



**TENDER
For**

Name of Work: Operation and Maintenance of 900 MLD Water Treatment Plant at Bhandup Complex.

E- TENDER NO. 2024_MCGM_1097191

Website: <https://mahatenders.gov.in>

Office of: Dy. Hydraulic Engineer (M&E)
Bhandup Complex, 1 ST floor,
Filter Annex Building 'B', 900
MLD WTP Bhandup Complex,
Near Khindipada, Mulund (W),
Mumbai- 400 082.
Email – aesrabc.he@mcgm.gov.in

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SECTION 1

E - TENDER NOTICE

BRIHANMUMBAI MUNICIPAL CORPORATION

HYDRAULIC ENGINEER'S DEPARTMENT

No. Dy.H.E./B.C./24/42/ODN dated 26.09.2024

E- TENDER NO. 2024_MCGM_1097191

E-TENDER NOTICE

Subject: Operation and Maintenance of 900 MLD Water Treatment Plant at Bhandup Complex.

The Brihanmumbai Municipal Corporation (BMC) invites e-tender on item rate basis to appoint Contractor for the aforementioned work from contractors of repute, multidisciplinary engineering organizations i.e. eminent firm, Proprietary / Partnership Firms / Private Limited Companies / Public Limited Companies / Companies registered under the Indian companies' act 2013, ~~the contractors registered with the Municipal Corporation of Greater Mumbai, (BMC) in Class 'AA' as per old registration and Class 'A' as per new registration and / or firms dealing in the line and from the contractors / firms equivalent and superior classes registered in Central or State Government / Semi Govt. Organization/Central or State Public Sector Undertakings, will be allowed subject to condition that, the contractors who are not registered with BMC will have to apply for registering their firm within three months time period from the award of contract, otherwise their Bid Security i.e. E.M.D (Earnest Money Deposit) will be forfeited / recovered and an amount equal to Registration Fee of respective class will be recovered as penalty. The applicants not registered with BMC are mandated to get registered (Vendor Registration).~~

Bidding Process will comprise of THREE stages.

For purchasing the tender documents, the bidders will have to get registered with e-tender portal (<https://mahatenders.gov.in>) for the e-tendering process and obtain login credentials to participate in the online Tender process. The details of the same are available on <https://mahatenders.gov.in>. For registration, enrolment for digital signature certificates and user manual, please refer to respective links provided in e-tendering tab on <https://mahatenders.gov.in>. Interested bidders should have valid Class III digital signature certificate (DSC) obtained from any licensed certifying authority. Interested bidders should follow the manuals available on Mahatenders Portal (<https://mahatenders.gov.in>). Vendors can get digital signature from any one of the Certifying Authorities (CA's) licensed by controller of certifying authorities namely, Safes crypt, IDRBT, National informatics center, TCS, CUSTOMS, MTNL, GNFC and e- Mudhra, CA.

Name and location of work	Contract period	Estimated Cost of Project
Operation & Maintenance of 900 MLD Water Treatment Plant at Bhandup Complex.	3 Years (Including monsoon)	Not Applicable for item rate tender

In terms of the 3 stage system of e-tendering, a Bidder will be required to deposit, along with its Bid, an Earnest Money Deposit of **Rs. 25,05,800/- (Rupees Twenty Five Lakh Five Thousand Eight Hundred only)** (the "EMD"), refundable in accordance to the relevant clause of bid document, from the Bid Due Date, except in the case of the selected Bidder whose Bid Security/EMD shall be retained. The Bidders will have to provide Earnest Money Deposit through the payment gateways while submitting the bids. The Bid shall be summarily rejected if it is not accompanied by the Earnest Money Deposit. The e-tender is available on e-procurement system of Government of Maharashtra (Mahatenders) (<https://mahatenders.gov.in>) as mentioned in the Header Data of the tender.

As per THREE Packet systems, the document for Packet A & B is to be uploaded by the bidder in vendors' document online in Packet A, B. Packet A, B & C shall be opened on dates as mentioned in header data. All the responsive and eligible bidders if they so wish can be present at the time of opening of bids, in the office of Dy. Hydraulic Engineer (M & E) B.C. The Packet C shall be opened if bids submission in Packet A & B satisfies / includes all the requirements and same are found acceptable to the Authority.

The Municipal Commissioner reserves the right to reject all or any of the e-tender(s) without assigning any reasons at any stage.

The dates and time for submission and opening the bids are as shown in the Header Data. If there are any changes in the dates the same will be displayed on e-procurement system of Government of Maharashtra (Mahatenders) (<https://mahatenders.gov.in>).

The Applicants interested for the above referred works may contact the Dy. Hydraulic Engineer (M & E) B. C. at the following address on any working day during office hours.

Office of the: Dy. Hydraulic Engineer (M&E) Bhandup Complex,
1ST floor, Filter Annex Building 'B', 900 MLD WTP
Bhandup Complex, Near Khindipada, Mulund (W),
Mumbai- 400 082.

The applicants may wish to visit the site under reference located at Bhandup Complex Water Treatment Plant, a part of Mulund West, Mumbai and can collect the information of the present status from the department who have invited the bids.

BMC reserves the rights to accept any of the application or reject any or all the application received for above works, without assigning any reasons thereof. The information regarding above subject matter is available on e-procurement system of Government of Maharashtra (Mahatenders) (<https://mahatenders.gov.in>).

Sd/-
Dy. Hydraulic Engineer (M & E)
(Bhandup Complex)

HEADER DATA

Tender Document No	2024_MCGM_1097191
Name of Organization	Brihanmumbai Municipal Corporation
Subject	Operation & Maintenance of 900 MLD Water Treatment Plant at Bhandup Complex.
Scrutiny fees	Rs. 27,500/- + 18 % GST
Cost of E-Tender (Estimated Cost)	Not Applicable for item rate tender
Bid Security Deposit / EMD	Rs. 25,05,800/-
Date of issue and sale of tender	02.10.2024 from 11:00 Hrs
Last date & time for sale of tender & Receipt of Bid Security Deposit	22.10.2024 upto 12:00 Hrs
Submission of Packet A, B & Packet C (Online)	22.10.2024 upto 16:00 Hrs
Pre-Bid Meeting	09/10/2024 at 12:00 Hrs Venue : Hydraulic Engineer, 1 st floor, Engineering Hub Building, Dr. E. Mozes Road, Worli Naka, Mumbai 400018
Opening of Packet A	23.10.2024 after 16:01 Hrs
Opening of Packet B	23.10.2024 after 16:05 Hrs.
Opening of Packet C	07.11.2024 after 15:00 Hrs.
Address for communication	Office of the:- Dy. Hydraulic Engineer (M & E) Bhandup Complex, 1 st floor, Filter Annex Building 'B', 900 MLD WTP Bhandup Complex, Near Khindipada, Mulund (W), Mumbai- 400 082. Email – aesrabc.he@mcbm.gov.in
Venue for opening of bid	On line in Dy. Hydraulic Engineer(M & E) B.C.'s office.

This tender document is not transferable.

The BMC reserves the rights to accept any of the application or reject any or all the application received for above subject without assigning any reason thereof.

Sd/-
Dy. Hydraulic Engineer (M & E)
(Bhandup Complex)

SECTION 2

ELIGIBILITY CRITERIA

ELIGIBILITY CRITERIA

1. Regular, Routine and Maintenance works :

1.1 Technical Capacity

The tenderer(s) in their own name should have satisfactorily executed the work of similar nature in BMC / Semi Govt. / Govt. & Public Sector Organizations during **last seven (7) years** ending last day of month previous to the one in which bids are invited as a prime Contractor (or as a nominated sub-Contractor, where the subcontract had involved similar nature of work as described in the scope of works in this bid document, provided further that all other qualification criteria are satisfied).

- a) **Three similar completed works or currently executing three works of similar nature each** of value not less than **Rs. 7,51,71,772/-**.

OR

- b) **Two similar completed works or currently executing two works of similar nature each** of value not less than **Rs. 8,77,00,400/-**.

OR

- c) **One completed work or currently executing one work of similar nature each** of value not less than **Rs. 12,52,86,286/ -**.

The value of executed works shall be brought to current costing level by enhancing the actual value of work at compound rate of 10 % per annum; calculated from the date of completion to last date of receipt of applications for tenders.

1.2 Financial Capacity

Achieved an average annual financial turnover as certified by 'Chartered Accountant' (in all classes of civil engineering construction works only) shall be **Rs. 7,51,71,772/- in last three (3) financial years** immediately preceding the Financial Year in which bids are invited.

The value of executed works shall be brought to current costing level by enhancing the actual value of work at compound rate of 10 % per annum; calculated from the date of completion to last date of receipt of applications for tenders.

1.3 Similar Experience:

For assessing the technical capacity for Operation & Maintenance works; Similar work shall mean, the completed or ongoing works of Operation and Maintenance of 225 MLD or more capacity single drinking water treatment plant having all following facilities:

1. settlers, filters, chlorination etc.
2. PLC - SCADA based full automation or at least it shall be evident in three process units out of filters, settlers, recycling and chemical.
3. chlorine dosing with plant license capacity of minimum 20 tonners.
4. final water quality results consistently as per BIS 10500 norms or better.

Performance certificate shall be submitted for satisfactory performance of the plant including requirements mentioned above in packet B of the e-tender.

The bidder shall have in their name, ISO certification in respect of Operation & Maintenance viz. ISO 9001 for Quality Management System and ISO 14001 for Environmental Management System.

Proof of the same shall be submitted in packet B of the e-tender

2. For Original and New construction works

2.1 Technical Capacity

The tenderer(s) in their own name should have satisfactorily executed the work of similar nature in BMC / Semi Govt. / Govt. & Public Sector Organizations during last seven (7) years ending last day of month previous to the date of issue of tender as a prime Contractor (or as a nominated sub-Contractor, where the subcontract had involved similar nature of work as described in the scope of works in this bid document, provided further that all other qualification criteria are satisfied)

a) ~~Three similar completed works or currently executing three works of similar nature each of value not less than Rs.-~~

OR

b) ~~Two similar completed works or currently executing two works of similar nature each of value not less than Rs.-~~

OR

e) ~~One completed work or currently executing one work of similar nature each of value not less than Rs.-~~

The value of executed works shall be brought to current costing level by enhancing the actual value of work at compound rate of 10 % per annum; calculated from the date of completion to last date of receipt of applications for tenders.

~~*In case of ongoing works to be considered, the bidder must have received payment bills of 80% of the contract sum for the work/works executed last day of month previous to the one in which bids are invited.~~

2.2 Financial Capacity

Achieved a average annual financial turnover as certified by 'Chartered Accountant' (in all classes of civil engineering construction works only) shall be ~~Rs. _____~~ **in last three (3) financial years** immediately preceding the Financial Year in which bids are issued.

- ~~To ascertain this, tenderer(s) shall furnish / upload the financial statement (Audited balance sheet) duly certified by Chartered Accountant.~~
- ~~The turnover can be enhanced by 10% every year to bring the present level.~~
- ~~The value of completed works shall be brought to current costing level by enhancing the actual value of work at compound rate of 10% per annum; calculated from the date of completion to the date of issue of tender.~~

2.3 Similar work experience

C) Bid Capacity:

The bid capacity of the prospective bidders will be calculated as under:

Assessed Available Bid Capacity = (A * N * 2 - B)

Where,

A = Maximum value of Civil Engineering works executed in any one year (year means Financial year) during **the last five years** (updated to the price level of the Financial year in which bids are received at a rate of 10% per year) taking into account the completed as well as works in progress.

~~N = Number of years prescribed for completion of the Project/Works, **excluding monsoon period**, for which these bids are being invited. (E.g. 7 months = 7/12 year) For every intervening monsoon 0.33 shall be added to N.~~

~~**B** = Value of existing commitments (only allotted works) on the last date of submission of bids as per bidding document and on going works to be completed during the period of completion of the Project/Works for which these bids are being invited.~~

~~Note: 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 attached along with certificates duly signed by the Engineer in Charge, not below the rank of an Executive Engineer or equivalent.~~

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

- ~~➤ Made misleading or false representation in the forms, statements and attachments submitted in proof of the qualification requirements; and /or~~
- ~~➤ Record for poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc~~

SECTION 3
DISCLAIMER

DISCLAIMER

The information contained in this e-tender document or provided to Applicant(s), whether verbally or in documentary or any other form, by or on behalf of the Brihanmumbai Municipal Corporation (BMC), hereafter also referred as “The Authority“, or any of its employees or advisors, is provided to Applicant(s) on the terms and conditions set out in this e-tender and such other terms and conditions subject to which such information is provided.

This e-tender includes statements, which reflect various assumptions and assessments arrived at by the Brihanmumbai Municipal Corporation (BMC) in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Applicant may require. This e-tender may not be appropriate for all persons, and it is not possible for the Brihanmumbai Municipal Corporation (BMC), its employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this e-tender. The assumptions, assessments, statements and information contained in this e-tender may not be complete, accurate, adequate or correct. Each Applicant should therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this e-tender and obtain independent advice from appropriate sources.

Information provided in this e-tender to the Applicant(s) is on a wide range of matters, some of which may depend upon interpretation of law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The Brihanmumbai Municipal Corporation (BMC) accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed here.

The Brihanmumbai Municipal Corporation (BMC), its employees and advisors make no representation or warranty and shall have no liability to any person, including any Applicant or Bidder, under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this e-tender or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the e-tender and any assessment, assumption, statement or information contained therein or deemed to form part of this e-tender or arising in any way with pre-qualification of Applicants for participation in the Bidding Process. The Brihanmumbai Municipal Corporation (BMC) also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Applicant upon the statements contained in this e-tender.

The Brihanmumbai Municipal Corporation (BMC) may, in its absolute discretion but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this e-tender.

The issue of this e-tender does not imply that the Brihanmumbai Municipal Corporation (BMC) is bound to select and short-list pre-qualified Applications for Bid Stage or to appoint the selected Bidder or Concessionaire, as the case may be, for the Project and the Brihanmumbai Municipal Corporation (BMC) reserves the right to reject all or any of the Applications or Bids without assigning any reasons whatsoever.

The Applicant shall bear all its costs associated with or relating to the preparation and submission of its Application including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by Brihanmumbai Municipal Corporation (BMC) or any other costs incurred in connection with or relating to its Application. All such costs and expenses will remain with the Applicant and the Brihanmumbai Municipal Corporation (BMC) shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Applicant in preparation or submission of the Application, regardless of the conduct or outcome of the Bidding Process.

SECTION 4
INTRODUCTION

INTRODUCTION

1. Background

The Brihanmumbai Municipal Corporation (BMC) covers an area of 437.71 sq. Kms. with a population of 1.24 Crores as per census of 2011. The metropolis accounts major portion of India's international trade and government's revenue, from being one of the foremost centers of education, science and technological research and advancement.

The Mumbai Metropolis has historic tradition of strong civic activism dedicated to the cause of a better life for all its citizens. And it's the Brihanmumbai Municipal Corporation (BMC), hereafter called the "corporation", the primary agency responsible for urban governance in Greater Mumbai.

BMC (The Authority) is one of the largest local self-governments in the Asian Continent. In observance of historic traditions of strong civic activism, with the change in time and living conditions to match with the urbanization, BMC has mainly focused in providing almost all kinds of engineering services viz, Hydraulics, storm water drain, sewerage, water supply projects, roads, bridges, solid waste management, and environmental services. Beside this, the BMC is also providing dedicated services in various segments such as Health, Primary Education as well as the construction and maintenance of Public Markets and Slaughter Houses.

BMC is an organization having different departments, right from engineering depts. to health depts. Moreover we have other dept. like education, market, fire brigade dept. and other such departments where quite a good number of staff members are working.

Bhandup Complex new Water Treatment Plant is situated in vicinity of Sanjay Gandhi National Park and spread over about 365 acres area. This Water Treatment Plant caters the need of water supply to Mumbai Region. It treats & supply water to the tune of 900 MLD along with old 1910 MLD plant.

The site is located at Bhandup Complex about 2 kms west side of Lal Bahadur Shastri Marg (LBS Marg) on Mulund - Goregaon Link Road and about 5 kms. away from Eastern Express Highway. The nearest Railway Station is Nahur on Central Railway line.

The 900 MLD state of art technology fully automated water treatment plant at Bhandup Complex commissioned on 07.01.2014. The plant is equipped with recycling facilities for recirculation of filter back wash water and desludge water from settlers by removing sludge.

The contract period of existing 900 MLD WTP O & M works will be over by 12.03.2025.

It is therefore, proposed to carry out this specialized type work of "Operation & Maintenance of automated 900 MLD Water Treatment Plant on comprehensive basis including all allied works by outsourcing for three years period or till the BMC staff will be appointed and conversant to the works assigned to them.

Scope of Work:

BMC is primarily an organization, which in the interest of citizens and with the speed of urbanization deals with the variety of the infrastructure services and delivered to the public by

different departments like Water Supply Projects, Sewerage Projects, Hydraulics, Storm Water Drain / Roads and bridges and Building Construction etc.

The work of 'Operation & Maintenance of new 900 MLD Water Treatment Plant, Bhandup Complex involves scope as follows -

1. Operation of 900 MLD Water Treatment Plant-

- i) All operations and process control related to inlet works, pulsatube clarifiers, PAC dosing, filters, chlorine dosing.
- ii) Operation of filter back wash water recycling plant for 900 MLD & 1910 MLD plant.
- iii) Operation of SRA (Sludge Recirculation Area) plant including sludge handling, transport & disposal.
- iv) Water quality control by sampling and testing.

2. Maintenance of 900 MLD water treatment plant.

- i) Maintenance of all mechanical, electrical, and civil equipment of 900 MLD WTP, filter back wash recycling plant for 900 & 1910 MLD plant and SRA plant. (List of equipment as per **Annexure V**)
- ii) Maintaining complete automation system involving instrumentation, SCADA, various sensors, ICP etc.

3. Associated works of 900 MLDWTP:

- i) Start-ups and shut-downs
- ii) Emergency handling
- iii) Security
- iii) Housekeeping
- iv) Transportation
- v) Gardening
- vi) Maintaining internal roads
- vii) Street lighting
- viii) Compliance to statutory / legal requirements
- ix) Health, safety and environment measures

Note: The detail specifications of complete work is specified in section 10 i.e. Specifications & Selection of Material.

SECTION 5

**E-TENDERING ONLINE
SUBMISSION PROCESS**

E-TENDERING ONLINE SUBMISSION PROCESS

IMPORTANT NOTICE TO BIDDERS ON e-TENDERING

GOVERNMENT E-PROCUREMENT SYSTEM has successfully rolled out the e-bid submission Tendering System through its web site <https://mahatenders.gov.in>. Tenders of various Departments have been uploaded, their bids submitted and the same have been opened on line. Bids for various tenders published in the web site of Government Departments can be submitted online by enrolling with the above-mentioned web site.

The bidders can enroll themselves on the website <https://mahatenders.gov.in> using the option “Online Bidder Enrollment”. Possession of a Valid Class III Digital Signature Certificate (DSC) in the form of smart card/e-token in the Company's name is a prerequisite for registration and participating in the bid submission activities through this web site. Digital Signature Certificates can be obtained from the authorized certifying agencies, details of which are available in the web site <https://mahatenders.gov.in> under the link “Information about DSC”.

The web site also has user manuals with detailed guidelines on enrollment and participation in the online bidding process. The user manuals can be downloaded for ready reference. Vendors can also attend the training / familiarization programme on the e-tendering system conducted periodically by the GOVERNMENT E-PROCUREMENT SYSTEM in association with NIC.

Special Instructions to the Contractors / Bidders for the e-submission of the bids online through this eProcurement Portal :

1. Bidder should do Online Enrolment in www.mahatenders.gov.in Portal using the option to Enroll available in the Home Page. Then the Digital Signature enrolment has to be done with the e-token, after logging into the portal. The e-token may be obtained from one of the authorized Certifying Authorities such as Mudhra CA/ GNFC/ IDRBT/ Mtnl Trust line/ Safescrypt / TCS.
2. Bidder then logs into the portal giving user id / password chosen during enrolment.
3. The e-token that is registered should be used by the bidder and should not be misused by others.
4. DSC once mapped to an account cannot be remapped to any other account. It can only be Inactivated.
5. The Bidders can update well in advance, the documents such as certificates, purchase order details etc., under My Documents option and these can be selected as per tender requirements and then attached along with bid documents during bid submission. This will ensure lesser upload of bid documents.
6. After downloading / getting the tender schedules, the Bidder should go through them carefully and then submit the documents as per the tender document, otherwise, the bid will be rejected.
7. Applicant will upload Packet A documents in cover 1 “Fee” and Packet B related Documents in cover 2 “PQC” respectively.
8. The BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns in the uploaded BOQ, else the bidder is liable to be rejected for that tender. For commercial details (in Packet C) contractors will fill data in financial bid in BOQ and quotes his “(+) or (-) Percentage” (i.e.% quoted) figure.
9. If there are any clarifications, this may be obtained online through the e Procurement Portal or through the contact details given in the tender document. Bidder should take into account of the corrigendum published before submitting the bids online.
10. Bidder, in advance, should prepare the bid documents to be submitted as indicated in the tender 21 schedule and they should be in PDF/XLS/RAR/DWF formats. If there is more than one document, they can be clubbed together.
11. Bidder should arrange for the EMD as specified in the tender. The original should be posted / couriered /

- given in person to the Tender Inviting Authority, within the bid submission date and time for the tender.
12. The bidder reads the terms and conditions and accepts the same to proceed further to submit the bids.
 13. The bidder has to submit the tender document(s) online well in advance before the prescribed time to avoid any delay or problem during the bid submission process.
 14. There is no limit on the size of the file uploaded at the server end. However, the upload is decided on the Memory available at the Client System as well as the Network bandwidth available at the client side at that point of time. In order to reduce the file size, bidders are suggested to scan the documents in 75-100 DPI so that the clarity is maintained and also the size of file also gets reduced. This will help in quick uploading even at very low bandwidth speeds.
 15. It is important to note that, the bidder has to Click on the Freeze Bid Button, to ensure that he/she completes the Bid Submission Process. Bids Which are not Frozen are considered as Incomplete/Invalid bids and are not considered for evaluation purposes.
 16. The Tender Inviting Authority (TIA) will not be held responsible for any sort of delay or the difficulties faced during the submission of bids online by the bidders due to local issues.
 17. The bidder may submit the bid documents online mode only, through this portal. Offline documents will not be handled through this system.
 18. At the time of freezing the bid, the e-Procurement system will give a successful bid updation message after uploading all the bid documents submitted and then a bid summary will be shown 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 using the e-token of the bidder and then submitted.
 19. After the bid submission, the bid summary has to be printed and kept as an acknowledgement as a token of the submission of the bid. The bid summary 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 event.
 20. Successful bid submission from the system means, the bids as uploaded by the bidder is received and stored in the system. System does not certify for its correctness.
 21. The bidder should see that the bid documents submitted should be free from virus and if the documents could not be opened, due to virus, during tender opening, the bid is liable to be rejected.
 22. The time that is displayed from the server clock at the top of the tender Portal, will be valid for all actions of requesting bid submission, bid opening etc., in the e-Procurement portal. The Time followed in this portal is as per Indian Standard Time (IST) which is GMT+5:30. The bidders should adhere to this time during bid submission.
 23. All the data being entered by the bidders would be encrypted at the client end, and the software uses PKI encryption techniques to ensure the secrecy of the data. The data entered will not be viewable by unauthorized persons during bid submission and not viewable by any one until the time of bid opening. Overall, the submitted bid documents become readable only after the tender opening by the authorized individual.
 24. During transmission of bid document, the confidentiality of the bids is maintained since the data is transferred over secured Socket Layer(SSL) with 256 bit encryption technology. Data encryption of sensitive fields is also done.
 25. The bidders are requested to submit the bids through online e-Procurement system to the TIA well before the bid submission end date and time (as per Server System Clock).
 26. The Municipal Commissioner reserves the right to reject all or any of the e-Tender(s) without assigning any reason at any stage. The dates and time for submission and opening the tenders are as shown in the Header Data. If there are any changes in the dates the same will be displayed on the e-Procurement System of Government of Maharashtra (Mahatenders) (<https://mahatenders.gov.in>).
 27. Due to any unforeseen circumstances if any of the date mentioned in the header data is declared as public holiday, in that case all the dates* will get shifted by one day or next working day.

28. BARRING PHYSICAL SUBMISSIONS

29. As the entire tendering procedure is online process; the physical submission of documents shall not be entertained.

30. The information about DSC, guidelines for bid submission, bidders manual kit, Help for Contractor, FAQ, etc are available on <https://mahatenders.gov.in> The tenderer shall pay the EMD / Bid Security through payment gateways before submission of Bid and shall upload the screenshot of receipt of payment in Packet 'A' instead of paying the EMD at any of the CFC centers in BMC Ward Offices.

The Packet 'A', Packet 'B' & Packet 'C' of the tenderer will be opened as per the time-table shown in the Header Data in the office of the **Dy. Hydraulic Engineer (M&E) Bhandup Complex, 1 ST floor, Filter Annex Building 'B', 900 MLD WTP Bhandup Complex, Near Khindipada, Mulund (W), Mumbai- 400 082.**

SECTION 6
INSTRUCTIONS
TO APPLICANTS

INSTRUCTIONS TO APPLICANTS

➤ **Scope of Application**

The Authority wishes to receive Applications for Qualification in order to SELECT experienced and capable Applicants for the Bid Stage.

➤ **Eligibility of Applicants**

The Brihanmumbai Municipal Corporation (BMC) invites e-tender to appoint Contractor for the aforementioned work from contractors of repute, multidisciplinary engineering organizations i.e. eminent firm, Proprietary/Partnership Firms / Private Limited Companies / Public Limited Companies / Companies registered under the Indian companies' act 2013 ~~the contractors registered with the Municipal Corporation of Greater Mumbai, (BMC) in Class 'AA' as per old registration and Class 'A' as per new registration and from the contractors / firms equivalent and superior classes registered in Central or State Government /Semi Govt. Organization / Central or State Public Sector Undertakings, will be allowed subject to condition that, the contractors who are not registered with BMC will have to apply for registering their firm within three months' time period from the award of contract, otherwise their Bid Security i.e. E.M.D (Earnest Money Deposit) will be forfeited / recovered and an amount equal to Registration Fee of respective class will be recovered as penalty.~~

To be eligible for pre-qualification and short-listing, an Applicant shall fulfill the following conditions of eligibility:

1. Regular, Routine and Maintenance works :

1.3 Technical Capacity

The tenderer(s) in their own name should have satisfactorily executed the work of similar nature in BMC / Semi Govt. / Govt. & Public Sector Organizations during **last seven (7) years** ending last day of month previous to the one in which bids are invited as a prime Contractor (or as a nominated sub-Contractor, where the subcontract had involved similar nature of work as described in the scope of works in this bid document, provided further that all other qualification criteria are satisfied)

- a) **Three similar completed works or currently executing three works of similar nature each** of value not less than **Rs. 7,51,71,772/-**.

OR

- b) **Two similar completed works or currently executing two works of similar nature each** of value not less than **Rs. 8,77,00,400/-**.

OR

- c) **One completed work or currently executing one work of similar nature each** of value not less than **Rs. 12,52,86,286/ -**.

The value of executed works shall be brought to current costing level by enhancing the actual value of work at compound rate of 10 % per annum; calculated from the date of completion to last date of receipt of applications for tenders.

1.4 Financial Capacity

Achieved an average annual financial turnover as certified by 'Chartered Accountant' (in all classes of civil engineering construction works only) shall be **Rs. 7,51,71,772/- in last three (3) financial years** immediately preceding the Financial Year in which bids are invited.

The value of executed works shall be brought to current costing level by enhancing the actual value of work at compound rate of 10 % per annum; calculated from the date of completion to last date of receipt of applications for tenders.

1.3 Similar Experience:

For assessing the technical capacity for Operation & Maintenance works; Similar work shall mean, the completed or ongoing works of Operation and Maintenance of 225 MLD or more capacity single drinking water treatment plant having all following facilities:

1. settlers, filters, chlorination etc.
2. PLC - SCADA based full automation or at least it shall be evident in three process units out of filters, settlers, recycling and chemical.
3. chlorine dosing with plant license capacity of minimum 20 tonners.
4. final water quality results consistently as per BIS 10500 norms or better.

Performance certificate shall be submitted for satisfactory performance of the plant including requirements mentioned above in packet B of the e-tender.

The bidder shall have in their name, ISO certification in respect of Operation & Maintenance viz. ISO 9001 for Quality Management System and ISO 14001 for Environmental Management System.

Proof of the same shall be submitted in packet B of the e-tender

~~2. For Original and New construction works~~

~~2.4 Technical Capacity~~

~~The tenderer(s) in their own name should have satisfactorily executed the work of similar nature in BMC / Semi Govt. / Govt. & Public Sector Organizations during last seven (7) years ending last day of month previous to the date of issue of tender as a prime Contractor (or as a nominated sub-Contractor, where the subcontract had involved similar nature of work as described in the scope of works in this bid document, provided further that all other qualification criteria are satisfied)~~

~~a) Three similar completed works or currently executing three works of similar nature each of value not less than Rs.~~

OR

~~b) Two similar completed works or currently executing two works of similar nature each of value not less than Rs.~~

OR

~~e) One completed work or currently executing one work of similar nature each of value not less than Rs.~~

~~The value of executed works shall be brought to current costing level by enhancing the actual value of work at compound rate of 10 % per annum; calculated from the date of completion to last date of receipt of applications for tenders.~~

~~*In case of ongoing works to be considered, the bidder must have received payment bills of 80% of the contract sum for the work/works executed last day of month previous to the one in which bids are invited.~~

~~2.5 Financial Capacity~~

~~Achieved a average annual financial turnover as certified by 'Chartered Accountant' (in all classes of civil engineering construction works only) shall be Rs. _____ in last three (3) financial years immediately preceding the Financial Year in which bids are issued.~~

~~● To ascertain this, tenderer(s) shall furnish / upload the financial statement (Audited balance sheet) duly certified by Chartered Accountant.~~

~~● The turnover can be enhanced by 10% every year to bring the present level.~~

~~● The value of completed works shall be brought to current costing level by enhancing the actual~~

value of work at compound rate of 10% per annum; calculated from the date of completion to the date of issue of tender.

~~2.6~~ Similar work experience

~~D)~~ Bid Capacity:

The bid capacity of the prospective bidders will be calculated as under:

Assessed Available Bid Capacity = $(A * N * 2 - B)$

Where,

A = Maximum value of Civil Engineering works executed in any one year (year means Financial year) during **the last five years** (updated to the price level of the Financial year in which bids are received at a rate of 10% per year) taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the Project/Works, **excluding monsoon period**, for which these bids are being invited. (E.g. 7 months = 7/12 year) For every intervening monsoon 0.33 shall be added to N.

B = Value of existing commitments (only allotted works) on the last date of submission of bids as per bidding document and on-going works to be completed during the period of completion of the Project/Works for which these bids are being invited.

Note: 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 attached along with certificates duly signed by the Engineer in Charge, not below the rank of an Executive Engineer or equivalent.

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

- > Made misleading or false representation in the forms, statements and attachments submitted in proof of the qualification requirements; and/or
- > Record for poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc

~~D.~~ Equipment Capabilities as required for this work

- a) **Regular and Routine works:** The successful bidder will make the arrangements of the required equipment on the day of commencement or with respect to the progress of the work in phases, as per the instructions of site in charge. The successful bidder and, to that effect he will ensure commitment on an undertaking on Rs.500 stamp paper to be submitted along with the Bid in Packet B. However, this condition in no way shall dilute the respective condition in Registration Rules of BMC.
- b) **New and Original Works:** The bidder should, undertake their own studies and **furnish with their bid**, a detailed construction planning and methodology supported with assessment study of requirements of equipment / plants and machineries to allow the employer to review their proposal. The bidder will ensure his commitment to make the arrangements of the required equipment on the day of commencement or with respect to the progress of the work in phases, as per the instructions of site in charge on an undertaking on Rs.500 stamp paper to be submitted along with the Bid in Packet B. However, this condition in no way shall dilute the respective condition in Registration Rules of BMC.

Note: 1. Bidders shall submit the undertaking for equipment capability and other undertakings as such on a single Rs.500/ stamp paper.

E. Technical Personnel

(B) General Guidelines for Fixing Requirement of Technical Staff

Cost of work (Rs in Crore)	Requirement of Technical Staff		Min. Experience (year)	Designation
	Qualification	Number		
10 to 20	i) Project Manager with degree in corresponding discipline of Engineering	1	10	Principal Technical Representative
	ii) Graduate Engineer	1	5	Technical Representative
	iii) Graduate Engineer or Diploma Engineer	2 2	2 5	Project / Site Engineer and Project Planning / billing Engineer
5 to 10	i) Graduate Engineer	1	5	Principal Technical Representative
	ii) Graduate Engineer or Diploma Engineer	2 2	2 5	Project / Site Engineer Engineer
	i) Graduate Engineer	1	5	Principal Technical Representative
More than 1.5 to 5	ii) Graduate Engineer or Diploma Engineer	1 1	2 5	Project / Site Engineer Billing Engineer
	ii) Graduate Engineer or Diploma Engineer	1 1	2 5	Principal Technical Representative Project / Site Engineer / Billing Engineer
	ii) Graduate Engineer or Diploma Engineer	1 1	2 5	Principal Technical Representative Project / Site Engineer / Billing Engineer

Notes- 1.“Cost of work”, in table above, shall mean the agreement amount of the work.

2. Rate of recovery in case of non-compliance of the clause be stipulated at following rates:

Sr. No	Qualification	Experience(yrs)	Rate of Recovery
1	Project Manager with degree	10	Rs. 30000/- p.m.
2	Graduate Engineer	5	Rs. 25000/- p.m.
3	Graduate Engineer	2	Rs. 15000/- p.m.
4	Diploma Engineer	2	Rs. 15000/- p.m.

F. TIME PERIOD OF THE PROJECT :

Entire project should be completed and delivered within **3 years** of time from the date of award of contract or till termination of contract after one year whenever BMC staff will be available that **includes / excludes-Monsoon.**

The time allowed for carrying out the work as entered in the Tender shall be strictly observed by the Contractor and shall be reckoned from the date on which the Letter of Acceptance is given to the Contractor. The work shall throughout the stipulated period of the Contract be proceeded with all due diligence as time being deemed to be the essence of the contract on the part of the Contractor. On failing to do so, the Contractor shall pay as compensation an amount which shall be governed as per Clause - 8 (e) of Standard General Conditions of Contract.

The Contractor should complete the work as per phase given below :

¼ of the work in	:	¼ of the time
½ of the work in	:	½ of the time
¾ of the work in	:	¾ of the time
Full of the work in	:	Full of the time

Full work will be completed in **3 years** including monsoon.

~~The programme for completion of work shall be a part of the Contract Document in the form of Bar Chart / GANTT Chart. The Contractor is supposed to carry out the work and keep the progress as per Bar Chart / GANTT Chart. The Contractor shall complete the work as per the Schedule given in the Contract and the programme submitted by the Contractor.~~

G. Contract Execution

All required documents for execution of the contract shall be submitted within 30 days from the date of issue of letter of acceptance. If the documents are not submitted within the stipulated time a penalty of Rs 5000/- per day will be applicable to the contractor. All contract documents need to be duly affixed with stamp duty properly signed along with evidence/proof of payment of security/contract deposit/ within 30 days from the date of letter of acceptance received by him.

- H.** If the amount of the Contract Deposit to be paid above is not paid within 30 days from the date of issue of Letter of Acceptance, the Tender / Contractor already accepted shall be considered as cancelled and legal steps be taken against the contractor for recovery of the amounts.
- I.** The amount of Security Deposit retained by the BMC shall be released after expiry of period up to which the contractor has agreed to maintain the work in good order is over. In the event of the contractor failing or neglecting to complete the rectification work within the period up to which the contractor has agreed to maintain the work in good order, the amount of security deposit retained by BMC shall be adjusted towards the excess cost incurred by the Department on rectification work.

J. Action when whole of security deposit is forfeited:

In any case in which under any Clause of this contract, the contractor shall have rendered himself liable to pay compensation amounting to the whole of this security deposit whether paid in one sum or deducted by installments or in the case of abandonment of the work owing to serious illness or death of the contractor or any other cause, the Engineer on behalf of the Municipal Commissioner shall have power to adopt any of the following process, as he may deem best suited to the interest of BMC.

- (a) To rescind the contract (for which recession notice in writing to the contractor under the head of Executive Engineer shall be conclusive evidence) and in that case, the security deposit of the contract shall stand forfeited & be absolutely at the disposal of BMC.
- (b) To carry out the work or any part of the work departmentally debiting the contractor with the cost of the work, expenditure incurred on tools and plant, and charges on additional supervisory staff including the cost of work- charged establishment employed for getting the un-executed part of the work completed and crediting him with the value of the work done departmentally in all respects in the same manner and at the same rates as if it had been carried out by the contractor under the terms of his contract. The certificate of the Executive Engineer as to the costs and other allied expenses so incurred and as to the value of the work so done departmentally shall be final and conclusive against the contractor.

- (c) To order that the work of the contractor be measured up and to take such part thereof as shall be un-executed out of his hands, and to give it to another contractor to complete, in which case all expenses incurred on advertisement for fixing a new contracting agency, additional supervisory staff including the cost of work charged establishment and the cost of the work executed by the new contract agency will be debited to the contractor and the value of the work done or executed through the new contractor shall be credited to the contractor in all respects and in the same manner and at the same rates as if it had been carried out by the contractor under the terms of his contract. The certificate of the Executive Engineer as to all the cost of the work and other expenses incurred as aforesaid for or in getting the un-executed work done by the new contractor and as to the value of the work so done shall be final and conclusive against the contractor.

In case the contract shall be rescinded under Clause (a) above, the contractor shall not be entitled to recover or be paid any sum for any work there for actually performed by him under this contract unless and until the Executive Engineer shall have certified in writing the performance of such work and the amount payable to him in respect thereof and he shall only be entitled to be paid the amount so certified. In the event of either of the courses referred to in Clause (b) or (c) being adopted and the cost of the work executed departmentally or through a new contractor and other allied expenses exceeding the value of such work credited to the contractors amount of excess shall be deducted from any money due to the contractor, by BMC under the contract or otherwise, howsoever, or from his security deposit or the sale proceeds thereof provided, however, the contractor shall have no claim against BMC even if the certified value of the work done departmentally or through a new contractor

exceeds the certified cost of such work and allied expenses, provided always that whichever of the three courses mentioned in clauses (a), (b) or (c) is adopted by the Executive Engineer, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchase or procured any materials or entered in to any engagements or made any advance on account of or with a view to the execution of the work or the performance of the contract.

K. Contract may be rescinded and security deposit forfeited for bribing a public officer or if contractor becomes insolvent

If the contractor assigns or sublets his contracts or attempt so to do, or become insolvent or commence any proceeding to get himself adjudicated & insolvent or make any composition with his creditors, or attempt so to do or if bribe, gratuity, gift, loan, perquisite, reward or advantage, pecuniary or otherwise, shall either directly or indirectly be given promised or offered by the contractor or any of his servants or agents through any public officer, or person in the employ of BMC / Govt. in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract the Engineer In-charge may thereupon, by notice in writing rescind the contract and the Security Deposit of the Contractor shall thereupon stand forfeited and be absolutely at the disposal of BMC and the same consequences shall ensure as if the contract had been rescinded under above clause J hereof; and in addition the contractor shall not be entitled to recover or be paid for any work therefore actually performed under the contract.

> **Submission of Tenders**

PACKET – A

The Packet 'A' shall contain scanned certified copies of the following documents –

Scrutiny of this packet will be done strictly with reference to only the scanned certified copies of Documents uploaded online in packet 'A'

- a) Valid Registration Certificate.
- b) Valid Bank Solvency Certificate of Min. Solvency amount as governed by Registration Rules in force for respective Class of Contractor for Civil and M & E works.
- c) A document in support of registration under GST Act 2017.
- d) Certified copies of valid 'PAN' documents and photographs of the individuals, owners, Karta of Hindu undivided Family, firms, private limited companies, registered co-operative societies, partners of partnership firms and at least two Directors, if number of Directors are more than two in case of Private Limited Companies, as the case may be. However, in case of Public Limited companies, Semi Government Undertakings, Government Undertakings, no 'PAN' documents will be insisted.
- e) Latest Partnership Deed in case of Partnership firm duly registered with Chief Accountant (Treasury) of BMC.
- f) The registered power of attorney shall be submitted in the name of person who is submitting the bid.

The bidders shall categorically provide their Email - ID in packet 'A'.

NOTE:

- If the tenderer(s) withdraw tender offer during the tender validity period, his entire E.M.D shall be forfeited.
- If it is found that the tenderer has not submitted required curable documents in Packet "A" then, the shortfalls will be communicated to the tenderer through e-mail only and compliance required to be made within a time period of **three working days** otherwise they will be treated as non-responsive.

PACKET – B

The Packet 'B' shall contain scanned certified copies of the following documents

- a) The list of similar type of works as stated in para 'A' of Post qualification successfully completed during the last seven years in prescribed proforma, in the role of prime contractor. Information furnished in the prescribed proforma (Proforma – I) shall be supported by the certificate duly self-attested. Documents stating that it has successfully completed during the last seven years at least one contract of similar works as stated in para 'A' of Post qualification.
- b) Annual financial turnover for **preceding three financial years as certified by Chartered Accountant** preceding the Financial Year in which bids are invited. **Copies of Applicants duly audited balance sheet and profit and loss account for the preceding three financial years preceding the Financial Year in which bids are invited.** (Proforma – II)
- c) ~~Documents stating that, it has access to or has available liquid assets, unencumbered assets, lines of credit and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements for the subject contract in the event~~

of stoppage, start-up, or other delay in payment, of the minimum 15% of the cost of the work tendered for, net of the tenderer's commitment of other contracts (Certificate from Bankers / C.A./Financial Institution shall be accepted as a evidence).

- d) ~~The bidder shall give undertaking on Rs 500/- stamp paper that it is his / their sole responsibility to arrange the required machineries either owned / on lease or hire basis, at site before start of the work~~
- i) ~~**Regular and Routine works:** The successful bidder shall make the arrangements of the required equipment on the day of commencement or with respect to the progress of the work in phases, as per the instructions of site in charge. The successful bidder and, to that effect he will ensure commitment on an undertaking on Rs.500 stamp paper to be submitted along with the Bid in Packet B. However, this condition in no way shall dilute the respective condition in Registration Rules of BMC.~~
 - ii) ~~**New and Original Works:** The bidder should, undertake their own studies and furnish with their bid, a detailed construction planning and methodology supported with assessment study of requirements of equipment/plants & machineries to allow the employer to review their proposal. The bidder shall ensure his commitment to make the arrangements of the required equipment on the day of commencement or with respect to the progress of the work in phases, as per the instructions of site incharge on an undertaking on Rs. 500 stamp paper to be submitted along with the Bid in Packet B. However, this condition in no way shall dilute the respective condition in Registration Rules of BMC.~~
 - iii) ~~**Special Works:** The concerned Ch.Eng. shall enlist the equipment in the tender document justified for the project and ensure the capacity of the bidder for the same with the approval of concerned AMC.~~
- ~~**Note: Insistence of availability of equipment / plants at a particular distance from site should not be made in the tender document.**~~
- iv) ~~The list of the "Technical Personel" with their qualification, working in the tenderers establishment as per proforma IV.~~
 - v) ~~Details of works in hand & for which bid already submitted (Proforma VI-A & VI-B) (original), along with copies of work orders & attested copies of percentage of works completed or part thereof.~~
 - vi) ~~Statement showing assessed available Bid Capacity.~~
 - vii) ~~The undertaking of Rs.500/-stamp paper as per the proforma annexed in 'Annexure 'B' (pre-contract integrity pact) , 'C'(Indemnity Bond), 'D' (Best Price) & 'F'(Irrevocable Undertaking) and statement that bidder is conversant to onsite situations and difficulty and has inspected the site personally and accordingly the bid is submitted.~~

~~Note: Bidders shall submit the undertaking for equipment capability and other undertakings as such on a single Rs.500/- stamp paper.~~
 - viii) ~~The tenderers shall upload work plan as per the following outline:~~
 - 1. ~~GANTT chart / PERT / CPM chart showing the completion of work within prescribed time period, considering major activities.~~
 - 2. ~~Organizational set up envisaged by the contractors.~~
 - 3. ~~Plant & equipment proposed to be deployed for this work.~~

4. ~~Site Offices and Laboratories proposed to be setup.~~
 5. A note on how the whole work will be carried out (work plan including methodology).
 6. Quality management plan.
 7. All the activities included in the Scope of Work shall be covered in the work plan.
- ix) Tenderer shall submit the undertaking stating that he will submit license Certificate from the office of Labour Commissioner after issue of work order and before commencing the work, if the work is allotted to him.
- x) Information on litigation history in which tenderer is involved for last five years from the date of submission of bid as per directions given in the circular U/N MGC/F/6565 dt 25.09.2018.
- xi) Pre bid meeting minutes, signed copy of addendum if any.

