agency • Review to determine if the excavation can be continued • Director of Culture and Information office in the locality will be responsible for managing objects 	CMWSSB/ Contractor	<p>To be added in case of chance finds.</p> <p>Add lumpsum cost for barricading, watch and ward</p>	Proper handover of artifacts to the relevant department and progress of work accordingly	As and when reported
Works in near water bodies	<p>Dumping of waste into the waterbodies may impact the biological process of macrophytes and aquatic fauna</p> <p>It may alter the composition of macrophyte by interfering in nutrient cycle</p>	<ul style="list-style-type: none"> • While working in the river or near waterbodies measures should be taken that no construction waste, oil etc. shall affect the water • Skimming of floating waste is recommended • Use of oil & grease absorbent pads is recommended • Prevent discharge of untreated sewage, leachate and chemicals into surface water bodies • Preservation of aquatic habitats by restricting movement of people/ equipment into them and preventing entry of sediments into water bodies • Keep noise level (e.g., from equipment) to a minimum level, as certain fauna is very sensitive to loud noise • Keep only appropriate light levels in areas near nesting sites/ flight pathways • It is recommended that dawn and dusk time when avifaunal movement is high shall be excluded from construction schedule 	CMWSSB/ Contractor	<p>Lumpsum for waste collection</p> <p>lumpsum for screens, receptacles, labour time</p>	Spills, complaints by communities	Once weekly during works in/near waterbodies
O&M Stage (including any activity on O&M of existing system carried out by network construction / operations Contractor)						
Post-construction	Improper disposal of debris, spoil, excess	<ul style="list-style-type: none"> • Remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) 	CMWSSB/ Contractor	Include lumpsum cost in O&M	Check housekeeping,	Before start of O&M

Clean up	construction materials may lead traffic interruption, Accidents, clogging of storm water drains and Infiltration into Ground water	<p>which are no longer required;</p> <ul style="list-style-type: none"> All excavated roads shall be reinstated to original condition; All affected structures rehabilitated/compensated; The area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc., and these shall be cleaned up; All hardened surfaces within the construction camp area shall be ripped, all imported materials removed, and the area shall be top soiled and regressed using the guidelines set out in the revegetation specification that forms part of this document; The contractor must arrange the cancellation of all temporary services; and Request PIU to report in writing that worksites and camps have been vacated and restored to pre-project conditions before acceptance of work. 			cleanliness	
Climate Change Impacts	heat effects and extreme rainfall which may cause flooding and may influence the efficiency of waste water treatment components, functional efficiency	<ul style="list-style-type: none"> Avoid entry of rainwater into sewers at household level and street level Providing protection wall if the STP is located in flood prone areas/hotspots or providing pumping arrangement for disposal of treated water by pumping Approved DMP for the area Increasing greenery belt/zones Encouraging more smart transportation to dispose treated effluent Add treatment process Maintaining more aerobic conditions for waste water treatment Adapting Green building technology Installation of more solar powered source for green energy or Provide Diesel generating sets at least for 50 % pumping capacity if any damage during extreme flooding or wind 	CMWSSB/ Contractor	Add in Design & O&M Costs	Visual monitoring, inspection, flood, heat wave incidents reported	As required during specific seasons-
STP operation (linked facility), Sewage lifting and pumping Failure of treatment, Blocks, overflows, system	Odor nuisance, Health, issues and environmental impacts Untreated water discharge leads to Surface water & Ground water contamination	<ul style="list-style-type: none"> Strictly follow standard operating procedures/operational manual for operation and maintenance of STP and terminal Pumping station Ensure that operating staff is properly trained and have clear understanding of odor issues vis a vis its relationship with operational practices. Ensure that pumping cycles are properly followed and there is no build-up of sewage beyond design volume in the wells. Follow permit conditions, Proper handling and regular 	CMWSSB, STP Operator & Contractor for networks etc.	Add costs for monitoring And Biofilter in DPR costs Add cost for greenbelt – lumpsum around all SPS, LS, etc. And for tree replantation costs	Compliance with TNPCB norms. Valid Consent to Operate from TNPCB Complaints from communities	Monthly inspection, grab sample checks

malfunction, occupational health and safety		<p>maintenance of operating machines including pumps, blowers, generators, air diffusers, etc.</p> <ul style="list-style-type: none"> • The STP and pumping station shall have sufficient buffer zone in form of greenbelt to reduce the odor and noise impacts. • Seek feedback from neighbouring settlements/ establishments • Odour control mechanism (Bio filter) to be installed • In around plant raise the compound wall & Greenbelt to be formed in the STP area • Operate and maintain the facility following standard operating procedure of operational manual and regular training to be provided to the operator about the plant operation. • Conduct regular wastewater quality monitoring (at inlet and at outlet of STP) to ensure that the treated effluent quality complies with the standards; and • Monitor regularly as per TNPCB discharge norms and ensure that there is no illegal discharge through inspection chambers. • Conduct H2S monitoring periodically. • Renewal of Consent to Operate for STP's to be obtained from TNPCB and comply with the consent conditions 		as actual		
Operation and Maintenance of Collection System – Sewer Maintenance works	Toxic gases release from sewers can be fatal Silt deposits in the sewers overtime can cause interruption to flow and lead to system malfunction	<ul style="list-style-type: none"> • Periodic de-siltation of sewers to be done with equipment/vehicle through machine holes. • During cleaning/maintenance operation, the sewer line will be adequately vented to ensure that no toxic or hazardous gases are present in the line. • Ensure availability of PPE for maintenance workers • Follow safety and emergency preparedness plan. • Proper inspection to identify probable leaks and structural damage to sewers. 	CMWSSB/ Contractor	Desiltation / waste management costs to be included in O&M cost of contractor for each facility Add PPE cost lumpsum based on expected no: of labourers Add contingency costs for emergencies	No overflow reported. No public complaints registered.	Periodically
Maintenance of Sewers	Worker & Community health and safety	<ul style="list-style-type: none"> • Proper health and hygiene management plan shall be prepared for laborers engaged in O&M activities periodic health checkup, and sanitization. This should also include safety measure to be undertaken while working in these areas. Manual scavenging shall be avoided fully as per existing Act & suitable machines to be employed. Appropriate PPEs, equipment's to 	CMWSSB/ Contractor	Add two trainings a year for EHS Add PPE costs	Incident register, Review of Work permits issued for sewer / other	Periodically

		<p>work in sewers/machine holes, guidance of safety experts, and authorities to be ensured before any maintenance work on sewers</p> <ul style="list-style-type: none"> • PPE' s (Safety shoes, Safety helmet, Full body harness, Safety jacket, Gloves) must be provided to the workers while working at site. • Power tools which is not under proper condition should be replaced or prepared. • Worker should use face shield or goggles while welding and cutting work. • Standard operating Procedures (SoP) for working with electric instruments and facilities shall be defined and implemented. • Ensure Electrical DB must be kept inside closed shed to prevent from water/ dust with a gate outside. Keep CO2 fire extinguisher outside shed for electrical fire fighting. • Contact details of nearest fire brigade and hospital shall be provided on site • Regular housekeeping shall be conducted. Records shall be maintained for the same. • Storage area for raw material and waste shall be defined and appropriate signages shall be informed. • Working area shall be periodically sanitized and kept clean and hygienic • Safety Engineer should be available at site to give daily pep talks and submit the report daily • Training/ awareness programs at all the stages of the project shall be conducted • Mock drills shall be conducted frequently • Records of training/ awareness programs/ mock drills shall be maintained 			works; training records	
All activities	<p>CHS: safety risk during construction due to air pollution (dust & air emissions), traffic movement, congestion & Safety, noise, others) apart from sludge /waste disposal, impact of bypassing untreated water</p> <p>Environment and safety risk during demolishing</p>	<ul style="list-style-type: none"> • NO sewage connection to household / premises unless the network is connected to a functional treatment plant • Provide safety signage at construction sites & related road repairs and upgradation shall be visible to public. • Provide signages for traffic movement and traffic related aspects such as speed limit, height requirements, noise restriction, etc. Assign Traffic wardens for heavy movement of traffic, school & hospital areas. • Advance intimation to the local communities about works, increased traffic movement and its duration 	ULB and Contractor	Add additional to labour costs, IEC on works costs, cost for water sprinkling lumpsum, and lumpsum for others	Visual inspection, discussions with hosts, communities	Weekly

	of the existing plant	<ul style="list-style-type: none"> • Ensuring movement of vehicular traffic to and from worksite at non- peak hours. • Provide strong, hard safety barriers with reflectors & lighting near any trenches, and cover trenches with planks during non-work hours. • Contractor's activities and movement of staff will be restricted to designated construction areas. No access to staff/workers to other sites within the premises. • Water sprinkling on kuccha access roads and construction areas. • Vehicles used for the construction activities shall have the necessary PUC certificates and regular checks for ensuring compliances as per local laws. • Recycling and the provision of separate waste receptacles for different types of waste shall be maintained. • Training of drivers transporting material to site on safety precautions, speed restrictions, other issues. • Alternate design and/ or temporary measures, including sewage diversion plan to prevent untreated sewage or its bypass • The contractors need to prepare diversion plan for construction and operation period to ensure smooth flow of sewage for treatment • Alternate traffic routing to be adopted in consultation with traffic police authorities. This shall be properly displayed well ahead of diversion areas. Commuters/ citizen shall be informed through signages, print and social media • Construction works at busy roads must be completed earlier to minimize inconvenience & work schedule shall consider social, access, religious requirements of the road space • The demolishing of the existing facilities if any should be done in phased manner so that bypass of untreated sewage is minimized. • The contractor must check for the presence of the volatile material and use gas analyzer as a safety protocol to avoid any accident& follow High Courts suggestions, PPEs and Acts 				
Release of unauthorized industrial effluent	Industrial effluents through networks Impacting STP	<ul style="list-style-type: none"> • No wastewater from industrial premises (including domestic wastewater) shall be allowed to dispose into municipal sewers 	CMWSSB/ Contractor	Add in monitoring cost	Check STP inlet grab samples	Add lumpsum for 4 samples

	operational efficiency	<ul style="list-style-type: none"> Monitor regularly and ensure that there is no illegal discharge through manholes or inspection chambers; conduct public awareness programs; in coordination with GPCB 			Reports submitted by STP operator to PCB	per annum
Sludge disposal	Unscientific storage & disposal of screening/ floating waste	<ul style="list-style-type: none"> Sludge & all wastes accumulated STP, SPS, LSs and machine holes shall be managed well without impacting the environment Wastes shall be segregated and stored in closed containers Records on wastes generated and disposed shall be maintained on site polluting any other areas Screening/ floating waste shall be stored in the closed containers and shall be disposed in accordance with SWM Rules, Plastic Waste Rules, Hazardous waste rules, E-waste Rules, through ULB with written consent Record of the waste generated and sent for disposal at designated appropriate place shall be maintained 	CMWSSB/ Contractor	Add in contractors O&M costs: all type of wastes in separate container, add C& T costs, treatment & disposal as per contract	Visual inspection, records, discussion with communities Lumpsum	Nil
Work Closure (including closure if after Construction works)	At contract closure, incomplete reports and works impacts sustainable future operations to ensure good environmental performance and prevent accidents	<ul style="list-style-type: none"> Prepare work closure reports in agreed formats & provide walk over review to PIU officials/ other Operators as required Ensure no works or activities to ensure sustainable future operations are incomplete unless asked and agreed by PIU in writing Records shall show permits, clearances, operational and maintenance logs, stock details without any material or tool in unsafe places, housekeeping records 	CMWSSB/ Contractor	Reporting cost lumpsum	Visual inspection, review of work closure report	At closure (after construction once; & O&M once)

Appendix to Technical Part
Code of Conduct for Contractor's Personnel (ES) Form

Note to the Employer:

The following minimum requirements shall not be modified. The Employer may add additional requirements to address identified issues, informed by relevant environmental and social assessment.

The types of issues identified could include risks associated with: labour influx, spread of communicable diseases, and Sexual Exploitation and Abuse (SEA), Sexual Harassment (SH) etc.

Delete this Box prior to issuance of the bidding document.

Note to the Bidder:

The minimum content of the Code of Conduct form as set out by the Employer shall not be substantially modified. However, the Bidder may add requirements as appropriate, including to take into account Contract-specific issues/risks.

The Bidder shall initial and submit the Code of Conduct form as part of its bid.

CODE OF CONDUCT FOR CONTRACTOR'S PERSONNEL

We are the Contractor, [enter name of Contractor]. We have signed a contract with [enter name of Employer] for [enter description of the Works]. These Works will be carried out at [enter the Site and other locations where the Works will be carried out]. Our contract requires us to implement measures to address environmental and social risks related to the Works, including the risks of sexual exploitation, sexual abuse and sexual harassment.

This Code of Conduct is part of our measures to deal with environmental and social risks related to the Works. It applies to all our staff, laborers and other employees at the Works Site or other places where the Works are being carried out. It also applies to the personnel of each subcontractor and any other personnel assisting us in the execution of the Works. All such persons are referred to as "**Contractor's Personnel**" and are subject to this Code of Conduct.

This Code of Conduct identifies the behavior that we require from all Contractor's Personnel.

Our workplace is an environment where unsafe, offensive, abusive or violent behavior will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

REQUIRED CONDUCT

Contractor's Personnel shall:

1. carry out his/her duties competently and diligently;
2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Contractor's Personnel and any other person;
3. maintain a safe working environment including by:
 - a. ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
 - b. wearing required personal protective equipment;
 - c. using appropriate measures relating to chemical, physical and biological substances and agents; and
 - d. following applicable emergency operating procedures.
4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
5. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
6. not engage in Sexual Harassment, which means unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature with other Contractor's or Employer's Personnel;
7. not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;
8. not engage in Sexual Abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;
9. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
10. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, and Sexual Exploitation, and Abuse (SEA) and Sexual Harassment (SH);
11. report violations of this Code of Conduct; and
12. not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Employer, or who makes use of the grievance mechanism for Contractor's Personnel or the project's Grievance Redress Mechanism.

RAISING CONCERNS

If any person observes behavior that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done in either of the following ways:

1. Contact [*enter name of the Contractor's Social Expert with relevant experience in handling gender-based violence, or if such person is not required under the Contract, another individual designated by the Contractor to handle these matters*] in writing at this address [] or by telephone at [] or in person at []; or

2. Call [] to reach the Contractor's hotline (*if any*) and leave a message.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to service providers that may help support the person who experienced the alleged incident, as appropriate.

There will be no retaliation against any person who raises a concern in good faith about any behavior prohibited by this Code of Conduct. Such retaliation would be a violation of this Code of Conduct.

CONSEQUENCES OF VIOLATING THE CODE OF CONDUCT

Any violation of this Code of Conduct by Contractor's Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

FOR CONTRACTOR'S PERSONNEL:

I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact [*enter name of Contractor's contact person with relevant experience*] requesting an explanation.

Name of Contractor's Personnel: [insert name]

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Contractor:

Signature: _____

Date: (day month year): _____

ATTACHMENT 1: Behaviors constituting Sexual Exploitation and Abuse (SEA) and behaviors constituting Sexual Harassment (SH)

ATTACHMENT 1 TO THE CODE OF CONDUCT FORM

BEHAVIORS CONSTITUTING SEXUAL EXPLOITATION AND ABUSE (SEA) AND BEHAVIORS CONSTITUTING SEXUAL HARASSMENT (SH)

The following non-exhaustive list is intended to illustrate types of prohibited behaviors:

(1) Examples of sexual exploitation and abuse include, but are not limited to:

- A Contractor's Personnel tells a member of the community that he/she can get them jobs related to the work site (e.g. cooking and cleaning) in exchange for sex.
- A Contractor's Personnel that is connecting electricity input to households says that he can connect women headed households to the grid in exchange for sex.
- A Contractor's Personnel rapes, or otherwise sexually assaults a member of the community.
- A Contractor's Personnel denies a person access to the Site unless he/she performs a sexual favor.
- A Contractor's Personnel tells a person applying for employment under the Contract that he/she will only hire him/her if he/she has sex with him/her.

(2) Examples of sexual harassment in a work context

- Contractor's Personnel comment on the appearance of another Contractor's Personnel (either positive or negative) and sexual desirability.
- When a Contractor's Personnel complains about comments made by another Contractor's Personnel on his/her appearance, the other Contractor's Personnel comment that he/she is "asking for it" because of how he/she dresses.
- Unwelcome touching of a Contractor's or Employer's Personnel by another Contractor's Personnel.
- A Contractor's Personnel tells another Contractor's Personnel that he/she will get him/her a salary raise, or promotion if he/she sends him/her naked photographs of himself/herself.

Attachment on the applicable Labour Laws:

Attachment to develop site specific mitigation Plans for community health and safety.

Fraud and Corruption

This activity is financed by the world Bank and Bidders/Suppliers/Contractors/Consultants are required to comply with the applicable Guidelines (available at following link)

<https://ppfdocuments.azureedge.net/3682.pdf>

GUIDELINES ON PREVENTING AND COMBATING FRAUD AND CORRUPTION PROGRAM-FOR-RESULTS FINANCING

Dated February 1, 2012 and Revised July 10, 2015

Purpose and General Principles

1. These Guidelines address Fraud and Corruption (as defined in paragraph 5) that may occur in connection with the preparation and implementation of programs financed, in whole or in part, by the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA) through Program-for-Results Financing. They set out the general principles, requirements, and sanctions applicable to such programs.
2. The Loan Agreement¹ providing for the Loan² governs the legal relationships between the Borrower³ and the Bank⁴ with respect to the Program⁵ for which the Loan is made. The responsibility for the implementation of the Program under the Loan Agreement, including the primary responsibility for preventing and combating Fraud and Corruption, rests with the Borrower. The Bank, for its part, has a fiduciary duty under its Articles of Agreement to “make arrangements to ensure that the proceeds of any loan are used only for the purposes for which the loan was granted, with due attention to considerations of economy and efficiency and without regard to political or other non-economic influences or considerations.”⁶ These Guidelines constitute an important element of those arrangements and are made applicable to the preparation and implementation of the Program as provided in the Loan Agreement.
3. Recognizing that Fraud and Corruption leads to wasted resources and undermines development effectiveness, the Bank and the Borrower agree that all individuals and entities participating in the Program must observe the highest standard of ethics and, specifically, that all such persons and entities must take all appropriate measures to prevent and combat Fraud and Corruption, and refrain from engaging in Fraud and Corruption, in connection with the Program. In furtherance of these principles and purposes, the Bank and the Borrower further agree and commit to undertaking the actions set out in these Guidelines for the purpose of preventing and combating Fraud and Corruption in connection with the Program.

¹ References in these Guidelines to “Loan Agreement” include any Loan Agreement providing for an IBRD loan; Financing Agreement providing for an IDA credit or IDA grant; Trust Fund Grant Agreement or Loan Agreement providing for a recipient-executed trust fund grant or loan in cases where these Guidelines are made applicable to such agreement; and the Program Agreement with a Program Implementing Entity related to any of the above.

² References to “Loan” or “Loans” include IBRD loans as well as IDA credits and grants, project preparation advances, and recipient-executed trust fund grants or loans for programs to which these Guidelines are made applicable under the agreement providing for such grant and/or loan. These Guidelines do not apply to investment project financing (to which separate guidelines apply) or to development policy financing.

³ References in these Guidelines to “Borrower” include the recipient of an IDA credit or grant or of a trust fund grant or loan.

⁴ References in these Guidelines to the “Bank” include both IBRD and IDA.

⁵ Reference in these Guidelines to the “Program” means the Program as defined in the Loan Agreement.

⁶ IBRD Articles of Agreement, Article III, Section 5(b); IDA Articles of Agreement, Article V, Section 1(g).

