



Bid No.7200032492

E-TENDER

FOR

Name of Work:- Planning, Design, Construction of underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) and operation and maintenance after completion of same on traffic island opp. Apsara Pen shop at Flora Fountain (Hutatma Chowk) in A Ward. .(EPC Turnkey Project)

Website: portal.mcgm.gov.in/tenders

Office of: Chief Engineer (Rds. & Traffic),
Engineering Hub Building, Zero Floor,
Dr. E. Moses Road, Worli Naka, Worli,
Mumbai- 400 018.

Prepared By: - Sd/- S.E. (T&C) Sd/- S.E (ATC)

Checked By: - Sd/- A.E. (T&C) Sd/- A.E (ATC)

Sd/-
E.E. (Tr. & Co.)W.S.

Approved By:- Sd/- Dy. Ch. E. (Traffic) Sd/- Ch.Eng.(Roads&Traffic)

INDEX

SECTION	DESCRIPTION	PAGE NO.
1	E-Tender Notice	3-8
2	Eligibility Criteria	9-14
3	Disclaimer	15-17
4	Introduction	18-20
5	E-Tender Online Submission Process	21-24
6	Instructions To Applicants	25-55
7	Scope Of Work	56-68
8	General Conditions Of Contract	69-125
9	Specifications	126-177
10	Fraud and Corrupt Practices	178-181
11	Pre-Bid Meeting	182-183
12	List Of Approved Banks	184-187
13	Appendix	188-218
14	Special Conditions Of Contract	219-226
15	Drawings	227-231
16	Circulars	232-242
17	List Of Preferred Make	243-253
18	Scope and Specification of Maintenance Works	254-258
19	Scope of Comprehensive Annual Maintenance and Servicing of Parking System	259-261
20	Schedule of Stage Payment	262-265
21	Schedule of Financial Bid	266-270

SECTION 1

E-TENDER NOTICE

BRIHANMUMBAI MUNICIPAL CORPORATION

Chief Engineer (Rds. & Traffic)

E-TENDER NOTICE

Bid No. 7200032492

Subject:- Planning, Design, Construction of underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) and operation and maintenance after completion of same on traffic island opp. Apsara Pen shop at Floor Fountain in A Ward.

The Brihanmumbai Municipal Corporation (BMC) invites e-tender to appoint Civil Contractor/OEM(Original Equipment Manufacturer) for the aforementioned work on EPC (Engineering Procurement and Construction) Basis (Turn Key) in Three Stage System 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 Civil contractors registered with the Brihanmumbai Municipal Corporation , (BMC) in Class I(A) and above as per new registration in Civil Engineering Category or OEM registered in Electrical/Mechanical Category with BMC in Class (A) and above as per new registration if OEM is Bidder (excluding those who are blacklisted or against whom FIR has been filed) or those having equivalent or more work experience from Central or State Government/Semi Govt. Organization/Central or State Public Sector Undertakings works or Private works 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.

Joint Ventures /Consortium and special purpose Vehicles are not Accepted.

Bidding Process will comprise of THREE stages.

The application form can be downloaded from BMC's portal (<http://portal.mcgm.gov.in>) on payment of (Rs.10400/- + (9 % SGST+9% CGST). The applicants not registered with BMC are mandated to get registered (Vendor Registration) with BMC for e-tendering process & obtain login credentials to participate in the online bidding process.

- i) To download the application form, for those applicants not having vendor registration, need to apply first for vendor registration at the office of Account Officer (FAR), 3rd floor, Municipal Headquarter.
- ii) Followed by SRM login ID and password to be obtained from Central Purchase Department (CPD), Office at Byculla, Bakariadda, Mumbai
- iii) For e-Tendering registration, enrollment for digital signature certificates and user manual, please refer to respective links provided in 'Tenders' tab. Vendors can get digital signature from any one of the Certifying Authorities (CA's) licensed by controller of certifying authorities namely, Safes crypt, IDRBT, National informatics center, TCS, CUSTOMS, MTNL, GNFC and e- Mudhra CA.

Name and location of work	Contract period	Description
Planning, Design, Construction of Underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) and operation and maintenance after completion of same on traffic island opp. Apsara Pen shop at Floor Fountain in A Ward Total Nos of Car spaces : 200 Nos Depth of Excavation : 17.5 mt below Ground level. Area of Plot : 1525 sqm.(Approx)	Fifteen Months (15) excluding monsoon	Quoted price (Part A+Part B of financial bid) Part A : (Original work of Planning ,Design, Construction and commissioning of Parking System Including Comprehensive Annual Maintenance for 20 Years) plus Part B : (Operation Maintenance and House keeping for 5 years after completion by engaging manpower)

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 53,24,500 (Rupees Fifty Three Lac Twenty Four Thousand Five Hundred)** (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

BMC portal (<http://portal.mcgm.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 Chief Engineer (Rds. & Traffic). 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 the BMC Portal.

The Applicants interested for the above referred works may contact the Dy.Chief Engineer (Traffic) at the following address on any working day during office hours.

Office of: Dy. Chief Engineer (Traffic), BMC
Zero Floor, Engineering Hub Building,
Dr.E.Moses Road, Worli Naka,
Worli, Mumbai- 400 018,

The applicants may wish to visit the site under reference located at Traffic Island Opposite to Apsara Pen shop in 'A' Ward & can collect the information of the present status from the department who have invited the bids.

The 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 Website of BMC. (<http://portal.mcgm.gov.in/tenders>)

Sd/-

Dy. Chief Engineer (Traffic)

HEADER DATA

Bid No	7200032492
Name of Organization	Brihanmumbai Municipal Corporation
Subject	Planning, Design, Construction of underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) and operation and maintenance after completion of same on traffic island opp. Apsara Pen at Floor Fountain in A Ward.
Cost of Tender	Rs 10,400/- + 18% GST (9% CGST+9% SGST)
Bid Security Deposit/ EMD	Rs.53,24,500.00 (Fifty three lakhs twenty four thousand five hundred)
Period of Completion	<p>Total Time Period:</p> <p>a) For Construction work:- 450 Days (15 months excluding Monsoon)</p> <p>i) For Planning, Designing and obtaining various approvals and complying all pre- construction activities for commencing the construction work:- 90 Days</p> <p>ii) For execution and physical completion, occupancy certificate from local body and no objection certificate from fire department & other local bodies:- 360 Days</p> <p>b) For Maintenance & Operation (After completion of construction work):- 1825 Days (60 months) including monsoon.</p> <p>(including 12 months free maintenance during guarantee/Warrantee period)</p> <p>2. Defect Liability Period of 60 months after record of completion of construction work.</p> <p>3. Comprehensive Annual Service & Maintenance for 20 years after record of completion of construction work.</p>
Date of issue and sale of tender	08/06/2022 from 11:00Hrs [21 days for Submitting Tender
Pre- Bid meeting	Date : 20/06/2022 11.00am in office of DyChE(Traffic), Worli
Last date & time for sale of tender & Receipt of Bid Security Deposit	30/06/2022 upto12:00Hrs
Submission of Packet A, B & Packet C(Online) & Receipt of Bid Security	30/06/2022 upto16:00Hrs

Deposit	
Opening of Packet A	30/06 /2022 after16:01Hrs
Opening of Packet B	30/06 /2022 after 16:10Hrs
Opening of Packet C	15/07 /2022 after 15:00P.M
Address for communication	Office of the:- Dy.Ch.E. (Traffic)'s office BMC, Zero floor, Engineering Hub Building, Dr. E. Moses Road, Worli Naka, Worli, Mumbai400018 Email id:ae01ctiitptr.rt@mcgm.gov.in
Venue for opening of bid	Online in Dy.Ch. Eng.(Traffic)'s office.

This tender document is not transferable.

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

Sd/-

Dy. Ch. Eng. (Traffic)

SECTION 2

ELIGIBILITY CRITERIA

GLOSSARY

AAI	Airport Authority of India
AE	Assistant Engineer
ATC	Area Traffic Control
AMC	Annual Maintenance Contract
ASD	Additional Security Deposit
BIM	Building Information Management
BIS	Bureau of Indian Standards
BOQ	Bill of Quantities
B.G	Bank Solvency
COA	Council of Architect
C.D	Contract Deposit
CPI	Consumer Price Index
CPWD	Central Public Works Department
CFO	Chief Fire Officer
DBR	Design Basis Report
DLP	Defects Liability Period
Dy.Ch.E (Traffic)	Deputy Chief Engineer (Traffic)
EE(T & C)	Executive Engineer (Traffic & Co ordination)
EMD	Earnest Money Deposit
EPC	Engineering Procurement & Construction
ECS	Equivalent Car parking Space
GCC	General Conditions of Contract
HSE	HSE Health Safety & Environment
GCC	General Conditions of Contract
GST	Goods & Service Tax
IS	Indian Standard
BMC	Brihanmumbai Municipal Corporation
MEP	Mechanical Electrical Plumbing
MTC	Material Testing Certificate
NBC	National Building Code
NGT	National Green Tribunal
OEM	Original Equipment Manufacturer
PPE	Personal Protection Equipment
P.G	Performance Guarantee
R.M	Retention Money
SOP	Schedule of Payment

S.D	Security Deposit
STP	Sewage Treatment Plant
SBD	Standard Bid Document
TDS	Tax Deduction at Source
TPQAA	Third Party Quality Assurance Successful Bidder
USOR	Unified Schedule of Rates
WPI	Wholesale Price Index
WTP	Water Treatment Plant
Turnkey	Contractor shall provide the work ready to use at the agreed price and by a fix date.
Lumpsum	

2.1 TECHNICAL CAPACITY (Project Experience)

The tenderer(s) in their own name should have satisfactorily executed the work of ***similar nature** in BMC /Semi Govt. /Govt., Public Sector Organizations and Private sector organizations during **last Ten (10) 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 each of value not less than the value equal to **30%** of quoted cost put to tender or Three works of Electro Mechanical Car Parking system (Shuttle and Dolly system) each of not less than 100 Cars

Or

b) Two similar completed works each of value not less than the value equal to **40%** of quoted cost put to tender or Two works of Electro Mechanical Car Parking system (Shuttle and Dolly system) each of not less than 130 Cars.