Note:

- i) ~~The Electrical / Mechanical work shall be got carried out by the civil contractors through the contractors registered with BMC in Electrical Category. Information about the registered contractors shall be obtained from the office of the Ch.E. (M&E)/ E.E. (Monitoring & Registration Cell). Attested scanned copy of the valid registration certificate in Electrical Category shall be uploaded with the tender along with the undertaking from the registered Electrical Contractor stating his willingness to carry out the tender work.~~
- ii) The successful bidder shall submit valid registration certificate under E.S.I.C., Act 1948, if the tenderer has more than 10 employees / persons on his establishment (in case of production by use of energy) and 20 employees / persons on his establishment (in case of production without use of energy) to BMC as and when demanded. In case of less employees/persons mentioned above then the successful bidder has to submit an undertaking to that effect on Rs.200 stamp paper as per circular u/no. CA/FRD/I/65 of 30.03.2013.
- iii) The successful bidder shall submit valid registration certificate under E.P.F. &M.P., Act 1952, if tenderer has more than 20 employees / persons on his establishment, to BMC as and when demanded. In case if the successful bidder has less employees / persons mentioned above then the successful bidder has to submit an undertaking to that effect on Rs. 200 stamp paper as per circular u/no. CA/FRD/I/44 of 04.01.2013.
- iv) The successful bidder shall submit the signed form of the tender & specifications of work if any.(Annexure A.)

Note:

- If it is found that the tenderer has not submitted required curable documents in Packet “B” then, the shortfalls will be communicated to the tenderer through e-mail only and compliance required to be made within a time period of three working days otherwise they will be treated as non-responsive.

PACKET – C

- a. Online tender filled in either percentage plus or minus (above or below), or at par. (There is no separate provision to quote % in physical form, this is a part in Header Data of online Tendering). For Packet ‘C’ tenderer(s) will fill data in ‘Item Data Tab’ in Service Line Item via Details and quotes his percentage variation figures. **(If entered ‘0’ it will be treated as ‘at par’**. By default the value is zero only).

Note: In case of rebate / premium of 15 % and above as quoted by the tenderer, the rate analysis of major items shall be submitted by L1 and L2 bidder after demand notification by e-mail to bidders by concerned Dy.H.E. / Dy.Ch.Eng. The format for rate analysis is annexed at Annexure D.

BID SECURITY OR EMD

- The Bidder shall furnish, as part of the Bid, Bid Security / EMD, in the amount specified in the Bid Data Sheet. This bid security shall be in favor of the authority mentioned in the Bid Data Sheet and shall be valid till the validity of the bid.
- The tenderers shall pay the EMD online instead paying the EMD at any of the CFC centres in BMC Ward Offices.
- Any bid not accompanied by an acceptable Bid Security and not secured as indicated in sub-clause mentioned above, shall be rejected by the Employer as non-responsive.
- The Bid Security/EMD of the successful Bidder will be discharged when the Bidder has signed the Agreement and furnished the required Security Deposits.
- The Bid Security/ EMD and ASD of L-2 and higher bidders (L-3, L-4, etc) shall be refunded immediately after opening of financial bid.

In case, the successful bidder becomes non responsive or successful bidder withdraws the bid or is unwilling to extend the bid validity period in such circumstances, if L-2 bidder is aggregable to extend the bid validity period and ready to deposit the requisite amount of bid security/EMD and ASD to the department within the stipulated time period i.e.15 days, the department will process further as per normal procedure.

- The Bid Security may be forfeited:
 - a) if the Bidder withdraws the Bid after bid opening (opening of technical qualification part of the bid during the period of Bid validity;
 - b) in the case of a successful Bidder, if the Bidder fails within the specified time limit to:
 - i. sign the Agreement; and / or
 - ii. Furnish the required Security Deposits.

Mode of payment of EMD:

A tenderer shall pay entire amount of EMD through payment gateways of GoM on URL <https://mahatenders.gov.in> . The bidder shall upload scan copy of online paid EMD along with the bid submission in packet A.

Any bid not accompanied by an acceptable bid security shall be rejected by the Employer as non responsive.

If non responsive:

If the bidder is found non-responsive after scrutiny of packet A/B in such circumstances, **the bidder will be made non responsive and financial packet C of non responsive bidder will not be opened. However there will not be any forfeiture of EMD.**

Shortfalls:

Maximum 5 shortfalls of curable defects shall be allowed and in case, curable defects are not complied by bidder within given time period, the bidder shall be treated as "**Non -Responsive**" & such cases will be informed to Registration and Monitoring Cell. Such non-submission of documents will be considered as 'Intentional Avoidance' & if three or more cases in 12 months are reported,

shall be viewed seriously and disciplinary action against the defaulters such as banning / de-registration, etc. shall be taken by the registration cell with due approval of the concerned AMC.

Refund of EMD:-

a) Except successful bidder all other unsuccessful bidders 100% EMD paid online will be refunded automatically.

b) The Bid security of successful bidder will be discharged when the bidder has signed the agreement and /or furnish the required security deposits as elaborated in standard bid document.

~~In case of curable/ non curable defects due to non fulfilment of requirement of BMC as prescribed & in the event, the bidder becomes non-responsive & the 10% EMD will be forfeited and bid will be rejected. This shall be in addition to any forfeiture of proportionate EMD for curable defects as per other relevant clauses of the tender document, if applicable.~~

~~In case of non workable rate analysis and misleading information submitted by the bidder, EMD shall be forfeited and bid will be rejected.~~

Note:

- i) Curable Defect shall mean shortfalls in submission such as:**
 - a. Non-submission of following documents,**
 - i Valid Registration Certificate**
 - i Valid Bank Solvency**
 - ii GST Registration Certificate**
 - iv. Certified Copies of PAN documents and photographs of individuals, owners, etc**
 - v. Partnership Deed and any other documents**
 - vi. Undertakings as mentioned in the tender document.**
 - b. Wrong calculation of Bid Capacity.**
- ii) Non-curable Defect shall mean**
 - a. In-adequate submission of EMD / ASD amount,**
 - b. In-adequacy of technical and financial capacity with respect to Eligibility criteria as stipulated in the tender.**
 - c. No proper submission of experience certificates and other documents, etc.**

BID VALIDITY

- **Bids shall remain valid for a period of not less than one eighty (180) days after the deadline date for bid submission specified in Bid Data Sheet. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.**
- 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. The request and the bidders' responses shall be made in writing or by cable. 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.

DEFECT LIABILITY PERIOD : Not applicable

- The Contractor is expected to carry out the construction work in Workmen like manner so as to meet the requirement and specification for the project. It is expected that the Workmanship & materials will be reasonably fit for the purpose for which they are required.
- Defects or defective work is where standard and quality of workmanship and materials as specified in the contract is deficient. Defect is defined as a failure of the completed work/project to satisfy the express or implied quality or quantity obligations of the ~~construction~~ contract. Defective ~~construction~~ works are as the works which fail short of complying with the express descriptions or requirements of the contract, especially any drawings or specifications with any implied terms & conditions as to its quality, workmanship, durability, aesthetic, performance or design. ~~Defects in construction projects are attributable to various reasons:~~
- ~~Some of the defects are structural defects results in cracks or collapse of faulty defective plumbing, inadequate or faulty drainage system, inadequate or faulty ventilation, cooling or heating systems, inadequate fire systems etc. The defects could be various on accounts of different reasons for variety of the projects.~~
- The Engineering In charge / Project Officer shall issue the practical completion certificate for the project. During the Defect Liability Period which commences on completion of the work, the Engineering In charge shall inform or the contractor is expected to be informed of any defective works by the Employer's representative of the defects and make good at contractor's cost with an intention of giving opportunity to the contractor of making good the defects appeared during that period. It is the contractor's obligation under the contract to rectify the defects that appear during Defect Liability Period and the contractor shall within a reasonable time after receipt of such instructions comply with the same at his own cost. The Engineering In charge / Project Officer shall issue a certificate to that effect and completion of making good defects shall be deemed for all the purpose of this contract to have taken place on the day named in such defect liability certificate.
- If defective work or workmanship or design have been knowingly covered-up or concealed so as to constitute fraud, commencement of the Defect Liability Period may be delayed. The decided period may be delayed until discover actually occurs on at least the defect could have been discovered with reasonable diligence, whichever is earlier.

• **The DLP shall be as below: Clause not applicable**

Dept.	Type of works	DLP
Roads / Bridge	For cement concrete road/ Mastic works	5 Years
	Asphalt work	3 Years
	Paver Block	3 Years
	Structural work	5 Years
	General works	5 Years
BM/SIC/HIC	General works	3 Years
	Structural works	5 Years
	Waterproofing works	5 Years
Ward Works	All ward level works	2 Years
Other Works	Pot holes & pre-monsoon bad patch repair work	1 Year
For other departments	HE, WSP, SP, SWD, Garden	3 Years

- Also, in case of defect, the Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at. The Defects Liability Period shall be extended for as long as Defects remain to be corrected. Every time notice of Defect/Defects is given, the Contractor shall correct the notified Defect/Defects within the

duration of time specified by the Engineer's notice. The Engineer may issue notice to the Contractor to carry out removal of defects or deficiencies, if any, noticed in his inspection, or brought to his notice. The Contractor shall remove the defects and deficiencies within the period specified in the notice and submit to the Engineer a compliance report.

● It is the Completion Stage when the contractor has completed all of the works and fixed all of the defects that were on the list of issue by Engineer-in-charge. When this happens, the engineer must issue a 'Certificate of Completion'. On the issue of 'Certificate of Completion', the 'Defect Liability Period' starts. The contractor also must issue a 'Certificate statement' as an acknowledgment to the engineer not later than 14 days after the 'Certificate of Completion' has been issued. During the 'Defect Liability Period', the contractor has to obey all written instructions from the engineer to carryout repairs and fix any defects which appear in the Permanent Works. If the contractor does not, due to his own faults finish the repair works or fix the defects by the end of 'Defect Liability Period', the 'Defect Liability Period' will continue until all works instructed by engineer is done.

SECURITY DEPOSIT AND PERFORMANCE GUARANTEE

A. Security Deposit

[Circular issued u/n CA/F/Project/21 Dt.07.09.2020. is applicable for this tender] The security deposit shall mean and comprise of

- I) Contract Deposit and
- II) RetentionMoney.

I) Contract Deposit – The successful tender, here after referred to as the contractor shall pay an amount equal to **two (2)** percent of the contract sum shall be paid within thirty days from the date of issue of letter of acceptance.

The said contract deposit shall be paid in the form of Demand Draft (D.D.) only.

~~Contract Deposit may be allowed in any form i.e. in Cash or Demand Draft or Government Securities or Fixed Deposit Receipts or in the form of Bank Guarantee.~~

II) Retention Money – The contractor shall pay the retention money an amount equal to Two (2) percent of the contract sum which will be recovered from the contractors every bill i.e. Interim/running/final bill. ~~The clause of retention money will not be applicable- M. & E. Department / works.~~

B. Additional Security Deposit (Not applicable for Item Rate Tender)

The additional security deposit will be applicable when a rebate of more than of 12 % at the rate of with no maximum limit. The ASD is calculated as follows:

Additional security deposit = $(X/100) \times$ office estimated cost,

Where X=percentage rebate quoted above 12%

The ASD shall be paid online in the ASD tab for bidders in e-tendering system before submission of the bid.

C. Performance Guarantee (Not applicable for Item Rate Tender)

The successful tender, here after referred to as the contractor shall pay in the form of “Performance Guarantee” at different rates for different slabs as stated below:

Offer	PG applicable %
For premium, at par and rebate 0 to 12%	PG = 0.92% x contract sum applicable for rebate of 12%
For rebate of 12.01%	P.G. = {0.92% x contract sum applicable for rebate of 12%} +(X) x contract sum where X= percentage rebate quoted more than 12%

Note: Contract sum shall mean amount after application of rebate/premium as quoted by the contractor with contingencies only and excluding price variation.

The PG shall be paid in one the following forms.

- I) Cash (In case guarantee amount is less than Rs.10,000/-
- II) Demand Draft (In case guarantee amount is less than Rs.1,00,000/-)
- III) Government securities
- IV) Fixed Deposit Receipts (FDR) of a Schedule Bank.
- V) An electronically issued irrevocable bank guarantee bond of any Schedule bank or f in the prescribed form given in Annexure.

Performance Guarantee is applicable over and above the clause of Security Deposit.

Performance Guarantee will have to be paid & shall be valid till the defect liability period or finalization of final bill whichever is later.

This deposit will be allowed in the form of I to V as mentioned above and shall be paid within 15 days after receipt of Letter of Acceptance.

~~**Note:** Following exceptions shall be adopted for ‘Demolition Tenders’:~~

- ~~● Irrespective of the offer (Rebate/ at par/ premium), ASD shall be differed and only PG of 10% of contract sum be taken from the successful bidder on award of contract only.~~
- ~~● BMC departments shall ensure to incorporate specific condition regarding above in bid document and e-tender notice.~~

D. Refund of Security Deposit**I. Refund of Contract Deposit**

~~The Contract Deposit shall be released within 30 days after completion of 3rd year of DLP (in case of 5 years DLP) and after issue of ‘Defect Liability Certificate’ (in case of 1 or 2 or 3 years DLP) subject to no recoveries are pending against the said work, provided that the Engineer is satisfied that there is no demand outstanding against the Contractor. No claim shall be made against the Balance Contract Deposit after the issue of Defects Liability Certificate.~~

II. Refund of Retention Money

~~One half (50 %) of the Retention Money shall be released within 30 days of issue of ‘Certificate of Completion’ with respect to the whole of the Works. In the event the Engineer issues a Taking-over Certificate for a section or part of the Permanent Works, only such proposition there of as the Engineer determines (having regard to the relative value of such section or part of the Works) shall be considered by the Engineer for payment to the Contractor.~~

The balance Retention Money shall be released within 30 days after completion of 3rd year of DLP (in case of 5 years DLP) and after issue of 'Defect Liability Certificate' (in case of 1 or 2 or 3 years DLP) provided that the Engineer is satisfied that there is no demand outstanding against the Contractor. In the event of different Defects Liability Periods have been specified or become applicable to different sections or parts of the Permanent Works, the said moneys will be released within 30 days on expiration of the latest of such Defects Liability Periods.

Payment of the above mentioned 50% is exclusive of the amounts to be withheld as stated in and that amount shall be paid as per condition stated therein.

III. Refund of Additional Security Deposit

The additional security deposit shall be released within 30 days of issue of 'Certificate of Completion' with respect to the whole of the Works. In the event the Engineer issues a Taking-over Certificate for a section or part of the Permanent Works, only such proposition thereof as the Engineer determines (having regard to the relative value of such section or part of the Works) shall be considered by the Engineer for payment to the Contractor.

IV. Refund of Performance Guarantee

The Deposit on account of performance guarantee shall be released within 30 days of completion of Defects Liability Certificate subject finalization of final bill whichever is later and no recoveries are pending against the said work, provided that the Engineer is satisfied that there is no demand outstanding against the Contractor.

□ Summary of time of Refund of deposit is tabulated as follows:

a) Time of Refund for works having 5 years DLP

Deposits refunded after completion	After 3 yrs of DLP	After Completion of DLP
ASD + 50% of RM	CD+50% of RM	PG

b) Time of Refund for works having 1 or 2 or 3 years DLP

Deposits refunded after completion	After Completion of DLP
ASD + 50% of RM	CD +50% of RM+PG

***Note:**

- a) It shall be clearly mentioned that the BG shall be applicable for individual work / contract and clubbing of various contracts of the said contractor will not be allowed. In case of obtaining Bank Guarantee, it is necessary to mention that the same shall be valid further 6 months from the completion of defect liability period / warranty period.
- b) It shall be the responsibility of the bidder to keep the submitted B.G. "VALID" for the stipulated time period in the tender & in case of its expiry it will attract penalization.
- c) Bank Guarantee should be issued by way of General Undertaking and Guarantee issued on behalf of the Contractor by any of the Nationalized or Scheduled banks or branches of foreign banks operating under Reserve Bank of India regulations located in Mumbai upto Virar & Kalyan. List of approved Banks is appended at the end of Instructions to Bidders (ITB). The Bank Guarantee issued by branches of approved Banks beyond Kalyan and Virar can be accepted only if the said Bank Guarantee is countersigned by the Manager of a Regional Branch of the same bank within the Mumbai City Limit categorically endorsing thereon that the said Bank Guarantee is binding on the endorsing Branch of the Bank or the Bank itself within Mumbai Limits and is liable to be enforced against the said Branch of the Bank or the bank itself in case of default by the Contractors furnishing the Bank Guarantee. The Bank Guarantee shall be renewed as and when required and/or directed from time to time until the Contractor has executed and completed the works and remedied any defects therein.

E. Legal + Stationary Charges: (As per applicable circular)

Successful tender shall pay the Legal Charges +Stationary charges as per legal department circular no. 26206 dated 31.08.2023 (Upto 31.03.2024)

Sr.No.	Contract Value in Rs.	Legal + Stationery Charges Rs.
1	Up to 50,000/-	Nil
2	From 50,001/- to 1,00,00,000/-	@0.10% of contract cost +18%GST (Min.Rs.1000/-+GST & Max.10000/-+GST)
3	From 1,00,00,001/- to 10,00,00,000	Rs.10000/- for contract cost upto Rs.1,00,00,000/- plus @0.05% for above Rs.1,00,00,000/- +18% GST
4	Above 10,00,00,001/-	Rs.55000/- for contract cost upto Rs.10,00,00,000/-plus @0.01% for above Rs.10,00,00,000/- +18% GST

The tenderers are requested to note that stationary charges as given in the table above will be recovered from the successful tenderer for supply of requisite prescribed forms for preparing certificate bills in respect of the work.

F. Stamp Duty: (As per applicable circular)

It shall be incumbent on the successful tenderer to pay stamp duty on the contract.

- i. As per the provision made in Article 63, Schedule I of Bombay Stamp Act 1958, stamp duty is payable for “works contract” that is to say, a contract for works and labour or services involving transfer of property in goods (whether as goods or in some other form) in its execution and includes a sub-contract, as under:

(a)	Where the amount or value set forth in such contract does not exceed rupees ten lakh.	Five Hundred rupees stamp duty
(b)	Where it exceeds rupees ten lakhs	Five hundred rupees plus 0.1% of the amount above rupees ten lakh subject to maximum of rupees twenty five lakh stamp duty.
(C)	Bank guarantee : As per article 54 read with 40(b) of stamp duty act, stamp duty of 0.5 % will be applicable to the all bank guarantee submitted also which are required to be renewed after expiry of time limit.	0.5%

- ii. The successful bidder shall enter into a contract agreement with B.M.C. within 30 days from the date of issue of Work Order and the same should be adjudicated for payment of Stamp Duty by the successful bidder.
- iii. Further shortfall if any, in amount of stamp duty paid as against prescribed amount for the documents executed in Mumbai City & Mumbai Suburban District be recovered from the concerned work contractors and to deposit the deficit or unpaid Stamp Duty and penalty by two separate Demand Draft or Pay Order in favour of “Superintendent of Stamp, Mumbai” within 15 days from intimation there of.
- iv. All legal charges and incidental expenses in this respect shall be borne and paid by the successful tenderer.

IMPORTANT DIRECTIONS

1. All the information uploaded shall be supported by the corroborative documents in absence of which the information uploaded will be considered as baseless and not accepted for qualification criteria. All the documents shall be uploaded with proper pagination. The page No. shall be properly mentioned in the relevant places.

The information shall be uploaded in the sequence as asked for with proper indexing etc. The Bidder shall be fully responsible for the correctness of the information uploaded by him.

2. Applicants / Bidders shall refer portal.mcgm.gov.in/tenders for "The Manual of Bid- Submission for Percentage Rate/Item Rate Tender Document." The detail guidelines for creation and submission of bid are available in the referred document.

Any queries or request for additional information concerning this TENDER shall be submitted by e-mail to dyhebc@yahoo.com The subject shall clearly bear the following identification / title: "**Queries / Request for Additional Information: TENDER for "Operation and Maintenance of 900 MLD Water Treatment Plant at Bhandup Complex."**". Any changes in mail ID will be intimated on the portal.

3. In case of **Equal Percentage** of lowest bidders (L1), the allotment of work shall be done by giving 48hrs (2 working days) from the day of opening of packet C on same BID-Document number for re-quoting and such development needs to be done by IT department in BMC's SRM system. **Till such development is made; 'Sealed Bids' shall be called from the bidders quoting the same rates i.e.L1.**

In case of equal percentage of lowest bidders is obtained even after re-quoting, then the successful bidder will be decided by lottery system by concerned Ch.Eng.

The bidder shall need to submit the additional ASD if applicable within 7 days after receipt of notification issued by concerned Chief Engineer.

Also, the Performance Guarantee shall be paid in 15 days after receipt of Letter of Acceptance

GENERAL DIRECTIONS TO TENDERERS:

1. Firms with common proprietor / partner are connected with one another either financially or as master and servant or with proprietor / partner closely related to each other such as husband, wife, father / mother and minor son / daughter and brother / sister and minor brother / sister, shall not tender separately under different name for the same contract.
2. If it is found that firms as described in clause 1 above have tendered separately under different names for the same contract all such tenders shall stand rejected and tender deposit of each such firm / establishments shall be forfeited. In addition, such firms / establishments shall be liable, at the discretion of the Municipal Commissioner, for further penal action including blacklisting.
3. If it is found that closely related persons as in clause 1 above have submitted separate tenders under different names of firms, establishment but with common address for such establishment / firms and / or if such establishment firms though they have different address, are managed or governed by the same person / persons jointly or severally such tender shall be liable for action as in clause 2 above including similar action against firms / establishment concerned.
4. If after award of contract, it is found that the accepted tenderer violates any of the clauses, i.e. clauses

- 1, 2 & 3 as above the contract shall be liable for cancellation at any time during its currency in addition to penal action against the contractors as well as related firms / establishments.
5. Tenderers should note in addition to the official address, they should furnish private residential address, mobile nos., email ids of the partners. Any fault in this respect may justify the rejection of Tender.
 6. In the event of tender being accepted, full amounts of contract deposit must be paid and contract must be signed by all the partners of the firm and if one or more partners be not available for the purpose, signatory must produce a Power of Attorney must be registered in the office of C.A (Finance) / C.A (Treasury) /C.A (WSSD).
 7. In the case of a Joint Stock Company, the contract must be sealed with the seal of the company in the presence of and signed by the two Directors or by a person duly authorized to sign the contract for the Company by a power of attorney, such power being sealed and signed as aforesaid. All such power of attorney must be registered in the Municipal Office.
 8. **Tenderers must distinctly understand:**
 - a) That they will be strictly required to conform to the conditions of this contract as contained in each of its clauses and that the plea of "custom prevailing" will not on any account be admitted as an excuse on their part for infringement of any of the conditions.
 - b) That no alternation or interpolation will be allowed to be made in any of the terms and conditions of this contract or in the Specification of in the Schedule, and that if any such alteration or interpolation be made by a Tenderer, his tender will, at the option of the Municipal Commissioner, either be rejected or to be treated as if no such alteration or interpolation has been made.
 - c) That the full contract deposit must be paid within the time specified and the contract must be executed within the stipulated time frame by the successful tenderer.
 - d) That a postponement of the payment of the full contract deposit or the execution of the contract will not be permitted by reason of the Corporation having in possession other deposits on account of other tenders or contracts, which deposit may be or become returnable to the tenderers and which they may wish to transfer as a deposit under this contract. Such transfers will not under any circumstances be permitted.

Tenderers shall note that if the conditions of G.C.C. are in variance with the conditions contained in the tender document the conditions of the tender document shall prevail.

SITE INSPECTION

Prior to submitting and uploading e-tender for the work the tenderer should visit and examine at the site of works and its surroundings at his own expense and obtain and ascertain for himself, on his own responsibility & risk all information, technical data etc. that may be necessary for preparing his bid and entering into a contract including, inter-alia, the actual conditions regarding the nature and conditions of site, availability of materials, labour, probable sites for Chowky /stores etc. and the extent of lead and lift required for the execution of the work over the entire duration of the contract, after taking into consideration local conditions, traffic restrictions, obstructions in work, if any allow all such extra expenses that are likely to be incurred due to any such conditions, restrictions, obstructions etc. in the quoted contract price for the work.

They shall obtain further clarification, if any, on any specific issue from the Deputy Hydraulic

Engineer (M & E) B.C. / E.E.(900 MLD WTP) B.C., the offices of whom are situated at office of Dy.H.E. (M & E) B.C., Administrative Building, Bhandup Complex Water Treatment Plant, Dargah road, Mulund West, Mumbai- 400082 before submitting the tender. Tenderers/Contractors should note and study the condition related to site constraints and its impact.

MODIFICATIONS IN TENDER DOCUMENT

If B.M.C. considers it is necessary to carry out any modifications, in the tender documents and extend the closing date of the tender the same shall be made by an addendum. Copy of addendum will be uploaded on B.M.C.'s portal. Each addendum shall be signed by the tenderer(s) and scanned copy of the same should be uploaded in Packet 'B'. The tenderer(s) shall not add or amend the text of any documents contained in tender document.

TAXES AND DUTIES ON MATERIAL

All taxes, duties, cess and charges such as Octroi, Service Tax, Terminal or Sales Tax etc. and other duties on material obtained for the work from any source including the tax applicable as per Maharashtra Sales Tax Act, on the transfer of property in goods involved in the execution of work contracts (re-enacted) Act 1989, Maharashtra State Building & Other Construction Workers Welfare Cess (G.R.No BCA 2009 / C.N/108/ /Labour7-A dated 17.06.10) shall be borne by the tenderer. The tenderer shall not be reimbursed the taxes, duties, cess and charges whether now in force or that may be brought in force. Tenderer should submit necessary octroi receipts to the dept. in respect of material brought by him from supplier outside Mumbai limit.

Whenever required the tenderer will have to produce a certificate from the Chief Accountant of this Corporation to the effect that the tenderer is not in arrears against his personal account.

“All charges on account of all Custom Duties, Import Duties, Excise Duties, Business, Income Taxes, Octroi Terminal/VAT/Turnover and other taxes etc. on material, equipment supplies to be used or services to be performed under the contract obtained for the work from any sources as amended up to date shall be borne by the contractor, as per the General Condition of Contract under Taxation Clause and Tender Conditions.

However, as per the prevailing tax polices of State/Central Government if B.M.C. is eligible for getting exemption from excise and other duties or any other taxes payable on any of the material, equipment supplies to be procured or services to be performed for execution of the tender work, then B.M.C.will issue work specific Exemption Certificate to the concerned authority for availing the same. Exemption Certificate issued, shall not be misused. If found misused anywhere, then action as deemed fit including blacklisting of the contractor from B.M.C. will be taken.

The tenderer should also note that the execution of work should not be delayed for want of exemption certificate. Any taxes and duties paid until issue of exemption certificate will not be reimbursed. The tenderer should note this and quote accordingly.”

Tenderer shall be registered under the Maharashtra Sales Tax on the transfer of property in goods involved in the execution of works contracts (Re-enacted) Act 1989 and should produce documentary evidence of the effect (a copy of registration of certificate from the sales tax department) along with the tender.

G.S.T. and other state levies/cess which are not subsumed under GST will be applicable. The tenderer shall quote inclusive of all taxes. It is clearly understood that BMC will not bear any additional liability towards payment of any Taxes and Duties.

Wherever the services to be provided by the tenderer fall under Reverse Charges Mechanism, the price quoted shall be exclusive of GST, but inclusive of Taxes/Duties/Cess other than GST, if any. Rates accepted by BMC shall hold good till completion of work and no additional individual claim shall be admissible on account of fluctuation in market rates: increase in taxes/any other levies/toll etc. except that payment/ recovery for overall market situation shall be made as per price variation.

a) “As per circular CA / Finance / Proj / City / 17, dated 06.09.2017” Chapter XXI-Miscellaneous, section 171(1) of GST Act-2017 governs the ‘Anti Profiting Measure’(AMP). As per the provision of this section, ‘Any reduction in rate of tax on any supply of goods or services or the benefit of input tax credit shall be passed on to the recipient by way of commensurate reduction in prices.’ Accordingly , the contractor should pass on the complete benefit accruing to him on account of reduced tax rate or additional input tax credit to BMC.

Further, all the provision of GST Act will be applicable to the tenderer.

SOLVENCY CERTIFICATE

Tenderer(s) shall upload a scanned copy of latest solvency certificate for required amount from a bank of M.C.G.M approved list attached issued **maximum 12 (twelve) months prior to due date of tender**. Latest solvency certificate shall be submitted in physical format if the tender is awarded to bidder.

ERRORS AND DISCREPANCIES IN TENDER

If tender contains errors in the Bill of Quantities such as computing mistakes, incorrect transfer etc. the Engineer will inform the tenderer(s) of such errors or discrepancies and rectify the errors or discrepancies and will re-total the amounts of Bill of Quantities. The foregoing procedure may be applied at any time prior to award of contract and the Engineer is not liable for any error or discrepancy which was not discovered during scrutiny of the tender.

In comparing tenders, the corporation shall consider such factors as the efficiency and reliability of instrument and methods proposed, compliance with the specifications, quality and the tenderer’s capacity to perform vis-à-vis the time of completion.

AWARD OF CONTRACT

Notification of award by way of work order prior to the tender validity period will be issued in writing to successful tenderer. The contract will be awarded to the best responsive tenderer(s) offering the lowest evaluated tender in conformity with the tender document. Corporation reserves right to accept/reject any or all tenders and to annul the tendering process at any time prior to award of contract. Prior to the expiry of the Tender validity, the Corporation will notify the successful tenderer(s) by a letter that his tender has been accepted, if required. This letter herein after and in condition of contract called “The Letter of the Acceptance”. Notification of Award will constitute the information of contract.

SECTION 7
SCOPE OF WORK

SCOPE OF WORK

BMC is primarily an organization, which in the interest of citizens and with the speed of urbanization deals with the variety of the infrastructure services and delivered to the public by different departments like Water Supply Projects, Sewerage Projects, Hydraulics, Storm Water Drain / Roads and bridges and Building Construction etc.

Preamble:

The Brihanmumbai Municipal Corporation (BMC) owns state of art technology fully automated 900 MLD water treatment plant situated at Bhandup Complex. In addition to water treatment, plant is equipped with recycling facilities for recirculation of filter back wash water and desludge water from settlers by removing sludge. The plant is built by M/s. Suez India Pvt. Ltd. (Indian subsidiary of M/s. Degremont S.A. Ltd) and commissioned on 07.01.2014 followed by Operation & Maintenance (O & M) of plant during guarantee period of one year and there after a total of ten years O & M period. The O & M period will be over by 12.03.2025.

The site is located at Bhandup Complex about 2 kms west side of Lal Bahaddur Shastri Marg (LBS Marg) on Mulund - Goregaon Link Road and about 5 kms. away from Eastern Express Highway. The nearest Railway Station is Nahur on Central Railway line.

The new 900 MLD water treatment plant is in process of handing over to HE department for operation and maintenance. The required engineering and labour staff to operate and maintain the plant is already sanctioned and the process of filling up of posts is in process. The process would take some more time.

Therefore Operation & Maintenance of fully automated 900 MLD Water Treatment Plant at Bhandup Complex consisting of inlet works, pulsatube clarifiers, rapid sand filters, dosing systems for PAC, chlorine & polyelectrolyte, common sludge recovery plant for desludge water of settlers of 900 MLD and 1910 MLD WTP, sludge handling and transportation, filter back wash water recirculation plant for 900 MLD WTP, filter back wash water recirculation plant for 1910 MLD WTP, water sampling, testing and quality control, online flow measuring devices and quality monitoring instruments, providing consumables and machinery spares on comprehensive basis including all allied works is proposed to be outsourced for three years period or till the BMC staff will be appointed and conversant to the works assigned to them.

The work of 'Operation & Maintenance of new 900 MLD Water Treatment Plant, Bhandup Complex involves scope as follows -

1. Operation of 900 MLD Water Treatment Plant-

- i) All operations and process control related to inlet works, pulsatube clarifiers, PAC dosing, filters, chlorine dosing.
- ii) Operation of filter back wash water recycling plant for 900 MLD & 1910 MLD plant.
- iii) Operation of SRA (Sludge Recirculation Area) plant including sludge handling, transport & disposal.
- iv) Water quality control by sampling and testing.

2. Maintenance of 900 MLD water treatment plant.

- i) Maintenance of all mechanical, electrical, and civil equipment of 900 MLD WTP, filter back wash recycling plant for 900 & 1910 MLD plant and SRA plant. (List of equipment as per **Annexure V**)
- ii) Maintaining complete automation system involving instrumentation, SCADA, various sensors, ICP etc.

3. Associated works of 900 MLDWTP:

- i) Start-ups and shut-downs
- ii) Emergency handling
- iii) Security
- iv) Housekeeping
- v) Transportation
- vi) Gardening
- vii) Maintaining internal roads
- viii) Streetlighting
- ix) Compliance to statutory / legal requirements
- x) Health, safety and environment measures

Note: The detail specifications of complete work is specified in section 10 i.e. Specifications & Selection of Material.

SECTION 8
BILL OF QUANTITIES

BRIHANMUMBAI MUNICIPAL CORPORATION

Schedule of Quantities and Rates

Sub. : Operation & Maintenance of 900 MLD Water Treatment Plant, Bhandup Complex.

Sr. No.	Description	Qty.	Unit	Rate in Rs. (Inclusive of all taxes & duties Except GST)	Amount in Rs. (Inclusive of all taxes & duties Except GST)
a)	Operation & Maintenance of fully automated 900 MLD Water Treatment Plant at Bhandup Complex consisting of inlet works, pulsatube clarifiers, rapid sand filters, dosing systems for PAC, chlorine & polyelectrolyte, common sludge recovery plant for desludge water of settlers of 900 MLD and 1910 MLD WTP, sludge handling and transportation, filter back wash water recirculation plant for 900 MLD WTP, filter back wash water recirculation plant for 1910 MLD WTP, water sampling, testing and quality control, online flow measuring devices and quality monitoring instruments, providing consumables and machinery spares on comprehensive basis including all allied works complete as per the tender specifications requirements-				
1	For 1 st year	1	Job		
2	For 2 nd year	1	Job		
3	For 3 rd year	1	Job		
	Grand Total (GST is exempt for this work)				
	In Words : Rupees				

Note : This page is only for reference, does not need any uploading. The values are to be filled in online in "BOQ" section.

SECTION 9
GENERAL CONDITIONS OF
CONTRACT

General Conditions of Contract

A. General

1. Definitions

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

The “Contract” shall mean the tender and acceptance there of and the formal agreement if any, executed between the Contractor, Commissioner and the Corporation together with the documents referred to there in including these conditions and appendices and any special conditions, the specifications, designs, drawings, price schedules, bills of quantities and schedule of rates. All these documents taken together shall be deemed to form one Contract and shall be complementary to one another.

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

The “Contractor” shall mean the individual or firm or company whether incorporated or not, whose tender has been accepted by the employer and the legal successor of the individual or firm or company, but not (except with the consent of the Employer) any assignee of such person.

The Bidder is a person or corporate body who has desired to submit Bid to carry out the Works, including routine maintenance till the tender process is concluded.

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

The “Contract Sum” means the sum named in the letter of acceptance including Physical contingencies subject to such addition there to or deduction there-from as may be made under the provisions hereinafter contained.

Note: The contract sum shall include the following –

- In the case of percentage rate contracts the estimated value of works as mentioned in the tender adjusted by the Contractor’s percentage.
- In the case of item rate contracts, the cost of the work arrived at after finalization of the quantities shown in schedule of items / quantities by the item rates quoted by the tenderers for various items and summation of the extended cost of each item.
- In case of lumpsum contract, the sum for which tender is accepted.
- Special discount / rebate / trade discount offered by the tenderer if any and accepted by the Corporation.
- Additions or deletions that are accepted after opening of the tenders.

The “Contract Cost” means the Contract Sum plus Price Variation. This cost shall be included in the letter of acceptance.

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

The Defects Liability Certificate is the certificate issued by the Engineer, after the Defect Liability Period has ended and upon correction of Defects by the Contractor.

Drawings means all the drawings, calculations and technical information of a like nature provided by the Engineer to the Contractor under the Contract and all drawings, calculations, samples, patterns, models, operation & maintenance manual and other technical information of like nature submitted by the Contractor and approved by the Engineer.

The Authority shall mean Brihanmumbai Municipal Corporation (BMC)

The “Employer” shall mean the Municipal Corporation for Greater Mumbai / Municipal Commissioner for Greater Mumbai, for the time being holding the said office and also his successors and shall also include all “Additional Municipal Commissioners, Director (Engineering Services & Projects)” and the Deputy Municipal Commissioner, to whom the powers of Municipal Commissioner, have been deputed under Section 56 and 56B of the Mumbai Municipal Corporation Act.

The Engineer in-charge shall mean the Executive Engineer in executive charge of the works and shall include the superior officers of the Engineering department i.e. Dy.Ch.Eng / Ch.Eng. and shall mean and include all the successors in BMC

The Engineer's Representative shall mean the Assistant Engineer, Sub. Engineer / Jr. Engineer in direct charge of the works and shall include Sub Eng./ Jr. Eng of Civil section/ Mechanical section/ Electrical section appointed by BMC.

The “Engineer” shall mean the City Engineer / the Hydraulic Engineer / the Chief Engineer / the Special Engineer, appointed for the time being or any other officer or officers of the Municipal Corporation who may be authorized by the commissioner to carry out the functions of the City Engineer / the Hydraulic Engineer / the Chief Engineer / the Special Engineer or any other competent person appointed by the employer and notified in writing to the Contractor to act in replacement of the Engineer from time to time.

Contractor’s Equipment means all appliances and things of whatsoever nature required for the execution and completions of the Works and the remedying of any defects therein, but does not include plant material or other things intended to form or forming part of the Permanent 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 construction 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 and works of routine maintenance.

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

Routine Maintenance is the maintenance of activities of the completed structure for five years as specified in the Contract Data.

The “Site” shall mean the land and other places including water bodies more specifically mentioned in the special conditions of the tender, on, under in or through which the permanent works or temporary works are to be executed and any other lands and places provided by the Municipal Corporation for working space or any other purpose as may be specifically designated in the contract as forming part of the site.

Site Investigation Reports are those that were included in the bidding documents & are reports about the surface and subsurface conditions at the Site.

“Specification” shall mean the specification referred to in the tender and any modification thereof or addition or deduction thereto as may from time to time be furnished or approved in writing by the Engineer.

The Start Date/Commencement 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 Nominated Sub-Contractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the construction work and/or routine maintenance in the Contract, which includes work on the Site.

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

Variation means a change to the:-

- i) Specification and /or Drawings (if any) which is instructed by the Employer.
- ii) Scope in the Contract which is instructed by the Employer.
- iii) Price in the Contract which is instructed by the Employer.

The Works, as defined in the Contract Data, are what the Contract requires the Contractor to construct, install, maintain, and turn over to the Employer. Routine maintenance is defined separately.

Jurisdiction: In case of any claim, dispute or difference arising in respect of a contract, the cause of action thereof shall be deemed to have arisen in Mumbai and all legal proceedings in respect of any claim, dispute or difference shall be instituted in a competent court in the City of Mumbai only.

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 these 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 documents: (1) Agreement, (2) Letter of Acceptance, (3) Notice to Proceed with the Work, (4) Contractor's Bid, (5) Contract Data, (6) Special Conditions of Contract Part (7) General Conditions of Contract Part I, (8) Specifications, (9) Drawings, (10) Bill of Quantities, and (11) Any other document listed in the Contract Data.

3. Engineer's Decisions

- 3.1 Except where otherwise specifically stated, the Engineer will decide contractual matters between the Employer and the Contractor in the role representing the Employer. However, if the Engineer is required under the rules and regulations and orders of the Employer to obtain prior approval of some other authorities for specific actions, he will so obtain the approval, before communicating his decision to the Contractor.
- 3.2 Except as expressly stated in the Contract, the Engineer shall not have any authority to relieve the Contractor of any of his obligations under the contract.

4. Delegation

- 4.1 The Engineer, with the approval of the Employer, may delegate any of his duties and responsibilities to other person(s), except to the Adjudicator, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.

5. Communications

All certificates, notices or instructions to be given to the Contractor by Employer/ Engineer shall be sent on the address or contact details given by the Contractor of Bid. The address and contact details for communication with the Employer / Engineer shall be as per the details given in Contract Data. Communications between parties that are referred to in the conditions shall be in writing. The Notice sent by facsimile (fax) or other electronic means shall be effective on confirmation of the transmission. The Notice sent by Registered post or Speed post shall be effective on delivery or at the expiry of the normal delivery period as undertaken by the postal service.

6. Subcontracting

- 6.1 Unless specifically mentioned in the contract subletting will not be allowed. Subletting, where otherwise provided by the contract shall not be more than 25% of the contract price.
- 6.2 The Contractor shall not be required to obtain any consent from the Employer for:
- a. the sub-contracting of any part of the Works for which the Subcontractor is named in the Contract;
 - b. the provision for labour, or labour component.
 - c. the purchase of Materials which are in accordance with the standards specified in the Contract.
- 6.3 Beyond what has been stated in clauses 6.1 and 6.2, if the Contractor proposes sub contracting any part of the work during execution of the Works, because of some unforeseen circumstances to enable him to complete the Works as per terms of the Contract, the Employer will consider the following before according approval:
- a. The Contractor shall not sub-contract the whole of the Works.
 - b. The permitted subletting of work by the Contractor shall not establish any contractual relation- ship between the sub-contractor and the BMC and shall not relieve the Contractor of any responsibility under the Contract.
- 6.4 The Engineer should satisfy himself before recommending to the Employer whether
- a. the circumstances warrant such sub-contracting; and
 - b. the sub-Contractor so proposed for the Work possesses the experience, qualifications & equipment necessary for the job proposed to be entrusted to him.

7. Other Contractors

- 7.1 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, as referred to in the Contract Data. The Contractor shall 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.
- 7.2 The Contractor should take up the works in convenient reaches as decided by the Engineer to ensure there is least hindrance to the smooth flow and safety of traffic including movement of vehicles & equipment of other Contractors till the completion of the Works.

8. Personnel

- 8.1 The Contractor shall employ for the construction work and routine maintenance the key personnel including technical personnel named in the Contract Data or other personnel approved by the Engineer. The Engineer will approve any proposed replacement of technical personnel only if their relevant qualifications and abilities are substantially equal to those of the personnel stated in the Contract Data.

- 82 The Contractor's personnel shall appropriately be qualified, skilled and experienced in their respective trades or occupations. The Engineer shall have authority to remove, or cause to be removed, any person employed on the site or works, who carries out duties incompetently or negligently and persists in any conduct which is prejudicial to safety, health or the protection of the environment.
- 83 If the Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or 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 Works in the Contract.
- 84 The Contractor shall not employ any retired Gazetted officer who has worked in the Engineering Department of the BMC / State Government and has either not completed two years after the date of retirement or has not obtained BMC / State Government's permission to employment with the Contractor.

9. Employer's and Contractor's Risks

- 9.1 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.

10. Employer's Risks

- 10.1 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, 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.

11. Contractor's Risks

- 11.1 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, referred to in clause 11.1, are the responsibility of the Contractor

12. Insurance

- 12.1 The Contractor at his cost shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of 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 to property (other than the Works, Plant, Materials, and Equipment) in connection with the Contract; and
 - d) Personal injury or death.

- 12.2 Insurance 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.
- 12.3 Alterations to the terms of insurance shall not be made without the approval of the Engineer.
- 12.4 Both parties shall comply with any conditions of the insurance policies.
- 12.5 If the Contractor does not provide any of the policies and certificates required, the Employer may affect 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 premiums shall be debt due.

13. Site Investigation Reports

- 13.1 The Contractor, in preparing the Bid, may rely, at his own risk, on any Site Investigation Reports referred to in the Contract Data, supplemented by any other information available to him, before submitting the bid.

14. Queries about the Contract Data

- 14.1 The Engineer will clarify queries on the Contract Data.

15. Contractor to Construct the Works & Under take Maintenance (if specified in the tender)

- 15.1 The Contractor shall construct, and install and maintain the Works in accordance with the Specifications and Drawings and as per instructions of the Engineer.
- 15.2 The Contractor shall construct the works with intermediate technology, i.e., by manual means with medium input of machinery required to ensure the quality of works as per specifications. The Contractor shall deploy the equipment and machinery as required in the contract.
- 15.3 The Contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made there under, regulations, notifications and byelaws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that may be issued in future by the State or Central Government or the local authority. Salient features of some of the major laws that are applicable are given below:

- The Water (Prevention and Control of Pollution) Act, 1974, this provides 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.

- The Air (Prevention and Control of Pollution) Act, 1981, this 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.

- The Environment (Protection) Act, 1986, this provides for the protection and improvement of environment and for matters connected there with, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter- relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.

- The Public Liability Insurance Act, 1991, This provides for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters 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.

16. The Works and Routine Maintenance to be completed by the Intended Completion Date

16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works and Routine Maintenance, if specified in the tender, in accordance with the Programme submitted by the Contractor, as updated with the approval of the Engineer, and complete them by the Intended Completion Date.

17. Approval by the Engineer

17.1 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.

17.2 The Contractor shall be responsible for design and safety of Temporary Works.

17.3 The Engineer's approval shall not alter the Contractor's responsibility for design and safety of the Temporary Works.

17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

17.5 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.

18. Safety

18.1 The Contractor shall be responsible for the safety of all activities on the Site. He shall comply with all applicable safety requirements and take care of safety of all persons entitled to be on the site and the works. He shall use reasonable efforts to keep the site and the works, both during construction and maintenance, clear of unnecessary obstruction so as to avoid danger to the persons and the users.

- Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
- Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Power warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
- The workers engaged for cleaning the manholes/sewers should be properly trained before allowing working in the manhole.

18.2 Safety Programs:-

- I. Have adequate safety supervision in place to ensure that safety programs set up by the firms/agencies are in compliance with prevalent laws and regulations.
- II. Review safety programs developed by each of the trade firms, prepare and submit a comprehensive safety program.
- III. Monitor day to day implementation of safety procedures.

18.3 First Aid Facilities:-

- i. At every work place there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.
- ii. The first-aid box shall be distinctly marked with a red cross on white back ground.
- iii. Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
- iv. Nothing except the prescribed contents shall be kept in the First-aid box.
- v. The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the workplace.
- vi. A person in charge of the First-aid box shall be a person trained in First-aid treatment, in the work places where the number of contract labour employed is 150 or more.

19. Discoveries

19.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Engineer of such discoveries and carry out the Engineer's instructions for dealing with them.

20. Possession of the Site

20.1 The Employer shall handover complete or part possession of the site to the Contractor 7 days in advance of construction programme. At the start of the work, the Employer shall handover the possession of at-least 75% of the site free of all encumbrances, the remaining 25 % of the possession as per contractor's construction programme.

21. Access to the Site

21.1 The Contractor shall allow access to the Site and to any place where work in connection with the Contract is being carried out, or is intended to be carried out to the Engineer and any person/persons/agency authorized by: a. The Engineer b. The Employer or authorized by the Employer.

22. Instructions

22.1 The Contractor shall carry out all instructions of the Engineer, which comply with the applicable laws where the Site is located.

22.2 The Contractor shall permit the appointed and/or authorized persons to inspect the Site and/or accounts and records of the Contractor and its subcontractors relating to the performance of the Contract, and to have such accounts and records audited by auditors appointed, if so required. The Contractor's attention is invited to Clause of 'Fraud and Corruption', which provides, inter alia, that acts intended to materially impede the exercise of the inspection and audit rights provided for under the Clause & constitute a obstructive practice subject to contract termination.

22.3 Engineer to have power to issue further drawings or instructions:

The Engineer shall have the power and authority from time to time and at all times to make and issue such further drawings and to give such further instructions and directions as may appear to him necessary or proper for the guidance of the contractor and the good and sufficient execution of the works according to terms of the specifications and Contractor shall receive, execute, obey and be bound by the same, according to the true intent and meaning thereof, as fully and effectually as though the same had accompanied or had been mentioned or referred to in the specification, and the Engineer may also alter or vary the levels or position of nature of works contemplated by the specifications, or may order any of the works contemplated thereby to be omitted, with or without the substitution of any other works in lieu thereof, or may order any work or any portion of work executed or partially executed, to be removed, changed or altered, added if needful, may order that other works shall be substituted instead thereof and difference of expense occasioned by any such

diminution or alteration so ordered and directed shall be added to or deducted from the amount of this Contract, as provided under condition no.10 (a) hereinafter.

No work which radically changes the original nature of the Contract shall be ordered by the Engineer and in the event of any deviation being ordered which in the opinion of the Contractor changes the original nature of Contract he shall nevertheless carry it out and disagreement as to the nature of the work and the rate to be paid therefore shall be resolved in accordance with condition no.13d.

The time for completion of the Works, shall be in even of any deviations resulting in additional cost over the contract price being ordered, be extended or reduced reasonably by the Engineer. The Engineer's decision in this case shall be final.

B. Time Control

23. Programme

- 23.1 Within the time stated in the Contract Data, the Contractor shall submit to the Engineer for approval a Programme, including Environment Management Plan showing the general methods, arrangements, order, and timing for all the activities in the Works, along with monthly cash flow forecasts for the construction of works.

After the completion of the construction works, the programme for the Routine Maintenance Work, showing the general methods, arrangements, order and timing for all the activities involved in the Routine Maintenance will also be submitted by the Contractor to the Engineer for approval if specified in the tender.

The programme for Routine Maintenance will be submitted in each year for the period of Maintenance.

- 23.2 The Contractor shall submit the list of equipment and machinery being brought to site, the list of key personnel being deployed, the list of machinery/ equipment being placed in field laboratory and the location of field laboratory along with the Programme. The Engineer shall cause these details to be verified at each appropriate stage of the programme.
- 23.3 An update of the Programme shall be a programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining Works, including any changes to the sequence of the activities.
- 23.4 The Contractor shall submit to the Engineer for approval an updated Programme at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Programme 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 Programme has been submitted.
- 23.5 The Engineer's approval of the Programme shall not alter the Contractor's obligations. The Contractor may revise the Programme and submit it to the Engineer again at any time. A revised Programme shall show the effect of Variations and Compensation Events.

24. Extension Of Time In Contracts:

Subject to any requirement in the contract as to completion of any portions or portions of the works before completion of the whole, the contractor shall fully and finally complete the whole of the works comprised in the contract (with such modifications as may be directed under conditions of this contract) by the date entered in the contract or extended date in terms of the following clauses:

a) Extension attributable to BMC

(i) Extension Due To Modification: If any modifications have been ordered which in the opinion of the Engineer have materially increased the magnitude of the work, then such extension of the contracted date of completion may be granted as shall appear to the Engineer to be reasonable in the circumstances, provided moreover that the Contractor shall be responsible for requesting such extension of the date as may be considered necessary as soon as the cause there of shall arise and in any case **should not be less than 30 days before the expiry of the date fixed for completion of the works.**

(i) Extension For Delay Due To BMC: In the event of any failure or delay by the BMC to hand over the Contractor possession of the lands necessary for the execution of the works or to give the necessary notice to commence the works or to provide the necessary drawings or instructions or any other delay caused by the BMC due to any other cause whatsoever, then such failure or delay shall in no way affect or vitiate the contract or alter the character thereof or entitle the contractor to damages or compensation therefore, but in any such case, the BMC may grant such extension(s) of the completion date as may be considered reasonable.

Note: For extension of time period as governed in (i) and (ii) above, any modifications in design/drawings, specifications, quantities shall be needed to be justified with recorded reasons with approval of Ch. Eng. for not anticipating the same while preparing estimates and draft tender.

(b) Extension Of Time For Delay Due To Contractor : The time for the execution of the work or part of the works specified in the contract documents shall be deemed to be the essence of the contract and the works must be completed no later than the date(s) / the programme for completion of work as specified in the contract. If the contractor fails to complete the works within the time as specified in the contract for the reasons other than the reasons specified in above as (a.i) and (a.ii), the BMC may, if satisfied that the works can be completed by the contractor within reasonable short time thereafter, allow the contractor for further extension of time as the Engineer may decide. On such extension the BMC will be entitled without prejudice to any other right and remedy available on that behalf, to recover the compensation as governed by Clause 8(e) of GCC.

For the purpose of this Clause, the contract value of the works shall be taken as value of work as per contract agreement including any supplementary work order/contract agreement issued.

Further, competent authority while granting extension to the currency of contract under Clause (b) of as above may also consider levy of penalty, as deemed fit based on the merit of the case. Also, the reasons for granting extension shall be properly documented.

25. Delays Ordered by the Engineer

25.1 The Engineer may instruct the Contractor to delay the start or progress of any activity within the Works. Delay/delays totaling more than 30 days will require prior written approval of the DMC / AMC.

26. Management Meetings

26.1 The Engineer may require the Contractor to attend a management meeting. The business of a management meeting shall be to review the plans for progress of the Works.

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

C. Quality Control

27.1 Work to be open to Inspection and Contractor or Responsible agent to be present

All works under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the Eng-in-charge and his subordinates and the contractor shall at all times during the usual working hours, at all other times, during the usual working hours and at all other times at which reasonable notice of the intention of the Eng-in-charge and his subordinates to visit the works shall have been given to the contractor, either himself be present to receive orders and instruction or have responsible agent duly accredited in writing present for that purpose. Order given to the contractors' duly authorized agent shall be considered to have the same force and effect as if they had been given to the contractor himself.

27.2 Notice To Be Given Before Work Is Covered Up

The contractor shall give not less than ten days' notice in writing to the Eng-In-Charge or his subordinate in charge of the work before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimension thereof taken before the same is so covered up or placed beyond the reach of measurements and shall not cover up or place beyond the reach of measurement any work without the consent in writing of the Eng-In-Charge or his subordinate in charge of the work, and if any work shall be covered up or placed beyond the reach of measurement, without such notice having been given or consent obtained the same shall be uncovered at the contractors expenses, and in default thereof no payment or allowance shall be made for such work or for the materials with which the same was executed

27.3 Works to be executed in accordance with specifications / drawings / orders etc.:

The contractor shall execute the whole and every part of the work in the most substantial and workman like manner and both as regards material and every other respect in strict

accordance with specifications. The contractor shall also confirm exactly, fully and faithfully to the designs, drawings and instructions in writing relating to the work signed by the Engineer In-charge and lodged in his office and to which the contractor shall be entitled to have access for the purpose of inspection at such office, or on the site or work during office hours. The contractor shall be entitled to receive three sets of contract drawings and working drawings as well as one certified copy of the accepted tender along with the work order free of cost.

27.4 Ready Mix Concrete/ Asphalt Mix

~~i) The contractor shall have to arrange Ready Mix concrete (RMC) / Asphalt from RMC/ ASPHALT producing plants registered with BMC~~

~~ii) The contractor shall, within a 7 days of award of the work, submit a list of at least three RMC/Asphalt producers with details of such plants including details and number of transit, mixers & pumps etc. to be deployed indicating name of owner/company, its location, capacity, technical establishment.~~

~~The Engineer in charge will reserve right to inspect at any stage and reject the concrete if he is not satisfied about quality of product at the user's end.~~

~~iii) The Engineer in charge reserves the right to exercise control over~~

~~the: a) Calibration check of the RMC/Asphalt plant.~~

~~b) Weight and quantity check on the ingredients, water and admixtures added for batch mixing for RMC plants~~

~~c) Time of mixing of concrete/grade of asphalt.~~

~~d) Testing of fresh concrete/asphalt mix, recording of results and declaring the mix fit or unfit for use. This will include continuous control on the work ability during production and taking corrective action, if required.~~

~~e) For exercising such control, the Engineer in charge shall periodically depute his authorized representative at the RMC/Asphalt plant. It shall be responsibility of the contractor to ensure that all necessary equipment, manpower & facilities are made available to Engineer in charge & or his authorized representative at RMC/Asphalt plant.~~

~~f) All required relevant records of RMC/Asphalt mix shall be made available to the Engineer in charge or his authorized representative. Engineer in charge shall, as required, specify guidelines & additional procedures for quality control & other parameters in respect of material production & transportation of concrete mix which shall be binding on the contractor & the RMC/Asphalt plant. Only concrete as approved in design mix by Engineer in charge shall be produced in RMC plant and transported to the site.~~

~~g) The contractor shall have to produce a copy of chalan receipts/SCADA reports / VTS reports as issued by the RMC /Asphalt plant as a documentary proof in lieu of supply of RMC / Asphalt mix before releasing payment.~~

28. Identifying Defects

- 28.1 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.
- 28.2 The Contractor shall permit the Employer's technical person(s) to check the Contractor's work and notify the Engineer and Contractor if any defects that are found.

29. Tests (If applicable)

- 29.1 For carrying out mandatory tests as prescribed in the specifications, the Contractor shall establish field laboratory at the location decided by Engineer. The field laboratory will have minimum of equipment as specified in the Contract Data. The contractor shall be solely responsible for:

- a. Carrying out the mandatory tests prescribed in the Specifications, and
- b. For the correctness of the test results, whether preformed in his laboratory or elsewhere.

- 29.2 If the Engineer instructs the Contractor to carry out a test not specified in the Specification/Quality Assurance Handbook 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. If there is no defect, the test shall be a compensation event.

When required by the Engineer-in-charge the contractor(s) shall supply for the purpose of testing samples of all materials proposed to be used in the works. Samples submitted either to govern bulk supplies or required for testing before use shall be in suitable packages to contain them and shall be provided free of charge by the contractor. The cost of testing shall be borne by the contractor even if the result of the sample confirm or do not confirm to the relevant BIS code specifications.

- i) All expenditure required to be incurred for taking the samples conveyance, packing shall be borne by the contractor himself.
- ii) The failed material shall be removed from the site by the contractor at his own cost within a week time of written order of the Engineer in-charge.

29.3 ~~Setting of Site Laboratories: (If applicable)~~

~~Contractors shall set up a laboratory at site before commencement of work at their cost for performing various tests and at least the following machines and equipment shall be provided therein-~~

- ~~1—Set of Sieves as per I.R.C. /I.S.~~
- ~~2—Compressive Testing Machine (For new works)~~
- ~~3—Oven, Electrically Operated~~
- ~~4—Weighing Balance (20 kg capacity)~~

- ~~5— 3 m straight edge~~
- ~~6— Sieve shaker~~
- ~~7— First Aid Box~~
- ~~8— Measuring Jar (for silt content)~~
- ~~9— Other Machines/apparatus as may be directed by the Engineer~~
- ~~10— Vernier Caliber~~
- ~~11— Level /Theodolite~~

~~All the test records shall be maintained in the site office and made available as and when required. The laboratory must be established within 15 days from the date of receipt of the orders from Engineer In charge. On failure to do so, a penalty of Rs 1000/- per day shall be imposed.~~

~~The contractor shall install testing equipment at site. The contractor shall ensure and certify the calibration of the equipment so installed and shall maintain the same in working order throughout the period of construction. The contractor shall also provide necessary technically qualified experienced trained staff for carrying out such tests for using such equipment. The tests shall be carried out under the supervision of the Engineer in charge. The calibration shall be checked every twelve months as directed by Engineer in charge.~~

30. Correction of Defects noticed during the Defects Liability Period.

- 30.1 (a) The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and ends after t h r e e years. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- (b) Every time notice of Defect/Defects is given, the Contractor shall correct the notified Defect/Defects within the duration of time specified by the Engineer's notice.
- (c) The Engineer may issue notice to the Contractor to carry out removal of defects or deficiencies, if any, noticed in his inspection, or brought to his notice. The Contractor shall remove the defects and deficiencies within the period specified in the notice and submit to the Engineer a compliance report.

31. Uncorrected Defects and Deficiencies

- 31.1 If the Contractor has not corrected a Defect pertaining to the Defect Liability Period under clause and deficiencies in maintenance, to the satisfaction of the Engineer, within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect or deficiency corrected, and the Contractor shall pay this amount, on correction of the Defect or deficiency by another agency.

D. Cost Control

32. Variation

The Engineer shall, having regard to the scope of the Works and the sanctioned estimated cost, have power to order, in writing, Variations within the scope of the Works he considers necessary or advisable during the progress of the Works. Such Variations shall form part of the Contract and the Contractor shall carry them out and include them in updated Programs produced by the Contractor. Oral orders of the Engineer for Variations, unless followed by written confirmation, shall not be taken into account.

33. Payments for Variations

- 33.1 If rates for Variation items are specified in the Bill of Quantities, the Contractor shall carry out such work at the same rate.
- 33.2 The rate for Extra / Excess shall be governed by clause 10.A of Standard General Condition of Contract.

34. Cash Flow Forecasts

When the Programme is updated, the Contractor shall provide the Engineer with an updated cash flow forecast.

35. Payment Certificates

The payment to the Contractor will be as follows for construction work:

- a) A bill shall be submitted by the Contractor monthly or before the date fixed by the Engineer In-charge for all works executed in the previous month, and the Engineer In-charge shall take or cause to be taken requisite measurement for the purpose of having the same verified and the claim, so far as it is admissible, shall be adjusted, if possible, within 10 days from the presentation of the bill. If the contractor does not submit the bill within the time fixed as aforesaid, the Engineer In-charge may depute a subordinate to measure up the said work in the presence of the contractor or his duly authorized agent whose counter signature to the measurement list shall be sufficient warrant, and Engineer In-Charge may prepare a bill from such list which shall be binding on the contractor in all respects.
- b) The Engineer shall check the Contractor's fortnightly/monthly statement within 14 days and certify the amount to be paid to the Contractor.
- c) The value of work executed shall be determined, based on measurements by the Engineer.
- d) The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.
- e) The value of work executed shall also include the valuation of Variations and Compensation Events.
- f) 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.

- g) The contractor shall submit all bills on the printed forms at the office of Engineer In-charge. The charges to be made in the bills shall always be entered at the rates specified in tender.

36. Payments

- 36.1 Payments shall be adjusted for deductions for advance payments, retention, security deposit, other recoveries in terms of the Contract and taxes at source, as applicable under the law. The Employer shall pay the Contractor the amounts certified by the Engineer within 15 days of the date of each certificate.
- 36.2 All sums payable by a contractor by way of compensation under any of these conditions, shall be considered as a reasonable compensation to be applied to the use of BMC without reference to the actual loss or damage sustained and whether any damage has or has not been sustained.
- 36.3 No payment shall be made for any work estimated to cost less than Rupees One Thousand till after the whole of work shall have been completed and the certificate of completion given. But in the case of works estimated to cost more than Rs. One Thousand, the contractor shall on submitting a monthly bill therefore be entitled to receive payment proportionate to the part of the work than approved and passed by the Engineer In-charge, whose certificate of such approval and passing of the sum so payable shall be final and conclusive against the contractor. All such intermediate payments shall be regarded as payments by way of advance against the final payments only and not as payments for work actual done and completed and shall not preclude the Engineer In-charge from requiring any bad, unsound, imperfect or unskillful work to be removed or taken away and reconstructed or re-erected nor shall any such payment be considered as an admission of the due performance of the contract or any part thereof in any respect or the offering of any claim not shall it conclude, determine or effect in any other way, the powers of the Engineer In-charge as to the final settlement and adjustment of the accounts or otherwise, or in any other way vary or effect the contract. The final bill shall be submitted by the Contractor within one month of the date fixed for the completion of the work otherwise the Engineer In-charge's certificate of the measurements and of the total amount payable for the work shall be final and binding on all parties.
37. The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor for not having given early warning or not having cooperated with the Engineer.

38. Tax

G.S.T. and other state levies/cess which are not subsumed under GST will be applicable. The tenderer shall quote inclusive of all taxes. It is clearly understood that BMC will not bear any additional liability towards payment of any Taxes & Duties.

Wherever the Services to be provided by the Tenderers falls under **Reverse Charge Mechanism**, the Price quoted shall be **exclusive** of GST, but inclusive of Taxes / Duties / Cess other than GST, if any.

~~The Tenderer shall mandatorily upload the information of applicable tax in the pro-forma as enclosed under 'special Annexure I' given below in 'C' folder. Wherein the tenderer shall indicate in the tabular format, all the applicable taxes and their percentages and the tax amount considered while quoting the tender.~~

Rates accepted by BMC shall hold good till completion of work and no additional individual claim shall be admissible on account of fluctuations in market rates; increase in taxes / any other levies / tolls etc. except that payment / recovery for overall market situation shall be made as per price Variation.

~~Bidders shall upload 'Special Annexure I' as directed above in PDF format in the folder C only. Bidders shall not upload 'special Annexure I' in PACKET A or PACKET B folder. If bidder does not upload 'special Annexure I' as given in the in folder C or uploads 'Special Annexure I' in PACKET A or PACKET B folder, such bidders shall be treated as Non-Responsive.~~

Chapter XXI – Miscellaneous, section 171(1) of GST Act,2017 governs the ' Anti Profiteering Measure'(APM).

As per the provision of this section, ' Any reduction in rate of tax on any supply of goods or services or the benefit of input tax credit shall be passed on to the recipient by way of commensurate reduction in prices'.

Accordingly, the contractor should pass on the complete benefit accruing to him on account of reduced tax rate or additional input tax credit, to BMC. Further, all the provisions of GST Act will be applicable to the tender."

Bidders shall upload 'Irrevocable Undertaking' on Rs 500/- stamp paper as per Annexure F.

39. Currencies

All payments will be made in Indian Rupees.

40. Liquidated Damages

Both, the Contractor and the Employer have agreed that it is not feasible to precisely estimate the amount of losses due to delay in completion of works and the losses to the public and the economy, therefore, both the parties have agreed that the Contractor shall pay liquidated damages to the Employer and not by way of penalty, at the rate per week or part thereof stated in the Contract Data for the period that the Completion Date is later than the Intended Completion Date. Liquidated damages at the same rates shall be withheld if the Contractor fails to achieve the milestones prescribed in the Contract Data. However, in case the Contractor achieves the next milestone, the amount of the liquidated damages already withheld shall be restored to the Contractor by adjustment in the next payment certificate. The Employer and the contractor have agreed that this is a reasonable agreed amount of liquidated damage. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's other liabilities.

41. Cost of Repairs

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 his cost if the loss or damage arises from the Contractor's acts or omissions

E. Finishing the Contract

42. Completion of Construction and Maintenance

42.1 The Contractor shall request the Engineer to issue a certificate of completion of the construction of the works, and the Engineer will do so upon deciding that the works is completed. This shall be governed as per clause no.8 (g) of Standard General Conditions of Contract.

43. Taking Over

43.1 The Employer shall take over the works within seven days of the Engineer issuing a certificate of completion of works. The Contractor shall continue to remain responsible for its routine maintenance during the maintenance period if specified in the contract.

44. Final Account

~~Final joint measurement along with the representatives of the contractor should be taken recorded and signed by the Contractors.~~ Contractors should submit the final bill within 1 month of physical completion of the work.

If the contractor fails to submit the final bill within 1 month, the BMC staff will prepare the final bill based on the joint measurement within next 3 months.

Engineer's decision shall be final in respect of claims for defect and pending claims against contractors.

No further claims should be made by the Contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payment of those items of the bills in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by the Commissioner shall be made within a reasonable period as may be necessary for the purpose of verification etc.

After payment of the final bill as aforesaid has been made, the contractor may, if he so desires, reconsider his position in respect of a disputed portion of the final bills and if he fails to do so within 84 days, his disputed claim shall be dealt with as provided in the contract.

A percentage of the retention money, over and above the actual retention money as indicated below shall be held back from payments till the finalization of final bill to be submitted as per above and will be paid within 30 days of acceptance of the final bill.

Sr. No	Amount of Contract Cost	Minimum Payable Amount in final bill
1	Upto Rs.5 Crs.	Rs.10 Lacs or final bill whichever is more

2	Upto Rs. 25 Crs.	Rs.1 Crore or final bill amount whichever is more
3	Upto Rs. 50 Crs.	Rs.2 Crores or final bill amount whichever is more
4	Upto Rs. 100 Crs.	Rs.4 Crore or final bill amount whichever is more
5	More than Rs.100 Crs.	Rs.7 Crore or final bill amount whichever is more

The contractor have to submit the bill for the work carried out within 15 days from the date of completion of the work to the respective executing department. If the contractor fails to submit their bills to concerned executing department, penalty or action as shown below will be taken for each delayed bill:-

After 15 days from the date of completion / running bill upto certain date, upto next 15 days i.e. up to 30 days	Equal to 5% of bill amount
Next 15 days upto 45 days from the date of completion / running bill upto specified date	Equal to 10% of bill amount
If not submitted witin 45 days from the date of completion / R.A. bill	Bill will not be admitted for payment.

45. Operating and Maintenance Manuals

- 45.1 If "as built" Drawings and / or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the Contract Data.
- 45.2 If the Contractor does not supply the Drawings and / or 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.

46. Termination

- 46.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.
- 46.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following
- a) the Contractor stops work for 30 days when no stoppage of work is shown on the current Programme and the stoppage has not been authorized by the Engineer;
 - b) the Contractor is declared as bankrupt or goes into liquidation other than for approved reconstruction or amalgamation;
 - c) 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;
 - d) the Contractor does not maintain a Security, which is required;
 - e) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in relevant clause.
 - f) the Contractor fails to provide insurance cover as required under relevant clause
 - g) if the Contractor, in the judgment of the Employer, has engaged in the corrupt or fraudulent practices as defined in GCC in competing for or in executing the Contract.

- h) if the Contractor fails to set up a field laboratory with the prescribed equipment, within the period specified in the Contract Data at no cost to bidder; and
- i) any other fundamental breaches as specified in the Contract Data.
- j) if the Contractor fails to deploy machinery and equipment or personnel as specified in the Contract Data at the appropriate time.

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

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

46.5 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

47. Payment upon Termination

47.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for value of the work done and materials ordered less liquidated damages, if any, less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as indicated in the Contract Data. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be recovered from the security deposit, and performance security. If any amount is still left un-recovered it will be a debt due from the Contractor to the Employer

47.2 If the Contract is terminated at the Employer's convenience, 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.

48. Property

48.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer for use for completing balance construction work if the Contract is terminated because of the Contractor's default, till the Works is completed after which it will be transferred to the Contractor and credit, if any, given for its use.

49. Release from Performance

If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of 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 a commitment was made.

F) Other Conditions of Contract

50. Labour

- 501 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.
- 502 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 number 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.

51. Compliance with Labour Regulations

- (a) During continuance of the Contract, the Contractor and his sub-Contractors shall abide at all times by all existing labour enactments 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.
- (b) Furthermore, 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 there under, 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 guarantee. 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.
- (c) The Contractor shall require his employees to obey all applicable laws, including those concerning safety at work.
- (d) 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.

52. Drawings and Photographs of the Works

- 521 The Contractor shall do photography/video photography of the site firstly before the start of the work, secondly mid-way in the execution of different stages of work as required by Engineer In-charge and lastly after the completion of the work. No separate payment will be made to the Contractor for this.
- 522 The Contractor shall not disclose details of Drawings furnished to him and works on which he is engaged without the prior approval of the Engineer in writing. No photograph of the works or any part thereof or plant employed thereon, except those permitted under above clause, shall be taken or permitted by the Contractor to be taken by any of his employees or any

employees of his sub-Contractors without the prior approval of the Engineer in writing. No photographs/ Video photography shall be published or otherwise circulated without the approval of the Engineer in writing.

53. The Apprentices Act,1961

The Contractor shall duly comply with the provisions of the Apprentices Act 1961 (III of 1961), the rules made there under and the orders that may be issued from time to time under the said Act and the said Rules and on his failure or neglect to do so, he shall be subject to all liabilities and penalties provided by the said Act and said Rules.

54. Contract Document

The documents forming the contract are to be taken as mutually explanatory of one another. Unless otherwise provided in the contract, the priority of the documents forming the contract shall be, as follows:

- 1) Contract Agreement (if completed)
- 2) The letter of Acceptance
- 3) The Bid:
- 4) Addendum to Bid; if any
- 5) Tender Document
- 6) The Bill of Quantities:
- 7) The Specification:
- 8) Detailed Engineering Drawings
- 9) Standard General Conditions of Contracts (GCC)
- 10) All correspondence documents between bidder/contractor and BMC.

55. Conflict of Interest

The Applicant shall not have a conflict of interest (the “Conflict of Interest”) that affects the Bidding Process. Any Applicant found to have a Conflict of Interest shall be disqualified. An Applicant shall be deemed to have a Conflict of Interest affecting the Bidding Process, if

- 1 A constituent of such Applicant is also a constituent of another Applicant; or
- 2 Such Applicant has the same legal representative for purposes of this Application as any other Applicant; or
- 3 Such Applicant, or any Associate thereof has a relationship with another Applicant, or any Associate thereof, directly or through common third party/ parties, that puts either or both of them in a position to have access to each other’s information about, or to influence the Application of either or each other; or
- 4 The Applicant shall be liable for disqualification if any legal, financial or technical adviser of the Authority in relation to the Project is engaged by the Applicant, its Member or any Associate thereof, as the case may be, in any manner for matters related

to or incidental to the Project. For the avoidance of doubt, this disqualification shall not apply where such adviser was engaged by the Applicant, its Member or Associate in the past but its assignment expired or was terminated 6(six) months prior to the date of issue of this TENDER. Nor will this disqualification apply where such adviser is engaged after a period of 3(three) years from the date of commercial operation of the Project.

56. Applications and costs there of

No Applicant shall submit more than one Application for the Project. An applicant applying individually shall not be entitled to submit another application either individually. The Applicant shall be responsible for all of the costs associated with the preparation of their Applications and their participation in the Bid Process. The Authority will not be responsible or in anyway liable for such costs, regardless of the conductor outcome of the Bidding Process.

57. Acknowledgment by Applicant

It shall be deemed that by submitting the Application, the Applicant has:

- a. made a complete and careful examination of the tender;
- b. received all relevant information requested from the Authority;
- c. accepted the risk of inadequacy, error or mistake in the information provided in the tender or furnished by or on behalf of the Authority relating to any of the matters referred; and
- d. Agreed to be bound by the undertakings provided by it under and in terms hereof. “The Authority” shall not be liable for any omission, mistake or error in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to the TENDER or the Bidding Process, including any error or mistake therein or in any information or data given by the Authority.

58. Right to accept or reject any or all Applications/Bids

Notwithstanding anything contained in this TENDER, “The Authority” reserves the right to accept or reject any Application and to annul the Bidding Process and reject all Applications/ Bids, at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons therefore. In the event that the Authority rejects or annuls all the Bids, it may, in its discretion, invite all eligible Bidders to submit fresh Bids here under.

“The Authority” reserves the right to reject any Application and/ or Bid if:

- (a) at any time, a material misrepresentation is made or uncovered, or
- (b) the Applicant does not provide, within the time specified by the Authority, the supplemental information sought by the Authority for evaluation of the Application.

In case it is found during the evaluation or at any time before signing of the Agreement or after its execution and during the period of subsistence thereof including the concession thereby granted by “The Authority”, that one or more of the pre-qualification conditions have not been met by the Applicant, or the Applicant has made material misrepresentation or has given any materially incorrect or false information, the Applicant shall be disqualified

forthwith if not yet appointed as the Successful Bidder either by issue of the LOA (Letter of Approval) or entering into of the Agreement, and if the Applicant has already been issued the LOA or has entered into the Concession Agreement, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this TENDER, be liable to be terminated, by a communication in writing by “The Authority” to the Applicant, without the Authority being liable in any manner whatsoever to the Applicant and without prejudice to any other right or remedy which the Authority may have under this TENDER, the Bidding Documents, the Concession Agreement or under applicable law. “The Authority” reserves the right to verify all statements, information and documents submitted by the Applicant in response to the TENDER. Any such verification or lack of such verification by the Authority shall not relieve the Applicant of its obligations or liabilities hereunder nor will it affect any rights of the Authority there under.

59. The bid shall be rejected if the bidder-

- a. Stipulates the validity period less than 180 days.
- b. Stipulates own condition /conditions.
- c. Does not fill & (digital) sign undertaking forms, which are incorporated, in the document.

60. Clarifications

Applicants requiring any clarification on the tender may notify “the Authority” in writing or by fax or e-mail. They should send in their queries before the date specified in the header data. “The Authority” shall Endeavor to respond to the queries within the period specified therein. The responses will be sent by fax and/or e-mail. The Authority will forward all the queries and its responses thereto, to all purchasers of the TENDER without identifying the source of queries.

“The Authority” shall Endeavor to respond to the questions raised or clarifications sought by the Applicants. However, the Authority reserves the right not to respond to any question or provide any clarification, in its sole discretion, and nothing in this Clause shall be taken or read as compelling or requiring the Authority to respond to any question or to provide any clarification, but not later than the date provided in header data.

“The Authority” may also on its own motion, if deemed necessary, issue interpretations and clarifications to all Applicants. All clarifications and interpretations issued by the Authority shall be deemed to be part of the tender. Verbal clarifications and information given by Authority or its employees or representatives shall not in any way or manner be binding on the Authority.

61. Amendment of tender

At any time prior to the deadline for submission of Application, the Authority may, for any reason, whether at its own initiative or in response to clarifications requested by an Applicant, modify the tender by the issuance of Addendum.

Any Addendum thus issued will be sent in writing/ Fax/ Email to all those who have purchased the tender.

In order to afford the Applicants a reasonable time for taking an Addendum in to account, or For any other reason, the Authority may, in its sole discretion, extend the Application Due Date.

Preparation and Submission of Application

62. Language

The Application and all related correspondence and documents in relation to the Bidding Process shall be in English language. Supporting documents and printed literature furnished by the Applicant with the Application may be in any other language provided that they are accompanied by translations of all the pertinent passages in the English language, duly authenticated and certified by the Applicant. Supporting materials, which are not translated into English, may not be considered. For the purpose of interpretation and evaluation of the Application, the English language translation shall prevail.

63. Format and signing of Application

The Applicant shall provide all the information sought under this TENDER. The Authority will evaluate only those Applications that are received in the required formats and complete in all respects. Incomplete and /or conditional Applications shall be liable to rejection.

The Applicant will upload bid in One Folder in electronic form which shall contain the scanned certified copies of the documents given below and the documents uploaded has to be digitally signed by the bidder. These copies shall be certified by Practicing Notary approved by the Govt. of Maharashtra or Govt. of India with his stamp, clearly stating his name & registration number, except where original documents are demanded.

64. Marking of Applications

The Applicant shall submit the Application in the format specified at Appendix-I, together with the documents, upload in folder as “VENDOR” together with their respective enclosures Applications submitted by fax, telex, telegram shall not be entertained and shall be rejected outright.

65. Late Applications

Applications received by the Authority after the specified time on the Application Due Date shall not be eligible for consideration and shall be summarily rejected.

66. Confidentiality

Information relating to the examination, clarification, evaluation, and recommendation for the short-listed qualified Applicants shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional advisor advising the Authority in relation to or matters arising out of, or concerning the Bidding Process. The Authority will treat all information, submitted as part of Application, in confidence and will require all those who have access to such material to treat the same in confidence. The Authority may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/ or the Authority or as may be required by law or in connection with any legal process.

67. Clarification Of Financial Bids

To assist in the examination, evaluation and comparison of Bids, the Engineer may, at his discretion, ask any bidder for clarification of his Bid, including breakdown of unit rates. The request for clarification and the response shall be in writing or by post/facsimile/e- mail. No Bidder shall contact the Engineer on any matter relating to his bid from the time of the bid opening to the time the contract is awarded. Any effort by the Bidder to influence the Engineer in the Engineer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidder's bid.

68. Inspection of site and sufficiency of tender:

- 1 The Contractor shall inspect and examine the site and its surrounding and shall satisfy himself before submitting his tender as to the nature of the ground and subsoil (so far as is practicable), the form and nature of the site, the quantities and nature of the work and materials necessary for the completion of the works and means of access to the site, the accommodation he may require and in general shall himself obtain all necessary information as to risk, contingencies and other circumstances which may influence or affect his tender. He shall also take into consideration the hydrological and climatic conditions.
- 2 The Employer may make available to the Contractor data on hydrological and sub-surface conditions as obtained by or on his behalf from investigations relevant to the works but the Contractor shall be responsible for his own interpretation thereof. The contractor shall engage his investigating agency with prior approval of the Engineer from the approved list of such agencies by BMC or Govt at his cost initially before commencing actual work and which shall be reimbursed immediately subject to satisfaction of the Engineer for faithful compliance and submission of required data regarding such investigation within specified time.
3. The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the schedule of works / items / quantities, or in Bill of Quantities, which rates and prices shall, except as otherwise provided cover all his obligations under the Contract and all matters and things necessary for proper completion and maintenance of the works. No extra charges consequent on any misunderstanding.
4. **Not Foreseeable Physical Obstructions or Conditions:** If, however, during the execution of the Works the Contractor encounters physical obstructions or physical conditions, other than climatic conditions on the Site, which obstructions or conditions were, in his opinion, not foreseeable by an experienced contractor, the Contractor shall forthwith give notice thereof to the Engineer. On receipt of such notice, the Engineer shall, if in his opinion such obstructions or conditions could not have been reasonably foreseen by an experienced contractor, after due consultation with the Contractor, determine:

- any extension of time to which the Contractor is entitled and
- The amount of any costs which may have been incurred by the Contractor by reason of such obstructions or conditions having been encountered, which shall be added to the Contract Price.
- and shall notify the Contractor accordingly. Such determination shall take account of any instruction which the Engineer may issue to the Contractor in connection therewith, and any proper and reasonable measures acceptable to the Engineer which the Contractor may take in the absence of specific instructions from the Engineer. However such costings shall be got approved by the competent authority as governed vide rules prevailing with authority.

5. Office for the Engineer (Works costing upto Rs.50 Lakhs)

~~The Contractor shall at his own cost and to satisfaction of the Engineer provide a small temporary office, at the work site which will include tables, chairs and lockers for keeping the records. He shall also make necessary arrangements for drinking water, telephone with a pre-requisite of e-governance and electronic communication. These offices are not to be allowed on public roads without the written instruction of the Engineer. These offices should be preferably located within 50 to 500 m of the worksite. In case the office is more than 500m away from the worksite, the contractor is to provide conveyance for Municipal Staff.~~

6. Office for the Engineer (Works costing above Rs.50 lakhs)

~~The Contractor shall at his own cost and to satisfaction of the Engineer provide a temporary office at the work site which will include tables, chairs and lockers for keeping the records. He shall also make necessary arrangements for drinking water, latrines, with doors, windows, locks, bolts and fastenings sufficient for security for the Engineer, and his subordinates, as close to the works from time to time in progress as can be conveniently arranged, and shall at his own cost furnish the office with such chairs, tables, lockers, locks and fastenings as may be required by the Engineer, and no expense of any kind in connection with the erection or upkeep of the offices or fittings shall be borne by the Corporation, but all such work shall be carried out by the Contractor and the expenses thereof defrayed by him. The Contractor shall also make water connections and fit up stand pipe with a bib tap at each office. The latrines and the water connections shall be subject to all the conditions herein elsewhere laid down for temporary water connection and latrines generally with all requisite equipment for e-governance and electronic and digital communication. These offices are not to be allowed on public roads without the written instruction of the Engineer. These offices should be preferably located within 50 to 500 m of the worksite. In case the office is more than 500m away from the worksite, the contractor is to provide conveyance. Also, for staff working beyond working hours the contractor has to provide conveyance.~~

7. ~~Permission for provision & removal of office on completion of work~~

~~The tenderer shall obtain permission for provision of site office, cement go-down, store, etc. on payment of necessary cost implication. The cement go-down, Watchman cabins, etc. shall be provided as directed and shall be removed by the Tenderers on completion of the work at their cost. It is binding on the Tenderer to fulfill requirements of Environmental Authorities. The location of such office shall be finalized and got approved from the Engineer before erection / commencement of work.~~

8. Contractor's office near works:

The Contractor shall have an office near the works at which notice from the Commissioner or the Engineer may be served and shall, between the hours of sunrise and sunset on all working days, have a clerk or some other authorized person always present at such office upon whom such notices may be served and service of any notices left with such clerk or other authorized person or at such office shall be deemed good service upon the Contractor and such offices shall have pre-requisite facilities for e-governance.

69. Official Secrecy:

The Contractor shall of all the persons employed in any works in connection with the contract that the India Official Secrets Act 1923 (XIX of 1923) applies to them and will continue to apply even after execution of the said works and they will not disclose any information regarding this contract to any third party. The contractor shall also bring into notice that, any information found to be leaked out or disclosed the concern person as well as the Contractor will be liable for penal action; further the Corporation will be at liberty to terminate the contract without notice.

70. Subsequent Legislation:

If on the day of submission of bids for the contract, there occur changes to any National or State stature, Ordinance, decree or other law or any regulation or By-laws or any local or other duly constituted authority or the introduction of any such National or State Statute, Ordinance, decree or by which causes additional or reduced cost to the Contractor, such additional or reduced cost shall, after due consultation with the Contractor, be determined by the concerned Engineering Department of BMC and shall be added to or deducted from the Contract Price with prior approval of competent authority and the concerned Engineering Department shall notify the Contractor accordingly with a copy to the Employer. BMC reserve the right to take decision in respect of addition / reduction of cost in contract.

71. Patent, Right and Royalties:

The contractor shall save harmless and indemnify the Corporation from and against all claims and proceedings for or on account of infringement of any Patent rights, design trademark or name of other protected rights in respect of any constructional plant, machine work, or material used for or in connection with the Works or any of them and from and against all

claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto. Except where otherwise specified, the contractor shall pay all tonnage and other royalties, rent and other payments or compensation, if any, for getting stone, sand, gravel, clay or other materials required for the works or any of them.

72. Payments, Tax and Claims:

● **The limit for unforeseen claims**

Under no circumstances whatever the contractor shall be entitled to any compensation from BMC on any account unless the contractor shall have submitted a claim in writing to the Eng-in-change within 1 month of the case of such claim occurring.

● **No interest for delayed payments due to disputes, etc:**

It is agreed that the Municipal Corporation of Greater Mumbai or its Engineer or Officer shall not be liable to pay any interest or damage with respect of any moneys or balance which may be in its or its Engineer's or officer's hands owing to any dispute or difference or claim or misunderstanding between the Municipal Corporation of Greater Bombay or its Engineer or Officer on the one hand and the contractor on the other, or with respect to any delay on the part of the Municipal Corporation of Greater Bombay or its Engineer or Officers in making periodical or final payments or in any other respect whatever.

73. Settlement of Disputes:

● **Termination of contract for death**

If the Contractor is an individual or a proprietary concern and the individual or the proprietor dies and if the Contractor is a partnership concern and one of the legal representative of the individual Contractor or the proprietor of the proprietary concern and in case of partnership, the surviving partners, are capable of carrying out and completing the contract, the Commissioner shall be entitled to cancel the contract as to its uncompleted part without the Corporation being in any way liable to payment of any compensation to the estate of the deceased Contractor and or to the surviving partners of the Contractor's firm on account of the cancellation of the contract. The decision of the Commissioner that the legal representative of the deceased Contractor or surviving partners of the Contractor's firm cannot carry out and complete the contract shall be final and binding on the parties. In the event of such cancellation the Commissioner shall not hold estate of the deceased Contractor and or surviving partners of the Contractor's firm liable in damages for not completing the contract.

● **Settlement of Disputes:**

If any dispute or differences of any kind whatsoever other than those in respect of which, the decision of any person is, by the Contract, expressed to be final and binding) shall arise between the Employer and the Contractor or the Engineer and the Contractor in connection with or arising out of the Contractor carrying out of the Works (Whether during the

progress of the Works or after their completion and whether before or after the termination, abandonment or breach of the Contract) it, the aggrieved party may refer such dispute within a period of 7 days to the concerned Addl. Municipal Commissioner who shall constitute a committee comprising of three officers i.e. concerned Deputy Municipal Commissioner or Director (ES&P), Chief Engineer other than the Engineer of the Contract and concerned Chief Accountant. The Committee shall give decision in writing within 60 days. Appeal on the Order of the Committee may be referred to the Municipal Commissioner within 7 days. Thereafter the Municipal Commissioner shall constitute a Committee comprising of three Addl. Municipal Commissioners including Addl. Municipal Commissioner in charge of Finance Department. The Municipal Commissioner within a period of 90 days after being requested to do so shall give written notice of committee's decision to the Contractor. Save as herein provided such decision in respect of every matter so referred shall be final and binding upon both parties until the completion of the works, and shall forthwith be given effect to by the Contractor who shall proceed with the works with due diligence, whether he requires arbitration as hereinafter provided or not. If the Commissioner has given written notice of the decision to the Contractor and no Claim to arbitration has been communicated within a period of 90 days from receipt of such notice the said decision shall remain final and binding upon the Contractor.

74. Arbitration and Jurisdiction:

If the Commissioner fails to give notice of the decision as aforesaid within a period of 90 days after being requested as aforesaid, or if the Contractor is dissatisfied with any such decision, then the contractor may within 90 days after receiving notice of such decision or within 90 days after the expiration of the first named period of 90 days (as the case may be) require that the matter or matters in dispute be referred to arbitration as hereinafter provided.

- i. In case of a contract where the contract price and / or contract value is less than Rs. 5,00,00,000/-(Rupees five crore only), any dispute arising out of or in connection with this contract, including any question regarding its existence, validity or termination, shall be referred to a mutually agreed arbitral tribunal in accordance with the Arbitration and Conciliation Act, 1996 (amended upto date). The arbitral tribunal shall consist of a sole arbitrator, as mutually agreed upon by the parties and the said dispute shall be finally resolved by the said arbitral tribunal. The decision of arbitral tribunal shall be in writing (with reasons) and which will be final and binding upon the parties hereto and the expenses of the arbitration shall be paid as may be determined by the arbitral tribunal. The seat of the arbitration shall be Mumbai. The venue of arbitration shall be within the limits of Brihan Mumbai. The language of the Arbitration shall be English. If the parties fails to appoint mutually agreed arbitral tribunal, within the period of 30 days from the date of application seeking arbitration in the dispute, the arbitral tribunal shall be appointed by the recognized arbitral institution i.e. Mumbai Centre for International Arbitration (approved by Government of Maharashtra under G.R.No.ARB/Case No.1,/2017/D-19 dtd. 28.02.2017) as per the arbitration rules of the Mumbai Centre for International Arbitration then in force ("MCIA Rules").

- ii. In case of contract where the contract price and/or contract value is Rs.5,00,00,000/- (Rupees five crore only) or more, any dispute arising out of or in connection with such a contract, including any question regarding its existence, validity or termination, shall be directly referred to and finally resolved by the recognized arbitral institution i.e. Mumbai Centre for International Arbitration (approved by Government of Maharashtra under G.R.No.ARB/Case No.1./2017/D-19 dtd. 28.02.2017) as per Arbitration Rules of the Mumbai Centre for International Arbitration then in force ("MCIA Rules"). The arbitral tribunal shall consist of a sole arbitrator. The seat of the arbitration shall be Mumbai. The language of the Arbitration shall be English. In either case, the law governing this arbitration agreement and the contract shall be Indian law.