Definition of Practices Constituting Fraud and Corruption

4. These Guidelines address the following defined practices in connection with the Program:⁷
- (a) A “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party.⁸
 - (b) A “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly⁹ misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation.
 - (c) A “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party.
 - (d) A “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party.
 - (e) An “obstructive practice” is (i) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation¹⁰ into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or (ii) acts intended to materially impede the exercise of the Bank’s contractual rights of audit or access to information.
5. The above practices, as so defined, are referred to collectively in these Guidelines as “Fraud and Corruption.”

Borrower Actions to Prevent and Combat Fraud and Corruption in Connection with the Program

6. In furtherance of the above-stated purpose and general principles, except as otherwise agreed in writing by the Borrower and the Bank, the Borrower:

⁷ Unless otherwise specified in the Loan Agreement, whenever these terms are used in the Loan Agreement, including in the applicable General Conditions, they have the meanings set out in paragraph 4 of these Guidelines. ⁸ Typical examples of corrupt practice include bribery and “kickbacks.”

⁹ To act “knowingly or recklessly,” the fraudulent actor must either know that the information or impression being conveyed is false, or be recklessly indifferent as to whether it is true or false. Mere inaccuracy in such information or impression, committed through simple negligence, is not enough to constitute fraudulent practice.

¹⁰ As used in the definition of “obstructive practice”, the term “investigation” includes any inquiry undertaken under these Guidelines.

- (a) takes all appropriate measures to ensure that the Program is carried out in accordance with these Guidelines;
- (b) takes all appropriate measures to prevent Fraud and Corruption in connection with the Program, including (but not limited to) adopting and implementing appropriate fiduciary and administrative practices and institutional arrangements;
- (c) promptly informs the Bank of all credible and material allegations or other indications of Fraud and Corruption in connection with the Program that come to its attention, together with the investigative and other actions that the Borrower proposes to take with respect thereto;
- (d) unless otherwise agreed by the Borrower and the Bank with respect to a particular case, takes timely and appropriate action to investigate such allegations and indications; reports to the Bank on the actions taken in any such investigation, at such intervals as may be agreed between the Borrower and the Bank; and, promptly upon the completion of any such investigation, reports to the Bank the findings thereof;
- (e) if the Borrower or the Bank determines that any person or entity has engaged in Fraud and Corruption in connection with the Program, takes timely and appropriate action, satisfactory to the Bank, to remedy or otherwise address the situation and prevent its recurrence; provided that nothing in this sub-paragraph (e) or in sub-paragraph (d) above obligates the Borrower to take action in direct contradiction of the applicable law of the Member Country;
- (f) cooperates fully with representatives of the Bank in any inquiry conducted by the Bank into allegations or other indications of Fraud and Corruption in connection with the Program, and takes all appropriate measures to ensure the full cooperation of relevant persons and entities subject to the Borrower's jurisdiction in such inquiry; and
- (g) ensures that any person or entity debarred or suspended by the Bank is not awarded a contract under or otherwise allowed to participate¹¹ in the Program during the period of such debarment or suspension.

Sanctions and related Actions by the Bank in Cases of Fraud and Corruption

7. In furtherance of the above-stated purpose and general principles, except as otherwise agreed in writing by the Borrower and the Bank, the Bank:

10 For purposes of paragraph 6(g), participation does not include the performance under contracts entered into or other engagements began prior to the date of the Loan Agreement

- (a) promptly informs the Borrower of all credible and material allegations or other indications of Fraud and Corruption in connection with the Program that come to its attention, consistent with Bank policies and procedures;
- (b) in cases where the Bank determines it necessary to do so to fulfill its fiduciary duty, may conduct an inquiry into such allegations or other indications, independently of or in collaboration with the Borrower;
- (c) reports to the Borrower on the outcome of any such inquiry; and
- (d) may sanction¹² any individual or entity other than the Member Country¹³ if at any time the Bank determines that such individual or entity has engaged in Fraud and Corruption in connection with the Program or any other Bank-financed activity, or is otherwise subject to sanction pursuant to its prevailing policies and procedures.

Miscellaneous

- 8. For avoidance of doubt, nothing in these Guidelines is intended to restrict or otherwise affect the Member Country's sovereign right to investigate, prosecute or take any other action in furtherance of its own laws and regulations. Any inquiries conducted by the Bank pursuant to these Guidelines are administrative in nature, for the purpose of determining compliance with the Bank's policies, directives and procedures. Inquiries include, but are not limited to, the review of relevant accounts, records and other documents, and interviews with relevant persons.
- 9. Without prejudice to any provision hereof, in the event that any action to be taken by the Borrower under these Guidelines may conflict with requirements of the applicable laws and regulations of the Member Country, the Bank and the Borrower will consult with a view to identifying and agreeing on alternative actions that will avoid such conflict while ensuring compliance herewith.
- 10. The provisions of these Guidelines do not limit any other rights, remedies¹⁴ or obligations of the Bank or the Borrower under the Loan Agreement or any other document to which the Bank and the Borrower are both parties.

¹² Sanctions include (but are not limited to) publicly declaring such individual or entity ineligible, either indefinitely or for a stated period of time, to: (i) be awarded a Bank-financed contract; (ii) benefit from a Bank-financed contract, financially or otherwise, for example as a subcontractor; and (iii) otherwise participate in the preparation or implementation of the Program or any other project or program financed, in whole or in part, by the Bank. The Bank may publish the identity of any individual or entity sanctioned under subparagraph 7(d).

¹³ For purposes of these Guidelines, "Member Country" includes (i) officials and employees of the national government or of any of its political or administrative subdivisions, and (ii) non-autonomous government-owned enterprises.

¹⁴ The Loan Agreement provides the Bank with certain rights and remedies that it may exercise with respect to the Loan in the event of Fraud and Corruption in connection with the Program, in the circumstances described therein.

**SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR AVAILABILITY OF CREDIT
FACILITIES -
CLAUSE 4.5 (B) (c) OF ITB**

BANK CERTIFICATE

This is to certify that M/s is a reputed company with a good financial standing.

If the contract for the work, namely Is awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs to meet their working capital requirements for executing the above contract.

Sd/
Name of Bank
Senior Bank Manager
Address of the Bank

**FORMAT FOR DECLARATION BY THE BIDDER FOR DEBARMENT/
BLACKLISTING
CLAUSE 4.5 (A) & 4.8 OF ITB**

I/We hereby confirm that our firm has not been blacklisted Disqualification/Debarment done due to works executed in World Bank/any State/ Central Government Departments, or State / Central Undertakings/ Boards/ Corporations, Municipalities and Municipal Corporations, Urban Developments Authorities will disqualify any entity from participation in the tender.

I/We _____ declare that the information furnished in the tender is true to the best of my/our knowledge. If any false/fictitious information is found I/We agree to the rejection of the bids and consequence action.

Description	To be filled by the Tenderer (Yes/No)	Details if any
We confirm the above declaration		

Issue of Notice to proceed with the work
(Letterhead of the Employer)

_____ (Date)

To

_____ (Name and address of the Contractor)

Dear Sirs:

Pursuant to your furnishing the requisite security as stipulated in ITB clause 34.1 and signing of the contract for the construction of _____ @ a Bid Price of Rs. _____, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and
title of signatory
authorized to sign on
behalf of Employer)

Agreement Form

This agreement, made the _____ day of _____ **202** ,
between Chennai Metropolitan Water Supply and Sewerage Board 4TH floor, No.1
Pumping Station, Chindatripet, Chennai-600 002 [name and address of
Employer](hereinafter called "the Employer") and

[name and address of contractor] (herein after called "the Contractor" of the other part).

Whereas the Employer is desirous that the Contractor execute the work of", Contract no:

[name and identification number of Contract] (hereinafter called "the Works") and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein, at a cost of Rs

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - i) Letter of Acceptance;
 - ii) Notice to proceed with the works;
 - iii) Contractor's Bid;
 - iv) Contract Data;
 - v) Conditions Of Contract (General and Special);
 - vi) Specifications (General and Special)
 - vii) Drawings;

- viii) Bill of Quantities; and
- ix) Any other document listed in the Contract Data and replies to queries, clarifications issued by the employer, such confirmations given by the bidder which are acceptable to the employer and the entire Addendum issued as forming part of the contract.
- x) Instruction to bidders
- xi) Safety and preventive measures and digest of labour laws (CMWSSB)
- xii) Joint Venture/ consortium agreement

In witness whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

The Common Seal of

was hereunto affixed in the presence of:

Signed, Sealed and Delivered by the said

in the presence of:

Binding Signature of Employer _____

Binding Signature of Contractor _____

SECTION 4. CONDITIONS OF CONTRACT

Conditions of Contract

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Conditions of Contract

A. General

1. Definitions

- 1.1 Terms, which are defined in the Contract Data, and not also defined in the Conditions of Contract but keep their defined meanings. Capital initials are used to identify defined terms.

The **Adjudicator** is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in Clauses 24 and 25. The name of the Adjudicator is defined in the Contract Data.

Bill of Quantities means the priced and completed Bill of Quantities to be submitted by the Bidder.

The **Completion Date** is the date of completion of the Works as certified by the Engineer in accordance with Sub Clause 55.1.

The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in Clause 2.3 below.

The **Contract Data** defines the documents and other information, which comprise the Contract.

The **Contractor** is a person or corporate body whose Bid to carry out the Works has been accepted by the Employer.

The **Contractor's Bid** is the completed Bidding document submitted by the Contractor to the Employer.

The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

Days are calendar days; **months** are calendar months.

A **Defect** is any part of the Works not completed in accordance with the Contract.

The **Defects Liability Period** is the period named in the Contract Data and calculated from the Completion Date.

The **Employer** is the party who will employ the Contractor to carry out the Works.

The **Engineer** is the person named in the Contract Data (or any other competent person appointed and notified to the contractor to act in replacement of the Engineer) who is responsible for supervising the Contractor, administering the

Contract, certifying payments due to the Contractor, issuing and valuing Variations to the Contract, awarding extensions of time, and valuing the Compensation Events.

Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer by issuing an extension of time.

Materials are all supplies, including consumables, used by the contractor for incorporation in the Works.

Plant is any integral part of the Works, which is to have a mechanical, electrical, electronic, or chemical or biological function.

The **Site** is the area defined as such in the Contract Data.

Site Investigation Reports are those, which were included in the Bidding documents and are factual interpretative reports about the surface and sub-surface conditions at the site.

Specification means the Specification of the Works to be submitted by the Bidder and any modification or addition made or approved by the Engineer.

The **Start Date** is given in the Contract Data. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Dates.

A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.

Temporary Works are works designed, constructed, installed, and removed by the Contractor, which are needed for construction or installation of the Works.

A **Variation** is an instruction given by the Engineer, which varies the Works.

The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the Contract Data.

2. Interpretation

- 2.1** In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer will provide instructions clarifying queries about the Conditions of Contract.
- 2.2** If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works).
- 2.3** The documents forming the Contract shall be interpreted in the following order of priority:
- (1) Agreement
 - (2) Letter of Acceptance, Notice to proceed with the works
 - (3) Contractor's Bid
 - (4) Contract Data
 - (5) Conditions of Contract (General and Special)
 - (6) Specifications (General and Special)
 - (7) Bill of Quantities
 - (8) Drawings and
 - (9) Any other document listed in the Contract Data and replies to queries, clarifications issued by the employer, such confirmations given by the bidder which are acceptable to the employer and all the Addendum issued as forming part of the contract.
 - (10) Instructions to bidders
 - (11) Safety and Preventive measures and digest of Labour Laws (CMWSSB)
 - (12) Joint Venture/ consortium Agreement
 - (13) ESHS requirements / Declaration of undertaking

3. Language and Law

- 3.1** The language of the Contract and the law governing the Contract are stated in the Contract Data.

4. Engineer's Decisions

- 4.1** Except where otherwise specifically stated the Engineer will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5. Delegation

- 5.1** The Engineer may delegate any of his duties and responsibilities to other people except to the Adjudicator after notifying the Contractor and may cancel any delegation after notifying the Contractor.

6. Communications

6.1 Communications between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective only when it is delivered (in terms of Indian Contract Act).

7. Subcontracting

7.1 The Contractor may subcontract with the approval of the Engineer but shall not assign the Contract without the approval of the Employer in writing. Subcontracting does not alter the Contractor's obligations.

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors. The Contractor shall as have referred to in the Contract Data, also provide facilities and services for them as described in the Schedule. The Employer may modify the schedule of other Contractors and shall notify the Contractor of any such modification.

9. Personnel

9.1 The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the Contract Data to carry out the functions stated in the Schedule or other personnel approved by the Engineer. The Engineer will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Schedule.

9.2 If the Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

9.3 Non-employment of Project Manager and other Key Personnel shall be liable for a fine as specified in Contract Data.

10. Employer's and Contractor's Risks

10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Employer's Risks

11.1 The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in the Employer's country, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection

or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees), and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive, or (b) a cause due solely to the design of the Works, other than the Contractor's design.

12. Contractor's Risks

12.1 All risks of loss of or damage to physical property and of personal injury and death, which arise during and in consequence of the performance of the Contract other than the excepted risks, are the responsibilities of the Contractor.

13. Insurance

13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the Contract Data for the following events which are due to the Contractor's risks:

- (a) loss of or damage to the Works, Plant and Materials;
- (b) loss of or damage to Equipment;
- (c) loss of or damage of property (except the Works, Plant, Materials and Equipment) in connection with the Contract; and
- (d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Engineer for the Engineer's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

13.4 Alterations to the terms of insurance shall not be made without the approval of the Engineer.

13.5 Both parties shall comply with any conditions of the insurance policies.

14. Site Investigation Reports

14.1 The Contractor, in preparing the Bid, shall rely on any site Investigation Reports referred to in the Contract Data, supplemented by any information available to the Bidder.

15. Queries about the Contract Data

15.1 The Engineer will clarify queries on the Contract Data.

16. Contractor to Construct the Works

- 16.1** The Contractor shall design (if applicable), construct and install the Works in accordance with the Specification and Drawings.
- 16.2** The basic centerlines, reference points and benchmarks will be fixed by Employer.
- 16.3** The Contractor shall establish at his cost, at suitable points, additional reference lines, benchmarks as may be necessary. The Contractor shall remain responsible for the sufficiency and accuracy of all his benchmarks and reference lines. He shall take precautions to see that the lines, points and benchmarks fixed by Employer are not disturbed by his work and shall make good any such damage.

17. The Works to be completed by the Intended Completion Date

- 17.1** The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the program submitted by the Contractor, as updated with the approval of the Engineer, and complete them by the Intended Completion Date.

18. Approval by the Engineer

- 18.1** The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Engineer, who is to approve them if they comply with the Specifications and Drawings.
- 18.2** The Contractor shall be responsible for design of Temporary Works.
- 18.3** The Engineer's approval shall not alter the Contractor's responsibility for design of the Temporary Works.
- 18.4** The Contractor shall obtain approval of third parties to the design of the Temporary Works where required.
- 18.5** All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Engineer before their use.

19. Safety

- 19.1** The Contractor shall be responsible for the safety of all activities on the Site

20. Archaeological and Geological Findings

- 20.1** All fossils, coins, articles of value or antiquity, structures, groups of structures, and other remains or items of geological, archaeological, paleontological,

historical, architectural or religious interest found on the Site shall be placed under the care and custody of the Employer. The Contractor shall:

- (a) take all reasonable precautions, including fencing-off the area or site of the finding, to avoid further disturbance and prevent Contractor's Personnel or other persons from removing or damaging any of these findings;
- (b) train relevant Contractor's Personnel on appropriate actions to be taken in the event of such findings; and
- (c) implement any other action consistent with the requirements of the Specifications and relevant laws.

The Contractor shall, as soon as practicable after discovery of any such finding, notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.

21. Possession of the Site

- 21.1** The Employer will give possession of all parts of the Site to the Contractor. However, if possession of a part is not given by the date stated in the Contract Data it cannot be taken as a reason for delay in start of the relevant activities and it will not be considered a Compensation Event.

22. Access to the Site

- 22.1** The Contractor shall allow the Engineer and any person authorized by the Engineer access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured / fabricated / assembled for the works.

23. Instructions

- 23.1** The Contractor shall carry out all instructions of the Engineer, which comply with the applicable laws where the Site is located.
- 23.2** The contractor shall permit the employer to inspect the Contractors accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the employer if so required by the employer

24. Disputes

- 24.1** Standing Greivance Redressal Committee (SGRC)

If a dispute (of any kind whatsoever) arises between the Parties in connection with or arising out of the contract or execution of the works, including any dispute as to any opinion, instruction, representative, either party shall initially refer the same in writing to Employer. The Employer will constitute a Standing Grievance Redressal Committee with members of officers of the Board to resolve the disputes.

Accordingly, it is proposed that the following officials of CMWSSB may be formed as SGRC to resolve the disputes between CMWSSB and the Contractor.

Committee members for specified project:

- i. Chief Engineer
- ii. Superintending Engineer

General Committee Members:

- iii. Controller Of Finance
- iv. Internal Auditor

The Committee should be formed by the concerned execution wing for each projects separately after getting approval from the Competent Authority. The Chief Engineer and Superintending Engineer should be other than the Chief Engineer / Superintending Engineer entrusted with the execution of the project.

If any dispute is referred to the SGRC, it will within a week of receipt of such request acknowledge and convene a meeting with both the parties. The committee will go through the submitted documents, hear the parties and attempt at finding an amicable solution within 28 days of receipt of such reference by the SGRC. If any settlement is arrived at SGRC the same shall be recorded in writing as a settlement agreement and signed by the Contractor, Employer and all committee members. Such settlement shall be final and binding on the parties with regards to all disputes so resolved.

If the SGRC fails to settle all or part of the dispute within 28 days, the same shall be notified to the contractor. Thereafter it is left to the parties to refer the unresolved disputes to Adjudication / Arbitration. In such case, the party may give notice in writing its intention to refer such dispute to Adjudication / Arbitration.

- 24.2** All If the Contractor believes that a decision taken by the Engineer was either outside the authority given to the Engineer by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 days of the notification of the Engineer's decision.

25. Procedure for Disputes

- 25.1** The Adjudicator shall give a decision in writing within 28 days of receipt of a notification of a dispute.
- 25.2** The Adjudicator shall be paid daily at the rate specified in the Contract Data together with reimbursable expenses of the types specified in the Contract Data and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within 28 days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above 28 days, the Adjudicator's decision will be final and binding.

- 25.3** The arbitration shall be conducted in accordance with the arbitration procedure stated in the Special Conditions of the Contract.

26. Replacement of Adjudicator

- 26.1** Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not fulfilling his functions in accordance with the provisions of the Contract, a new Adjudicator will be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority designated in the Contract Data at the request of either party, within 14 days of receipt of such request.

B. Time Control

27. Program

- 27.1** Within the time stated in the Contract Data the Contractor shall submit to the Engineer for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works along with monthly cash flow forecast.
- 27.2** An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.
- 27.3** The Contractor shall submit to the Engineer, for approval, an updated Program at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Program within this period, the Engineer may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.
- 27.4** The Engineer's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Engineer again at any time. A revised Program is to show the effect of Variations.

28. Extension of the Intended Completion Date

- 28.1** The Engineer shall extend the Intended Completion Date if a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work.
- 28.2** The Engineer shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Engineer for a decision upon the effect of a Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

29. Deleted

30. Delays Ordered by the Engineer

30.1 The Engineer may instruct the Contractor to delay the start or progress of any activity within the Works.

31. Management Meetings

31.1 Either the Engineer or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

31.2 The Engineer shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

32. Early Warning

32.1 The Contractor is to warn the Engineer at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work increase the Contract Price or delay in the execution of works. The Engineer may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate is to be provided by the Contractor as soon as reasonably possible.

