Draft TENDER
For

Name of Work : The work of design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at 900 MLD Pumping Station, Bhandup Complex.

Bid No. :- 2024_MCGM_1115902_1

Website: **portal.mcgm.gov.in/tenders**

Office of: **Hydraulic Engineer (M&E) Bhandup Complex,**

First Floor, Filter Annex Building B, 900 MLD WTP,

Bhandup Complex, Khindipada

Mulund (W), Mumbai- 400 082

Prepared by	Verified by	Approved by
Sd/-	Sd/-	Sd/-
A.E.(900MLD)P.S.	E.E.(P&A)M.V.B.C.	Dy. H. E. (M&E)B.C.

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SECTION - I

E - TENDER NOTICE

BRIHANMUMBAI MUNICIPAL CORPORATION

HYDRAULIC ENGINEER'S DEPARTMENT

No. Dy.H.E./B.C./24 / 51/ODN dated 14.10.2024

E-TENDER NO. 2024_MCGM_1115902_1

E–TENDER NOTICE

Subject : The work of design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at 900 MLD Pumping Station, 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 'A' 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 registred (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.

Note: As per circular no.CA/FRG/09 dtd.04.10.2024, all the tenderers shall have to pay online tender fee with GST on Mahatender Portal (mahatenders.gov.in).

Name and location of work	Contract period	Estimated Cost of Project
The work of Design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at 900 MLD Pumping Station, Bhandup Complex.	**12 Months (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.2,50,500.00 (Rupees Two Crores Fifty Lakhs Five 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) Bhandup Complex. 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) (http://mahatenders.gov.in)

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

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

The applicants may wish to visit the site under reference located at Bhandup complex as part of Mulund West, Mumbai and can collect the information of the present status from the department who have invited the bid.

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) (http://mahatenders.gov.in).

Sd/-
E. E. (P & A) M.V. B. C
Bhandup Complex

HEADER DATA		
Tender Document No		2024_MCGM_1115902_1
Name of Organization	:	Brihanmumbai Municipal Corporation
Subject	:	The work of design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at 900 MLD Pumping Station, Bhandup Complex.
Tender fees	:	**Rs.16,500 /- + 18 % GST**
Cost of E-Tender (Estimated Cost)	:	**Not Applicable for item rate tender**
Bid Security Deposit / EMD	:	**Rs. 2,50,500.00**
Date of issue and sale of tender	:	15/10/2024 from 11:00 Hrs
Last date & time for sale of tender & Receipt of Bid Security Deposit	:	11/11/2024 upto 16:00 Hrs
Submission of Packet A, B & Packet C (Online)	:	11/11/2024 **upto 16:00 Hrs**
Pre-Bid Meeting	:	**23 /11/2024 at 12.30 Hrs** **Venue :** Hydraulic Engineer, 1st floor, Engineering Hub Building, Dr. E. Mozes Road, worli Naka, Mumbai 400018
Opening of Packet A	:	**13/11/2024 after 16:00 Hrs.**
Opening of Packet B	:	**13/11/2024 after 16:05 Hrs.**
Opening of Packet C	:	**25/11/2024 after 15:00 Hrs.**
Address for communication	:	**Office of the:-** Dy. Hydraulic Engineer (M&E) Bhandup Complex, First Floor, Filter Annex Building B, 900 MLD WTP, Bhandup Complex, Khindipada, Mulund (W), Mumbai-400 082.
Venue for opening of bid	:	**Online in Dy. Hydraulic Engineer (M&E) (Bhandup Complex)'s office.**

Note: As per circular no.CA/FRG/09 dtd.04.10.2024, all the tenderers shall have to pay online tender fee with GST on Mahatender Portal (mahatenders.gov.in).

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/-

E.E.(P & A) M.V.B.C

Bhandup Complex

SECTION 2 ELIGIBILITY(POST QUALIFICATION) CRITERIA

1 ***Regular, Routine and Maintenance works:***

1.1 Technical Capacity

The tenderer(s) in their own name should have satisfactorily completed the work of similar nature 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)

Three similar **completed** works involes **each** of value not less than **Rs.75,14,250/-**

OR

Two similar **completed** works **each** of value not less than **Rs. 87,66,625/-**

OR

One similar **completed** work of value equal and or not less than **Rs. 1,25,23,750/-**

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 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. 75,14,250/- in last three (3) financial years** immediately preceding the Financial Year in which bids are issued.

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 tenders.

1.3 Similar Experience:

For assessing the technical capacity of Regular, Routine and Maintenance works; Similar work shall mean, the completed work of of design, supply, installation, testing and commissioning of at least 41 MLD/ 110KW capacity Pump Set, along with allied electro-mechanicals equipments in BMC / Semi Govt. / Govt. / Public Sector organizations.

(Past performance certificates, including the work order number and date, cost of the work, contract period, etc. shall be annexed by the bidder while submitting the offer.)

2 For Original and New construction works

2.1 Technical Capacity (Project Experience)

The tenderer(s) in their own name should have satisfactorily executed the work of similar nature 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 in- volved 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 costing 30% of estimated cost.*** OR

b) **Two similar completed works or currently executing two works of similar nature each costing 40% of estimated cost.*** OR

c) **One completed work or currently executing one work of similar nature of aggregate 60% of estimated cost.***

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) equal to 30% of the estimated cost of work in last three (3) financial years immediately preceding the Financial Year in which bids are invited.

- 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.

3.1 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 The 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

4.1. Background

The BRIHANMUMBAI MUNICIPAL CORPORATION 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.

4.2. Preamble:

Present augmentation scheme known as Mumbai-IV Water Supply Project (Middle Vaitarna Project) has developed middle Vaitarna source. Under this scheme a 900 MLD Water Treatment Plant, Pumping Station and Master Balancing Reservoir are constructed at Bhandup Complex in addition to conveyance system. WSP department has handed over 900 MLD Pumping Station to H.E.'s department w.e.f. 09 Oct 2013.Since then the 900 MLD pumping station is in operation. 6 Nos of 247.5 MLD capacity centrifugal pumps and 3 Nos of 82.5 MLD capacity centrifugal Trimmer pumps are installed in 900 MLD Pumping Station for supplying 900 MLD potable water to Mumbai city.

900 MLD pumping station is operating with full capacity of 900 MLD water supply round the clock. 3 Nos of 247.5 MLD capacity centrifugal pumps and 2 Nos of 82.5 MLD capacity centrifugal Trimmer pumps are installed on the south side Header-1 and 3 Nos. of 247.5 MLD capacity centrifugal pumps and 1 No. of 82.5 MLD capacity centrifugal Trimmer pump are installed on the North side Header-2 Leading to old and new MBR at 18 Mtr. head. To supply the water with full capacity, 2 Nos of 82.5 MLD capacity Trimmer pumps are running nearby continuously along with 3

Nos of 247.5 MLD capacity pumps nearby continuously and in emergency 3 Nos of 82.5 MLD capacity Trimmer pumps are running along with 3 Nos of 247.5 MLD capacity pumps to cope with the inflow of the plant. There is provision of 2 Nos. of additional future lines in the pumping station for future expansion. The nearby continuous demand of all the three trimmer pumps makes it difficult to carry out the preventive as well as breakdown maintenance work of these pumps. It is therefore necessary install one additional 82.5 MLD capacity trimmer pump set.

It is therefore proposed to carry out "The work of Design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at New 900 MLD Pumping Station at Bhandup Complex". from the manufacture or their authorized dealers/agent/representative by inviting E-tender through public advertisement in national newspapers and displaying the same on Mahatender Portal on item rate basis from the firms dealing in the line.

4.3 Scope of Work:

The scope of work includes the "Design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at New 900 MLD Pumping Station at Bhandup Complex." as under:

a) The contractor shall design and then submit the General Arrangement Drawing and detailed drawings of pump, motor, valves, actuators, control panel etc. and Q.A.P. for approval BMC before starting the work.

b) Manufacturing of pump ,motor, valves ,actuators, control panel etc. after approval of drawings from BMC, and thereafter Q.A.P. Inspection and testing at manufacturer's works.

c) It is the discretionary power of BMC to witness the testing at works or other wise. If it is to do so, it will be carried out on BMC expenses.

d) SITC of 82.5 MLD (3437.50 $M^3/Hr.$), 18 m head horizontal pump- 1 No. along with 220 KW/3.3KV squirrel cage induction motor- 1 No, all necessary ancillary equipments, pipe work including cooling water system. Pump suction and delivery pipe work along with, dismantling joints, capacitor banks, cables, control panel, gauges, Instrumentation and SCADA etc. as per specifications.

e) The pump shall be provided with SCADA enabled numerical bearing temperature transmitters -2 Nos.,temperature gauges-2 Nos, suction and delivery pressure gauges- 2Nos. delivery pressure transmitter - 1No., cooling water pressure gauge -1No.. The motor shall be provided with SCADA

enabled winding temperature detectors– 6 Nos, D.E. & N.D.E. Side bearing temperature detectors along with local bearing temperature gauges - 4 Nos. The motor shall be provided with cooling water flow indicator .The SCADA enabled Motor air temperature detector as well as local temperature gauge for the same shall be provided.

f) SITC of 800 mm dia. NRV- 1 no. 800 mm dia BFV-1 no. with Actuator of PN1.6 rating, distance piece, Dismantling Joints, reducers, Flanges, Gaskets, Fasteners etc. as per specifications.

g) Power factor correction Capacitors of 140 KVAR - 1 no, 15 KVAR -1 no ,capacity as per specifications with Current limiting series Reactors for motor. power & cables, including termination, cable trays earthing, etc. Fabrication, supply and installation of steel structural assembly to enclosed these capacitors as per the existing M.S Structures.

h) Provision has already been made in the 3.3 KV control panel for future expansion. The contractor shall use these cubicles containing V.C.B., protection relays, indicating meters, bus bars,etc. to connect the H.T. Cables, control and indication wiring for the pump motor set, capacitor bank etc. as per specifications.

i) The supply, laying and termination of 3.3 KV XLPE power cables and 1.1 KV control cables with terminations, cable trays and carrier system as per specifications.

j) Supply, installation and commissioning of Local Push Button Control station, Emergency Stop push button station as per specifications.

k) The supply, laying and termination of signal, control, communication and power supply cables, cable trenches, trays, conduits, lugs, glands, steel supports for trays, accessories etc. required for the above specified systems as per specifications.

l) Provide all necessary input for the 'end to end' tests, which will form part of the per-commissioning procedure for the Instrumentation & Control.

m) Carry out all other work necessary for the satisfactory commissioning of integrated Instrumentation & control, SCADA, Communication and Power supply systems.

n) Supply, installation and commissioning of control and annunciation panel- 1 no. for the Pump Motor set in control room. The panel shall be exactly identical to the existing panels consist of annunciator, temperature scanner, RPM meter, load manager-current, voltage, power factor, frequency, working hours, active& reactive power apparent power, discharge pressure indicator, electronic hooter, Pump start /close switch, guard valve open/close, discharge valve open/close, suction valve open/close push button, Transit indications, pump trip indication, annunciation

test/mute/acknowledge/reset, push button, emergency stop button, auto/ manual switch as per specifications.

o) SITC of Speed, pressure & temperature measuring system, Vibration system, Power & Control cabling work etc as per specifications.

p) Provide "As Built" drawings and Operation & Maintenance manuals and instructions manuals etc. documentation for all above mentioned systems after completion of work.

q) valves are to be remotely or automatically operated, however shall also be provided with manual means such as a hand wheel to open or close the valves manually.

r)The design, installation and erection of the complete system ,instrumentation, SCADA shall be identical to the existing system for the 82.5 MLD (3437.50 M^3/Hr.) trimmer pump already installed in the new 900 MLD pumping Station as per specifications.

s) Necessary Steel work, ladders as required for the equipment.

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

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/Safe Scrpt/ 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 **r**ejected 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 beposted/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 eProcurement 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 eProcurement 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 BMCWardOffices.

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

6.1 Scope of Application

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

6.2 Eligibility of Applicants

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 '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.

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

1 For Regular, Routine and Maintenance works:

1.1 Technical Capacity

The tenderer(s) in their own name should have satisfactorily completed the work of similar nature 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 involes **each** of value not less than **Rs.75,14,250/-**

OR

b) **Two** similar **completed** works **each** of value not less than **Rs. 87,66,625/-**

OR

c) **One** similar **completed** work of value equal and or not less than **Rs. 1,25,23,750/-**

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 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.75,14,250/- in last three (3) financial years** immediately preceding the Financial Year in which bids are issued.
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 tenders.

1.3 Similar Experience:

For assessing the technical capacity of Regular, Routine and Maintenance works; Similar work shall mean, the completed works of Design, supply, installation, testing and commissioning of atleast 41 MLD/ 110KW capacity horizontal split case centrifugal Pump, along with allied electro-mechanicals equipments in BMC / Semi Govt. / Govt. / Public Sector organizations.

~~Building Construction OR Building Maintenance such as repairs/retrofitting /structural repairs OR construction/repairs of Asphalt/ Concrete roads OR laying/rehabilitation of sewer lines along with allied components OR laying/rehabilitation of water pipe lines in Cast Iron/ M.S. pipes / HDPE/ MDPE pipes OR repairs/maintenance/ construction of culverts over nullah.~~

(Past performance certificates, including the work order number and date, cost of the work, contract period, etc. shall be annexed by the bidder while submitting the offer.)

~~**2 For Original and New construction works,**~~

~~**2.1 Technical Capacity (Project Experience)**~~

~~The tenderer(s) in their own name should have satisfactorily executed the work of similar nature 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 in- volved 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 simi- lar nature each costing 30% of estimated cost.***~~

~~**OR**~~

b) Two similar completed works or currently executing two works of similar nature each costing 40% of estimated cost.*

OR

c) One completed work or currently executing one work of similar nature of aggregate 60% of estimated cost.*

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) equal to 30% of the estimated cost of work in last three (3) financial years immediately preceding the Financial Year in which bids are invited.

- 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.

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

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.~~

~~2. Insistence of availability of equipment/plants at a particular distance from site should not be made in the tender documents.~~

6.3 ~~Classes available for Civil Contractors (As per old registration rules)~~

~~Category~~	***~~Description of work~~***
~~Building – C-I~~	~~Building & allied works, pile foundation, precast or cast in situ concrete works, diaphragm walls, ground anchors and allied works, water proofing, leak proofing of various types of structures.~~
~~Bridges – C-II~~	~~Bridges including road over bridges, flyover, foot over bridges, subways & culverts.~~

Roads C-III	Road works of various types including storm water drains culverts and training/ de-silting of nallas, underground storm water drains.
Water Supply C-IV	Laying of water mains, rising mains, water pumping stations, reservoirs, head works.
Sewerage C-V	Laying of sewers, rising main & underground storm water drains, sewage pumping stations, treatment plants, outfalls etc.

6.4 Class available according to the limits of works, amount of solvency, registration fees & amount of standing deposit prescribed for each class (As per old registration rules).

Class	*Works limit*	*Solvency amount*	*Scrutiny fees*	*Registration fees*	*Renewal fees*	*Standing deposit*
	Rs	*Rs In Laes*	*Rs*	*Rs*	*Rs*	*Rs*
AA	Without limit	60	2000	4000	2000	7,50,000.00
A	upto 3 Crores	30	2000	4000	2000	4,50,000.00
B	upto 1 Crore	20	1000	2000	1000	3,00,000.00
C	upto 50 Laes	15	1000	2000	1000	1,50,000.00
D	upto 25 Laes	10	1000	2000	1000	1,12,500.00
E	upto 10 Laes	5	1000	2000	1000	45,000.00

6.5 MINIMUM FINANCIAL AND ORGANIZATIONAL REQUIREMENTS FOR CIVIL ENGINEERING DISCIPLINE AS PER REFRAMED RULES

Sr. No	Class	Upper limit of Tendering	Minimum Solvency	Total Turn-Over in Last 3 Years	Cost of Single Work Completed within Last 3 years	No. of Civil Engineers Employee
1	2	3	4	5	6	7
1	I(A)	Without Limit	200	4000	1500	4 Graduate with 5 years or 1 Graduate with 5 years and 5 Diploma Holder with 7 years experience.
2	I(B)	2500	175	2500	750	3 Graduate with 5 years or 1 Graduate with 5 years and 4 Diploma Holder with 7 years experience.

3	I(C)	1500	150	1500	300	3 Graduate with 5 years or 1 Graduate with 5 years and 4 Diploma Holder with 7 years experience.
4	II	750	100	750	150	2 Graduate with 3 years or 1 Graduate with 3 years and 3 Diploma Holder with 5 years experience.
5	III	300	75	300	90	2 Graduate with 3 years or 1 Graduate with 3 years and 2 Diploma Holder with 5 years experience.
6	IV	150	40	150	50	1 Graduate with 1 year or 1 Diploma Holder with 3 years experience.
7	IV(A)	90	25	90	30	1 Graduate with 1 year or 1 Diploma Holder with 3 years experience.
8	V	50	15	50	15	1 Graduate with 1 year or 1 Diploma Holder with 3 years experience.
9	V(A)	30	8	0	0	1 Fresh Graduate or 1 Fresh Diploma Holder.
10	VI	15	2	0	0	1 Fresh Graduate or 1 Fresh Diploma Holder.
11	VII	10	1	0	0	1 Fresh Graduate or 1 Fresh Diploma Holder.
12	VIII	5	0.5	0	….	1 Fresh Graduate or 1 Fresh Diploma Holder.
13	IX	3	0.25	…..	….	1 Fresh Graduate or 1 Fresh Diploma Holder.