75. Copyright:

The copyright of all drawings and other documents provided by the Contractor under the contract shall remain vested in the Contractor or his sub-contractors as the case may be the employer shall have a license to use such drawings and other documents in connection with the design, construction, operation, maintenance of the works. At any time the Employer shall have further license without additional payment to the Contractor to use any such drawings or documents for the purpose of making any improvement of the works or enlargement or duplication of any part thereof, provided that such improvement, enlargement, or duplication by itself or in conjunction with any other improvements, enlargements or duplications already made in accordance with the further license does not result in the duplication of the whole works.

76. Receipts to be signed in firm's name by any one of the partners:

Every receipt for money which may become payable or for any security which may become transferable to the Contractor under these present shall, if signed in the partnership name by any one of the partners, be a good and sufficient discharge to the Commissioner and Municipal Corporation in respect of the money or security purporting to be acknowledged thereby, and in the event of death of any of the partners during the pendency of this contract, it is hereby expressly agreed that every receipt by any one of the surviving partners shall, if so signed as aforesaid, be good and sufficient discharge as aforesaid provided that nothing in this clause contained shall be deemed to prejudice or effect any claim which the Commissioner or the Corporation may hereafter have against the legal representatives of any partners so dying or in respect of any breach of any of the conditions thereof, provided also that nothing in this clause contained shall be deemed prejudicial or affect the respective rights or obligations of the Contractors and of the legal representatives of any deceased Contractors interest.

77. Proprietary data

All documents and other information supplied by the Authority or submitted by an Applicant to the Authority shall remain or become the property of the Authority. Applicants are to treat all information as strictly confidential and shall not use it for any purpose other than for

preparation and submission of their Application. The Authority will not return any Application or any information provided along therewith.

78. Correspondence with the Applicant

Save and except as provided in this TENDER, the Authority shall not entertain any correspondence with any Applicant in relation to the acceptance or rejection of any Application.

79. Price Variation Clause

~~The Contractor shall be reimbursed or shall refund to the Corporation as the case may be the variation in the value of the work carried out from time to time, depending on whether the prices of material and labour as a whole rise or fall, and the method adopted for such computations shall be as given below, it being clearly understood that the contractor shall have no claim for being reimbursed on the ground that the price of a particular material or group of materials have risen beyond the limits of the presumptions made in the following paras, however, no price variations shall be made applicable for contracts upto 12 months:~~

~~A) Controlled materials: Price variations shall be permitted in respect of these materials the price level of which is controlled by the Government or its agency. The rate ruling on the date of submission of the tender shall be considered as the basic price of such material for adjustment. Any variation in this rate shall be considered for reimbursement to the contractor or refund to be claimed from the contractor as the case may be. The contractor shall, for the purpose of adjustment submit in original the relevant documents from the suppliers.~~

~~B) Labour and other materials: For the purpose of this contract and for allowing reimbursement or refund on account of variation of prices of (i) labour, and (ii) materials other than materials mentioned in A above, computation will be based on the formula enunciated below which is based on the presumptions that:~~

~~i) The general price level of labour, rises or falls in proportion to the rise or fall of consumer price index number 9 (general) for working class in Mumbai.~~

~~ii) The general price level of materials rises or falls in proportion to rise or fall of wholesale price index as published by 'Economic Adviser to Govt. of India'.~~

~~iii) And that the component of labour is to the extent of 30 percent of 88 percent and the component of materials is to the extent of 70 percent of 88 percent of the value of the work carried out. The remaining 12 percent being the presumptive profit of the contractor.~~

~~a) Formula for Labour component:
$$VL = \frac{(0.88 R) \times 30 \times (I - IO)}{100 - IO}$$~~

~~b) Formula for Material component
$$= \frac{(0.88R) \times 70 - Cx(W - WO)}{100 - WO}$$~~

~~Where —~~

~~VL: =Amount of price variation to be reimbursed or claimed as refund on account of general rise or fall of index referred to above.~~

~~V : =Consumer Price Index number of working class for Mumbai (declared by the Commissioner of Labour and Director of Employment, Mumbai) applicable to the period under reference (base year ending 2004-05 as 100)~~

i.e. new series of indices).

~~IO: =Consumer price index number for working class for Mumbai (declared by the Commissioner of labour and Director of Employment, Mumbai) prevailing, on the day of 28 days prior to the date of submission of the tender.~~

~~VM: =The amount of price variation to be reimbursed or claimed as refund on account of general rise or fall of wholesale price index for period under reference.~~

~~W : =Average wholesale price index as published by Economic Adviser to Govt. of India applicable to the period under reference.~~

~~WO: =Wholesale price index as stated above prevailing on the day of 28 days prior to the date of submission of the tender.~~

~~R: =Total value of the work done during the period under reference as recorded in the Measurement Book excluding water charges and sewerage charges but including cost of excess in respect of item upto 50 percent~~

~~C: =Total value of Controlled materials used for the works as recorded in Measurement Book & paid for at original basic rate plus the value of materials used.~~

~~i) The quantity of the Controlled material adopted in working out the value of 'C' shall be inclusive of permitted wastages as / if mentioned in specifications.~~

~~ii) The basic rate for the supply of controlled material shall be inclusive of all the components of cost of materials excluding transport charges incurred for bringing the material from place of delivery to the site.~~

~~Computations based on the above formula will be made for the period of each bill separately and reimbursement will be made to (when the result is plus) and refund will claimed from (when the result is minus) the contractor's next bill. The above formulae will be replaced by the formulae in Annexure-I as and when mentioned in special conditions of contract.~~

~~The operative period of the contract for application of price variation shall mean the period commencing from the date of commencement of work mentioned in the work order and ending on the date when time allowed for the work order and ending on the date when time allowed for the work specified in the contract for work expires, taking into consideration, the extension of time, if any, for completion of the work granted by Engineer under the relevant clause of the conditions of contract in cases other than those where such extension is necessitated on account of default of the contractor.~~

~~The decision of the Engineer as regards the operative period of the contract shall be final and binding on the contractors.~~

~~iii) Where there is no supply of controlled items to contractor the component 'C' shall be taken as zero.~~

~~C) Adjustment after completion: If the Contractor fails to complete the works within the time for completion adjustment of prices thereafter until the date of completion of the works shall be made using either the indices or prices relating to the prescribed time for completion, or the current indices or prices whichever is more favorable to the employer, provided that if an extension of time is granted, the above provision shall apply only to adjustments made after the expiry of such extension of time.~~

D) Price variation will be calculated similarly and separately for extra items and / or excess quantities and provisional sums calculated under Sub Clause 10 (b) A (i) & (ii) and Sub Clause 10 (b) B (ii) based on the above formula/formulae in Annexure I as and when mentioned in Special conditions of contract; IO and WO being the indices applicable to the date on which the rates under Sub Clause 10 (a) A (i) & (ii) and Sub Clause 10 (a) B (iii) are fixed. No price variation shall be admissible for FAIR items created during execution.

80. Maximum Price Variation shall be as follows:

Time Period of Project	Maximum limit of Price Variation
Up to 12 months	No variation allowed
Above 12 months to 24 months	5.00%
Above 24 months	10.00%

~~*Approval of AMC / MC shall be obtained before invitation of tender in case of any changes in above.~~

Note:

- ~~1) The extension in time period for the projects originally estimated including monsoon results in change of price variation slabs as mentioned above i.e. From first slab to second slab or from second slab to third slab, then the maximum limit of original slab will prevail.~~
- ~~2) Operative period shall mean original or extended time period of contract.~~

For example:

Extension of Time period	Maximum Price Variation
If original period of 11 months including monsoon extends to 16. The operative period will be 11+5 months.	No variation allowed
If original period of 11 months excluding monsoon extends to 16. The operative period will be 11+5 months.	Maximum 5% variation allowed

Price Variation during Extended Period of Contract:

- ~~i) Extension Due To Modification and Extension for delay due to BMC:
The price variation for the period of extension granted shall be limited to the amount payable as per the Indices. In case the indices increases or decreases, above/below the indices applicable, to the last month of the original or extended period vide clause 8 (1) (a) (i) and (ii) of standard GCC~~
- ~~ii) Extension Of Time For Delay Due To Contractor:
a) The price variation for the period of extension granted shall be limited to the amount payable as per the Indices in case the indices increase, above the indices applicable, to the last month of the original completion period or the extended period vide above clause 8 (1) (a) (i) and (ii) of standard GCC.
b) The price variation shall be limited to the amount payable as per the indices, in case the indices decrease or fall below the indices applicable, to the last month of original / extended period of completion period vide above clause 8(1)(b) of standard GCC, then lower indices shall be adopted.~~

~~iii) Extension of Time For Delay due to reasons not attributable to BMC and Contractor (Reference Cl. 8 (d) of Standard GCC):~~

~~The price variation for the period of extension granted shall be limited to the amount payable as per the Indices in case the indices increases or decreases, above / below the indices applicable, to the last month of the original period.~~

81. Payment:

Terms of payment:

Within 30 days from the date of receipt of bill accompanied by relevant supporting documents, subject to satisfactory completion of work as per contract terms and conditions.

Monthly interim payment of amount calculated on monthly basis considering the contract period will be made on pro-rata basis on successful completion of every one month.

Interim Payment :

- i) Interim bills shall be submitted by the Contractor from time to time (but at an interval of not less than one month) for the works executed. The Engineer shall arrange to have the bills verified by taking or causing to be taken, where necessary, the requisite measurement of work.
- ii) ~~Payment on account for amount admissible shall be made on the Engineer certifying the sum to which the Contractor is considered entitled by way of interim payment for all the work executed, after deducting there from the amount already paid, the security deposit / retention money and such other amounts as may be deductible or recoverable in terms of the contract.~~
- iii) ~~On request, the contractor will be paid upto 75 percent of the value of the work carried out as an adhoc payment in the first week of next month after deducting there from recoveries on account of advances, interest, retention money, income tax etc. The balance payment due will be paid thereafter.~~
- iv) ~~No interim payment will be admitted until such time the Contractor have fully complied with the requirement of the Condition no.8 (g) and 8 (h) concerning submission and approval of Network Schedule for the works, as detailed in Condition 8 (h). A fixed sum shall be held in abeyance at the time of next interim payment for non-attainment of each milestone in the network and shall be released only on attainment of the said milestone.~~
- v) ~~An interim certificate given relating to work done or material delivered may be modified or corrected by a subsequent interim certificate or by the final certificate. No certificate of the Engineer supporting an interim payment shall of itself be conclusive evidence that any work or materials to which it relates is / are in accordance with the contract.~~

82. Banning / De-Registration of Agencies of Construction works / SITC of M & E Works in BMC

The regulations regarding Demotion/ Suspension Banning for specific period or permanently / De-Registration shall be governed as per the respective condition in Contractor Registration Rules of BMC.

83. JOINT VENTURE (NOT APPLICABLE)

In case if Joint Venture is allowed for the Project, the guidelines for JV as follows shall be incorporated in the Tender Document:

- a) Joint Venture should be allowed only when the number of identifiable different works is more than one and/or the estimated cost of tender is more than Rs.100 Crores. JV shall also be allowed for complex technical work below Rs.100 Crores with the approval of concerned AMC
- b) Separate identity/name shall be given to the Joint Venture firm.
- c) Number of members in a JV firm shall not be more than three in normal circumstances, if the work involves only one discipline (say Civil or Electrical).If number of members in JV is required to be more than three, then approval of concerned AMC needs to be sought.
- d) A member of JV firm shall not be permitted to participate either in individual capacity or as a member of another JV firm in the same tender.
- e) The tender form shall be purchased and submitted in the 'name of the JV firm or any constituent member of the JV.
- f) Normally EMD shall be submitted only in the name of the JV and not in the name of constituent member. However, EMD in the name of lead partner can be accepted subject to submission of specific request letter from lead partner stating the reasons for not submitting the EMD in the name of JV and giving written confirmation from the JV partners to the effect that the EMD submitted by the lead partner may be deemed as EMD submitted by JV firm.
- g) One of the members of the JV firm shall be the lead member of the JV firm who shall have a majority (at least 51%) share of interest in the JV firm. The other members shall have a share of not less than 20% each in case of JV firms with up to three members and not less than 10% each in case of JV firms with more than three members. In case of JV firm with foreign member(s), the lead member has to be an Indian firm with a minimum share of 51%.
- h) A copy of Letter of Intent or Memorandum of Understanding (MoU) executed by the JV members shall be submitted by the JV firm along with the tender. The complete details of the members of the JV firm, their share and responsibility in the JV firm etc. particularly with reference to financial technical and other obligation shall be furnished in the agreement.
- i) Once the tender is submitted, the agreement shall not be modified/altered/terminated during the validity of the tender. In case the tenderer fails to observe/comply with this stipulation, the full Earnest Money Deposit (EMD) shall be forfeited. In case of successful tenderer, the validity of this agreement shall be extended till the currency of the contract expires.
- j) Approval for change of constitution of JV firm shall be at the sole discretion of the BMC. The constitution of the JV firm shall not be allowed to be modified after submission of the tender bid by the JV firm except when modification becomes inevitable due to succession laws etc. and in any case the minimum eligibility criteria should not get vitiated. In any case the Lead Member should continue to be the Lead Member of the JV firm. Failure to observe this requirement would render the offer invalid.

- k) Similarly, after the contract is awarded, the constitution of JV firm shall not be allowed to be altered during the currency of contract except when modification become inevitable due to succession laws etc. and in any case the minimum eligibility criteria should not get vitiated. Failure to observe this stipulation shall be deemed to be breach of contract with all consequential penal action as per contract condition.
- l) On award of contract to a JV firm, a single Performance Guarantee shall be required to be submitted by the JV firm as per tender conditions. All the Guarantees like Performance Guarantee, Bank Guarantee for Mobilization advance, machinery Advance etc. shall be accepted only in the name of the JV firm and no splitting of guarantees amongst the members of the JV firm shall be permitted.
- m) On issue of LOA, an agreement among the members of the JV firm (to whom the work has been awarded) has to be executed and got registered before the Registrar of the Companies under Companies Act or before the Registrar / Sub-Registrar under the Registration Act, 1908. This agreement shall be submitted by the JV firm to the BMC before signing the contract agreement for the work. (This agreement format should invariably be part of the tender condition). In case the tenderer fails to observe/comply with this stipulation, the full Earnest Money Deposit (EMD) shall be forfeited and other penal actions due shall be taken against partners of the JV and the JV. This joint venture agreement shall have, inter-alia, following clauses:-
- i. **Joint and several liability** - The members of the JV firm to which the contract is awarded, shall be jointly and severally liable to the Employer (BMC) for execution of the project in accordance with General and Special conditions of the contract. The JV members shall also be liable jointly and severally for the loss, damages caused to the BMC during the course of execution of the contract or due to no execution of the contract or part thereof.
 - ii. **Duration of the Joint Venture Agreement** -It shall be valid during the entire period of the contract including the period of extension if any and the maintenance period after the work is completed.
 - iii. **Governing Laws** - The Joint Venture Agreement shall in all respect be governed by and interpreted in accordance with Indian Laws.
 - iv. **Authorized Member** -Joint Venture members shall authorize one of the members on behalf of the Joint Venture firm to deal with the tender, sign the agreement or enter into contract in respect of the said tender, to receive payment, to witness joint measurement of work done, to sign measurement books and similar such action in respect of the said tender/contract. All notices/correspondences with respect to the contract would be sent only to this authorized member of the JV firm.

No member of the Joint Venture firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other members and that of the employer in respect of the said tender /contract.

n) Documents to be enclosed by the JV firm along with the tender:

- i. In case one or more of the members of the JV firm is/are partnership firm(s), following documents shall be submitted:
 - a. Notary certified copy of the Partnership Deed,
 - b. Consent of all the partners to enter into the Joint Venture Agreement on a stamp paper of appropriate value (in original).
 - c. Power of Attorney (duly registered as per prevailing law) in favor of one of the partners to sign the MOU and JV Agreement on behalf of the partners and create liability against the firm.
- ii. In case one or more members is/are Proprietary Firm or HUF, the following documents shall be enclosed:
 - a. Affidavit on Stamp Paper of appropriate value declaring that his Concern is a Proprietary Concern and he is sole proprietor of the Concern OR he is in position of "KARTA" of Hindu Undivided Family and he has the authority, power and consent given by other partners to act on behalf of HUF.
- iii. In case one or more members is/are limited companies, the following documents shall be submitted:
 - a. Notary certified copy of resolutions of the Directors of the Company, permitting the company to enter into a JV agreement, authorizing MD or one of the Directors or Managers of the Company to sign MOU, JV Agreement, such other documents required to be signed on behalf of the Company and enter into liability against the company and/or do any other act on behalf of the company.
 - b. Copy of Memorandum and articles of Association of the Company.
 - c. Power of Attorney (duly registered as per prevailing law) by the Company authorizing the person to do/act mentioned in the para (a) above.
- o) All the members of the JV shall certify that they have not been black listed or debarred by BMC from participation in tenders/contract in the past either in their individual capacity or the JV firm or partnership firm in which they were members /partners.
- p) Credentials & Qualifying criteria: Technical and financial eligibility of the JV firm shall be adjudged based on satisfactory fulfillment of the following criteria:

Technical eligibility criteria:

In case of Work involving single discipline, the Lead member of the JV firm shall meet at least 35% requirement of technical capacity as stipulated in tender document.

OR

In case of composite works (e.g. works involving more than one distinct component such as Civil Engineering works, M&E works, Electrical works, etc. and in the case of major bridges, substructure and superstructure etc.), at least one member should have satisfactorily completed 35% of the value of any one component of the project work so as to cover all the components of project work or any member having satisfactorily completed 35% of the value of work of each component during last seven financial years.

In such cases, what constitutes a component in a composite work shall be clearly defined as part of the tender condition without any ambiguity.

Financial eligibility criteria: The contractual payments received by the JV firm or the arithmetic sum of contractual payments received by all the members of JV firm in any one of the previous three financial years and shall be at least **100% of the estimated value** of the work as mentioned in the tender.

84. Compensation for delay: As per technical specifications

~~If the Contractor fails to complete the works and clear the site on or before the Contract or extended date(s) / period(s) of completion, he shall, without prejudice to any other right or remedy of Municipal Corporation on account of such breach, pay as agreed compensation, amount calculated as stipulated below (or such smaller amount as may be fixed by the Engineer) on the contract value of the whole work or on the contract value of the time or group of items of work for which separate period of completion are given in the contract and of which completion is delayed for every week that the whole of the work of item or group of items of work concerned remains uncompleted, even though the contract as a whole be completed by the contract or the extended date of completion. For this purpose the term 'Contract Value' shall be the value of the work at Contract Rates as ordered including the value of all deviations ordered:~~

- ~~● Completion period for projects (originally stipulated or as extended) not exceeding 6 months :to the extent of maximum 1 percent per week.~~
- ~~● Completion period for projects (originally stipulated or as extended) exceeding 6 months and not exceeding 2 years: to the extent of maximum ½ percent per week.~~
- ~~● Completion period for projects (originally stipulated or as extended) exceeding 2 years :to the extent of maximum ¼ percent per week.~~

~~When the delay is not a full week or in multiple of a week but involves a fraction of a week the compensation payable for that fraction shall be proportional to the number of days involved. Provided always that the total amount of compensation for delay to be paid this condition shall not exceed the under noted percentage of the Contract Value of the item or group of items of work for which a separate period of completion is given.~~

- ~~i. Completion period (as originally stipulated or as extended) not exceeding 6 months :10 percent.~~
- ~~ii) Completion period (as originally stipulated or as extended) exceeding 6 months and not exceeding 2 years :7½ percent.~~
- ~~iii) Completion period (as originally stipulated or as extended) exceeding 2 years :5 percent.~~

~~The amount of compensation may be adjusted set off against any sum payable to the contractor under this or any other contract with the Municipal Corporation.~~

85. Action And Compensation Payable In Case Of Bad Work And Not Done As Per Specifications

All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Engineer-in-charge, his authorized subordinates in charge of the work and all the superior officers, officer of the Vigilance Department of the BMC or any organization engaged by the BMC for Quality Assurance and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

If it shall appear to the Engineer-in-charge or his authorized subordinates in-charge of the work or to the officer of Vigilance Department, that any work has been executed with unsound, imperfect or unskillful workmanship or with materials of any inferior description, or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to that contracted for or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 84. of the general condition of contract in section 9 of tender document (for Compensation for delay) for this default. In such case the Engineer-in Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the Engineer in charge may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in- Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

If the penalization amount exceeds maximum limit with respect to Clause 8.e of Standard General Conditions of Contract, then a show cause notice shall necessarily be issued to the contract as to why the contract should not be terminated.

The above clause is summarized to make it easy to understand as follows:

- 1 The Engineer-in-charge shall issue notice to the contractor for rectifying the defects or redoing of the work if necessary, within specific time to achieve the desired quality and quantity of the work and this should be governed by clause 8.f and 9.b of Standard General Conditions of Contract.
- 2 If the contractor fails to comply the same, only then, the contractor shall be liable to pay compensation at the same rate as under clause 84 of the Standard General Condition of Contract (for Compensation for delay) for this default.
- 3 If the penalization amount exceeds the maximum limit, then the contractor will be liable for being banned/ deregistered from business dealings with BMC and this shall be governed by relative provision in Registration Rules of BMC and Standard General Conditions of Contract.
- 4 This penalization shall be levied only on account of delay in work, unsound, imperfect or unskillful workmanship or with materials of any inferior description, or that any materials or articles provided by him for the execution of the work are unsound or of quality inferior to that contracted for or otherwise not in accordance with the contract.

86. Contractors remain liable to pay compensation:

In any case in which any of the powers conferred upon the Engineer In-charge by the **relevant clauses** in documents that form a part of contract as exercised or is exercisable in the event of any future case of default by the Contractor, he is declared liable to pay compensation amounting to the whole of his security deposit. The liability of the Contractor for past and future compensation shall remain unaffected.

In the event of the Executive Engineer taking action against these **relevant clauses**, he may, if he so desires, take possession of all or any tools and plant, materials and stores in or upon the work of site thereof or belonging to the Contractor or procured by him and intended to be used for the execution of the work or any part thereof paying or allowing for the same in account at the contract rates, or in the case of contract rates not being applicable at current market rates to be certified by the Executive Engineer, may after giving notice in writing to the Contractor or his staff of the work or other authorized agent require him to remove such tools and plants, materials or stores from the premises within a time to be specified in such notice and in the event of the Contractor failing to comply with any such requisition, the Executive Engineer may remove them at the contractors expense or sell them by auction or private sell on account of the Contractor at his risk in all respects and certificate of the Executive Engineer as to the expense of any such removal and the amount of the proceeds and expense of any such sell be final and conclusive against the Contractor.

87. No Claim To Any Payment Or Compensation Or Alteration In Or Restriction Of Work

- (a) If at any time after the execution of contract documents, the Engineer shall for any reason whatsoever, desires that the whole or any part of the works specified in the Tender should be suspended for any period or that the whole or part of the work should not be carried out, at all, he shall give to the Contractor a Notice in writing of such desire and upon the receipt of such notice, the Contractor shall forthwith suspend or stop the work wholly or in part as required after having due regard to the appropriate stage at which the work should be stopped or suspended so as not to cause any damage or injury the work already done or endanger the safety thereof, provided that the decision of the Engineer as to the stage at which the work or any part of it could be or could have been safely stopped or suspended shall be final and conclusive against the contractor.

The Contractor shall have no claim to any payment or compensation whatsoever by reason of or in pursuance of any notice as aforesaid, on account of any suspension, stoppage or curtailment except to the extent specified hereinafter.

- (b) Where the total suspension of Work Order as aforesaid continued for a continuous period exceeding 90 days the contractor shall be at liberty to withdraw from the contractual obligations under the contract so far as it pertains to the unexecuted part of the work by giving 10 days prior notice in writing to the Engineer within 30 days of the expiry of the said period of 90 days, of such intention and requiring the Engineering to record the final measurement of the work already done and to pay final bill. Upon giving such Notice, the Contractor shall be deemed to have been discharged from his obligations to complete the remaining unexecuted work under his contract. On receipt of such notice the Engineer shall proceed to complete the measurement and make such payment as may be finally due to the contractor within a period of 90 days from the receipt of such Notice in respect of the work already done by the contractor. Such payment shall not in any manner prejudice the right of the contractor to any further compensation under the remaining provisions of this clause.
- (c) Where the Engineer required to Contractor to suspend the work for a period in excess of 30 days at any time or 60 days in the aggregate, the Contractor shall be entitled to apply to the Engineer within 30 days of the resumption of the work after such suspension for payment of compensation to the extent of pecuniary loss suffered by him in respect of working machinery remained ideal on the site of on the account of his having an to pay the salary of wages and labour engaged by him during the said period of suspension provided always that the contractor shall not be entitled to any claim in respect of any such working machinery, salary or wages for the first 30 days

whether consecutive or in the aggregate or such suspension or in respect of any such suspension whatsoever occasion by unsatisfactory work or any other default on his part, the decision of the Engineer in this regard shall be final and conclusive against the contractor.

88. Contractor to supply plant, ladder, scaffolding, etc. and is liable for damages arising from non provision of lights, fencing etc.

The Contractor shall supply at his own cost all material, plant, tools, appliances, implements, ladders, cordage, tackle scaffolding and temporary works requisite or proper for the proper execution of the work, whether, in the original altered or substituted form and whether included in the specification of other documents forming part of the contract or referred to in these conditions or not and which may be necessary for the purpose of satisfying or complying with the requirements of the Eng-In-Charge as to any matter as to which under these conditions is entitled to be satisfied, or which is entitled to require together with the carriage therefore to and from the work.

The Contractor shall also supply without charge, the requisite number of person with the means and materials necessary for the purpose of setting out works and counting, weighing and assisting in the measurements of examination at any time and from time to time of the work or materials, failing which the same may be provided by the Engineer In-charge at the expense of the contractor and the expenses may be deducted from any money due to the contractor under the contract or from his security deposit or the proceeds of sale thereof, or offers sufficient portion thereof.

The contractor shall provide all necessary fencing and lights required to protect the public from accident and shall also be bound to bear the expenses of defence of every suit, action or other legal proceedings, that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit action or proceedings to any such person or which may with the consent of the contractor be paid for compromising any claim by any such person.

89. Prevention of Fire:

The contractor shall not set fire to any standing jungle, trees, brushwood or grass without a written permit from the Engineer In-charge. When such permit is given, and also in all cases when destroying cut or dug up trees brushwood, grass, etc., by fire, the contractor shall take necessary measure to prevent such fire spreading to or otherwise damaging surrounding property. The Contractor shall make his own arrangements for drinking water for the labour employed by him.

90. Compensation for all damages done intentionally or unintentionally by contractor's labour whether in or beyond the limits of BMC property including any damage caused by spreading the fire shall be estimated by the Engineer In-charge or such other officer as he may appoint and the estimate of the Engineer in-charge to the decision of the Dy. Chief Engineer on appeal shall be final and the contractor shall be bound to pay the amount of the assessed compensation on demand failing which the same will be recovered from the Contractor as damages or deducted by the Engineer In-charge from any sums that may be due or become due from BMC to contractor under this Contract or otherwise. Contractor shall bear the expenses of defending any action or other legal proceedings that may be brought to prevent the spread of fire and he shall pay any damages and costs that may be awarded by the Court in consequence.

91. In the case of Tender by partners, any change in the constitution of the firm shall be forthwith, notified by the contractor through the Engineer In-charge for his information.

92. Action where no specifications

In the case of any class of work for which there is no such specifications, such works shall be carried out in accordance with the specifications and in the event of there being no such specifications, then in such case, the work shall be carried out in all respects in accordance with all instructions and requirements of the Engineer In-charge.

93. Safety and medical help:

(i) The Contractor shall be responsible for and shall pay the expenses of providing medical help to any workmen who may suffer a bodily injury as a result of an accident. If such expenses are incurred by BMC, the same shall be recoverable from the contractor forthwith and be included without prejudice to any other remedy of BMC from any amount due or that may become due to the Contractor.

(i) The contractor shall provide necessary personal safety equipment and first-aid box for the use of persons employed on the site and shall maintain the same in condition suitable for immediate use at anytime.

(ii) The workers shall be required to use the safety equipment so provided by the contractor and the contractor shall take adequate steps to ensure the proper use of equipment by those concerned.

(iv) When the work is carried on in proximity to any place where there is risk or drawing all necessary equipment shall be provided and kept ready for use and all necessary steps shall be taken for the prompt rescue of any person in danger.

94. No compensation shall be allowed for any delay caused in the starting of the work on account of acquisition of land or in the case of clearance of works, on account of ant delay in according to sanction of estimates.

95. Anti-malaria and other health measures:

Anti-Malaria and other health measures shall be taken as directed by the Executive Health Officer of BMC. Contractor shall see that mosquito genic conditions are created so as to keep vector population to minimum level. Contractor shall carry out anti-malaria measures in the area as per the guidelines issued by the Executive Health Officer of BMC from time to time.

In case of default, in carrying out prescribed anti-malaria measures resulting in increase in malaria incidence, contractor shall be liable to pay BMC on anti-malaria measures to control the situation in addition to fine.

SECTION 10
SPECIFICATIONS &
SELECTION OF
MATERIAL

BRIHANMUMBAI MUNICIPAL CORPORATION

Hydraulic Engineer's Department

Sub: Operation & Maintenance of new 900 MLD Water Treatment Plant, Bhandup Complex.

Preamble:

The Brihanmumbai Municipal Corporation (BMC) owns state of art technology fully automated 900 MLD water treatment plant situated at Bhandup Complex. In addition to water treatment, plant is equipped with recycling facilities for recirculation of filter back wash water and desludge water from settlers by removing sludge. The plant is built by M/s. Suez India Pvt. Ltd. (Indian subsidiary of M/s. Degremont S.A. Ltd) and commissioned on 07.01.2014 followed by Operation & Maintenance (O & M) of plant during guarantee period of one year and there after a total of ten years O & M period. The O & M period will be over by 12.03.2025.

The site is located at Bhandup Complex about 2 kms west side of Lal Bahaddur Shastri Marg (LBS Marg) on Mulund - Goregaon Link Road and about 5 kms. away from Eastern Express Highway. The nearest Railway Station is Nahur on Central Railway line.

The new 900 MLD water treatment plant is in process of handing over to HE department for operation and maintenance. The required engineering and labour staff to operate and maintain the plant is already sanctioned and the process of filling up of posts is in process. The process would take some more time.

Therefore, Operation & Maintenance of fully automated 900 MLD Water Treatment Plant at Bhandup Complex consisting of inlet works, pulsatube clarifiers, rapid sand filters, dosing systems for PAC, chlorine & polyelectrolyte, common sludge recovery plant for desludge water of settlers of 900 MLD and 1910 MLD WTP, sludge handling and transportation, filter back wash water recirculation plant for 900 MLD WTP, filter back wash water recirculation plant for 1910 MLD WTP, water sampling, testing and quality control, online flow measuring devices and quality monitoring instruments, providing consumables and machinery spares on comprehensive basis including all allied works is proposed to be outsourced for three years period or till the BMC staff will be appointed and conversant to the works assigned to them.

The work of 'Operation & Maintenance of new 900 MLD Water Treatment Plant, Bhandup Complex' involves scope as follows -

1. Operation of 900 MLD Water Treatment Plant-

- i) All operations and process control related to inlet works, pulsatube clarifiers, PAC dosing, filters, chlorine dosing.
- ii) Operation of filter back wash water recycling plant for 900 MLD & 1910 MLD plant.
- iii) Operation of SRA (Sludge Recirculation Area) plant including sludge handling, transport & disposal.
- iv) Water quality control by sampling and testing.

2. Maintenance of 900 MLD Water Treatment Plant.

- i) Maintenance of all mechanical, electrical, and civil equipment of 900 MLD WTP, filter back wash recycling plant for 900 & 1910 MLD plant and SRA plant. (List of equipment as per **Annexure-V**)

- ii) Maintaining complete automation system involving instrumentation, SCADA, various sensors, ICP etc.

3. Associated works of 900 MLD WTP :

- i) Start-ups and shut-downs
- ii) Emergency handling
- iii) Security
- iv) Housekeeping
- v) Transportation
- vi) Gardening
- vii) Maintaining internal roads
- viii) Streetlighting
- ix) Compliance to statutory / legal requirements
- x) Health, safety and environment measures

Note: The detail specifications of complete work is specified in section 10 i.e. Specifications & Selection of Material.

SPECIFICATIONS & SELECTION OF MATERIAL

Technical specifications

A. Salient features of the 900 MLD Water Treatment Plant

- 1 The water treatment plant is designed for 900 MLD capacity with maximum flow of 990 MLD and hydraulically designed with 20% loading i.e. 1080 MLD. The plant is fully automatic plant with SCADA controls.
- 2 Water treatment process involves inlet works, PAC (poly aluminum chloride) dosing, pre-chlorination before clarifier, clarification, pre-chlorination after clarifier, filtration and post chlorination.
- 3 Chlorine dosing is carried out from Chlorine House licensed for 60 tonners.
- 4 PAC dosing is monitored from chemical house by means of 4 nos. of PAC saturation tanks (100 M³ each), 4 nos. of diaphragm pumps and 2 nos. of service tanks.
- 5 Clarification process is carried out with help of 6 nos. of pulsatube clarifiers of 150 MLD capacity each.
- 6 The filtration process is carried out in two filter streams by 36 nos. of filter beds.
- 7 Post chlorination is carried out in a CCT (chlorine contact tank) of 37.5 ML capacity to provide detention time of approximate ½ hours.
- 8 The treated water is conveyed to MBR (master balancing reservoir) by pumping for onward distribution to city of Mumbai.
- 9 This plant is also designed to recycled sludge water from settlers & backwash water from filters.

The salient features of recycling plant are as below :

- I) SRA (Sludge Recirculation Area) plant:
 - a) It is designed to recycle supernatant and centrate water after removal of sludge from the sludge water.
 - b) Process involves accumulation and proper mixing of sludge water from 900 MLD and 1910 MLD plant. The sludge water from balancing tank is fed into 4 nos. of flocculators where poly-electrolyte dosing is done. The sludge water then enters in 4 nos. of 28 M dia. thickeners to achieve outlet sludge consistency of around 4%. The thickened sludge is collected in sumps and pumped to 10 nos. of centrifuges of capacity 30 M³/hr by means of 10 nos. of screw pumps after poly-electrolyte dosing. Sludge handling is done with the help of conveyor belts and 3 nos. of sludge trolleys.

II) F.W.W.R.T. stage -I

The backwash water from 72 nos. of filter beds of 1910 MLD WTP is collected into WWRT stage – I and the same is lifted by means of 3 nos. of submersible pumps of 985 M³/hr capacity. The recycled water is brought to the inlet bay of 1910 MLD plant. The plant is designed for 47 MLD capacity.

III) F.W.W.R.T. stage -IV

The backwash water from 36 nos. of filter beds of 900 MLD WTP is collected into WWRT stage – IV and the same is lifted by means of 3 nos. of submersible pumps of 430 M³/hr capacity. The recycled water is brought to the inlet bay of 1910 MLD plant. The plant is designed for 20 MLD capacity.

- 10 In addition to above, process related equipment of 900 MLD water treatment plant includes:
- i) The inlet bay including clarifier bypass to filter and inlet chamber overflow to drainage / channel system.
 - ii) Water quality monitoring and control system including sampling.
 - iii) Instrumentation
 - iv) Electrical installations including allied equipment, cabling etc., switchgears, distribution boards etc., fire fighting system, P.A. system, cabling, earthing, lightning protection, lighting including street etc. required within the boundary limits of the plant including provisions for trenches /ducts.
 - v) Overflow, spent wash water, chemical drainage, site drainage, wash water and sewage disposal systems.
 - vi) Interconnecting pipelines within and between the structures including underground work.
 - vii) Roadwork, general site drainage and site grading.
 - viii) Furniture required for supervising, operating and inspection staff of the plant.

B. Input and output quality:

1 Raw Water Quality:

The plant is able to treat the raw water according to the raw water design value :

> PH..... 7.1 –7.55

Total suspended solids

> For clarification500 mg/l

> Sludge management system 50 mg/l (In raw water considered for sludge treatment system)

2. Treated Water Quality:

The treated water quality based on raw water quality shall be:

> Turbidity Less than 0.5 NTU

> TSS Less than 1.0 mg/l

> Residual Chlorine More than 1 mg/l

> Coliform organism (MPN / 100 ml) Nil

C. Process Guarantees

The process guarantee is the assurance given to meet the standards and specifications and vouch to operate the plant efficiently. These guarantees are defined in the specifications. These guarantees can be achieved when the plant is operated at maximum works flow.

1. **PAC consumption:** The PAC dosing will be decided by the jar test. During non-monsoon, the dose shall be less than 10% of the dose provided by the jar test and shall be same as per JAR TEST during the monsoon period.

2. **Water loss as sludge:** The waste water which is recovered from sludge and is not recycled is considered as a water loss. It shall not exceed 2% of the total amount of water filtered during non monsoon period & monsoon period.
3. **Water loss from backwash:** The total wash water i.e. pumped backwash and cross wash is also a part of water loss. It shall not exceed 2% of the total amount of water filtered during non-monsoon and monsoon period.

D. Functional Guarantees:

The 900 MLD Plant is designed to comply with the final water quality requirements only if the plant has been operated in accordance with the operating procedures explained as following:

Water quality after clarification:

1. > For the dry season or non-monsoon season conditions when raw water turbidity is not exceeding to exceed 10 NTU

Parameters	Unit	Concentration
Turbidity	NTU	Less than 5
Suspended solids	mg/l	Less than 5
Total aluminum	mg/l as Al	Less than 0.3
For monsoon conditions with turbid raw water		
Turbidity	NTU	Any single value less than 7, maximum with an average value less than 5 over 24 hours.
Suspended solids	mg/l	Less than 5
Total aluminum	mg/l as Al	Less than 0.5 at any time over 24 hours.
Water Quality after Filtration and Chlorination		
> The treated water quality after filtration and disinfection based on raw water quality.		
Turbidity	NTU	Less than 0.5
Suspended solids	mg/l	Less than 1
Colour	Hazen units	Less than 5
Test and odour	--	unobjectionable
Iron as Fe	mg/l	Less than 0.1
Manganese as Mn	mg/l	Less than 0.1
Total aluminum	mg/l as Al	Less than 0.1 (Desirable limit 0.03)
Coliform organisms	MPN/100 mls	Absent

Other parameters shall be tested as per practice in vogue / as directed by BMC and shall confirm to BIS 10500.

These guarantees apply for input with the normal works flow of 900 MLD, under rating up to 20% and maximum works flow of 990 MLD when all units are under operation and not for the hydraulic overload.

E. Operation & Maintenance of 900 MLD Water Treatment Plant

- 1 Work of Operation & Maintenance of 900 MLD Water Treatment Plant of Bhandup Complex consists pulsatube clarifier plant, filtration plant, chlorination plant and PAC dosing system, clarifier sludge water recirculation plant, filter back wash waste water recirculation plant and SCADA, automation system.
- 2 The successful tenderer shall take over the plant for operation and Maintenance work on as and where basis.
- 3 During the Operation and Maintenance period water, power and chemicals will be provided by BMC at free of cost.
- 4 Copy of detailed plans, drawings, operation & maintenance manuals will be provided by BMC to successful bidder. The bidder shall copy the same with sufficient quantity for their reference during O & M period.
- 5 The contractor shall ensure copies of drawings, maps of each of the components of the water works along with all relevant manuals are available with the operators. All these sets must be corrected and updated during the maintenance period if any additions / alterations/ deletions are done to any of the equipment.
- 6 Staff position
- 6.1 List indicating the standard staffing pattern and minimum number of staff for each of the unit of operation and maintenance shall be as per clause **G (4) & Annexure-I**. The staff actually in position with reference to the staffing pattern shall be maintained during the O & M.
- 6.2 Any variation as regards to adequacy of staff (inadequate staff) will attract penalty till the contractor rectifies the same as per **Annexure-IV**

a) Operations

- 1.0 The Contractor shall carry out regular operations of 900 MLD water treatment plant on a 24 X 7 basis for the proper functioning of the plant. The operations shall be carried out with the minimum staff as mentioned in the specifications. The operational work involves mechanical, electrical & instrumentation (Automation, SCADA) etc. works for pulsatube clarifier plant, filtration plant, chlorine and PAC dosing system, sludge recirculation plant, including disposal of dewatered sludge to the approved site with necessary loading, unloading, transporting etc. to achieve water quality and allied process requirements as per specifications.
- 2.0 The operation of water treatment plant must be regulated by operations manual in order to full fill the legal requirements for state of the art operation and the co-operative regulations for labour safety and health. At the same time, the staff employed need instructions for extraordinary, non-routine situations, routine works, equipment operation etc. These procedure instructions are binding instructions on the execution of define procedures, processes and events. They contain definitions on what has to be done when, where, how, by whom, using which materials and considering which documents and how this shall be controlled and documented. The instructions help the operators and the employees to manage and operate the plant efficiently.

The instructions for the operation of plant in normal condition, monitoring all the process parameters, deviation from the normal operation, waste management, labour safety, execution of dangerous works etc. described in the manual are briefed as below:

3.0 Manual operations:

If required manual operations as below shall be carried out.

3.1 Inlet works:

- Flow regulation by operating electrically actuated butterfly valve in the upstream of inlet chamber.
- Overflow management through process drain.

3.2 Parshall flume

- Regulation of PAC dosing at parshall flume.
- In case of low turbidity in raw water, if required, pulsatube shall be bypassed by operation of penstock gate.

3.3 Distribution chamber and pulsatube clarifiers

- Operation of pen stock gate to regulate the flow in each pulsatube.
- Operation of vacuum blowers in local mode.
- Operation of compressor from control panel. Changeover of compressors

3.4 Aquazur – V filters.

- Operation of valves and backwash from filter consoles,
- Operation of manual drain valve to completely drain the filter for maintenance.
- Change of working compressor on regular interval.

3.5 Chlorine contact tank

- Operation of inlet / outlet valve as per requirement.

3.6 Chemical house (PAC dosing)

- Operation of air operated double diaphragm pumps from the selector switch near valves.
- Dose setting from constant head dosing system according to the flow at inlet.

3.7 Chlorination building:

- Booster Pump and chlorinators to be operated on LOCAL mode.
- Setting the dose rate by adjusting rota meter on chlorinator.
- Operating the neutralization system in LOCAL mode.

3.8 Waste Water Recovery Tank Stage-I

- Operation of submersible pump installed for pumping on LOCAL mode.
- Operations of submersible Mixers installed for pumping on LOCAL mode.

3.9 Waste Water Recovery Tank Stage-IV

- Operation of submersible pump installed for pumping on LOCAL mode.
- Operations of submersible Mixers installed for pumping on LOCAL mode.
- Operations of drainage pumps provided to pump water collected in the sump from the pulsatube drain in the storm water drain system.

3.10 Clarifier sludge sump:

- Operations of submersible pump in LOCAL mode to transfer sludge from clarifier sludge sump to New sludge collection sump.
- Operations of Mixers in LOCAL mode.

3.11 New sludge collection sump:

- Operations of submersible pump in LOCAL mode to transfer sludge from new sludge collection sump to common sludge balancing tank.

3.12 Common sludge balancing tank:

- Operations of submersible Mixer in LOCAL mode.
- Operations of submersible pump in LOCAL mode.

3.13 Flocculators:

- Operate manual penstock gate to control flow.
- Operations of agitator in LOCAL mode.

3.14 Sludge Thickeners

- Operations of scrapper bridge motors in LOCAL mode

3.15 Thickened sludge sump:

- Operate sludge pump in LOCAL mode.
- Operate submersible mixers in LOCAL mode.

3.16 Centrifuge:

- Operate centrifuge in LOCAL mode.
- Operations of poly electrolyte dosing pump in LOCAL mode.

3.17 Supernatant tank and centrate tank

- Operating submersible pumps for pumping the water to inlet bay in local mode.

4.0 Auto operations:

Operating all mechanical electrical equipment in auto mode through PLC / SCADA / HMI

4.1 Raw water Inlet works and parshall flume

- Operation of regulating valve through PLC to regulate flow with help of ultrasonic flow meter.
- Controlling PAC dosing by analyzing the flow in parshall flume and turbidity online.

4.2 Distribution channel and pulsatube clarifier

- Analyzing the flow distribution in each pulsatube by ultrasonic open channel flowmeter.
- Regulating dropping time / lifting time based on turbidity of raw water.
- Controlling frequency of opening and duration of opening of sludge extraction valves.
- Controlling of starting / stopping of blowers and selecting working and standby.
- Controlling operations of air compressors for operations of vacuum breaker valves and sludge extraction valves.

4.3 Aquazur V Filters.

- Performing back wash operation in AUTO or SEMI AUTO mode by choosing head loss mode or timer mode. The backwash sequence and average time of each cycle of operation shall be as per operation manual.
- Sequencing of filters for backwash based on head loss or timer mode.
- Controlling operations of backwash blowers used for air scouring of filters.
- Back wash water flow regulation.