Or

c) One similar completed work of value equal and or not less than the **60%** of quoted cost put to tender or One work of Electro Mechanical Car Parking system (Shuttle and Dolly system) of not less than 200 Cars.

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 convinced, bidder must have received payment bills of 80% of contract sum for work/works executed last day of month previous to one in which bids are invited.

*** Similar Nature:**

Similar nature of works means

1) Civil Contractor who has executed/ completed **SITC** (Supply, Installation, Testing and Commissioning) of automatic multilevel electro mechanical car parking system (Shuttle and Dolly system) of minimum 3 Stories / levels

(either underground or elevated) in M.C.G.M /Semi Govt. /Govt., Public sector Organizations & Private Sector Organizations for all types of LMV vehicles.

2) In case of Civil Contractor is the bidder, he shall submit **MOA Apostilled** with Original Equipment Manufacturer (OEM) having experience of Car parking system (Shuttle and Dolly System) for at least 3 works in India each not less than 100 cars or 10 works out of India and out of Country of origin which the OEM should satisfy the minimum number of Cars (for all types of LMV vehicles)as specified under a),b) and c) herein above. In this case the role of the OEM is of Technology partner with a condition that

i) **MOA Apostilled** with such OEM is to be submitted along with the bid

ii) The Minimum design life of the system should be 20 Years.

iii) OEM should carry out comprehensive annual maintenance for next

20 years and at the same time the Civil contractor should carry out Operation and maintenance of the system for next 5 years after completion and Handing over of Mechanical Car parking system to BMC However overall responsibility of comprehensive annual maintenance for next 20 years after completion will lie with Bidder only from the date of Handing over to BMC

3) In case of OEM is the bidder, then the OEM should submit **MOA Apostilled** with Civil Contractor along with the submission of the bid and who satisfies the criteria of completion of Three similar works of 30%, Two similar works of 40% and One similar work of 60% as specified under a), b) and c) herein above.

However, the responsibility of Comprehensive annual maintenance for 20 Years from date of completion and responsibility of Operation and maintenance of the system is vested with Bidder from the date of Handing over to BMC.

Note: Bid submitted by OEM with **MOA Apostilled** with Civil Contractor or Bid submitted by Civil Contractor with **MOA Apostilled** with OEM shall not be construed as Joint Venture for the submission of this bid.

2.2 Financial Capacity:

Achieved an average annual financial turnover as certified by 'Chartered Accountant' equal to **30%** of the quoted cost of work in **last three (3) financial years** immediately preceding the Financial Year in which bids are invited excluding F.Y. (2019-2020) due to covid-19.

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.

2.3 Net Worth Certificate :

The Bidder should have net worth certificate for 15 % of quoted cost of Work.(scanned copy of Net worth Certificate issued by Certified Chartered Accounts to be uploaded)

2.4 Bid Capacity:-

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

$$\text{Assessed Available Bid Capacity} = (A * N * 2 - B)$$

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 or financial failures etc.
- Non disclosure of all litigation history with respect to any contracts with any Government/Semi Government/ Public sector undertakings/Private sector undertakings/Corporations 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 advisers, 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 advisers 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 advisers 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

➤ Background:

The Brihanmumbai Municipal Corporation covers an area of 437.71sq.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 Successful Bidder responsible for urban governance in Greater Mumbai.

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

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

➤ Scope of the work:

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

➤ Scope of the Tender Work :

The work involves Design & construction of Electro Mechanical Multilevel Car Parking (Shuttle and Dolly Type). The scope of work Include designing of foundation, civil structure for erection of electro mechanical parking system (Shuttle and Dolly Type), all electrical & mechanical, fire fighting and fire alarm services etc. This shall be carried out as per relevant CPWD specifications, NBC 2016, BIS codes, if not covered in Indian codes then other international codes with up to date corrections / amendments / errata and good engineering practices. It will be constructed within traffic island. The bidder shall obtain

necessary permissions/NOC/ Approval from other department of BMC & State/Central Government before execution of work. Bidder shall responsible for comprehensive Annual Servicing & Maintenance for 20 years from date of completion & shall operate and maintain system for 5 yrs from date of completion of project.. Defect Liability Period is of 60 months after record of completion of construction work.

Automatic shuttle type multilevel parking facilities to be designed and provided are as below:

Name of Tender work and Location	Total Nos of ECS
Planning, Design, Construction of Underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) and operation and maintenance after completion of same on traffic island opp. Apsara Pen shop at Floor Fountain in A Ward Apsara Pen at Floor Fountain in ‘	200 Car parking spaces

SECTION 5

E-TENDERING ONLINE

SUBMISSION PROCESS

E-TENDERING ONLINE SUBMISSION PROCESS

The terminology of e-Tendering is solely depending upon policies in existence, guidelines and methodology adopted since decades. The SRM is only change in process of accepting and evaluation of tenders in addition to manual. The SAP module to be used in this E-tendering is known as Supplier Relationship Module (SRM).SRM is designed and introduced by ABM Knowledge ware Ltd. who will assist BMC in throughout the tendering process for successful implementation.

NOTE: This tendering process is covered under Information Technology ACT & Cyber Laws as applicable

(1) In e-tendering process some of the terms and its definitions are to be read as under wherever it reflects in online tendering process.

Start Date read as “Sale Date”

End Date read as “Submission Date”

Supplier read as “Contractor/bidder”

Vendor read as “Contractor/bidder”

Vendor Quotation read as “Contractors Bid/Offer”

Purchaser read as “Department/ BMC”

I. Before entering in to online tendering process, the contractors should complete the registration process so as to get User ID for E-tendering links. For this, the contractors can access through Supplier registration via BMC Portal.

There are two methods for this registration :(II and III)

II. Transfer from R3 (registered contractors with BMC) to SRM

- a. Contractors already registered with BMC will approach to Vendor Transfer cell.
- b. Submit his details such as (name, vendor code, address, registered Email ID, pan card etc.) to Vendor transfer cell.
- c. BMC authority for Vendor Transfer, transfers the Vendor to SRM application from R3 system to SRM system.
- d. Transferred Vendor receives User ID creation link on his supplied mail Id.
- e. Vendor creates his User ID and Password for e-tendering applications by accessing link sent to his mail ID.

III. Online Self Registration (Temporary registration for applicant not registered with BMC)

- a Vendor fills up Self Registration form via accessing BMC portal.

Vendor Transfer cell (same as mentioned above) accesses Supplier Registration system and accepts the Vendor request.

Accepted Vendor receives User ID creation email with Link on his supplied mail Id.

Vendor creates his User ID and Password for e-tendering application.

IV. CONTRACTORS BIDDING: Applicant will Quote and Upload Tender Documents

1. Access e-tender link of SRM Portal
2. Log in with User ID and Password
3. Selects desired Bid Invitation (he wants to bid)
4. To download tender documents contractors will have to pay online Tender fee. The same can be done by accessing Pay Tender Fees option. By this one will be able to pay Tender fee through Payment Gateway-If transaction successful, Contractors can register his interest to participate. Without Registration one cannot quote for the Bid/Tender.
5. Applicant will download Tender Documents from Information from purchaser tab by accessing Purchaser document folder through collaboration 'C' folder link.
6. Applicant will upload Packet **A** related and Packet **B** related Documents in Packet **A** and Packet **B** folder respectively by accessing these folders through "My Notes" Tab and collaboration folder link.
7. All the documents uploaded have to be digitally signed and saved. Contractors can procure there digital signature from any certified CA's in India.
8. Bid security deposit/EMD and ASD, if applicable, should be paid online as mentioned in tender.
9. For commercial details (in Packet **C**) contractors will fill data in Item Data tab in Service Line Item via details and quotes his quoted amount.(If entered '0' it will be treated as at par. By default the value is zero only.

10. Applicants to check the bid, digitally signs & save and submit his Bid Invitation.
11. Applicants can also save his uploaded documents/commercial information without submitting the BID for future editing through 'HOLD' option.
12. Please note that "Hold" action do not submit the Bid.
13. Applicants will receive confirmation once the Bid is submitted.
14. Bid creator (BMC) starts Bid Opening for Packet **A** after reaching End Date and Time and Bid Evaluation process starts.

As per Three Packet system, the document for Packet **A & B** are to be uploaded by the tenderer in 'Vendor's document' online in Packet A & B. Before purchasing/ downloading the tender copy, tenderer may refer to post-Qualification criteria mentioned in e-Tender Notice.

The tenderer shall pay the EMD/Bid Security through payment gateways before submission of Bid and shall upload the screenshot of receipt of payment in Packet '**A**' instead of paying the EMD at any of the CFC centers in BMC Ward Offices.

The e-tender is available on BMC portal, <http://portal.mcgm.gov.in>, as mentioned in the Header Data of the tender. The tenders duly filled in should be uploaded and submitted online on or before the end date of submission. 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 Dy.Ch Eng. (Traffic)

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 BMC Portal (<http://portal.mcgm.gov.in>).

SECTION 6

INSTRUCTIONS TO

APPLICANTS

INSTRUCTIONS TO APPLICANTS

➤ **Scope of Application**

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

➤ **Eligibility of Applicants:**

The Brihanmumbai Municipal Corporation (BMC) invites e-tender to appoint Civil Contractor/OEM(Original Equipment Manufacturer) for the aforementioned work on EPC (Engineering Procurement and Construction) Basis (Turn-Key Project) in Three Stage System 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 Civil contractors registered with the Brihanmumbai Municipal Corporation , (BMC) in Class I(A) and above as per new registration in Civil Engineering Category or OEM registered in Electrical/Mechanical Category with BMC in Class (A) and above as per new registration if OEM is Bidder (excluding those who are blacklisted or against whom FIR has been filed) or those having equivalent or more work experience from Central or State Government/Semi Govt. Organization/Central or State Public Sector Undertakings works or Private works 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.**

➤ Joint Ventures /Consortium and special purpose Vehicles are not Accepted.