32.2 The Contractor shall cooperate with the Engineer in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Engineer.

C. Quality Control

33. Identifying Defects

33.1 The Engineer shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect

34. Tests

- 34.1** If the Engineer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples.
- 34.2** All pipes, specials, electrical and mechanical items shall be subjected to Third Party inspection at the cost of Employer. The Contractor shall provide all necessary details such as manufacturers/supplier's address and location of the manufacturing site well in advance to the Employer for such purpose.
- 34.3** The contractor is responsible for ready availability of materials at the manufacturer's/supplier's address and location of the manufacturing site. If the materials is not available for TPIA when inspecting the location as informed by the contractor the inspection fee payable for the visit of TPIA shall be recovered from the contractor's bill at the rate at which TPIA was given work order on the value of material (Ex-factory) that is not available, subject to a minimum of Rs.5000/- for inspection within Tamil Nadu and Rs.15,000/- outside Tamil Nadu.
- 34.4** All pipes, specials, electrical and mechanical items shall be subjected to Third Party inspection. If the materials are found inferior or defective and rejected by the TPIA then the TPIA shall inspect again based on the inspection call of the contractor. If the materials are again rejected due to inferior quality / defects the inspection fee for third and subsequent inspection shall be recovered from the contractor's bill at the rate at which TPIA was given work order on the value of material (Ex-factory) that are rejected subject to a minimum of Rs.5000/- for inspection within Tamil Nadu and Rs. 15,000/- outside Tamil Nadu

35. Correction of Defects

- 35.1** The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 35.2** Every time, notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Engineer's notice.

36. Uncorrected Defects

- 36.1** If the Contractor has not corrected a Defect within the time specified in the Engineer's notice, the Engineer will correct the defect, assess the cost of having the Defect corrected and the Contractor will pay this amount.

D. Cost Control

37. Bill of Quantities

37.1 The Bill of Quantities shall contain items for the work of providing Comprehensive Underground Sewerage Scheme to Madipakkam (Div 187 & 188), Area XIV to be done by the contractor.

38. Changes in the Quantities

38.1 If the final quantity of the work done, differs from the quantity in the Bill of Quantities for the particular item the payment will be made as per actual quantity executed.

38.2 The Engineer shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 10 percent, except with the Prior approval of the Employer.

38.3 If requested by the Engineer, the Contractor shall provide the Engineer with a detailed cost breakdown of any rate in the Bill of Quantities.

39. Variations

39.1 All Variations shall be included in updated Programs produced by the Contractor.

40. Payments for Variations

40.1 The Contractor shall provide the Engineer with a quotation for carrying out the Variation when requested to do so by the Engineer. The Engineer shall assess the quotation, which shall be given within seven days of the request or within any longer period stated by the Engineer and before the Variation is ordered.

40.2 The Contractor shall not be entitled to additional payment for costs, which could have been avoided by giving early warning.

41. Cash flow forecasts

41.1 When the Program is updated, the contractor is to provide the Engineer with an updated cash flow forecast.

42. Payment Certificates

42.1 The Contractor shall submit to the Engineer monthly statements of the estimated value of the work completed less the cumulative amount certified previously.

42.2 Payments will be made to the Contractor under the certificates to be issued at reasonably frequent intervals by the Engineer. Based on the certificate of the Engineer, an intermediate payment will be made by the Engineer of a sum equal

to 95 percent of the value of work subject to the conditions deducting all dues towards recovery of advances, interests, fines etc., as per terms of contract and for the cost of materials, if issued, at the term stipulated in the agreement. The balance of 5 percent will be withheld as Retention Money and retained as a security for the due fulfillment of the contract. Under the certificate to be issued by the Engineer on the completion of the entire works, the Contractor will receive the final payment of all the moneys due or payable to him under or by virtue of the Contract except performance security and a sum equal to 2.5% of the total value of the work done provided there is no recovery or forfeiture. No certificate of the Engineer shall be considered conclusive evidence as to the sufficiency of any work or materials or correctness of measurements to which it relates, nor shall it relieve the Contractor from his liability to make good defects as provided by the contract. The Contractor when applying for a certificate shall prepare a sufficiently detailed bill based on the original figures or quantities and rates in the Bill of Quantities to the satisfaction of the Engineer to check the claim and issue the certificate. The certificates as such of the claims mentioned in the application as are allowed by the Engineer shall be issued within fourteen days of the applications. No application for a certificate shall be made within fourteen days of a previous application.

- 42.3** The Engineer shall determine the value of work executed.
- 42.4** The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.
- 42.5** The value of work executed shall include the valuation of Variation.
- 42.6** The Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
- 42.7** If for any reason, the Contractor or his authorized agent is not available and/or the work is suspended by Employer, recording of measurements will be done by Employer without the presence of the Contractor or his authorized representatives and the Employer shall not entertain any claim from the Contractor for any loss on this account. If the Contractor or his authorized agent or representative does not remain present at the time of such measurements, after the Contractor has been given a three-day notice in writing, such measurements may be taken in his absence and shall be deemed to be accepted by the Contractor.
- 42.8** Payment for the work done by the Contractor will be based on measurements recorded at various stages of the Work. The Contractor or his authorized agent, or representative shall be present at the time of recording of each set of measurements and sign the measurement book or level/field book in token of their acceptance.

43. Payments

43.1 Payments shall be adjusted for deductions for advance payments, retention and other recoveries in terms of the contract and deduction at source of taxes as applicable under the law. The Employer shall pay the Contractor the amounts certified by the Engineer.

43.2 Deleted

43.3 Items of the Works for which no rate or price has been entered in the contract, will not be paid for by the Employer and shall be deemed to have covered by other rates and prices in the Contract.

43.4 Payment will be made by the Employer as indicated in the Contract Data

44. Deleted

45. Tax

45.1 The Tenderer shall quote the price schedule exclusive of GST and GST rates and amounts to be shown separately. However, the rates quoted by the Contractor shall be deemed to be inclusive of GST for the performance of this Contract. The Employer will deduct such taxes and other statutory levies at source as per applicable law. Any statutory variations in duties / taxes, which takes effect from a date subsequent to the due date for receipt of tender, shall be to CMWSS Board's account.

45.2 Deleted

46. Currencies

46.1 All payments shall be made in Indian Rupees.

47. Price Adjustment

47.1. Contract price shall be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants in accordance with the following principles and procedures and as per formula given in the contract data:

- (a) The price adjustment shall apply for the work done from the start date and upto end of the initial intended completion date or extensions granted by the Engineer and shall not apply to the work carried out beyond the stipulated time for reasons attributable to the contractor.
- (b) The price adjustment shall be determined during each quarter from the formula as given in the contract data.
- (c) Following expressions and meanings are assigned to the work done during each quarter:

R = Total value of work done during the quarter based on the Contract value. It would also include the amount of secured advance for materials paid for (if any) during the quarter, less the amount of the secured advance recovered, during the quarter. It will exclude value for works executed under variations for which price adjustment will be worked separately based on the terms mutually agreed.

- (d) Price adjustment will apply only when the fluctuation of rates exceeds by 3% compared to the estimate rates (based on RBI Index Price). Should be applied on each items of material individually / separately. Price adjustment shall be made for both increase and decrease in the cost of materials.
- (e) The percentage of components of inputs to be utilized in the work in each quarter between two milestones are given in the contract data. Due to delays not attributed to the Contractor, The Contractor may be allowed to execute the work in the subsequent quarter without imposing penalty. Also if the index in the quarter in which the work has been carried out increases / decreases, price adjustment clause governs the same.
- (f) Price adjustment will be applicable for only those quantities which would be utilized to achieve the work as per milestone schedule as given in the contract data. However, if a certain quantity of work to be completed in a quarter, is completed in the succeeding quarter, the price adjustment can be claimed on that quantity at the rates applicable for the intended quarter only. If there is any decrease in the price index in the prevailing(subsequent) quarter, while the carried forward work is executed and measurements therefore are recorded, the payment for such carried forward works will be regulated as per the applicable price index during the prevailing/current quarter, (i.e.) at reduced price and not at the enhanced price index which might have prevailed during the relevant previous/earlier quarter in which the works should have been completed as per the prescribed milestone.

47.2 To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this or other clauses in the contract, the unit rates and prices included in the contract shall be deemed to include amounts to cover the contingency of such other rise or fall in costs.

48. Retention

48.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the Contract Data until Completion of the whole of the Works.

48.2 On Completion of the whole of the Works, half the total amount retained is repaid to the Contractor and half when the Defects Liability Period has passed and the

Engineer has certified that all Defects notified by the Engineer to the Contractor before the end of this period have been corrected.

48.3 2.50 % of the total value of the Works executed by the Contractor less deduction if any will be paid to the Contractor along with the final bill. The balance amount of 2.50 % of the total value of the Works will be retained for a period of 2 years reckoned from the date of completion without interest and this amount will be paid to the Contractor after obtaining an irrevocable Bank Guarantee for a further period upto the completion of defect liability period.

48.4 Any recovery advised by the Employer shall be recovered from any bill or money retained from this Contract.

49. Liquidated Damages

49.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the Contract Data for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works or the milestone as stated in the contract data). The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages does not affect the Contractor's liabilities.

49.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate.

50. Bonus for advance completion of work

Any work completed in advance by not less than 10% of agreement period can be considered and bonus of 1% on the value of actual quantum of works executed at tendered rate may be paid.

51. Advance Payment

51.1 The Employer shall make advance payment to the Contractor of the amounts stated in the Contract Data by the date stated in the Contract Data, against provision by the Contractor of an irrevocable Bank Guarantee in a form and by a bank acceptable to the Employer in amounts and currencies equal to the advance payment. The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest will be charged on the advance payment at the rate of 13.5%. The advance payment shall be governed by Tamil Nadu Transparency in Tenders Act 1998 and Rules 2000. The guarantee shall be in the name of Joint Venture/ consortium.

51.2 The Contractor is to use the advance payment only to pay for Equipment, Plant and Mobilization expenses required specifically for execution of the Works. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Engineer.

51.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, Compensation Events, or Liquidated Damages.

52. Securities

52.1 The Performance Security (including additional security for unbalanced bids) shall be provided to the Employer not later than the date specified and shall be issued in the amount and form and by a bank or surety acceptable to the Employer, and denominated in Indian Rupees. The Performance Security for construction activities shall be valid until Seven calendar months from the date of issue of Certificate of Completion and the additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the certificate of completion. The bank guarantee of a Joint Venture/ consortium bidder shall be in the name of Joint Venture/ consortium.

53. Deleted

54. Cost of Repairs

54.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's act or omissions. Contractor shall attend to the defect in the work noticed during defects correction period within 3 days from the date of issue of notice to attend to the defects, failing which the defect will be remedied by engaging other Contractors at any cost and that cost will be recovered from the Contractor's money available with the Employer and balance alone will be paid when it is due.

E. Finishing the Contract

55. Completion

55.1 The Contractor shall request the Engineer to issue a Certificate of Completion of the Works and the Engineer will do so upon deciding that the Work is completed.

56. Taking Over

56.1 The Employer shall take over the Site and the Works within seven days of the Engineer issuing a certificate of Completion.

57. Final Account

57.1 The Contractor shall supply to the Engineer a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Engineer shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Engineer shall decide on the amount payable to the Contractor and issue a payment certificate, within 56 days of receiving the Contractor's revised account.

58. 'As Built' Drawings / O&M Manuals

58.1 If - As Built drawings and/ or O&M Manuals are required, the Contractor shall supply them by the dates stated in the Contract Data.

58.2 If the Contractor does not supply the Drawings and manuals by the dates stated in the Contract Data, or they do not receive the Engineer's approval, the Engineer shall withhold the amount stated in the Contract Data from payments due to the Contractor.

58.3 The Contractor has to submit the —As laid maps (As Constructed) in the following formats of UGSS/WSS/O&M works

(i) All the assets (Both surface & underground) Geo referenced using (real Time Kinematics) RTK GPS Survey and drawing shall be GIS shape file format along with the direction of flow.

(ii) X, Y and Z co-ordinates of all the assets shall be surveyed.

(iii) The Geo-Coordinates (Spatial locations of —As constructed Assets using RTK shall be with reference to the Base point.

(iv) The Base point shall be obtained from CMWSSB.

(v) The Coordinate Reference System shall be in the Universal Transverse Mercator (WGS 84 UTM Zone 44N) Co-ordinates system.

(vi) The symbols/legends used by the consultancy firm would be based on the NUIS Standards.

(vii) The data model & attributes of the network component shall be submitted to the needs of CMWSSB (Templates shall be provided by CMWSSB)

(viii) The RTK GPS survey drawings has to be submitted along with every RA bill for the completed portions and comprehensive 'As built drawing' is to be furnished on completion of the project

59. Termination

59.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract by giving seven days' notice.

59.2 Fundamental breaches of Contract include, but shall not be limited to the following:

- (a) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (b) the Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
- (c) the Contractor does not maintain a security which is required;
- (d) the Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and
- (e) if the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in the executing the Contract.
- (f) The Contractor (in case of Joint Venture/ consortium) has modified the composition of the Joint Venture/ consortium and /other responsibility of each member of the Joint Venture/ consortium from what is stated in Joint Venture/ consortium agreement without prior approval of the Employer.
- (g) Failure of the contractor to achieve two successive milestones.

For the purpose of this paragraph: "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the evaluation process or in contract execution. "Fraudulent practice" means a misrepresentation of facts in order to influence a evaluation process or the execution of a contract to the detriment of the Employer, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition."

59.3 When either party to the Contract gives notice of a breach of contract to the Engineer for a cause other than those listed under Sub Clause 59.2 above, the Engineer shall decide whether the breach is fundamental or not.

59.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

59.5 If the Contract is terminated the Contractor shall stop work immediately, make the Site safe and secure and leave the Site as soon as reasonably possible.

60. Payment upon Termination

60.1 If the Contract is terminated because of a fundamental breach of Contract by the contractor, the work will be completed by the employer at the risk and cost of the contractor.

60.2 If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Engineer shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

61. Property

61.1 All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a Contractor's default.

62. Release from Performance

62.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor the Engineer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which commitment was made.

F. Special Conditions of Contract

Part I

1. LABOUR:

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Engineer may require.

The Contractor ensure compliance with the provisions listed under ESHS specifications and EMP

The contractor shall commit complying with and ensuring that their Sub-contractors and major suppliers under the Contract comply with environmental and labour standards and good practices, consistent with laws and regulations applicable in the country of implementation of the Contract and the fundamental conventions of the International Labour Organisation (ILO) and international environmental treaties. Moreover, they shall implement environmental and social risks mitigation measures when specified in the relevant environmental and social management plans or other similar documents provided by the Project Executing Agency and, in any case, implement measures to prevent sexual exploitation and abuse and gender-based violence.

2. COMPLIANCE WITH LABOUR REGULATIONS:

During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all existing labour enactment's and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given below. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made thereunder, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer/Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

Further, the contractor has to give a declaration for the following provisions:

- i) That in the capacity of Contractor, the contractor has to comply with the provisions of Contract Labour (Regulations & Abolition) Act, 1970 by obtaining a valid license under the Act and the Rules thereto and similarly under Factories Act wherever applicable.
- ii) The contractor has to pay the wages in accordance with the Minimum Wages Act to all his / their employees.
- iii) That the contractor has to abide to recover the Employees Provident Fund and the Employees' Insurance contributions (both Employees and employer's contribution) from the payment of bills every month.
- iv) a) The staffs who have been employed by the contractor should also have ESI & EPF number in their names. The contractor has to pay ESI & EPF contributions towards the staff every month. The copies of the remittance challans of the ESI & EPF contributions should be submitted along with the bill for claiming the subsequent monthly payment. Similarly, the contribution / premium / tax etc, payable to any other statutory authorities should be remitted by the contractor directly, after registering with the respective departments.
b) The contractors are requested to register on Employees Provident Fund Organizations (EPFO) Unified Portal:<https://unifiedportal-emp.epfindia.gov.in/epfo>. and furnish the details along with the tender document.
c) Contractors cannot execute the agreement until the PF code of the contractor as well as individual UAN details of their workers provided by the contractor.
- v) That the contractor has to further declare and undertake that in case of any liability pertaining to his / their employees is to be discharged by the Principal Employer for his / their lapse, the contractor undertakes to reimburse the same or the Principal Employer is authorised to deduct the same from the contractor's dues as payable.
- vi) That the contractor will maintain the Registers and records about the Contract Labour employed under Section 29 of Labour (Regulation & Abolition) Act wherever applicable.
- vii) That the contractor will take insurance policy under Workmen Compensation Act to meet out any untoward incident until the contract labourers are issued with ESI card.
- viii) (1) That no Child Labour shall be employed in a house / work site / Establishment / Other place.
(2) As per the Section 2(ii) of the Child Labour (Prohibition and Regulation) Act 1986.

“Child” means, a person who has not completed his fourteenth years of age.

- (3) The Contractor shall not employ children in a manner that is economically exploitative, or is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. Where the relevant labour laws of the Country have provisions for employment of minors, the Contractor shall follow those laws applicable to the Contractor. Children below the age of 18 years shall not be employed in dangerous work.

Monitoring and reporting on labor laws with use of digital systems (ICT Tools for tracking compliance of labor laws) of the applicable Labour Laws given below:

1. The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and Centra; Rules 1998.
2. The Building and Other Construction Workers' Welfare Cess Act 1996 and Welfare Cess Rules 1998
3. The Minimum Wages Act 1948
4. The Industrial Employment (standing Orders) Central Rules 1946
5. The Payment and Wages Act 1936
6. The Employees Compensation Act, 1923
7. The Employees State Insurance Act 1948
8. The Contract Labour Act 1986
9. The Inter-state Migration Workmen Act 1979
10. The Equal Remuneration Act 1976
11. The Maternity benefit Act 1961
12. The Sexual Harassment of Women at Workplace (prohibition, Prevention, Redressal) Act 2013
13. The Child and Adolescent Labour (Prohibition and Regulation) act 1986

Tools for Avoidance, Minimizing impact on host population and Mitigation where the mapping indicates that there is a likelihood of a negative impact of labor influx in any project, a mitigation plan has to be put in place involving the key stakeholders. The contractor has contractual accountability to the client/borrower as well as a contractual and legal relationship with the sub-contractor. The contractor also stands in a position of "Principal Employer" to the workers and is therefore ultimately responsible for the labor welfare measures which would influence the impact of labor on the local community. In order to mitigate the negative effects of influx of migrant labors on the host community, the contractor needs to:

1. Assess the conditions of the host community prior to starting the work and hire labor accordingly
2. Manage influx and hire sub-contractors who have the capacity to manage effects of impacts
3. Conduct orientation meetings with the workers and where workers are engaged through a sub-contractor, with the sub-contractor, to apprise them

of the social, political, cultural environment and instruct them to conduct themselves accordingly.

4. Lay down a “Code of Conduct” for the workers to avoid adverse impacts on the community.
5. Conduct periodic meetings with representatives of the community to track issues likely to impact it negatively.
6. Ensure a monitoring system to track possible negative impacts and ensure timebound mitigation measures.
7. Depending on the results of studying the nature and extent of impact, all or any of the following mitigating measures may be taken.