4.4 Chlorine contact tank

- Operation of inlet outlet valves through actuators.
- Controlling tank level by means of level transmitters.
- Regulation of bleed back valve for maintaining level in filters and CCT through level switches.

4.5 Chemical building

- PAC dose regulation.
- Controlling operations of double diaphragm pump.
- Operations of air compressors.
- Operations of agitator for proper mixing of solutions.

4.6 Chlorination building

- Operations of booster pumps and chlorinators,
- In case of chlorine leakage operation of neutralization system by following safe working procedure.

4.7 Wash water recovery tank stage-I

- Submersible pump operations controlled by level switches.
- Operation of submersible mixture.

4.8 Filter wash water recovery tank stage-IV

- Submersible pump operations controlled by level switches.
- Operation of submersible mixture.

4.9 Clarifier sludge sump

- Operation of sludge extraction pumps.
- Operation of submersible mixture.

4.10 New sludge collection sump

- Operation of submersible pumps erected in the sump.

4.11 Common sludge balancing tank

- Operation of submersible pumps to pump sludge to flocculators.
- Operation of submersible mixtures.

4.12 Flocculator

- Operation of agitator for uniform mixing of poly electrolyte in the sludge.

4.13 Sludge thickener

- Operation of the scrapper motors.

4.14 Thickened sludge sump

- Operation of submersible mixtures.
- Operation of sludge feed pump.

4.15 Centrifuge

- Operations of centrifuges & thickened sludge sump.
- Operations of belt conveyors for sludge handling.
- Operation of poly dosing pump.
- Operation of service water pumps for flushing centrifuges.

4.16 Supernatant and centrate tank

- Operation of the submersible pumps to pump supernatant from the thickeners & the centrate from the centrifuges to inlet bay.

4.17 Online instruments

- Ensure measurement of turbidity, pH and residual chlorine through online instruments and the values to be reflected in field as well as in SCADA.

5.0 Monitoring and control

5.1 The water treatment plant is subjected to variations in terms of quality and quantity of water. There could be changes because of seasonal variations in water chemistry, varying plant operating conditions, new environmental law as and other factors. Because of this proper monitoring shall be carried out to ensure that the water treatment plant is satisfactorily controlled so that desired results are attained. The proper monitoring of the WTP shall include efforts to-

- Reduce risks associated with chemical under feed and overfeed.
- Continuing compliance with environmental regulations.
- Improve quality of plant operations.
- Increase water and energy savings.
- Improved plant productivity.

5.2 Manual monitoring system shall involve plant operators, technicians and chemists taking care of all the important parameters. The chemist conduct chemical tests such as pH, turbidity, residual chlorine, suspended solids, conductivity, alkalinity, hardness etc. of water. This will keep them updated about the changes in the water quality and they shall take necessary steps to meet the guaranteed quality parameters. The operators shall be responsible for controlling the pumps, valves and other processing equipment to convey the water through each process, taking care of all the parameters. The operators shall also read, interpret and adjust the gauges to make sure plant equipment and processes are working properly.

5.3 The plant has automatic monitoring and control system along with the manual system. Because of the dynamic nature of water, a higher degree of precision is required in the monitoring and control of water treatment plant for improved reliability and quality. This is only possible through computer based monitoring and control. The operator shall monitor, adjust, start and stop the treatment process from computer only. The operator shall monitor the system through a process-integrated control terminal i.e. PLC. The process control program is loaded in the PLC and connected to the computer through fiber optics. The digital readouts of all the parameters helps the operator to determine the process efficiency. Visual and audible alarms and indicators that indicate deviations from normal treatment process can be seen in the system. The automatic control system can quickly respond in case of chlorine leak which is a major emergency situation. The operator can easily switch to semi-automatic or manual mode in case of any problem in the control system.

5.4 Sampling & testing : The sample testing shall be carried out for locations at-

- raw water inlet
- Pulsatube clarifier outlet
- Filter inlet
- Filter outlet
- Chlorine contact tank
- Chlorine contact outlet

6.0 Schedule of daily operations

6.1 For each of the activity where operators are employed, a detailed scheme and schedule of unit operations should be worked out and a copy of the same shall be available with each operator. This schedule of unit operations may have to be altered to suit changes in quality breakdowns conditions etc.

6.2 The Contractor shall operate the treatment works including all plant and associated services on a continuous 24 hours basis to treat all the flow conveyed to the works.

6.3 The Contractor shall operate and utilize all the control and monitoring systems provided and if found to be necessary and if approved by the engineer, shall make adjustments within the operating range of the control system and equipment so that the plant operation matches the treatment process requirements.

6.4 If it is determined that the facility is not capable of meeting the design parameters for any reason, the contractor shall determine the specific cause of failure and take appropriate actions.

6.5 Quality of water

Complete records of bacteriological and chemical analysis of raw water and treated water shall be maintained and reviewed. Charts shall be prepared to display important characteristics of the water and any changes in these characteristics as compared to the standards.

6.6 A daily muster, operation log books / log sheet of operating records shall be maintained by the successful contractor and shall be made available to BMC on demand. Other than this, the contractor shall maintain plant condition and status register, shift duty register, occurrence register, tag register and history sheets. The contractor shall arrange to print and bind the registers for keeping the records.

6.7 Reporting of Consumables

PAC, chlorine and poly electrolyte daily consumption reports shall be submitted as per the maintenance manual.

b) Maintenance requirements:

1.0 Maintenance of mechanical, electrical & instrumentation (Automation, SCADA) etc. equipment and machinery of pulsatube clarifiers, filtration plant, chlorine and PAC dosing system, desludging and sludge recirculation plant, PLC and ICP located at pumping station and MBR, SCADA and automation system shall be carried out with minimum manpower and necessary spares / consumables as mentioned in the specifications.

2.0 The successful contractor shall carry out the routine as well as breakdown maintenance of the 900 MLD water treatment plant.

3.0 Schedule of inspection of machinery.

3.1 The contractor shall follow 1) Monthly, 2) Quarterly, 3) Half Yearly and 4) Yearly Maintenance Schedule as per **Annexure-VIII**.

3.2 A regular inspection of machinery, equipment their lubrication and servicing program shall be carried out as per O & M manual. Supervisory control should be implemented to see that these inspections, lubrication and servicing are being regularly carried out.

3.3 CMMS (Computerized Maintenance Management System) shall be used to manage to maintain maintenance activity for all major equipment.

3.4 For each piece of equipment and machinery a record register and soft copy shall be maintained in which all records of the equipment such as servicing, lubricating, replacement of parts, operating hours (including cumulative) and other important data is entered.

4.0 Maintenance of the Plant

The maintenance service provided by the contractor for the period specified in the contract shall ensure the continuous operation of the Plant.

The types of maintenance to be provided shall be -

4.1 Full operational maintenance comprising the planned and regular maintenance, carried out by the contractor on a day-to-day basis, including cleaning, lubricating, minor adjustment, together with preventive and corrective maintenance, fault and breakdown repair and replacement of parts, in accordance with the approved maintenance plan, for the items of plant and equipment within the 900 MLD Water Treatment Plant.

4.2 Standby maintenance comprising the planned and regular maintenance carried out by the contractor including cleaning, lubricating, periodic operation and minor adjustments of all items of plant and equipment within the treatment works.

4.3 The Contractor shall carry out the maintenance of the plant installations in accordance with the requirements of the O & M Manual and to the approved Maintenance Plan.

4.4 The contractor shall strictly adhere to the manufacturer's recommendations with respect to equipment maintenance and consumables, the types and grades of lubricants to be used, frequency of lubrication, adjustments to be made regularly.

5.0 Machinery spares management:

5.1 Machinery spares / material required for maintaining the equipment / machines and as per **Annexure-VI** available with BMC and kept in store will be provided by BMC as and when required during maintenance works. The available spares with BMC will be handed over to the successful contractor at the start of O & M contract. The contractor shall use the required spares throughout the contract period and same shall be replaced with new one by the contractor before one month of ending / terminating of the contract. Inventory records shall be properly maintained by the inventory in-charge which shall indicate stock available, inventory used and stock balance.

However in exceptional circumstances if any major spare is required over and above these spares or if any additional spare is required, it will be contractor's responsibility.

6.0 Consumable spares and auxiliary services

- 6.1** All the consumables for preventive and breakdown maintenance works shall be procured and preserved in sufficient stock by the contractor.
- 6.2** The contractor shall keep in stock consumables like oil, Grease, cotton waste, dongari cloth, gaskets, gland packing, polish papers, fuses, fuse wire, insulation tapes, petroleum Jelly, Teflon tape, relevant wires, nut bolts, shims, toilet cleaner etc. and the same shall be used to attend routine maintenance works. The quality / grade of the consumables shall be as per the specifications of the manufacturer. List of consumable mechanical spares, consumables safety items, electrical and instrumentation consumables is appended for reference. It will contractors responsibility to proved and use such consumables during O & M of the plant. The list provided in **Annexure-VII** is only indicative contractor shall arrange for all such additional consumables which will be necessary for O & M of the plant.
- 6.3** The contractor shall carry out major overhauling works of equipment, if required (as specified by the OEM's).
- 6.4** Reporting of breakdown works: For breakdown maintenance works, the contractor shall report promptly to BMC with route cause analysis for major breakdowns.

7.0 Building and Site Maintenance

- 7.1** The contractor shall be responsible for:
- a) The full maintenance of building lighting, electrical, ventilation and air conditioning, fire fighting system, plumbing & drainage installations.
 - b) Building and house keeping maintenance.
 - c) Full maintenance of the site water and waste water services, cabling and earthing systems, together with the site road lighting system.
 - d) Site maintenance including the up keep of landscaped areas neat and clean.
- 7.2** The building services and house keeping maintenance shall be undertaken on all buildings and service installations of 900 MLD WTP including SRA plant and WWRT stage I and IV.
- 7.3** Routine housekeeping maintenance shall be carried out in accordance with the procedures specified in the Operations and Maintenance Manual.

F. General obligations

- 1.0** The contractor shall operate and maintain the whole of the plant under this contract for the period specified in the Contract terms.
The Services shall include but not limited to:
- 1.1** Operation and Maintenance of the all units of the new 900 MLD Water Treatment Plant from 3 nos. of raw water inlet valves to 4 nos. of CCT outlet valves.
- 1.2** Operation and Maintenance of the entire automation system including system for 900 MLD water treatment plant involving PLC based automation system, waste water recycling unit for existing cum new plant.
- 1.3** Operation and Maintenance of Recycling Unit for filter backwash water and clarifier under flows of new and existing treatment plant.

- 1.4 Environment friendly disposal of dewatered sludge cakes.
- 1.5 Operation and maintenance of mechanical, electrical equipment including all the instruments at various installations of the system. Electrical circuits, all types of cables, shall also be regularly maintained.
- 1.6 The required system for maintenance shall be computerized through suitable computer program to be used for operation, maintenance and store inventory.
- 1.7 Maintenance of all software, computer and communication network.
- 1.8 Maintaining communication systems including landline phone and public address system are the responsibility of the contractor.

2.0 Terms of Payment

Unless otherwise agreed BMC shall pay to the contractor an amount calculated on monthly basis considering the Contract period.

An application for interim payment in respect of O & M shall be submitted by the contractor on successful completion of every one month period. These shall be accompanied by relevant supporting documents. Within 30 days of receipt of the said application for interim payment, it shall be approved or amended such that in the engineers opinion, the certificate reflects the amount due to the contractor in accordance with the contract after deductions if any. The payment of the amount due to the contractor under interim payment certificate shall be made within 30 days from the date of certification.

3.0 Statutory requirements:

3.1 It will be contractor's responsibility to fulfill obligations under following licenses and requirements for renewal of the same. Renewal fees will be borne by the BMC.

- a) Factory License
- b) Electrical inspectors license
- c) MPCB (Maharashtra Pollution Control Board) license
- d) License from Directorate of Explosive

3.2 Labour License as per rule of labour act shall be contractor's responsibility.

4.0 Safety measures (Insurance / renewal / testing etc.)

4.1 O & M staff insurance: The adequate insurance for the O & M staff against workmen's compensation policy as per labour act. shall be responsibility of the contractor. However, BMC will not be responsible for any compensation, what so ever for any damage / injury caused to the staff appointed by the contractor.

4.2 As per Factory rules testing and certification of Pressure vessels (Rule MFR 65 of 1963) & lifting tackles (Rule MFR 64 of 1963), EOTC for its fitness shall be in the scope of the contractor.

4.3 The fire fighting system / fire extinguishers shall be refilled and maintained according to expiry date shall be responsibility of the contractor.

4.4 Three sludge lifting trolleys are provided for sludge handling. The fitness certification for these trolleys from RTO department is necessary to obtain every year. To obtain the certificate and required cost for the same is to be born by the contractor during O & M period.

4.5 Electrical protection system / relays testing: The relay system for HT / LT circuit breakers and transformers shall be tested as per requirement.

- 4.6 Annual performance test and approvals / certification of electrical equipment from the concerned Chief Electrical Inspector, if any shall be responsibility of the Contractor
- 4.7 Health check up of the staff employed shall be done from certifying surgeon as per Factory Act.

5.0 Calibration of measuring instruments

- 5.1 The contractor shall regularly check and calibrate all the field instruments as per the manufacturer's instruction.
- 5.2 Though the contractor shall use BMC laboratory, he shall keep lab instruments like turbidity meter, PH meter, residual chlorine meter in spare duly checked and calibrated and shall be used in case of requirement.

6.0 Escalation

The offer should be valid for the contract period of minimum 1 (one) year to 3 (three) years and may be extended further up to twelve months if required on same terms and conditions and with a price rise of 5% of the prevailing contract cost. The tenderer shall take into consideration all possible escalation like taxes and duties, wages, consumable material cost / spares cost etc. while quoting for the tender and no claim what so ever shall be entertained once the contract is awarded.

7.0 Penalty : Penalties will be levied for the following:

7.1 Inadequate staff

Penalty if fail to supply ensured manpower for operational & maintenance duties shall be imposed as per **Annexure-IV** and shall be deducted from monthly running bill.

The penalty will be recovered for officers mentioned at Sr. No.1 to 4 for their absence more than 12 days in a year.

7.2 Treated Water Quality

In case of failure of contractor to meet water quality standards as specified in clause B (2), the contractor will be given a notice period of 7 (seven) days to bring the treated water quality within the stipulated limits. Failing to comply within the notice period, the BMC will have the right to encash contractor's Security Deposit & retention money and terminate the Contract.

7.3 Excess PAC (Poly Aluminum Chloride) Consumption

If the monthly consumption of PAC per ml of water treated exceeds 10% of the PAC consumption required as per JAR TEST then penalty will be levied for the excess quantity at the prevailing rates for PAC.

7.4 Water loss as sludge:

The waste water which is recovered from sludge and is not recycled is considered as a water loss. It shall not exceed 2% of the total amount of water filtered during non monsoon period & monsoon period provided all units are in service.

Penalty of ¼ percent / week will be applicable if water loss quantity exceeds 2% in monsoon season and for non-monsoon season it will be ½ percent per week. Penalty will be calculated for a day on prorated basis.

This penalty is applicable for water losses from 900 MLD plant.

7.5 Water loss from back wash:

The total wash water i.e. pumped backwash and cross wash is also a part of water loss. It shall not exceed 2% of the total amount of water filtered during non-monsoon and monsoon period provided all units are in service.

Penalty of ¼ percent / week will be applicable if water loss quantity exceeds 2% in monsoon season and for non-monsoon season it will be ½ percent per week. Penalty will be calculated for a day on prorated basis.

This penalty is applicable for water losses from 900 MLD plant.

7.6 Penalty for incomplete maintenance schedule

The contractor shall carry out monthly / quarterly / half yearly / yearly maintenance activities as per schedule given. Any non-compliance will attract penalty as per **Annexure IV**

8.0 Consumables

8.1 Electricity

BMC shall directly pay all the power bills however electrical power consumption reports shall be submitted.

8.2 Chemicals

8.2.1 The BMC shall provide following chemicals free of cost, necessary to operate the plant.

- Chlorine
- PAC (poly aluminum chloride)
- Polyelectrolyte
- Sodium hydroxide (NaOH)

8.2.2 Contractor will be required to furnish the estimated quantity of chemicals required for one complete year in advance to BMC for procurement.

8.2.3 Handling of all these chemicals as per the norms will be responsibility of successful tenderer. Safe working procedure for chemical loading unloading shall be followed.

8.2.4 Chlorine tonner handling shall be done as per the Gas cylinder rules and Industrial major accident hazard rules 2003.

8.2.5 Sodium hydroxide (NaOH) for chlorine gas neutralization scrubber system shall be provided by BMC and replaced by the contractor.

9.0 Miscellaneous and other Consumables

The contractor at his own expense shall provide all other consumables required to operate the plant in good condition.

10.0 General Maintenance and Facilities

10.1 The contractor shall provide tools, tackles and equipment required for operation and maintenance work at his expense. The list of the minimum tools for maintenance work is given in **Annexure-III**

10.2 All miscellaneous items, for example, vehicles, tools, floor & toilet cleaning material, grass cutting equipment, security and safety equipment shall be provided by the Contractor at his expense.

11.0 Laboratory Services

11.1 The contractor shall perform all tests, sampling and analysis as and when required. All analysis shall be carried out in the existing laboratory of BMC.

11.2 Without limiting the above obligations, the Contractor shall perform all tests, sampling and analysis required in order to obtain the following information / reports:

11.2.1 Daily reports

- a) The daily totals and hourly variations during the day of-
 - flow of raw and treated water (M^3/h and M^3/d)
 - b) The daily concentrations of water quality parameters as per Format 1
 - c) The daily account of-
 - Weight of dewatered sludge
 - Dry solids content of dewatered sludge
 - Quality of clarifier sludge produced including % solids.
 - Quality of filter back washes water used & concentration in back washed water.
 - Quantity of sludge disposed.
- 11.3** All testing, sampling and analysis shall be performed on site in a professional manner in accordance with the relevant standards.
- The contractor shall, without limiting its obligations pursuant to the O & M Manual, promptly notify the BMC of any unexpected, variations in the raw water quality & performance standard in any part of the Facility's operation.

11.4 Format for daily reports and monthly reports have been specified and are annexed as Format – 1 and Format –2.

12.0 Dewatered sludge transportation and disposal:

The final dewatered sludge will have sludge in the form of sludge cake.

12.1 The Contractor shall be responsible for the transportation and disposal of dewatered sludge to an approved location as advised by the BMC.

12.2 The dewatered sludge shall be dumped to an approved location provided by BMC within MMRDA limits from the Bhandup Complex plant.

12.3 Presently in fair season approx. 5 Ton (9 trolleys) and in monsoon season approx. 12 Tons (22 trolleys) of sludge is generated. However the quantity may vary depending upon quality of raw water to the plant.

12.4 Sludge handling:

At present, the dewatered sludge is handled with three nos. of trolleys provided at site. One tractor in fair season and two tractors in monsoon season are required to collect sludge in store area nearby SR plant. Sludge excavator (JCB) and dumpers are required for transporting the sludge to dumping area allocated. The contractor has to arrange / hire tractors, excavator and dumpers etc. with drivers in required quantities necessary for sludge handling and transportation to dumping site.

12.5 Dewatered Sludge storing.

The removed dewatered sludge shall be sufficiently dried before dumping. It takes approximate 12 to 15 days to become a dry solids from sludge.

G. Manpower

- 1.0 The Contractor shall provide experienced managerial, technical, supervisory, administrative, non-technical personnel and labour necessary to operate and maintain the plant properly, safely and efficiently on a continuous 24 hours basis for the full term of O & M Period. Work shall be carried out in three shifts of eight hours each.
- 2.0 The qualifications and capability of the contractor's personnel shall be appropriate for the task they are assigned to perform. The staff provided shall be competent enough to handle any type of situation like failure of electricity / water supply, breakdown etc. independently and fully trained in the operation of the works before being given responsibility for operating any part of the works.
- 3.0 If, in the opinion of the BMC engineer, a member of the contractor's staff is considered to be insufficiently skilled or otherwise inappropriate for the task he is required to perform, the contractor shall replace him with a person with the appropriate skills and experience for the task, to the approval of the BMC engineer.
- 4.0 The contractor shall consider minimum staff management structure for the operation and maintenance of the works. This structure shall be expected to include but not necessarily be limited to the following personnel:

Sr No	Designation	Minimum Qualification	Minimum Nos required			
			G	S	R	Total
1	Plant Manager	Post Graduate / Graduate Engineer in Mechanical / Environment / Civil with minimum 10 years operation experience of WTP.	1			1
2	Plant Engineer	Post Graduate / Graduate Engineer in Mech. / Electrical / Environment / Civil / Chemical with minimum 5 years operation experience of WTP.	2			2
3	Safety Officer	Diploma in Engineering / B.Sc (Chemistry / Physics) + Advance diploma in Industrial safety by recognized institute with min.2years experience	1			1
4	Senior Engineer (Process)	Graduate Engineer in Mechanical / Civil / Chemical with min. 2 years Maint. Experience.	1			1
5	Senior Engineer (Mech)	Graduate Engineer in Mechanical with minimum 2 years Maint. Experience.	1			1
6	Senior Engineer (Electrical)	Graduate Engineer in Electrical with minimum 2 years Maint. Experience.	2			2
7	Senior Engineer (SCADA/Inst .)	Graduate Engineer in Instrumentation / E & TC / with minimum 2 years Maint. Experience.	1			1
8	Junior Engineer (M&E)	Diploma in Mechanical / Electrical engineering with minimum 1 year Maintenance Experience.	2	9	2	13
9	Junior Engineer (SCADA/Inst)	Diploma in Electrical / Instrumentation / E & TC engineering with min. 1 years Maint. Experience.	1	3	1	5
10	Chemist	B .Sc. in Chemistry with 2 years experience.		3	1	4
11	Electrician	I.T.I. with 1 Years industrial experience.	1	7	2	10

12	Electrician	I.T.I. with supervisory PWD License with 1 Years industrial experience.	1	2	0	3
13	Instrument Electrician	I.T.I. with 1 Years industrial experience.	2			2
14	Fitter	I.T.I. with 1 Years industrial experience	3			3
15	Document Controller cum Clerk.	B.A. / B.Com / B.Sc. with min. 2 years experience	2			2
16	Storekeeper	12 th stand. with 1 year industrial. experience.	1			1
17	Helpers	9 th standard passed	9	9	2	20
18	House keeper	7 th standard passed	5			5
19	Security Guard	10 th standard passed.		6	1	7
20	Office boy	9 th standard passed	2			2
21	Gardner	4 th standard & 1 year Gardening experience.	2			2
22	Sweeper	4 th standard passed	2			2
	Total		42	39	9	90

*G: General duty, S: Shift duty, R: reliever Staff

Organization Chart for reference is given at **Annexure-I**

Duties and responsibilities assigned to staff is given in **Annexure-II**

- 5.0 The selected agency should have minimum manpower and facilities as detailed else where in this document and have the capability to provide additional manpower as and when required.
- 6.0 Operational staff should not leave their duty without reliever of their respective grade. The contractor shall make necessary arrangement of reliever without any extra cost to BMC on holidays / weekly off / leave of their staff.
- 7.0 The Contractor shall provide all secretarial support, printing & publishing services, office furniture & office supplies as necessary for O & M period.
- 8.0 The CV resumes of the contractors personnel shall be submitted to the engineer for approval before the anticipated commencement of the O & M. Normal time duty hours for the contractor's operation & maintenance personnel may be modified as necessary and agreed by the engineer. A rotating shift schedule shall be established by the contractor and agreed by the engineer which will ensure that an adequate number of the contractor's staff is on duty at plant 24 hours per day, 7 days per week, including all holidays.
- 9.0 Operational staff should not leave the plant unless he hand over the charge to the staff of next shift i.e. reliever. However the contractor shall note that, the continuous duty of the operational staff shall not exceeds maximum hours as per applicable Act.
- 10.0 In order to provide adequate duty coverage during the entire term of the O & M period, not more than one of the contractor's key staff shall be absent from the project at any one time on holidays, vacations and other scheduled absences. In the event that it is necessary for more than one contractor's operation and maintenance personnel to be absent from the project, for whatever reason, the Contractor shall provide a qualified replacement at his own expense and ensure that specified project duty coverage is maintained. If substitute personnel are required, their resumes must be accepted in advance by the engineer.

The O & M personnel shall be dedicated 100% of their time for the specified duties and responsibilities and shall not be diverted to perform contractor's administrative duties, construction arrangements, office management, or other non-project activities. Adequate support staff shall be provided by the Contractor in order to avoid any such diversion.

11.0 If major breakdown work is required to be attended beyond normal working hours then successful tenderer shall deploy the staff at his own cost and get the work done.

11.1 In case of major break down of any equipment and it is not possible to repair and recondition the equipment with maintenance staff then it will be contractors responsibility to repair the same from OEM / outside agency at his own cost.

12.0 All staff of the successful tenderer shall be of minimum 18 years and maximum 60 years of age. The proof of age shall be submitted by the contractor.

13.0 All staff of the successful tenderer shall be mentally fit, healthy, hard working and honest.

14.0 All shift staff shall be given weekly off by rotation. General staff will have their weekly off on Sunday. Only general shift staff will get public holidays limited to 10 (ten) days in a year including National Holidays.

15.0 The successful contractor shall pay salary and wages to his staff, not less than as applicable as per the minimum wages act along with allowances etc. as applicable.

16.0 It is the responsibility of the contractor to fulfil all statutory obligations like Provident Fund, Gratuity, Insurance, Medical Benefits as per all relevant laws and BMC will not be responsible, directly or indirectly in case any claim arise. It is also the responsibility of the contractor to fulfil all statutory requirements applicable as per the Factory Act.

17.0 The safety standards as per Factory Act to be followed while working in the plant.

18.0 The successful contractor shall also keep all records of statutory dues paid and payment made to the staff and the same shall be made it available to BMC on demand.

19.0 The contractor shall submit police verification of their own staff within one month after work order is issued. Also, the successful contractor shall have to submit the list of persons appointed for the work with details such as name, residential address, age, qualification and experience etc. The changes made in the staff shall be informed to BMC in writing with details as stated.

20.0 **Entry pass** :The contractor shall submit the list of his employees along with their biodata, photo ID proof, residence proof and shall obtain entry pass to their staff and vehicles well in advance from the Administrative Office of Dy. Hydraulic Engineer.

21.0 If available, staff quarter can be provided as per practice in vogue for contractor's staff on rent basis as per BMC rules and regulations.

22.0 Office set-up

The supervisory and administrative staff will have to be provided with neat and clean and adequately furnished office. The provision for office for O & M has been kept in the filter house. The existing laboratory is to be used for the proposed plant where the chemist shall be accommodated. The supervisory staff shall have to be provided with minimum required office furniture. The office set up shall have the following minimum basic facilities / amenities.

- 22.1 Office space for supervisory staff in buildings as proposed above.
- 22.2 Office space shall have modern table with locking arrangement & chairs.
- 22.3 Personal computers with printers, stationery for supervisory staff
- 22.4 Adequate numbers of cupboards to keep, maintain record and important documents.
- 22.5 In all the control rooms, provision for First-Aid Kit shall be made.
- 22.6 Personal safety items such as boots, eye wears, ear pins, gloves, helmets, dust masks, face shields, belt, etc. shall be provided for operating staff as per Factory Act.
- 22.7 All safety gadgets required for chlorine handling such as chemical resistance gloves, chlorine suits, aprons, full face canister, half face canister, breathing apparatus, gas detectors, emergency lights shall be used. Air breathing cylinders etc. shall be refilled as and when required.
- 22.8 Lockers for operating staff to keep their uniforms, tool shall be provided.
- 22.9 Pantry arrangements with lunch room for staff members will have to be made.
- 22.10 Space shall have to be provided in respective units such as control rooms in clarifiers, filters and recirculation plant for keeping required tools.
- 22.11 Space shall also be provided for keeping spare tools.
- 22.12 Conference Room
- 22.13 The successful tenderer shall provide proper uniform & identity cards to his staff.

23.0 Transportation

As Bhandup Complex is situated on out skirts of Sanjay Gandhi National Park, wild animals are wandering during night hours and it is unsafe for staff, therefore the successful tenderer shall make his own proper arrangement for transportation of their staff for Operation and Maintenance work of 900 MLD water treatment plant in each shift.

- 23.1 The contractor shall maintain T permit vehicle one no. of for maintenance staff in general shift and one no. for operational staff in three shifts to handle following work load.
 - As an emergency preparedness measure it is necessary to have a standby vehicle in each shift as the plant comes under Factory Act & categories as Major Accidental Hazardous Unit.
 - Transportation of staff for general and all three shifts from entry gate to the WTP.
 - For transportation of manpower, tools and tackles for operations / maintenance of valves / equipment in the plant.
 - Procurement of material from local market.
 - Collecting water samples from different sampling points manually as necessary.
 - Transportation of staff to SRA plant which is situated away from 900 MLD WTP in jungle area.

24.0 Safety

The Contractor shall be responsible for overall safety and security of the Plant during the Operation and Maintenance period.

The contractor's duties with respect to safety shall include the following:

- 24.1 Utilize safety awareness procedures in every element of operation and maintenance.

24.2 Give emphasis to site safety including:

- i. Safe working procedures
- ii. Cleanliness & care of new Bhandup Treatment Plant as a whole
- iii. Accident and hazardous conditions reporting
- iv. Safe practice in Water Treatment Plant.
- v. Adhering to safety policy.
- vi. Follow work permit systems.
- vii. Carry out mock drills as per on site emergency plan.
- viii. Arrange for safety audit, safety reports, Hazop study, HIRA, maximum credible scenario loss assessment as per the statutory requirement as necessary is the contractors' responsibility.
- ix. In case of chlorine leakage follow guidelines as per on site emergency plan / major emergency control plan.
- x. To operate and maintain 150 KVA DG set with fuel and chlorine gas neutralization system weekly.

24.3 Hold informal safety discussions at least weekly at various levels throughout the period. Also, the O & M personnel shall take a lead in the formation of a safety committee that will meet quarterly to discuss safety issues and procedures to improve safety.

24.4 The Contractor shall notify the engineer immediately if any accident happens on site in which the Contractor is directly responsible/ involved which results in any injury to any person whether directly concerned to the Site or a third party. Such initial notification may be verbal and to be followed by a written comprehensive report within 24 hours of accident or as per provisions of Factory Act.

24.5 The Contractors shall provide Notice Boards / Display Boards at appropriate location detailing precautions to be taken by operation and maintenance personnel in work in conformity to regulation & procedures.

24.6 The Contractor shall have to take all safety measures for his staff / labours / materials during the course of the work. For any mishaps, the contractor will be held responsible.

24.7 The contractor shall follow all relevant safety procedures and shall comply with the legal requirements as per the provisions of various rules & regulation as well as Factory Act.

25.0 Reporting

25.1 Effective communication shall be established to achieve organizational objectives.

25.2 Contractor shall prepare reports on daily and monthly basis and submit to the engineer. The daily reports are to be submitted on next day. The monthly reports shall be submitted up to 5th day of the next month.

The reports shall generally contain information as enclosed formats along with brief write-up on specific matters needing attention of concerned agencies.

25.3 Overall reporting formats will be approved by engineer and may have to be modified from time to time as required and approved by the engineer. Contractor may have to prepare and submit additional reports on particular matter & incidents as and when required by the engineer.

26.0 Training to contractors personnels

- 26.1** The successful tenderer shall be well conversant with the operation of the plant and plant allied equipment. He shall arrange for necessary training from the equipment manufacturer for his staff at his own cost if required.
- 26.2** The operation and maintenance staff shall be trained for carrying out operational duties and maintenance activities of the plant.
The workers and supervisors shall undergo a basic occupational safety and health awareness training program.
Training program shall also be arranged for safety data, MSDS, SOP, first aid and work permit system.
- 26.3** Ensure displaying of Material Safety Data Sheets (MSDS) especially for chlorine, PAC poly electrolyte and caustic soda in the plant and arrange awareness training.

H. General Terms and Conditions

1.0 Plant handover after completion of O & M contract period.

On satisfactory completion of contract period or till BMC staff will be appointed and trained for Operation and Maintenance, the Plant in good working condition shall be handed over to BMC. If any equipment is found malfunctioning or not working at the time of taking over the plant, then contractor has to repair it at his own cost and if he fails to do so, BMC will carry out the repair work by other means at the risk and cost of the Contractor. The tenderer shall make immediate arrangement for removal of their belongings after the completion of work.

- 2.0 The contractor shall have satisfactorily complied all obligations in this specification till expiring of the contract, failing which the Contract deposit will not be released and the Contractor will have to continue with the Operation and Maintenance of the Plant at his own cost. On obtaining necessary certificate from the BMC engineer that there is no demand with respect to Operation and Maintenance of the Plant the Contract Deposit will be released.

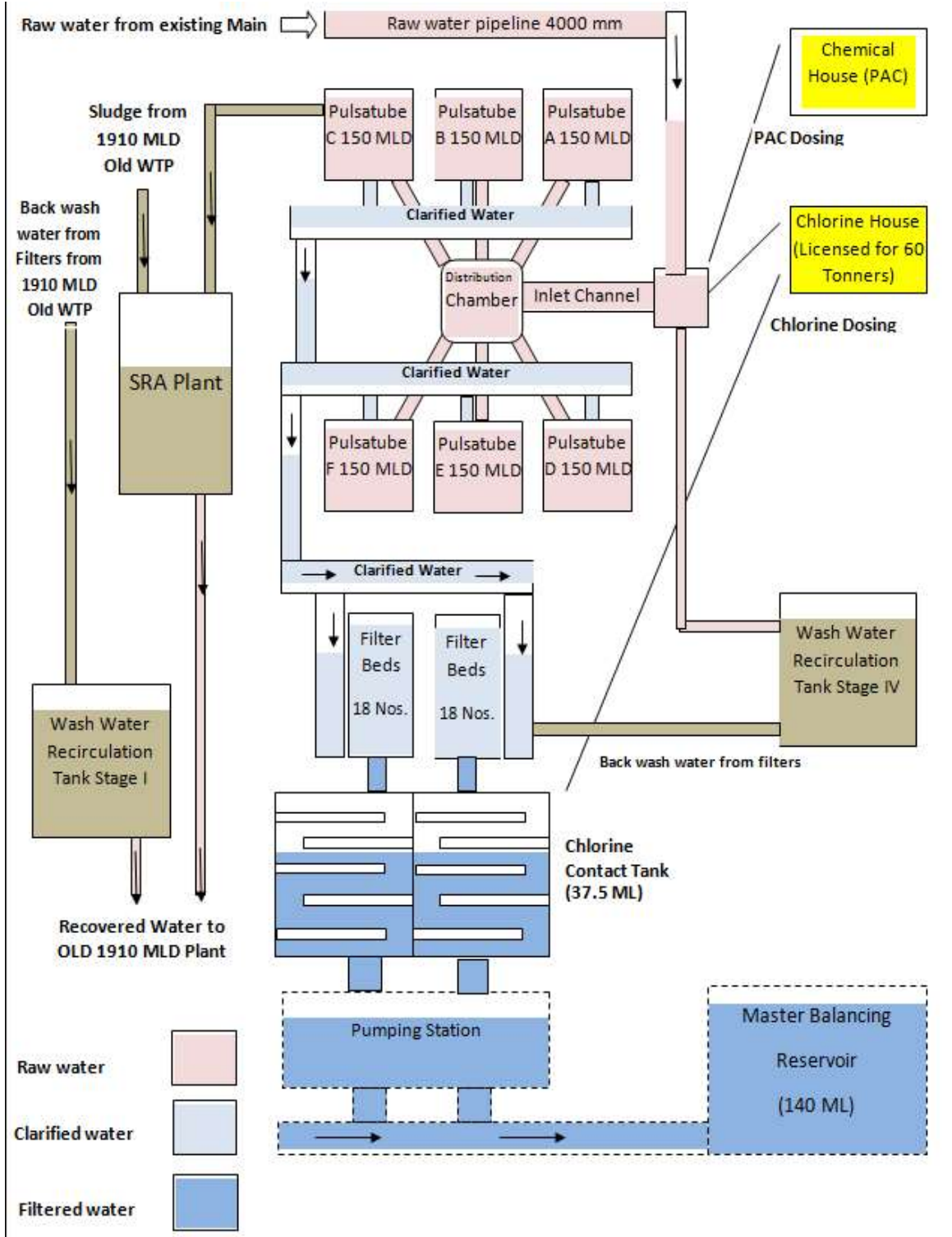
3.0 Training to BMC staff when appointed.

The contractor shall be responsible for training to be imparted and instructions to be issued to the personals from Municipal Corporation of Greater Mumbai for operations and maintenance of the plant to the staff when appointed.

- 4.0 Operation and maintenance shall be carried out as per the O & M manual, safety manual, manufacturer's manual already available for the plant.
- 5.0 The Operation and Maintenance for all works will be for a period of 3 years but may be terminated after one year and before completion of contract period of maximum three years by giving prior notice of one month if / when BMC staff will be available. The contractor shall provide training to BMC staff as and when they become available and then the plant may be taken over for regular Operation and Maintenance by BMC.
- 6.0 The information given above and provided elsewhere is given in good faith. However, the contractor is encouraged to visit the site and satisfy himself regarding all aspects of work / site conditions and no claim will be entertained on the plea that the information supplied by the engineer is erroneous or insufficient.

BRIHANMUMBAI MUNICIPAL CORPORATION

900MLD WATER TREATMENT PLANT AT BHANDUP COMPLEX GENERAL LAYOUT FOR REFERENCE



FORMAT 1

Daily Report On

Operation & Maintenance of 900 MLD water Treatment Plant at Bhandup Complex.

Prepared by: [Name of Contractor]

Report For : [Date]

A. Consumption Records

Sr. No.	Item	Meter Reading or other records		Daily Quantity	Average per M3 of raw water	Remarks
		At 6 hrs. of reporting day	At 6 hrs of previous day			
A.1	Raw Water quantity received at plant inlet					
A.2	PAC Quantity consumed					
A.3	Poly-electrolyte Quantity consumed					
A.4	Chlorine consumed Manual					
A.5	Electrical power consumed					

B. Quality Records

Sr. No.	Particulars	At 600 hrs	At 12:00 hrs	At 18:00 hrs	At 24:00 hrs	Average	Remarks
B.1	Turbidity of raw water (6 hourly on report day)						
B.2	Turbidity of clarified water						
B.3	Turbidity of Filtered Water StreamNo.1(ForBedNo.1-18)						
	Stream No.2 (For Bed No. 19 – 36)						
B.4	Residual chlorine in CCT						
B.5	Coliform bacteria in filtered water						

C. Quantity of filtered water from

Sr. No.	Particulars	Record at 6hrs of reporting day	Record at 6 hrs of next day	Quantity	Average	Remarks
C.1	Quantity of filtered water from					
	Stream No. 1 (For Bed No. 1 – 18)					
	Stream No.2 (For Bed No. 19 – 36)					

D. Operational

Sr. No.	Unit	From hrs.	To hrs.	Total time	Remarks
D.1	Filter				
D.1.1	Bed No. – 1				
	Bed No. – 2				
	Bed No. – 3				

Bed No. – 4				
Bed No. – 5				
Bed No. – 6				
Bed No. – 7				
Bed No. – 8				
Bed No. – 9				
Bed No. – 10				
Bed No. – 11				
Bed No. – 12				
Bed No. – 13				
Bed No. – 14				
Bed No. – 15				
Bed No. – 16				
Bed No. – 17				
Bed No. – 18				
Bed No. – 19				
Bed No. – 20				
Bed No. – 21				
Bed No. – 22				
Bed No. – 23				
Bed No. – 24				
Bed No. – 25				
Bed No. – 26				
Bed No. – 27				
Bed No. – 28				
Bed No. – 29				
Bed No. – 30				
Bed No. – 31				
Bed No. – 32				
Bed No. – 33				
Bed No. – 34				
Bed No. – 35				
Bed No. – 36				

D.1.2 Down time

Bed No. – 1				
Bed No. – 2				
Bed No. – 3				

Bed No. – 4				
Bed No. – 5				
Bed No. – 6				
Bed No. – 7				
Bed No. – 8				
Bed No. – 9				
Bed No. – 10				
Bed No. – 11				
Bed No. – 12				
Bed No. – 13				
Bed No. – 14				
Bed No. – 15				
Bed No. – 16				
Bed No. – 17				
Bed No. – 18				
Bed No. – 19				
Bed No. – 20				
Bed No. – 21				
Bed No. – 22				
Bed No. – 23				
Bed No. – 24				
Bed No. – 25				
Bed No. – 26				
Bed No. – 27				
Bed No. – 28				
Bed No. – 29				
Bed No. – 30				
Bed No. – 31				
Bed No. – 32				
Bed No. – 33				
Bed No. – 34				
Bed No. – 35				
Bed No. – 36				

D.2 Clarifiers

D.2.1 Operational Clarifiers

Clarifier – 1				
Clarifier – 2				
Clarifier – 3				
Clarifier – 4				
Clarifier – 5				

	Clarifier – 6				
D.2.2	Down time				
	Clarifier – 1				
	Clarifier – 2				
	Clarifier – 3				
	Clarifier – 4				
	Clarifier – 5				
	Clarifier – 6				
D.3	Other units				
D.3.1 Downtime				
D.3.2 Downtime				
D.3.3 Downtime				
	Centrifuge – 1				
	Centrifuge – 2				
	Centrifuge – 3				
	Centrifuge – 4				
	Centrifuge – 5				
	Centrifuge – 6				
	Centrifuge – 7				
	Centrifuge – 8				
	Centrifuge – 9				
	Centrifuge – 10				

FORMAT 2

Monthly Report On

Operation & Maintenance of 900 MLD water Treatment Plant at Bhandup Complex.

Prepared by: [Name of Contractor]

Report For : [Date]

A. Consumption Records

Sr. No.	Item	Reading on last date of month	Reading of month	Quantity month	Av. per 1000 M ³ of raw water / day	Remarks
A.1	Raw Water Quantity received at plant inlet					
A.2	Chlorine Quantity consumed					
	For Pre-chlorination					
	For post Chlorination					
A.3	PAC Quantity consumed					
A.4	Poly-electrolyte Quantity consumed					
A.5	Electrical Power Consumed					

B. Quality Records

Sr. No.	Particulars	Average during month	Maximum during month	Minimum during month	Remarks
B.1	Turbidity of raw water (6 hourly) on report day				
B.2	Turbidity of clarified water				
B.3	Turbidity of filtered water				
	Stream No. 1 (For Bed No. 1 – 18)				
	Stream No. 2 (For Bed No. 19 – 36)				
B.4	Residual Chlorine in filtered water				
B.5	Coliform				

C. Quantity of sludge (by storage measurement)

	Total during month	Average daily	Average per cum of treated water	Remark
	Clarifier			

Signed by : _____

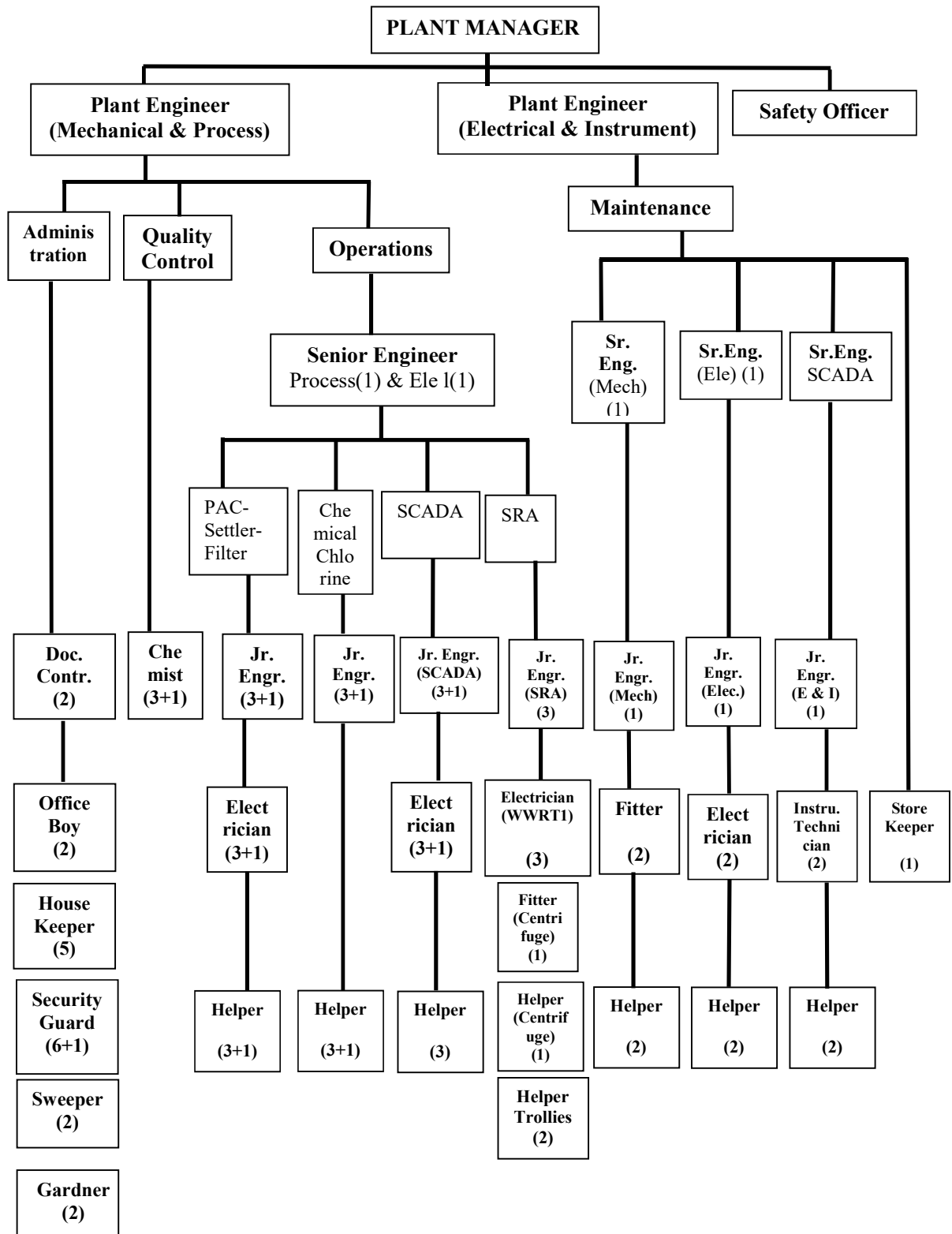
Designation: _____

On behalf of : _____
Contractor

BRIHANMUMBAI MUNICIPAL CORPORATION

Annexure – I

ORGANIZATION CHART FOR 900 MLD WTP O & M WORK



BRIHANMUMBAI MUNICIPAL CORPORATION

Annexure – II

DUTIES & RESPONSIBILITIES OF STAFF

1. Plant Manager:

He is responsible for Operation and Maintenance activities of the plant in an efficient, safe and economical manner. He is guided by policies and assignments received from the top management, but are carried out with a high degree of independent judgment in accomplishing the work and developing new programs and are held accountable for results.