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

2.1 TECHNICAL CAPACITY (Project Experience)

The tenderer(s) in their own name should have satisfactorily executed the work of ***similar nature** in BMC /Semi Govt. /Govt., Public Sector Organizations and Private sector organizations during **last Ten (10) 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 each of value not less than the value equal to **30%** of quoted cost put to tender or Three works of Electro Mechanical Car Parking system (Shuttle and Dolly system) each of not less than 100 Cars

Or

b) Two similar completed works each of value not less than the value equal to **40%** of quoted cost put to tender or Two works of Electro Mechanical Car Parking system (Shuttle and Dolly system) each of not less than 130 Cars.

Or

c) One similar completed work of value equal and or not less than the **60%** of quoted cost put to tender or One work of Electro Mechanical Car Parking system (Shuttle and Dolly system) of not less than 200 Cars.

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 convinced, bidder must have received payment bills of 80% of contract sum for work/works executed last day of month previous to one in which bids are invited.

*** Similar Nature:**

Similar nature of works means

1) Civil Contractor who has executed/ completed **SITC** (Supply, Installation, Testing and Commissioning) of automatic multilevel electro mechanical car parking system (Shuttle and Dolly system) of minimum 3 Stories / levels (either underground or elevated) in M.C.G.M /Semi Govt. /Govt., Public sector Organizations & Private Sector Organizations.

2) In case of Civil Contractor is the bidder,he shall submit **MOA Apostilled** with Original Equipment Manufacturer (OEM) having experience of Car parking system (Shuttle and Dolly System) for at least 3 works in India each not less than 100 cars or 10 works out of India and out of Country of origin which the OEM should satisfy the minimum number of Cars as specified under a),b) and c) herein above. In this case the role of the OEM is of Technology partner with a condition that

- i) **MOA Apostilled** with such OEM is to be submitted along with the bid
 - ii) The Minimum design life of the system should be 20 Years.
 - iii) OEM should carry out comprehensive annual maintenance for next 20 years and at the same time the Civil contractor should carry out Operation and maintenance of the system for next 5 years after completion and Handing over of Mechanical Car parking system to BMC However overall responsibility of comprehensive annual maintenance for next 20 years after completion will vested with Bidder only from date date of handing over to BMC.
- 3) In case of OEM is the bidder, then the OEM should submit **MOA Apostilled** with Civil Contractor along with the submission of the bid and who satisfies the criteria of completion of Three similar works of 30%, Two similar works of 40% and One similar work of 60% as specified under a), b) and c) herein above.

However, the responsibility of Comprehensive annual maintenance for 20 Years from date of completion and responsibility of Operation and maintenance of the system is vested with Bidder from the date of Handing over to BMC.

Note: Bid submitted by OEM with **MOA Apostilled** with Civil Contractor or Bid submitted by Civil Contractor with **MOA Apostilled** with OEM shall not be construed as Joint Venture for the submission of this bid.

2.2 Financial Capacity

Achieved an average annual financial turnover as certified by 'Chartered Accountant' equal to **30%** of the quoted cost of work in **last three (3) financial years** immediately preceding the Financial Year in which bids are invited excluding F.Y. (2019-2020) due to covid-19.

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

1.3 Net Worth Certificate :

The Bidder should have net worth certificate for 15 % of quoted cost of Work.(scanned copy of Net worth Certificate issued by Certified Chartered Accounts to be uploaded)

C. Bid Capacity:-

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

$$\text{Assessed Available Bid Capacity} = (A * N * 2 - B)$$

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 or financial failures etc.
- Non disclosure of all litigation history with respect to any contracts with any Government/Semi Government/ Public sector undertakings/Private sector undertakings/Corporations etc

D. Equipment Capabilities as required for this work

New and Original Works: The bidder should, undertake their own studies and **furnish with their bid**, a detailed construction planning and methodology supported with assessment study of requirements of equipment/plants & machineries to allow the employer to review their proposal. The bidder 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.

The Equipment Capabilities as required for this work includes:

Sr.No	Equipment	Numbers
1	Builders hoist	As per requirement
2	Transit mixers.	2
3	Concrete pump	1
4	Needle Vibrators	3
5	Screed leveler	2
6	Plate Vibrator	2
7	Total station survey instrument	1
8	Welding machine 400 Ampere	2
9	Centrifugal mono block water pump minimum capacity 2 HP	1
10	Drilling machine	4
11	Shuttering with necessary props	As per
12	Double steel scaffolding and staging materials	Requirement

Note:

1. The above list is only indicative and not exhaustive. The Bidder may be required to deploy more T&P as per requirement of work.
2. The above list is of common T&P; however, bidders shall mobilize and engage T&P as per the technology to be used for construction work. In this matter Successful Bidder shall submit the proposal of T&P to be employed at site for completing the work.
3. All the above plants & equipments are to be deployed as and when required or as directed by Engineer-in-Charge.
4. Bidders shall submit the undertaking for equipment capability and other undertakings as such on a single Rs.500/- stamp paper.

E. 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 no's of years' experience working on similar nature of projects.

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

Cost of Work (Rs. In Crore)	Requirement of Technical Staff (Major+ Minor Component)		Minimum Experience (years)	Designation
	Qualification	Number		
<i>More than 50 to 100</i>	i) Graduate Engineer (Civil)	1	20	Project Manager
	ii) Graduate Engineer (Elect / Mech and Civil)	1 +1	12	Deputy Project Manager
	iii) Graduate Engineer or Diploma Engineer (Civil/Mech/Elect)	2+1	5 (for graduate Eng) or 10 (For Diploma Engineer)	Project/Site Engineer
	iv) Graduate Engineer (Civil) and (Elect/Mech)	1+ 1	8	Quality Engineer
	v) Diploma Engineer (Civil)	1	8	Surveyour
	vi) Graduate Engineer (Civil) and (Elect/Mech)	1 +1	6	Project Planning/ Billing Engineer

General Guidelines for Fixing Requirement of Technical Staff

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

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

Sr. No.	Qualification Experience(years)	Rate of Recovery
1	Project Manager with degree (Electrical/Mechanical/Civil)	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.
4	Project Planning/ Billing Engineer	6 Rs.20000/-

4. 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.
5. 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.
6. 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 & Monitoring department.

F. TIME PERIOD OF THE PROJECT :

Entire project should be completed and delivered within (15) Fifteen months of time from the date of award of contract that excluding monsoon.

Finacial Bid	Description	Days	Total(Days)
Part A	For Construction work		
i)	For Planning, Designing and obtaining various approvals and complying all pre-construction activities for commencing the construction work (including monsoon)	90	
ii)	For execution and physical completion, occupancy certificate from local body and no objection certificate from fire department & other local bodies:- (Excluding Monsoon)	360	
	TOTAL		450
Part B	For Maintenance, Operation and Housekeeping(After completion of construction Work)	1825	
	Total		1825
	Comprehensive Annual Maintenance and serving after record date of completion of construction work.	20 years	

The time allowed for carrying out the work as entered in the Tender shall be strictly observed by the Contractor and shall be reckoned from the date on which

the Letter of Acceptance is given to the Contractor. The work shall throughout the stipulated period of the Contract be proceeded with all due diligence as time being deemed to be the essence of the contract on the part of the Contractor. On failing to do so, the Contractor shall pay as compensation an amount which shall be governed as per Clause - 8(e) of Standard General Conditions of Contract.

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

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

Full work will be completed in Fifteen months (Ex. Monsoon)

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

F. Contract Execution

- i) 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.
 - ii) Contract Agreement shall include operation and maintenance of Mechanical Parking system for period of 60 months after record date of completion by BMC.
 - iii) Tri party Contract Agreement with Civil Contractor, OEM and BMC shall be executed for free Comprehensive Annual maintenance for 20 years after record date of completion by BMC shall be executed within 30 days from the date of issue of letter of acceptance
- G.** If the amount of the Contract Deposit to be paid above is not paid within 30 days from the date of issue of Letter of Acceptance, the Tender / Contractor already accepted shall be considered as cancelled and legal steps be taken against the contractor for recovery of the amounts.

- H. The amount of Security Deposit retained by the BMC shall be released after completion of work as per tender condition. However, the bidder as well as OEM has to submit the Performance Guarantee (PG) of Rs 25 Lacs Each for successful Operation and Maintenance period of 5 Years and Comprehensive Annual Servicing and maintenance of system for period of 20 years after record date of completion of Parking System. Same shall be paid within 15 days from the date of issue of Letter of Acceptance.

If the P.G to be paid above is not paid within 15 days from the date of issue of Letter of Acceptance, the Tender / Contractor already accepted shall be considered as cancelled and legal steps be taken against the contractor for recovery of the amount.

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 to be adjusted against the Bank Guarantee towards the cost incurred by the Department on rectification work.

I. **Action when whole of security deposit is forfeited:**

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

- (a) To rescind the contract (for which recession notice in writing to the contractor under the head of Executive Engineer shall be conclusive evidence) and in that case, the security deposit of the contract shall stand forfeited 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 Successful Bidder, additional supervisory staff including the cost of work charged establishment and the cost of the work executed by the new contract Successful Bidder 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 therefor 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.