Note:-

1) A Solvency Certificate registered beyond 12 months from the date of its issue will not be considered. Certificate of Solvency (in Hindi/Marathi/English) shall be obtained from scheduled or Nationalise Bank, in the name of the applicant/Firm/Company only.

2) Turn-over shall be supported with work completion/performance certificate of civil works only. In case of works carried out in private organization, T.D.S. Certificate is essential and certificate from License Architect is necessary.

3) Cost of single work criteria will be governed as given in below table

6.6 SINGLE WORK CRITERIA (Rs. In Lakhs) (As per New registration rules)

			Single work criteria(Applicant has to fulfill one of the following criteria)		
Sr. No.	Class	Upper limit of Tendering	Minimum Cost of Single Work Completed (within Last 3 years)	Cost of Two Works Completed costing not less than (Within Last 3 years)	Cost of Three Works Completed costing not less than (Within Last 3 years)

1	2	3	4	5	6
1	I(A)	Without Limit	1500	750	500
2	I(B)	2500	750	400	250
3	I(C)	1500	300	150	100
4	II	750	150	75	50
5	III	300	90	50	30
6	IV	150	50	25	20
7	IV(A)	90	30	15	10
8	V	50	15	8	5

6.7 Equipment Capabilities as required for this work

6.8 Equipment Capability:

		Requirements (No.)		
Sr. No	**Equipments owned/access to**	**Regular and Routine works**	**New and Original Works**	**For other special works**
1	**2**	**3**	**4**	**5**
01	Pumps for dewatering	1(5 BHP)	2 (5HP)	-
02	Submersible pumps for dewatering	2 (5 BHP)	2 (5 BHP)	-
03	Rock breaker with compressor	1	1	-
04	Pipe cutter	2	2	-
05	Ratchet Drilling machine.	2	2	-
06	Roller Vibratory Min. 10T	1	2	-
07	Welding set.	2	2	-
08	Compressor	2	2	-
09	Transit Mixer (Tilted)	1	2	-
10	J.C.B.	1	1	-
11	Excavator / Poclain	-	1	-
12	Dumper / Trucks 8 Cu.m capacity	1	2	-
13	Dumper / Trucks 4 Cu.m capacity	2	2	-

14	C.C.T.V. Camera	-	1	-
15	Mobile D.G.set	1	1	-
16	Plate Vibrator	-	1	-
17	Crane	-	1	

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.

Note: :

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

6.9 Technical Personnel

The contractor and/or its managerial staff should have qualification/experience appropriate to the function they fulfill. The minimum standard shall be increased by asking that at least one number or more of the contractor or its managerial staff have acquired qualifications or work experience to the needs of the contract. The minimum standard may also state that the person or persons responsible for managing the works must have a minimum of no's of years experience working on similar nature of projects.

For fixing requirement of Technical Staff as required for this work.

(A) General Guidelines for Fixing Requirement of Technical Staff

Cost of work (Rs in Crore)	Requirement of Technical Staff			
	Qualification	Number	Minimum Experience (year)	Designation
more than 100	i) Graduate Engineer ii) (Major component)	1	20	Project Manager in major discipline of engineering
	iii)Graduate Engineer	2 + 1	12	Deputy Project Manager in major discipline of engineering
	iv) Graduate Engineer or Diploma Engineer	4 2	5 10	Project / Site Engineer
	v) Graduate Engineer	1 + 1	8	Quality Engineer
	vi) Diploma Engineer	1	8	surveyor

	vii) Graduate Engineer	1 + 1	6	Project Planning / Billing Engineer
more than 50 to 100	i) Graduate Engineer	1	20	Project Manager
	ii) Graduate Engineer	1 + 1	12	Deputy Project Manager
	iii) Graduate Engineer or Diploma Engineer	2 + 1	5 or10	Project / Site Engineer
	iv) Graduate Engineer	1	8	Quality Engineer
	v) Diploma Engineer	1	8	surveyor
	vi) Graduate Engineer	1+1	6	Project Planning / Billing Engineer
More than 20 to 50	i) Graduate Engineer	1	20	Project Manager
	ii) Graduate Engineer or Diploma Engineer	1 + 1	5 or10	Project / Site Engineer
	iii) Graduate Engineer	1	8	Quality Engineer
	iv) Diploma Engineer	1	8	surveyor
	v) Graduate Engineer	1	6	Project Planning / Billing Engineer

Note :

1 **" Cost of work , in the table above , shall mean the aggrement 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 (years)	Rate of Recovery
1	Project Manager with degree	20	Rs.60000/- p.m.
2	Deputy Project Manager with degree	12	Rs.40000/- p.m.
3	Project/Site Engineer(Degree/Diploma)	5 or 10 respectively	Rs.25000/- p.m.
3	Quality Graduate Engineer	8	Rs.25000/- p.m.
4	Surveyor	8	Rs.15000/- p.m.
5	Project Planning/ Billing Engineer	6	Rs.20000/- p.m.

3 Nothing extra need to be added while preparing market rate justified amount of the work if stipulation is made as per above recommended scale of technical staff.

4 Requirement of technical staff and their experience can be varied depending upon cost and complexity of the work by competent authority i.e. Chief Engineer with recorded reasons.

5 ~~The failure in providing experienced technical and /professional ability personnel and even ignoring the instruction of the Engineer-in-charge shall be linked to penalization. Such disobeying attitude of the contractor shall also be reported to Vigilance / Registration and Monitoring department~~

B) General Guidelines for Fixing Requirement of Technical Staff

Requirement of Technical Staff			Minimum Experience (year)	Designation
Cost of the work	Qualification	Number		
~~**10 to 20**~~	~~i) Project Manager with degree in corresponding discipline of Engineering~~			~~1**0**Principal Technical Representative~~
	~~ii) Graduate Engineer~~			~~5Technical Representative~~
	~~iii) Graduate Engineer or Diploma Engineer~~	~~2~~	~~5~~	~~2**P**roject / Site Engineer and Project Planning / billing Engr.~~
~~**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~~
More than 1.5 to 5	i) Graduate Engineer	1	5	Principal Technical Representative
	ii) Graduate Engineer or	1	2	Project / Site Engineer
	Diploma Engineer	1	5	Billing Engineer
~~**Up to 1.5**~~	~~i) 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.	Qualification	Ex	Rate of Recovery

No		per ience (years)	
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.

6.10 TIME PERIOD OF THE PROJECT :

Entire project should be completed and delivered within **12 Months** of time from the date of award of contract 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 **Work Order/ Purchase Order** 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 **12 Months 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.

6.11 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

6.12 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 ac- cepted shall be considered as cancelled and legal steps be taken against the contractor for recovery of the amounts.

6.13 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 to- wards the excess cost incurred by the Department on rectification work.

6.14 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 instalments or in the case of abandonment of the work owning 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 and 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.

6.14.1 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 and 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.

6.15 **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 copies of Documents uploaded online in packet ‘A’

a) Valid Registration Certificate.

b) Valid Bank Solvency Certificate of Minimum Solvency amount of **Rs. 8 Lakhs** 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 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 sup- ported with assessment study of requirements of equipment/plants & machineries to allow the employer to review their proposal. The bidder shall ensure his com- mitment to make the arrangements of the required equipment on the day of com- mencement or with respect to the progress of the work in phases, as per the in- structions of site in charge on an undertaking on Rs.500 stamp paper to be sub- mitted 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 equipments 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 equipments/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 profarma IV

v) Details of works in hand (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 on Rs.500/- stamp paper as per the proforma annexed in Annexure B (Pre-Contract Integrity pact), C (Indemnity bond), D (Best price) and F (irrevokable

undertaking), G (statement that bidder is conversant to onsite situations and difficulty and has inspected the site personally and accordingly the bid is submitted) ~~The undertaking shall also include that, he will submit license certificate from office of labour commissioner as stated in clause 6.32 after issue of work order and before commencing the work, if the work allotted to him.~~

viii) Authorisation letter on the letter head of Manufacturer in original and shall be signed in blue ink as per Format (Annexure 'H')

ix) Pre bid meeting minutes, signed copy of Addendum if any.

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

x) The tenderers shall upload work plan as per the following outline:

1. BAR Chart/ ~~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 set up.~~
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.

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.

Note:

- **If it is found that the tenderer has not submitted required documents in Packet "B" then, the shortfalls will be communicated to the tenderer through e-mail only and compliance re- quired 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.~~

6.16 **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 of the successful Bidder will be discharged when the Bidder has signed the Agreement and furnished the required Security Deposits.
- The Bid Security/ EMD of L-3 and bidder shall be refunded immediately after open- ing of financial bid but, the EMD/ASD submitted by the L-2 bidder will be returned after obtaining Standing Committee Resolution.
- 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 http://mahatenders.gov.in . The bidder shall upload scan copy of online paid EMD along with the bid submission in packet A.

Any bid not accompained 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 circumtances**, 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 concered AMC

Refund of EMD:-

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

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

document.

2 ~~.In case of curable/ non curable defects due to non-fulfillment of requirement of BMC as preseribed & in the event, the bidder becomes non-responsive & the 10% EMD will be foreited 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

ii. Valid Bank Solvency

iii. GST Registration Certificate

iv. Certified Copies of PAN documents and photographs of indi- viduals, owners, etc

v. Partnership Deed and any other documents

vi. Undertakings as mentioned in the tender document.

vii Wrong calculation of Bid Capacity,

b. ~~In Packet 'A' as well as packet B, 02 nos. Of shortfall in curable defect will be allowed & 2 % EMD will be forfeited for each shortfall thereafter.~~

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.

6.17 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 bid- der may refuse the request without forfeiting his Bid Security. A bidder agreeing to the re- quest 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.

6.18 DEFECT LIABILITY PERIOD

- 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 and 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 conceived 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:

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**
	~~**HE department**~~	~~For laying of CI/DI/MS/MDPE water mains upto and including 300 mm dia and allied works as specified~~	~~1 year~~
		~~For laying of M.S.water mains above 300 mm dia and allied works as specified~~	~~3 year~~

- 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.
- In case of any lapse in maintenance, the penalties shall be recovered and if necessary the work shall be got done at the risk and cost of the contractor after the prescribed period. The said cost shall be recovered from the Contract Deposit /Retention money or any other deposits, dues with the M.C.G.M. The contractor shall be liable to pay the excess cost if incurred, punitive damages and face penal action in the case of insufficiency of the aforesaid amount.
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6.19 SECURITY DEPOSIT AND PERFOMANCE GUARANTEE

A. Security Deposit

The security deposit shall mean and comprise of

I) Contract Deposit and

II) Retention Money.

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

II) **Retention Money** ~~– The contractor shall pay the retention money an amount equal to five (5) 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)

Rebate quoted by contractor	ASD Applicable
Up to 12 % Rebate	No ASD
Rebate above 12.00% on estimated cost	At 2.00% of Estimated cost for each % rebate & part thereof in D.D. only

The ASD is calculated as follows:

Additional security deposit = (X/100) x office estimated cost,

Where X=percentage rebate quoted above 12%

The bidder shall submit the ASD as applicable in the form of Demand Draft, which is to be submitted during office hours minimum one day before opening of packet 'C' to respective Head Clerk (Expenditure) of the Engineer in-charge of the HE Division in sealed envelope. If A.S.D. is not applicable then the bidders shall submit sealed envelope mentioning on their letter head "ASD is not applicable".

If the bidders fails to submit the sealed envelope as mentioned above at least one day before opening of packet 'C' within office hours then the EMD of the respective bidders will be forfeited and the company with their Directors / Partner and other companies with the said directors / Partner will be further debarred from any tendering proces for the period of at least 2 years.

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 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.~~

~~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~~

~~One-half (50%) of the additional security deposited (ASD) shall be released after the completion of 50% financial progress of the work.~~

~~The balance ASD shall be released within 30 days of issue of "Certificate of completion" with respect to the whole of the work. In the event the Engineer issues a Taking -over Certificate for a section or part of the Permanant 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 Refund of ASD 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 Circular no 26206, dtd 31.08.2023 (effective from 01.09.2023)

Sr. No.	Contract Value in Rs.	Legal + Stationery Charges Rs.
1.	Up to Rs.50,000/-	Nil
2.	From Rs.50,001/- to Rs.1,00,00,000/-	@0.10% of contract cost +18%GST (Min.Rs.1000/-+GST & Max.10000/-+18% GST)
3.	From Rs.1,00,00,001/- to Rs.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 Rs.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 stationery charges as given in the table above +18% GST extra 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 one hundred rupees for every Rs.1,00,000/- or part thereof, above rupees ten lakh subject to the maximum of rupees 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 all bank guarantee submitted also~~	~~0.50%~~

	~~which are required to be renewed after expiry of time period~~	

ii The successful bidder shall enter into a contract agreement with BMC 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 thereof.

iv. All legal charges and incidental expenses in this respect shall be borne and paid by the successful tenderer.

6.20 IMPORTANT DIRECTIONS

1. All the information uploaded shall be supported by the corroborative documents in ab- sence 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 crea- tion 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 **ae01bc.he@mcgm.gov.in** The subject shall clearly bear the following identification / title: "**Queries / Request for Additional Information: TENDER for "The work of Design, supply, installation, testing and commissioning of 3437.5 m³/h capacity centrifugal Pump Set along with other accessories at 900 MLD Pumping Station, 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 48 hrs **(2 working days)** from the day of opening of packet C **on same BID-Document number for re-quoting** and such development needs to 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

6.21 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 6.21.1 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 6.21.1 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 6.21.2 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, 6.21.1, 6.21.2, 6.21.3 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.

6.22 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.

6.23 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 (Bhandup Complex) / E.E.(P & A) M.V.B.C., the offices of whom are situated at office of Dy.H.E.(M&E) Bhandup Complex, 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.

6.24 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.

6.25 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. enderer 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 M.C.G.M. 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 M.C.G.M. 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 M.C.G.M. 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.

6.25 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.

6.26 SOLVENCY CERTIFICATE

Tenderer(s) shall upload a scanned copy of latest solvency certificate for required amount from a bank of B.M.C 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.

6.27 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.

6.28 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.

6.29 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

1. Preamble:

Present augmentation scheme known as Mumbai-IV Water Supply Project (Middle Vaitarna Project) has developed middle Vaitarna source. Under this scheme a 900 MLD Water Treatment Plant, Pumping Station and Master Balancing Reservoir are constructed at Bhandup Complex in addition to conveyance system. WSP department has handed over 900 MLD Pumping Station to H.E.'s department w.e.f. 09 Oct 2013.Since then the 900 MLD pumping station is in operation. 6 Nos of 247.5 MLD capacity centrifugal pumps and 3 Nos of 82.5 MLD capacity centrifugal Trimmer pumps are installed in 900 MLD Pumping Station for supplying 900 MLD potable water to Mumbai city.

900 MLD pumping station is operating with full capacity of 900 MLD water supply round the clock. 3 Nos of 247.5 MLD capacity centrifugal pumps and 2 Nos of 82.5 MLD capacity centrifugal Trimmer pumps of 18 Mtr. Head are installed on the south side Header-1 and 3 Nos. of 247.5 MLD capacity centrifugal pumps and 1 No. of 82.5 MLD capacity centrifugal Trimmer pump are installed on the North side Header-2 Leading to old and new MBR at 18 Mtr. head. To supply the water with full capacity, 2 Nos of 82.5 MLD capacity Trimmer pumps are running nearby continuously along with 3 Nos of 247.5 MLD capacity pumps nearby continuously and in emergency 3 Nos of 82.5 MLD capacity Trimmer pumps are running along with 3 Nos of 247.5 MLD capacity pumps to cope with the inflow of the plant. There is provision of 2 Nos. of additional inlets and outlets in the pumping station for future expansion beside the existing inlets & outlets. The nearby continuous demand of all the three trimmer pumps makes it difficult to carry out the preventive as well as breakdown maintenance work of these pumps. It is therefore necessary install one additional 82.5 MLD capacity trimmer pump set.

It is therefore proposed to carry out work of "Design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at New 900 MLD Pumping Station at Bhandup Complex." from the manufacture or their authorized dealers /agent/representative by inviting e-tender through public advertisement and displaying the same on BMC website at the 900 MLD pumping station.

2. Scope of Work

The scope of work includes the "Design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at New 900 MLD Pumping Station at Bhandup Complex." as under :-

(a) The contractor shall design and then submit the General Arrangement Drawing and detailed drawings of pump, motor, valves, actuators,control panel etc. and Q.A.P. for approval BMC before starting the work.

(b) Manufacturing of pump ,motor, valves ,actuators, control panel etc. after approval of drawings from BMC, and thereafter Q.A.P. Inspection and testing at manufacturer's works.

(c) It is the discretionary power of BMC to witness the testing at works or other wise. If it is to

do so, it will be carried out on BMC expenses.

(d)SITC of 82.5 MLD (3437.50 M^3/Hr.), 18 m head horizontal pump- 1 No. along with 220 KW/3.3KV squirrel cage induction motor- 1 No, all necessary ancillary equipments, pipe work including cooling water system. Pump suction and delivery pipe work along with, dismantling joints, capacitor banks, cables, control panel, gauges, Instrumentation and SCADA,etc. as per specifications.