Responsibilities:

- Plan, organize, assigns, directs & reviews of works of employees engaged in O & M of the plant.
- Oversees operations of the plant to meet all applicable regulatory requirements and in accordance with design criteria. Develops and implements techniques and methods of process control which increase plant efficiency.
- Oversees preparation of reports.
- Oversees emergency & unscheduled work to assure appropriate follow through.

During emergency, the Plant manager plays a very important role like.

- Rush to emergency control room and communicate with shift in-charge.
- Monitor emergency control room activities & cater help in allocating resources and disbursing information.
- Inform to crises management team & BMC officials /Factory Manager Occupier.
- Assess emergency after consulting with shift in-charge and direct Emergency Response Team for further action.

2. Plant Engineer (Mechanical and Process)

He is responsible for ensuring that machinery and equipment and entire plant activities are running smoothly. He is accountable for proactive inspections and any remedial repairs required and monitor and manage equipment operations. Responsibilities include maintenance, troubleshooting and repair of all mechanical, hydraulic and diesel power equipment. Skill level requirements vary from basic troubleshooting & preventive maintenance to component replacement.

Roles and Responsibilities

- Strategize on maintenance, work instruction and methods.
- Create plant preventive maintenance procedures and plan routine maintenance of plant equipment and machinery.
- Analyse breakdowns, diagnose faults & supervise time critical equipment repairs.
- Organize team to make sure 24 hours cover is available in plant.

3. Plant Engineer (Electrical & Instrumentation)

He is responsible for maintenance and repair of electrical and instrumentation equipment and overall control system for the plant.

Roles and Responsibilities

Develops and oversees a maintenance program encompass single electrical and instrumentation activities.

- Oversees the maintenance of E & I equipment & monitoring system and control.
- Implements & maintains preventive maintenance and material inventory program.
- Develops, implements and maintains short & long range plans for both equipment needs & emergency situations.
- Develop & conducts training to electrical & instrumentation maintenance personnel.
- Ensures that proper safety procedures are followed and that all E & I equipment is in safe working order.

In emergency situation in the plant he has perform following duties -

- On hearing the emergency siren, he must proceed to substation and report to the Shift in-charge on phone.
- Ensure availability of emergency power & normal running of emergency electrical installation.
- Inform the Shift in-charge of any likely situation that may affect continuous water supply.
- Ensure that all required personnel have reached to their respective workplace.
- Be present at phone to set up communication with the shift in-charge.

4. Safety officer:

Safety officer will work for both 900 MLD as well as 1910 MLD plants. He is responsible for ensuring safe operations in plant. He has to take care of health and safety of all employees in the plant. Safety officer shall perform his duties for requirements required as per Factory Acts.

Responsibilities

- To develop, implement and monitor HSE policy, procedure and programs.
- Monitoring and assessing hazardous & unsafe situations and developing measures to assure personnel safety.
- Maintains awareness of active and developing situations.
- Investigate accidents that have occurred within incident areas.
- To coordinate the training of personnel in areas of safety ,including first aid, Cardio pulmonary Resuscitation (CPR), accident prevention and investigation, work place inspections and other matters related to implementing safety procedures.
- To assist executive staff, senior administrators, principles and supervisors in emergency preparedness.
- To fire safety education program.

In case of emergency, the safety officer has to perform following duties:

- Rush to emergency scene and advice in assessing the situation & risks, report to plant manager.
- Inform Factory manager & occupier and seek guidance of crisis management team if required.
- Support fire fighting and rescue team and decide, communicate and help in safe method to be adopted for minimizing losses.

- Make report of incident / accident & recommend control measures for non-recurring of similar incidents in future.
- Assess emergency plan and make improvements, if required.

5. Junior Engineer (Shift In-Charge):

Junior Engineer will work in shifts, in operational duties and carry out all operations of plants as per directions given by Plant manager / Plant Engineer / Senior Engineers and allied activities of records in logbooks. They shall record all the parameters / readings in Log Sheet / registers and communicate with their higher ups.

He is responsible for the overall operation of the plant in a particular shift in a safe and efficient manner. The shift in charge is required to work in rotating shifts. He is responsible for making crucial decisions in the event of emergency.

Responsibilities:

- Make regular inspection of the plant & equipment to ensure that it is in proper operation at all times.
- Monitors treatment process and flow throughout the plant.
- Make changes to the plant process as necessary to improve plant performance.
- Prepare reports in the respective shift, prepare work orders for normal functioning of the equipment.
- Read meters, gauges and keep logs of readings.

In case of emergency, the shift in charge is given the following tasks:

- Proceed the emergency scene and asses the scale of emergency.
- Inform the Plant Manager/Plant Engineer and advise him to activate emergency services.
- Direct all operations within affected area.
- Guide rescue and fire fighting operation.
- Ensure that affected area is searched for casualties & area is evacuated to the appropriate assembly point.
- In absence of emergency main controller, he can direct the shutting down & evacuation of the plant.
- Report all significant development to the emergency control center.

All other officials and their staff shall work in co-ordination with respective seniors towards fulfillment of the objectives of operation and maintenance of the plant as a whole.

Note : All the staff shall follow the instructions of BMC officials as necessary.

BRIHANMUMBAL MUNICIPAL CORPORATION

Annexure -III

Minimum Hand Tools & Machine Tools

The contractor shall keep following minimum tools readily available in the plant required for operation and maintenance work. Costs of these tools are deemed to be included in the rates quoted for operation & maintenance jobs and no separate claims will be entertained.

1.	Double ended open spanners (upto 46 mm)	2 sets
2.	Double ended ring spanners (upto 46 mm)	2 sets
3.	Sockets & Wrench (upto 50 mm)	2 sets
4.	Screw drivers with insulated handles (upto 10" length)	2 sets
5.	Allen keys (upto 20mm)	1 set
6.	Pipe wrench 24", 12"	2 Nos. each
7.	Adjustable Wrench 1"	2 Nos.
8.	Measurement Tape 3 Mtr, 30 Mtr	1 No. each
9.	Air blower / Vacuum cleaner	1 No.
10.	Multi meter digital	2 Nos.
11.	Megger 500V & 5kV	1 No. each
12.	Tong Tester (Digital)	1 No.
13.	Line Tester	2 Nos.
14.	Hand Lamps	2 Nos.
15.	Emergency lamp	2 Nos.
16.	Capacitance Meter	1 No.
17.	Combination Plier	2 Nos.

BRIHANMUMBAI MUNICIPAL CORPORATION

Annexure -IV

Penalty for absenteeism of Staff and for non compliance to the maintenance schedule

A) Penalty to be deducted from bill for absenteeism of Contractor's Staff

Sr. No.	Staff	Penalty per person / shift / day in Rupees
1.	Plant Manager	2750
2.	Plant Engineer	2200
3.	Senior Engineer	2000
4.	Safety Officer	1650
5.	Junior Engineer	1650
6.	Chemist	1400
7.	Electrician	1100
8.	Instrument. Technician	1100
9.	Fitter	1100
10.	Document controller cum Clerk.	900
11.	Storekeeper	900
12.	Helpers	550
13.	House keeper	450
14.	Security Guard	450
15.	Office boy	450
16.	Gardner	450
17.	Sweeper	450

B) Penalty for non compliance to the maintenance schedule-

Sr.No.	Non-compliance % to maintenance schedule (Monthly, Qtrly, Half Yearly, Yearly)	Penalty in Rs.
1.	Up to 20%	0.25 % of the contract cost for that year.
2.	20 % to 30%	0.50 % of the contract cost for that year.
3.	30 % and above	1 % of the contract cost for that year.

BRIHANMUMBAI MUNICIPAL CORPORATION**Annexure - V****Equipment in the 900 MLD Plant for Reference**

Sr. No.	Location and Description of equipment	QTY	Unit
1	New Inlet		
	a) Manual Gate Valve 200 dia	4	No
	b) Manual Gate Valve 300 dia	3	No
	c) Motor / Pump for Sampling System	2	No
	d) Sampling system with piping and accessories	1	Lot
	e) Actuator for 2400 dia butterfly valve	3	No
	f) Penstock for Distribution (3500 X 3500)	1	No
	g) Penstock for Scum removal system (1000 X 400)	1	No
	h) SS weir plate for overflow	2	No
2	Flow Distribution at clarifiers (6 Nos)		
	a) SS weir plate	1	No
	b) Penstocks in Distribution Chamber (1500 X 1500)	6	No
	c) Scum Removal System & Accessories	1	No
3	Clarifier bypass including 3000 mm dia pipeline & 2400 mm dia manually operated BFV		
	a) Pipes 3000 ND Bypass Line Pulsatube	1	Lot
	b) Bypass penstock (3500 X 3500)	1	No
	c) Clarity Bowl Assembly	1	No
4	Flocculation, Clarifier tank plant		
	a) Vacuum blowers	12	Nos
	b) BFV 350 Dia for vacuum blowers	12	Nos
	c) Pneumatic controlled actuator for 500 Dia BFV	6	Nos
	d) Butterfly 500 Dia manual suction valve	6	Nos
	e) Concentrator manual washing gates 400 Dia	12	nos
	f) Manholes	6	nos
	g) 1600 ND Under slab Pulsatube Inlet pipe	1	Lot
	h) Lamella Module	1	Lot
	i) Supporting System for Lamella Module	1	Lot
	j) MS Pipe 350 & 500 Dia in Vacuum Blower room	1	Lot
	k) Air Compressor Units with Air dryer, receiver tank & accessories	2	nos
	l) Air Pipe line, fittings & valves for compressor system	1	Lot
	m) Stilling weir plates	1	Lot
	n) Monorail hoist 1 Ton for vacuum blower room	6	nos
	o) Monorail hoist 2 Ton for compressor system	2	nos
	p) Mechanical Level switch for vacuum chamber	6	nos
	q) Sampling including Piping and accessories to complete the system	1	Lot
5	Clarifier Sludge Removal		
	a) Sludge extraction pipes & fittings from concentrators(DI)	1	Lot
	b) Sludge extraction pipes & fittings from concentrators(HDPE)	1	Lot

6	Sludge valves			
	a)	150 Dia Butterfly Pneumatic controlled (sludge extraction valves)	72	No
	b)	Pneumatic Controlled Actuator for Pneumatic controlled BFV	72	No
	c)	150 Dia Manual Butterfly valves for sludge extraction	72	No
7	Jib cranes			
	a)	Jib crane (1.5 T)	6	No
	b)	Manual Gantry for stop logs 1 Ton	1	No
8	Clarifier drainage and dewatering including under drain system			
	a)	Manual Gate Valve 350 Dia for Clarifier Drain	24	No
	b)	Manual Gate Valve 150 Dia for Vacuum chamber Drain	6	No
	c)	Manual Gate Valve 100 Dia for Concentrator Drain	24	No
	d)	100 Dia DI Pipes & Fitting for Concentrator Drain	1	Lot
	e)	150 Dia DI Pipes & Fitting for Vacuum Chamber Drain	1	Lot
	f)	Common header pipes towards sludge pit of pulsatube clarifier (DI)	1	Lot
	g)	Drainage Pumps	2	No
9	Clarifier water conveyance			
	a)	Motor/Pump for Sampling System	2	No
	b)	Sampling including Piping and accessories to complete the system	1	Lot
	c)	Stoplogs Frames with stop log set (1250 X 1770)	12	No
10	Ventilation for the sludge control chambers ; central sludge gallery & clarification structures			
	a)	Ventilation fans associated with clarifier	1	Lot
11	Alum storage, transfer & dosing system, ventilation equipment & electrical works, panels & cabling			
	a)	Air Compressor Units	4	No
	b)	Air Pipe line, fittings& valves for compressor system	1	lot
	c)	Air operated double diaphragm pump	4	No
	d)	Agitator with motor for stock tank	2	nos
	e)	Constant Headbox for gravity dosing	6	No
	f)	Flow Control valve with actuator	1	No
	g)	Submersible Pump with motor for drainage	1	No
	h)	CPVC ball valves for various equipment in alum dosing system	1	lot
	i)	GM ball valves for service water network	1	lot
	j)	CPVC pipe & fittings for alum dosing area	1	lot
	k)	Service water & Dilution Pipe & fittings	1	Lot
	l)	Monorail with Hoist capacity-0.5 Ton	1	No
	m)	Monorail with Hoist capacity-2 Ton	1	No
12	Ventilation equipment for alum dosing house			
	a)	Ventilation fan associated with alum dosing house	1	Lot
13	36 Nos. rapid gravity filters including filter gallery pipe work, joints, valves and fittings, sampling pumps and pipework, including filter bypass to CCT			
	a)	900 Dia Pneumatic Butterfly valve for filter inlet	36	No
	b)	Pneumatic Actuator for 900 Dia BFV	36	No
	c)	150 mm Pneumatically operated Pinch valve for cross wash	72	No
	d)	500 Dia Pneumatic Butterfly valve for filtered water outlet	36	No
	e)	Pneumatic Actuator for 500 Dia Pneumatic BFV	36	No
	f)	800 Dia Pneumatic Butterfly valve for backwash water outlet	36	No

	g)	Pneumatic Actuator for 800 Dia Pneumatic BFV	36	No
	h)	400 Dia Pneumatic Butterfly valve for air scour inlet	37	No
	i)	Pneumatic Actuator for 400 Dia Pneumatic BFV	37	No
	j)	600 Dia Pneumatic Butterfly valve for back wash water inlet	36	No
	k)	Pneumatic Actuator for 600 Dia Pneumatic BFV for back wash water inlet	36	No
	l)	3600 mm Pipe from clarified water collection chamber with puddle	1	Lot
	m)	2400 mm Common header pipe for filter water outlet including air vent, drain etc.	1	Lot
	n)	50 Dia Pneumatic Ball Valve for Purge air (air vent)	36	No
	o)	50 Dia Ball valves Pneumatic Actuator	36	No
	p)	500 Dia Restrictor Butterfly valve for filtered water outlet with accessories	36	No
	q)	600 Dia MS Pipe rising main for back wash water inlet in Filter Area	1	Lot
	r)	800 Dia MS Pipe for Back Wash water outlet	1	Lot
	s)	500 Dia MS Pipe for filtered water outlet	1	Lot
	t)	Extension Bend for 200 dia. Drain Valve	1	lot
	u)	Expansion Joints for filter area	1	lot
	v)	150 Dia MS Pipe for cross wash	1	Lot
	w)	200 Dia Gate Valve for filter drain	36	nos
	x)	Puddle pipes for all sizes of valves	1	Lot
	y)	Flange Adopter for all sizes valves	1	Lot
	z)	Piezometric tubing for filter	124	No
	aa)	Motor/Pump for Sampling System	2	no
	ab)	Sampling including Piping and accessories to complete the system	1	lot
	ac)	Local sampling for each filters	36	No
	ad)	Sump Drain Pump	2	nos
	ae)	Piping work and accessories for sump drain pump to complete the	1	Lot
	af)	Manual Gantry for stop logs	1	No
	ag)	Inlet Stoplog (2500 X 2500)	4	No
	ah)	Air Compressor Units	4	nos
	ai)	Air Pipe line, fittings& valves for compressor system	1	Lot
	aj)	Porta Davit	2	No
	ak)	Booster pump system for service water in filter area	3	Nos
	al)	Piping and accessories for service water in Filter area	1	Lot
	am)	Wet installed non clog submersible pump set – 240 m3/hr	4	Nos
	an)	Control panel for wet installed non clog submersible pump set–240 m3/hr	4	Nos
	ao)	Wet installed non clog submersible pump set – 175 m3/hr	4	Nos
	ap)	Control panel for wet installed non clog submersible pump set–175 m3/hr	4	Nos
14	Filter under drain system			
	a)	Filter nozzles	1	Lot
	b)	Sleeves for Prefabricated Slabs	1	Lot
	c)	Manholes for underdrainage system	108	No.
	d)	Filter Slab anchoring bolt and SS plates	1	Lot
15	Filter media			
	a)	Media	1	Lot

	b)	Monorail for sand trap (1 Ton)	1	No.
16	Air scour system including blowers			
	a)	Backwash Air Blowers with motor, safety valve, pressure gauge, filter, NRV and other accessories to complete the system	3	Set
	b)	Acoustic enclosure for the blowers	3	No
	c)	Isolating valves for the blowers B/F manual 300 dia	3	No
	d)	Piping system and accessories for blower	1	Lot
	e)	Air scour 400 dia pipe for header and filter bed	1	Lot
	f)	Exhaust Fans for filter area	1	Lot
	g)	Monorail with Hoist 2 ton	1	No
	h)	Monorail with Hoist 5 ton	2	No
17	Water up wash and surface wash system including delivery pipework			
	a)	Pressure reducing valve (600 dia.)	1	No
	b)	Wash water pipe 600 mm dia from pumping rising main to filter including flange adapter and accessories	1	Lot
	c)	600 dia flow control valve from rising main	1	No
	d)	Actuator for 600 dia flow control valve	1	No
	e)	Manual valve on rising main up to filter 600 dia	4	No
18	Filter (Stage I& IV) Wash Water, Recirculation Plant, including collection and pumping the clarified water to inlet: Filter Wash Water Recovery Tank Stage-IV			
	a)	Penstock (800 x 800)	4	No
	b)	Mixer	4	No
	c)	Devit	1	No
	d)	Recirculation Pump	3	No
	e)	NRV 300 Dia.	3	No
	f)	Flange adaptor 300 Dia	3	No
	g)	Gate Valve 300 Dia	3	No
	h)	Pipe common discharge of Stage IV (400 mm dia.) MS	1	Lot
	i)	Delivery piping in recirculation pump(MS) 300 Dia	1	Lot
	j)	Scour valve 200 Dia	1	No
	k)	Monorail with hoist for recirculation.(2 Ton)	1	No
	l)	Penstock (800 x 800) IV and (1000 x 1000) I for sand trap	4	No
	m)	Gate Valve for air scour 100 Dia	1	No
	n)	900 mm dia. MS pipes for Backwash flow	1	Lot
	o)	Scour Gate valve 200 dia.	1	No
	p)	Monorail with hoist for Magnetic Flowmeter (02 Ton)	1	No
	q)	Monorail with hoist for Drainage pumps (02 Ton)	1	No
	r)	Square knife edge Gate Valve of size 1600 mm X 1600 mm	1	No
	s)	Electrically operated actuator for Square knife edge Gate Valve of size 1600 mm X 1600 mm	1	No
19	Filter Wash Water Recovery Tank Stage - I			
	a)	Penstock (1000 x 1000)	4	No
	b)	Mixer	4	No
	c)	Devit	1	No
	d)	Recirculation Pump	3	No
	e)	NRV 450 Dia.	3	No

	f)	Flange adaptor 450 Dia	3	No
	g)	Gate Valve 450 dia.	3	No
	h)	Pipe common discharge of Stage I (650 mm dia.)	1	Lot
	i)	Delivery piping in recirculation pump (MS) 450 Dia	1	Lot
	j)	Scour valve 200 Dia	1	No
	k)	Monorail with hoist for recirculation.(3 Ton)	1	No
	l)	Gate Valve for air scour 100 Dia	1	No
	m)	1400 mm dia. MS pipes for Backwash flow	1	Lot
	n)	Scour Gate valve 200 dia.	1	No
	o)	Monorail with hoist for Magnetic Flowmeter (03 Ton)	1	No
	p)	Monorail with hoist for Sand Trap (01 Ton)	1	No
20	Clarifier waste water recycling plant from clarifiers Stage I & IV treatment plant including pumping the clarified water to inlet works sludge handling units and converting the sludge in cake form ,including bypass to Vihar Lake: Clarifier Sludge Sump &Pumps			
	a)	DI Pipe from pulsatube clarifier to clarifier sludge sump 800 mm	1	Lot
	b)	Overflow Pipework 600 mm	1	Lot
	c)	Submersible mixers for clarifier sludge sump (302)	2	No
	d)	Submersible pump for clarifier sludge sump (302) 460 cum/hr	3	No
	e)	NRV with flange adopter pump for clarifier sludge sump 300 mm	3	No
	f)	Manual Gate valve for clarifier sludge sump (302) 300 mm	3	No
	g)	DI Pipe for clarifier sludge sump individual & common delivery 300 mm	1	Lot
	h)	Scour valve 200 dia for clarifier sludge sump	1	No
	i)	Return loop Pipework	1	Lot
	j)	Monorail with hoist 2 Ton	1	No
21	New Sludge Collection Sump & Pump (303)			
	a)	Submersible pump for new sludge sump for stage I (303) 850 cum/hr	2	No
	b)	NRV with flange adopter for new sludge sump(303) 450 mm	2	No
	c)	Manual Gate valve for new sludge sump (303) 450 mm	2	No
	d)	Scour valve 200 dia for new sludge sump & pump	1	No
	e)	DI Pipe for new sludge sump stage I - 450 mm	1	Lot
	f)	Monorail with hoist 2 Ton	1	No
	g)	Knife Gate valve of size 800 mm	1	No
	h)	manually operated gear box	1	No
22	Common Sludge Balancing Tank & Pumps (301)			
	a)	Penstocks stage-I 600 X 600	4	No
	b)	Submersible mixers for common sludge balancing tank	4	No
	c)	Submersible pump 645cum/hr for CSBT	3	No
	d)	NRV with flange adopter for 350 mm for CSBT	3	No
	e)	Manual Gate valve 350 mm for CSBT	3	No
	f)	DI Pipe for CSBT / flocculator etc at SRA area 350 mm	1	Lot
	g)	Scour valve 200 dia for Clarifier sludge sump & pump	1	No
	h)	DI Pipe for CSBT / supernatant / flocculator etc at SRA area 500 mm	1	Lot
	i)	Davit	1	Lot
	j)	Monorail with hoist 2 Ton	1	No
23	Sludge Handling System & Sludge Thickener			
	a)	Flocculators agitator	4	No
	b)	Flocculators drain valves 150 mm	4	No
	c)	Flocculators penstocks 350 X 350	4	No
	d)	Flocculators Inlet Gate valves 350 mm	2	No

	e)	Sludge Thickener unit with scraper bridge assembly, drive assembly with torque switch unit	4	No
	f)	Knife Gate Valve at the outlet of thickener to thickened sludge pump 300 mm	4	No
	g)	Knife Gate Valve at the outlet of thickener to thickened sludge pump 200 mm	4	No
	h)	Telescopic arrangement with accessories	4	No
	i)	DI Pipe for telescopic arrangement (65 mm & 200 mm)	1	Lot
	j)	DI Pipe for sludge extraction 300 mm	1	Lot
	k)	DI Pipe feed to supernatant tank 500 mm	1	Lot
	l)	DI pipe from thickener	1	Lot
	m)	CPVC Ball valve for poly dosing	1	Lot
24	Thickened Sludge Sump & Pump			
	a)	SS Piping in thickened sludge sump area 100 mm in SRA	1	Lot
	b)	Submersible mixers for thickened sump	2	No
	c)	Screw Pump for thickened sludge pump	10	No
	d)	NRV for screw pump 100 mm	10	No
	e)	Knife Gate valve at the suction of Centrifuge feed pump 100 mm	10	No
	f)	Delivery piping & accessories for drain pump	1	Lot
	g)	Gate valve 50 mm	1	Lot
	h)	Electric hoist with wire rope for monorail	1	No
	i)	Drain Pump Submersible 10 cum/hr	1	No
	j)	SS Pipe for pressure indicator & its drain	1	Lot
	k)	Monorail with hoist 0.5 Ton	1	No
25	Centrifuge Unit			
	a)	Centrifuge Unit	10	No
	b)	GM Ball valve for air supply for flushing in SRA area	1	Lot
	c)	GM Ball valve Pneumatically controlled for poly dosing 25 mm	10	No
	d)	GM Ball valve Pneumatically controlled for service water 25 mm	10	No
	e)	MS pipe 100 mm & 200 mm from centrifuge to supernatant centrate tank	1	Lot
	f)	Two directional vibration monitoring system	10	No
	g)	Knife gate valve at the inlet of Centrifuge 100 mm	10	No
	h)	25 mm GI Pipe for Service water	1	Lot
	i)	Sludge belt conveyor	3	No
	j)	SS Sludge trolley	3	No
	k)	Over Head Travelling Crane 5 Ton	1	No
	l)	Air Compressor Units	2	no
	m)	Air Pipe line, fittings& valves for compressor system in centrifuge area	1	Lot
	n)	GM Ball valve for service water in SRA area	1	Lot
	o)	Booster pump for service water in SRA area	2	No
	p)	Poly pack unit for centrifuge and Flocculator	4	No
	q)	GM Ball valve pneumatic for service water 65 mm	1	Lot
	r)	CPVC ball valve in poly dosing system in SRA	1	Lot
	s)	Polymer dosing pump for centrifuge	10	No
	t)	Polymer dosing pump for flocculators	6	No
	u)	Calibration pot	6	No

	v)	CPVC Piping in SRA area	1	Lot
	w)	SS Piping in poly dosing area with Pressure Relief valve	1	Lot
	x)	Exhaust Fans in SRA area	1	Lot
	y)	Ventilation duct for SRA area	1	Lot
26	Supernatant and Centrate Tank			
	a)	Supernatant and centrate submersible pumps 1450 cum/hr	2	No
	b)	NRV on Supernatant and centrate delivery pipe 600 mm	2	No
	c)	Supernatant and centrate pumps discharge gate valves 600 mm	2	No
	d)	600 mm MS pipe for supernatant and centrate pump delivery up to inlet chamber	1	Lot
	e)	Monorail with hoist 3 Ton	1	No
27	Ventilation equipment for filter control block building			
	a)	Exhaust Fan	1	Lot
28	Filtered water conduit including joints, specials and fittings up to CCT			
	a)	Filtered water conduit dia 2400 with bend up to CCT (outside annex building)	1	Lot
	b)	Filtered water conduit dia 3600 with reducer up to CCT	1	Lot
	c)	800 mm Manual Isolation valve for CCT bleed back (BFV)	3	No
	d)	Scour valves 200 dia	9	No
	e)	Flow control valve 800 mm on CCT bleed back	1	No
	f)	Actuator for Flow control Valve	1	No
	g)	MS Pipe 800 mm from Pumping rising main for bleed back operation	1	Lot
	h)	CPVC Pipe for Chlorination	1	Lot
	i)	Motor/Pump for Sampling System	4	No
	j)	Sampling system including Piping and accessories to complete the system	1	Lot
	k)	Gate valve 200 dia for 2400 mm dia. BFV arrangement	9	No
	l)	Submersible trolley mounted motor pump 20 cu.m/hr	4	No
	m)	Drain valve for CCT 200 dia.	2	No
	n)	Gate vale 300 dia (BFV bypass)	2	No
	o)	Manholes (CCT inlet valve chambers)	4	No
29	3 Nos., 2400 mm dia. Motorized Butterfly valve with dismantling joint on 2 inlets to chlorine contact tank.			
	a)	2400 mm Motorized B/F Valve	3	No
	b)	2400 mm Actuator for B/F Valve	2	No
	c)	2400 mm Dismantling joint-	2	No
30	Gas, chlorine pipework, chlorinators, injectors, motive water pipework and chlorine solution pipework			
	a)	Chlorine Gas C.S. pipework from tonners up to RVR	1	Lot
	b)	Drum connector tubes with adaptors, isolation valves and fittings	1	Lot
	c)	Indicating pressure gauge with alarm	6	Nos.
	d)	CPVC pipe work from vacuum regulator to chlorinators	1	Lot
	e)	Isolation valves and fittings for pipework from vacuum regulator to chlorinators	1	Lot
	f)	CPVC vacuum piping work from chlorinators to injectors	1	Lot
	g)	CPVC valves and fittings from chlorinators to injectors	1	Lot
	h)	Vacuum gauges on injectors	6	Nos.
	i)	Motive water pipe line for Booster pump suction side	1	Lot
	j)	Valves, Strainers, pressure indicators on suction side of Booster pumps	1	Lot

	k)	Motive water discharge piping work from booster pump to injectors.	1	Lot
	l)	Valves, NRV, pressure gauges, pressure switch on Booster pump discharge piping	1	Lot
	m)	Chlorine solution pipework from injector upto diffusers	1	Lot
	n)	Valves, fittings for piping work from injector upto diffusers	1	Lot
	o)	Chlorine solution diffuser for raw water, clarifier water, filtered water & CCT.	1	Lot
	p)	NRV, fittings for chlorine solution pipework from injector upto diffusers	1	Lot
	q)	Indicating pressure gauge	6	Nos.
31	06 Chlorinators, 03 nos. Injectors motive water pumps, Chlorine solution piping & valves & injection fittings, ventilation system, Chlorine leak detectors, safety equipment & emergency first aid equipment, Motor control centers / battery / Battery charger, local control and annunciator and control room panel			
	a)	Chlorinators 20 kg/h	2	No
	b)	Chlorinators 40 kg/h	4	No
	c)	Injectors	6	No
	d)	Chlorine gas filters	6	No
	e)	Vacuum regulator	6	No.
	f)	Pressure indicators	6	No
	g)	Gas pressure reducing valves	6	No
	h)	Chlorine leak detectors with sensors	4	No
	i)	Booster Pump with motor	6	No
	j)	Exhaust Fan	1	Lot
	k)	Absorption tower, water seal tank & accessories for Chlorine leak absorption system	1	Lot
	l)	Absorbent circulating pumps with accessories	2	No
	m)	Piping, Valves and fittings for absorbent circulating pump with accessories	1	Lot
	n)	Level switch , level indicator, pressure switch for Absorption system	1	Lot
	o)	Chlorine leak detector with sensors for absorption system	1	No.
	p)	FRP hoods & FRP ducts	1	Lot
	q)	Motorized dampers for absorption system	2	No.
	r)	Manual dampers for absorption system	4	No.
	s)	EOT cranes 2 TON with allied control system	2	No.
	t)	Trunnions for tonners	1	Lot
	u)	Suction and discharge piping, valves, fittings & accessories for absorbent circulating	1	Lot
	v)	Piping, valves and fitting for water line for absorption system	1	Lot
	w)	Main ventilation Control Panel (VDB)	1	No.
	x)	Chlorination annunciation panel	1	No.
	y)	Breathing apparatus (3 Nos)	3	No
	z)	Safety Shower with Eyewash Facility	1	Lot
	aa)	Emergency tool kit with metal box	3	No
	ab)	Protective clothing includes goggles, rubber boot ,gloves, apron etc.	3	Set
	ac)	Wall mounted cabinet for storing protective clothing	1	No
	ad)	Hospital cots with wheels	2	No
	ae)	Rolling stretcher with wheels	1	No
	af)	Lifting stretcher without wheels	1	No
	ag)	Oxygen gas cylinder	2	No

	ah)	Artificial oxygen respirators	2	No
	ai)	I. V. Stand	2	No
	aj)	Steel Cupboards	1	No
32	Two nos.2 ton grid type electric hoist over head cranes with pendant pushbutton control for lifting and lowering chlorine drums			
	a)	2 ton hoists	2	No
33	2400 mm dia MS pipe line and 4 nos. 2400 mm dia butterfly valves on pipe line from CCT to pumping station including control panel and instruments for annunciating and transmitting equipment for flow and level			
	a)	Piping dia 2400 from CCT to pumping station	1	Lot
	b)	2400 mm Motorized B/F Valve	4	No
	c)	2400 mm Actuator for B/F Valve	4	No
	d)	2400 mm Dismantling joint-	4	Lot
34	All power cabling and wiring between distribution boards and motor control centres battery charger and DCDB and panel sand motor control centers to items of plant			
	a)	Cables for DC supply	1	Lot
	b)	Cable trays for power and control cables	1	Lot
35	Integrated automation system and information management system including field instruments, PLC, SCADA system, HMI panels, Database server, Client PC, software etc.			
	a)	Temperature transmitter	1	No
	b)	Open channel ultrasonic flow meter	9	No
	c)	Pressure transmitter diaphragm	3	No
	d)	Level transmitter ultrasonic	45	No
	e)	Insertion ultrasonic flow meter	2	No
	f)	Electromagnetic flow meter	8	No
	g)	Residual chlorine analyzer	7	No
	h)	Turbidity analyzer	3	No
	i)	pH analyzer	5	No
	j)	Pressure switch	10	No
	k)	Level switch conductivity	23	No
	l)	Pressure transmitter differential	36	No
	m)	Pressure transmitter air	1	No
	n)	Rotameter	22	No
	o)	Pressure gauge bourdon	20	No
	p)	Pressure gauge bourdon with chemical seal	30	No
	q)	Float & Board level gauge	1	No
	r)	PLC system including panel, different modules, HMI and accessories to complete the system	9	No
	s)	PLC system for desludging including panel, different modules, HMI and accessories to complete the system	6	No
	t)	Filter control consoles	36	No
	u)	Instrument control & MLCP Panels	8	No
	v)	SCADA system including servers, workstations and softwares etc.	1	Lot
36	Communication System : I			
	a)	Telephone cables and accessories	1	Lot
	b)	Telephone instruments	1	Lot

37	Public Address (P.A.) equipment			
	a)	Cable and accessories	1	Lot
	b)	Loud speakers	1	Lot
38	Electrical system (Substation equipment)			
	a)	3.3KV Cable, Termination kits	1	lot
	b)	3.3 KV Panels	2	Nos
	c)	3.3/415 Volts , 1000 KVA transformers	4	Nos
	d)	Battery chargers and batteries	2	Sets
	e)	Main LV Panel	6	Nos
	f)	Capacitor panels	2	Sets
	g)	Pretreator panel, Sludge System Panel, Filter House panel	3	Nos
	h)	GI earthing strips of size 50 x 6 mm from existing earthing to new earthing grid	1	lot
	i)	MCC / DB / Local Control Centers in plant area (V.D.B.'s, P.D.B's, etc.)	1	lot
	j)	All 415 V power cabling within plant area	1	lot
	k)	Control and instrumentation cable in plant area	1	lot
39	Lighting within boundary limits			
	a)	Indoor lighting	1	lot
	b)	Outdoor lighting (Street lighting, Post top lanterns, Flood lights, etc.)	1	lot
	c)	Internal & External Lighting distribution board	1	lot
	d)	Emergency lighting works	1	lot
40	Earthing and lightning protection system in plant area			
	a)	Earthing strips for earthing system	1	Lot
	b)	Earthing stations for earthing system	1	Lot
	c)	Earthing strips for lightning system	1	Lot
	d)	Earthing stations for lightning system	1	Lot
	e)	Lightning Arrester	1	Lot
41	Provision of fire hydrant system			
	a)	Fire hydrant	9	No s
	b)	Fire hydrant network	1	Set
42	Provision of portable Fire Extinguishers as per specification			
	a)	Fire Extinguishers	1	Lot
43	Provision of hose cabinets with Hoses as per Specification			
	a)	Hoses cabinets	1	Lot

Note : 1) Operation of all the aforesaid **Annexure-V List** items as per schedule or as & when required by BMC will be the responsibility of the successful O & M contractor.

2) Following list denotes newly added items from the above equipment list & their corresponding Defect Liability Period (DLP) :

Sr No from above Annexure-V List	Defect Liability Period (DLP) ending on date
13-ao) & 13-ap)	13.02.2027
18-r) & 18-s)	14.06.2026
21-g) & 21-h)	10.04.2026

After the end of the DLP period of the aforesaid items, maintaining these items shall solely be the responsibility of the successful O & M contractor till the end of the contract period.

BRIHANMUMBAI MUNICIPAL CORPORATION

Annexure – VI

SPECIAL SPARES AVAILABLE WITH BMC

A) Mechanical spares

Sr. No.	Equipment Name	Units	Spare Part Description	Unit	QTY
1	Chlorination System				
1.a.	Pre Chlorination Pumps	2	Diffuser	nos	2
			Diffuser with guide vanes	nos	6
			Pump shaft	nos	2
			Gland	nos	4
			Shaft sleeve (drive side)	nos	4
			Shaft sleeve(Non drive side)	nos	4
			Wearing ring (Suction side)	nos	12
			Wearing ring (discharge side)	nos	12
			Enclosed Impeller	nos	2
			Roller bearing DE	nos	2
			Set of Keys	Set	8
			Gland Packing	nos	4
			Oil Seal DE/NDE	nos	4
			Set of O rings	Set	10
			Interstage bush for diffuser with guide	nos	10
			Angular Contact Ball Bearing	nos	2
1.b.	Post Chlorination - 1 Pumps	2	Impeller 1st Stage	nos	2
			Impeller 2nd Stage	nos	2
			Pump shaft	nos	2
			Wearing ring	nos	4
			Lantern ring	nos	4
			Inter Stage Ring	nos	2
			Ball Bearing	nos	2
			Gland DE/NDE	nos	4
			Water Deflector DE/NDE	nos	2

			Set of Keys	Set	4
			Bearing Nut	nos	2
			Taper Pin with washers & Nut for lower & upper half casing	nos	4
			Cylindrical Pin	nos	4
			Paper Packing Between 122 & 123	nos	2
			Set of O rings	Set	1
			Cylindrical Roller Bearing SKF N311 or Equiv.	nos	2
			Double row angular contact ball bearing SKF7310BG or Equiv.	nos	2
			Bearing lock nut DE/NDE	nos	4
1.c.	Post Chlorination-2 Pumps	2	Diffuser	nos	2
			Diffuse with guide vanes	nos	6
			Pump shaft	nos	2
			Gland	nos	8
			Shaft sleeve (drive side)	nos	2
			shaft sleeve (non drive side)	nos	2
			Wearing ring (suction side)	nos	14
			Wearing ring (discharge side)	nos	14
			Enclosed impeller	nos	7
			Deep grove ball bearing NDE	nos	2
			Roller bearing DE	nos	2
			Set of Keys	Set	10
			Gland packing	nos	4
			Oil seal DE/NDE	nos	4
			Set of O rings	Set	12
			Interstage bush for diffuser with guide vanes	nos	6
1.d.	Caustic Pump	2	Mechanical seal, Type:TB, Size: 1.375" Make-flowserve,	nos	4
1.e	Vacuum Blower Scrubber System	1.e	Motor Bearings	set	1
1. f.	Chlorine Leak Detector	6	Monitor	nos	1
		6	Sensor	nos	1
1.g.	Pre chlorination Rotameter 1000 lbs / day	6 (4+2)	Tube	nos	4
			O ring	nos	8
			Bottom stop	nos	4
			Top stop	nos	4

1. h.	Vacuum differential regulating valve	6	Diaphragm	nos	10
			Gasket seal	nos	16
			Disc sealing	nos	10
			Disc stem	nos	10
			O ring	nos	10
1. i.	Injector 2"	6	O ring	nos	12
			Spring	nos	4
			O ring	nos	6
			Stem	nos	4
			Diaphragm screw	nos	6
			Diaphragm nut	nos	6
			Diaphragm	nos	6
			Disc backing	nos	6
			Ring set	nos	6
			Cover	nos	1
1. j	Chlorinator 3000 PPD	6	Preventive Maintenance kit	nos	3
			Diaphragm (Vacuum Differential Regulating Valve)	nos	3
			O-ring(Vacuum Differential Regulating Valve)	nos	3
			Gasket (Rotameter)	nos	6
			Gasket (Rotameter)	nos	6
			Gasket (V-Notch Plug)	nos	3
			O-ring (V-Notch Plug)	nos	3
			O-ring	nos	3
			Halocarbon grease	nos	3
			4 oz. Bottle Ammonia Solution	nos	3
			O-ring	nos	3
1. k.	EOT Crane	2	Rope Guide	nos	2
			Rope tighter	nos	2
			Roller bearing with sleeve	nos	4
			Thrust bearing	nos	2
			Brake disc with liner	nos	2
			Rotor Pinion	nos	6
			Brake shims	nos	12

			Rotor shims	nos	6
			Brake Unit - LHP	nos	2
			Rectifier	nos	2
			Pendant Push button	nos	6
			Control Transformer	nos	1
			Over load Relay	nos	3
2	Pulsatube Clarifier				
2. a	Vaccum Blower	12	Impeller with shaft Hub	nos	2
			Fixed Bearing	nos	12
			Free Bearing	nos	12
			Coupling	nos	2
			adaptor sleeve	nos	2
			Locking washer	nos	2
			Nut	nos	2
2. b	Sampling Pump (Inlet & Outlet)	4	Kit, Shaft seal H QQEGG KB012S1	nos	1
			Kit, Gasket EPDM	nos	1
			Kit, CRN1-3 chamber stack cpl.	nos	1
2. c	Sludge Extraction Valves	72 Pn + 72 Ma	Valve seal	set	10
			Bearings (SS Backed PTFE)	set	10
			Rotary Pneumatic actuator	nos	2
			Limit switch attachment	nos	8
			Solenoid valve	nos	20
			Plug socket	nos	20
			Basic valve	nos	12
2. d	Pulsation Valve	6 pne uma tic + 6 man ual	Valve seal	set	6
			Bearings (SS Backed PTFE)	set	6
			Gear Box with hand wheel	set	1
			Rotary Pneumatic actuator	nos	1
			Limit switch attachment	nos	3
			Solenoid valve	nos	3
			Plug socket	nos	3
			Basic valve	nos	3
2. e	Lamella Modules			nos	800

2. f	Air compressor	2	Air-O filter kit	nos	1
			Oil separator kit	nos	1
			Roto inject Oil 20 Lit	nos	1
			Thermostat valve kit	nos	1
			Unloader Kit	nos	1
			MPV kit	nos	1
			solenoid valve kit	nos	1
			Oil stop check bulb	nos	1
			Pressure transmitter	nos	1
2.g	Dryer	2	Automatic condensate drain valve	nos	1
			Filter set Inlet Outlet	set	1
3 Filters					
3. a	Filter Inlet Valve	36 pne	Valve seal	set	4
			Bearings(SS Backed PTFE)	set	4
			Rotary Pneumatic actuator	nos	2
			Limit switch attachment	nos	4
			Solenoid valve	nos	6
			Plug socket	nos	10
			Basic valve	nos	2
			Gear box with hand wheel	nos	1
3.b.	Filter Outlet valve	36 man	Valve seal		4
			Bearings(SS Backed PTFE)		4
			Gear box with hand wheel		1
3.c.	Filter Outlet valve	36 pne	Valve seal	set	4
			Bearings(SS Backed PTFE)	set	4
			Rotary Pneumatic actuator	nos	2
			Limit switch attachment	nos	4
			Solenoid valve	nos	6
			Plug socket	nos	10
			Basic valve	nos	2
			Gear box with hand wheel		1
3.d.	Air Inlet Valve	37 pne	Valve seal		4
			Bearings(SS Backed PTFE)		4

			Rotary Pneumatic actuator		1
			Limit switch attachment		4
			Solenoid valve		6
			Plug socket		10
			Basic valve		2
			Gear box with hand wheel		1
3.e.	Backwash Inlet Valve	36 pne	Valve seal	set	4
			Bearings(SS Backed PTFE)	set	4
			Gear box with hand wheel		1
			Rotary Pneumatic actuator	nos	1
			Limit switch attachment	nos	5
			Solenoid valve	nos	5
			Plug socket	nos	10
			Basic valve	nos	5
3.f.	Backwash Outlet Valve	36 pne	Valve seal	set	4
			Bearings(SS Backed PTFE)	set	4
			Gear box with hand wheel	set	1
			Rotary Pneumatic actuator	nos	1
			Limit switch attachment	nos	5
			Solenoid valve	nos	10
			Plug socket	nos	10
			Basic valve	nos	2
3. g	Backwash Blower	3	Pressing Bush A	nos	4
			Pressing Bush B	nos	4
			Piston Ring	nos	24
			Injection Ring	nos	9
			Distance bush	nos	3
			Gear wheel I	Pair	1
			Gear wheel II		1
			Sight glass assembly	nos	4
			Gasket for casing cover A & B	nos	4
			Lock washer for clamping bush	nos	4
			Gasket for sealing flange	nos	2