J. 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.

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 as governed by Registration Rules in force for respective Class of Contractor for Civil or M&E works. (Valid Bank Solvency Certificate of minimum solvency amount as governed by Registration Rules in force for respective Class and category of Contractor, issued not more than Six months prior to the date of submission of tender and valid upto one year)
- c) GST Registration Certificate.
- 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 bidders shall categorically provide their Email-ID , office Address , contact no. on letterhead of firm in packet 'A'.
- g) Screenshot of EMD payment receipt

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

(ae01ctiitptr.rt@mcgm.gov.in) 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 Technical Capacity of Eligibility Criteria successfully completed during the last 10 years in prescribed proforma, in the role of prime contractor. Information furnished in the prescribed proforma. (Proforma – I) & (Proforma – III) shall be supported by the certificate duly self-attested. Documents stating that it has successfully completed during the last Ten years at least one contract of similar works as stated in 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) Net worth certificate for 15 % of quoted cost of Work.(scanned copy of Net worth Certificate issued by Certified Chartered Accounts to be uploaded) (Annexure –F)
- d) 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).
- e) Bidder shall upload information regarding Technical Personnel in prescribed Proforma IV. Minimum requirement are specified under clause E in Section 6

(Scanned Attested copies of qualification certificates and details of work experience shall be submitted /uploaded.

- f) 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.

New and Original Work :The bidder should, undertake their own studies and furnish with their bid, a detailed construction planning and methodology supported with assessment study of requirement of equipment/plants and machineries to allow the employer to review their proposal. The bidder shall ensure his commencement or with respect to the progress of 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 Rule of BMC.(Proforma V/A & V/B)

- g) 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.
- h) Statement showing assessed available Bid Capacity.
- i) The undertaking of Rs.500/- stamp paper as per the proforma annexed in 'Annexure B, C, E
- j) Information regarding Structure & Organization (Annexure G)
- k) **Apostilled MOA** executed with OEM by Civil contractor if Civil contractor is bidder (Annexure H) or **Apostilled MOA** executed with Civil contractor by OEM if OEM is Bidder(Annexure I)
- l) Irrevocable Undertaking on Rs 500/- Stamp Paper regarding GST(Annexure J)
- m) Information on Litigation History (Proforma VII) in which the tenderer is involved as per circular u/No. MGC/F/6565 dated. 25.09.2018 .(The bidder shall disclose the litigation history as mentioned in Packet 'B. If there is no litigation history, the bidder shall specifically mention that there is no litigation history against him. In case there is litigation history-Litigation History must cover –

Any action of blacklisting, debarring, banning, suspension, deregistration and cheating with BMC, State Govt., Central Govt. or any authority under State or Central Govt./Govt. Organisation initiated against the company, firm, directors, partners or authorized signatory shall be disclosed for last 5 years from the date of submission of bid. Also, bidder must disclose the litigation history for the last 5 years from the date of submission of bid about any action like show caused issued, blacklisting, debarring, banning, suspension, deregistration and cheating with BMC and BMC is party in the litigation against the company, firm, directors, partners or authorized signatory for carrying out any work for BMC by any authority of BMC and the orders passed by the competent authority or by any Court where BMC is a party. While taking decision on litigation history, the concerned Chief Engineer or D.M.C. Or Director, as may be the case, should consider the details submitted by bidder and take decision based on the gravity of the litigation and the adverse effect of the act of company, firm, directors, partners or authorized signatory on the BMC works which can spoil the quality, output, delivery of any goods or any work execution and within the time frame.

- n) Experience of car parking system (Shuttle and Dolly system) of OEM as per proforma –I with no's of car parking spaces.
- o) The tenderers shall upload work plan as per the following outline:
 1. PERT / Bar/ 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 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. 500 stamp paper as per circular u/no. CA/FRD/I/65 of 30.03.2013.

II. 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. 500 stamp paper as per circular u/no. CA/FRD/I/44 of 04.01.2013.

Note:

- i) The Electrical / Mechanical work shall be got carried out by the civil contractors through the contractors registered with BMC in Mechanical & 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.

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 Financial Offer. Bidder Shall ensure to quote rate of Each Item in Part A and Part B of financial Bid. 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 rates in figures. If No rate is quote by Tenderer ,rate of such item shall be treated **as" 0" (Zero)**.

INTERNAL GRIEVANCE REDRESSAL MECHANISM

M.C.G.M. has formed a internal 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 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, M.C.G.M. may decide whether the bid process is required to be suspended pending disposal of such review. The M.C.G.M. 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 it required to other bidders or prospective bidders, as the case may be.

M.C.G.M. shall deal and dispose off such application as expeditiously as possible and in any case within 10 days from the date of receipts 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 M.C.G.M. fails to dispose off the application within the specified period of 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 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 favor of M.C.G.M.

1st Appeal by the bidder against the decision of C.E./HoD/Dean can be made to concerned D.M.C./Director who should decide appeal in 7 days.

If not satisfied, 2nd appeal by the bidder can be made to concerned A.M.C. for decision.

Grievance Redressal Committee (GRC) is headed by concerned D.M.C./ Director of particular department for the first appeal / grievances by the bidder against the decision for responsiveness / non-responsiveness in Packet 'A', Packet 'B' or Packet 'C' and if not satisfied, concerned A.M.C. will take decision as per second appeal made by the bidder.

This Grievance Redressal Committee (GRC) will be operated through DMC(Infra) office where appeals of aggrieved bidder will be received with fee of Rs. 25,000/- from aggrieved bidder. The necessary correspondence in respect of said applications to the aggrieved bidder & concerned department, issuing notices, arranging of Grievance Redressal Committee (GRC) with D.M.C. and further proceeding will be carried out through registrar appointed by BMC.

No application shall be maintainable before the redressal Committee in regard of any decision of the M.C.G.M. 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 communicated his decision thereon to the Applicant within 10 days or such further time out 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 complaints 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 Lakh rupees or two percent of the value of the procurement, whichever is higher.

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
- 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.

REFUND OF EMD

- The EMD of L-2 and other higher bidders (L-3, L-4, etc.) shall be refunded immediately after opening of financial bid. In case, the successful bidder becomes non-responsive or successful bidder withdraws the bid or is unwilling to extend the bid validity period, in such circumstances, if L-2 bidder is agreeable to extend the bid validity period and ready to deposit the requisite amount of EMD and ASD to the department within the stipulated time period i.e. 15 days, the department will process further as per normal procedure.

EMD 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.
1. The cases wherein if the shortfalls are not complied by a contractor, will be informed to Registration and Monitoring Cell. Such non-submission of documents will be considered as 'Intentional Avoidance' and if three or more cases in 12 months are reported, shall be viewed seriously and disciplinary action against the defaulters such as banning/de-registration, etc. shall be taken by the registration cell with due approval of the concerned AMC.

2. No rejections and forfeiture shall be done in case of curable defects. For non-curable defects the 10% of EMD shall be forfeited and bid will be liable for rejection.

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 individuals, owners, etc
 - v. Partnership Deed and any other documents
 - vi. Undertakings as mentioned in the tender document.
- 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. Wrong calculation of Bid Capacity,
 - d. No proper submission of experience certificates and other documents, etc

BID VALIDITY

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

In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable. A bidder may refuse the request without forfeiting his Bid Security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his bid security for a period of the extension.

DEFECT LIABILITY PERIOD

- 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 and 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 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 concealed so as to constitute fraud, commencement of the Defect Liability Period may be delayed. The decided period may be delayed until **discover** actually occurs on at least the defect could have been discovered with reasonable diligence, whichever is earlier.
- 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
Defect Liability period for this tender is 60 Months.

Categories and classes available for Civil Contractors

New registration rules - 2016.

Minimum Financial requirements for Civil Engineering Discipline

(Rs.In Lakh)

Sr.No.	Class	Upper Limit of Tendering	Minimum Solvency
1	I(A)	<i>Without Limit</i>	150
2	I(B)	2500	150
3	I(C)	1500	150
4	II	750	75
5	III	300	30
6	IV	150	15
7	IV(A)	90	9
8	V	50	5
9	V(A)	30	3
10	VI	15	2
11	VII	7	1
12	VIII	3	0.50
13	IX	2	0.25

Categories and classes available for Mechanical/Electrical Contractors

New registration rules - 2016.

**Minimum Financial requirements for Mechanical/Electrical Engineering
Discipline:**

(Rs.In Lakh)

Sr.No.	Class	Upper Limit of Tendering	Minimum Solvency
1	A	<i>Without Limit</i>	8
2	B	25	4
3	B-1	15	3
4	C	10	3
5	D	7.5	1.5
6	E	2	0.5

SECURITY DEPOSIT AND PERFORMANCE GUARANTEE

A. Security Deposit

The security deposit shall mean and comprise of

- I. Contract Deposit
- 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 within thirty days from the date of issue of letter of acceptance.

B. 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.

C. ASD – Deleted

D. Performance Guarantee :

(A) For operation and Maintenance of Parking System for 5 years after completion of Parking system and Annual comprehensive servicing and maintenance of Parking system for 20 years from record date of completion of parking system.

- i) The bidder as well as OEM has to submit the Performance Guarantee (PG) of Rs 25 Lacs Each for successful Operation and Maintenance period of 5 Years and Annual servicing and maintenance of Parking System for period of 20 years from record date of Completion. Same shall be paid within 15 days from the date of issue of Letter of Acceptance. If

the amount of the Security Deposit to be paid above is not paid within 15 days from the date of issue of Letter of Acceptance, the Tender / Contractor already accepted shall be considered as cancelled and legal steps be taken against the contractor for recovery of the amount.

- ii) 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 to be adjusted against the Bank Guarantee towards the cost incurred by the Department on rectification work. This PG shall be valid till completion of period of Annual comprehensive servicing and maintenance of Parking system i.e 20 years from record date of completion of parking system.

- (B) Successful tenderer hereafter referred as contractor shall pay in the form of Performance Grantee 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.

- (C) 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. However P.G of Rs 50 lacs (Rs 25 lac by Bidder and Rs 25 Lac by OEM) shall be valid upto 20 years after record date of completion of Parking system for Annual Comprehensive Servicing and maintenance of Parking system.

The Performance BG shall not be accepted in broken period else penalty amounting to Rs. 1000/- per day will be recovered for broken period.

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

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

IV. Refund of Performance Guarantee

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

P.G of Rs 50 lac in form B.G will be refunded only after completion of 20 years from record date of completion of parking system for Annual comprehensive servicing and maintenance of Parking system.