Workers Camps and Management of Worker - Community Interface

Camp Location Respond with Yes or No

1. Where the conditions are conducive, i.e. some indications of positive impacts are found, camps can be located in a place which helps workers to interact with the host community. This could facilitate easier acceptance, and co-existence. All cautionary measures are to be adopted at such camps as well.
2. In the best interest of the workers, the camp should be located at a place where there is mobile phone connectivity so that the workers can be in touch with their family
3. Where the connectivity of the camp with the project site is a crucial factor, keeping in mind the time and costs of the project, and the camp necessarily has to be located close to the community, adopt all cautionary measures
4. Where the cost or time is not an issue and negative impacts are indicated, locate the camp at a location which is far away from the local residential area

Managing Worker - Community interface

Camp Location Respond with Yes or No

1. The camp should be kept self-sufficient so that workers do not need to visit the local community market for day-to-day purchases
2. The camp should have means of entertainment and amusement for workers including indoor games, televisions etc. so that workers do not feel the need to move out in search of entertainment
3. Locals should be employed for guarding the camp so that movement of workers and locals can be monitored and restricted
4. The scope for workers to meet locals more often than necessary should be reduced by fixing accountability on local elders/influentials to keep a watch on workers’ movement inside the host community, especially after dark
5. Workers should be kept under constant monitoring of respective troop leaders/ sardars/labor supplier and fix accountability on troop leaders for their actions
6. Watch should be kept on interactions of young and unmarried migrants with locals
7. Where favorable conditions allow, help the locals in accepting the migrant workers by allowing both to meet, interact and spend time

Engagement with the Host Community

1. Hire a local sub-contractor/labor-supplier to exercise influence on and engage with the host community
2. Engage local workers to satisfy “son-of-the-soil” demand
3. Extend some reasonable favors to keep the locals happy
4. Involve some local influential person or persons in some capacity and give him/them some decision-making power
5. Form joint committee/s with local influential persons which would monitor the effect of influx of outsiders and liaison between them and the host community
6. Ensure that project staff behave responsibly to environment in particular, not dumping waste, creating water-logging, etc.
7. Provide certain amenities or services, such as use of water supply to some extent, small repairs to public/community buildings, occasional recreation and entertainment such as sports events or film screening, etc.
8. Engage with and manage groups who are in majority or capable of creating problems

Engagement with the Host Community

9. Engage the local unemployed educated youth in responsible jobs like site supervisor, junior engineer, etc.
10. Understand and manage the caste or ethnicity politics
11. Balance the requirement of outside workers with the tendency of the host community to be hostile to certain cultural, ethnic or religious groups
12. Alternately, ensure reduction of conflict by keeping the workers away from the community, ensure short duration stay or phased engagement to ensure the barriers are removed
13. Ensure that welfare measures are implemented in full so that labor is satisfied and confined to camp and worksites and therefore minimise the incidents of drawing on local resources or mingling with the host community

The following broad labor welfare measures will cumulatively affect the frequency and quality of interface with the host community and must be regularly monitored:

Camp Location Respond with Yes No

1. Access to the labor camp/site by road, avoiding passages through local habitations
2. Access to basic facilities including doctor/physician/para medical professionals, chemist, shops, and market for workers staying at the camp
3. Provision of basic health and safety measures³¹ such as equipment like fire extinguishers at the camp and ensuring that at least a few workers staying in the camp permanently have the required knowledge of using the safety devices
4. Provision of safety exits for evacuation during emergency
5. Adequate ventilation in rooms or containers with bunk-beds
6. Provision of personal safe/locker/storage space for the labors for storing valuables if not clothes & and household goods
7. Labor camps set at a place with no issue related to connectivity for mobile service operators

8. Provision of basic facilities in camp including drinking water filter, waste management, sanitation facility, adequate number of toilets and covered space for bathing and washing in line with regulations
9. Provision of kitchen, canteen/space for workers to eat their meals under hygienic conditions
10. Camp is self-sufficient and equipped where workers need not go out to buy commodities including vegetables, etc. for sustenance, at least for a week
11. Provision of bed with mattress and pillow alongside materials like blankets in sufficient numbers, keeping climatic conditions in mind
12. Each worker should have his private space even if they share rooms, not only for sleeping, alone but also for spending time during off season/hours
13. Feedback or grievance redressal mechanism where workers without fear of getting laid off, can report their complaints related to quality of services and facilities at their camp
14. Camp is secured 24x7 by guards hired by contractors
15. Provision for entertainment and recreation like games, TV, etc. for workers in the camp during off season/hours
16. Camp should have a first aid box that is regularly maintained by professionals

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK.

- a) Workmen Compensation Act 1923: - The Act provides for compensation in case of injury/death by accident arising out of and during the course of employment. The contractor shall also take out the Insurance under Workmen's Compensation Act-1923 covering the total number of workmen employed by him on any work pertaining to this contract or contractors. He shall also ensure that similar Insurance under Workmen's Compensation Act 1923 covering the total number of workmen employed by his sub-contractor if any, also included in this policy.
- b) Payment of Gratuity Act 1972: - Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years of service or more or on death the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- c) Employees P.F. and Miscellaneous Provision Act 1952: The Act Provides for monthly contributions by the employer plus workers @ 10% or 8.33%. The benefits payable under the Act are:
 - (i) Pension or family pension on retirement or death, as the case may be.
 - (ii) Deposit linked insurance on the death in harness of the worker.
 - (iii) Payment of P.F. accumulation on retirement/death etc.
- d) Maternity Benefit Act 1951: - The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.

- e) Contract Labour (Regulation & Abolition) Act 1970: - The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ 20 or more contract labour.
- f) Minimum Wages Act 1948: - The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of Buildings, Roads, and Runways are scheduled employment.
- g) Payment of Wages Act 1936: - It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- h) Equal Remuneration Act 1979: - The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.
- i) Payment of Bonus Act 1965: - The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs.3500/-per month or less. The bonus to be paid to employees getting Rs.2500/-per month or above up to Rs.3500/- per month shall be worked out by taking wages as Rs.2500/-per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.
- j) Industrial Disputes Act 1947: - The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- k) Industrial Employment (Standing Orders) Act 1946: - It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.
- l) Trade Unions Act 1926: - The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
- m) Child Labour (Prohibition & Regulation) Act 1986: - The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for

regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.

- n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979: - The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home upto the establishment and back, etc.
- o) The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996: - All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as Canteens, First-Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
- p) Factories Act 1948: - The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.
- q) Employee State Insurance Act, 1948
- r) The Tamil Nadu Manual Workers (Regulation of Employment and Conditions of Work) Act, 1982.
Every Employer other than an Employer operating a motor transport for carrying passengers or goods by roads, employing manual worker in any scheduled employment, shall be liable to pay, within such time as may be prescribed, to the Board established under section 6, for the scheduled employments, other than the scheduled employment in construction or maintenance of dams, bridges, roads or in any building operations, every month a sum at such rate not exceeding one percent of the wages payable by him to such manual worker, as may be fixed by the Government by notification;
- s) The Bonded Labour System (Abolition) Act, 1976
- t) The Employer's Liability Act, 1938

Compliance with Environmental Regulations:

Appendix – 2

SALIENT FEATURES OF SOME OF THE MAJOR LAWS THAT ARE APPLICABLE FOR PROTECTION OF ENVIRONMENT.

1. The Forest Conservation Act, 1980, as amended, and Forest (Conservation) Rules, 1981 as amended: These provides for protection of forests by restricting conversion of forested areas into non- forested areas and prevention of deforestation, and stipulates the procedures for cutting any trees that might be required by the applicable rules. Permissions under the Act also stipulates the norms and compliance requirements of the employer and any contractor onbehalf of the employer.
2. State Tree Preservation Acts as may be in force: These provide for protection of trees of important species. Contractors will be required to obtain prior permission for full or partial cutting, uprooting, or pruning of any such trees. As appropriate such permissions may be taken from GCC, State Forests Department or any other department / agency as required.
3. The Wildlife (Protection) Act, 1972, and as amended: This provides for protection of wildlifethrough notifying National Parks and Sanctuaries and buffer areas around these zones; and to protect individuals of nationally important species listed in the Annex of the Act.
4. The Biological Diversity Act, 2002: This provides for conservation of biological diversity, sustainable use of components of biological diversity, and fair and equitable sharing of the benefits arising out of the use of biological resources, knowledge and for matters connected therewith or incidental thereto.
5. The Public Liability Insurance Act, 1991 as amended and The Public Liability Insurance Rules, 1991 as amended: These provide for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for mattes connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.
6. The Ancient Monuments and Archaeological Sites and Remains Act, 1958 and the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010, the Ancient Monuments and Archaeological Sites and Remains Rules, 1959 amended 2011, the National Monuments Authority Rules, 2011 and the similar State Acts: These provide for conservation of cultural and historical remains found in India. Accordingly, area within the radii of 100m and 300m from the “protected property” are designated as “protected area” and “controlled area” respectively. No development activity (including building, mining, excavating, blasting) is permitted in the “protected area” and development activities likely todamage the protected property is not permitted in the “controlled area” without prior permission of the Archaeological Survey of India (ASI) or the State Departments of Art and Culture or Archaeology as applicable.
7. The Environmental Impact Assessment Notification, 2006 and its amendments: This provides for prior environmental clearance for new, modernization and expansion projects listed in Schedule 1 of the Notification. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any environmental management

plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the employer and compliance report stipulated in the permission under the Notification.

8. The Water (Prevention and Control of Pollution) Act, 1974 as amended, and the Water (Prevention and Control of Pollution) Rules, 1975 as amended: These provide for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. 'Pollution' means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates waste water, and observe the required standards of establishment and operation of these items of work or installations; as well as install and operate all required waste water treatment facilities.
9. The Water (Prevention and Control of Pollution) Cess Act, 1977 and The Water (Prevention and Control of Pollution) Cess Rules, 1978: These provide for the levy and collection of a cess on water consumed by persons carrying on certain industries and by local authorities, with a view to augment the resources of the Central Board and the State Boards for the prevention and control of water pollution under the Water (Prevention and Control of Pollution) Act, 1974.
10. The Air (Prevention and Control of Pollution) Act, 1981 as amended, and the Air (Prevention and Control of Pollution) Rules, 1982: These provides for prevention, control and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment. Contractors will need to obtain consent for establishment and consent for operation of any item of work or installation of equipment that generates air pollution such as batching plants, hot mix plants, power generators, backup power generation, material handling processes, and observe the required standards of establishment and operation of these items of work or installations.
11. Noise Pollution (Control and Regulation) Rules, 2000, and as amended: This provides for standards for noise for day and night for various land uses and specifies special standards in and around sensitive receptors of noise such as schools and hospitals. Contractors will need to ensure compliance to the applicable standards, and install and operate all required noise control devices as may be required for all plants and work processes.
12. Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996: This provides for Requirement of preparation of on-site and off-site Disaster Management Plans for accident-prone areas.
13. The Explosives Act 1884 and the Explosives Rules, 2008: These provide for safe manufacture, possession, sale, use, transportation and import of explosive materials such as diesel, Oil and lubricants etc.; and also, for regulating the use of any explosives used in blasting and/or demolition. All applicable provisions will need compliance by the contractors.

14. The Petroleum Rules, 2002: This provides for safe use and storage of petroleum products, and will need to be complied by the contractors.
15. The Gas Cylinder Rules 2004 and amendments: This provides for regulations related to storage of gas, and possession of gas cylinder more than the exempted quantity. Contractors should comply with all the requirements of this Rule.
16. Manufacture, Storage and Import of Hazardous Chemical Rules of 1989 and as amended: These provide for use and storage of hazardous material such as highly inflammable liquids like HSD/LPG. Contractors will need to ensure compliance to the Rules; and in the event where the storage quantity exceeds the regulated threshold limit, the contractors will be responsible for regular safety audits and other reporting requirements as prescribed in the Rules.
17. Solid Waste Management Rules, 2016: (Add details)
18. Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016: These provide for protection of general public from improper handling storage and disposal of hazardous waste. The rules prescribe the management requirement of hazardous wastes from its generation to final disposal. Contractors will need to obtain permission from the State Pollution Control Boards and other designated authorities for storage and handling of any hazardous material; and will to ensure full compliance to these rules and any conditions imposed in the permit.
19. The Bio Medical Waste Management Rules, 2016: This provides for control, storage, transportation and disposal of bio-medical wastes. As and where the contractor has any first aid facility and dispensaries, established in either temporary or permanent manner, compliance to these Rules are mandatory.
20. Construction and Demolition Waste Management Rules, 2016: This provides for management of construction and demolition waste (such as building materials possible to be reused, rubble and debris or the like); and applies to all those waste resulting from construction, re-modelling, repair or demolition of any civil structure. Contractor will need to prepare a waste disposal plan and obtain required approval from local authorities, if waste generation is more than 20 tons in any day or 300 tons in any month during the contract period; and ensure full compliance to these rules and any conditions imposed in the regulatory approval.
21. The E-Waste (Management) Rules, 2016: This provides for management of E-wastes (but not covering lead acid batteries and radio-active wastes) aiming to enable the recovery and/or reuse of useful material from e-waste, thereby reducing the hazardous wastes destined for disposal and to ensure the environmentally sound management of all types of waste of electrical and electronic equipment. This Rule applies to every manufacturer, producer, consumer, bulk consumer, collection centers, dealers, e-retailer, refurbisher, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I, including their components, consumables, parts and spares which make the product operational.
22. Plastic waste Management Rules, 2016: This provides for control and management of the plastic waste generated from any activity. Contractors will ensure compliance to this Rule.

23. The Batteries (Management and Handling) Rules 2001: This provides for ensuring safe disposal and recycling of discarded lead acid batteries likely to be used in any equipment during construction and operation stage. Rules require proper control and record keeping on sale or import of lead acid batteries and recollection of the used batteries by registered recyclers to ensure environmentally sound recycling of used batteries. Contractors will ensure compliance to this the Rule.
24. The Ozone Depleting Substances (Regulation and Control) Rules, 2000 and as amended: This provides for regulation of production and consumption of ozone depleting substances in the country, and specifically prohibits export to or import from countries not specified in the Rules, and prohibits unless specifically permitted, any use of ozone depleting substance.
25. The Coastal Regulation Zone Notifications, 2019: This provides for regulation of development activities within the 500m of high tide line in coastal zone and 100m of stretches of rivers and estuaries influenced by tides. Contractors will be required to ensure that no work starts until applicable clearances under the Notification is not available. Contractors will be responsible for implementation of any plan stipulated as per the permission under this Notification; and will be required to prepare and submit to the employer and compliance report stipulated in the permission under the Notification.
26. The Motor Vehicle Act 1988 as amended (and State Motor Vehicle Acts as may be in force) and the Motor Vehicle Rules, 1989, and as amended (and State Motor Vehicle Rules as may be in force): To minimize the road accidents, penalizing the guilty, provision of compensation to victim and family and check vehicular air and noise pollution. Contractors will be required to ensure full compliance to these rules.
27. Easement Act, 1882: This provides for the rights of landowners on groundwater. Contractors will need to ensure that other landowners' rights under the Act is not affected by any groundwater abstraction by the contractors.
28. State Groundwater Acts and Rules as may be in force and the Guidelines for Groundwater Abstraction for drinking and domestic purposes in Notified Areas and Industry/Infrastructure project proposals in Non-Notified areas, 2012: These provide for regulating extraction of ground water for construction/industrial and drinking and domestic purposes. Contractors will need to obtain permission from Central/State Groundwater Boards prior to groundwater abstraction through digging any bore well or through any other means; and will to ensure full compliance to these rules and any conditions imposed in the permit.
29. The Mines Act, 1952 as amended; the Minor Mineral and concession Rules as amended; and the State Mineral (Rights and Taxation) Acts as may be in force: These provide for for safe and sound mining activity. The contractors will procure aggregates and other building materials from quarries and borrow areas approved under such Acts. In the event the contractors open any new quarry and/or borrow areas, appropriate prior permission from the State Departments of Minerals and Geology will need to be obtained. Contractors will also need to ensure full compliance to these rules and any conditions imposed in the permit.
30. The Insecticides Act, 1968 and Insecticides Rules, 1971 and as amended: These provide for regulates the manufacture, sale, transport, distribution, export, import and use of pesticides to prevent risk to human beings or animals, and for matters connected therewith. No one should import or manufacture; sell, stock or exhibit for sale; distribute, transport, use: (i) any misbranded insecticides, (ii) any insecticide the

sale, distribution or use of which is for the time being prohibited under the Act; and (iii) any insecticide except in accordance with the condition on which it was registered under the Act.

31. National Building Codes of India, 2005 and as amended: This provides guidelines for regulating the building construction activities in India. The code mainly contains administrative regulations, development control rules and general building requirements; stipulations regarding materials, structural design and construction; and building and plumbing services. Contractors will be required to comply with all Bureau of Indian Standards Codes dealing with: (i) use and disposal of asbestos containing materials in construction; (ii) paints containing lead; (iii) permanent and temporary ventilations in workplace; (iv) safety, and hygiene at the workplace; (v) prevention of fire; (vi) prevention of accidents from faulty electrical gadgets, equipment and accessories; and all other such codes incidental to the Contract.

3. ARBITRATION

The procedure for arbitration will be as follows:

- (a) In case of Dispute or difference arising between the Employer and Contractor relating to any matter arising out of or connected with this agreement, such (Refer Standing Grievance Redressal Committee Clause 36.1) disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Employer and the Contractor. The third arbitrator shall be chosen by the two arbitrators so appointed by the parties, shall act as presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment, this shall be done in accordance with the Arbitration and Conciliation act,1996.
- (b) DELETED
- (c) If one of the parties fails to appoint its arbitrator in pursuance of sub-clause (a) above within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the appointment of the Arbitrator shall be made as per the Arbitration and Conciliation act,1996.
- (d) Arbitration proceedings shall be held at Chennai, (India) and the languages of the arbitration proceedings and that of all documents and communications between the parties shall be English.
- (e) The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expense of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the Expenses incurred by each party in connection with the preparation, presentation, etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be born by each party itself.
- (f) DELETED
- (g) Performance under the contract shall continue during the arbitration proceedings and payments due to the Contractor by the Employer shall not be withheld, unless they are the subject matter of the arbitration proceedings.

Special Conditions of Contract Part - 2

1. Contractor's Responsibility

The information given hereunder and provided elsewhere is given in good faith but the Contractor shall satisfy himself regarding all aspects of site conditions and no claim whatsoever will be entertained on the plea that information supplied by the Engineers is erroneous or insufficient.

2. Construction Water

The Contractor shall make his own arrangement for the fresh water required for the manufacturing of the pipes, construction of civil works and testing of pipeline as well as for the potable water required for his factory & labour camps.

3. Construction Power

The Contractor shall make his own arrangement for supply electrical energy required at his sites and the works from the Tamil Nadu Electricity Board.

The Contractor is forewarned that there can be interruptions in power supply for reasons beyond the control of the Tamil Nadu Electricity Board and therefore the Contractor is advised to make his standby arrangement to provide and maintain all essential power supply for his work area at his expense. The Contractor shall not be entitled to any compensation for any loss or damage to his machinery or any equipment or any consequential loss in progress of work and idle labour.

4. Survey

The Contractor shall, at his own expense provide and maintain survey stations which he may require to carry out the works and shall remove the same on completion of the works. The Contractor shall, at his own expense, carry out all the necessary surveys, measurements and setting out of the works and shall for this purpose engage qualified and competent engineering surveyors whose names and qualifications shall be submitted to the Engineer for his approval.

The Contractor shall for the purpose of checking the survey and setting out, provide to the Engineer all the assistance, which he may require. The surveyor shall be selected having appropriate experience and as far as possible, the same surveyor shall be provided throughout the contract period. Before commencing any work at any locations, the Contractor shall give the Engineer not less than two days' notice of his intention to set out or give levels for any part of the work in order that arrangements may be made for inspection. The Contractor shall provide for the sole use of the Engineer and his staff, all necessary survey instruments and other equipment and all technicians, labour and attendants which the Engineer may require for checking the setting out and marking of the works. The Contractor shall maintain in good working order at all time during the period of contract the instruments provided by him, for the proper setting out of the works. The Contractor shall make available at his own expense, any poles, staging templates.

5. Temporary Fencing

The Contractor shall, at his own expense, erect and maintain in good condition temporary fences and gates along the boundaries of the areas assigned, if any, to him by the Employer for the purpose of the execution of the works.

The Contractor shall, except when authorised by the Engineer, confine his men, materials and plant within the site of which he is given possession. The Contractor shall not use any part of the site for purposes not connected with the works unless prior written consent of the Engineer has been obtained. Access shall be made to such areas only by way of approved gateways.