			Double row angular contact ball Bearing B side	nos	4
			withdrawal sleeve	nos	4
			Spherical roller bearing for A side	nos	4
			Distance ring	nos	2
			O-ring	nos	2
			Oil seal	nos	2
3. h	Service water Pumps	3	Kit, wear parts	nos	2
			Kit shaft seal	nos	2
			kit , gasket	nos	2
			kit, bot. bearing	nos	2
			Kit, Chamstack	nos	2
3. i	Air Compressor	4	Filter Kit	nos	4
			Roto Inject oil 20 lit	set	2
			Thermostat + MPV Valve		2
			V belt set		2
			Unloading Bulb Kit		2
			Solenoid Valve	nos	2
			Pressure Switch		2
	Dryer	4	Automatic condensate drain valve		2
			Filter set	nos	2
3. j	Sampling Pump [Filter Inlet]	4	Kit, Shaft seal H QQEGG KB012S1	nos	2
			Kit, Gasket EPDM	nos	2
			Kit, CRN1-3 chamber stack cpl.	nos	2
3. k	Filter Nozzles			nos	2000
3. l	Drainage pumps Filter Gallery	2	O ring set	nos	1
			Repair set	nos	1
3. m	Piezometer tubes	68+ 4set		set	3
3. n	Air vent valve with actuator	36	Actuator set with solenoid valve kit	nos	1
4	Chemical Building				
4. a	Agitator	2	Bearing Housing		1
			Top shaft		1
			Low Speed flexible coupling bushes	set	1
			Oil seals for Gear Box (3 nos per set)	set	1
			Oil seals for Bearing Housing (2 nos per set)	set	1
4. b	Air compressor	4	Air-Oil filter kit	nos	2
			Oil separator kit	nos	2

			Roto inject Oil 20 Lit	nos	2
			Thermostat valve kit	nos	2
			Unloader Kit	nos	2
			MPV kit	nos	2
			Solenoid valve kit	nos	2
			Oil stop check bulb	nos	2
			Pressure transmitter	nos	2
4. c	Dryer	4	Automatic condensate drain valve	nos	2
			Filter set Inlet Outlet	set	2
4. d	PAC Transfer Pump	4	Gasket muffler Isolator	nos	2
			Diaphragm, Primary, wilflex	nos	4
			Assy, Pilot sleeve	nos	2
			O-ring	nos	8
			Gasket, Air valve, PX 8	nos	8
			Ball valve Tefflon	nos	8
			Shaft seal	nos	4
			Shaft bushing	nos	4
			Gasket center block	nos	4
			Air valve assembly	nos	4
			Pilot spool retaining o-ring	nos	8
			Valve seat	nos	8
			Valve seat O-ring	nos	8
			Manifold O-ring (4.350" X 0.210")	nos	8
4. e	Chemical Drainage Pump	1	O ring set	nos	1
			Repair set	nos	1
5	CCT				
5. a	Sampling Pump	8	Kit, Shaft seal H QQEGG KB012S1	nos	2
			Kit, Gasket EPDM	nos	2
			Kit, CRN1-3 chamber stack cpl.	nos	1
5. b	Trolley Mounted Drainage Pumps	4	O ring set	nos	2
5. d	Bleed back valves	3	Valve seal		1
6	SRA				
6. a	Centrifuge feed Pumps	10	Stator	nos	1
			Rotor	nos	1
			Shaft	nos	1
			U J Maintenance kit	nos	5
			Coupling Rod	nos	3
6. b	Poly Pack Centrifuge	2	Powder feeder screw	nos	1
			Solenoid valve 2"	nos	1
			Drain ball valve 375 DN502	nos	1

			Pressure reducing valve 2"	nos	1
			Ultramat controller	nos	1
6. c	Poly Pack Thickner	2	Powder feeder screw	nos	1
			Solenoid valve 1"	nos	1
			Turbodos 1"	nos	1
			Drain ball valve 375 DN 25	nos	1
			Pressure reducing valve 1"	nos	1
			Ultramat controller	nos	1
6. d	Poly dosing pump Centrifuge	10	Spare part kit	nos	2
			Spring for PRV DN 20	nos	7
			Diaphragm for PRV DN 20 PP	nos	7
			Rotometer SK20	nos	1
			Globe valve 1"	nos	2
			Ball valve 375 PVC-EPDM d32 DN25	nos	3
			Check valve 375 PVC-EPDM d32 DN25	nos	3
			Y-Strainer type 305 d32 - filter	nos	2
6. e	Poly dosing pump Thickner	6	Spare part kit	nos	2
			Spring for PR DN 20 PP	nos	3
			Diaphragm for PRV DN 20 PP	nos	3
			Ball valve 375 PVC-EPDM d32 DN25	nos	1
			Y-Strainer type 305 d32 - filter	nos	1
6. f	Thickened sludge Pump House Drainage Pump	1	O ring set	nos	1
			Repair set	nos	1
6. g	Centrifuge	10	Rubber Vibrancy Insulators 140/125 RTE2Kern	nos	8
			Felt Strip [16 x 13 x 490	nos	5
			V-Belt SPA2182	nos	12
			Eccentric bearing with cage & rollers	set	1
			Bearing For Intermediate Shaft	nos	3
			Needle Bearing For IM Shaft	nos	3
			Sealing Ring L24-04-80	nos	3
			Retaining Ring	nos	3
			Main Ball Bearing	nos	3
			Needle Bearing With Inner Race	nos	3
			O' Ring Viton	nos	3
			V-Ring, V90A	nos	3
			Dowel Pin	nos	3
			Ring S26-11-59	nos	3
			Pin	nos	3
			Seal Teflon Cover Gasket	nos	3
			Bearing For Cyclo	nos	1

			Bearing For Cyclo	nos	1
			Bearing For Cyclo	nos	1
			Bearing For Cyclo	nos	1
			O' Ring for Cyclo	nos	3
			Oil Seal for Cyclo	nos	3
			Oil Seal for Cyclo	nos	3
			Circular Tube Connection	nos	3
			Main Bearing Block	set	3
			Check valve assembly	nos	1
			Air release screw	nos	1
			Screw plug with washer sealing	nos	1
			Return spring	nos	1
6. h	Agitator Flocculator	4	Bearing Housing	nos	2
			Top shaft	nos	2
			Low Speed flexible coupling bushes	set	2
			Oil seals for Gear Box (3 nos per set)	set	2
			Oil seals for Bearing Housing (2 nos per set)	set	2
6. i	Booster Pump	2	Kit, wear parts	nos	1
			Kit shaft seal	nos	1
			kit , gasket	nos	1
			kit, bot. bearing	nos	1
			Kit, Chamstack	nos	1
6. j	EOT Crane	1	Rope Guide	nos	1
			Rope tighter	nos	1
			Roller bearing with sleeve	nos	2
			Thrust bearing	nos	1
			Brake disc with liner	nos	1
			Rotor Pinion	nos	1
			Brake shims	nos	12
			Rotor shims	nos	5
			Wire rope	nos	1
			Brake Unit - LHP	nos	1
			Rectifier	nos	1
			Pendant Push button	nos	6
			Control Transformer	nos	1
			Over load Relay	nos	3
6. k	Electrical Hoist TSS	1	Brake		1
			Pendant buttons		4
			Electromagnetic Type Brake		1
			Hoist Motor		1

6. l	Conveyor Belts	3	Motor Bearing Set		2
			Roller bearing		3
6. m	Thickener Drive	4	Oil seal	nos.	12
			Motor Bearing set	set	2
			Load cell	set	2
6. n	Air Comp	2	Filter Kit	nos	1
			Roto inject oil	nos	1
			Thermostat + MPV Valve	nos	1
			V belt set	nos	1
			Unloading Bulb Kit	nos	1
			Solenoid Valve	nos	1
			Pressure Switch	nos	1
	Dryer	2	Automatic condensate drain valve	nos	1
			Filter set	set	1
	7	Submersible Pumps			
7. a	WWRT-4 Pumps	3	Protecting cap 20x200 Bk	nos	3
			Impeller	nos	1
			Casing Wearing Ring	nos	2
			Set of Bearings (Ball & Roller)	set	1
			Cable Socket Cat 7027	nos	2
			Mech seal Burgmann In 16549	nos	1
			O-ring 405.26 x 5	nos	2
			O-ring 365 x 5	nos	2
			O-ring 345 x 4	nos	2
			O-ring 59.55 x 3.53	nos	4
			O-ring 47.29 x 2.62	nos	1
			Cheese Head screw 4X 8	nos	1
			Cable Gland Ring G 26/20 x 1	nos	1
			Washer 08	nos	2
			Insulation 8/4 mm-0.640 mm	nos	1
			Spacer Disc 8/34.6X 2	nos	4
			Cable Gland Ring 35/25X4	nos	2
			Spacer Disc	nos	2
			O-ring 106 x 5	nos	2
			Cable Gromet	nos	1
			O-ring 54X3	nos	4
Cheese Head Screw M6X 10	nos	1			
Ring 22/25X4	nos	1			
Cable Connector EH 460 – 8 mm	nos	1			
Spring washer B-4	nos	2			

			Washer M6	nos	1
			Cable Gromet 34.7/23X12	nos	2
			O-ring 47.29 x 2.62	nos	2
			O-ring 165 x 4	nos	2
			Mech seal Burgmann MG 1 065S	nos	1
			Pressure Screw PG 29	nos	2
			Busing DKN 226	nos	2
			Busing DKN 160	nos	1
7. b	Overflow Drainage Pumps	2	Impeller	nos	1
			Casing Wearing Ring	nos	2
			Set of Bearings (Ball & Roller)	set	1
			O ring 365X5	nos	2
			O ring 345 x 4	nos	2
			O ring 54x3	nos	4
			O ring 165 x 4	nos	2
			O ring 17.29X 2.62	nos	1
			Spacer Disc 8/34.6 x2	nos	4
			Insulation Sleeve 0640 8mm	nos	1
			Chesese Head Screw M 8X15	nos	2
			Cable Gromet 34.7/23X12	nos	2
			Cable Gromet A26/19.5X 10	nos	1
			Ring -22/25X4	nos	1
			Cable Socket Cat 7105	nos	1
			Spring washer B-4	nos	1
			Protecting Cap 20X 200 BK	nos	3
			O ring 405.20X 5.33	nos	2
			Ring 30/33 X 4	nos	2
			O ring 50.39 x x 3.5	nos	2
			Cable Gland 35x 25x4	nos	2
			Cable Connector EH 460	nos	8
			washer B -6	nos	1
			Cable Socket CAT 7027	nos	2
			washer 08	nos	2
			Cable Gland Ring 26/20X 1	nos	2
			Cheese Head Screw M6X 10	nos	1
			Insulation 8/4 mm-064 m	nos	1
			Busing DKN 160.4	nos	1
			Busing DKN 226	nos	2
			Mech -seal Burgmann MG 0555	nos	1
			Spacer Disc 1.5-4mm 2	nos	2

			Chess Head Screw M 4X8	nos	1
			Pressure Screw PG 21	nos	1
			Pressure Screw PG 29	nos	2
7. c	Clarifier Sludge Pumps	2	Spacer Disc 1.5-4mm 2	nos	2
			Impeller	nos	1
			Casing Wearing Ring	nos	2
			Set of Bearings (Ball & Roller)	set	1
			O-ring 47.29X 2.62	nos	1
			Pressure screw PG 29	nos	2
			Spacer Disc 8/34.6X 2	nos	4
			Washer 06	nos	1
			O-ring 50.39X 3.53	nos	2
			Oring50.345 x4	nos	2
			Cable Socket Dowel 7105	nos	1
			Cable Gromet 26/19.5X10	nos	1
			Ring 30/33X4	nos	2
			Pressure screw PG 21	nos	1
			Mech Seal MG 1 55S	nos	1
			Mech Seal	nos	1
			Chess Head Screw M 4X8	nos	1
			Busing DKN 160.4	nos	2
			O-ring 405.25X 5.33	nos	2
			Chess Head Screw M 6 x10	nos	1
			Ring 22/25X4	nos	1
			O-ring 54 X 3	nos	12
			cablе Socket cat 7027	nos	2
			O-ring 165x 4	nos	2
			O-ring 365X 5	nos	2
			Cable Gland Ring 26/20X 1	nos	2
			O-ring 106 X 5	nos	2
			Cable Connector EH-460	nos	8
			Cable Gromet 34.7/23X12	nos	2
7. d	Common sludge Balancing tank Pump	3	washer 06	nos	1
			Impeller	nos	1
			Casing Wearing Ring	nos	2
			Set of Bearings (Ball & Roller)	set	1
			O-ring	nos	4
			Cable connector EH460 -10 mm	nos	8
			Cable Socket	nos	1
			Ring 30/37X4	nos	2

			O-ring	nos	1
			washer 08	nos	2
			Mech seal Burgmann	nos	1
			Cable Gromet 34.7/23X2	nos	2
			Protecting Cap	nos	1
			Cable Gromet 26/19.5X10	nos	1
			Cable Gland Ring 35/25/4	nos	2
			Spacer Disc 15.4 mm	nos	2
			O-ring 345.4	nos	2
			Pressure Nut PG 21	nos	1
			O-ring 165 x 4	nos	2
			O-ring 365 x 5	nos	2
			O-ring 405.26 x 5	nos	2
			Mech Seal Burgmann	nos	1
			Cable Bushing DKN 226	nos	2
			Busing DKN 160.4	nos	1
			Cable Socket CAT 7027	nos	2
			Ring 22/25X4	nos	1
			Cable gland Ring 26/20/1	nos	1
			Chesese Head Screw M 4X8	nos	1
			Chesese Head Screw M 8X15	nos	2
			Pressure Screw PG 29	nos	2
7. e	New Sludge transfer Pumps	2	Mech -seal Burgmann MG 055S	nos	1
			Mech -seal Burgmann MG 065 S	nos	1
			Impeller	nos	1
			Casing Wearing Ring	nos	2
			Set of Bearings (Ball & Roller)	set	1
			Busing DKH 226	nos	2
			O-ring 165 x 4	nos	2
			O-ring 405.26 x 5	nos	2
			O ring 106 x 5	nos	2
			O ring 365 x 5	nos	2
			cable Gromet 20/19.5 x10	nos	1
			O-ring 345 x 4	nos	2
			Protecting cap 20x200 Bk	nos	2
			Pressure Screw PG 29	nos	2
			Spacer Disc 8/34.6X2	nos	4
			Ring 30/33 X 4	nos	2
			Spring washer B-4	nos	1
			Cheese Head Screw M4X 8	nos	1

			Cable Socket CAT 7105	nos	1
			Spring washer B-4	nos	1
			Cheese Head Screw M18x 15	nos	2
			Cable Gland Ring 26/20.5	nos	1
			Cable Connector 8mm	nos	8
			Spacer Disc 1.5- 4mm 2	nos	2
			Insulation 8 mm 0.640	nos	1
			Cable Gland Ring 35/25X4	nos	2
			O-ring 47.29 x 2	nos	2
			Cable Gromet 34.7/23X12	nos	2
			Cable Socket 7027	nos	2
			Washer 08	nos	2
			Ring 22/25	nos	1
			Pressure Screw PG21	nos	1
			Bushing DKN 160.4	nos	1
7. f	Supernatant or Centrate Pumps	2	Busing PG 21	nos	3
			Impeller	nos	1
			Casing Wearing Ring	nos	2
			Set of Bearings (Ball & Roller)	set	1
			Pressure Screw	nos	1
			O-ring 37.82 X 1.78	nos	2
			O-ring 54X3	nos	8
			O-ring 70x 3	nos	4
			O-ring 365x5	nos	2
			Cable Gromet 26x 19.5 x10	nos	1
			O-ring 37.82	nos	6
			Spacer Disc 1.5-4 mm	nos	2
			Protecting Cap 20X 200	nos	1
			Busing PG 36	nos	2
7. g	WWRT - 1 Pumps	3	Cable Socket	nos	16
			Impeller	nos	1
			Casing Wearing Ring	nos	2
			Set of Bearings (Ball & Roller)	set	1
			O-ring	nos	2
			Disc 551	nos	2
			Pressures Screw PG 36	nos	4
			Cheese Head Screw 6 mm X 10 mm	nos	1
			Cheese Head washer	nos	6
			Hex Socket screw	nos	6
			Half Round Pin 02X4.5	nos	40

			Spacer Disc 1.5-4 mm	nos	2
			Ring 45X48X 4	nos	2
			Cable Gromet	nos	2
			Bushing PG 21	nos	1
			Cheese Head Screw 4X8	nos	4
			O-ring 70x 3	nos	4
			O-ring 425x10	nos	2
			O-ring506.86X5.33	nos	4
			O-ring 365X10	nos	2
			Mech -seal MG 10655	nos	2
			Socket Screw 14X 45	nos	6
			Spring washer B-8	nos	2
			O-ring 75.87X 262	nos	2
			Pressures Screw PG 21	nos	2
			Protecting Cap 20X 200	nos	1
			Protecting Cap 30X 220 NT	nos	4
			Ring 22 /25X4	nos	2
			Cable Socket	nos	2
			Name Plate	nos	2
			O-ring	nos	2
			Bult Joint	nos	4
			Bult Joint B-3.8/10X17.5	nos	2
			Cable Gland 45/33X2	nos	2
			Ring 22/25X4	nos	1
			O-ring 54X3	nos	12
8	Submersible Mixers				
8. a	Common sludge Balancing tank Sump Mixer	4	kit , gasket	nos	2
			Kit ,Gearbox AMG.55-110	nos	1
			Kit, Bearing, Gearbox, AMG,SRP	nos	1
			Kit, Bearing, Motor, AMG,SRP	nos	2
			Kit, wearing ring AMG,SRP	nos	1
			Kit, Shaft seal AMG,SRP	nos	1
			Kit, Radial sealing , AMG,SRP	nos	2
8. b	Thickened sludge Sump Mixer	2	kit , gasket	nos	1
			Kit, Bearing, Gearbox, AMG,SRP	nos	1
			Kit, Bearing, Motor, AMG,SRP	nos	1
			Kit, wearing ring AMG,SRP	nos	1
			Kit, Shaft seal AMG,SRP	nos	1
			Kit, Radial sealing , AMG,SRP	nos	1
			kit , gasket	nos	1

8. c	Clarifier sludge Sump Mixer	2	Kit ,Gearbox AMG.55-110	nos	1
			Kit, Bearing, Gearbox, AMG,SRP	nos	1
			Kit, Bearing, Motor, AMG,SRP	nos	1
			Kit, wearing ring AMG,SRP	nos	1
			Kit, Shaft seal AMG,SRP	nos	1
			Kit, Radial sealing , AMG,SRP	nos	1
8. d	WWRT - 1 Sump Mixer	4	kit , gasket	nos	1
			Kit ,Gearbox AMG.55-110	nos	1
			Kit, Bearing, Gearbox, AMG,SRP	nos	1
			Kit, Bearing, Motor, AMG,SRP	nos	2
			Kit, wearing ring AMG,SRP	nos	2
			Kit, Shaft seal AMG,SRP	nos	2
			Kit, Radial sealing , AMG,SRP	nos	2
8. e	WWRT - 4 Sump Mixer	4	kit , gasket	nos	2
			Kit ,Gearbox AMG.55-110	nos	1
			Kit, Bearing, Gearbox, AMG,SRP	nos	1
			Kit, Bearing, Motor, AMG,SRP	nos	1
			Kit, wearing ring AMG,SRP	nos	1
			Kit, Shaft seal AMG,SRP	nos	1
			Kit, Radial sealing , AMG,SRP	nos	1
9	Chlorine suit			nos	1

B) Electrical Spares

Sr. No.	Description	Make	Unit	QTY
a)	3.3 kV SWITCH BOARDS			
1	CT - 3:400/1A CL5P10, 15VA	MATRIX	Set	1
2	CT - 3:200/1A CL5P10, 15VA	MATRIX	Set	1
3	Accessories for VCB, 1250A, TP, EDO, 11kV (Evolis) Spring Charge Motor, 230 V AC as below -	SCHNEIDER	Set	1
	a) Closing coil 110V DC	SCHNEIDER	No.	1
	b) Shunt trip coil 100V DC	SCHNEIDER	No.	1
	c) Micro switch for test position ind.	SCHNEIDER	No.	1
	d) Micro switch for service position ind.	SCHNEIDER	No.	1
	e) Micro switch for spring charge ind.	SCHNEIDER	No.	1
	f) Safety shutter	SCHNEIDER	No.	1
4	Dual core PT : core1- 3.3 kV / $\sqrt{3}$ 110V / $\sqrt{3}$, CL-1, 100VA core2 – 3.3 kV / $\sqrt{3}$ 110V / $\sqrt{3}$, CL-3P, 100VA	MATRIX	Set	1
5	Protection Relays (SEPAM 10A)	SCHNEIDER	Nos	1
6	MCB 10A SP C60H `C` CURVE 10 KA	SCHNEIDER	Nos	4
7	Auxiliary contactor			
a	2 NO + 2NC (CA2KN22)	SCHNEIDER	Nos	4

b	4 NO (CA2KN40)	SCHNEIDER	Nos	2
8	Flush mounted high speed tripping relay 86 (VAJH13)	AREVA	Nos	2
9	Trip circuit supervision relay 95 (VAX31)	AREVA	Nos	2
10	Undervoltage relay 27	ABB	Nos	2
11	Spares for Circuit Breaker			
	a. Spring Charging Motor	SCHNEIDER	Nos	2
	b. Tripping & Closing Coil.	SCHNEIDER	Nos	2
	c. Breaker Male Female Plug	SCHNEIDER	Nos	2
12	SPACE HEATER 100W 230/240VAC	TELETEC	Nos	2
13	THERMOSTAT 25-75.C 230/240VAC	RAYCHEM	Nos	2
14	Surge arrestor for 3.3kV (Raychem)	CONZERV	Nos	2
15	ENERGY METER EM6433 WITH RS-485 PORT, ACCURACY:CL-1.0	SCHNEIDER	Nos	2
16	ILPB LED 230V AC AMBER	SCHNEIDER	Nos	5
17	LIGHT LED 110V AC AMBER	SCHNEIDER	Nos	16
18	LIGHT LED 110V AC GREEN	SCHNEIDER	Nos	16
19	LIGHT LED 110V AC RED	SCHNEIDER	Nos	30
20	LIGHT LED 230V AC AMBER	SCHNEIDER	Nos	5
21	LIGHT LED 230V AC BLUE	SCHNEIDER	Nos	5
22	LIGHT LED 230V AC GREEN	SCHNEIDER	Nos	5
23	LIGHT LED 230V AC RED	SCHNEIDER	Nos	5
24	LIGHT LED 230V AC YELLOW	SCHNEIDER	Nos	5
25	PUSH BUTTON BLACK	SCHNEIDER	Nos	5
26	PUSH BUTTON GREEN 1NO	SCHNEIDER	Nos	20
27	PUSH BUTTON RED 1NC+1NO	SCHNEIDER	Nos	20
28	PUSH BUTTON YELLOW	SCHNEIDER	Nos	20
29	Breaker Control switch (salzer/kaycee)	KAYCEE	Nos	2
30	Ammeter selector switch (conzerv)	CONZERV	Nos	2
31	Digitally combined ammeter, voltmeter, frequency meter (EM6459)	CONZERV	Nos	2
32	Buzzer	VAISHNO	Nos	2
33	Light fixture	PHILLIPS	Nos	8
34	Door switch	KAYCEE	Nos	8
35	Toggle switch	KAYCEE	Nos	2
36	HBC fuse links (3.15A, 11kV)	L & T	Nos	8
b)	DISTRIBUTION TRANSFORMERS (KIRLOSKAR SUPPLY)			
1	NCT 1500/5A 5P10,15 VA	KIRLOSKAR	Nos	1
2	Limit switch for HV hinged doors	KIRLOSKAR	Nos	2
3	RTD based transformer protection system (precimeasure)	KIRLOSKAR	Nos	1
4	Bushing MV & LV Side 1No each type	KIRLOSKAR	Nos	2
5	Set of Gasket 1Set for each rating	KIRLOSKAR	Set	1
6	Diaphragm for explosion Vent	KIRLOSKAR	Nos	1

7	Silica Gel Breather	KIRLOSKAR	Nos	1
8	1.1 KV epoxy insulator supports for HT & LT side	KIRLOSKAR	Set	1
c) LV BUS DUCT				
1	Flanged End	SCHNEIDER	Nos.	2
2	Flatwise 90 degree bend	SCHNEIDER	Nos.	2
3	Edgewise 90 degree bend	SCHNEIDER	Nos.	2
4	Straight Length	SCHNEIDER	Nos.	1
d) LV SWITCH BOARDS				
1	SWITCH & SOCKET WITH BOX, 5PIN, 5A, 230VAC	ANCHOR	Nos	2
2	AUXILIARY RELAY CARD,1X4WAY,2C/O, 230VAC	PLA	Nos	1
3	TIMER 225 SER. MULTIMODE 240VAC(SHORT TO START) 2ANDT0	L & T	Nos	1
4	TIMER SERIES 480 S/D 110/240VAC 40SFS0	L & T	Nos	5
5	BREAKER CONTROL SWITCH 25A DP	KAYCEE	Nos	5
6	LIMIT SWITCH WITH SHROUD	ANCHOR	Nos	5
7	SELECTOR SWITCH 2P 2W WITH OFF 16A	KAYCEE	Nos	1
8	SELECTOR SWITCH 2P 2W WITH OFF 6A /10A	KAYCEE	Nos	10
9	SELECTOR SWITCH 2P 3W WITHOUT OFF 6A	KAYCEE	Nos	10
10	TOGGLE SWITCH SP ON/OFF 6A	KAYCEE	Nos	10
11	CONTROL TRANSFORMER TAPE WOUND,2 KVA, 440-415-400V/110V AC , TAPPING IN PRIMARY SIDE	MATRIX	Nos	1
12	CT 100/5A 10VA CAST RESIN METERING CL-1 ID:30MM	MATRIX	Nos	3
13	CT 150/5A 10VA CAST RESIN METERING CL-1 ID:30MM	MATRIX	Nos	3
14	CT 1600/5A 15VA CAST RESIN METERING CL-1 ID:105X47MM(S)	MATRIX	Nos	3
15	CT 200/5A 5VA CAST RESIN METERING CL-1 ID:35MM	MATRIX	Nos	3
16	CT 250/5A 10VA CAST RESIN METERING CL-1 ID:45MM	MATRIX	Nos	3
17	CT 50/5A 5VA CAST RESIN METERING CL-1 WPL	MATRIX	Nos	3
18	CT 60/5A 5VA CAST RESIN METERING CL-1 WPL	MATRIX	Nos	6
19	SINGLE PHASE PREVENTOR RELAY 415V AC AUX. 110V AC	MINILEC	Nos	8
20	CFL TUBE 11 WATT WITH FITTING 230VAC	PHILLIPS	Nos	15
21	AUX RELAY CARD FOR PLC 2C/O 1X4 WAY 230VAC (PART NO 2317432)		Nos	1
22	PLA RELAY 2C/O 110VAC	PLA	Nos	35
23	PLA RELAY 3C/O 110VAC	PLA	Nos	14
24	FAN 8" 230VAC	SCHNEIDER	Nos	5
25	ACB SHUNT RELEASE	SCHNEIDER	Nos	1
26	ACB CLOSING COIL	SCHNEIDER	Nos	1
27	ACB LOCKING DEVICE	SCHNEIDER	Nos	2
28	AUX. CONT. BLOCK FRONT MOUNTED 1NO	SCHNEIDER	Nos	2
29	AUX. CONT. BLOCK FRONT MOUNTED 1NO+1NC	SCHNEIDER	Nos	1
30	AUX. CONT. BLOCK FRONT MOUNTED 2NO	SCHNEIDER	Nos	2
31	AUX. CONT. BLOCK FRONT MOUNTED 2NO+2NC	SCHNEIDER	Nos	5
32	AUX. CONTACTOR 2NO+2NC - 230V AC	SCHNEIDER	Nos	2

33	AUX. CONTACTOR 3NO+1NC -230V AC	SCHNEIDER	Nos	2
34	AUX.CONTACT FRONT 1NO(FAULT)+1NO(AUX.)	SCHNEIDER	Nos	2
35	CAP. DUTY. CONT. 16.7 KVAR TYPE K (1NO+1NC) 220VAC	SCHNEIDER	Nos	1
36	CAP. DUTY. CONT. 20 KVAR TYPE K (1NO+1NC) 110VAC	SCHNEIDER	Nos	2
37	CAP. DUTY. CONT. 25 KVAR TYPE K (1NO+1NC) 110VAC	SCHNEIDER	Nos	2
38	CAP. DUTY. CONT. 25 KVAR TYPE K (1NO+1NC) 220VAC	SCHNEIDER	Nos	2
39	CAP. DUTY. CONT. 60 KVAR TYPE K (1NO+2NC) 110VAC	SCHNEIDER	Nos	1
40	CAP. DUTY. CONT. 60 KVAR TYPE K (1NO+2NC) 220VAC	SCHNEIDER	Nos	2
41	CAPACITOR 15KVAR -MPP-HEAVY DUTY TYPE 440V	SCHNEIDER	Nos	1
42	CAPACITOR 15KVAR MD-XL TYPE 440V AC	SCHNEIDER	Nos	1
43	CAPACITOR 20KVAR -MPP-HEAVY DUTY TYPE 525V AC	SCHNEIDER	Nos	2
44	CAPACITOR 20KVAR MD-XL TYPE 440V AC	SCHNEIDER	Nos	1
45	CAPACITOR 25KVAR -MPP-HEAVY DUTY TYPE 440V	SCHNEIDER	Nos	1
46	CAPACITOR 25KVAR MD-XL TYPE 440V AC	SCHNEIDER	Nos	1
47	CAPACITOR 50KVAR MD-XL TYPE 440V AC	SCHNEIDER	Nos	1
48	CAPACITOR 5KVAR MD-XL TYPE 440V AC	SCHNEIDER	Nos	4
49	CON. COIL 110V AC LX1D8F7 FOR LC1 -D150	SCHNEIDER	Nos	4
50	CON. COIL 110V AC LX1FG110	SCHNEIDER	Nos	4
51	CON. COIL 110V AC LX1FH1102	SCHNEIDER	Nos	2
52	ENERGY METER EM6433 WITH RS-485 PORT, ACCURACY:CL-1.0	CONZERV	Nos	5
53	ILPB LED 230V AC AMBER	SCHNEIDER	Nos	2
54	LIGHT LED 110V AC AMBER	SCHNEIDER	Nos	15
55	LIGHT LED 110V AC GREEN	SCHNEIDER	Nos	15
56	LIGHT LED 110V AC RED	SCHNEIDER	Nos	20
57	LIGHT LED 230V AC AMBER	SCHNEIDER	Nos	1
58	LIGHT LED 230V AC BLUE	SCHNEIDER	Nos	2
59	LIGHT LED 230V AC GREEN	SCHNEIDER	Nos	5
60	LIGHT LED 230V AC RED	SCHNEIDER	Nos	5
61	LIGHT LED 230V AC YELLOW	SCHNEIDER	Nos	2
62	LOAD MONITER EM6436; WITH RS-485 PORT, CL-1.0	CONZERV	Nos	1
63	MCB 10A SP C60H 'C' CURVE 10KA	SCHNEIDER	Nos	5
64	MCB 16A SP C60H 'C' CURVE 10KA	SCHNEIDER	Nos	13
65	MCB 20A DP C60H 'C' CURVE 10KA	SCHNEIDER	Nos	10
66	MCB 20A SP C60H 'C' CURVE 10KA	SCHNEIDER	Nos	1
67	MCB 32A DP C60H 'C' CURVE 10KA	SCHNEIDER	Nos	5
68	MCB 32A FP C60H 'C' CURVE 10KA	SCHNEIDER	Nos	1
69	MCB 63A FP C60H 'C' CURVE 10KA	SCHNEIDER	Nos	1
70	MCB 6A DP C60H 'C' CURVE 10KA	SCHNEIDER	Nos	10
71	MCB 6A SP C60H 'C' CURVE 10KA	SCHNEIDER	Nos	30
72	MCCB 100A TP 25KA NSX100B3P-LV429550	SCHNEIDER	Nos	2

73	MCCB 100A TP 25KA MP. BASED	SCHNEIDER	Nos	1
74	MCCB 100A TP 50KA WITH MP RELEASE	SCHNEIDER	Nos	2
75	MCCB 320A TP 36KA LV432748	SCHNEIDER	Nos	1
76	MCCB 32A TP 25KA NSX100B, LV429555	SCHNEIDER	Nos	2
77	MCCB 32A TP 35KA LV4 29635	SCHNEIDER	Nos	1
78	MCCB 40A TP 25KA NSX100B	SCHNEIDER	Nos	1
79	MCCB 40A TP THERMAL O/C & S/C REL. 36KA	SCHNEIDER	Nos	1
80	MCCB 63A TP 25KA NSX100B3P-LV429552	SCHNEIDER	Nos	6
81	MCCB 63A TP 36KA LV429632	SCHNEIDER	Nos	6
82	MCCB AUXILIARY/FAULT INDICATION CONTACT	SCHNEIDER	Nos	2
83	MCCB EARTH LEAKAGE DEVICE 100/160A 3 POLE MH TYPE NSX100/NSX160	SCHNEIDER	Nos	1
84	MCCB EXTENDED HANDLE 250A	SCHNEIDER	Nos	15
85	MCCB EXTENDED HANDLE 400-630A	SCHNEIDER	Nos	1
86	MCCB EXTENDED HANDLE 400-630A FOR LV5	SCHNEIDER	Nos	1
87	MPCB 0.63-1.0A TYPE GV2-M 100KA	SCHNEIDER	Nos	1
88	MPCB 132-220A TYPE GV7-R 35KA	SCHNEIDER	Nos	1
89	MPCB 2.5-4A TYPE GV2-M 100KA	SCHNEIDER	Nos	2
90	MPCB 20-25A TYPE GV2-P 50KA(1)	SCHNEIDER	Nos	1
91	MPCB 37-50A TYPE GV3-P 50KA	SCHNEIDER	Nos	2
92	MPCB 4-6.3A TYPE GV2-M 100KA	SCHNEIDER	Nos	2
93	MPCB 48-80A TYPE GV7-R 70KA	SCHNEIDER	Nos	1
94	MPCB 60-100A TYPE GV7-R 25KA	SCHNEIDER	Nos	2
95	MPCB 9-14A TYPE GV2-P 100KA	SCHNEIDER	Nos	2
96	MPCB 90-150A TYPE GV7-R 35KA	SCHNEIDER	Nos	1
97	MPCB FAULT DISCRIMINATION 110-240 V AC/DC	SCHNEIDER	Nos	2
98	MPCB FAULT SIGNALLING CONTACT + 1 NO CONTACT (2)	SCHNEIDER	Nos	4
99	MPCB FRONT CONTACT NO+NC	SCHNEIDER	Nos	4
100	MPCB INST. AUX. CONT.	SCHNEIDER	Nos	2
101	O/L ADOPTER LAD-7B106	SCHNEIDER	Nos	1
102	O/L RELAY 4.00-6.00A TYPE LR2-D (DIR. MTG.)	SCHNEIDER	Nos	1
103	PUSH BUTTON BLACK	SCHNEIDER	Nos	10
104	PUSH BUTTON GREEN 1NO	SCHNEIDER	Nos	15
105	PUSH BUTTON RED 1NC+1NO	SCHNEIDER	Nos	10
106	PUSH BUTTON YELLOW	SCHNEIDER	Nos	5
107	PWR CONTACTOR 115A 110V AC LC1D1156F5	SCHNEIDER	Nos	1
108	PWR CONTACTOR 25A TP (AC) TYPE D AC3 (1NO+1NC) 110VAC	SCHNEIDER	Nos	2
109	PWR CONTACTOR 50A TP (AC) TYPE D AC3 (1NO+1NC) 110VAC	SCHNEIDER	Nos	2
110	PWR CONTACTOR 80A TP (AC) TYPE D AC3 (1NO+1NC) 110VAC	SCHNEIDER	Nos	1
111	PWR CONTACTOR 9A TP (AC) TYPE D AC3 (1NO+1NC) 110VAC	SCHNEIDER	Nos	5
112	THREE PHASE AMMETER DM3110, CL-1	CONZERV	Nos	3

113	THREE PHASE VOLTMETER DM3210, CL-1	CONZERV	Nos	3
114	SPACE HEATER 100W 230/240VAC	TELTEC	Nos	15
115	THERMOSTAT 25-75.C 230/240VAC	TEMPTROL	Nos	15
116	SWITCH & SOCKET 16A 230VAC	ANCHOR	Nos	15
117	ACB 1600A, FP, EDO, 42kA	SCHNEIDER	Nos	2
117	ACB 1000A, FP, EDO, 42kA	SCHNEIDER	Nos	1
119	Power capacitor 440AC	SCHNEIDER	Nos.	4
120	Power contactor 50kVAR (1NO +2NC) 230VAC cap duty	SCHNEIDER	Nos.	2
121	Power contactor 25kVAR (1NO +2NC) 230VAC cap duty	SCHNEIDER	Nos.	4
122	Power contactor 15kVAR (1NO +2NC) 230VAC cap duty	SCHNEIDER	Nos.	1
e) LPB's				
1	LPBS (IP65)	SCHNEIDER	Nos	7
2	LPBS (IP54)	SCHNEIDER	Nos	5
f) BATTERY				
1	Battery cells	AMARA RAJA	Nos	2
2	Interconnecting cell Strips	AMARA RAJA	Nos	6
g) BATTERY CHRGER				
1	Thermal WE set -NC U007	Utility appliances	Nos	1
2	Buzzer-12V	Metronix	Nos	1
3	Capacitor polyster E013	SCHNEIDER	Nos	1
4	CT Ring 25/5A Cl-1.0 10VA	Kalpa	Nos	2
5	Bulb holder	Anchor	Nos	1
6	Bulb CFL	Philips	Nos	1
7	PB door lamp NC (refrig switch)	Anchor	Nos	1
8	Space heater 100W	Pyro	Nos	1
9	Fuse base 63A 415/690VAC	Bussman KA63	Nos	1
10	HRC Fuse slow 63A	Bussman 63K07	Nos	1
11	Glass fuse fast 4A	Protrectron	Nos	1
12	Fuse base 1A-6.3A-/600V W/O fuse	Connectwell	Nos	7
13	Glass fuse fast 1A	Protrectron	Nos	6
14	Semiconductor fuse fast 100A	AMARA RAJA	Nos	1
15	HRC fuse slow 32A	AMARA RAJA	Nos	1
16	Facia display 12 point	AMARA RAJA	Nos	1
17	Clustered LED (red) 240V	AMARA RAJA	Nos	4
18	Clustered LED (yellow) 240V	AMARA RAJA	Nos	4
19	Clustered LED (blue) 240V	AMARA RAJA	Nos	4
20	Clustered LED (green) 240V	AMARA RAJA	Nos	4
21	AC ammeter 0.25A/5A	AMARA RAJA	Nos	1
22	PB microswitch I-C/O block	AMARA RAJA	Nos	1
23	PCB MST ACDB 48VDC	AMARA RAJA	Nos	1

24	PCB Relay BD 130VDC - 3C/O	AMARA RAJA	Nos	1
25	PCB CUR LIMIT INT FACE 130VDC	AMARA RAJA	Nos	1
26	EFD module 110 V	AMARA RAJA	Nos	1
27	PCB Reg control 110VDC	AMARA RAJA	Nos	1
28	PCB Gate pulse drive 6P	AMARA RAJA	Nos	1
29	PCB charger 6P	AMARA RAJA	Nos	1
30	PCB Fuse Fail dual DPSS	AMARA RAJA	Nos	1
31	PCB PLA relay 12VDC	AMARA RAJA	Nos	1
32	MCCB 63A (LV510335N)	AMARA RAJA	Nos	1
33	MCB 32A 3P	AMARA RAJA	Nos	1
34	MCB 63A 2P	AMARA RAJA	Nos	1
35	MCB 16A 1P	AMARA RAJA	Nos	1
36	Rotary switch 6A	AMARA RAJA	Nos	1
37	Rotary switch 10A	AMARA RAJA	Nos	1
38	Toggle switch	AMARA RAJA	Nos	1
39	Socket 3pin, 5A	AMARA RAJA	Nos	1
40	Heat Sink PI-80AD	AMARA RAJA	Nos	1
41	Shunt 75A/75mV	AMARA RAJA	Nos	1
42	Terminal block power 110A single	AMARA RAJA	Nos	4
43	Terminal block power 10A single	AMARA RAJA	Nos	2
44	Terminal block power 45A single M5	AMARA RAJA	Nos	8
h)	MV CABLES (3.3 KV)			
1	3C x 240 sqmm	GLOSTER	Mtr.	190
2	3C x 400 sqmm	GLOSTER	Mtr.	100
i)	LV CABLES			
1	3 C x 6 sqmm	GLOSTER	Mtr.	450
2	3 C x 10 sqmm	GLOSTER	Mtr.	185
3	3 C x 16 sqmm	GLOSTER	Mtr.	240
4	3 C x 25sqmm	GLOSTER	Mtr.	320
5	3 C x 95 sqmm	GLOSTER	Mtr.	160
6	3.5 C x 35 sqmm	GLOSTER	Mtr.	340
7	3.5 C x 240 sqmm	GLOSTER	Mtr.	250
8	3.5 C x 300 sqmm	GLOSTER	Mtr.	440
9	4 C x 6 sqmm	GLOSTER	Mtr.	350
10	5 C x 1.5 sqmm,cu	GLOSTER	Mtr.	1200
11	3 C x 2.5 sqmm,cu	GLOSTER	Mtr.	610
12	9 C x 1.5 sqmm,cu	GLOSTER	Mtr.	150
13	4 C x 2.5 sqmm,cu	GLOSTER	Mtr.	330
j)	LIGHTING SYSTEM			
1	2x18W Surface mounted light fixture	BAJAJ	Nos.	4

2	2x28W Suspended light fixture	BAJAJ	Nos.	30
3	2x28W Suspended light fixture	BAJAJ	Nos.	8
4	1x18W wall mounted light fixture	BAJAJ	Nos.	5
5	2x28W Suspended type light fixture	BAJAJ	Nos.	26
6	1x70W wall mounted light fixture	BAJAJ	Nos.	4
7	2x28 Suspended type light fixture	BAJAJ	Nos.	15
8	1x28 Suspended type light fixture	BAJAJ	Nos.	15
9	1x150W wall/pole mounted light fixture	BAJAJ	Nos.	5
10	1x70W pole mounted light fixture	BAJAJ	Nos.	15
11	2x54W Surface mounted light fixture	BAJAJ	Nos.	2
12	1x150W surface mounted light fixture	BAJAJ	Nos.	6
13	1x250W surface mounted light fixture	BAJAJ	Nos.	2
14	2x28W light fixture	BAJAJ	Nos.	2
15	1x250W light fixture	BAJAJ	Nos.	8
16	2x54W light fixture	BAJAJ	Nos.	7
k) Motor protection circuit Breaker with accessories				
1	MPCB (13 to 18) 100KA	SCHNEIDER	Nos.	1
2	MPCB (6 to 10) 100 KA,10 Amp	SCHNEIDER	Nos.	1
3	MPCB (130 to220) 35 KA,220 Amp	SCHNEIDER	Nos.	1
4	MPCB (9 to 14) 100 KA,14 Amp	SCHNEIDER	Nos.	1
5	MPCB (4 to 6.3) 100 KA,6.3 Amp	SCHNEIDER	Nos.	2
6	MPCB (48 to80) 70 KA,80 Amp	SCHNEIDER	Nos.	1
7	MPCB (24 to 32) 50 KA,32 Amp	SCHNEIDER	Nos.	1
8	MPCB (17 to 23) 50 KA,23 Amp	SCHNEIDER	Nos.	1
9	MPCB (16 to 25) 100 KA,25 Amp	SCHNEIDER	Nos.	4
l) Auxiliary relay				
1	CA2KN 22	SCHNEIDER	Nos.	4
2	CA2KN 31	SCHNEIDER	Nos.	5
3	LA1KN 20	SCHNEIDER	Nos.	2
m) Electrically operated Draw out type Air Circuit breaker with accessories				
1	1000 Amp	SCHNEIDER	Nos.	1
2	800Amp	SCHNEIDER	Nos.	1
3	630Amp	SCHNEIDER	Nos.	1
n) Current transformer				
1	600/5 10 VA CL-1	MATRIX	Nos.	2
2	200/5 10 VA CL-1	MATRIX	Nos.	1
3	60/5 5 VA CL-1	MATRIX	Nos.	3
4	200/5 10 VA CL-1	MATRIX	Nos.	1
5	800/5 10 VA CL-1	MATRIX	Nos.	2
6	1600/5 10 VA CL-1	MATRIX	Nos.	2

7	1000/5 10 VA CL-1	MATRIX	Nos.	1
o)	MCCB			
1	100 Amp TP 36 KA	SCHNEIDER	Nos.	2
2	200 Amp TP 25 KA	SCHNEIDER	Nos.	1
3	320 Amp TP 36 KA	SCHNEIDER	Nos.	1
4	630 Amp TP 36 KA	SCHNEIDER	Nos.	1