(d.i) The pump shall be provided with SCADA enabled numerical bearing temperature transmitters -2 Nos.,Temperature gauges-2 Nos. suction and delivery pressure gauges-2Nos. delivery pressure transmitter-1No., cooling water pressure gauge-1No.. The motor shall be provided with SCADA enabled winding temperature detectors – 6Nos, D.E. & N.D.E. Side bearing temperature detectors along with local bearing temperature gauges -4 Nos. The motor shall be provided with cooling water flow indicator .The SCADA enabled Motor air temperature detector as well as local temperature gauge for the same shall be provided.

(e) SITC of 800 mm dia. NRV- 1 no. 800 mm dia BFV-1 no. with Actuator of PN1.6 rating, distance piece, Dismantling Joints, reducers, Flanges, Gaskets, Fasteners etc. as per specifications.

(f) SITC of 1200 mm dia NRV- 1 no. for main pump M4 with Actuator of PN1.6 rating as per specifications.

(g) Power factor correction Capacitors of 140 KVAR - 1 no, 15 KVAR -1 no ,capacity as per specifications with Current limiting series Reactors for motor. power & cables, including termination, cable trays earthing, etc. Fabrication, supply and installation of steel structural assembly to enclosed these capacitors as per the existing M.S Structures.

(h) Provision has already been made in the 3.3 KV control panel for future expansion. The contractor shall use these cubicles containing V.C.B., protection relays, indicating meters, bus bars,etc. to connect the H.T. Cables, control and indication wiring for the pump motor set, capacitor bank etc. as per specifications.

i) The supply, laying and termination of 3.3 kV XLPE power cables and 1.1 kV control cables with terminations, cable trays and carrier system as per specifications.

j) Supply, installation and commissioning of Local Push Button Control station, Emergency Stop push button station as per specifications.

k) The supply, laying and termination of signal, control, communication and power supply cables, cable trenches, trays, conduits, lugs, glands, steel supports for trays, accessories etc. required for the above specified systems as per specifications.

l) Provide all necessary input for the 'end to end' tests, which will form part of the per-commissioning procedure for the Instrumentation & Control.

m) Carry out all other work necessary for the satisfactory commissioning of integrated Instrumentation & control, SCADA, Communication and Power supply systems.

n) Supply, installation and commissioning of control and annunciation panel- 1 no. for the Pump Motor set in control room. The panel shall be exactly identical to the existing panels

consist of annunciator, temperature scanner, RPM meter, load manager-current, voltage, power factor, frequency, working hours, active& reactive power apparent power, discharge pressure indicator, electronic hooter, Pump start /close switch, guard valve open/close, discharge valve open/close, suction valve open/close push button, Transit indications, pump trip indication, annunciation test/mute/acknowledge/reset, push button, emergency stop button, auto/ manual switch as per specifications.

o) SITC of Speed, pressure & temperature measuring system, Vibration system, Power & Control cabling work etc as per specifications.

p) Provide "As Built" drawings and Operation & Maintenance manuals and instructions manuals etc. documentation for all above mentioned systems after completion of work.

q) valves are to be remotely or automatically operated, however shall also be provided with manual means such as a hand wheel to open or close the valves manually.

r)The design, installation and erection of the complete system ,instrumentation, SCADA shall be identical to the existing system for the 82.5 MLD (3437.50 M^3/Hr.) trimmer pump already installed in the new 900 MLD pumping Station as per specifications.

s) Necessary Steel work, ladders as required for the equipment.

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

SECTION 8
BILL OF QUANTITIES

BRIHANMUMBAI MUNICIPAL CORPORATION

(HYDRAULIC ENGINEER'S DEPARTMENT)

(900 MLD Pumping Station Bhandup Complex)

Schedule of Quantities and Rates

Sub : The work of Design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at 900 MLD Pumping Station, Bhandup Complex.

Sr. No.	Description	Qty	Unit	Rate in Rs. Excluding GST	Total Cost in Rs. Excluding GST
1.	DSITC of complete pump motor set having capacity 3437.5 m^3/h along with 220KW/3.3KV Motor at 18 m head as per specifications and scope of work.	1	Job	To be filled online	To be filled online
2.	DSITC of 800 mm dia NRV- 1 no 1.6 PN rating Multidoors, 800 mm dia BFV- 1 no with actuator 1.6 PN rating , distance pieces, dismantling joints, reducer, flanges, gasket, fasteners, etc on suction and delivery side as per specifications and scope of work .	1	Job	To be filled online	To be filled online
3.	DSITC of capacitor bank, power & control cables, including termination , cable trays, earthing etc as per specifications and scope of work.	1	Job	To be filled online	To be filled online
4.	DSITC of instrumentation panel along with speed, pressure and temperature measuring system,Vibration system ,Power & control cabling work annuciators, cabling, UPS, Relays etc as per specifications and scope of work.	1	Job	To be filled online	To be filled online

In words : Rupees _____

Tenderer's Full Address and Telephone No., if an **Tenderer's Signature and Office Stamp**

Note :

This page does not need any uploading. The values are to be filled in online in Packet “C”. Due to character limitations in packet “C” full description of job cannot be incorporated. The full description can be referred from this page.

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 thereof and the formal agreement if any, executed between the Contractor, Commissioner and the Corporation together with the documents referred to therein 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 thereto 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 finalisation 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 competed 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 re- sponsibility 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.

8.2 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.

8.3 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.

8.4 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 & Undertake 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 & 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 therewith, 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 work place.

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 tende.

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/ equipments 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 B.M.C.

(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 thereof 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.**

(ii) **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 presesnt**

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 givenot less than ten days' notice in writing to the Eng-In-Charge or his subordinate incharge 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 incharge 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 the most substantial and workman like manner and both has 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 and 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 contactor 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 equipments 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 contactor 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 equipments 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 three 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. Variations

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 Programmes 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

(i)The tenderer shall quote inclusive of all taxes other than GST (Excluding GST), Levies, Duties,Cess etc as applicable at the time of bid submission. GST as applicable shall be paid separately on submission of bills/invoice.

Input Tax Credit of GST as available with the bidder will not be claim separately by BMC. However, while quoting the rates benefit of Input Tax Credit or Exemptions shall be passed on to the BMC by way of equivalent reduction in quoted price.

(ii) "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."

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 alongwith 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.

45.0 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; 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.

E) Other Conditions of Contract

50. Labour

50.1 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.

50.2 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

52.1 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.

52.2 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 thereof

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 any way liable for such costs, regardless of the conduct or 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 a rising 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 hereunder.

"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 and (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 into 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 equipments 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 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 fore-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 BRIHANMUMBAI MUNICIPAL CORPORATION 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 Contract or 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 doso 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 shall fail to give notice of the decision as aforesaid within a period of 90 days after being requested as aforesaid, or if the Contractor be dissatisfied with any such decision, then and in any such case the Contractor may within 90 days after receiving notice of such decision or within 90 days after the expirations 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. All disputes or differences in respect of which the decision (if any) of the Commissioner has not become final and binding as aforesaid shall be finally settled by Arbitration as follows:

Arbitration shall be effected by a single arbitrator agreed upon the parties. The arbitration shall be conducted in accordance with the provisions of the Arbitration Act, 1996 or any statutory modifications thereof, and shall be held at such place and time within the limits of Brihan Mumbai as the arbitrator may determine. The decision of the arbitrator shall be final and binding upon the parties hereto and the expense of the arbitration shall be paid as may be determined by the arbitrator. Performance under the Contract shall, if reasonably be possible, continued during the arbitration proceedings and payment due to the Contractor by the Employer shall not be withheld unless they are the subject matter of arbitration proceedings. The said arbitrator shall have full power to open up, review and revise any decision, opinion, direction, certification or valuation of the Commissioner and neither party shall be limited in the proceedings before such arbitrator to the evidence or arguments put before the Commissioner for the purpose of obtaining his said decision. No decision given by the Commissioner in accordance with the foregoing provisions shall disqualify him from being called as a witness and giving evidence before the arbitrator on any matters whatsoever relevant to the disputes or difference referred to the arbitrator as aforesaid. All awards shall be in writing and for claims equivalent to 5,00,000 or more such awards shall state reasons for amounts awarded. The expenditure of arbitration shall be paid as may be determined by arbitrator.

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.

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 he 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 of 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 whole-sale 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: $VL = \frac{(0.88\ R) \times 30}{100} \times \frac{(I - IO)}{IO}$

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

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.

I : = 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
Above12 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 & 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 (l) (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 (l) (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(l)(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:

As per Municipal procedure, payment for the work done / material supplied will be made within 30 days of the date from receipt of bill, subject to satisfactory completion of work / delivery of articles as per contract conditions or otherwise as specified in specific conditions of contract.

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

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 con- cerned 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 con- stituent 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 ef- fect 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 viti- ated. 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 ac- cepted 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

award- ed, shall be jointly and severally liable to the Employer (BMC) for execution of the pro- ject 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 be- half of the Joint Venture firm to deal with the tender, sign the agreement or enter into con- tract 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 ten- der/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 posi- tion 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 Direc- tors 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 fulfilment 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.), atleast 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:

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 undernoted 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 8.e. 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 penalisation 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 Stand- ard 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 8.e 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 con- tract.

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 of 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 an 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 deem 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.

(ii) 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 any time.

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

(iv) When the work is carried on in proximity to any place where there is risk or drawing all necessary equipments 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 mosquitogenic 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

Subject : The work of design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at 900 MLD Pumping Station at Bhandup Complex.

TECHNICAL SPECIFICATION :

I) Horizontal Split Case Pump:-

Pump shall be horizontal centrifugal and axially split casing, double volute, double suction centrifugal type and shall be constructed in a manner that they can be placed on their foundation with their shaft in horizontal axis as per existing arrangement. The delivering capacity of the pump shall be 82.5 M.L.D. considering 24 hours continuous operation of the pump each day.

Existing Pump Details:-

Sr. No.	Description	Details
1	Make	M/s Kirloskar Brothers Ltd.
2	Pump type	24UPH3
3	Total Head	18.0 mtrs.
4	Size (Suction x Delivery)	750 X 600 mm
5	Discharge	3437.50 M3/Hr.
6	Speed	592 RPM
7	Pump Input	180.60 KW
8	Impeller	CF8M
9	NPSHR	3.6 mtr.
10	Shut–off head	24.9 mtr.

Design duties:- Duty condition and design features of the pumps shall be as follows:-

Description	Pump values
Discharge	3437.50 M3/Hr. (82.5 MLD)
Design head	18.00 mtrs.
Speed	Not exceeding 750 RPM
Head range	12.0 to 20.0 mtrs.
Pump efficiency	Shall not be less than 90%

Liquid Data:

Liquid handled	Clear water
Specific Gravity	Nearly 1.0

Design Requirement:

a) The Pump shall be capable of developing the required total head at rated capacity.

b) The Total Head Capacity curve shall be continuously rising towards the shut off. The shut off head shall be at least 115% of the total head. The pump duty point shall be within +/- 10% of BEP.

c) The Power rating of the Motor shall be the larger of the following:

i. The maximum power required by the pump in the entire operating range.

ii. 115% of the power required at the duty point. Power requirement shall be worked out considering 1% negative tolerance on quoted figure of efficiency.

Features of Construction:

- The tenderer shall submit the drawings showing cross section of the pump, mounting arrangement, list of the material and performance curve along with tender document in packet 'A' & 'B'.
- The head- discharge (H-Q) curve of the pump shall have stable characteristics i.e. a continuously rising head characteristics with decreasing discharge over the whole length of operating heads.
- The power – discharge (P-Q) characteristic shall be non-overloading.
- Pump shall have anti corrosive coating.
- Shut off head of the existing pumps is 25 Mtrs. The shut off head of the pump offered by the bidder shall be necessarily same as the shut off head of existing pumps i.e. 25 Mtrs. Similarly, the pump offered should have stable characteristics as that of existing pump. Both the conditions are needed to run the pump in parallel effectively and efficiently with the other pumps.
- Pumps shall run smooth without undue noise and vibration. The velocity of vibration shall be within the limit as per IS Std. Noise level shall be limited to 85 dBA at a distance of 1.5 m.
- Bidder shall submit an undertaking from Pump Manufacturer confirming the technical support for the offered pumps as per the Annexure given at Pg. no.201

- The diameter of the pump shaft and the spacing between bearings shall be designed to ensure that the first critical speed is at least 30% above the operating speed.

Materials of construction shall be as follows:-

a)	Casing	CI IS 210 Gr. FG 260/ S.G. Iron grade 500/7 IS 1865
b)	Impeller	Stainless Steel of CF8M
c)	Shaft	Stainless Steel AISI 410/ 416-ANLD
d)	Shaft Sleeve	Stainless Steel AISI 410/ 416
e)	Casing Ring	Stainless Steel CF8M or better
f)	Flexible Coupling	Forged Steel
g)	Nuts, Bolts and Washers	Stainless Steel 316/ AISI 410

Constructional features:-

i) Casing:

The casing shall be a double volute, double suction design and casing shall have axially split type construction so that one half of the casing can be removed without having to disturb the suction and discharge pipelines. The casing shall be designed to withstand the maximum shut-off pressure developed by the pump at the pumping temperature. Pump casing shall be provided with a vent connection and piping with fittings & valves. Casing drain as required shall be provided complete with drain valves, piping and plugs. Lifting eye bolts, etc. shall be provided for ease of lifting.

ii) Impeller:

The impeller shall be closed and double entry type, made in one piece. It shall be statically and dynamically balanced to grade 6.3 as per ISO 1940 to prevent vibration. The impeller shall be secured to the shaft and shall be retained against circumferential movement properly. It shall be removable type. It shall be designed to withstand all stresses from hydraulic loads, vibration and torques coming in during operation. Impeller wearing ring shall be provided to the impeller with proper locking arrangement.

iii) Wearing Rings:

Casing wear rings shall be provided with proper locking arrangement to prevent rotation and shall be easily removable and replaceable type. The wear rings shall be suitable designed to keep leakage losses to minimum.

iv) Impeller Shaft:

The impeller shaft shall be ground finished on its entire length and shall be protected with sleeves

so that the shaft itself cannot come into contact with the actual liquid pumped. It shall be designed to withstand all stresses from rotor weight, hydraulic loads, vibration and torques coming in during operation.

v)Sleeves:

The wearing surfaces of the pump shaft shall be provided with stainless steel renewable sleeves locked and clamped to the shaft. The sleeves shall be polished and ground on outer surface. They shall be sealed at one end and shall extend beyond the gland. Shaft and shaft sleeve assembly should ensure concentric rotation.

vi) Coupling:

Pin bush type flexible coupling shall be provided between pump and motor. Each half of flexible coupling shall be statistically and dynamically balanced. The couplings of motor and pumps shall be radially and axially aligned. The pump and motor shall be doweled using taper dowels, after completion of alignment/hot alignment.

vii) Stuffing Box:

The Stuffing box shall be an integral part of the casing and shall be fitted with lantern rings. The lantern rings shall be sandwiched between gland packing. The packing inside the stuffing box shall be held in position by glands.

viii) Glands:

The glands shall be designed to facilitate easy removal for inspection and replacement of packing.

ix) Bearings:

Adequate capacity bearings shall be provided to take the unbalanced axial thrust of the pump. The bearing temperature gauges and bearing temperature detector shall be provided for each bearing and it shall be compatible with the existing SCADA and instrumentation system.

x) Pressure gauges and pressure switch:

The proper pressure gauges on suction and delivery side of the pumps shall be provided to measure the suction and delivery pressure of the pump. The digital panel meter (DPM) for delivery pressure shall be provided and pressure shall be indicated on the control panel and the same shall be SCADA enable as per the existing system.

xi) Discharge Branch:

Discharge branch pipe upto the terminal point under this specification shall be flanged and bolted and shall be complete with gaskets, nuts and bolts of shall screwed as specified in data specification sheets. The standard length of the discharge branch pipe pieces shall be dictated from the consideration of case in dismantling and handling.

xii) Suction Branch:

A dismantling joint will be provided at the pump suction, as such, the pipe assembly will be subject to an additional thrust.

xiii) Pump Motor Supports, Base Plate etc.:

The pumps and motors shall have suitable supporting arrangements. The pumps & motors shall be supported on the foundation structure of adequate size.

xiv) Air release:

Automatic air release valve with isolating cock at top of volute casing for air evacuation from the casing where water under positive suction is admitted shall be provided. The air valves shall exhaust all the air before static pressure is generated.

xv) Coatings:

Drinking water approved coating shall be applied to liquid flow passage of pump. Coating should be anti-erosion, anti-corrosion, cathodic protection, anti-galvanic action, energy efficient and Hydrophobic in nature.

To enhance the pump efficiency, coating should be applied on pump Impeller and bowl. The offered efficiency increase due to improved surface finish

Coating should be preferably manufactured in India. Surface finish of coating shall be max 0.5 microns Ra preferably or less than values as mentioned in Hydraulic Institute standard, HI 20.3 – 2010.

Coating Specifications – DFT 1.00 mm tolerance minus 100 microns.

i) Base coat – Medium viscosity pre accelerated Bisphenol. A polyester glass flake compound cured by the addition of organic compound.

ii) Intermediate coat – A heavy built glass flake coating based on low reactivity, Bisphenol. Polyester resin pre accelerated. A two pack resin system sing organic peroxide.

iii) Top coat – A cold cured highly modified chemically resistant, two pack resin system filled with stabilizing enforcement to reduce cold flow characteristics. The coating should have good gloss with waxy appearance when cured and surface roughness of minimum 0.09 microns.

The coating should be compatible for potable water and certified by national government certified water laboratory. Documentary evidence for the same to be uploaded in Technical Envelope which is mandatory. The coating also shall ensure sustainability of hydraulic efficiency over longer period.