6. Return of Labour and Plant

The Contractor shall supply to the Engineer by 9 a.m. every working day a return of the men employed by him and his sub-contractors on the previous working day and all of the work on which they were engaged specifying also the number employed in each trade. He shall also supply monthly any other returns which may be required as to the number of men and constructional plant employed and the nature and type of the work done.

7. Sanitary Facilities

The contractor shall provide sanitary latrines and urinals. Toilets provided shall have running water availability all the time. Bathing, washing and cleaning areas shall be provided at the site for construction labour. Washing and bathing places shall be kept in clean and drained condition. Workers shall be hired especially for cleaning of the toilets and bathing area. Septic tanks and soak pits shall be provided at site for disposal of the sewage generated or connect with existing sewer lines connected to sewage treatment plants. The Contractor shall make all arrangements for the disposal of sewage or drainage in accordance with the directions of the Engineer, and in line with EMP.

8. Restricted Entry To Site

The Contractor shall get the prior permission of the Engineer before any person not directly connected with the works visits the site. There shall be watch and ward at work sites. When there is no work, no personnel shall be allowed without written permission of Engineer. No person shall be allowed to enter the site in intoxicated condition, or allowed to climb OHTs, or move around the site in not so healthy or intoxicated condition.

In case of floods or such emergencies all work shall be stopped with rior intimation. All tools, equipment, machinery shall be stacked properly in areas away from submergence areas. All pits shall be covered in advance and all precautions to be taken to prevent any incident.

9. Existing Services

Drains, pipes, cables, overhead electric wires and similar services encountered in the course of the works shall be guarded from injury by the Contractor at his own cost, so that they may continue in full and uninterrupted use to the satisfaction of the Employer and the Contractor shall not store materials or otherwise occupy any part of the 'site' in a manner likely to hinder the operation of such services. Should any damage be done by the Contractor on any mains, pipes, cables or lines (whether above or below ground), whether or not shown on the drawings, the Contractor must make good or bear the cost of making good the same without delay to the satisfaction of the Engineer and of the Employer.

10. Local Roads and Haul Roads

The approach roads and other public roads in the state may be used by the Contractor to haul construction materials and equipment subject to restriction of load carrying capacity on the roads in particular over bridges and culverts. However, the Contractor will have to pay customary vehicles license and permit fees for use of public roads.

The Contractor shall plan transportation of construction materials to site in such a way that road accidents are avoided.

11. Permission for Road Cuts

Wherever the Contractor considers that it is necessary to cut through an existing road or track he shall submit details to the Engineer for approval, a minimum of seven days before such work commences.

In the event of cutting a road by the Contractor without permission from the Engineer the Contractor shall pay compensation as claimed by the owner of the road until it is restored at the cost of the erring Contractor.

Trench Digging:

Digging of trench by the Contractor beyond the length than that is specified by the Engineer shall invite a fine of Rs.500/- per day till such time the damage is restored.

12. Temporary Diversion of Roads

During the execution of the works the Contractor shall make at his cost all necessary provision for the temporary diversion of roads, cart-tracks, footpaths, drains, water courses, channels etc., Should he fail to do so, the same shall be done by the Engineer and the cost thereof will be recovered from the Contractor.

13. Notice to Telephone, Railways & Electricity Supply Under Takings / Depts., etc.

The employer shall deposit an amount to the respective local bodies / highways department, for restoration of road surface after completion of the works. The employer shall obtain general permission to cut the road. Before commencing operations, the Contractor has to obtain permission from local bodies/Highways Department and others when he wants to cut any section of the road. The Employer

will give necessary assistance such as sending letters and attending meetings if required.

The Contractor before taking up operations which involve cutting of roads, shifting utilities etc. during the process of work, shall give notice to the concerned authorities viz. the Corporation/Panchayats/ Municipalities, State Highways Department, National Highways Department, the Railway department, the Electricity Board, Telegraphs department, the Traffic department attached to the police and other departments or companies as may be affected by the work. The notice should identify the specific details so that the necessary diversion of traffic may be arranged and permissions obtained. The Contractor shall co-operate with the department concerned and provide for necessary barricading of roads, protection to existing underground cables etc. met with during the excavation of trenches. The Contractor shall provide at his own expenses watch and ward,, hard barricading with reflectors, and lighting arrangements during day and night and erect required notice board such as "Caution Road closed for Traffic" etc. He should also provide and maintain at his own cost the necessary supports for underground cables etc. to afford best protection to them in consultation with the authorities in-charge of the properties and to their best satisfaction. The Contractor has to make necessary arrangements to get supply of electricity from TNEB for operating the machinery and equipment. The Employer will pay the necessary service connection and S.D. charges. The Contractor should obtain all approvals for the installation and commissioning of machinery and accessories offered by them from the respective inspecting authorities such as CEIG or CIFG etc., Fees if any, to be paid to the inspecting authorities will be reimbursed by the Employer.

14. Barricading

The pit / trench shall be barricaded with hard barricades and safe covers to prevent people or vehicles from falling into it, and stop trespassing into work area - on all four sides. The Contractor who has dug up the trench shall be responsible for any mishap, which may occur. Non-barricading of trenches by the Contractor shall be liable for a fine of Rs.500/- per day. All such trenches shall have reflectors and lighting & cautionary boards well lit for night time visibility at least 200m ahead of the trench on all sides.

15. Length of Trench Open at One Time

The Pipe line shall be excavated in such length as may be ordered by the Engineer depending on the nature of the ground, the depth from the surface and the risk of damage to the adjoining property. The pipes shall not be permanently covered until they may have been tested to the satisfaction of the Engineer. But in bad ground in close proximity to buildings or in other places where the Engineer shall consider necessary, he may limit the length of trench so that there shall not be more than three pipes lengths from the refilled trench to the unbroken ground ahead. All trenches shall be covered temporarily or permanently in a safe manner, after works to prevent any accidents. Adequate lighting and reflectors shall be provided near all work sites including trenches during day and night to prevent any fall or accident.

Awareness boards explaining about the work site shall be kept ahead of work areas on all sides of entry in such a way that all workers and communities could read & understand well and adopt safety precautions.

16. Watching and Lighting

The Contractor shall provide and maintain at his own cost proper fencing, notice boards, lighting, guarding, watchmen to protect and warn the public and watching of all the works at the site and when & where necessary as decided by the Engineer for the protection of the works or for the safety and convenience to the public or others. The lighting in and around the work spots shall be so arranged that there is sufficient illumination available in minimum area of 5 meters radius around the work spot. The standard of lighting should strictly be as per guidelines.

17. Filling in Holes and Trenches etc.

The Contractor immediately upon completion of the Works or before workers leave the sites after work, shall fill up holes and trenches which may have been made or dug, level the mounds, or heaps or earth that may have been raised or made, and clear away all material, wastes, rubbish which may have become superfluous or have been occasioned or made in the execution of the works, and the Contractor shall bear and pay all costs, charges etc. Failure to carry out the work before workers leave the sites after work will attract a fine of Rs 500/- per day. NO material shall be stored in such a manner that it slips into the pits. These shall be removed as soon as possible from the site and deposited / stored at safe construction material storage area notified by the Client and local body.

Chance Find Procedures: In case of chance finds, appropriate authority shall be informed and suitable mechanisms shall be made to protect the find in place or to move it to suitable location, as per the direction of the department in charge.

18. Power to Vary Work

The description of work required to be executed by the Contractor are set forth in the specification, schedules and in the drawings, but the Engineer reserves the power to vary, extend or diminish the quantities of Work, to alter the line, level, or position of any work to increase, change or decrease the size, quantity, description, character or kind of any Work, to order the Contractor to execute the Works or any part thereof, by day or night Work, or to add or to take from the Work included in the contract as he may think proper without violating the contract and the Contractor shall not have any claim upon the Employer for any such variation, extension, diminution, alteration, increase, change or decrease other than for the Work actually done, calculated according to the prices tendered and accepted in this contract.

19. Extra or Varied Work

If the Engineer uses the power reserved to him under Clause 18 above an order in writing signed by the Engineer, shall be given to the Contractor to that effect and any Work executed under such order shall be paid for at the rates set forth in the

Schedule of Prices prevailing at the time of execution where such rates in the opinion of the Engineer apply. This shall apply to unforeseen items of work which are not found in the Bill of Quantities. If the rates are not available in the Schedule of Prices, a rate or price shall be agreed upon between the Engineer and the Contractor in writing and failing their agreement the Contractor shall forthwith execute such order and the Engineer shall determine the rates or prices at which the work shall be paid of.

20. Free Flow of traffic

While executing the work, as soon as possible, the Contractor should allow as much traffic as possible on the roads/streets, by refilling the trenches cut across safely. Traffic Police shall be intimated of the works and safe arrangements shall be made in coordination with them.

21. Tools and Plants

All tools and plants required for the work including sheet piles and timber for shoring and strutting pump sets etc. shall be supplied by the Contractor at his own cost. The rate for the relevant items of work is inclusive of all such tools and plants and apparatus required for the execution of the work. All tools plants, work materials as detailed below, shall be stacked, covered as appropriate and barricaded with reflectors, lightings and awareness boards in a safe manner following safe housekeeping, and without impacting the surrounding environment as detailed below.

The Contractor shall provide a safe workplace, with critical controls for all hazards, specifically for high energy hazards including fall prevention and protection measures and implement whenever a worker is exposed to the hazard of falling more than two meters; into operating machinery; into water or other liquid; into hazardous substances; or through an opening in a work surface. The contractor shall provide guardrails with mid-rails and toe boards at the edge of any fall hazard area, proper use of ladders and scaffolds. The contractor shall provide PPEs, fall prevention devices, including safety belt and lanyard travel limiting devices to prevent access to fall hazard area, or fall protection devices such as full body harnesses used in conjunction with shock absorbing lanyards or self-retracting inertial fall arrest devices attached to fixed anchor point or horizontal life-lines.

The Contractor shall provide material-specific storage for extremely hazardous or reactive materials (acids, bases, flammables, oxidizers, reactive chemicals) in separate areas. The Contractor shall provide the emergency action plan in accordance with ESMP before commencement of the work.

The Contractor shall implement dust suppression measures (e.g., water spray vehicles, covering of material stockpiles, etc.). The Construction vehicles shall comply with speed limits and haul distances shall be minimized; transport and construction vehicles shall abide by the Standard with respect to maximum exhaust fumes allowed; material loads shall be suitably covered and secured during

transportation to prevent the scattering of soil, sand, materials or dust in accordance with ESMP.

The contractor shall provide marking all energized electrical devices and lines with warning signs. The contractor shall provide locking out and tagging-out devices during service or maintenance; double insulating / grounding all electrical equipment used in environments that are, or may become, wet in accordance to EMP.

22. Excess Materials

The Contractor shall be responsible for the procurement of required quantity of materials like pipes, specials, machinery, electrical items etc. Any materials procured for the work even though as per Bill of Quantities, if found excess due to any reasons after completion of the works, shall be taken back by the Contractor and the Employer / Engineer shall not be responsible for such excess materials. Amount paid if any for such excess materials shall be deducted from any bills payable to the Contractor.

23. DELETED (Could not be traced)

24. Commissioning of Works

The Contractor shall be responsible for successful commissioning of the works as detailed in contract Data before handing over.

25. Waste Management and Disposal

The Contractor shall provide different color bins for recyclable and non-recyclable for segregation of waste generated at site and camp. The contractor shall be sold the recyclable waste to authorized vendors and non-recyclable shall be handed over to authority responsible in area for waste management. Waste management for construction site shall be as per waste management plan proposed in ESMP.

Special Conditions of Contract
Part - 3

RULES FOR THE PROVISION OF HEALTH AND SANITARY ARRANGEMENTS FOR
WORKERS EMPLOYED BY THE GOVERNMENT DEPARTMENTS AND OTHER
CONTRACTORS

1. The contractor's special attention is invited to relevant clauses of the "General Conditions of Contract" in the Tamil Nadu Building Practice and he is requested to provide at his own expense the amenities mentioned herein to the satisfaction of the Engineer.

2. Application

These rules shall apply to all building, pipe laying and construction works.

3. Definition

- a) "Work Place" means a place at which on an average fifty or more workers are employed in connection with construction work.
- b) "Large Work Place" means a place at which on an average 500 or more workers are employed in connection with construction work.

Special Conditions of Contract

Part - 4

1. General

Before submitting the bids, the bidder should carefully go through all the bid documents, drawings and also inspect the place of work so as to get full and first-hand knowledge of the site conditions based on which he has to quote his rate.

2. Accidents

It shall be the duty of the Contractor to arrange for the execution of the works in such a manner as to avoid the possibility of the accidents to persons or damage to the properties at any stage of the progress of work. Nevertheless, he shall be held wholly responsible for any injury or damage to persons and properties which may occur irrespective of any precautions he may take during the execution of the works. The Contractor shall make good all claims and loss arising out of such accidents and indemnify the Employer from all such claims and expenses on account thereof. All Project-related accidents shall be reported to the Client/Authority immediately and immediate support would be provided to the victims in line with regulations.

3. Flood Damages etc.

The Contractor may take risk insurance at his cost against losses due to unprecedented floods and other acts of God. No claim shall be entertained on this account and paid for.

4. Water and Lighting

The Contractor shall pay all fees and provide water and light as required from Municipal mains or other sources and shall pay all charges, therefore (including storage tanks, meters etc.) for the use of the works and workmen, unless otherwise arranged and decided on by writing with Engineer. The water used for the works shall be free from earthy vegetable or organic matter and from salts or other substances likely to interfere with the setting of mortar or otherwise prove harmful to the work and conform to relevant standards.

5. Rates

The Contractor shall particularly note that the accepted rates of the various items shall be inclusive of all incidental charges such as bailing by manual labour, dewatering, shoring etc. if found necessary during the execution and no extra shall be due therefore on any account during the currency of the contract, unless stated otherwise.

6. Royalty Charges

The Royalty will be charged for the materials obtained from Public Works Department (PWD) or other Government quarries. Assistance as necessary will be given to the

Contractor by the Engineer. No plot rent shall be charged for materials stacked on Employer's lands during the course of construction provided all such materials are removed within one month after the work is completed. Royalty or charges due in the case of private quarries and private bodies shall be paid by the Contractor.

7. Payment to Labourer

The Contractor should note, that in the event of emergency, he shall pay all Labourer every day. The Contractor shall not employ any labourer below the age of 15 years.

8. Night Works

If night work is required to fulfill the agreed rate of progress and to complete the work within the period stipulated, prior written approval is necessary and all arrangement shall be made by the Contractor including lighting without any claim for extra rate.

9. Errors, Omissions and Discrepancies

In the case of errors, omissions, and/or disagreement between the written and the scaled dimensions on the drawings or between the drawings and the specifications, the following order of precedence shall apply;

- i) In case of discrepancies in dimensions of any item of work as described between the descriptive specifications and detailed working drawings, the dimensions given in the detailed working drawings shall apply.
- ii) In case of discrepancies in description of scope of work between what is indicated in the item of work given in Bill of Quantities and the corresponding detailed technical specifications, the latter shall apply.
- iii) Figured dimensions shall supersede scaled dimensions. The drawings on a large scale shall take precedence over those on a smaller scale.
- iv) Drawing issued as construction drawings from time to time shall supersede the corresponding drawings previously issued.

10. Equivalence of Standards and Codes

Whenever reference is made in the contract to the respective standards and codes in accordance with which plant, equipment or materials are to be furnished and work is to be performed or tested the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly set forth in the contract. Where such standards and codes are national in character, or relate to a particular country or region, other authoritative standards which ensure equal or higher quality than the standards and codes specified will be accepted subject to the prior review and written approval by the Engineer. Difference between the standards specified and the proposed authoritative standards must be fully described in writing by the Contractor and submitted to the Engineer well in advance for approval. If on the prior review, the Engineer determines that such proposed

deviations do not ensure equal or higher quality, the Contractor shall comply with the standards set forth in the contract document.

11. Bidder to satisfy himself

It will be the Contractor's responsibility to satisfy himself from the inspection of the site that sufficient quantities of construction materials required for the works exist in the designated borrow areas and quarry sites.

Failure by the Contractor to have done all the things, which in accordance with this condition he is deemed to have done shall not relieve him of the responsibility for satisfactorily completing the work as required.

12. Employment of Scarcity Labour

If Government of Tamil Nadu declares a state of scarcity or famine to exist within 16 kms. of the project site, the Contractor shall be required to employ in his works for which he will need unskilled labour and to the extent his works can accommodate any person or persons certified to him by the Engineer to be in need of relief and the Contractor shall pay to such persons wages not below the minimum wage which the Government may fix in this behalf from time to time.

- 13.** All labourers and other employees of the Contractor should be covered by a suitable accident insurance policy to cover liabilities under the Workman's Compensation Act.

14. Electricity Tariff

The unit rates and prices quoted by the Bidder in the Bill of Quantities shall include the cost of electric energy required for construction at the rates fixed by the Tamil Nadu Electricity Board.

Special conditions of Contract
Part - 5

SAFETY PROVISION

1. Suitable scaffolds shall be provided for workers for all that cannot safely be done from the ground or from solid construction, except such short period work, as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination no steeper than 1\4 to 1 (1\4 horizontal to 1 vertical). Site code for scaffolding and ladders I.S 3696 -1996 Part -I and Part II and latest revisions to be followed.
2. Scaffolding or staging more than 3.25 meters above the ground or floor swung or suspended from an overhead support or erection with stationary support, shall have guard rail properly attached bolted, braced and otherwise secured atleast 1 metre high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or the structure.
3. Working platform, gangways and stairways shall be so constructed that they do not sag unduly or unequally, and if height of a platform or gangways or stairway is more than 3.25 metres above ground level, it shall be closely boarded, have adequate width and be suitably fenced, as described in 2 above. Every opening in floor of a building or in a working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing with a minimum height of 1 meter. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 7 metres in length. Width between side rails in a rung ladder shall in no case be less than 30 cm, for ladders, this width shall be increased by atleast 6mm for each additional 30cm length. Uniform steps spacing shall not exceed 30cm.
4. Adequate precautions shall be taken to prevent danger from electrical equipment. No material on any of the sites shall be so stocked or placed as to cause danger or inconvenience to any person or to the public. The Contractor shall provide all necessary fencing and lights to protect public from accidents and shall be bound to bear expenses of defence of every suit, action or proceedings at law that may be brought by any person for injury sustaining, owing to neglect of the above precautions and to any such suit, action or proceedings to any such person or which may with the consent of the Contractor be paid to compromise any claim by any such person.
5. All necessary personal safety equipment as considered adequate by the Engineer shall be available for use of persons employed on the site and maintained in a condition suitable for immediate use and the Contractor shall take adequate steps to ensure proper use of equipment by those concerned

- a) Workers employed on mixing asphalt materials, cement and lime mortars /concrete shall be provided with protective footwear, hand gloves and goggles.
 - b) Those engaged in handling any materials, which is injurious to eyes, shall be provided with protective goggles.
 - c) Stonebreakers shall be provided with protective goggles and protective clothing.
 - d) When workers are employed in sewers and manholes, which are in use, the Contractor shall ensure that manhole covers are opened and manholes are ventilated at least for an hour before workers are allowed to get into them. Manholes so opened shall be cordoned-off with suitable railing and warning signals or boards provided to prevent accident to public.
 - e) The Contractor shall not employ men below the age of 15 and women on the work of painting with products containing lead in any form. Whenever men above the age of 18 are employed on the work of lead painting the following precautions shall be taken:
 - i) No paint containing lead or lead products shall be used except in the form of paste or ready-made paint.
 - ii) Suitable face masks shall be supplied for use by workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scraped.
 - iii) Overalls shall be supplied by the Contractor to workmen and adequate facilities shall be provided to enable working painters to wash during and on cessation of works.
- 6.** When the work is done near any place where there is risk of drowning, all necessary equipment shall be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provisions made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
- 7.** Use of hoisting machines and tacks including their attachments, anchorage and supports shall conform to the following:
- a)
 - i) These shall be of good mechanical construction, sound material and adequate strength and free from patent defects and shall be kept in good repair and in good working order.
 - ii) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.