❖ **Summary of time of Refund of deposit is tabulated as follows:**

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

Note:

- a) 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.
- b) 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.

d) Legal + Stationary Charges: (As per applicable circular)

Successful tender shall pay the Legal Charges +Stationary charges as per Circular no. 10318 dtd 24.03.2022 of legal department.

Sr. No.	Contract Value	Legal + Stationery Charges from 01.04.2022 to 31.03.2023
1	Rs.- 10,001/To Rs.50,000/	Nil
2	Rs.50,001/- To Rs.1,00,000/-	Rs. 6,290/-
3	Rs.1,00,001/- To Rs.3,00,000/-	Rs. 10,380/-
4	Rs.3,00,001/- To Rs.5,00,000/-	Rs. 12,470/-
5	Rs.5,00,001/- To Rs.10,00,000/-	Rs.14,510/-
6	Rs.10,00,001/- To Rs.20,00,000/-	Rs. 16,570/-
7	Rs.20,00,001/- To Rs.40,00,000/-	Rs.18,660/-
8	Rs.40,00,001/- To Rs.1,00,00,000/-	Rs. 20,720/-
9	Rs.1,00,00,001/- To Rs.10,00,00,000/-	Rs. 24,450/-
10	Rs.10,00,00,001/- To Rs.20,00,00,000/-	Rs. 28,220/-
11	Rs.20,00,00,001/- To Rs.30,00,00,000/-	Rs. 31,980/-
12	Rs.30,00,00,001/- To Rs.40,00,00,000/-	Rs. 35,740/-
13	Rs.40,00,00,001/- To Rs.50,00,00,000/-	Rs.39,470/-
14	Rs.50,00,00,001/- To Rs. 1,00,00,00,000/-	Rs. 47,000/-
15	Rs.1,00,00,00,001/- To Rs. 2,00,00,00,001	Rs. 58,270/-
16	Rs.2,00,00,00,001/- To Rs. 3,00,00,00,001	Rs.65,770/-
17	Rs.3,00,00,00,001/- To Rs. 4,00,00,00,001	Rs.75,120/-
18	Rs.4,00,00,00,001/- To Rs. 5,00,00,00,001	Rs. 84,510/-
19	Rs.5,00,00,00,001/- Up to above any contract value.	Rs. 93,920/-

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

a) 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 Maharashtra Stamp Act 2015, stamp duty is payable for “works contract” that is to say, a contract for works and labour or services involving transfer of property in goods (whether as goods or in some other form) in its execution and includes a sub-contract, as under :

(a)	Where the amount or value set forth in such contract does not exceed rupees ten lakh.	Five Hundred rupees stamp duty
(b)	Where it exceeds rupees ten lakhs	Five hundred rupees plus 0.1 % of the amount above rupees ten lakh subject to the maximum of rupees twenty five lakh stamp duty.
As per Article 54 read with 40(b) 0.5 % of original B. G. as well as 0.5% on extended B.G. amount, stamp duty to be paid by bidder.		

- ii. The successful bidder shall enter into a contract agreement with M.C.G.M. 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.

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

IMPORTANT DIRECTIONS

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

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

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

Any queries or request for additional information concerning this TENDER shall be submitted by e-mail to ae01ctiitptr.rt@mcgm.gov.in . The subject shall clearly bear the following identification/ title: "**Queries/ Request for Additional Information**: :- Planning, Design, Construction of Underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) and operation and maintenance after completion of same on traffic island opp. Apsara Pen at Floor Fountain in ' 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 will be done by IT department in BMC's SRM system. **Till such development is made; 'Sealed Bids' shall be called from the bidders quoting the same rates i.e. L1.**

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

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

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

4. It will be entirely responsibility of the contractor to provide and install secure barricades on work site; wholly at his cost. The Barricading shall be provided as per specification and as per site requirements and the circular issued u/no MGC/F/6342 dated 05.05.2018 shall be applicable. BMC will not make any payment towards barricading, contractor shall quote accordingly.

5. In case of any surplus excavated material is required to be removed from the site; the cost shall be borne by contractor and is deemed to be included in the contractor's offer. No payment on this account will be made separately. (As per the circular MGC/F/7867 dated 12.1.2015).
6. The successful bidder shall obtain all the NOC/Approval from BMC Dept./State/Central Govt. within 90 days after issue of LOA and before execution of work for which no payment will be given.
7. For any reasons if project is not feasible or cannot be commenced then no compensation will be given to successful bidder. EMD, Contract deposit, Retention money & P.G in form of B.G. will be returned to successful bidder without interest.
8. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and subsoil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidder shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.
9. Engineer in Charge for Civil and Electrical/mechanical Work will be Executive Engineer (T & C) and Representatives of Engineer in Charge will be A.E (Traffic) S.E(traffic) for Civil work and A.E (ATC) and SE (ATC) for electrical/mechanical work.
10. That all the relevant conditions of the Standard General Conditions of Contract for construction works of BMC which is in force shall be applicable for the work.

SECTION 7

SCOPE OF WORK

SCOPE OF WORK (PLANNING & DESIGN)

Section - I

The scope of work has been elaborated here broadly but this shall be read with details given elsewhere in this document and drawings attached herewith.

1.1 Scope of Architectural Work:

1.1.1 The contractor shall carry out survey of proposed space of multilevel car parking and prepare layout plan. Contractor shall prepare and submit other conceptual, architectural drawings to accommodate required number of cars. Layout plan and other conceptual, architectural drawings shall be submitted within 15 days after stipulated date of commencement for further approval from local body.

1.1.1A **Soil Investigation : Participant Bidders can carry out soil investigation at his own cost after taking Approval from BMC and share result to BMC before pre bid meeting and same will be displayed on web portal and SAP system by BMC. Permission will be granted to only one bidder in first come first basis.**

1.1.2 Schematic planning and designing of electro mechanical parking system like type of parking system to be installed, number of levels used and other associated components shall be done and submitted to the Engineer-in-Charge for approval. All components required to complete the car parking system like foundation, pit, steel structure, electrical installation, fire-fighting system, Fire Alarm System, power supply, canopy over the system, façade, façade lighting, flooring, approach from existing internal road to parking system, etc shall also be planned & designed and submitted to Engineer-in-Charge for approval.

1.1.3 Design, Fabrication, Construction, Installation and Commissioning of multilevel parking facilities complete in all respect including approval from local body and other statutory authorities.

1.2 Multilevel Parking System design and Construction:

1.2.1 **The Successful Bidder shall organize presentation of structural design and parking system design to BMC within 15 days after award of work before taking up the actual design work. A kick off meeting shall be organized by Successful Bidder for the same.**

(a) Automatic shuttle and dolly type multilevel mechanical car parking system to be designed and constructed are as below :

Name of Tender work and Location	Total Nos of ECS
Planning, Design, Construction of Underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) and operation and maintenance after completion of same on traffic island opp. Apsara Pen shop at Floor Fountain in A Ward	200 Car parking spaces

(b) Multilevel parking facility shall be in standalone Buildings /Space. It shall be design as underground multilevel parking as per design requirement. Bidders shall design the same as per requirement.

(c) Foundation and Civil Construction:

1. RCC Foundation & Structural work: The RCC foundation shall be laid as per design submitted by registered R.C.C Consultant (Vetted by the Proof Consultant) and approval of Engineer-in Charge
- 1.2.2 Design calculations along with drawings shall be submitted by Successful Bidder for due vetting by the Proof Consultant appointed by BMC. The structural consultant of the Successful Bidder shall extend full support in getting the design proof checked/vetted by IIT/NIT or any other Successful Bidder appointed by BMC.
- 1.2.3 The fees / charges of proof checking/vetting of designs etc. shall be paid by Successful Bidder.
- 1.2.4 The Successful Bidder has the obligation to make as many changes /modification(s) as required in Architectural drawings on instructions of BMC/Approving Authorities.
- 1.2.5 The Successful Bidder shall provide the structural stability certificate to BMC. However, the checking and vetting of design/drawings shall not absolve the Successful Bidder from the responsibilities of any failure in the structural design during construction as well as during the specified life period of the structures.
- 1.2.6 The Successful Bidder shall submit all the submittals like designs, Good For Construction (GFC) drawings, documents, reports, schedules etc. in minimum six number of hard and six number of soft (CD/DVD) copies to BMC.
- 1.2.7 Successful Bidder shall carry out soil investigation at his own cost and submit report to BMC and also carry out the Geo-Technical investigation at his own cost as per relevant IS code.
- 1.2.8 Successful Bidder shall get topographic survey done for their use in planning and designing of the campus. The Successful Bidder shall collect data/information, which may be needed for completing the job.
- 1.2.9 Design and Drawings prepared by the Successful Bidder shall be the property of BMC and Successful Bidder cannot issue the same to any other person / organization or use for any other project.
- 1.2.10 BMC will not be responsible for any lapse/s and /or losses, if so occurs, due to absence of any data /knowledge. The information and site data given in the drawings or mentioned in this tender document are furnished for general information and guidance only and BMC does not take responsibility for their accuracy.
- 1.3 **Diversion of Services:**

All works pertaining to diversion of services including rerouting (for maintaining services to nearby areas throughout project), routine testing, installation etc., embracing in one or more than one places shall be subject to examination and prior approval to each stage thereof by the Engineer-in charge or concerned department as would be notified by the Engineer-in charge or his accredited representative when such stage is ready. Nothing extra shall be paid for such work. In default of such notice, the Engineer-in-Charge shall be entitled to appraise the quantity and extent thereof and the decision of Engineer-in-Charge or his accredited representative in this regard shall be final and binding .
- 1.3.1 The Successful Bidder will not have any claim in case of any delay in removal of trees or shifting, raising, removing of telegraph, telephone or electric lines (overhead or underground), water and sewer lines and other structures etc, if any, which may come in the way of the work. However, suitable extension of time will be granted to cover such delays.