Tests And Inspection :-

All the test certificates shall be submitted to BMC along with delivery of material.. The testing of pump to complete the works shall be done as detailed in this specification. The following tests and quality control measures shall be carried out: -

i) DP Test on impeller & wear rings. Report shall be submitted to BMC.

ii) Ultrasonic test of impeller shaft. Report shall be submitted to BMC.

iii) Dynamic balancing of various components of rotary assembly namely couplings, impellers, etc. All rotating components of the pumps shall be dynamically balanced at reduced speed of rotation as per suitable Standard by manufacturer.

iv) Performance Test: - Performance test is to be conducted to cover the entire range of operation of the pumps. These shall be carried out to a span of at least 125% of rated capacity up to pump shut off condition. A minimum of five combinations of head and capacity are to be achieved during testing to establish the performance curves including the design capacity points and the two extremities of the range of operation specified.

v) Hydro test of pressure parts: - The manufacturers shall conduct all tests required to ensure that the equipment furnished shall conform the requirements of this specification and in compliance with requirements of applicable Codes and Standards. The pump is to be tested on the test bed at manufacturer's workshop in presence of contractor's representatives. All the test certificates shall be submitted to BMC along with delivery of material.The calibration certificate of measuring devices used during tests shall be submitted along with test report.

II) SQUIRREL CAGE INDUCTION MOTOR:-

Existing motor details:

Sr. No.	Description	Details
1	Make	M/s Crompton Greaves Ltd.
2	KW/HP	220/295
3	RPM	592
4	Frame	UWC 450 W
5	Insulation class	F
6	Enclosure	CACW(IP55)
7	voltage	3.3 KV
8	Current	59 Amps.
9	Duty	S1 rating

Site Operating Conditions:

Altitude of site above sea level	90 THD
Ambient temperature	Average over 24 hours : 35°C
Relative humidity	Up to 98%

Constant speed motors for driving pumps shall be of the squirrel cage induction type suitable for the electricity supply.

Electrical Supply:

(a) Mains supply	3.3 kV 3 phase, 50 Hz
(b) Normal limits of voltage fluctuation	±10%
(c) Normal limits of frequency variation	±5%
(d) Auxiliary power supply	220V ±10% single phase 50 Hz and 110V ±15% d.c.

Starting Performance:

Motors shall be energy efficient. Motors shall be capable of giving rated output without reduction in expected life span when operated continuously under following supply condition:

Rated voltages of 3300 volts with ± 10.0% variation. Rated frequency of 50 Hz with ± 5% variation.

Combined voltage & Frequency variation ± 10% absolute.

Motors shall be suitable for full voltage direct-on-line starting. Direct-on-line starting current at rated voltage shall not exceed 6 times the full load current for motor. The motor shall be designed to permit at least three starts per hour equally spaced during normal running conditions. The motor shall also be suitable for two starts in succession followed by a 30 minutes' interval before attempting another starting sequence.

Motor shall be designed for minimum noise level in accordance with latest revision of IS12065 or equivalent applicable standard. The noise level shall not exceed 90 dB measured from a distance of 1.5 meter.

Power Rating:

The rated motor power output shall be not less than 115% for water pump set of the maximum power absorbed by the pump over the entire pump operating range specified. The foregoing power

margin shall not be reduced by any factors such as tolerances of pump set performance or accuracy of test equipment.

Running:

Not withstanding the voltage fluctuation specified in Clause 2.3 above, motors shall be capable of operating continuously at any voltage in the range 90-110% of its rated voltage.

Design And Construction:

a) Enclosure:

The enclosure shall have a degree of protection of IP 55 (totally enclosed). The enclosure shall be sturdy and shall permit easy removal of any part of the motor for inspection and repairs.

The motor frame shall be designed to facilitate easy removal of rotor assembly and to permit access from both motor ends for cleaning and rewinding of the stator winding and replacement of the complete stator core assembly.

b) Ventilation and Cooling:

The motor air inlet shall normally be arranged to draw ventilating air directly from the surrounding. The motor fan for outlet air shall be designed so that at the worst operating condition and rated output, the actual operating temperature of the stator winding will not exceed the value specified for Class B insulation and the external surface temperature of parts liable to be contacted with will not be more than 65°C at 45°C ambient.

The motor ventilating fan shall be directly driven by the motor itself viz. no auxiliary power supply required. The fan shall be designed to take into account the air resistance of the air ducting and the back pressure at the discharge outlet.

c) Thermal Insulation and Characteristic:

The motor windings and accessories shall be designed to Class F insulation with Class B maximum temperature rise limit. Any joints in the motor insulation such as coil connections or between slots and winding sections shall have strength equivalent to that of slot section of the coil.

d) Motor Stator and Winding:

Motors shall be designed to permit high voltage tests in accordance with latest relevant standards to be conducted after erection on site.

End windings shall be rigidly braced to prevent their movement at the specified service duty. Semi-resin mica tape and hyper-sealing tape shall be used for insulation of winding overhang and jumpers. Heat shrinkable insulating material shall not be used as Class F motor insulation.

The stator winding shall be insulated by vacuum pressure impregnation (VPI) process. Windings

shall have a surface treatment to prevent deterioration due to adverse environmental conditions and for corona shield.

Winding coils shall be of preformed type. Stator slots shall be of open type to facilitate easy insertion of replacement windings.

The Stator winding shall be of copper only.

e) Rotor:

i) The rotor bars shall be of cage type with copper/copper alloy winding. Aluminium will not acceptable. The bars shall not be insulated in the slot portion between the iron core lamination and the bars.

ii)Dynamic Balancing:

The rotor shall be dynamically balanced as per latest relevant standards.

f) Radial Air Gap:

The nominal air gap between stator and rotor of motors shall take into consideration, all causes of eccentric positioning of the rotor in the stator bore and the deflection of the shaft due to unbalanced magnetic pull. The Radial Air gap shall be maintain as per applicable standard.

g) Bearings:

The motor manufacturer shall examine the external axial and radial load imposed from the shaft and the driven device in the selection of type of bearing to be used. Consideration shall also be given to bearing service life, noise, losses and maintenance convenience in the selection of bearings.

The motor bearing shall be so constructed that the loss of lubricating fluid is kept to a minimum and greasing shall be possible without any dismantling operation. The bearing seal shall prevent dirt and water from getting in to the motor. Bearing lubricant shall not find access to motor winding. The bearing shall permit running of the motor in either direction of rotation. Lubricants shall be selected for prolonged storage and normal use of motors in tropical climate and shall contain corrosion and oxidation in inhibitors. Motor bearings supplied shall be suitably protected from damage by any stray currents . Bearings shall be adequately lubricated by grease and sealed against leakage of lubricant along the shaft. A dial type thermometer along with accessories for indication of bearing temperature be provided.

The bearing assembly shall be designed to prevent the entry of dust or water. It shall be provided with a separate grease nipple to serve each lubricating point and a grease relief device .

Housings for ball/roller bearings shall be packed with approved lithium-based grease at the time of assembly.

Grease nipples, oil cups and dip sticks shall be readily accessible without removal of guarding. Nipples shall be accessible on the plant floor or motor platform if provided.

h) Motor Foundation:

A motor bedplate shall be adequately braced to keep vibrations and misalignment within satisfactory limits and confirming to relevant IS. The base plate shall be blue matched to 80% with motor feet. The motors shimming shall take into account the hot growth in working condition plus 0.25 mm min shimming allowance.

i) Lifting:

The complete motor shall be capable of being dismantled or reassembled by use of an electric overhead crane. Heavy parts of the motors shall be suitably arranged for lifting and handling during erection and overhaul.

Provision For Cabling And Termination:

a) Cabling Provision at Bed plates:

Where necessary, provision of a slot shall be made in the steel bedplate to facilitate vertical entry of cables to the bottom of the motor terminal box.

b) Cabling Provision at Cable Boxes:

The cable terminal box for the horizontally mounted motor shall be positioned at the side of the motor. Cable entry to horizontal motor will be from bottom of cable box. An earthing terminal with the same current carrying capacity as the line terminals with a minimum size suitable for 65 x 10 mm M.S. galvanised strip shall be provided. A tapped hole with screw external to the cable box would be acceptable.

c) Cabling Provision at Motor Casing:

Terminal leads from cable box to the winding shall be adequately braced to withstand the forces produced by maximum fault current. The cross sectional area of terminal leads shall be as per relevant standard. The phase windings shall be accessible for testing.

Studs shall be so fixed as to prevent the terminal leads from turning when the nuts are tightened down. Means shall be provided to prevent slackening of cable connections due to vibration.

d) Motor Supply Cables:

Motor termination shall be suitable for connecting the power supply cable of size given in Table 4, based on the thermal rating of installation in enclosed cable trenches,

Motor Supply Cables:

Cable Type- Stranded Copper XLPE 3 core 3.3 kV	Cable Size (mm2)	Max. Motor Full Load Current (A)
	150	205

e) Motor Termination Boxes:

i) Design and Construction:

The terminal boxes shall be of weather proof construction designed to eliminate entry of dust and water. Gaskets of neoprene or or equivalent shall be provided at cover joints and between box and motor frame.

ii) Cable boxes shall have the following major design features:

a) Appropriate phase markings as per IS 325 shall be provided inside terminal box.

b) The termination chamber shall be bolted to the motor casing such that its sides are vertical, with high tensile steel studs and nuts.

c) The cable end box shall be of dry type suitable for cable termination in Raychem heat shrinkable sleeving. It shall be fitted with a removable horizontal gland plate suitable for bottom cable entry. No cable joint is permitted in the end box.

d) The terminals shall be stud type with necessary plain washers, spring washers and check nuts. These shall be substantially designed for current carrying capacity and shall ensure phase to phase and phase to ground clearance. termination chamber shall have an insulated assembly and be fitted with 3 stud terminals in insulating mouldings of epoxy resin, glass fiber, polyester or approved similar material. Porcelain insulators and/or cable-coupler type terminals shall not be used.

e) Separate front access detachable cover plates shall be supplied for the end box and termination chamber.

f) A plastic shroud or barrier having a minimum breakdown voltage of 20 KV shall be fitted for each cable terminal.

g) The terminal box shall be phase segregated

h) The terminal boxes shall be large enough to facilitate easy connection of cable.

Bolted type of terminals suitable for connecting lugs shall be provided. Cable gland,lugs and hardware shall be as specified.

Protective Equipment & Instruments:

a) Winding Temperature Detectors:

At least six 3-wire resistance temperature detectors (RTD) of the same characteristics suitably distributed around the stator shall be installed and positioned at points These positions are, e.g., two detectors between coil sides within the slots, two detectors under the coils at the bottom of the slots and two detectors between the coils and slot wedges and they shall be far apart from each other. Detector leads shall be brought out to an auxiliary cable box such that any RTD may be isolated for testing.

- The RTD monitoring units for each motor shall have the following features:

(i) Alarm contacts to operate at 120°C and adjustable for individual detecting elements.

(ii) Trip contacts to operate at 140°C and adjustable for individual detecting elements.

(iii) A 4-20mA output signal corresponding to the measured temperature with adjustable span and zero.

b) Bearing and Exhaust Air Temperature Detectors:

Temperature sensors (3 wire RTD) shall be installed for each bearing and for the motor exhaust air for high temperature alarm and trip operation. The same shall be wired to the terminal box for scanning.

Insulated thermometer pockets shall be provided to enable easy insertion or removal of temperature detector.

- The bearing/exhaust air temperature monitoring units for each motor shall have the following features:

(i) Alarm contacts and trip contacts adjustable for individual detecting elements.

(ii) A 4-20mA output signal corresponding to the measured temperature with adjustable span and zero.

(iii)The motor bearing shall be provided with dial type temperature indicators for local indication.

(iv)The terminal box where all the above mentioned connections are terminated shall be complete

with internal wiring and provided with cable glands and shall be provided with terminals for receiving power supply to various accessories.

c) Vibration Detector:

At least two vibration detectors shall be installed for motors of 750 kW and above to initiate alarm and tripping of pump set when a preset vibration level is exceeded. The detectors shall be located on different bearings and at perpendicular axes and of acceleration sensitive type.

The detector shall be designed to prevent false alarm due to transient shocks by incorporating a time-delay device of two seconds.

d) Anti-condensation Heaters:

Anti-condensation heaters shall be fitted and shall be suitable for operation on a 240V, single phase, 50 hertz supply. The space heater connections shall be brought out to suitable terminals in a separate terminal box for connection to supply cable.

e) Motor water cooling connection:

i) A 50 mm dia connection shall be fitted provided on the delivery flange, with an isolating valve flow switch to provide water to the motor for the cooling system. A flow switch shall be provided in this system.

ii) A 50 mm connection with a valve shall be provided on the suction pipe for the return flow.

iii) The valves at the 50 mm connection shall be capable of being locked "ON" or "OFF" and shall be rated 1.6 PN

iv) The flow switch shall be calibrated in LPM. Potential free contacts of required rating to initiate NO FLOW alarm/trips shall be provided.

Inspection And Testing:

i) Inspection and Testing at the Manufacturer's Works:

The calibration certificate of the Indicating meters (ammeter, voltmeter, wattmeter etc.) and measuring devices (C.T., V.T. etc.) used during tests shall be shall be provided at the time of inspection and included in the test report.

- The inspection work shall in general cover the following: -

a) General inspection checks including physical dimensions, workmanship, quality, quantity, and standards.

b) Check on model and nameplate data.

c) Functional checks of correct operation and setting of equipment.

d) Routine and basic tests as per relevant IS.

e) locked rotor current of the motor shall not exceed 600% of full load current. Submit the test certificate.

f) Packing and protection checks.

All the test certificates shall be submitted to BMC along with delivery of material.

ii) Commissioning Tests for Motors:

(a) Megger testing of motor windings and cables.

(b) Motor windings, control and power cables continuity check.

(c) Resistance of motor windings.

(d) Controls and interlocks.

(e) Overload and short circuit relay tests and settings.

(f) Phase sequence and rotation.

(g) Starting and no-load currents.

(h) No load operation (observe vibrations, temperature of bearings and body of the motor).

(i) On load operation, starting and running currents (observe vibrations, temperature of bearings and body).

(j) Vibration check.

(k) Test of motor protection relay and under voltage relay.

(l) Associated tests on Capacitors banks and reactors.

III) BUTTERFLY VALVE:-

Details:

The butterfly valve shall be designed in accordance with AWWA C- 504 OR BS 5155 OR EN 593 OR IS 13095 or Suitable standard for 16 Bar pressure rating. The butterfly valve shall be designed for double flanges, double eccentric construction with horizontal shaft as per existing valves. The butterfly valve shall be designed for velocity & pressures in both the direction. The flow & torque characteristic curve of B.F.V. shall be furnished by manufacturer. The B.F.V. shall be designed to achieve minimum head loss.

The Butterfly Valve shall be designed & manufacture for meeting the following requirements:

Sr. No.	Description	Requirements
1	Type of butterfly valve	Double flanged ,double eccentric, B.F.V.
2	Size of valve	800 mm (1 No.)
3	Pressure rating	16 bar
4	Type of Operation	Gear Box Operated with Electrical actuators as well as manual
5	Maximum designed pressure	16 Bar
6	Body test pressure	24 Bar
7	Body type	Single piece valve body as per specifications specified by BMC

Material Of Construction:

Sr.No.	Part/Component	Materials specifications
1	Body	DI /DI EN-JS1030 GGG- 40 OR SG IRON IS:1865 Gr.500/7 OR SG IRON IS:1865 Gr.400/12 /400/15
2	Disc	DI /DI E0PN-JS1030GGG- 40 OR SG IRON IS:1865 Gr.500/7 OR SG IRON IS:1865 Gr.400/12
3	Shaft(DE/NDE)	SS BS 970-431S29/S.S.AISI316/SS AISI 431 OR S.S. (1.4051)
4	Seal	EPDM Rubber or better
5	Seat	SS AISI 316 or better
6	Retaining ring	SS AISI 316
7	Bushes/Bearing	Steel backed PTFE
8	Internal Hardware	SS AISI 316
9	External Hardware	SS AISI 316/304
10	Hand Wheel	SS AISI 304
11	Studs/Nut/Washers	S.S.304

Valve Body:

The valve body shall be as per the standards mentioned. The interior of the valve body shall be smoothly finished so as to have low resistance and a free and full flow is ensured through the system. The ring of SSAISI316 or better shall be bolted/revited inside the body near the downstream side of the valve to serves as seating ring for the valve disc when the valve is in close position. The valve body shall be flanged on the both ends.

The following details shall be engraved on the name plate or raised on the valve body.

i) Size of valve

ii) Year of manufacture

iii) Manufacturer ’s name

iv) Direction of flow

v) Pressure rating

vi) Valve opening & closing direction on hand wheel

vii)The serial No. of the valve shall be punched on the flanges distinctly and legibly on both side flanges of the valve.

Valve Disc:

The valve disc shall be good streamlined shape, solid & shall have minimum head loss when the valve is in fully open position and to sustain the full differential pressure across the closed valve. The disc shall be provided with E.P.D.M/Superior seal. The rubber seating ring shall be rigidly clamped with the sealing arrangement in the disc & the clamping ring.