- b) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be in-charge of an hoisting machine, including any scaffold winch or give signals to operator.
 - c) In case of every hoisting machine and of every chain ring hook, shackle, swivel and pulley block used in hoisting machine or lowering or as means of suspension, safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with safe working load. In case of hoisting machine having a variable safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or of any gear referred to above in this paragraph shall be loaded beyond safe working load except for the purpose of testing.
 - d) In case of departmental machine, safe working load shall be notified by the Engineer. As regards Contractor's machine, the Contractor shall notify safe working load of each machine to the Engineer whenever he brings to the site of work and gets it verified by the Engineer.
- 8.** Motors, gearing, transmission, electrical wiring and other dangerous parts or hoisting appliance shall be provided with such means as will reduce to the minimum risk and accidental descending of load; adequate precautions shall be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energised, insulating mats, wearing apparel such as gloves, sleeves and boots, as may be necessary shall be provided. Workers shall not wear any rings, watches and carry keys or other materials, which are good conductors of electricity.
- 9.** All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in a safe condition and no scaffold ladder or equipment shall be altered or removed, while it is in use. Adequate washing facilities shall be provided at or near place of work.
- 10.** The safety provision shall be brought to the notice of all concerned by displaying on a notice board at a prominent place at the work spot, persons responsible for ensuring compliance with the safety provision shall be named therein by the Contractor.
- 11.** To ensure effective enforcement of the rules and regulations relating to safety precautions, arrangements made by the Contractor shall be open to inspection by the Engineer or his representative and the inspecting Officer.
- 12.** The Contractor shall obtain previous permission of the competent authority such as Chief of Fire services for the site, manner and method of storing explosives near the site of work. All handling of explosives including storage, transport shall be carried out under the rules approved by the "Explosive Department of the Government".

13. The Contractor shall at his own cost provide and maintain at the sites of works, standard first aid box as directed and approved by the Engineer, for the use of his own as well as the Employer's staff on site.
14. Notwithstanding the above provision 1 to 15 Contractor is not exempted from the operation of any other Act or rules in force relating to safety provisions.

15 Environmental Protection Work

- 15.1 The Contractor shall have to take following measures during construction and commissioning of works for protection of environment as under to avoid environmental impacts on air, water and land, noise impacts, biodiversity and the people.

15.2 Site Clearance

The site clearance shall be done with minimum damage to existing structures flora and fauna, electricity and telephone lines and other infrastructure service.

15.3 Earth Work and Excavation

The Contractor shall inform the local authorities / government if any fossils, coins artifacts of value or antiquity, structures and other remains of geological or archaeological interests and excavation shall be stopped until identification of cultural relics by the authorized institution is completed.

The Contractor shall dispose off surplus / waste material at identified sites approved by the Engineer, but not creating any harm to the people, sensitive receptors & environment. The Contractor shall ensure that there is minimum hindrance to normal activities and business. The Contractor shall avoid damage to permanent structures and shall avoid loss of standing crops along the road.

15.4 Replantation

The Contractor shall carry out Plantation on areas / on the periphery of construction sites to minimise visual impact and soil erosion. The Contractor shall pay special attention to the type of trees to be replanted to ensure indigenous varieties and to prevent fouling of water through falling leaves and bird droppings. A list showing the type of trees to be replanted will be got approved before replanting any trees.

15.5 Soil Erosion and Water Quality

The Contractor shall ensure that earth and stone do not silt up existing irrigation /drainage systems.

The Contractor shall take suitable measures to prevent direct discharge of polluted waters form construction activity into lakes/rivers/irrigation channels.

The Contractor shall minimise exposure of soil types susceptible to wind and water erosion.

The Contractor shall control run-off and erosion through proper drainage channels and structures.

No waste water, leachate, sewage or drainage shall be allowed to pollute water resources (surface and ground)

15.6 Soil Compaction

The Contractor shall restrict traffic movements and use low ground pressure machines.

The Contractor shall preserve topsoil to be replaced after completion of construction activity.

The Contractor shall avoid wet soils. Appropriate care shall be taken for all work in wet/loose soil or stored materials.

15.7 Social Disruption

The Contractor shall minimise interruptions to utility services through proper planning and scheduling of activities.

The Contractor shall provide temporary roads and diversions as may be necessary for smooth flow of traffic

The Contractor shall preferably use local labour / Skilled persons during construction.

15.8 Dust / Air Pollution

The Contractor shall provide effective dust control through sprinkling / washing of construction sites and access roads and use of green nets / screens appropriately.

The Contractor shall cover / water stockpiles and storage areas to prevent dust pollution.

The Contractor shall cover trucks transporting construction materials to minimise spills.

The Contractor shall have a preventive maintenance program for construction equipment and vehicles to meet emission standards.

15.9 Noise Pollution

The Contractor shall normally undertake construction work during daytime only (between 7.30 to 18.00 hrs) and when authorised to work beyond these hours adopt suitable noise control methods during such works.

The Contractor shall maintain machines and trucks to keep them with low noise.

The Contractor shall install appropriate sound barriers during construction, and plant tree as appropriate after construction.

15.10 Construction Camps

The Contractor shall take adequate measures such as provision of septic tank with soak pits or connected to sewer system / pit latrines at construction site / camps.

The Contractor shall provide crèches to working women labour.

The Contractor shall provide drinking water conforming to IS: 10500: 2012

The Contractor shall provide garbage cans separate for biodegradable and non-biodegradable wastes at suitable fixed places accessible to all and have the garbage disposed off managed regularly through the treatment and disposal mechanism of the local body.

15.11 Aesthetic Improvement

The Contractor shall through proper house keeping enhance aesthetic appearance of construction sites.

The Contractor shall dispose-off construction wastes at approved disposal sites. NO wastes shall be disposed in low lying areas, water bodies, agricultural areas or sensitive areas. Location for disposal shall be approved in writing by the owner of the land where it is disposed.

The Contractor shall repair pavements immediately following construction pipeline and appurtenant structures.

The Contractor shall remove after completion of construction, all temporary structures and restore the project and surrounding areas nearest possible to the pre construction condition.

15.12 Conservation of Ecological Resources

The Contractor shall not use farmland, sensitive areas and forest belts as materials borrow sites.

The Contractor shall not select arable land as material borrows site. In case excavation in arable land is unavoidable, topsoil layer (30 cms. depth) shall be saved and returned after construction work is completed so as to minimise impacts on ecosystem, agriculture and animal husbandry.

The Contractor shall educate construction workers to protect natural resources, wild plants and animals.

15.13 Risk of Accidents

The Contractor shall provide efficient lighting equipment and safety signs on temporary roads during construction and shall adopt and implement adequate traffic regulation.

The Contractor shall take effective safety and warning measures to reduce accidents. All incidents shall be recorded in the register at work site and the client shall be informed at the earliest about each incident. Rescue efforts and hospitalization / other support shall be provided to the victim immediately,

The Contractor shall provide suitable safe and accessible temporary crossings across work areas / trenches to facilitate normal life and business.

15.14 Responsibility for Accidents, Damages Etc.

The care of the whole of the permanent work until their completion as defined in Clause 49 and for the period prescribed in Clause 58 and of the whole of the temporary work until their removal shall remain with the Contractor who shall be responsible for all accidents or damages from whatever cause arising and chargeable for anything that may be stolen, removed, destroyed or damaged to whomsoever belonging and also for making good all defects and damages to the said works or to any property adjoining or any cause whatever, whether such damage or defects were occasioned by the negligence of the Contractor or not or may be or might have been discovered during the progress of the works or in consequence thereof, or shall appear to be known after the completion whereof or whether payment may wholly or partially have been made or the Works approved as supposed to have been properly done, and no certificate or approval of any works by any officers or members of the Employer shall effect

15.15 Noise Monitoring

I. Monitoring Frequency:

- a) During construction period: 12 times a year each time including day and night.
- b) During Commissioning period: 4 times ad hoc monitoring will be taken.

II. Monitoring points:

During construction period: Near construction sites, factory sites and sensitive areas.

The provisions under the specific conditions of contract are complemented by those listed under the ESHS Specifications and EMP which the Contractor must ensure compliance with.

SECTION 5. CONTRACT DATA

CONTRACT DATA

Items marked "N/A" do not apply in this Contract.

The following documents are also part of the Contract:

Clause Reference

"As Built" drawings and/ or O&M Manuals (Within 28 days from the date of completion)	[58]
· The Schedule of Other Contractors	[8]
· The Schedule of Key Personnel for construction activities	[9]
1. Project Manager	B.E. (Civil) with min. of 8 years' experience or Diploma in civil Engineering with minimum 15 years' experience in atleast one Project/Work of similar nature.
2. Key Personnel	
i. Civil Engineer	B.E. (Civil) with minimum of 5 years' experience or Diploma in civil Engineering with minimum 10 years' experience in similar nature of Water supply or sewer works.
ii. Mechanical Engineer	B.E. (Mechanical) with minimum of 5 years' experience or Diploma in Mechanical Engineering with minimum 10 years' experience in similar nature of Water supply or sewer works.
iii. Electrical Engineer	B.E. (Electrical) with minimum of 5 years' experience or Diploma in Electrical Engineering with minimum 10 years' experience in similar nature of Water supply or sewer works.
iv Environmental, Health & Safety	
i. Managers	B.E. (Civil or Environmental Engineering) or M.Sc. Environmental Science/M.A. Sociology/ Social Work and Diploma / Degree certification in EHS with 7 years of experience in similar nature of external funded projects handling ESMP and mitigation
Penalty for not employing Project Manager and other Key Personnel till the date of employment of the personnel	[9.3]
Project Manager	Rs.50, 000/month
Other Key Personnel	Rs.25, 000/month / each

The Employer is

Name : Managing Director
Chennai Metropolitan Water Supply & Sewerage Board. (1.1)

Address: No.1, Pumping Station Road, Chintadripet, Chennai 600 002

The Engineer is : The Chief Engineer (1.1)

Name of Authorized Representative: Superintending Engineer/Executive Engineer.

The Adjudicator appointed jointly by the Employer and Contractor is:

Name :

Address :

The name and identification number of the Contract is

Contract No. CNT /

The major components of the scheme are as follows:

1. The start shall be within 15 days from the date of issue of Notice to proceed with the work. (1.1)
2. The Intended Completion Date for the whole of the Construction Works is 30 Months
3. Description of Milestones (physical implementation of Construction contract)

Name of Work	Milestones (SAMPLE DATA)									
	(% of completion of works)									
	1	2	3	4	5	6	7	8	9	10
	3 month s	6 mont hs	9 mont hs	12 mont hs	15 mont hs	18 mont hs	21 mont hs	24 mont hs	27 month s	30 month s
	%	%	%	%	%	%	%	%	%	%
Providing collection system (depth upto 3.5m)	5	15	29	44	55	66	76	86	95	100
Providing collection system (depth above 3.5m)	2	6	10	32	49	66	76	86	95	100
Construction of Pumping Station (Civil works)	3	13	26	48	65	79	91	100	-	-
Supply & erection of mechanical/electrical/instrumentation works	-	-	-	-	-	-	70	90	100	-
Providing Force main	5	25	40	55	65	75	85	90	95	100
Testing and commissioning	-	-	-	-	-	-	-	-	-	100

4. The Contractor shall submit a revised program for the works within 15 days of delivery of Letter of Acceptance [27]
5. The Site possession date shall be within 15 days from the issue of notice to proceed with the works [21]
6. The Site is as defined in the Index Plan (Volume- IV) [1]
7. The Defects Liability Period is
- | | |
|---------------------------|---------------|
| (a) For Pipe line works | Five years |
| (b) Electrical works | } Three years |
| (c) Mechanical works | |
| (d) Instrumentation works | |
| (e) Civil Works | Five Years |
8. The minimum insurance cover for loss of or damage to the works, plants, materials, equipments, physical property in connection with contract, personal injury or death is Rs.30 lakhs for occurrence with the no. of occurrences limited to four. After each occurrence, contractor will pay additional premium necessary to make insurance valid for four occurrences always [13]
9. The following events shall also be Compensation Events: [44]
- Nil -
10. The period between Program updates shall be 30 days. [27]
11. The amount to be withheld for late submission of an updated Program shall be Rs. 10,000/-
12. The language of the Contract documents is English [3]
13. The law, which applies to the Contract, is the law of Union of India, applicable to TamilNadu and the law of Tamil Nadu. [3]
14. The currency of the Contract is Indian Rupees [46]
15. Institution whose arbitration procedures shall be used INDIAN ARBITRATION AND CONCILIATION ACT 1996
16. Fees and types of reimbursable expenses to be paid to the Adjudicator is Rs.2000/- per day plus boarding, lodging, traveling and other charges as per actuals
17. The formula (e) for adjustment of prices are: [47]
- R = Value of work as defined in Clause 47.1 of Conditions of Contract.

Adjustment for labour component

- (i) Price adjustment for increase or decrease in the cost due to labour shall be paid in accordance with the following formula:

$$V_L = 0.85 \times P_l/100 \times R \times (L_i - L_o)/L_o$$

V_L = increase or decrease in the cost of work during the quarter under consideration due to changes in rates for local labour.

L_o = the average consumer price index for industrial workers for Chennai centre for the quarter in which **financial** bids are opened as published by Labour Bureau, Ministry of Labour, Government of India.

L_i = The average consumer price index for industrial workers for Chennai centre for the quarter under consideration as published by Labour Bureau, Ministry of Labour, Government of India.

P_l = Percentage of labour component of the work.

Adjustment for cement component

- (ii) Price adjustment for increase or decrease in the cost of cement procured by the contractor shall be paid in accordance with the following formula.

$$V_c = 0.85 \times P_c/100 \times R \times (C_i - C_o)/C_o$$

V_c = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates for cement

C_o = The all India average wholesale price index for Grey cement for the quarter in which **financial** bids are opened as published by the Ministry of Commerce & Industry, Government of India, New Delhi

C_i = The all India average wholesale price index for Grey cement for the quarter under consideration as published by Ministry of Commerce & Industry, Government of India, New Delhi

P_c = Percentage of cement component of the work

Adjustment for steel component

- (iii) Price adjustment for increase or decrease in the cost of steel procured by the Contractor shall be paid in accordance with the following formula:

$$V_s = 0.85 \times P_s/100 \times R \times (S_i - S_o)/S_o$$

V_s = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates for steel

S_o = The all India average wholesale price index for Rebars for the quarter in which **financial** bids are opened as published by the Ministry of Commerce & Industry, Government of India, New Delhi

S_i = The all India average wholesale price index for Rebars for the quarter under consideration as published by Ministry of Commerce & Industry, New Delhi

P_s = Percentage of steel component of the work

Note: For the application of this clause, index of Rebars has been chosen to represent steel group.

Adjustment for Bitumen component

- (iv) Price variation will be paid on pass through basis with payment of actual rates / price at the rates charged by Indian Oil Corporation Dept. at Chennai.

Adjustment for POL (fuel and lubricant) component

- (v) Price variation will be paid on pass through basis with payment of actual rates / price at the rates charged by Indian Oil Corporation Dept. at Chennai.

Adjustment for Plant and Machinery Spares component

- (vi) Price adjustment for increase or decrease in the cost of plant and machinery spares procured by the Contractor shall be paid in accordance with the following formula:

$$V_p = 0.85 \times P_p / 100 \times R \times (P_i - P_o) / P_o$$

V_p = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates for plant and machinery spares

P_o = The all India average wholesale price index for Electrical Machinery Equipment and Batteries for the quarter in which **financial** bids are opened as published by the Ministry of Commerce & Industry, Government of India, New Delhi

P_i = The all India average wholesale price index for Electrical Machinery Equipment and Batteries for the quarter under consideration as published by Ministry of Commerce & Industry, New Delhi

P_p = Percentage of plant and machinery spares component of the work

Adjustment for CI Pipes & Specials

- (vii) Price adjustment for increase or decrease in cost of CI Pipes & Specials shall be paid in accordance with the following formula:

$$V_D = 0.85 \times P_D / 100 \times R \times (D_i - D_o) / D_o$$

V_D = Increase or decrease in the cost of work during the quarter under consideration due to changes in rates for CI Pipes & Specials

D_o = The all-India average wholesale price index for Pig Iron for the quarter in which **financial** bids are opened as published by the Ministry of Commerce & Industry, Government of India, New Delhi.

D_i = The all-India average wholesale price index for Pig Iron for the quarter under consideration as published by Ministry of Commerce & Industry, Government of India, New Delhi.

P_D = Percentage of CI Pipes & Specials component of the B work.

Adjustment for Local materials

- (vii) Price adjustment for increase or decrease in cost of local materials other than cement, steel, bitumen and POL procured by the contractor shall be paid in accordance with the following formula:

$$V_m = 0.85 \times P_m / 100 \times R \times (M_i - M_o) / M_o$$

V_m = Increase or decrease in the cost of work during the quarter under consideration due to changes in rates for local materials other than cement, steel, bitumen and POL.

M_o = The all India average wholesale price index for all commodities for the quarter in which **financial** bids are opened as published by the Ministry of Commerce & Industry, Government of India, New Delhi.

M_i = The all India average wholesale price index for all commodities for the quarter under consideration as published by Ministry of Commerce & Industry, Government of India, New Delhi.

P_m = Percentage of local material component (other than cement, steel, bitumen and POL) of the work.

The following percentage of components of input to be utilized in the work in each quarter is as follows:

S.No	Component of Work	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 5	Quarter 6	Quarter 7	Quarter 8	Quarter 9	Quarter 10
		%	%	%	%	%	%	%	%	%	%
1	Labour - P_l	49	42	49	49	49	49	45	51	53	50
2	Cement - P_c	5	5	6	4	4	4	4	5	5	4
3	Steel - P_s	4	4	3	3	3	3	3	3	1	2
4	Plant & Machinery Spares - P_p	-	-	-	-	-	-	8	3	2	-
5	Cl Pipes & Specials - P_D	21	31	21	25	25	26	21	16	19	25
6	Other materials - P_m	21	18	21	19	19	18	19	22	20	19
	Total	100	100	100	100	100	100	100	100	100	100

18. The proportion of payments retained (retention money) shall be 5% from each bill subject to a maximum of 5% of contract value and 2.5% of retention amount will be returned along with the final Bill. The balance amount of 2.50 % of the total value of the Works will be retained for a period of 2 years reckoned from the date of completion without interest and this amount will be paid to the Contractor after obtaining an irrevocable Bank Guarantee for a further period upto the completion of defect liability period.
19. The liquidated damage for the whole of the works is **Rs.** /- per day and that, for the milestone are as under: [49]

For milestone 1	Rs. /- per day
For milestone 2	Rs. /- per day
For milestone 3	Rs. /- per day
For milestone 4	Rs. /- per day
For milestone 5	Rs. /- per day
For milestone 6	Rs. /- per day
For milestone 7	Rs. /- per day
For milestone 8	Rs. /- per day
For milestone 9	Rs. /- per day
For milestone 10	Rs. /- per day

The maximum amount of liquidated damages for the whole of the Works is 10% (ten percent) of final contract price. [49]

20. The amounts of the advance payment are: [51]

Nature of Advance	Amount (Rs.)	Conditions to be fulfilled
Mobilization	up to a maximum 10% of the Contract value.	On submission of irrevocable Bank Guarantee (to be drawn within 20% of the contract period from the start date.)