1.4 Water and Electricity Arrangement:

- 1.4.1 Arrangement of water for drinking purpose and for construction work is also to be made by the Successful Bidder at his own cost and nothing will be paid on this account. The Successful Bidder shall get the water tested with regard to its suitability and conforming to the relevant IS Code. The Successful Bidder shall obtain written approval from the Engineer-in-Charge before he proceeds by using the same for execution of work.
- 1.4.2 Successful Bidder shall make his own arrangement for obtaining electric connection (s) and make necessary payment directly to the department concerned. BMC will however make all reasonable recommendations to the authority concerned in this regard.

1.5 Excavation and Disposal off Excavated Earth:

- 1.5.1 The Successful Bidder shall deposit royalty, any other duty / taxes, fees and obtain necessary permit for excavation from concerned local/statutory authority required if any. The quoted rates shall be inclusive of all such payments to be made, if any. No Extra claim on this behalf will be granted by BMC.
- 1.5.2 The excavated surplus earth other than the quantities of earth required for back fillings will be the property of Successful Bidder. Successful Bidder shall dispose of this excavated earth as per the rules and laws applicable in State of Maharashtra at the locations arranged by him at his own cost. The rates quoted by the Successful Bidder deemed to be included of all the costs to be incurred in loading, unloading, carriage of earth outside the Campus at any distance and all other activities required to dispose-of the excavated earth. Fine, penalty, if any, imposed for violation of rules and laws shall be payable by Successful Bidder. No extra payment, whatsoever, on this account shall be payable to Successful Bidder.

1.6 Tree Transplantation/Felling Permission

Structure shall be designed without disturbing the existing trees however pruning of branches shall be done in consultation with H.A of Concerned Ward office and according to their policy.

1.7 Adherence to Approved plans:

The Successful Bidder shall adhere to the building / layout plan which has been approved by various Authorities and plan & design the parking system accordingly.

1.8 Other Conditions

- 1.8.1 The Successful Bidder shall not store/ dump construction material or debris on the metalled road.
- 1.8.2 The Successful Bidder shall get prior approval from Engineer-in-Charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic /inconvenience to the pedestrians/public in general. It should be ensured by the Successful Bidder that no accidents occur because of such permissible storage.
- 1.8.3 The Successful Bidder shall provide mask to every worker on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
- 1.8.4 The Successful Bidder shall compulsorily use wet jet in grinding and stone cutting.

- 1.8.5 The Successful Bidder shall comply with all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.
- 1.8.6 The Successful Bidder shall ensure that all DG set comply emission norms notified by MoEF.
- 1.8.7 The Successful Bidder shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 Kmph. Speed bumps shall be used to ensure speed reduction. In case where reductions speed cannot effectively reduce fugitive dust, the Successful Bidder shall divert traffic to nearby paved areas.
- 1.8.8 The Successful Bidder shall ensure that the construction material in storage or transit is covered by tarpaulin. The Successful Bidder shall take all other precaution to ensure that no dust particles are permitted to pollute air quality because of such storage/transportation.
- 1.8.9 The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects.
- 1.8.10 As per EIA Notification of 2006, sufficient green belt around the building shall be provided. Such green belts shall be in existence prior to applying for occupancy certificate and handing it over.
- 1.8.11 Any violation of orders of MoEF including guidelines of State Government, SPCB or any officer of any department shall lead to stoppage of work for which Successful Bidder shall be responsible and no hindrance shall be accounted in this regard.
- 1.9 Prevention of Nuisance and Pollution
- 1.9.1 The Successful Bidder shall take all necessary precautions/temporary measures to prevent any nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties and to the public in general and to prevent any damage to such properties and any pollution. He shall make good at his own cost and to the satisfaction of the Engineer-in-charge, any damage to roads, paths, underground/overhead services, drainage works or public or private property whatsoever caused by the execution of the work or by traffic brought thereon by the Successful Bidder.
- 1.9.2 Existing drains, pipes, cables, overhead wires, sewer lines, water lines and similar services encountered in the course of the execution of the work shall be protected/ maintained against the damage by the Successful Bidder. The Successful Bidder shall identify all underground / overhead services and take necessary measures to protect the services before starting any excavation / activity. All temporary supports and other measures required to protect and maintain the services during construction period as per direction of Engineer-in-charge, shall be deemed to be included in the quoted rate / amount of the Successful Bidder and nothing extra shall be paid on this account. For any permanent shifting BMC shall arrange to shift the services as and when required. However, in the interest of work, if BMC decides to get it shifted by the Successful Bidder, then Successful Bidder shall be paid separately at the rates as decided by the Engineer-incharge based on the actual quantum of the work involved in shifting such utilities/services. The decision of the Engineer-in-Charge in this regard shall be final and binding.
- 1.9.3 The site shall be kept clean of all debris, rubbish and dirt & surplus/waste material all the time. It also includes maintenance, cleaning & de-silting the pipe lines laid by the Successful Bidder for all internal services etc. executed

by the Successful Bidder to the entire satisfaction of the Engineer-in-charge during the construction/maintenance periods. Cleaning and de-silting will also be done by the Successful Bidder before handing over the completed structures to CPWD. All machines, equipment and labour for this purpose will be arranged by Successful Bidder at no extra cost to BMC.

1.10 Security of the Site

1.10.1 The Successful Bidder shall be wholly responsible for security of site and works and keeping unauthorized persons off the Site. Authorized persons shall be limited to the Employees of the Successful Bidder,

1.10.2 Lighting: The contractor shall provide sufficient lighting at project site. The type of lighting fixture being provided should be of the type suitable to illuminate the locations effectively for working. Lighting fixture and their installations shall be done considering all safety precautions against electric shock. The contractor shall ensure that luminaries should always be so placed that no person is required to work in their own shadow and that the local light for one person is not a source of glare for the others. Strongly made clamps should be available for attaching luminaries to poles and other convenient supports.

1.10.3 Luminaries shall be robust, resistant to corrosion and rain proof especially at the point of the cable entry. The contractor shall take every effort to illuminate the work site as per the direction of Engineer-in-charge.

1.11 Traffic Management

1.11.1 The basic objective of the following guidelines is to lay down procedures to be adopted by contractor to ensure the safe and efficient movement of traffic and also to ensure the safety of workmen at construction sites.

1.11.2 All construction workers should be provided with high visibility jackets with reflective tapes as most of construction activities shall be done within right-of way of the roads. The conspicuousness of workmen at all times shall be increased so as to protect them from speeding vehicular traffic.

1.11.3 The Successful Bidder shall provide safety helmet, safety shoe and high visibility clothing for all employee including workmen, traffic marshal and other employees who are engaged for any work under this contract.

1.11.4 Wherever operations undertaken are likely to interface with public traffic, specific traffic management plans shall be drawn up and implemented by the Successful Bidder in consultation with the prior approval of local police authorities, and /or the concerned metropolitan/civil authorities as the case may be.

1.11.5 The guiding principles to be adopted for safety in construction zone are to warn the road user clearly and sufficiently in advance, provide safe and clearly marked lanes for guiding road users and marked buffer and work zones. The Successful Bidder shall provide adequate measures that control driver behaviour through construction zones.

1.11.6 The primary traffic control devices used in work zones shall include signs, delineators, Barricades, cones, pylons, pavement markings and flashing lights, deployment of sufficient number of Marshalls on diversion roads.

1.11.7 Warning signs in the traffic control zone shall be utilized to warn the drivers of specific hazards that may be encountered.

1.11.8 The contractor shall place detour signage at strategic locations and install warning signs. In order to minimize disruption of access to residences and

business, the contractor shall maintain at least one entrance to a property where multiple entrances exist.

1.11.9 Materials hanging over/ protruded from the chassis / body of any vehicle especially during material handling shall be indicated by red indicator (red light/flag) to indicate the caution to the road users.

1.12 Various Ancillary Provisions at Site

1.12.1 Traffic cones of 500mm, 750mm and 1000mm height and 300mm to 500mm in diameter or in square shape at base and are often made of plastic or rubber and normally having retro-reflectorics red and white band shall be used wherever required.

1.12.2 Drums about 800mm to 1000mm high and 300mm in diameter can be used either as channelizing or warning devices. These are highly visible, give the appearance of being formidable objects and therefore command the respect of drivers

1.13 Incidental Works

For execution of any items of work where incidental works such as bailing out water, shoring etc. are actually required but not specifically stated in the scope of item and/ or tender document, it is to be understood that the contract amount quoted by the Successful Bidder shall cover such charges also and nothing extra on account of such incidental charges, if any, shall be paid.

1.14 Successful Bidder's care of the Works

1.14.1 The Successful Bidder shall bear full risk in and take full responsibility for the care of the works and materials, goods and equipment for incorporation therein from the commencement date until the Completion Certificate is issued, except and to the extent that any loss of or damage to the same shall arise out of any default or neglect of the Employer.

1.14.2 The Successful Bidder shall throughout the execution of the Works including the carrying out of any testing, commissioning (including Integrated Testing and Commissioning), or remedying of any defect.

1.14.3 Take full responsibility for the adequacy, stability, safety and security of the Works, Plant, Goods, Successful Bidder's Equipment, Temporary Works, operations on Site and methods of manufacture, installation, construction and transportation;

1.14.4 Have full regard for the safety of all persons on or in the vicinity of the Site (including without limitation persons to whom access to the Site has been allowed by the Successful Bidder), comply with all relevant safety regulations, including provision of safety gear, and insofar as the Successful Bidder is in occupation or otherwise is using areas of the site, keep the site and the works (so far as the same are not completed and occupied by the Employer) in an orderly state appropriate to the avoidance of injury to all persons and shall keep the Employer indemnified against all injuries to such persons.