Valve Shaft & Bearing:

The valve shafts shall be mounted in horizontal positions. The shaft shall have minimum diameter extending through the valve bearings and into the valve disc to withstand the maximum torque required to operate the valve. Self-lubricated OR Superior bearings, to be housed in both ends of the hubs of the valve body,

Valve seal:

The valve rubber ring sitting on disc shall be of E.P.D.M/Superior & shall be easily removable

Valve Feet:

The Butterfly Valve shall have integrally designed & casted feet for allowing the valve in free standing position on a horizontal floor during installation and shall have the adequate clearance for easy access to bottom bolts of the flanges joints of valve.

Position Indicator:

The valves shall be provided with mechanical position indicator to show the position of the disc. The drive shaft of the gear box shall be fitted with circular disc, having 5 degree graduations, with valve position indicating arrow duly embossed on its body.

Stops:

The disc movement beyond fully open or fully closed position shall be prevented by means of rigid stop mechanism provided in the gear box. In addition, rigid in-built stoppers shall be provided inside the valve body to restrict the travel of the disc beyond fully open or fully closed position.

Lifting Lugs:

The Butterfly Valve shall be provided with heavy duty lifting lugs to facilitate the lifting / aligning of Butterfly Valve during installation or removal in perfect plump by means of crane or any lifting devices. The Lifting lugs shall be located on top side of the valves at min 2 appropriate locations. The lifting lugs shall be of eye design to accommodate the eye hook of required capacity.

Gear Box:

Manual devices for operation shall be so designed that the maximum force on the rim of the hand wheel shall not exceed 200 N and the maximum torque shall not exceed 50 Nm. A spur, bevel or worm reduction unit shall be attached to the pinion shaft of the operating mechanism. Gearing should be such as to permit manual operation of valve from fully closed to fully open or fully open to fully closed condition in about adequate time.

The reduction gears shall be made of steel with machined teeth and unless otherwise provided they shall be totally enclosed in a S.G.Iron or cast steel sealed housing with oil seals and shall operate in oil bath. The gear box shall be provided with the first charge of oil lubricants and appropriate filling and drain connections. Gearing shall be adequate to open and close the valves under full indicated maximum operating pressure differential. The reduction gear units shall be of IP 68 construction. In the event, the gear box is required to be removed from an installed valve, a provision shall be

incorporated at the non-driving end of the shaft for locking the disc both in fully open and in fully closed position. This arrangement shall be of rigid construction to prevent oscillation or 'slamming' of the disc when the gear box is removed.

The materials of construction for the Gear Box shall be as follows:

Sr No.	GEAR BOX	
1	Type of Gear	Primary – Quadrant Type Worm & Worm Gear Secondary – Spur Gear & Pinion
2	Type of Protection	IP-68
3	Material of Construction	
	i) Gear Case & Cover	Cast Carbon Steel, IS:1030 Gr.St.230-450w OR ASTM-A-216 GR.WCB or SGI IS1865 Gr.500 / 7
	ii) Worm	Alloy Steel, BS:970 Gr. EN19
	iii) Quadrant	S.G. Iron, IS:1865 Gr. SG-600/3
	iv) Shaft	Stainless Steel, BS 970 Gr.431-S- 29
	v) Fastener	Stainless Steel, IS:2306 Gr.04, Gr.18 NL10 AISI-304 or superior
	vi) Bearing 'O' Ring	Nitrile rubber, Shore hardness of 65± 5
	vii) Spur Gear & Pinion	Alloy Steel, BS:970 Gr.EN-19

Inspection And Testing Of BFV And Gear Box:

The contractor shall provide manpower, material and all facilities for inspection/testing of the components and completed valves. Testing shall be done as follows :

a) Components Test :

Valve bodies, discs, spindles etc. material Test certificate to be furnished

b) Movement Test:

Each valve shall be shop operated three times from the fully open position to the fully closed position and reverse, under no flow conditions, to demonstrate that the complete assembly is workable, the torque required for each valve shall be measured and recorded. Number of turns required for full operation be counted and recorded.

c) Hydrostatic and Leakage Tests:

i) Leakage Test: With the valve disc in the closed position and one end open to the atmosphere, the rated pressure shall be applied to each side of the disc in turn for a period of 10 minutes each. The leakage past the disc from either side shall be nil.

ii) Hydrostatic Test: With both ends closed and the butterfly valve disc in the slightly open position, a pressure of one and a half times the pressure rating shall be applied to the whole valve body for a

period of 10 minutes. Under these tests there shall be no leakage through the metal, the flanged joints or the valve shaft sealing.

iii) Disc strength Test: Finally, the disc shall be closed and a different pressure of one and a half times the pressure rating shall be applied to each side of the disc in turn.

iv) Gear box overload test: Gear Box test report to be furnished.

All the test certificates shall be submitted to BMC along with delivery of material. The calibration certificate of measuring devices used during tests shall be submitted along with test report.

IV) MULTI DOOR CHECK VALVE: -

The Multidisc check valve of 800 mm & 16 Bar pressure rating shall be designed confirming to BS:5155 OR Suitable EN OR confirming to IS 5312 part II. The check valve shall be designed for double flange connection. The check valve shall be designed to achieve minimum head loss and it shall be able to close against minimum flow.

Material of construction for Multi-door check valve shall be as follows: -

Sr.No	Parts	Material of Construction
1)	Body	SG Iron as per IS:1865 2% NiCI/ SG IRON IS:1865 Gr.400/12/15 or 500/7 OR Superior
2)	Doors/ Diaphragm/	SG Iron as per IS:1865 2% NiCI/ SG IRON IS:1865 Gr.400/12/15 or 500/7 OR Superior
3)	Stub / Hinge pin for door	Stainless Steel as per IS:6603 /SS ASTM A-276 TYPE- 410 OR SS AISI 431 OR Superior
4)	Face /Seat Ring	Leaded Tin Bronze as per IS: 318, Gr. LTB2/ SS as per IS: 6603 or IS: 1570 or ASTM A240 or OR Superior

Valve Body:

Valve body shall be suitably constructed in two parts (inlet shell and outlet shell) confirming to IS: 5312 PART II (Multi-door Type). The interior of the valve body shall be smoothly finished so as to have low resistance and to ensure a free and full flow through the system. The valve body shall be flanged on the both ends.

The following details shall be engraved on the name plate or raised on the valve body.

i) Size of valve

i) Year of manufacture

iii) Manufacturer ’s name

iv) Direction of flow

v) Pressure rating

vi) The serial No. of the valve shall be punched on the flanges distinctly and legibly on both side flanges of the valve.

Valve Door:

The valve door shall impart minimum head loss and shall be suitably designed so as to give quick closing non-slamming characteristic. The door shall be integral with the hinge and shall have a flat seating face. It shall have enough strength to withstand the back pressure. The center of gravity shall be suitably maintained at the closing end of the door for fast closer of the door.

Valve Diaphragm:

The valve diaphragm shall be fitted between inlet and outlet shells. The parts in the diaphragm should be so designed as to induce minimum head loss in the flow through the valve. The area of the water way through the multi openings in the diaphragm shall not be less then bore area except that this area may be reduced by not more than 15% for any proprietary designs.

Seats:

Seat rings shall be securely fixed such as press fitted and riveted so as to preclude their becoming loose in service. The seat rings shall be carefully machined to close tolerances. Standard countersunk screws shall not be used.

By-pass connection:

Suitable by-pass arrangement shall be made for connection between the inlet and outlet shell of the valve. By-pass valves shall be of same rating as that of the main valve and confirm to IS 14846 however the material of construction for bypass valve shall be specifically SG Iron.

Valve feet:

The Valve shall have integrally designed feet for allowing the valve in free standing position on a horizontal floor during installation and shall have the adequate clearance for easy access to

bottom bolts of the flanges joints of valve.

Lifting Lugs:

The Valve shall be provided with heavy duty lifting lugs to facilitate the lifting / aligning of during installation or removal in perfect plump by means of crane or any lifting devices.

- Inspection/testing for Multi door Non return valve:

a) Body Hydraulic Test:

The valve shall be tested for body test. The entire valve shall be subjected to 1.5 times the specified working pressure for at least 10 minutes. Under this pressure there shall be no leakage through the valve body or any seals and no parts shall be plastically deformed. The test shall be conducted as per the procedure specified in relevant Standard.

b) Seat Test: -

The seat test of the NRV shall conducted by means of keeping one end of the valve opens to atmosphere. The valve shall be subject to maximum shut – off pressure i.e 16 Bar for a period of 5 minutes. The test shall be conducted as per the procedure specified in relevant standard.

All the test certificates shall be submitted to BMC along with delivery of material. The calibration certificate of measuring devices used during tests shall be submitted along with test report.

V) <u>ACTUATORS FOR VALVES</u>:-

New electrical actuators shall be Intelligent type actuators with data acquisition facility and suitable for automation with following specifications: -

Details of existing butterfly valve actuator:

1) Make – Auma India Ltd.
2) Actuator type – SA25E909
3) Enclosure – IP 68
4) Closing torque -min./max. - 100/250
5) Opening torque – Min./Max. 100/250
6) Speed – 90 RPM
7) Lubricant - grease EPO

3 phase induction motor for actuator:

1) frame – AM 90
2) Power - 2.2 KW
3) Current – 4.10 Amp.
4) Voltage – 415 V
5) connection – Y
6) speed – 2880 rpm.
7) Duty – S2 -15 Min.
8) frequency – 50Hzs.
9) Protection – IP68
10) Insulation class – F
11) Efficiency - 84%

Standard Features:

The following shall be included as standard feature for valve actuator

(a)Two (2) DC interposing relays for matching the low voltage of remote commands with the control voltage.

(b)The motor shall be specially designed for valve operation, combining low inertia with a high torque.

(c)Each electric-motor operator shall be provided with a hand-wheel with handle for manual operation. The hand-wheel shall be automatically declutched when the electric motor is operating, but shall be capable of being engaged at other times by positioning the clutch lever. The electric operation shall override the manual operation.

(d) The torque switch shall function to stop the motor on closing or opening of the valve, or upon actuation by the torque when the valve disc is restricted in its attempt to open or close. A minimum of two (2) torque switches, one for closing direction and one for opening direction shall be provided.

(e)The non-adjustable limit switches shall stop the motor and give indication when the disc has attained the fully open or close position.

(f) The non-adjustable limit switches shall stop the motor and give indication when the disc has attained the fully open or close position.

(g) The 800 mm dia . Butterfly valves of delivery side have a fix gear ratio and the electrical actuators are provided for opening and closing of valves. It takes 2 to 2.5 minutes (Apprx.) for opening and 2 to 2.5 minutes (Apprx.) for closing of valve with the help of existing electric

actuator. The proposed actuators shall have gear ratio such that the full opening or full closing operation of valve shall take 2.30 minutes +/- 30 sec.

(h) The actuator model proposed shall be compatible to existing remote indications and annunciation system at Pumping Station Control Panel. The valve position indications such as fully open, fully closed and in operation shall be incorporated.

(i) The electric actuator shall be provided with clearly visible local valve position indicator to give an indication whether the valve is fully open or fully closed or in an intermediate position.

(j) The contractor's shall carry out all the routine tests before delivery, at the manufacture works as per the relevant IS. All the test certificates shall be submitted to BMC along with delivery of material. The calibration certificate of measuring devices used during tests shall be submitted along with test report.

(k)The actuator shall be tested on the site i.e. Pumping Station, Bhandup Complex for the following parameters

a) Full Opening and full Closing of Valves.
b) Valve indications such as opening, closing and in operation at Pumping Station Control Panel.

(l) The successful bidder shall submit the detailed laminated electrical drawings of actuator in two sets and shall also submit the maintenance manual.

(m)New actuator motor shall operate on 415 V, 50Hz and 3 phase A.C. supply and shall have class 'F' insulation with temperature rise not exceeding that permit for class 'B' insulation at standard nominal voltage.

(n)The enclosure of actuators shall be leak proof and confirming as per IP – 68 specifications.

(o) All the data shall be accessible easily through any slandered port such as USB, RS 485, IR etc.

VI) <u>DISMANTLING JOINTS</u> :-

a) Dismantling joint shall be provided for all valves except air valves. Dismantling joints shall be designed such that adequate space can be created by collapsing the Dismantling joints, for removal and for re installation of adjacent valves.

b) All parts of dismantling joints shall be amply proportioned to take care of all stresses that may occur during installation and while in operation.

c) Dismantling joints shall have end thrust flanges, follower flanges and rubber sealing ring. Tie rods shall be provided for rigid fixing after installation to enable transmission of thrust.

d) Tie rod shall be provided for 30 % of the flange holes.

e) With the use of Dismantling joint it shall be possible to have an approximate clearance of 25 mm with the adjoining fitting for valve sizes 1200 mm and below. For valve sizes above 1200 mm the dismantling clearance shall be 50 mm.

Construction Features:

Sr. No.	Description	Unit	data
1.1	Type		As per existing
1.2	Design & fabrication code		IS 2825
1.3	Pressure rating	Bar	16
1.4	Working temperature	0 c	Ambient
1.5	Corrosion allowance	mm	2.0
1.6	Flange drilling standard		BS 4504/ or as per Valve
1.7	Dismantling allowance	mm	25 for sizes ≤ 1200 mm 50 for sizes > 1200 mm
1.8	Hydraulic test pressure	Bar	24
1.9	Materials of construction		
1.9.1	Body		Carbon steel IS 2062 Gr. B
1.9.2	Flanges		Carbon steel IS 2062 Gr. B
1.9.3	Seal		EPDM rubber
1.9.4	Fasteners(Including tie rods, bolts, nuts and washers)		Galvanized carbon steel IS 1367 CI 4.6/4

Flanges:

All flanges shall be conformed to BS 4504 unless otherwise specified. In the case of steel pipework, those shall be slip-on type in the form of a collar fitting over the end of the pipe and welded in position both internally and externally. All flanges shall be machined over the whole face.

VII) <u>FABRICATION OF PIPE</u>:

The plates cut to the exact size shall be put into a rolling machine to form a pipe of the required diameter. The faces shall be at right angles to the axis of the cylinder. All the shop and field joints shall be welded, all welding shall conform to relevant IS standard.

No allowance will be made for thinning of weld and the weld should in no point be less than the nominal thickness of plate.

The shell in the completed work shall be substantially round. The difference between maximum and minimum inside diameters at any cross section shall not exceed 1% of the nominal diameter of the cross section under consideration subject to a maximum of 10 mm.

All flanges shall be to BS 4504, Table 10. Flanges shall be stress-relieved and machined after welding. The suction/discharge pipework shall be 750 mm and 800 mm respectively for pump with a pipe wall thickness of 14 mm.

A suitable size eccentric reducer shall be provided to connect the suction pipe 1200 mm from suction valve of the pumping station to the suction pipe 750 mm for trimmer pump. Distance piece of 750 mm dia. of required length shall be provided along with flange adaptor to connect the suction side of pump inlet side.

Suitable Concentric expander 600 x 800 mm shall be connected to the discharge of the Pump. The required distance pieces/dismantling joints/Reducer/expander shall be provided to connect the pump to common delivery header.

Suitable distance piece shall be provided from B.F.V. to the concentric expander.

Concentric expander shall be provided from distance piece to dismantling joint of guard valve as per general arrangement drawing.

By-pass valve arrangement shall be provided as per existing arrangement at suction side sluice valve. The size of the by-pass valve shall be 100 mm of PN1.6 rating confirming to IS 14846 and approx. Length of the piping for by-pass valve shall be as per existing.

By-pass valve arrangement shall be provided for delivery side sluice valve (guard valve)as per existing .The size of the by-pass valve shall be 100 mm of PN1.6 rating confirming to IS 14846 and approx. Length of the piping for by-pass valve shall be as per existing.

The required hardware such as nut-bolts, packing material etc. require for connection of the flanges of the pipe work along with valves and dismantling joints Shall be provided by the contractor.

The Contractor shall also arrange for grouting of valves pipings etc. including supply of grout materials. Any chipping up to 90 mm, dressing of foundation removal of laitance, supply and welding of rebars and structurals , finishing of foundations, finish painting of foundations to approved scheme etc. shall all be carried out by Contractor.

Steel Pipework painting:

Cleaning and painting of pipes, with suitable paint internally and/or externally, transporting to the site by adopting suitable transporting means without any damage, including all loading, unloading and stacking carefully the pipes, specials etc. as required and as directed. The internal/external surfaces shall be protected by approved paint.

The Bidder may submit, for approval, any other equivalent paint which shall be free of phenolic compounds and will not impart objectionable tastes and odours when placed with

chlorinated or unchlorinated water for long periods.

Support of Pipework and Valves:

All necessary supports, saddles, slings, fixing bolts and foundation bolts shall be supplied to support the pipe work and its associated equipment in an approved manner.

Valves, meters, strainers and other devices mounted in the pipe work shall be supported independently of the pipes to which they connect. All brackets or other forms of support, which can conveniently be so designed, shall be rigidly built up of steel by welding in preference to the use of castings. No point of passage of pipes through floors or walls shall be used as a point of support,

Painting at Site:

Immediately on arrival at the site all items shall be examined for damage to the priming coat applied at the manufacturer's works, and any damaged portions shall be cleaned down to the bare metal, all rust being removed. The paint shade shall be conform to site engineer before applying & shall be of reputed make only.

VIII) <u>Erection And Commissioning Of Pump-Motor Set</u>:

1) The contractor shall fabricate and supply the base frames for pump and motor identical /suitable to the existing design.

2) Before undertaking the erection of pumps, the Contractor shall ensure that the levels and centers of foundation are as per approved drawings and within permissible tolerances. He shall check and record the levels of foundation as per the existing. He shall mark the center lines and datum of machine in such a way that the marking can be maintained until erection is completed. He shall undertake any chipping of concrete for removal of any unevenness to achieve a uniform level of reference for erection.