21. Repayment of advance payment for mobilisation and equipment: [51]

The mobilisation advance shall be repaid with an interest of **13.5%** per annum with percentage deductions from the interim payments certified by the Engineer under the Contract. Deductions shall commence in the next Interim Payment Certificate following that in which the total of all such payments to the Contractor has reached not less than 15 percent of the Contract Price or 1 month from the date of payment of first installment of advance, whichever period concludes earlier, and shall be made at the rate of 25 percent of the amounts of all Interim Payment Certificates until such time as the loan has been repaid, always provided that the loan shall be completely repaid prior to the expiry of the original time for completion pursuant to Clauses 17 and 28.

The Securities shall be for the following minimum amount equivalent as a percentage of the Contract Price [52]

Performance Security to be calculated as per Clause 34.5 of ITB plus an additional security in terms of ITB Clause 29.5.

The standard form of Performance Security acceptable to the Employer shall be as presented in clause 34.1 Instructions to Bidders.

The date by which "As-Built" drawings (in appropriate scale) in 5 sets and also in digitised form are required is within 28 days of issue of certificate of completion of whole or section of the work, as the case may be. [58]

The amount to be withheld for failing to supply "As Built" drawings and O&M Manuals by the date required is Rs.5,00,000/- [58]

The following events shall also be fundamental breach of contract [59.2]

1. The Contractor has contravened Sub-clause 7.1 and Clause 9.0 of GCC

The percentage to apply to the value of the work not completed representing the Employer's additional cost for completing the Works shall be 20 percent or as per actual whichever is higher. [60]

22. Payment. All payments will be subjected to deduction of retention money as stated in Clause 48 of GCC

The payment terms towards Design, Civil works and Supply and Erection of Plants shall be as follows:

22.1 PAYMENT TOWARDS CIVIL WORKS

Payments will be made for civil works such as valve chambers, thrust blocks, box culverts, etc., to the extent of 95% of the value of the finished work done by the Contractor. 5% will be released after satisfactory commissioning.

22.2 PAYMENT TOWARDS SUPPLY AND ERECTION OF PIPES AND SPECIALS:

- a. For supply of Pipes: 70% of the quoted rates will be released after supply of above at site on production of Bank Guarantee equivalent to the amount to be paid.
- b. Laying, jointing, testing of pipeline at site: 20% payment from the quoted rates will be released after laying, jointing, testing of Pipeline at site. The Bank Guarantee obtained towards the advance paid for the pipes already laid, jointed and tested can be released proportionately.
- c. On commissioning: Remaining 10% payment from the quoted rates will be released after commissioning of the pipeline.

Note: The amount due under S.No.22.2 a. above will be paid as follows: For the first and second consignment of pipes: Payment shall be made only when the pipes and specials are accepted at site by the Engineer.

For the subsequent consignments, payment shall be made only when the pipes and specials are accepted at site by the Engineer and atleast 50% of the pipes and specials supplied at site in the consignment immediately preceding the present consignment and 100% of all other earlier consignments are laid, jointed and tested to the satisfaction of the Engineer.

22.3 PAYMENT TOWARDS SUPPLY AND ERECTION OF EQUIPMENTS AND PLANTS:

- a. Supply of Pumps and Motors, DG sets, transformers etc., : Payment of 70% of the quoted rates will be released after supply of the above at site on production of bank guarantee equivalent to the amount to be paid, after completion of 80% of civil works.
- b. Erection of Machineries and Equipments at site: 20% of the quoted rates will be released after erection of the Machineries and Equipments at site.

The bank guarantee obtained towards the advance paid for the Equipments and plants already erected can be released proportionately.

c. Commissioning of Machineries and Equipments: 10% of the quoted rates will be released after commissioning of the Machineries and Equipments.

22.4: PAYMENT FOR OTHER ITEM:

Payment for all other items will be made as defined in the bill of quantities as per the actual at the quoted rates.

SECTION 6. FORMS OF SECURITIES

Forms of Securities

Acceptable forms of securities are annexed. Bidders should not complete the Performance and Advance Payment Security forms at this time. Only the successful Bidder will be required to provide Performance and Advance Payment Securities in accordance with one of the forms or in a similar form acceptable to the Employer.

Annex A: Deleted

Annex B: Performance Bank Guarantee

Annex C: Deleted

Annex D: Bank Guarantee for Advance Payment

Annex B
PERFORMANCE BANK GUARANTEE

1. In consideration of the President of India (hereinafter called the ‘Government’) having agreed to exempt [(hereinafter called the said Contractor(s)] from the demand, under the terms and conditions of an Agreement dated made between and for (hereinafter called “the said Agreement”) of security deposit for the due fulfilment by the said contractor(s) of the terms and conditions contained in the said Agreement, on production of a bank guarantee for Rs..... (Rupeesonly). We, (hereinafter referred (indicate the name of the Bank) to as “the Bank”) at the request of [(contractor(s)] do hereby undertake to pay to the Government an amount not exceeding Rs..... against any loss or damage caused to or suffered or would be caused to or suffered by the Government by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.

2. We,(indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Government by reason of breach by the said contractor(s) of any of the terms or conditions contained in the said Agreement or by reason of the contractor(s)’ failure to perform the said Agreement. 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.

3. We undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s)/supplier(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the contractor(s) / supplier(s) shall have no claim against us for making such payment.

4. We, (indicate the name of 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 agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till Office / Department / Ministry of certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before thewe shall be discharged from all liability under this guarantee thereafter.

5. We, (indicate the name of the bank) further agree with the Government that the Government shall have the fullest liberty without or consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said Contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to, the said Contractor(s) or for any forbearance, act or omission on the part of the Government or any indulgence by the Government to the said Contractor(s) 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.
6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s) / Supplier(s).
7. We, (indicate the name of the Bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Government in writing.
8. Dated theday of for (indicate the name of the Bank).

Annex D

BANK GUARANTEE FOR ADVANCE PAYMENT

To: _____ *[name of Employer]*
_____ *[address of Employer]*
_____ *[name of Contract]*

Gentlemen:

In accordance with the provisions of the Conditions of Contract, sub clause 51.1 ("Advance Payment") of the above-mentioned Contract, _____ *[name and address of Contractor]* (hereinafter called "the Contractor") shall deposit with _____ *[name of Employer]* a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____ *[amount of guarantee]*¹ _____ *[in words]*.

We, the _____ *[bank or financial institution]*, as instructed by the Contractor, agree irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____ *[name of Employer]* on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding _____ *[amount of guarantee]*¹ _____ *[in words]*.

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed thereunder or of any of the Contract documents which may be made between _____ *[name of Employer]* and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until _____ *[name of Employer]* receives full repayment of the same amount from the Contractor.

Yours truly,

Signature and seal: _____
Name of Bank/Financial Institution: _____
Address: _____
Date: _____

¹ An amount shall be inserted by the bank or financial institution representing the amount of the Advance Payment and denominated in Indian Rupees.

7. SPECIFICATIONS

(Refer volume-II)

8. BILL OF QUANTITIES

(Refer volume-III)

9. DRAWINGS

(Refer volume- IV)

10. STANDARD OPERATING PROCEDURE

SOP FOR EFFECTING WATER SUPPLY SERVICE CONNECTION

1. The laying of water main and providing House service connection work shall not be taken up at a time in all the streets of a particular area, the selection of streets should be made in such a way that there should be alternate way for entry and exit of all residents in that street without causing much hindrance/inconvenience to the public. The details of commencement and probable date of completion of water main laying work should be intimated to the residents in that street before commencing the work. The works should be completed within the stipulated time.
2. The House service connection shall be laid in a trench.
3. The House service connection must be above GL inside the property boundary till meter assembly.
4. The pipe must have at least 100 mm separation from any other services such as electricity, internet cable, etc.
5. Tapping should be done with drilling machine. Tappings must be carefully made to avoid this leakage. Figure 3 provides examples of acceptable tapping bands.
6. Where the service connection is crossing another utilities service line/cable, it must cross at an angle of not less than 45 degrees and have a vertical separation of not less than 100 mm, as in Figure 4.
7. The service connection must be laid at a 90-degree angle to the property boundary, Figure 4 shows the correct location of a service connection in relation to the front property boundary. Locating service connections in this way greatly assists their relocation for maintenance at some future time.
8. A valve is required at the tapping so that the service pipe can be isolated for maintenance. The flow within the service pipe must be controlled by isolating valves. Some typical examples are given in Figure5.
9. Distribution mains > 150 mm must preferably not be tapped. If necessary, a secondary tapping distribution main must be included as shown in Figure 6.
10. Consumer should ensure that the house service connection pipes must not be embedded into RCC structures inside their premises and Ramp portions. It may be covered with lean concrete or paved blocks and should be able to attend any repairs or maintenance works.

11. The house service connection provided with non ferrous metals (Ex: MDPE, PVC pipes) joining with ferrous metals (Ex: GI, Mild Steel) below ground is not permitted. Where these metals are joined above ground the materials must be insulated.
12. Where a pipeline renewal program or a program for enhancing water supply coverage is being implemented or when new service connections are being provided as part of routine operations, the new water connection should be extended to include a standpipe downstream of the meter assembly as shown in Figure 7(Stand pipe should be done by the consumer).
13. Once the house service connection pipe and tapping are installed and are pressure tested, they are buried to surface level with subsequent surface restoration works.
14. Where a meter assembly is installed at a later time, the end of House Service connection pipe must be sealed to permit (1) the pipeline and House Service connection pipe to be pressure tested and (2) for when supply commences to already connected consumers. Figure 8 contains examples of HSC pipes with end plugs.
15. Meter assemblies must be installed with the minimum clearance shown in the Figures 9a & 9b. Meters must be located where they can be easily accessed and read by a meter reader. The meter assembly must be supported by a rigid and secure support, if plastic pipes are used. If needed additional support should be provided below the meter.
16. The location of the service connection is to be recorded as follows.
 - a. GPS coordinates recorded at the tapping
 - b. GPS coordinates recorded at the meter
17. Minimum Cover

The minimum depth of cover of service pipes below the existing ground level is as follows:

 - a. Under concrete slabs or footings: 75 mm
 - b. Ground not subject to vehicle loading: 300 mm
 - c. Ground subject to vehicle loading – sealed: 600 mm
 - d. Ground subject to vehicle loading – unsealed: 750 mm

18. Installation and Bedding and Backfill (Figure 10)
19. The house service pipe should be surrounded by at least 75 mm of compacted sand or fine-grained soil. There should not be any hard objects resting against the pipe itself. Material used for the final backfill should be free from rocks or organic matter.
20. Pipes installed in contaminated or corrosive ground must be shielded, with the type of shielding depending upon the pipe material. Plastic pipes must not be used in ground contaminated with hydrocarbons, such as oils and fuels (for example, plastic pipes cannot be used to service a petrol station).
21. Where the house service connection is in the vicinity of a sewer or drainage pipe, the minimum clearance for the installation of a service connection is 600mm, as in Figure 10.
22. Figure 11 shows the typical installation of service connection after the meter assembly. This should be done by the consumer on his own cost.
23. For **Core Area** the above procedure is applicable in the zones where there is **adequate pressure** is maintained in the system during supply hours. Example zones near the Water Distribution Stations.
24. For **non-pressurized** zones/packets in **core area** the above procedure is applicable except **S.no 2 and 14**. Further Meter assemblies must be installed with the minimum clearance shown in the Figures 9a & 9b in a Meter Chamber of adequate size and with light weight covers. Meters must be located where they can be easily accessed and read by a meter reader. The construction of meter chamber should be done by the consumer on his own cost.
25. The distance between the Water Meter chamber and the tapping point shall be measured and recorded.
26. After completing the laying of pipes, backfilling with excavated earth in layers as provided in the agreement shall be carried out. Unless, otherwise specified, the trench shall be backfilled in layers not more than 300mm, watered and rammed to consolidation upto the road level. Road Restoration shall be carried out as per the specifications in the Agreement.

27. The excess or surplus earth shall be removed from the site immediately and site should be free from any debris or excavated earth. If any excess/surplus earth found in the site, action shall be initiated against the contractor.
28. Even after the instructions of the Engineer in Charge, if the contractor fails to remove the excess/ surplus earth, the Engineer in charge shall take action to remove the excess / surplus earth and shall deduct from the running bill of the contractor along with the penalty for not adhering to the instructions.
29. After completing the laying of Water Distribution main, House service connections are to be provided immediately without any delay. Unless there is any utility proposed in the street along the alignment of the water main, the HSCs shall be completed in 300m of length of particular road in not more than 7 days.
30. For vacant lands, house service connection need not be provided.
31. During the construction works,
 - a. The HSC details shall be marked in the compound wall / visible location, with the concurrence of the consumer.
 - b. A booklet shall be prepared in which one page should refer to one street. That page shall be titled as Name of Street containing Area number, Division No in the format (Area / Division / Street Name). It shall contain the Engineering drawings of all the HSCs given from the water distribution main be shown. Each HSC water meter chamber should be marked as door number of the concerned plot. The booklet shall be signed by both the contractor and CMWSSB official.
 - c. The CMC number of the consumer for the respective HSC shall be linked with the above details for future reference by the O&M wing.