1.14.5 Provide and maintain all lights, guards, fences and warning signs and watchman when and where necessary or required by the Engineer-in-Charge or by laws for the protection of the Works and for the safety and convenience of the public and all persons on or in the vicinity of the Site; and

1.14.6 Where any work would otherwise be carried out in darkness, ensure that all parts of the Site where work is being carried out are so lighted as to ensure the safety of all persons on or in the vicinity of the Site and of such work.

1.14.7 Successful Bidder is required to take note of all the necessary provisions in Employer's Safety, Health and Environment Manual (SHE Manual) and the Successful Bidder's price shall be inclusive of all the necessary costs to meet

the prescribed safety standards. In the case, the Successful Bidder fails in the above, the Employer may provide the necessary arrangements and recover the costs from the Successful Bidder.

1.15 House-Keeping

1.15.1 Housekeeping is the act of keeping the working environment cleared of all Unnecessary waste, thereby providing a first-line of defence against accidents and injuries. General House-keeping shall be carried out by the Successful Bidder and ensured at all times at Work Site, Construction Depot, Fabrication Yard, Workshop, Batching Plant, Labour Camp, Stores, Offices and toilets/urinals etc. The Successful Bidder shall be responsible to provide segregated containers for disposal of debris at required places and regular cleaning of the same.

1.15.2 All stairways, passageways and gangways shall be maintained without any blockages or obstructions. All emergency exits passageways, exits fire doors, break-glass alarm points, fire-fighting equipment, first aid stations, and other emergency stations shall be kept clean, un-obstructed and in good working order.

1.15.3 All surplus earth and debris shall be removed/ disposed-off from the working areas immediately. The tires of the trucks leaving the site shall be cleaned with water, wherever the possibility of spillage on carriageways meant for regular road traffic exists.

1.15.4 No parking of trucks/trolleys, cranes and trailers etc. shall be allowed on roads, which may obstruct the traffic movement. The Successful Bidder shall ensure the cleanliness of roads and footpaths by deploying proper manpower for the same. The Successful Bidder shall have to ensure proper brooming, washing of roads and footpaths, at all the time, throughout the entire stretch till the currency of the contract including disposal of swept trash without any extra cost.

1.15.5 Water logging or bentonite spillage on roads shall not be allowed.

1.15.6 Proper and safe stacking of material are of paramount importance at fabrication stores, stores and such locations where material would be unloaded for future use. The storage area shall be well laid out with easy access and material stored / stacked in an orderly and safe manner.

1.16.7 Flammable chemicals, compressed gas cylinders etc. shall be safely stored. Unused/surplus cables, steel items and steel scrap lying scattered at different places within the working areas shall be removed to marked locations(s). All wooden scrap, empty wooden cable drums and other combustible packing

materials, shall be removed from the site. Lumber with protruding nails shall be either bent/ removed and properly stacked.

1.15.8 The compliance of above provisions are deemed to be included in the quoted amount of the Successful Bidder and no claim / payment whatsoever shall be entertained on this account.

1.16 Unforeseeable Difficulties

Except as otherwise specifically stated elsewhere in the Contract:

1.16.1 The Successful Bidder shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Works;

1.16.2 By signing the Contract, the Successful Bidder accepts total responsibility for having foreseen all difficulties and costs of successfully completing the Works; and

- 1.16.3 The Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs.
- 1.16.4 BMC shall not provide any material either on chargeable or on free issue basis to the Successful Bidder for execution of the project.

SECTION-II

GENERAL CONDITIONS FOR PLANNING & DESIGN

1.1 The bidder should engage a Firms / Consultant (whether titled as an Architectural firm or Engineering firm) which shall provide consultancy services in project, detailed designing of multilevel car parking, detailed architectural drawings, detailed structural analysis, designing and detailing of all services, their drawings & approval etc. Such Consultant shall prepare and supply all the coordinated Good for construction drawings and get them duly proof checked and approved. The Consultant shall be associated till completion of the project and obtained the completion certificate from the concerned local body.

2.1 **Brief Scope Of Work:**

- Planning, Design, Construction of Underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) and operation and maintenance after completion of same on traffic island
- Location: Flora Fountain, Fort, opposite Apsara Pen in A Ward.
- Minimum Number of Car parking Spaces :200 Car parking spaces

Civil Work:

- Soil Investigation : Participant Bidders can carry out soil investigation at his own cost after taking Approval from BMC and share result to BMC before pre bid meeting .and same will be displayed on web portal and SAP system by BMC. Permission will be granted to only one bidder in first come first basis.
- Maximum Depth of Excavation : 17.50 Mtr form the Existing Ground Lvl. Or approved by competent authority.
- Entry and Exit points at Ground level covered with regular RCC Slab for maximum height of 3.30 Mtr above Ground.
- Provision for Parking office, Panel room, Gents/Ladies toilet, Drivers waiting area, Ticket Collection area etc to be provided at the Ground floor. The Minimum covered area for all the above shall be 150 Sqmt.
- The Excavation for underground parking system shall be protected either by Shoring pile with required Rock anchoring as directed by the Engineer In charge.
- Raft Foundation shall be provided as per the design approved by the RCC designer and consultant registered with BMC

- As the Work is of Turnkey basis the entire design of the parking system shall be vetted by IIT, VTJI or SPCE prior to commencement of work.
- All the approvals required for Construction of parking System from various authorities either BMC or outside BMC shall be obtained by the bidder within 90 days from the date of issue of Letter of Acceptance (LOA).
- Any premium or Fees payable for obtaining any approval shall be paid by the bidder initially and thereafter shall be reimbursed by BMC on production official receipts.

- Form finish RCC work
- Only Ready Mix Concrete to be used. Minimum Grade to be M25
- Reinforcement Steel (CRS/HCRM) to be of TATA, SAIL, RINL, Jindal.
- Rubble Soling and Anti termite Treatment.
- Waterproofing with 10 Years Guarantee.
- IPS Flooring in Basement
- Epoxy painting of all Floors
- Matt Finish Granite flooring at Ground Floor (Min. 20mm Thk.)
- Polished Granite window sills to be provided at Ground floor.
- Plumbing, Fire fighting and Electrical system as per system requirement
- Adequate External lighting
- Digital Display as directed by BMC
- DG backup of required capacity for uninterrupted operation of parking system.
- There should be independent Entry and Exit for every elevator.
- Boom Barriers to be provided at Entry and Exit.
- Rain Water Harvesting System (RWH)
- Garbage Disposal System
- Submersible pump (Minimum 3 Nos.) to be provided in basement sump.
- All exposed structural steel members shall be coated with anti corrosive

- Any shifting of utilities shall be in the scope of bidder and the same should be done as per the BMC norms.

Electro Mechanical parking System:

- Shuttle and Dolly System
- List of Make WHOR, KLAUS, SOTEFIN, RR PARKON, or equivalent complying to European and American norms of OEM.
- Retrieval time not more than 180 Seconds
- No. of Elevator, Min. 4 Nos.
- No. of Dolly, Min. 4 Nos.
- No. of Shuttle, Min. 4 Nos.
- Throughput 80 Cars per Hour for the entire system.
- Minimum weight of the car 2500 Kgs.
- Maximum height -2.5 Mtrs per Car.
- System to be designed for 100% redundancy.
- Use of PLC, Laser guided movement & VDF controlled technology.
- The entire system is fully automated and can be operated without any human intervention using smart card and all latest IOT based application and Apps. This needs to be integrated with controlled and command system of BMC as well as App. of Mumbai Traffic police.
- Minimum 10 % of parking spaces provided with electrical charging points shall be provided with separate electric meter connection as per norms of the ministry of energy of central govt.
- The design life of the system shall be Minimum 20 Years.
- Comprehensive servicing and maintenance period shall be 20 Years.
- Operation and maintenance of Parking System by deploying man power for the period shall be 5 Years from record date of completion.

Note:

All the works contained in the scope of work shall be carried out strictly as per the relevant specifications applicable as attached OR referred to in this e- tender document OR as directed by The Engineer.

- The Contractors shall execute the work even on Saturdays, Sundays & Holidays without any break in the continuity of work. The Contractor shall arrange exclusive labourer force /machinery /supervisors/project engineer for this purpose along with resources. The total working days shall, however be counted as per the Contract period mentioned in this

Tender Document & as per G.C.C.2016. Failure of the Contractor to observe the continuity of work will be viewed seriously & heavy penalty will be imposed for the default.

- The necessary permissions required from Traffic police department shall be obtained by the contractors (The necessary correspondence will be made by the Office of Dy.Ch.E (Traffic) if required).Work shall be carried out with the intimation to Traffic Police wherever required.
- All safety precautions shall be taken by the contractor during execution of work. In case of any accident/mishap contractor solely shall be responsible for the same.
- Applicable schedules.- Unified schedule of rates for Road & Traffic effective from 26.06.2018 & onwards.

SECTION 8

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 therefrom as may be made under the provisions hereinafter contained.

Note : The contract sum shall include the following –

- In the case of percentage rate contracts the estimated value of works as mentioned in the tender adjusted by the Contractor's percentage.

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

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

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

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

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

The Authority shall mean Brihanmumbai Municipal Corporation (BMC)

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

The Engineer in-charge shall mean the Executive Engineer in executive charge of the works and shall include the superior officers of the Engineering

department i.e. Dy.Ch.Eng/Ch.Eng. and shall mean and include all the successors in BMC

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

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

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

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

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

Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works and works of routine maintenance.

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

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

The "Site" shall mean the land and other places including water bodies more specifically mentioned in the special conditions of the tender, on, under in or through which the permanent works or temporary works are to be executed and any

other lands and places provided by the Municipal Corporation for working space or any other purpose as may be specifically designated in the contract as forming part of the site.

Site Investigation Reports are those that were included in the bidding documents and 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).

1.3 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 relationship between the sub-contractor and the BMC and shall not relieve the Contractor of any responsibility under the Contract.

6.4 The Engineer should satisfy himself before recommending to the Employer whether

- a. The circumstances warrant such sub-contracting; and
- b. The sub-Contractor so proposed for the Work possesses the experience, qualifications and 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 and 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 to carry out Soil Investigation at site.