3) If the base plates are to be erected on metal packers/spacers/liners, (hereinafter referred to as packers) such packers shall be machined parallel on, top and bottom faces, to a smooth finish. They shall be of adequate size and numbers to support the sole plate for uniform load distribution on all sides. Packers shall be positioned on either side of sole plates to hold down when they are secured against packers.

4)The packers shall preferably be rested directly on the finely dressed concrete surface of foundation, ensuring a contact area of at least 60% when checked with machinist's blue. Such dressing may be done using fine chisels, pencil grinders and abrasive blocks. Alternately, if the Contractor plans to erect the packers, on wet grout, as a means of leveling

them, a minimum grout thickness of 25 mm shall be maintained beneath the packers. A recess of at least 30 mm depth with a clearance of at least 30 mm all around the packers in the form of a picture frame shall be made on foundation for each of the packers.

5) The base plates shall be erected within 0.05 mm/m horizontally checked with precision levels in all directions while the target should be 0.02 mm/meter horizontally, after securing them with the anchor/hold down bolts. The report for the same shall be submitted.

6) The grouting shall be carried out using non-shrinking cementitious grout materials in one continuous pouring operation, until grout has reached its eventual level ensuring that grout flows continuously until all cavities under the base plate are filled, with no air pockets, and all air from confined spaces is duly expelled. Suitable means for movement of grout shall be employed, and use of vibrators shall not be permitted. All grouting methods shall be approved by the Engineer's representative, and shall be carried out in his presence.

7) The base plate top surface in contact with the under side of pump base is to be blue matched to get a contact area of at least 80%. No shimming shall be permitted between base plate and base pump. Contractor shall carryout such blue matching after grouting operations are over, and grout is fully' set and gained strength adequately. Such blue matching may be carried out before grouting operations if the Contractor so desires. However, the Contractor shall ensure that contact accuracies are maintained during leveling and grouting operations. All blue matching shall be demonstrated before erection of base plate.

8) The base plate of motor when furnished separately shall be erected as before. The base plate shall be blue matched to 80% with motor feet. The motors shimming shall take into account the hot growth in working condition plus 0.25 mm min shimming allowance. Blue matching shall be met, even though shims are used.

9) The base frames of motor and pump shall have to be mounted on existing foundation ,hence the bidder shall design the base frames accordingly.

10) The couplings of motor and pumps shall be radially and axially aligned within 0.05 mm in running condition (with hot alignments) on the readings taken at 180 degrees, when both coupling halves rotated together with the dial gauge mounted on driver coupling and the gauge pin set on rim or face of the pump coupling as the case may be, for radial and axial alignments. Readings shall be taken at 90 degrees intervals. The alignments shall be checked with piping in bolted/and unbolted condition, to ensure that there are no strains on the pump due to piping. The pump and motor shall be doweled using taper dowels, after completion of alignment/hot alignment. Dowel holes shall be accurately drilled and

reamered.

IX) Control Panel:-

(a) Control Panels shall be machine prefabricated out of CRCA sheet steel of thickness not less than 2 mm, modular in construction, properly reinforced, powder coated and having rigid frame structure. Internal mounting plate including the gland plate shall be 3 mm thick. The control panel dimensions shall be as per existing design. (Existing panel size 600mmx400mmx2100mm appox.)

(b) The exterior corners and edges shall be rounded to give a smooth overall appearance with projections kept to a minimum.

(c) Lifting lugs shall be provided for installation purposes and shall be replaced with corrosion resistant bolts after installation.

(d) The Control panel shall be completely metal enclosed and shall be dust, moisture and vermin proof. Panel enclosures shall provide a degree of protection not less than IP 52 in accordance with IS 13947.

(e) The Control panel shall be free standing type as specified.

(f) Cable entries to the panels shall be from the bottom. The Control panel shall be provided with louvers along with SS wire mesh.

Pump cubicle shall have following on front facia:

The front facia shall be as per existing design and shall contain following instruments/components as per existing,

1. Load manager (Multifunction Electronic Meter with RS485 Communication Port.)
2. Pressure indicator for pump discharge pressure.
3. Alarm annunciator.
4. Temperature scanner for pump - motor unit.
5. Pump "Auto-Off-Manual" mode selector switch.
6. Emergency stop push button.
7. Indicating lamps for the following indications:-

"Red" indicating lamp to indicate pump "Running" condition. "Green" indicating lamp to indicate pump "Stopped" condition. Amber indicating lamp to indicate pump "Tripped" condition. Suction valve 'Open' indication.Suction valve 'Close' indication. Suction valve 'In transit' indication. Discharge valve 'Open' indication. Discharge valve 'Close' indication. Discharge valve 'In transit' indication. Guard valve 'Open' indication.Guard valve 'Close' indication. Guard valve 'In transit' indication.

Push buttons :

Suction valve 'Open' push button. Suction valve 'Close' push button. Discharge valve 'Open' push button. Discharge valve 'Close' push button. Guard valve 'Open' push button. Guard valve 'Close' push button.'Pump Start' push button.'Pump Stop' push button.

ICP Internal Wiring:

(a) Connections within Control panel, between panel mounted devices and terminal blocks or between two panels mounted devices shall be made by 660 volt grade, stranded copper conductor PVC insulated. The wires shall be shielded, wherever necessary.

(b) ICP shall be supplied completely wired internally and ready for external cable connections at the terminal blocks.

c) Wires within the panel shall be continuous i.e. without splicing. Internal wiring or wiring between the two assemblies shall be commensurate with mechanical safety.

(d) Wire termination shall be made with solder less crimping type of tinned copper lugs which firmly grip the conductor and insulation. Yellow insulated sleeves shall be provided at all the wire terminations. Thermal engraved core identification ferrules, marked to correspond with panel wiring diagram shall be fitted at both ends of each wire. Ferrules shall fit tightly on the wires and shall not fall off when the wire is disconnected from terminal blocks. All wires directly connected to trip circuit of breaker or device, shall be distinguished by the addition of a red sleeve.

(e) All wiring shall be run on the sides of panels and shall be neatly bunched and laid through covered PVC trays without affecting access to equipment mounted in the panel.

(f) All wiring shall be taken to terminal blocks without joints or tees in their runs.

(g) All wires forming part of a tripping circuit shall be provided with an additional red ferrule marked 'T'. Each wire shall be identified by a letter to denote its function followed by a number to denote its identity, at both ends. Unused cores of multi core cables shall be ferruled U 1, U2, etc., at both ends and connected to spare terminals.

(h) All wiring including that between adjacent panels and that to be interconnected between panel sections shall be terminated on terminal blocks, using crimping type of lugs or claw type of terminations

(i) Relay modules with connection by multi pin connector facility shall be provided.

i.	AC phase wire	:	White

ii.	AC neutral wire	:	Black
iii.	DC (+) wire	:	Red
iv.	DC (-) wire	:	Black
v.	Analog (+) wire	:	Blue (with '+' ferrule)
vi.	Analog (-) wire	:	Blue (with '-' ferrule)
vii.	Earth wire	:	Green

Control Wiring Terminal Blocks:

Terminal blocks shall be of the 650 V grade, stud type. Brass studs of at least 6 mm, dia. with fine threads shall be used and securely locked within the mounting base to prevent turning. Each terminal shall comprise two threaded studs, with a link between them, washers and matching nuts and lock nuts for each stud. Insulated barriers shall be provided between adjacent terminals. Not more than two wires shall be connected on any one stud. Where duplication of terminal blocks is necessary, suitable solid bonding links shall be incorporated in the design of the terminal block. Provision shall be made to insert terminal labels or shrouds between two successive insulating barriers. Connections to the terminals shall be at the front. Box type terminals are also acceptable.

Terminals also shall be numbered for identification and grouped according to function, and engraved black-on-white labels shall be provided for the terminal blocks describing the function of the circuit. Terminals for circuits with voltage exceeding 125 V shall be shrouded. Terminal blocks for termination of wires/cables of different voltage grades, control, extra low voltage and instrument signals shall be segregated into groups and distinctively labeled.

Painting of Control Panel:

(a)The control panel shall be powder coated. Thickness of coating shall be minimum 60 microns. QA test certificate shall be furnished for thickness adhesion and hardening of powder coating.
(b) The exterior paint colour of the panel shall be matched with the shade of of the exiting panels and and the interior paint colour shall be glossy white.

X) CABLES:-

(a) Contractor shall carry out supply, laying of cables and associated civil/mechanical work for

successful completion of the work.

(b) Cable joints in instrument signals and power supply cables shall not be permitted.

(c) Cables shall be capable of operating satisfactorily under the specified power supply system **H.T. Cables:**

3.3 kV, 3C x150 sq.mm Copper armored XLPE cable shall be used for connection of HT Motor Feeder to Terminal Box of Motor and HT Motor Feeder to Capacitor bank Panel.

The cables shall be laid in the cable tray with proper fixing arrangements. Proper dressing and tagging of the cables shall be provided. Termination of cables is included in the scope of work. If any work is required in the existing civil structure for cable entry, it is in the scope of the tenderer. No joint in any circumstances will be allowed in a single run.

The lugs shall be of suitable rating and properly crimped and the hardware shall be of chromium plated steel of suitable grade., termination installation shall also include cost of glands, lugs and other accessories required for completing the installation. The contractor shall carry out required H.T. Cable jointing with standard practice of cable jointing .Cable termination kits may be cold shrinkable / heat shrinkable type, complete with all accessories.

Control Cables:

Control cables used for annunciation, indicating lamps and for other purposes shall be of 2.5 Sq. mm Copper cable. Termination of all control cables is included in the scope of work. Wherever necessary, proper dressing and tagging of the cables shall be carried out. Suitable size of cable glands shall be used. The terminals shall be of suitable current rating with proper lugs. If any work is required in the existing civil structure for cable entry, it is in the scope of the tenderer.

Cables for analog signals:

The cables shall comply with the following requirements:

Cables of 1100V grade, multi-pair/ multi-triad cable, annealed, tinned, high conductivity, 1.0 sq. mm. stranded copper conductor, extruded PVC insulated two/three cores twisted into pair/triad, laid up collectively, individual pair/triad shielded and overall shielded with aluminium mylar tape, ATC drain wire run continuously in contact with aluminium side of the tape, inner sheathed with extruded PVC, armoured with galvanised steel wire and overall sheathed with extruded PVC conforming to IS 1554, IEC 189 & BS 5308 shall be used for analog signals.

Cables for Digital Signals:

The cables for digital signals shall comply with the following requirements.:

Cables of 1l00V grade, multi core cables, annealed, tinned, high conductivity, 1.0 sq. mm. stranded copper conductor, extruded PVC, overall shielded with aluminium mylar tape, inner sheathed with extruded PVC, armoured with galvanised steel wire, overall sheathed with extruded PVC conforming to IS 1554,IEC 189 & BS 5308 shall be used .

Cables For Instrument/Equipment Power Supply:

The cables shall comply with the following requirements:

Cables of 1100V grade, multicore cable, annealed, tinned, high conductivity, 2.5 sq. mm. stranded copper conductor, extruded PVC, inner sheathed with extruded PVC, armoured with galvanised steel wire, overall sheathed with extruded PVC conforming to IS 1554,/ IEC 189 / BS 5308 shall be provided for Instrument/Equipment power supply.

Cable Schedule:

Cable schedule shall be specifically as per the existing cable schedule of the other panels & the cable schedule shall be subject to MCGM Engineer's approval. Cable trays and pipe sleeves used for laying cables shall be numbered and such numbers shall be included in the description for route of cables

The cable schedule shall be prepared in the following format:

Cable Details				
From	To	Tag No	Specification	Approximate Length(in Mtrs.)
TOWARDS ICP PANEL				
MAIN DB-1	ICP -9	SR -142	3 C* 1.5 SQMM *CU	20
T 4 RTD_Motor	ICP -9	SR- 134	12T* 1 SQMM * CU	55
T4 - VIB- (S)	ICP -9	SR-73	4 C* 1 SQMM* CU	55
T4 SPEED (PX1)	ICP -9	SR-33	4C *1 SQMM*CU	55
HTP-20 (Energy Meter-Current)	ICP -9	SR- 01	6C*2.5 SQMM*CU	55
HTP-20 (Energy Meter -Voltage)	ICP -9	SR-02	4 C* 1.5SQMM* CU	55

HTP- 20 (INDICATION)	ICP -9	SR- 17	12 C* 1.5 SQMM* CU	55
T4 SUC -VAL	ICP -9	SR-49	16 C* 2.5 SQMM*CU	35
T4 - D- SV	ICP -9	SR- 57	16 C* 2.5 SQMM*CU	60
T4 - GUARD VALVE	ICP -9	SR-65	16 C* 2.5 SQMM*CU	60
T4 (RTD)_Pump	ICP -9	SR-97	9C(3T)*1 SQMM* CU	55
UPS - DB2	ICP -9	SR-122	2C * 1.5 SQMM*CU	35
CCP (LEVEL ALARM)	ICP -9	SR- 80	2C * 1 SQMM*CU	25
CCP (POWER SUPPLY)	ICP -9	SR- 41	2C* 1 SQMM*CU	25
ACDB	ICP -9	_	3C* 1.5 SQMM* CU	35
HTP20 (PUMP STATUS)	ICP -9	_	10 C* 2.5 SQMM*CU	55
PRESSURE TRANSMITER	ICP -9	SR- 81	2 C* 1 SQMM* CU	55
TOWARDS HT PANEL :-				
T4 FLOW	HTP-20	SR- 171	4C*2.5* SQMM*CU	100
T4 HTR (HEATER)	HTP-20	P- 65	2C* 4 SQMM*AL	90
TOWARDS FIELD :-				
DB-001	SV	P-33	4C*6 SQMM*AL	70
DB-001	GV	P-41	4C*6 SQMM*AL	75
L.T. PANEL	DV	P- 07	4C*6 SQMM*AL	86
HTP-20	CPB- T4	H- 27	3C* 150 SQMM *CU	100
MF-T4	CPB(I)- T4	P-103	4 C*2.5 SQMM*CU	80
EPPB-1 (Emg Push Button)	MF- T4	P-95	2C *2.5 SQMM*CU	100
HTP-20	Motor TB	H-18	3C*150 SQMM*CU	100

Note: Above are tentative measurement of cable schedule for trimmer pump-motor set assembly Bidder should visit the site location of plant to get idea of required cable schedule for installation before submitting offer online.

Laying of Cables:

(a) Cables carrying AC and cables carrying DC shall be laid separately. Each cable shall be terminated to individual panel/terminal box. Identification of each cable shall be by proper tags as per cable schedule prepared by Contractor. Identification tags shall be securely fastened to the cables at both the ends.

(b) All cable routes shall be carefully measured and cables cut to the required lengths, leaving sufficient amount for the final connection of the cable to the terminals on either end. A loop of 1 meters shall be left near each field instrument before terminating the cable. The cable shall be bent on a large radius. Control cable terminations shall be made in accordance with wiring diagrams, using color codes as specified /established by the Engineer's Representative for the various control circuits.

(c) Cables shall be complete uncut lengths without any joints from one termination to the other.

(d) Cables installed above ground shall be run parallel or at right angles with beams, walls or columns in cable trays of appropriate size. Cable trays shall be rigidly supported. All cable trays shall be provided with cable tray covers.

(e) Cables shall be laid on cable racks, in built up trenches, on cable trays and supports, in conduits along walls/ceiling etc. Contractor's scope of work includes unloading, excavation, laying, fixing, jointing, bending and terminating the cables. The Contractor shall supply the necessary materials and equipment required for installation, jointing and terminating of the cables which shall include but be not limited to items such as glands, lugs, terminating accessories, hardware, other consumables, hume pipes, saddles/spacers, stainless steel wire, GI conduits, cable identification tags, etc. (hardware for electrical items shall be of Brass and all other hardware shall be of GI). Cables shall be laid/routed as per the approved cable schedule/layout/routing drawings . Cable installation shall generally conform to relevant Indian Standard and relevant typical drawings enclosed with specification. Cables in trays located within buildings shall be cleated individually or in a group using stainless steel saddles, cables in trays located in trenches shall be tied to the cable tray rungs individually or in a group.

(f) Power and control cables shall be/laid in separate cable trays/racks as per existing system. Where groups of HV and LV and control cables are to be laid along the same route, suitable metallic barriers to segregate them physically shall be employed. Power and communication cables

shall, as far as possible, cross at right angles to each other.

After installation and alignment of motors the Contractor shall complete the conduit installation, including a section of flexible conduit between the motor terminal box and cable trench/tray as per relevant enclosed drawing. Contractor shall be responsible for the correct phasing of the motor power connections and shall interchange connections at motor terminal box, if necessary.

XI) POWER FACTOR CORRECTION CAPACITORS AND SERIES REACTORS:-

i) Capacitor shall be of 140 KVAR- 1 no. & 15 KVAR- 1 no. provided to improve the PF to 0.96 or better, considering the full load motor PF of the 3.3 kV motors.

ii) For motor connected capacitors, capacitor current shall not exceed 90% of the motor magnetizing current.

iii) The capacitors shall conform to the latest applicable Indian Standards. Capacitors conforming to other authoritative standards will also be considered, if offered.

iv) Capacitors shall be switched "ON" automatically with the corresponding main motor is switched "ON".

v) Current limiting reactor shall be provided in series with each capacitor bank to limit the inrush current, while switching on the capacitor bank.