Appendix I: Drawings

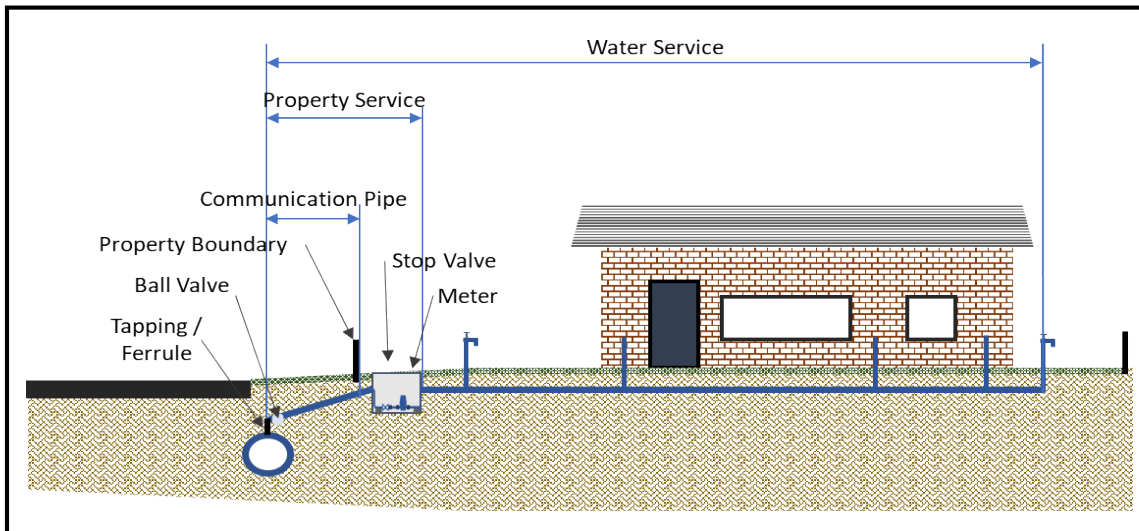


Figure 2: Nomenclature Used in a Service Connection

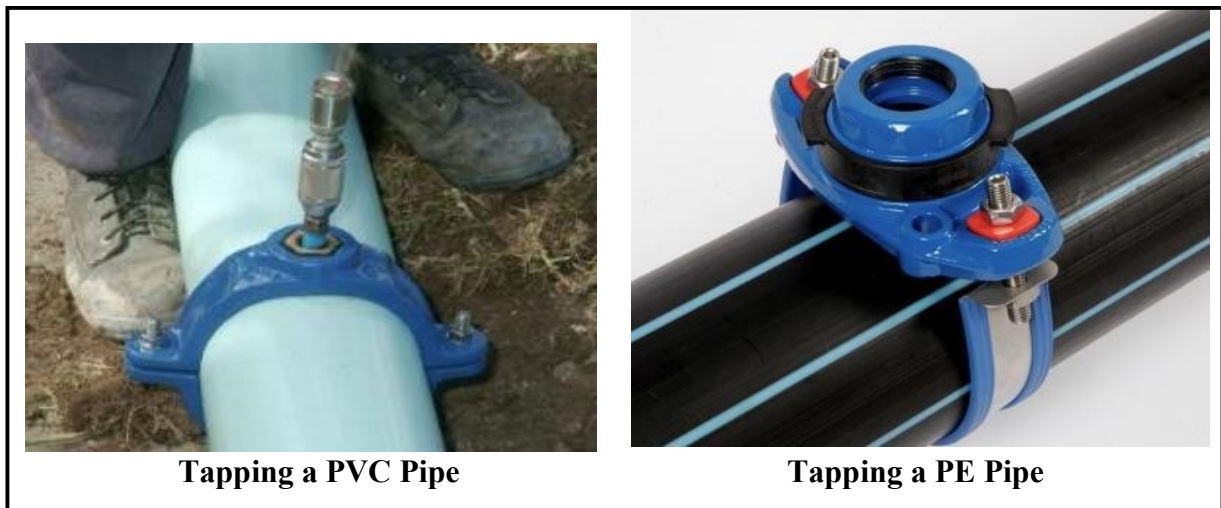


Figure 3 a: Examples of Tapping Bands for PVC and HDPE Pipes



Figure 3 b: Examples of Acceptable Fusion Tapping Bands

			
Permitted	Permitted	Half Saddle Not Permitted	Quarter Saddle Not Permitted

Figure 3 c: Examples of Permitted and Not Permitted saddles

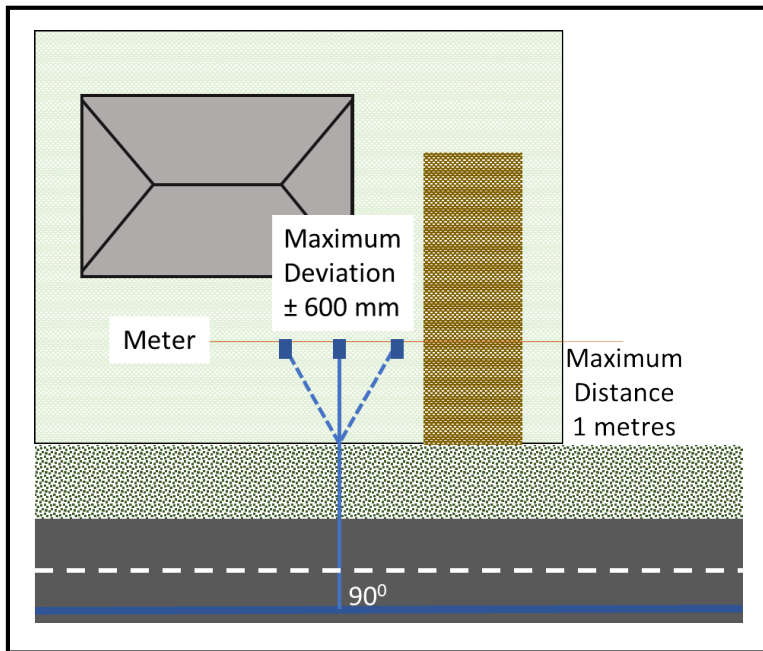


Figure 4 :Service Connection Installations



Figure 5: Examples of Ball and Ferrule Valves

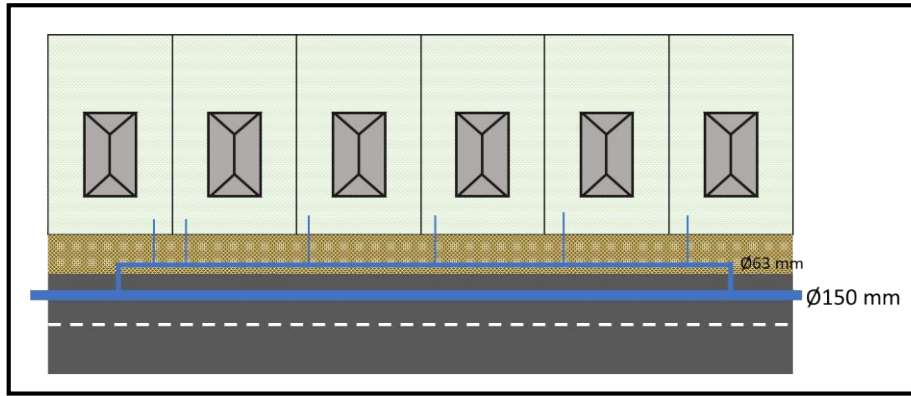


Figure 6: Example of Secondary Main Suitable for Tapping

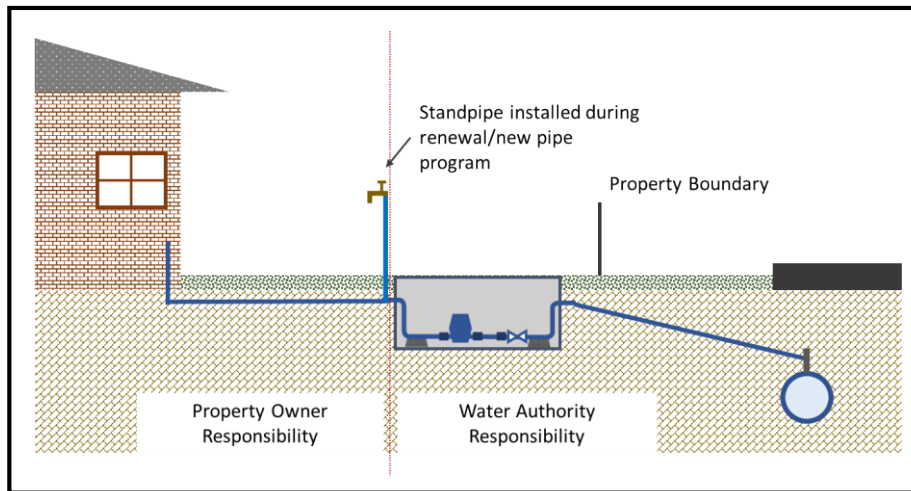
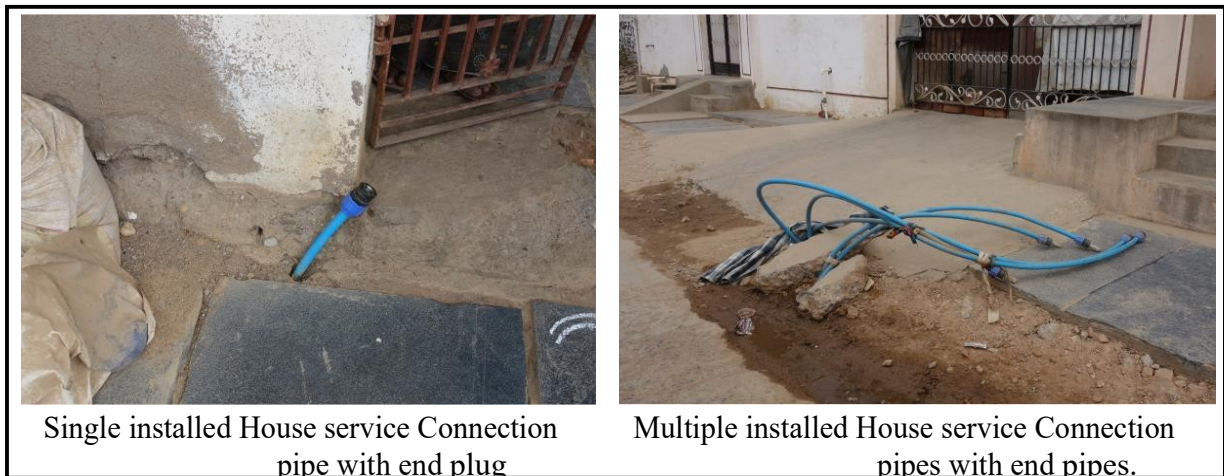


Figure7: Requirement of a Stand pipe Downstream of a Meter Assembly



Single installed House service Connection pipe with end plug

Multiple installed House service Connection pipes with end pipes.

Figure 8: HSC Pipes with End Plugs

S.No	Size of meter in mm	Clearance between A & B in mm
1	20	280
2	25	330
3	32 to 50	380

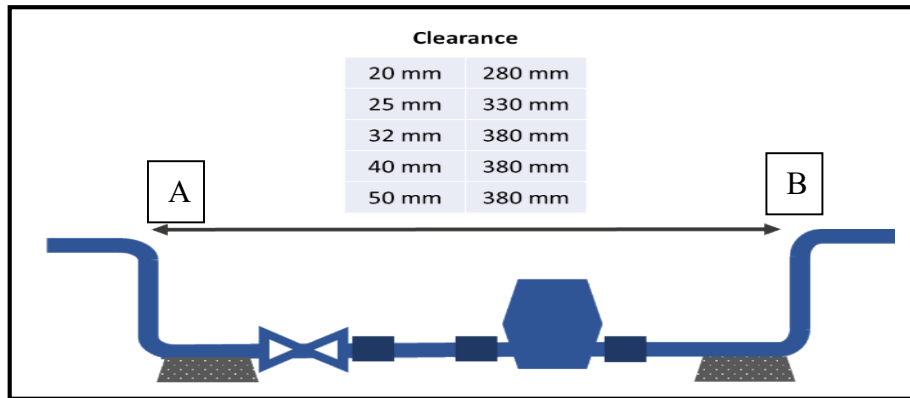


Figure 9a :Meter Assembly

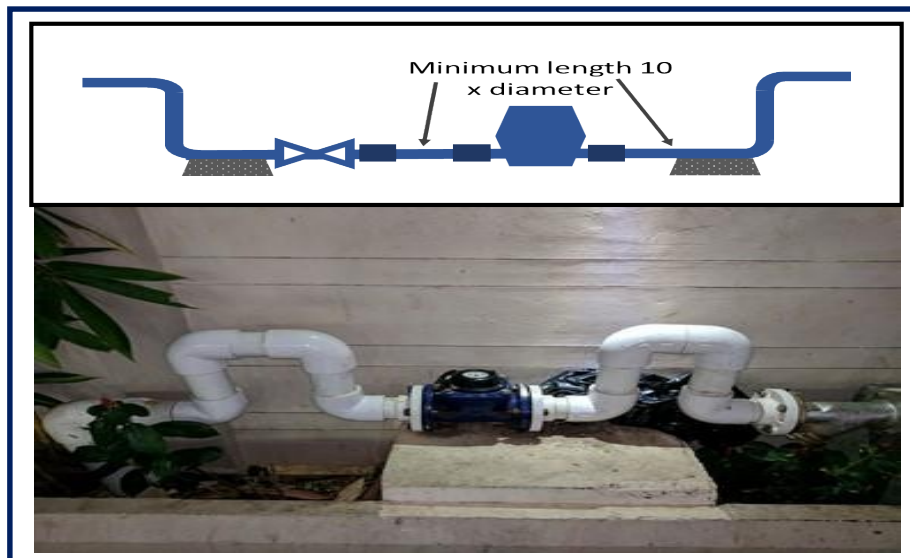


Figure 9b: Meter Assembly

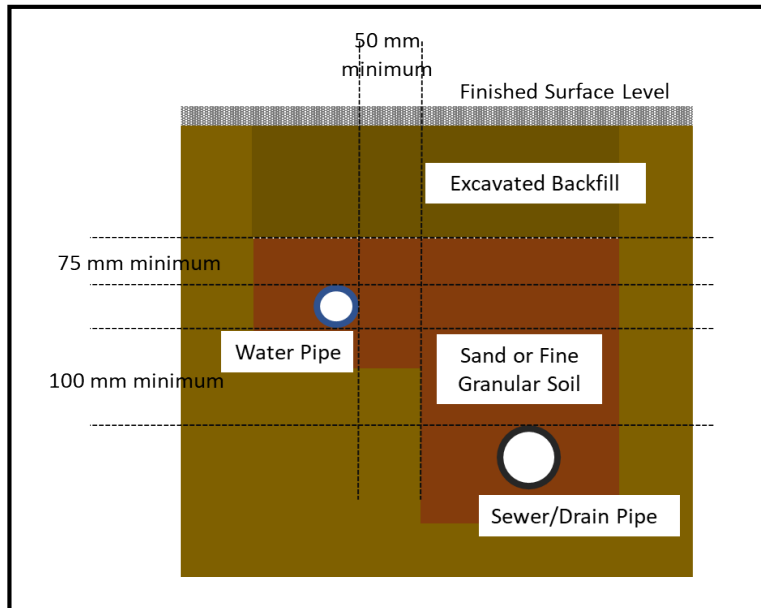


Figure 10: Service Connection Bedding and Backfill Requirements

Some examples of poor service connection practices are given in Figure 11.



Examples of the poor use of materials. Over-tightening the tap has cracked PVC fitting. This PVC fitting cannot be easily replaced as it is glued into the standpipe itself.

Water is exiting the standpipe at high pressure. This makes the standpipe difficult to use and wastes water. Throttling the flow using the valve at the ferrule or in the meter box would solve the problem.



There is insufficient pipe lengths upstream and downstream of the meter. This meter will not provide reading within an acceptable error range and will contribute to non-revenue water. A better solution would be to use a bigger meter box or locate the valve outside of the meter box.



This newly installed tapping is leaking and must be repaired. In addition, there is no evidence of the use of plumbing tape in the compression fitting.



Communication pipe seals are leaking. This could be a result of tampering and the regular inspection of communication pipes is required until the full remainder of the service connection is made.



Although correctly fitted this newly installed tap is not suitable for the pressure being experienced and should be replaced with a tap that is more robust and complies with the Indian Standards for Taps.

Figure11: Examples of Poor Service Connection Practices

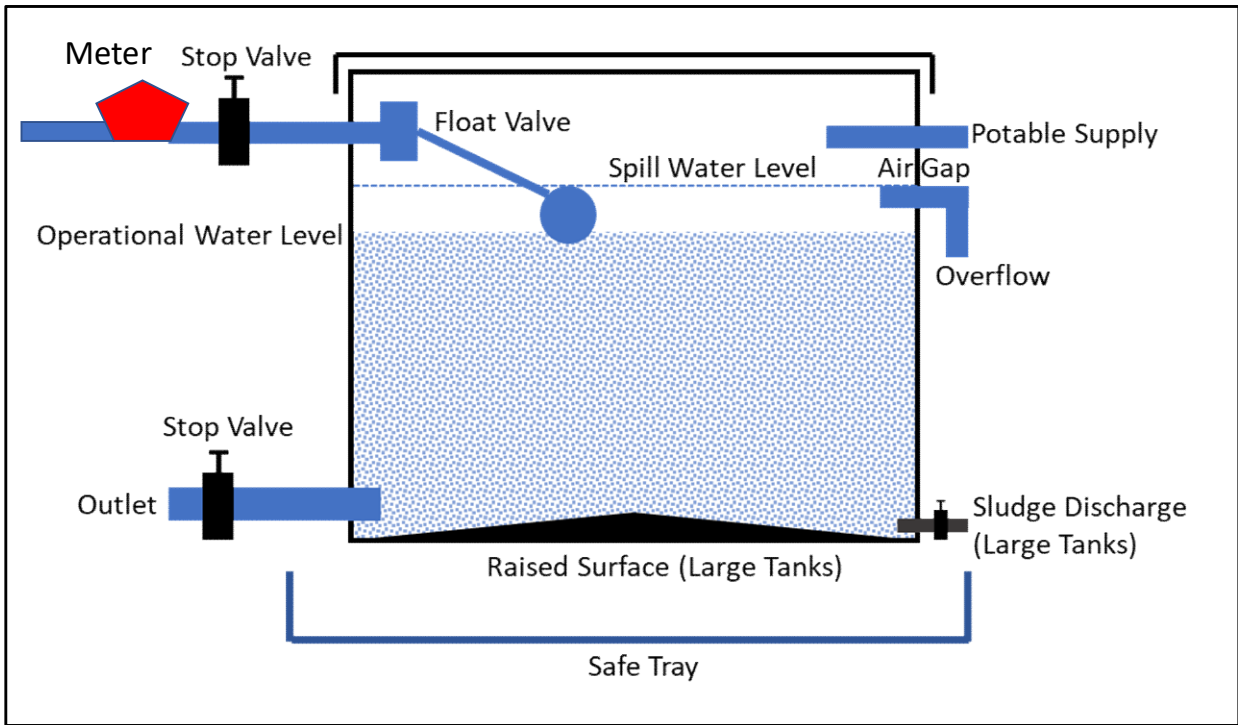


Figure12: Typical detail of service connection for Sump Taps

Signed xxxxx
on 13.07.2023
MANAGING DIRECTOR

STANDARD OPERATING PROCEDURE FOR UNDERGROUND SEWERAGE SYSTEM

The following steps are to be adopted while providing House Sewer Connections in the Underground Sewerage Schemes:

1. The sewer laying work shall not be taken up at a time in all the streets of a particular area, the selection of streets should be made in such a way that there should be alternate way for entry and exit of all residents in that street without causing much hindrance/inconvenience to the public. The details of commencement and probable date of completion of sewer laying work should be intimated to the residents in that street before commencing the work. The works should be completed within the stipulated time.
2. The location for construction of Machine Hole shall be identified and clearly demarcated. The machine holes shall be constructed as per the specifications provided in the Agreement.
3. After the completion of the Machine Hole and laying of pipes, the location of the internal terminal chamber shall be identified inside the respective premises in concurrence with the owner of the premises and the same shall be constructed as per specifications in the Agreement.
4. Not more than 6 nos of House Sewer Connections shall be given to a particular Machine hole. If the no. of HSCs to a particular Machine hole to be provided is more than 6, then a new Machine Hole shall be introduced and HSCs shall be given.
5. The benching and channelling inside the Machine Hole as well as terminal chamber shall be provided as per specifications in the Agreement.
6. Excavation for effecting House Sewer Connection i.e., to link the internal terminal chamber with the Machine hole shall be carried out for the specified width as per the Agreement.
7. Necessary gradient from the newly constructed terminal chamber to the Machine hole shall be provided and the distance between the terminal chamber and the machine hole shall be measured and recorded.
8. Then, the pipes for House Sewer Connection as per the agreement shall be laid in the trench excavated, connecting the internal terminal chamber and the Machine Hole.
9. After laying the House Sewer Pipes, the gaps in the surrounding portion at the ends of the pipes at Machine hole as well as terminal chamber shall be packed with concrete properly to avoid leaks and finished smoothly on par with the wall surface.
10. After completing the laying of pipes, backfilling with excavated earth in layers as provided in the agreement shall be carried out. Unless, otherwise specified, the

trench shall be backfilled in layers not greater than 300mm, watered and rammed to consolidation upto the road level. Road Restoration shall be carried out as per the specifications in the Agreement.

11. The excess or surplus earth shall be removed from the site immediately and site should be free from any debris or excavated earth. If any excess/surplus earth found in the site, action shall be initiated against the contractor.
12. Even after the instructions of the Engineer in Charge, if the contractor fails to remove the excess/ surplus earth, the Engineer in charge shall take action to remove the excess / surplus earth and shall deduct from the running bill of the contractor along with the penalty for not adhering to the instructions.
13. After completing the laying of Sewer main and Machine holes in a particular street, House sewer connections are to be provided immediately without any delay. Unless there is any utility proposed in the street along the alignment of the sewer, the HSCs shall be completed in 100m of length of road in not more than 7 days.
14. The terminal chamber shall be constructed (If there is provision in the sanctioned estimate) for the vacant land at which construction activities are under progress, HSC shall be given from the nearest Machine hole with the concurrence of land owner. For vacant lands where no construction activities commenced, house service connection need not be provided.
15. During the construction works, numbering system shall be adopted in the following manner
 - a. Unique identification number shall be provided for each Machine Hole in the format (MH__ / __ / ____) (Area number / Division No / Machine hole number)
 - b. Unique identification number shall be provided for each terminal chamber Hole in the format (TC ____ / ____) (Machine hole number / House door number)
 - c. Latitude and Longitude coordinates of the Machine hole and terminal chamber using GPS shall be measured and recorded.
 - d. The laid angle of the House Sewer pipes with respect to the north direction from the centre of the Machine hole, shall be measured and recorded.
 - e. The above details shall be clearly demarcated in the compound wall / visible location, with the concurrence of the consumer.
 - f. The unique ID of the machine hole shall be written on the door of the respective machine hole with non-removable paint.
 - g. A booklet shall be prepared in which one page should refer to one machine hole. That page shall be titled as machine hole number containing Area number, Division No and Machine hole number in the format (__ / __ / ____). It shall

contain the Engineering drawings of all the HSCs given from the said machine hole. Approximate angle of each terminal chamber w.r.t. North direction shall be shown. Each HSC terminal chamber should be marked as door number of the concerned plot.

- h. The booklet shall be signed by both the contractor and CMWSSB official and to be handed over alongwith "As Constructed Drawings".
16. The CMC number of the consumer for the respective HSC shall be linked with the above details for future reference by the O&M wing.
17. Before payment of Final Bill, certificate should be furnished by concerned Engineers and Contractor that all the works have been carried out and submitted as per SOP in the Completion Report.

Signed xxxxx
on 13.07.2023
MANAGING DIRECTOR

DECLARATION

- i) I s/o
..... Proprietor / Partner / Director of
..... Do hereby declare and undertake as under :
- ii) That in the capacity of Contractor by M/s.
..... I will comply with the provisions of Contract Labour (Regulations & Abolition) Act, 1970 by obtaining a valid license under the Act and the Rules thereto and similarly under Factories Act wherever applicable.
- iii) I will pay the wages in accordance with the Minimum Wages Act to all my employees.
- iv) That I abide to recover the Employees Provident Fund and the Employees' Insurance contributions (both Employees and employers contribution) from the payment of bills every month.
- v) The staffs who have been employed by the contractor should also have ESI & EPF number in their names. The contractor has to pay ESI & EPF contributions towards the staff every month. The copies of the remittance challans of the ESI & EPF contributions should be submitted along with the bill for claiming the subsequent monthly payment. Similarly, the contribution / premium / tax etc, payable to any other statutory authorities should be remitted by the contractor directly, after registering with the respective departments.
- vi) I further declare and undertake that in case of any liability pertaining to my employees is to be discharged by the Principal Employer for my lapse, I undertake to reimburse the same or the Principal Employer is authorised to deduct the same from my dues as payable.
- vii) I will maintain the Registers and records about the Contract Labour employed under Section 29 of Labour (Regulation & Abolition) Act wherever applicable.
- viii) I will take insurance policy under Workmen Compensation Act to meet out any untoward incident until the contract labourers are issued with ESI card.
- ix) I will not employ any child labour in a house / worksite / Establishment / other places as per the Section 2 (ii) of the Child Labour (Prohibition and Regulation) Act 1976 (Child means, a person who has not completed his fourteenth years of age).

SIGNATURE OF CONTRACTOR

UNDERTAKING

**ADDITIONAL CONDITIONS FOR THE CLEANING AND MAINTENANCE OF
SEWERAGE
SYSTEM (INCLUDING SEPTIC TANKS)**

I / We
aged about.....Years,
S/o.....
.....residing at
.....

am / are aware of the Tamil Nadu Government Gazette No.425, Part III – Section 1 (a) published on 12.08.2022 and the orders of the Government of Tamil Nadu vide G.O. (Ms) No.110, M.A.& W.S. (MA.2) Department, dated 12.08.2022, The Tamil Nadu Prohibition of employment as manual scavengers and their rehabilitation rules 2022, regarding the ban on manual scavenging and on the entry of sanitary workers into the sewerage system. I undertake to abide by the said directions of the Government Order (Ms) No. 110, MA & WS (MA.2) Department dated 12.08.2022 in this regard.

Signature of the Contractor with seal.