BRIHANMUMBAI MUNICIPAL CORPORATION

Annexure - VII

Consumable and Auxiliary Services for reference

Approximate annual requirement of Mechanical, electrical, instrumentation spares & consumables with safety items for maintenance of the 900 MLD Plant

Sr. No.	Materiel Description	Unit	Approx. Qty
A)	ELECTRICAL & INSTRUMENTATION CONSUMABLES		
1	70 W Son E HPSV Lamp	No	255
2	BJOS / OMH 150 o/C Copper Ballast	No	83
3	150 W Son THPSV Lamp	No	84
4	BJOS / OMH 70 Ballast	No	199
5	25 Sq mm X 3 Core Aluminium Cable	Mtr	63
6	Glass Fuse 1 A	No	170
7	Glass Fuse 2 A	No	135
8	6 Sq mm Copper Lug	No	45
9	95 Sq mm Aluminium Lug	No	44
10	Earthing Strips 25mm x 3 Mtr	No	30
11	Bajaj 18W 4 Pin PLL Tube	No	45
12	Bajaj T5 Tube 28 W	No	370
13	Cable Tie 200 mm	Pkt	13
14	Cable Tie 300 mm	Pkt	20
15	Phase failure Relay, 415 V Model SIV VMR 7	No	8
16	Copper Wire 2.5 mm	Kg	5
17	Capacitor contactor, LC 10 Mk M7C BC-1433, 110V	No	1
18	CT 60/5 Class 1A	No	6
19	Insulation Tape Yellow	No	49
20	Cable Tie 400 mm	Pkt	12
21	3 Pin Socket 16 A	No	28
22	Switch ON / OFF 16A	No	13
23	Grid Covers 2 MODULE	No	2

24	Metal Boxes 2 Module	No	1
25	GI Junction Box Plate	No	25
26	GI 20mm Bend Plate	No	25
27	GI 25 mm Bend Plate	No	25
28	Panel Lock	No	105
29	ESBEC 230V Indication Lamp (Yellow)	No	36
30	ESBEC 230V Indication Lamp(Red)	No	36
31	ESBEC 230V Indication Lamp (Blue)	No	36
32	Schneider 1M switch Plate & Box	No	40
33	19 mm Earthing Copper clamp	No	100
34	25 mm Earthing Copper Clamp	No	100
35	Tube 36 W	No	2
36	Choke 36 W	No	7
37	2 Module Grid	No	3
38	Cable Tie 100 mm	Pkt	9
39	Schneider 4mm Modul Plate	No	2
40	GI Wire	Kg	2
41	Schneider EM 6433 Meter	No	6
42	Schneider 2 A Single Pole MCB	No	6
43	Ring Type CT 6015	No	6
44	Wire 1.5 (Red)	Roll	1
45	Wire 1.5 (Yellow)	Roll	2
46	Wire 1.5 Red (Black)	Roll	1
47	MCB Channel Patti	No	1
48	Exhaust Fan 4"	No	47
49	Copper clip 19 mm	No	300
50	Copper wire	Kg	70
51	M.S. Powder Coated Box For Lighting Arrestor	No	18
52	Porcelain Insulator	No	17
53	10 Swg tin coated Copper wire	Kg	10
54	Insulation Tape Blue	No	40
55	5 In Comb With Indicator	No	2
56	Copper Clip 25mm	No	100
57	Aluminium label (Size 200mm X 220mm X 20G)	No	4

58	Elemex CBT 110 connector	No	26
59	Float	No	9
60	17 C x 1.5 sq mm ATC con PVC Insl shielded Arm Control Cable	Mtr	15
61	Cable Gland 25 mm	No	7
62	Caseing & Caping Patti X 3 Mtr	No	41
63	Solenoid Coil 220V,110V EDIP 65 AMPS	No	33
64	Funnel 40 mm MS	No	10
65	Chamber Cover 450 mm x450 mm	No	26
66	Salt bridge	No	10
67	DPT	No	1
68	GI Juncation Box Plate	No	75
69	20 mm Gi Bend Plate	No	75
70	25 mm Gi Bend Plate	No	75
71	9 W Battery	No	11
72	Metal Box 6 MODULE	No	4
73	Switch 16 AMP	No	4
74	Socket 16 AMP	No	7
75	Capacitor 2.5 MFD	No	6
76	3/4 Rubber Plug	No	100
77	1.5 Sq mm Wire Polycab	Coil	4
78	Copper Clip 3/4"	No	400
79	Copper Clip 1"	No	200
80	70 W Fitting	No	6
81	Ballast 250 W	No	11
82	Polycab Aluminium Cable 16 SQ mm X 4 Core	Mtr	118
83	Ignitor 70 W	No	26
84	Phase relay S1 VMR 7	No	3
85	Cable 2.5 Sq mm X 3 Core	Mtr	167
86	Power MODULE Comm No-S-322514001-SE	No	3
87	Minilec VSP D2 110 v AC	No	7
88	Minilec SIVMR 7 Relay	No	5
89	Dol Starter For 5 Hp Relay 6 to 10	No	2
90	Dol Starter For 10 Hp Relay 11 to 18	No	1
91	LD 10 MK 11 M7C Capacitor contactor 220 V 50/60 HZ	No	1

92	LC1 DMK 11M7 C Capacitor Contactor	No	2
93	Festo Cover On / Off Indicator	No	26
94	Connector Elemex CBT 250	No	17
95	Kaycee Rotary switch	No	1
96	Rotex solenoid valve 230 V	No	7
97	Amaron 12 V battery	No	8
98	Amber lamp for Panel	No	6
99	DPS0060-090-6 LFO507-514-SA semi rote drive	No	15
100	Lugs 50 mm	No	17
101	MPCB GV7R f 100	No	1
102	PLA Relay 2CO / 3CO 110 V.a.c.	No	5
103	Masibus L 5296 H	No	11
104	MPCBCCV2 -P-21	No	4
105	20 KVR capacitor	No	5
106	LADN -22 Auxiliary block 2NO +2NC	No	5
107	MCCB LV510307	No	6
108	Capacitor 33 MFD 250V	No	9
109	GV 7 RE 220 MCB	No	1
110	Turbidity sensor	No	1
111	Turbidity Bulb	No	3
112	pH sensor	No	1
113	Chlorine sensor	No	1
114	pH solution (4,7 & 10)	set	4
115	Chlorine electrolyte	No	2
116	Chlorine membrane	No	2
117	Turbidity reagents	Set	3
118	Power card Auma	No	1
119	Analog card auma	No	1
120	Poly pack flow meter	No	1
121	Insertion type Flow sensor	No	1
122	Insertion type flow transmitter	No	1
123	Conductivity level switch	No	1
124	DPT	No	1
125	Level transmitter MR 100	No	1

126	Flow transmitter MR 200	No	1
127	Flow sensor	No	1
128	UPS APC PLC	No	2
129	Float switch Pulsator	No	3
130	HMI meglis	No	1
131	Ethernet switch	No	1
132	Media convertor	No	1
133	Patch cord	No	1
134	Pressure transmitter	No	1
135	Pressure transmitter Diaphragm type	No	1
136	Rotameter	No	1
137	Vacuum gauge 3	No	3
138	Pressure gauge	No	2
139	Pressure switch	No	1
140	Level controller	No	1
141	Mobile network	Set Year	1
142	Printing stationery	Lot / year	1
B)	Mechanical Consumables		
1	Oil (Servo 10, 46 , 320 & 410)	Ltrs	180
2	Grease (AP3, Premium & Moly)	Kgs	60
3	Bearing 2311 K/C3, FAG VB	Nos.	8
4	Oil Seal (Thickener& BW)	Nos.	22
5	Oil Separator (Air C)	Nos.	4
6	Air / Oil Filter (Air C)	Nos.	4
7	Bearing 6222-C3 SKF (Centrifuge)	Nos.	1
8	Bearing 9011025/809035 S	Nos.	1
9	Bearings	Nos.	17
10	Enamel Paint	Ltrs	150
11	Thinner / Turpentine Oil	Ltrs	60
12	Exterior Wall Paint	Ltrs	182
13	Exterior Wall Primer	Ltrs	85
14	Red Oxide Primer	Ltrs	83
15	Paint Brush	Nos.	34
16	Roller 4"	Nos.	15

17	SS Nut, Bolt & Washer	Nos.	108
18	GI Nut, Bolt & Washer	Nos.	254
19	CPVC Pipe Fittings	Nos.	82
20	CPVC Pipe	Mtrs.	155
21	GI Pipe Fittings	Nos.	57
22	MS Pipe Fittings	Nos.	19
23	Pu Tube	Mtrs.	667
24	Pu Tube Fittings	Nos.	73
25	Valve for Chlorine Tonner	Nos.	7
26	Semi rote Drive Actuator	Nos.	14
27	Nitrile Gasket APS	Nos.	29
28	Lead Washer	Nos.	352
29	Copper Tube for Chlorine Tonner Connection	Nos.	7
30	Polycarbonate Pipe Hood 100 mm X 1150 mm Long	Nos.	1
31	Polycarbonate Pipe Hood 100 mm X 1850 mm Long	Nos.	1.00
32	Polycarbonate Pipe Hood 100 mm X 700 mm Long	Nos.	2
33	Polycarbonate Pipe Hood 100 mm X 3850 mm Long	Nos.	1
34	Yok	Nos.	12
35	Distance Bush	Nos.	1
36	Polycarbonate Pipe Hood 100 mm X 3850 mm Long	Nos.	1
37	Yok Clamp	Nos.	14
38	Distance Bush	Nos.	1
39	V-Belt 2182 SPA	Nos.	16
40	V-Belt SPA 1030	Nos.	1
41	High Torque Coupling	Nos.	1
42	High Torque Coupling Spring	Set	3
43	O Ring	Nos.	46
44	Canvas Pipe 150 mm X 30 Mtr	Mtrs.	420
45	Canvas Pipe Connector	Nos.	20
46	GI Clamp for Canvas Pipe	Nos.	50
47	Ammonium Solution, 500 ML	Nos.	6
48	Shaft Seal, 96455086, CRN 1-3	Nos.	3
49	Kit Gasket, CRN 103	Nos.	1
50	Chamber Stack, CRN 1-3	Nos.	0.67

C)	Safety Materials & Norms		
1	Safety Shoes	Nos.	90
2	Safety Helmet	Nos.	90
3	Hand Gloves	Nos.	66
4	Barrication Tape	Nos.	3
5	Windsock Cloth	Nos.	3
6	Gumboot	Nos.	15
7	Refiling of Fire Extinguisher	Nos.	4
8	Carbolic Acid	Ltrs	8
9	Full Face Mask D-2000 Canister	Nos.	3
10	Medical check up	Times	2
11	External testing of equipment	times	2
12	External testing of EOT & Hoist	Times	2
13	External air quality	Times	1

BRIHANMUMBAI MUNICIPAL CORPORATION

Annexure – VIII

PREVENTIVE MAINTENANCE SCHEDULE

Note: 1) Preventive Maintenance schedule is attached separately in two sheets.

2) Although efforts are made to keep the Maintenance Schedule updated, every equipment as mentioned in the Annexure-V list & any equipment added subsequently as a part of 900 MLD WTP will also be the part of the Operation & Maintenance Schedule for the successful O & M contractor. Any such updation, in consultation with BMC, to the Operation & Maintenance Schedule will be the responsibility of the successful O & M contractor during the contract period.

SELECTION OF MATERIAL

1. All materials brought on the site of work and meant to be used in the same, shall be the best of their respective kinds and to the approval of the Engineer. The Engineer or his representative will accept that the materials are really the best of their kinds, when it is proved beyond doubt that no better materials of the particular kind in question are available in the market.
2. The contractor shall obtain the approval of the Engineer of samples of all materials to be used in the works and shall deposit these samples with him before placing an order for the materials with the suppliers. The materials brought on the works shall conform in every respect to their approved samples. Fresh samples shall be deposited with the Engineer whenever the type or source of any material changes.
3. The contractor shall check each fresh consignment of materials as it is brought to the site of works to see that they conform in all respects to the Specifications of the samples approved by the Engineer, or both.
4. The Engineer will have the option to have any of the materials tested to find out whether they are in accordance with the Specifications and the Contractor will bear all expenses for such testing. All B bills, vouchers and test certificates, which in the opinion of the Engineer or his representative are necessary to convince him as to the quality of the materials or their suitability shall be produced for his inspection when required.
5. Any materials that have not been found to conform to the specifications will be rejected forthwith and shall be removed from the site by the contractor at his own cost within 24 hours.
6. The Engineer shall have power to cause the Contractors to purchase and use such materials from any particular source, as may in his opinion be necessary for the proper execution of the work.
7. Notwithstanding the source, the sand shall be washed using sand washing machine before use.

SECTION 11
FRAUD AND CORRUPT
PRACTICES

FRAUD AND CORRUPT PRACTICES

- The Applicants and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process. Notwithstanding anything to the contrary contained herein, the Authority may reject an Application without being liable in any manner whatsoever to the Applicant if it determines that the Applicant has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bidding Process.
- Without prejudice to the rights of the Authority under relevant Clause hereinabove, if an Applicant is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bidding Process, such Applicant shall not be eligible to participate in any tender or RFQ issued by the Authority during a period of 2 (two) years from the date such Applicant is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.
- For the purposes of this Clause , the following terms shall have the meaning hereinafter respectively assigned to them:
 - A. **“corrupt practice”** means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bidding Process (for avoidance of doubt, offering of employment to, or employing, or engaging in any manner whatsoever, directly or indirectly, any official of the Authority who is or has been associated in any manner, directly or indirectly, with the Bidding Process or the LOA or has dealt with matters concerning the Concession Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Authority, shall be deemed to constitute influencing the actions of a person connected with the Bidding Process); or save and except as permitted under the relevant sub clause, engaging in any manner whatsoever, whether during the Bidding Process or after the issue of the LOA or after the execution of the Concession Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Concession Agreement, who at any time has been or is a legal, financial or technical adviser of the Authority in relation to any matter concerning the Project;
 - B. **“fraudulent practice”** means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding Process;
 - C. **“coercive practice”** means impairing or harming or threatening to impair or harm, directly or indirectly, any person or property to influence any persons participation or action in the Bidding Process;
 - D. **“undesirable practice”** means (i) establishing contact with any person connected with or employed or engaged by the Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or (ii) having a Conflict of Interest; and

- E. **“Restrictive practice”** means forming a cartel or arriving at any understanding or arrangement among Applicants with the objective of restricting or manipulating a full and fair competition in the Bidding Process.
- F. If the Employer/Financier determines that the Contractor has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days’ notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of relevant Clause shall apply as if such expulsion had been made.
- G. Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with relevant Clause.

For the purposes of this Sub-Clause:

- i. “corrupt practice” is the offering, giving, receiving to soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- ii. “another party” refers to a public official acting in relation to the procurement process or contract execution. In this context, “public official” includes Financier staff and employees of other organizations taking or reviewing procurement decisions.
- iii. “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- iv. “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;
- v. “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;
- vi. “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 the Financier 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
- vii. acts intended to materially impede the exercise of the Financier’s inspection and audit rights provided.
- viii. “party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.
- ix. ”parties” refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, non competitive levels.
- x. a “party” refers to a participant in the procurement process or contract execution.

SECTION 12
PRE BID MEETING

PREBID MEETING (If applicable)

Pre-bid meeting of the interested parties shall be convened at the designated date, time and place. A maximum of three representatives of each Applicant shall be allowed to participate on production of authority letter from the Applicant.

During the course of Pre-bid meeting, the Applicants will be free to seek clarifications and make suggestions for consideration of the Authority. The Authority shall Endeavour to provide clarifications and such further information as it may, in its sole discretion, consider appropriate for facilitating a fair, transparent and competitive Bidding Process.

SECTION 13
LIST OF APPROVED BANKS

LIST OF APPROVED BANKS

1. The following Banks with their branches in Greater Mumbai and in suburbs and extended suburbs up to Virar and Kalyan have been approved only for the purpose of accepting Banker's guarantee from 1997-98 onwards until further instructions.
2. The Bankers Guarantee issued by branches of approved Banks beyond Kalyan and Virar can be accepted only if the said Banker's Guarantee is countersigned by the Manager of a branch of the same Bank, within the Mumbai Limit categorically endorsing thereon that said Bankers Guarantee is binding on the endorsing Branch of the bank within Mumbai limits and is liable to be enforced against the said branch of the Bank in case of default by the contractor/supplier furnishing the Bankers Guarantee.

List of approved Banks:-

A S.B.I. & its subsidiary banks

- 1 State bank of India
- ~~2 State Bank of Bikaner & Jaipur.~~
- ~~3 State bank of Hyderabad~~
- ~~4 State bank of Mysore~~
- ~~5 State bank of Patiala~~
- ~~6 State bank of Saurashtra~~
- ~~7 State bank of Travankore~~

B Nationalized Banks

- 8 ~~Allahabad Bank~~ (Merged in Indian Bank)
- 9 ~~Andhra Bank~~ (Merged in Union bank of India)
- 10 Bank of Baroda
- 11 Bank of India
- 12 Bank of Maharashtra
- 13 Central Bank of India
- 14 ~~Dena Bank~~ (Merged in Bank of Baroda)
- 15 Indian Bank
- 16 Indian Overseas Bank
- 17 Oriental Bank of Commerce
- 18 Punjab National Bank
- 19 Punjab and Sind Bank
- 20 Syndicate Bank
- 21 Union Bank of India

- 22 United Bank of India
- 23 UCO Bank
- 24 ~~Vijaya Bank~~ (Merged in Bank of Baroda)
- 24A ~~Corporation Bank~~ (Merged in Union Bank of India)

C Scheduled & Commercial Banks

- 25 Bank of Madura Ltd.
- 26 Bank of Rajasthan Ltd.
- 27 Banaras State Bank Ltd.
- 28 Bharat Overseas Bank Ltd.
- 29 Catholic Syrian Bank Ltd.
- 30 City Union Bank Ltd.
- 31 Development Credit Bank
- 32 Dhanalakshmi Bank Ltd.
- 33 Federal Bank Ltd.
- 34 Indusind Bank Ltd.
- 35 ICICI. Banking Corporation Ltd.
- 36 Global Trust Bank Ltd.
- 37 Jammu & Kashmir Bank Ltd.
- 38 Karnataka Bank Ltd.
- 39 Karur Vyasa Bank Ltd.
- 40 Lakshmi Vilas Bank Ltd.
- 41 Nedugundi Bank Ltd.
- 42 Ratnakar Bank Ltd.
- 43 Sangli Bank Ltd.
- 44 South Indian Bank Ltd.
- 45 S.B.I. Corporation & Int. Bank Ltd.
- 46 Tamilnadu Mercantile Bank Ltd
- 47 United Western Bank Ltd.
- 48 Vyasa Bank Ltd.

D Scheduled Urban Co-op Bank

- 49 Abhudaya Co-Op Bank Ltd.
- 50 Bassein Catholic Co-Op Bank Ltd.
- 51 Bharat Co-Op Bank Ltd.
- 52 Bombay Mercantile Co-Op Bank Ltd

- 53 Cosmos Co-Op Bank Ltd.
- 54 Greater Mumbai Co-op Bank Ltd.
- 55 Janata Sahakari Bank Ltd.
- 56 Mumbai District Central Co-Op Bank Ltd
- 57 Maharashtra State co-op Bank Ltd.
- 58 New India Co-Op Bank Ltd.
- 59 North Canara GSB.Co-Op Bank Ltd.
- 60 Rupee Co-Op Bank Ltd.
- 61 Sangli Urban Co-Op Bank Ltd.
- 62 Saraswat Co-Op Bank Ltd.
- 63 ShamraoVithalCo-Op Bank Ltd.
- 64 Mahanagar Co-op.Bank Ltd.
- 65 Citizen Bank Ltd.
- 66 Yes Bank Ltd.

E Foreign Bank

- 67 ABM AMRO (N.Y.) Bank.
- 68 American Express Bank Ltd.
- 69 ANZ Grindlays Bank
- 70 Bank of America N.T. & S.A.
- 71 Bank of Tokyo Ltd.
- 72 Bank Indosuez
- 73 ~~Banque National de Paris~~ (BNP Paribas Bank)
- 74 Barclays Bank
- 75 City bank N.A.
- 76 Hong Kong & Shanghai Banking Corporation
- 77 Mitsui Taiyokobe Bank Ltd.
- 78 Standard Chartered Bank
- 79 Cho-hung Bank

SECTION 14

APPENDIX

FORM OF TENDER

To,
The Municipal
Commissioner, Sir,

I / We have read and examined the following documents relating to the work of _____

- i. Notice inviting tender.
- ii. Directions to tenderers (General and special)
- iii. General condition of contract for M & E of the Brihanmumbai Municipal Corporation as amended up to date.
- iv. Relevant drawings
- v. Specifications.
- vi. Special directions.
- vii. Annexure A and B.
- viii Bill of Quantity and Rates

1A. I / We
(full name in capital letters starting with surname), the proprietor / managing partner / Managing Director / Holder of the business, for the establishment / firm / registered company named herein below, do hereby offer to.....
.....
..... Referred to in the specifications and schedule to the accompanying form of contract of the rates entered in the schedule of rates sent herewith and signed by me/ us” (strike out the portions which are not applicable).

1B. I / We do hereby state and declare that I/We, whose names are given herein below in details with the addresses, have not filled in this tender under any other name or under the name of any other establishment /firm or otherwise, nor are we in any way related or concerned with the establishment / firm or any other person, who have filled in the tender for the aforesaid work.

2. I / We hereby tender for the execution of the works referred to in the aforesaid documents, upon the terms and conditions, contained or referred to therein and in accordance with the specifications designs, drawings & other relevant details in all respects.

* At the rates entered in the aforesaid Bill of Quantities and Rates.

3. According to your requirements for payment of Earnest Money amounting to Rs. _____/- (Rs. _____) I/We have deposited the amount through online payment gateways with the C.E. of the Corporation not to bear interest.

4. I / We hereby request you not to enter into a contract with any other person/s for the execution of the works until notice of non/acceptance of this tender has first been communicated to me/us, and in consideration of yours agreeing to refrain from so doing I/we agree not to withdraw the offer constituted by this tender before the date of communication to me/us of such notice of non/acceptance, which date shall be not later than ten days from the date of the decision of the Standing Committee or Education Committee of the Corporation, as maybe required under the Mumbai Municipal Corporation Act, not to accept this tender.(Subject to condition 5 below).

5. I/We also agree to keep this tender open for acceptance for a period of 180 days from the date fixed for opening the same & not to make any modifications in its terms & conditions which are not acceptable to the Corporation.

6. I/We agree that the Corporation shall, without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely, if
 - a. I / We fail to keep the tender open as aforesaid.
 - b. I / We fail to execute the formal contract or make the contract deposit when called upon to do so.
 - c. I / We do not commence the work on or before the date specified by the Engineer in his work order.
7. I/We hereby further agree to pay all the charges of whatsoever nature in connection with the preparation, stamping and execution of the said contract.
8. ~~I / We further agree that, I / we shall register ourselves as 'Employer' with the Bombay Iron and Steel Labour Board' and fulfill all the obligatory provisions of Maharashtra Mathadi, Hamal and other Manual workers (Regulation of Employment and Welfare) Act 1969 and the Bombay Iron and Steel unprotected workers Scheme 1970.~~
9. "I / We have failed in the accompanying tender with full knowledge of liabilities and, therefore, we will not raise any objection or dispute in any manner relating to any action, including forfeiture of deposit and blacklisting, for giving any information, which is found to be incorrect and against the instructions and directions given in this tender.
10. "I/We further agree and undertake that in the event it is revealed subsequently after the allotment of work/contract to me/us, that any information given by me /us in this tender is false or incorrect, I/We shall compensate the Brihanmumbai Municipal Corporation for any such losses or inconvenience caused to the Corporation in any manner and will not resist any claim for such compensation on any ground whatsoever. I/we agree and undertake that I/we shall not claim in such case any amount by way of damages or compensation for cancellation of the contract given to me/us or any work assigned to me/us or is with- drawn by the Corporation,"

Address

Yours faithfully,

.....

Digital Signature of the Tenderer or the Firm

1.....
 2.....
 3.....
 4.....
 5.....

Full Name and private residential address of all the partners constituting the Firm

1.....
 2.....
 3.....
 4.....
 5.....

A/c No.

Name of Bank

Name of branch

Vender No.....

AGREEMENT FORM

Tender/Quotation

Dated..... 20...

DMC(SE) / AMC(P) / MC's sanction / Standing Committee Resolution No.

.....**CONTRACT FOR THE WORKS**.....

This agreement made this day of Two thousand

..... Between

..... inhabitants of Mumbai, carrying on business at

..... in Mumbai under the style and name of

Messrs.(Hereinafter called "the contractor") of the one part and

Shri.

the Dy. Municipal Commissioner (Special Engineering) (hereinafter called "the Commissioner") in

which expression are included unless the inclusion is inconsistent with the context, or meaning

thereof, his successor or successors for the time being holding the office of Dy. Municipal

Commissioner (S. E.) of the Second Part and the Brihanmumbai Municipal Corporation (hereinafter

called "the Corporation") of the third part, WHEREAS the Bidder has tendered for the construction,

completion and maintenance of the works described above and his tender has been accepted by the

Commissioner (with the approval of the standing committee / Education Committee of the

Corporation) NOW THIS AGREEMENT WITNESSETH as follows:-

- 1) In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the General Conditions of Contract for works hereinafter referred to:-
- 2) The following documents shall be deemed to form and be read and constructed as a part of this agreement viz.
 - a) The letter of Acceptance
 - b) The Bid:
 - c) Addendum to Bid; if any
 - d) Tender Document
 - e) The Bill of Quantities:
 - f) The Specification:
 - g) Detailed Engineering Drawings
 - h) Standard General Conditions of Contracts (GCC)
 - i) All correspondence documents between bidder and BMC
- 3) In consideration of the payments to be made by the Commissioner to the contractor as hereinafter mentioned the contractor hereby covenants with the Commissioner to construct, complete and maintain the works in conformity in all respects with the provision of the contract.

4) The Commissioner here by covenants to pay to the Contractor in consideration of the construction, completion and maintenance of the works the contract sum, at times and in the manner prescribed by the contract.

IN WITNESS WHERE OF the parties hereto have caused their respective common seals to be herein to affixed (or have here unto set their respective hands and seals) the day and year above written.

Signed, Sealed and delivered by the contractors

In the presence of

Trading under the name and style of

Full name

Address

Contractors

Signed by Dy. Municipal Commissioner (SE) in the presence of

ExCity/ WS/ES

Dy. Municipal Commissioner (SE)

The common seal of the Brihanmumbai Municipal Corporation was hereunto affixed on the..... 2025 in the presence of two members of the standing committee.

1.

1.

2.

2.

And in the presence of the Municipal Secretary

Municipal Secretary

Note: The successful bidder will have to pay for preparing contract documents, legal charges, stamp duty and stationery charges as mentioned in section 6

ANNEXURE " A "

Name of work: **Operation & Maintenance of 900 MLD Water Treatment Plant at Bhandup Complex.**

1. The Engineer for this work: Hydraulic Engineer
 Dy. Hydraulic Engineer (M & E) Bhandup Complex
 Exe. Eng. (900 MLD WTP) B.C.

2. Estimated cost of Tender:

Sr. No.	Description of work	Total Amount Rs.
1	Civil Work	Not Applicable for item rate basis tender
2	Electrical Work	
3	Total Amount	

3.

Earnest Money (1% of the Estimated cost)	Rs. 25,05,800/-
--	------------------------

4. Contract Period : **3 Years** (Including Monsoon)

5. Free Maintenance period or Guarantee period : Not Applicable

6. Security Deposit

a)	Contract Deposit:	2 % of contract sum (including 4% physical contingencies, if any) + Performance Guarantee as mentioned on Page 35
b)	Retention Money:	2% of contract sum

(Signature of Tender issuing officer)

Signature of authorized person of company

ANNEXURE " B "

(On Rs. 500/- Stamp Paper)

PRE-CONTRACT INTEGRITY PACT Bid no. 2024_MCGM_1097191

The Bidder commits himself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of his bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commits himself to the following:-

1. The Bidder will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BMC, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the Contract.
2. The Bidder further undertakes that he has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BMC or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the Contract or any other Contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the Contract or any other Contract with the Government.
3. The Bidder will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
4. The Bidder will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
5. The Bidder, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the BMC or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
6. The Bidder shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the BMC as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The Bidder also undertakes to exercise due and adequate care lest any such information is divulged.
7. The Bidder commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
8. The Bidder shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

9. The Bidder and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process. Notwithstanding anything to the contrary contained herein, the Authority may reject an Application without being liable in any manner whatsoever to the Applicant if it determines that the Applicant has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bidding Process

For the purposes of this Clause 9, the following terms shall have the meaning herein after respectively assigned to them:

1. “fraudulent practice” means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding Process;
2. “coercive practice” means impairing or harming or threatening to impair or harm, directly or indirectly, any person or property to influence any persons participation or action in the Bidding Process;
3. “undesirable practice” means (i) establishing contact with any person connected with or employed or engaged by the Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or (ii) having a Conflict of Interest; and
4. “restrictive practice” means forming a cartel or arriving at any understanding or arrangement among Applicants with the objective of restricting or manipulating a full and fair competition in the Bidding Process.

Signature of Tenderer / Bidder

Annexure- C

(On Rs. 500/- Stamp Paper)

DECLARATION CUM INDEMNITY BOND

Bid no. 2024 MCGM 1097191

I,of....., do hereby declared and undertake as under.

1. I declare that I have submitted certificates as required to Executive engineer (Monitoring) at the time of registration of my firm / company and there is no change in the contents of the certificates that are submitted at the time of registration.
2. I declare that Iin capacity as Manager / Director / Partners / Proprietors of has not been charged with any prohibitory and /or penal action such as banning (for specific time or permanent) / de-registration or any other action under the law by any Government and / or Semi Government and / or Government undertaking.
3. I declare that I have perused and examined the tender document including addendum, condition of contract, specifications, drawings, bill of quantity etc. forming part of tender and accordingly, I submit my offer to execute the work as per tender documents at the rates quoted by me in capacity as of
4. I further declare that if I am allotted the work and I failed to carry out the allotted work in accordance with the terms and conditions and within the time prescribed and specified, BMC is entitled to carry out the work allotted to me by any other means at my risk and cost, at any stage of the contract.
5. I also declare that I will not claim any charge/damages/compensation for non availability of site for the contract work at any time.
6. I declare that I will positively make the arrangements of the required equipment on the day of commencement or with respect to the progress of the work in phases, as per the instructions of site in-charge.

Signature of Tenderer / Bidder

BANKER'S GUARANTEE IN LIEU OF CONTRACT DEPOSIT

THIS INDENTURE made this _____ day of _____ BETWEEN THE _____ BANK incorporated under the English / Indian Companies Acts and carrying on business in Mumbai (hereinafter referred to as 'the bank' which expression shall be deemed to include its success or sand assigns) of the first part _____ Inhabitants carrying on business at _____ in Mumbai under the style and name of Messer's _____ (herein after referred to as 'the consultant') of the second part Shri. _____ THE MUNICIPAL COMMISSIONER FOR GREATER MUMBAI (hereinafter referred to as 'the commissioner' which expression shall be deemed, also to include his successor or successors for the time being in the said office of Municipal Commissioner) of the third part and THE BRIHANMUMBAI MUNICIPAL CORPORATION (hereinafter referred to as 'the Corporation') of the fourth part WHEREAS the consultants have submitted to the Commissioner tender for the execution of the work of " _____ and the terms of such tender / contract require that the consultants shall deposit with the Commissioner as / contract deposit / earnest money and / or the security a sum of Rs. _____ (Rupees _____)

AND WHEREAS if and when any such tender is accepted by the Commissioner, the contract to be entered into in furtherance thereof by the consultants will provide that such deposit shall remain with and be appropriated by the Commissioner towards the Security - deposit to be taken under the contract and be redeemable by the consultants, if they shall duly and faithfully carry out the terms and provisions of such contract and shall duly satisfy all claims properly chargeable against them there under AND WHEREAS the consultants are constituents of the Bank and in order to facilitate the keeping of the accounts of the consultants, the Bank with the consent and concurrence of the consultants has requested the Commissioner to accept the undertaking of the Bank hereinafter contained, in place of the contractors depositing with the Commissioner the said sum as earnest money and /or security as aforesaid AND WHEREAS accordingly the Commissioner has agreed to accept such undertaking.

NOW THIS AGREEMENT WITNESSES that in consideration of the premises, the Bank at the request of the consultants (hereby testified) UNDERTAKES WITH the commissioner to pay to the commissioner upon demand in writing, whenever required by him, from time to time, so to do, a sum not exceeding in the whole Rs. _____ (Rupees _____) under the terms of the said tender and/or the contract. The B.G. is valid upto _____.

“Notwithstanding anything what has been stated above, our liability under the above guarantee is restricted to Rs. only and guarantee shall remain in force up to unless the demand or claim under this guarantee is made on us in writing on or before all your right under the above guarantee shall be forfeited and we shall be released from all liabilities under the guarantee thereafter”

IN WITNESS WHEREOF

WITNESS (1) _____

Name and _____

address _____

WITNESS (2) _____

Name and _____ the duly constituted Attorney Manager

address _____

the Bank and the said Messer's _____

_____ (Name of the Bank)

WITNESS (1) _____

Name and _____

address _____

WITNESS (2) _____

Name and address _____

For Messer's _____

address _____

have here into set their respective hands the day and year first above written.

The amount shall be inserted by the Guarantor, representing the Contract Deposit in Indian Rupees.

Annexure- D

Rate Analysis

Item Description

Sr. No.	Description of rate analysis parameters	Unit	Quantity	Rate	Amount
1	Basic Material (Rate should be inclusive of all taxes)				
2	Machinery Hire Charges				
3	Labour Type		(Labour components)		
4	Total of all components				
5	Overhead & Profit 15% on 4				
6	Total Rate (4 + 5)				
7	Per unit rate				

Sign & Seal of the Tenderer

PROFORMAS:

PROFORMA- I

The list of similar works as stated in para 'A' of Post qualification during last five years –

PROFORMA- I

Sr. No.	Name of the Project	Name of the employer	Stipulated date of completion	Actual date of completion	Actual Cost of work done
1	2	3	4	5	6

NOTE:

- j. Scanned Attested copies of completion/performance certificates from the Engineer-in-Charge for each work should be annexed in the support of information furnished in the above proforma.
- k. Works shall be grouped financial year-wise.

PROFORMA- II

Yearly turnover of ~~Civil Engineering Construction~~ Works during the last five years.

PROFORMA- II

Sr. No.	Financial year	Annual Turnover of Civil Engineering Works	Updated value to current year	Average of last 5 years	Page no.
1					
2					
3					
4					
5					

Total

NOTE: The above figures shall tally with the audited balance sheets uploaded by the tenderers duly certified by Chartered Accountant.

PROFORMA- III

At least similar work, as stated in para 'A' of Post qualification,.

PROFORMA- III

Name of the Project	Name of the Employer	Cost of the Project	Date of issue of work Order	Stipulated Date of Completion	Actual Date of Completion	Actual cost of work done	Remarks explaining reasons for delay, if any
1	2	3	4	5	6	7	8

Note: Scanned Attested copies of completion/performance certificates from the Engineer-in-charge for each work should be annexed in support of information furnished in the above proforma.

PERSONNEL:

PROFORMA- IV

Sr. No.	Post	Name (Prime Candidate / Alternative)	Qualification	Work Experience	
				No. of Years	Name of Project
1	Project Manager				
2	Quality Control Engineer				
3	Site Engineer				
4	Site Supervisor				

Note : Scanned Attested copies of qualification certificates and details of work experience shall be submitted / uploaded.

MACHINERY: (for special work only)

PROFORMA-V/A

Sr. No.	Equipment	Number	Owned / Leased / Assured access
1	2	3	4

PROFORMA-V/B

Sr. No.	Equipment	Number	Owned
1	2	3	4

Note: The tenderer(s) shall furnish/upload the requisite Scanned Attested documents of ownership/leased of machineries. The undertaking from the suppliers will not be accepted.

PROFORMA-VI/A

Details of Existing Commitments and ongoing works –

PROFORMA-VI/A

Description of work	Place	Contract No. & Date	Name & Addresses of employer	Value of Contract in Rs.	Scheduled date of completion	Value of work remaining to be completed	Anticipated Date of completion
1	2	3	4	5	6	7	8

Note: Scanned Attested copies of completion/performance certificates from the Engineer-in-Charge for each work should be annexed in the support of information furnished in the above proforma.

PROFORMA-VI/B

Details of works for which bids are already uploaded –

PROFORMA-VI/B

Description of work	Place	Name & Addresses of employer	Value of Contract in Rs.	Time Period	Date on which decision is expected	Remarks
1	2	3	4	5	6	7

Note: Scanned Attested copies of certificates from the Engineer-in-charge for each work shall be annexed.

SPECIAL ANNEXURE – I

Name of Work :- Operation & Maintenance of 900 MLD Water Treatment Plant at Bhandup Complex.

Sr. No.	SAC / HSN Code	Item / Work Description	Amount inclusive of all taxes & duties.	Bidder to indicate the amount of applicable taxes								Total amount of Taxes
				CGST		SGST		IGST		Other taxes if any		
				%	Amount	%	Amount	%	Amount	%	Amount	

DELETED

Sign & Seal of Tenderer

Annexure - E

Undertaking for best price

(On stamp paper of Rs. 500/- duly notarized by notary with red seal and registration number)

Tender / Bid No. 2024 MCGM 1097191

To,
The Municipal Commissioner
For Brihanmumbai Municipal Corporation

Sir ,

“I / We(Full Name in capital letters starting with surname), the Proprietor / Managing Partner / Managing Director / Holder of the Business / Manufacturer / Authorized Dealer, for the establishment / firm / registered company , named herein below , do hereby , state and declare that I/We ----- whose names are given herein below in details with the addresses have not filled in this tender under any other name or under the name of any other establishment / firm or otherwise , nor are We in any way related or concerned with any establishment / firm or any other person , who have filled in the tender for the aforesaid work.”

“ I / We do hereby further undertake that, we have offered the best prices for the subject supply / work as per the present market rates. **Further, we do here by undertake and commit that we have not offered / supplied the subject product / similar product / system or sub system in the past one year in the Maharashtra State for quantity variation up to - 50% or + 10 % at a price lower than that offered in the present bid to any other outside agencies including Govt. / Semi Govt. agencies and within the BMC also.** Further, we have filled in the accompanying tender with full knowledge of the above liabilities and therefore we will not raise any objection or dispute in any manner relating to any action, including forfeiture of deposit and blacklisting, for giving any information which is found to be incorrect and against the instructions and directions given in this behalf in this tender.

I / We further agree and undertake that in the event it is revealed subsequently after the allotment of work / contract to me / us , that any information given by me / us in this tender is false or incorrect , I / We shall compensate the Brihanmumbai Municipal Corporation for any such losses or inconvenience caused to the Corporation in any manner and will not resist any claim for such compensation on any ground whatsoever , I / We agree and undertake that I / We shall not claim in such case any amount , by way of damages or compensation for cancellation of the contract given to me / us or any work assigned to me / us or is withdrawn by the Corporation.”

Signature of Tenderer/Bidder

Annexure-F

Irrevocable Undertaking

(on Rs 500/- Stamp Paper with notary)

Sub : Operation and Maintenance of 900 MLD Water Treatment Plant at Bhandup Complex.

Bid No.: 2024_MCGM_1097191

I Shri/Smt _____ aged, _____ years Indian Inhabitant.
Proprietor / Partner / Director of M/s _____
_____ do hereby give Irrevocable undertaking as under:

- 1) I say & undertake that as specified in section 171 of CGST Act, 2017, any reduction in rate of tax on supply of goods or services or the benefit of input tax credit shall be mandatorily passed on to BMC by way of commensurate reduction in prices.
- 2) I further say and undertake that I understand that in case the same is not passed on and is discovered at any later stage, BMC shall be at liberty to initiate legal action against me for its recovery including, but not limited to, an appeal to the Screening Committee of the GST Counsel.
- 3) I say that above said irrevocable undertaking is binding upon me/my partners/company/other Directors of the company and also upon my/our legal heirs, assignee, Executor, administrator etc
- 4) If I fail to compliance with the provisions of the GST Act, I shall be liable for penalty/punishment or both as per the provisions of GST Act.

Whatever has been stated here in above is true & correct to my/our own knowledge & belief.

Solemnly affirmed at

DEPONENT

This day of

BEFORE ME

Annexure-G

Undertaking for Conversant to all sites

(on Rs.500/-Stamp Paper)

Bid no. : 2024_MCGM_1097191

We _____ hereby give the undertaking, that we have inspected the site personally and understood the nature and quantum of work. We are conversant to onsite situation and difficulty and accordingly bid is submitted.

TENDERER'S FULL SIGNATURE
WITH FULL NAME & RUBBER STAMP

Annexure-H

GRIEVANCE REDRESSAL MECHANISM

BMC has formed a Grievance Redressal Mechanism for redressal of bidder's grievances. Any Bidder or prospective Bidder aggrieved by any decision, action or omission of the procuring entity being contrary to the provisions of the tender or any rules or guidelines issued therein, in Packet 'A', 'B' & 'C' can make an application for review of decision of responsiveness in Packet 'A', 'B' & 'C' within a period of 7 days or any such other period, as may be specified in the Bid document.

While making such an application to procuring entity for review, aggrieved bidders or prospective bidders shall clearly specify the ground or grounds in respect of which he feels aggrieved.

Provided that after declaration of a bidder as a successful in Packet 'A' (General Requirements), an application for review may be filed only by a bidder who has participated in procurement proceedings and after declaration of successful bidder in Packet 'B' (Technical Bid), an application for review may be filed only by successful bidders of Packet 'A'. Provided further that, an application for review of the financial bid can be submitted, by the bidder whose technical bid is found to be acceptable/ responsive.

Upon receipt of such application for review, BMC may decide whether the bid process is required to be suspended pending disposal of such review. The BMC after examining the application and the documents available to him, give such reliefs, as may be considered appropriate and communicate its decision to the Applicant and if required to other bidders or prospective bidders, as the case may be.

BMC shall deal and dispose off such application as expeditiously as possible and in any case within 10 days from the date of receipt of such application or such other period as may be specified in pre-qualification document, bidder registration document or bid documents, as the case may be.

Where BMC fails to dispose off the application within the specified period or if the bidder or prospective bidder feels aggrieved by the decision of the procuring entity, such bidder or prospective bidder may file an application for redressal before the "Internal Procurement Redressal Committee" within 7 days of the expiry of the allowed time or of the date of receipt of the decision, as the case may be. Every such application for internal redressal before Redressal Committee shall be accompanied by fee of Rs.25,000/- and fee shall be paid in the form of D.D. in favour of B.M.C.

1st Appeal by the bidder against the decision of C.E./ HOD/ Dean can be made to concerned DMC/ Director who should decide appeal in 7 days.

If not satisfied, 2nd Appeal by the bidder can be made to concerned A.M.C. for decision.

Grievance Redressal Committee (GRC) is headed by concerned D.M.C/ Director of particular department for the first appeal/ grievances by the bidder against the decision for responsiveness / non-responsiveness in Packet 'A', Packet 'B' or Packet 'C' and if not satisfied. concerned A.M.C. will take decision as per second appeal made by the bidder.

This Grievance Redressal Committee (GRC) will be operated through DMC (CPD) office where appeals of aggrieved bidder will be received with fee of Rs. 25,000/- from aggrieved bidder. The necessary correspondence in respect of said applications to the aggrieved bidder & concerned department, issuing notices, arranging of Grievance Redressal Committee (GRC) with D.M.C. and further proceeding will be carried out through registrar appointed by MCGM.

No application shall be maintainable before the redressal Committee in regard of any decision of the BMC relating to following issues:

Determination of need of procurement

The decision of whether or not to enter into negotiations.

Cancellation of a procurement process for certain reasons.

On receipt of recommendation of the Committee, It will be communicate his decision thereon to the Applicant within 10 days or such further time not exceeding 20 days, as may be considered necessary from the date of receipt of the recommendation and in case of non-acceptance of any recommendation, the reason of such non-acceptance shall also be mentioned in such communication.

Additional Municipal Commissioner and/or Grievance Redressal Committee, if found, come to the conclusion that any such complaint or review is of vexatious, frivolous or malicious nature and submitted with the intention of delaying or defeating any procurement or causing loss to the procuring entity or any other bidder, then such complainant shall be punished with fine, which may extend to Five Lac rupees or two percent of the value of the procurement, whichever is higher.

Full Signature of the tenderer
with Official Seal and Address.

Annexure-J

(On Rs. 500/- Stamp Paper)

DECLARATION REGARDING LITIGATION & ARBITRATION HISTORY

Undertaking for the tender of contract “Operation and Maintenance of 900 MLD Water Treatment Plant at Bhandup Complex.”

I, Proprietor of M/s., having office at
....., do hereby declared and undertake as under:

I undertake that, I or my company M/s. have not been charged with any prohibitory and / or penal action such as banning for specific time or permanent / deregistration or any other action under the law by any government and / or Semi Government and / or Government undertaking.

I undertake that, I or my company M/s. have not been framed for any kind of litigation and we do not have any kind of arbitration history against us.

**TENDERER’S FULL SIGNATURE
WITH FULL NAME & RUBBER STAMP**