Constructional features:-

a. Each capacitor bank shall be complete with all parts that are necessary or essential to obtain power factor of 0.96 Lagging. Such parts shall be deemed to be within the scope of supply whether specifically mentioned or not.

b. The capacitor banks shall be complete with the required capacitors, along with the supporting post insulators, steel rack assembly, disconnector (Off load isolator) copper bus bars, copper connecting strips, foundation channels, HRC fuses, fuse clips, internally connected discharge devices, lifting facilities, terminal chamber and a gland to suit top entry of 3.3 KV, 3 core, insulated/sheathed, armoured unearthed grade cable. The steel structural assembly (including wire mesh & top cover plate) shall be hot dip galvanised. Adequate phase-phase and phase-earth clearance shall be provided, with the cable lugs bolted to the terminals. The three phase leads shall be segregated by appropriate barriers within the terminal box.

Note: Bidder should visit the site location of plant to get idea of required cable schedule of Capacitor Bank for installation before submitting offer online.

c. Disconnector (Off load isolator) shall be provided to facilitate removal of the capacitor bank for

maintenance or for running the motor on no load.

d. The complete bank with its accessories, series reactor and disconnector shall be placed in a free standing, floor mounted steel structural assembly and enclosed by wire mesh on all sides and at bottom and 14 gauge sheet on top. Wire mesh opening shall not be more than 6 mm x 6 mm. The bank shall be floor mounting with sufficient bottom clearance and shall be free standing type.

e. The enclosure shall be compartmentalized, with separate compartments for disconnector, capacitor bank and reactor.

f. Lamp indication to indicate "Capacitor Bank Live" shall be provided on the enclosure through auxiliary contact of the vacuum contactor.

g. The assembly of the bank shall be such that it provides sufficient ventilation for the unit.

h. Each capacitor case and the cubicle shall be earthed to a separate earth bus in the cubicle. Facility shall be provided to connect the earth bus inside the cubicle to purchaser's earthing system. The size of earth bus shall be 65 x 10 mm GI flat. Each capacitor bank/unit shall be fitted with directly connected continuously rated, low loss discharge device to discharge the capacitors to reduce the voltage to 50 volts within one minute in accordance with the provisions of relevant IS.

Capacitor Bank:-

a. Capacitors shall be All Polypropylene (APP) type. Each unit shall be non- inflammable dielectric immersed, self cooled and hermetically sealed. The dielectric shall of All Polypropylene (APP) type. Each bank shall satisfactorily operate at 135% of rated kVAR including factors of over voltage, harmonic currents and manufacturing tolerance. The units shall be capable of continuously withstanding satisfactorily any over voltage up to a maximum of 10% above the rated voltage.

b. When building up capacitor banks from individual capacitor units, care shall be taken to avoid over voltages due to difference in capacitance between the units.

Bank Protection:-

Each phase of the bank shall be protected by a built in current limiting fuse suitably rated for load current and interrupting capacity. The fuses shall provide local visual indication.

All switching and protective devices and connections supplied with the capacitor banks shall be designed to withstand the electro dynamic and thermal stresses caused by transient over currents of high amplitude and frequency which are likely to occur during switching on of the capacitor banks. Switching devices when supplied with the capacitor banks shall be re-strike free.

Series Reactors :-

a. The reactor intended for series connection with a capacitor for limiting the current under system fault condition and inrush current during switching of motor. During normal operation the capacitor rated current flows through the reactor.

b. Reactors shall be three phase, dry type natural (self) cooled with air core, suitable for indoor application. The reactor shall be designed to withstand thermal and dynamic effects of the rated short circuit current for rated duration. The short time current duration shall be rated for 2 second (minimum).

c. The reactor winding shall be made of copper and shall be cast resin impregnated type. Class of insulation shall be" F".

d. Reactors units shall be provided with epoxy post insulators and all fittings & accessories as per the relevant standards.

e. The insulation level shall correspond to the highest voltage for equipment of the system in which the reactor is to be installed. Non-uniform insulation of the reactor shall not be acceptable.

f. The manufacturer shall specify the information about expected Coupling Factor (Q- factor) of the reactor at the rated frequency. The reactor shall be capable of withstanding the dynamic effects of the rated inrush current.

g. Measurement of loss shall be carried out at rated frequency. It is preferable to perform this measurement when average temperature of the winding is approximately equal to the reference temperature in order to avoid temperature correction. The presence of metallic part in the vicinity of the reactor may give rise to considerable measuring error, hence non-metallic enclosure for the reactor is preferred.

Tests and test reports:-

All routine tests shall be conducted in accordance with the latest edition of relevant IS and the report of the same shall be submitted at the time of delivery.

Drawing:-

A general arrangement drawing showing overall dimension of capacitor banks/housing, sizing calculation for capacitor and reactor sectional view of foundation arrangement, weight etc. shall be submitted for approval after the award of contract.

Fabrication, supply and installation of steel structural assembly to enclosed these capacitors as per the existing M.S Structures. by wire mesh enclosure and 14 gauge sheet on for installation of capacitors along with accessories.

XII) TECHNICAL SPECIFICATION-INSTRUMENTATION:-

Flow Switch:-

Quantity	:	1 no. per pump-motor unit
Service	:	Cooling water flow for motor
Installation hardware and accessories	:	Required.

Technical particulars:-

Type	:	Flapper type
Flapper and other wetted parts' material	:	SS 316
Enclosure material	:	Die cast aluminum
Weather protection class	:	IP-65 of IS 3947
Mounting	:	In field on pipe
Switch type	:	Microswitch
Switch differential	:	Adjustable
Contacts	:	2NO+2NC
Contact rating	:	2A, 48VDC
Repeatability	:	± 2 % or better

Sight Flow Glass:-

General

Quantity	:	1 no. per pump-motor unit
Service	:	Motor cooling water flow
Installation hardware and accessories	:	Required

Technical Particulars:-

Type	:	Flapper type
Body material	:	Same as pipe material
Glass	:	Toughened
Process connection	:	Flanged
Gasket	:	PTFE
Studs and nuts	:	Required

Pressure Measuring System:-

General

Quantity	:	1 no.
Service		Pressure measurement on individual pump discharge
Range	:	0-25 MWC
Overall accuracy measurement loop		± 0.5% of span or better
Installation hardware and accessories	:	Required

Pressure Sensor & Transmitter:-

Sensor	:	Diaphragm sensor
Type	:	Indicating with LCD display
Material	:	Non-corrosive
Process connection	:	½” NPT (M)
Mounting	:	In field on discharge pipework
Zero & Span adjustment	:	Required
Output	:	4-20 mA DC (isolated)
Enclosure material	:	Die cast aluminum
Weather protection class	:	IP-65 of lS 13947.
Accuracy	:	± 0.25% of span or better

Digital Pressure Indicator:-

Type	:	Microprocessor based
Mounting	:	Front facia of Instrument Control Panel(ICP)
Display	:	Back-lit LCD or LED
Digit height	:	12.5 mm or higher
No. of digits	:	4
Input	:	4-20 mA DC (isolated)
Zero & Span adjustment	:	Required.
Engineering units for display	:	MWC.
Weather protection class	:	IP-52 of IS 13947
Retransmission output	:	4-20 mA proportional to pressure

Relay outputs		Required 2NO+2NC for high pressure alarm and 2NO+2NC for low pressure alarm
Communication port	:	RS-485
Accuracy	:	± 0.2% of span or better

Glycerin filled Pressure Gauge:

General

Service and quantity	:	- For trimmer pump suction -1No. - For trimmer pump discharge-1No. For motor cooling water inlet-1No.
Range	:	- (-) 2 MWC to (+) 5 MWC for trimmer pump suction. - 0 to 25 MWC for trimmer pump discharge. - 0 to 25 MWC for motor cooling water.
Installation hardware and accessories	:	Required

Pressure Gauge:

a. Pressure gauges shall comply with IS 3624. All wetted parts of pressure gauge shall be stainless steel. The minimum diameter for round pressure gauges shall be 150 mm unless specified otherwise. Where the gauge forms part of a standard item of equipment, the diameter of pressure gauge dial can be as offered by the equipment manufacturer.

b. The internal components shall be of stainless steel. All pressure gauges shall be graduated in meters of water column.

Pressure Transmitter:

a. Pressure transmitters shall be provided with three way isolation valve, tubing/piping, snubber, necessary fittings. The signal from pressure transmitter shall be connected to a panel mounted digital pressure indicator.

b. Pressure transmitter shall be rugged in construction and shall be suitable for continuous operation. Pressure transmitter shall be designed for operation over 130% of full range.

c. Pressure transmitter shall be suitable for field mounting. It shall provide 4-20 mA DC output proportional to pressure. The transmitter output shall be isolated.

d. Pressure transmitter shall be weatherproof to IP 68 of IS 13947.

Digital Temperature Scanner:

a) General

Quantity	:	1 no. per pump-motor unit
Service	:	For pump-motor unit temperature monitoring
Installation hardware and accessories	:	Required

b) Technical Particulars

Type	:	Microprocessor based
Mounting	:	Front facia of Instrument Control Panel(ICP)
No. of channels	:	- for motor winding temperature monitoring. - for motor bearing temperature monitoring. - for pump bearing temperature monitoring. - for motor circulating air temperature monitoring.
Input	:	From RTDs,bearings Motor and pump DE and NDE side,air temperature,etc.
Display	:	Separate LCD/LED displays for channel no. and corresponding temperature
Digit height	:	12.5 mm or higher
No. of digits	:	- 2 nos. for channel no. -4 nos. (minimum) for process value display

Zero & Span adjustment	:	Required
Engineering units for display	:	Deg. Celsius
Accuracy	:	± 0.2 % of span or better
Weather protection class	:	IP-52 of IS 13947
Relay outputs	:	Required 2NO+2NC for each group
Communication port	:	RS-485

Temperature Indicator:-

a) General:-

Quantity	:	6 nos. for pump-motor unit
Service	:	Temperature of the pump/motor bearings and motor air
Range	:	0 - 200°C
Installation hardware and accessories	:	Required

b) Technical Particulars:-

Type	:	Filled system
Mounting	:	In field
Enclosure material	:	Die cast aluminium
Weather protection class	:	IP-65 of lS 13947
Process connection	:	To be decided by Bidder
Accuracy	:	- For indication: ± l % of span or better - For switching: ± 2 % or better.
Dial size	:	150 mm
Dial glass	:	Shatterproof
Stem	:	SS316
Accessories	:	Thermo well, SS316
Compensation	:	Required.

Vibration Switch:-

a) General

Quantity	:	1 for pump motor unit
Service	:	Stopping of the pump at preset vibration level
Trip Range	:	Displacement 0-300 microns pk-pk
Installation hardware and accessories	:	Required
Technical Particulars		
Sensor	:	Piezo electric accelerometer and signal conditioner
Monitor	:	Suitable for control room 3½ digit backlit LCD/LE

Microprocessor Based Multi-Channel Temperature Scanner:-

Panel mounted microprocessor based multi-channel temperature scanner shall be provided to continuously monitor temperature at different positions in each pump-set. The scanner shall have provision of accepting RTD/thermocouple inputs. Facility shall be provided for grouping of

channels for generating alarm/trip signals. Each scanner shall generate two nos. of potential free contacts for each group. The scanner shall have facility for interfacing with Programmable Logic Controller (PLC).

Speed Measurement System:-

The system shall be suitable for transmitting the signal to Instrumentation control panel. It shall complete with required hardware.

a) General

i) Service : Measurement of speed in revolution per minute of H.T. motor

ii) Accuracy : ± 1 % of reading or better

b) Tachometer (Transmitter)

i) Sensor : Proximity based

ii) Output : 4 to 20 mA DC/pulses

c) Mounting : Clamp on the non driving end of motor

Microprocessor Based Alarm Annunciator:-

Technical

Alarm annunciator shall be provided on instrument control panel for annunciation of alarms in control room. The technical particulars of alarm annunciator are as follows:

Technical Particulars

i. Type: Microprocessor based, split type with alarm windows mounted on the front door and electronic modules inside the panel.

ii. Mounting : Flush with panel

iii. Construction: Modular

iv. Inputs : Potential free, NO/NC contacts

v. Size of windows: 60 mm X 26 mm

vi. Operating sequences: First up (user selectable dip switch)

vi. Bulbs per channel: 2 (Cluster LEDs)

viii. Push Buttons: For Reset, Accept and Test

ix Hooter : Required, electronic type

x Power supply: 24 V DC/240 V AC

xi. Power supply status indication: Required

xii Weather protection : IP-52 of IS 13947
xiii No. of Windows : As per existing.

The following signals shall be hardwired for stopping of the pumps in addition to electrical protections (closing of discharge valve and stopping of the motor shall occur simultaneously) irrespective of the mode of operation of the pumps:

- Low low level in CCT.
- Suction valve not fully open.
- Guard valve not fully open.
- Motor winding temperature high high.
- Motor bearing temperature high high.
- Motor air temperature high high.
- Motor cooling water no flow (with time delay).
- Pump bearing temperature high high.
- Emergency push button.

Following shall be the start permissive conditions for individual pump:

- Suction valve is fully open.
- Discharge valve is closed.
- Guard valve open.

Alarm Schedule:-

The following audio-visual alarms shall be provided on the alarm annunciator.

1. Pump bearing temperature high.

2. Pump bearing temperature high high.

3. Motor air temperature high.

4. Motor air temperature high high.

5. Motor winding temperature high.

6. Motor winding temperature high high.

7. Motor bearing temperature high.

8. Motor bearing temperature high high.

9. Motor cooling water low/no flow.

10.Suction valve not fully open.

11.Discharge valve not fully open.

12.Guard valve not fully open.

13. Breaker auto-trip.

14. Motor protection relay operated.

15. Trip supply failed.

16.Capacitor earth fault.

Digital Panel Meters:

Quantity: 1No. for pressure monitoring including Digital Panel Meter (DPM) for pressure monitoring shall be microprocessor based and modular in design. It shall accept 4-20 mA DC signal from transmitters. The DPM's shall have Bakelite LCD/LED display.

Control Panel Power Supply:-

The ICP primary power supply shall be derived from the respective LV switch-board at
240 V AC. Power for the control system shall then be derived from this source via an uninterruptible power supply (UPS).

Uninterpretable Power Supply (UPS) System:-

General Requirement

(i) The UPS shall be floor mounted, self contained and metal clad and shall be suitable for supplying a non linear load.

(ii) It shall be possible to open the enclosures front door when the unit is in use without exposing any live contact touch.

(iv) The UPS shall incorporate a DC under voltage trip circuit to electromechanically trip the UPS output in order to protect the batteries.

(v) The noise level of the unit shall not exceed 60 dB (A) at 1 m from the UPS cabinet.

(vi) Indicators shall be provided for the following:

UPS status

PS alarm conditions

(vii) The UPS shall provide output for the following purpose:

Warning, (viz., low battery voltage)

XIII) <u>SCADA SYSTEM</u>:-

All the annunciations and control signals shall be brought to the existing SCADA system and for successful completion of the same required arrangements of equipment's, skill manpower etc shall be made by the contractor in consultation with the other working agencies. No extra cost will be provided for successful completion the same.

XIV) <u>PROVIDING EARTHING TO THE NEWLY INSTALLED SYSTEM:</u>

The Contractor shall install M.S./G.I. steel conductors, braids (copper) etc., as required for equipment earthing. All work such as cutting, bending, supporting, painting/coating, drilling, brazing/soldering/welding, clamping, bolting and connection onto structures, equipment frames, terminals, rails or other devices shall be in the Contractor's scope of work. All incidental hardware and consumables such as fixing cleats/clamps, anchor fasteners, lugs, bolts, nuts, washers, welding electrodes, flux anti-corrosive paint etc. as required for the complete work shall be included by the Contractor as part of the installation work. The installation shall comply with requirements of relevant IS code of practice.

The no. of earth leads to each equipment/device or enclosure of electrical equipment shall conform to relevant Indian Standards. The size of leads proposed by the Contractor shall be subject

to approval by the BMC Engineer.

It will be the responsibility of the Contractor to supply and install adequate sizes and quantities of conductors required for completing the earthing system for the equipments covered in this contract.

Testing of Earthing System:

The Contractor shall ensure the continuity of all conductors and joints. Earth continuity tests, earth resistance measurements and other tests, which are necessary to prove that the system is in accordance with the design, specifications, Indian Standard Code of Practice and Electricity Rules shall be conducted in presence of BMC Engineer and test reports to the effect shall be submitted for record. The Contractor shall have to bear the cost of all such tests.

SPECIAL INSTRUCTIONS TO THE TENDERERS:-

1)**Payment : Terms of Payment**

60% Payment:

Supply of Pump-Motor set, NRV, BFV, Capacitor Bank Unit, Instrumentation Panel as per specifications.

30% Payment:

On installation of entire material, allied accessories, equipments as per specifications as mentioned above.

10% Payment:

On testing and commissioning of Pump-Motor set, NRV, BFV, Capacitor Bank Unit, Instrumentation Panel as per specifications

2) Bidders shall visit the site at 900 mld pumping station Bhandup Complex before submitting the tender document to verify and get acquainted with the volume and scope of work . The tenderers shall be solely responsible for any discrepancy or shortcomings in their offer thereafter. Any cost implications arising due to additional work thereafter shall be borne by the contractors. The Contract Price shall be deemed to include all such items whether or not described in the Specification,scope and/or Schedule of Prices for satisfactory completion of work.

3) The Successful Bider shall submit the work planing schedule in the form of Bar Chart.

4) The contractor shall submit the General Arrangement Drawing and detailed drawings of Pump, motor and valves for approval before starting the work.

5) The technical specifications for the work included in this tender are prepared with care with a view not to create any additional work. However, all the items and works which are required for

satisfactory completion and guaranteed performance of the system / projects are deemed to be included in the offer and no extra cost will be paid by BMC for the same.The contractor shall carryout any other work irrespective of what ever it is mentioned in the specifications, required to complete the job satisfactorily with no extra cost to BMC.

6) Material of construction of various items shall be clearly mentioned in the data sheet and shall be uploaded with technical tender i.e. in packet – 'A'.

7) Entry permissions, drawing approval and commissioning trial are included in the contract period no separate time period will be allowed for the same.

8) The contractor shall extend full co-operation and interaction with other agencies at site involve. This is the full responsibility of the contractor to get the work done satisfactory.

9) The successful tenderer may use the EOT cranes of Pumping Station for the erection work; however, they shall arrange their own skilled & unskilled manpower, tools & tackles, welding equipments, scaffolding, gas cutting equipments, safety equipments etc for the successful completion of work . During use, if any break down occurs on E.O.T. crane, the tenderer shall attend the same immediately. Power supply required for erection & commissioning work at site will be made available free of cost.

10) The work shall be carried out with good workmanship following std.engg. practices.

11) Any damage caused to the Municipal Property due to faulty workmanship shall be rectified by the contractor free of cost.

12) The contractor shall provide "Identity card" to all the work force at site.It is the sole responsibility of the contractor to get his personnel employed at the work, insured before starting the work, for the risk of life. In order to avoid any kind of mishap, all the safety precautions and measures should be taken by the contractor before commencement of the work. BMC shall be no way responsible for any accident / mishap.

13) The contractor shall obtain work permit before starting the work from BMC authority.

14) The codes of standard : In case of any conflict between codes/standards and specifications the later shall prevail and incase of further conflict in this matter, the interpretation of the specifications by the BMC engineer shall be final and binding.

15) The tenderer shall take photographs of the stage wise work and keep the record of the same.

16)The successful tenderer shall obtain entry permit to their vehicles and staff well in advance from the office of Dy.H.E.(M&E) Bhandup Complex by following due procedure.

17)The delivery of the required material shall be given by the supplier/ contractor at BMC's site along with the necessary documents i.e drawing, test reports, operation & maintenance manual,etc.

The delivery of the valves,motor pump set and other material shall be made at 900 MLD pumping station Bhandup Complex, Khindipada, Dargah Road, Mulund (W), Mumbai -82 (Maharashtra). All necessary charges towards packing, transporting, handling, transit insurance , taxes, duties etc. shall be born by the contractor.

18)All legal proceedings in respect of any claim, dispute of difference shall be borne by successful contractor.

19) Any testing related to the material supplied will be conducted, if BMC feels appropriate and in such case the cost of the same shall be born by the contractor.

20) The successful tenderer shall submit three sets of each detailed final drawings, manuals of the equipments installed at site.

21) Approval from the electrical/factory inspector, if require shall be in scope of the successful contractor.

22) The electrical work shall be supervised by supervisory license holder personnel.

Sd/- **Sd/-**

A.E(900 MLD P/S) B.C. **E.E.(P&A)M.V. B.C.**

LIST OF BRAND NAMES

MECHANICAL

Pumps	:	Mather & Platt (Wilo) / KBL / Jyoti / KSB/ Flowmore
Electric actuators	:	Rotork / Auma

ELECTRICAL

Motors	:	Siemens / ABB / Crompton / BBL / Jyoti / KEC / BHEL/
HV Cables	:	RPG / Universal / NICCO / CCI / Fort Gloster / Torrent/Polycab/Havells
1.1 kV Cables	:	RPG / Universal / Finolex / Polycab / GEMSCAB / Asian / Fort Gloster / Delton / NICCO / CCI / Torrent/ Avocab
Switchgear	:	Schneider Electric / L & T / Siemens / Popular Switchgear / Elecmech / Masstech Control / ABAK Electrofab Engg. / Andrew Yule

Relays	:	ABB / Siemens / Easun reyrolle / Alstom / L&T / Masstech Control / ABAK Electrofab Engg. / Andrew Yule
Miniature Circuit Breakers	:	Schneider Electric / Legrand / MDS / Siemens / Merlin Gerin
HV Capacitors	:	Shreem / Universal / BHEL / CG Power Systems / ABB / Madhav/Indokem

FLOW INSTRUMENTS INSTRUMENTATION

Flow Switch	:	Switzer Magnetrol Forbes Marshall
Sight Flow Glass	:	General Instrument Co. Chemtrols Eureka Industrial Equipment

PRESSURE INSTRUMENTS

Pressure Transmitters	:	E & H, Yokogawa ,ABB, Seimens ,Danfoss

Annexure -I

DATA SHEET

PUMP

Sr.No.	Par ameters	Bidder
1	Make	
2	Model	
3	Rated capacity	
4	Total head	
5	Shut off head	
6	Rated speed	
7	Maximum reverse speed	
8	Efficiency at rated capacity and total head	
9	Power input to pump at shut off	
10	Noise level at 1.5 meters	
11	Vibration limit	
12	Impeller diameter in mm	
13	Type of bearings	

Annexure - II

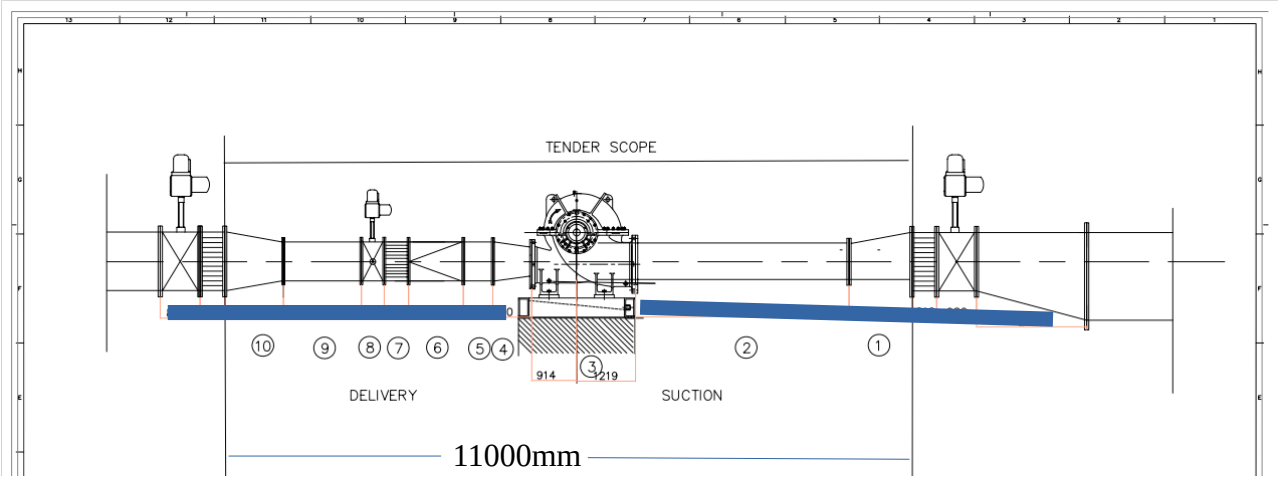
DATA SHEET

MOTOR

Sr.No.	Parameters	Bidder
1	Make	
2	Model	
3	Applicable standards	
4	Rated out put	
5	Rated speed	
6	Type of duty	
7	Rated voltage	
8	No. of phases	
9	Frequency	
10	Allowable variation in voltage	
11	Allowable variation in frequency	
12	Permissible unbalance in supply voltage	
13	Full load current	

14	Starting current	
15	Rated efficiency	
16	Power factor on full load	
17	Method of starting	
18	Class of insulation	
19	Reference ambient temperature	
20	Type of encloser	
21	Degree of protection	
22	Winding connection	
23	Type and No. Of terminals brought out	
24	Space heater rated voltage No., location and rating	
25	Noise level at 1.5 meters	

Schematic Diagram for Trimmer Pump



(This length is for existing Trimmer Pump T3)

Bill of Quantity:		
Sr No.	Description of Items	Qty
1	MS 1200mm x 750mm Eccentric Reducer	1
2	MS 752mm dia Distance Piece	1
3	Centrifugal Pump (Size: 750mm x 600mm)	1
4	MS 600mm x 800mm Concentric Expander	1
5	MS 800mm dia. Distance Piece	1
6	800mm dia. Non Retuen Valve	1
7	800mm dia. Dismentaling Joint	1
8	800mm dia Butterfly Valve	1
9	MS 800mm dia. Distance Piece	1
10	MS 800mmx 1200mm Concentric Expander	1

Note:-The tentative general arrangement drawing of trimmer pump-motor set assembly is provided for reference. Bidder should visit the site location of plant to get idea of required installation before submitting offer online.

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 relavant 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 Financer 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 Financer's inspection and audit rights provided .

vii i. "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, noncompetitive levels.

x. a “party” refers to a participant in the procurement process or contract execution.

SECTION 12
PRE BID MEETING

PREBID MEETING

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.

Interpretation of e-Tender Document:

a) Tenderer(s) shall examine the tender document and acquaint themselves to all conditions and matters affecting the cost of the works. If any tenderer(s) finds discrepancies or omissions in the Document or if in doubt about their meaning, he should address a query during pre-bid meeting.

b) Any resulting interpretation of the tender document will be issued to tenderer(s) as an addendum. Verbal clarification obtained from any source shall not be binding on the Corporation.

c) No tenderer(s) shall amend the text of any document except as may be necessary to comply with any addendum.

Clarification of e-Tendering Documents.
(Pre-bid meeting (If proposed as per e-Tender notice)

The tenderer or his authorized representative is allowed to attend a pre-bid meeting as per the date, time and venue mentioned in the tender notice/header data.

The purpose of the pre-bid meeting will be to clarify issues and to answer questions on any matter that may be raised prior to the pre-bid meeting.

Any tenderer requiring any clarification of the tender document and/or the works may submit his questions in e-mail on ae01bc.he@mcgm.gov.in to reach Dy H.E.(M& E) Bhandup Complex's office by Date 23.11.2024 at 12.30pm

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 on forced 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 Allahbad Bank

9 Andhra Bank

10 Bank of Baroda

11 Bank of India

12 Bank of Maharashtra

13 Central Bank of India

14 Dena Bank

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

24A Corporation Bank

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 merchantile 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 Shamrao Vithal Co-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

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 workof _____
_____

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 be- fore 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 Bom- bay Iron and Steel Labour Board' and fulfill all the obligatory provisions of Ma- harashtra 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 compensa- tion 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 cancella- tion 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 .....
....of Mumbai, carrying on business at .....
..... in Bombay 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 hereby 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 hereunto 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 Ex. .... City/ WS/ ES

Dy. Municipal Commissioner (SE)

The common seal of the BRIHANMUMBAI MUNICIPAL CORPORATION was hereunto affixed on the ..... 2019 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 : The work of Design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at 900 MLD Pumping Station, Bhandup Complex.

1. The Engineer for this work: Hydraulic Engineer
   Dy. Hydraulic Engineer (M&E) B.C.
   E. E. (P & A) M.V.B.C.

2. Estimated cost of Tender:

Sr. No.	Description of work	Total Amount Rs.
~~1~~	~~Civil Work~~	
2	Mechanical/Electrical Work	Not Applicable for item rate basis tender
3	Total Amount	

3. Earnest Money (1% of the Estimated cost) **Rs.2,50,500.00**

4. Contract Period : **12 Months** (Including Monsoon)

5. Free Maintenance period or Guarantee period : 3 Years

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:	Not Applicable

(Signature of Tender issuing officer) Signature of authorized person of company

Annexure B

(On Rs. 500/- Stamp Paper)

PRE-CONTRACT INTEGRITY PACT

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

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 I ..... in 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 successors and assigns) of the first part _____ _____ inhabitants carrying on business at _____ in Mumbai under the style and name of Messer's _____ (hereinafter 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 AGRREMENT WITHNESSES 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

Undertaking for best price

(On stamp paper of Rs. 500/- duly notarized by notary with red seal and registration number)

Tender / Bid No. _____

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 Corporationfor 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 /

Annexure E

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

Annexure – F

Irrevocable Undertaking

Bid No.

(On Rs.500/- Stamp Paper with Notary)

Subject: The work of design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at 900 MLD Pumping Station, Bhandup Complex.

I Shri / Smt. ---------- aged -------- years Indian Inhabitant. Proprietor / Partner/ Director of M/s---------- resident at ---------- do hereby given Irrevocable undertaking as under;

i) 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 BMC by way of commensurate reduction in prices.

ii) 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 GST Counsel.

iii) 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.

iv) If I fails 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

Interpreted Explained and Identified by me.

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:

a. 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.

b. 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 Compltion	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	Qualification	Work Experience	
		(Prime Candidate / Alternative)		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 ex- perience shall be submitted / uploaded.

PROFORMA- V

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 En- gineer-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.

PROFORMA IX

Information on Litigation History in which the tenderer is involved.

Other Party (ies)	***Employer***	***Cause of Dispute***	***Amount involved***	***Remarks showing Present Status***
1	2	3	4	5

Note: Scanned Attested copies of completion/performance certificates from the Engineer-in-charge for each work should be annexed and uploaded.

PROFORMA – X

Information of certificate issuing authorities

Sr. No.	**Employer/Name of issuing Authority**	**Designation of issuing Authority**	**E-mail ID of issuing**	**Contact numbers of issuing Authority**
1	2	3	4	5

Annexure G
Undertaking for Conversant to all sites

(on Rs.500/-Stamp Paper)

Bid no. :

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

AUTHORIZATION CERTIFICATE FROM MANUFACTURER

To,
The Dy. Hydraulic Engineer (M&E) Bhandup Complex,
Municipal Corporation of Greater Mumbai.
Dargah Road, Khindipada,
Mulund (West)
Mumbai – 400 082.

Subject : The work of design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at 900 MLD Pumping Station, Bhandup Complex.

Reference : **Bid No.:**

Dear Sir,

This is in reference to above subject matter, We, **(NAME OF THE ORIGINAL EQUIPMENT MANUFACTURER)** having our registered office at **(REGISTERED OFFICE ADDRESS OF ORIGINAL EQUIPMENT MANUFACTURER)** hereby authorise **M/s. (NAME AND ADDRESS)** to quote for above subject work. **M/s. (NAME OF THE CONTRACTOR)** would execute the work and we will provide support and services during the entire project duration period. We hereby promise to back end support to **M/s.(NAME OF THE CONTRACTOR)**. We also ensure the availability of original spares / parts / products during the entire project duration period and 3 years defect liability period thereafter.

In case of any fault in the execution by **M/s. (NAME OF THE CONTRACTOR)**, we assure to take all necessary / suitable steps for successful execution of the work.

We hereby confirm that this authorization letter is valid at the time of bidding and will remain valid during entire project duration period of this order against "The work of Design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at 900 MLD Pumping Station, Bhandup Complex." and 3 years defect liability period of the contract.

Thanking you,

Yours faithfully,

For NAME OF THE ORIGINAL EQUIPMENT MANUFACTURER

AUTHORISED SIGNATORY
WITH NAME & DESIGNATION

Note: This letter of authority shall be on the original letterhead of the manufacturing concern.

Annexure-I

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 M.C.G.M.

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 parucuiar 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 vhere 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 "The work of Design, supply, installation, testing and commissioning of 3437.5 m^3/h capacity centrifugal Pump Set along with other accessories at 900 MLD Pumping Station, 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

Annexure K

MANUFACTURERS SERVICE SUPPORT LETTER

(In case of tenderer who is not pump set manufacturer)

(To be submitted on the letterhead of the Manufacturer in original and shall be signed in blue ink)

To,
Dy.Hydraulic Engineer (M&E) Bhandup Complex,
Brihanmumbai Municipal Corporation
First Floor, Filter Annex Building B, 900 MLD WTP,
Bhandup Complex, Khindipada
Mulund (W), Mumbai- 400 082.

Subject **:** The work of design, supply, installation, testing and commissioning of 3437.5 m³/h capacity centrifugal Pump Set along with other accessories at New 900 MLD Pumping Station at Bhandup Complex.

Reference **: Bid No: 2024_MCGM_1115902_1**

Dear Sir,

This is in reference to above subject work, We, **(NAME OF THE MANUFACTURER)** having our registered office at **(REGISTERED OFFICE ADDRESS OF MANUFACTURER)** hereby authorise **M/s. (NAME AND ADDRESS)** to quote for above subject work. **M/s. (NAME OF THE CONTRACTOR)** who would independently execute the work and provide support and services during the entire project duration period. We hereby promise to back end support to **M/s.(NAME OF THE CONTRACTOR)**.

We hereby confirm that we shall provide required original spares and after sales service during the entire project duration period and 3 years defect liability period thereafter.

We hereby confirm that this authorization letter is valid at the time of bidding and will remain valid during entire project duration period of this order against the work of " Design, supply, installation, testing and commissioning of 3437.5 m³/h capacity centrifugal Pump Set along with other accessories at New 900 MLD Pumping Station at Bhandup Complex". and 3 years defect liability period of the contract.

We look forward to long term relationship with you and reiterate our commitment with best services. If you require any further information, please feel free to contact us.

Thanking you,

Yours faithfully,

For NAME OF THE MANUFACTURER

AUTHORIZED SIGNATORY
WITH NAME & DESIGNATION