14. Queries about the Contract Data

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

15. Contractor to Construct the Works and 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 and machinery as required in the contract.
- 15.3 The Contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

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

- The Water (Prevention and Control of Pollution) Act, 1974, this provides for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. 'Pollution' means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms.
- The Air (Prevention and Control of Pollution) Act, 1981, this provides for prevention, control and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.
- The Environment (Protection) Act, 1986, this provides for the protection and improvement of environment and for matters connected 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 Program 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.

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.

Review safety programs developed by each of the trade firms, prepare and submit a comprehensive safety program.

Monitor day to day implementation of safety procedures.

First Aid Facilities: -

1. 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.
2. The first-aid box shall be distinctly marked with a red cross on white background.
3. Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
4. Nothing except the prescribed contents shall be kept in the First-aid box.
5. 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.
6. 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/Successful Bidder 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 an issue such further drawings and to give such further instructions and directions as may appear to him necessary or proper for the

guidance of the contractor and the good and sufficient execution of the works according to terms of the specifications and Contractor shall receive, execute, obey and be bound by the same, according to the true intent and meaning thereof, as fully and effectually as though the same had accompanied or had been mentioned or referred to in the specification, and the Engineer may also alter or vary the levels or position of nature of works contemplated by the specifications, or may order any of the works contemplated thereby to be omitted, with or without the substitution of any other works in lieu thereof, or may order any work or any portion of work executed or partially executed, to be removed, changed or altered, added if needful, may order that other works shall be substituted instead thereof and difference of expense occasioned by any such diminution or alteration so ordered and directed shall be added to or deducted from the amount of this Contract, as provided under condition no.10(a) hereinafter.

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

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

B. Time Control

23. Programme

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

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

23.2 The Contractor shall submit the list of equipment and machinery being brought to site, the list of key personnel being deployed, the list of machinery/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 BMC

- (i) Extension Due To Modification:** If any modifications have been ordered which in the opinion of the Engineer have materially increased the magnitude of the work, then such extension of the contracted date of completion may be granted as shall appear to the Engineer to be reasonable in the circumstances, provided moreover that the Contractor shall be responsible for requesting such extension of the date as may be considered necessary as soon as the cause 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

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

All works under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the Eng-in-charge and his subordinates and the contractor shall at all times during the usual working hours, at all other times, during the usual working hours and at all other times at which reasonable notice of the intention of the Eng-in-charge and his subordinates to visit the works shall have been given to the contractor, either himself be present to receive orders and instruction or have responsible agent duly

accredited in writing present for that purpose. Order given to the contractors' duly authorized agent shall be considered to have the same force and effect as if they had been given to the contractor himself.

27.1. Notice To Be Given Before Work Is Covered Up

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

27.2 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.

27.3 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 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 and 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 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.
 - d) Testing of fresh concrete, 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 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 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. Only concrete as approved in design mix by Engineer-in-charge shall be produced in RMC plant and transported to the site.
 - g) The contractor shall have to produce a copy of challan receipts/SCADA reports/VTS reports as issued by the RMC plant as a documentary proof in lieu of supply of RMC 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

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.

All expenditure required to be incurred for taking the samples conveyance, packing shall be borne by the contractor himself.

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.

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 five 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 Successful Bidder.

D. Cost Control

32. Variations

The Engineer shall, having regard to the scope of the Works and the sanctioned quoted 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 As an item rate (Turn Key) Tender ,then shall not be any extra excess.

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 also include the valuation of Variations and Compensation Events.
- (f) The Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
- (g) The contractor shall submit all bills on the printed forms at the office of Engineer In-charge. The charges to be made in the bills shall always be entered at the rates specified in tender.

36. Payments

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

37. The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor for not having given early warning or not having cooperated with the Engineer.

38. Tax

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

Wherever the Services to be provided by the Tenderer falls under Reverse Charge 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 claims shall be admissible on account of fluctuations in market rates; increase in taxes/any other levies /tolls etc. except that payment/recovery for overall market situation shall be made as per price variation.

The condition mentioned in the circular u/no CA/Project/city/28 dt 10.11.2017, are applicable to Tenderer.

39. Currencies

All payments will be made in Indian Rupees.

40. Liquidated Damages

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

liquidated damage. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's other liabilities.

41. Cost of Repairs

Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at his cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

42. Completion of Construction and Maintenance

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

43. Taking Over

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

44. Final Account

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

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

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

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

shall be made within a reasonable period as may be necessary for the purpose of verification etc.

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

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

Sr. No.	Amount of Contract Cost	Minimum Payable Amount in final bill
1	Upto Rs.5 Crs.	Rs.10 Lacs or final bill whichever is more
2	Upto Rs.25 Crs.	Rs.1 Crore or final bill amount whichever is more
3	Upto Rs. 50 Crs.	Rs.2 Crores or final bill amount whichever is more
4	Upto Rs.100 Crs.	Rs.4 Crore or final bill amount whichever is more
5	More than Rs.100 Crs..	Rs.7 Crore or final bill amount whichever is more

The contractor has 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. upto 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 within 45 days from the date of completion/ R.A. bill	Bill will not be admitted for payment

45. Operating and Maintenance Manuals

- 45.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the Contract Data.

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

46. Termination

46.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

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

- a) The Contractor stops work for 30 days when no stoppage of work is shown on the current Programme and the stoppage has not been authorized by the Engineer;
- b) The Contractor is declared as bankrupt or goes into liquidation other than for approved reconstruction or amalgamation;
- c) The Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
- d) The Contractor does not maintain a Security, which is required;
- e) The Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in relevant clause.
- f) The Contractor fails to provide insurance cover as required under relevant clause.
- g) If the Contractor, in the judgment of the Employer, has engaged in the corrupt or fraudulent practices as defined in GCC in competing for or in executing the Contract.
- h) If the Contractor fails to set up a field laboratory with the prescribed equipment, within the period specified in the Contract Data; 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.

A 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 As per directions of AMC(ES) u/no.AMC/E.S/1360 Dt.16.08.2017 The Contractor shall do photography/video Shooting of the site prior to the start of the work, thereafter mid-way in the execution of different stages of work as required by Engineer In-charge and finally 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 Specification:
- 7) Standard General Conditions of Contracts (GCC)
- 8) 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
Such Applicant has the same legal representative for purposes of this Application as any other Applicant; or

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

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 arising out of or concerning or relating to the TENDER or the Bidding Process, including any error or mistake therein or in any information or data given by the Authority.

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

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

"The Authority" reserves the right to reject any Application and/ or Bid if: at any time, a material misrepresentation is made or uncovered, or 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 Successful Bidder 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.

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.

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.

Permission for provision and 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.

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

69. Official Secrecy:

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

70. Subsequent Legislation:

If on the day of submission of bids for the contract, there occur changes to any National or State stature, Ordinance, decree or other law or any regulation or By-laws or any local or other duly constituted authority or the introduction of any such National or State Statute, Ordinance, decree or by which causes additional or reduced cost to the Contractor, such additional or reduced cost shall, after due consultation with the Contractor, be determined by the concerned Engineering Department of BMC and shall be added to or

deducted from the Contract Price with prior approval of competent authority and the concerned Engineering Department shall notify the Contractor accordingly with a copy to the Employer. BMC reserve the right to take decision in respect of addition/reduction of cost in contract.

71. Patent, Right and Royalties:

The contractor shall save harmless and indemnify the Corporation from and against all claims and proceedings for or on account of infringement of any Patent rights, design trademark or name of other protected rights in respect of any constructional plant, machine work, or material used for or in connection with the Works or any of them and from and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto. Except where otherwise specified, the contractor shall pay all tonnage and other royalties, rent and other payments or compensation, if any, for getting stone, sand, gravel, clay or other materials required for the works or any of them

72. Payments, Tax and Claims:

- **The limit for unforeseen claims**

Under no circumstances whatever the contractor shall be entitled to any compensation from BMC on any account unless the contractor shall have submitted a claim in writing to the Eng-in-charge 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 Brihanmumbai Municipal Corporation 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 Brihanmumbai Municipal Corporation 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 do so shall give written notice of committee's decision to the Contractor. Save as herein provided such decision in respect of every matter so referred shall be final and binding upon both parties until the completion of the works, and shall forthwith be given effect to by the Contractor who shall proceed with the works with due diligence, whether he requires arbitration as hereinafter provided or not. If the Commissioner has given written notice of the decision to the Contractor and no Claim to arbitration has been communicated within a period of 90 days from receipt of such notice the said decision shall remain final and binding upon the Contractor.

74. Arbitration and Jurisdiction:

If the Commissioner 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

No price variation is applicable for the work being EPC/Turnkey project.

80. Maximum Price Variation shall be as follows:

No price variation for this the tenderer.

***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:

Interim Payment:

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.

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.

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.

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.

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 in BMC

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

83. JOINT VENTURE – Not allowed for this 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 penalization amount exceeds maximum limit with respect to Clause 8.e of Standard General Conditions of Contract, then a show cause notice shall necessarily be issued to the contract as to why the contract should not be terminated.

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

1. The Engineer-in-charge shall issue notice to the contractor for rectifying the defects or redoing of the work if necessary, within specific time to achieve the desired quality and quantity of the work and this should be governed by clause 8.f and 9.b of Standard General Conditions of Contract.
2. If the contractor fails to comply the same, only then, the contractor shall be liable to pay compensation at the same rate as under clause 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. 4. This penalization shall be levied only on account of delay in work, unsound, imperfect or unskillful workmanship or with materials of any inferior description, or that any materials or articles provided by him for the execution of the work are unsound or of quality inferior to that contracted for or otherwise not in accordance with the contract.

86. Contractors remain liable to pay compensation:

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

In the event of the Executive Engineer taking action against these **relevant clauses**, he may, if he so desires, take possession of all or any tools and plant, materials and stores in or upon the work of site thereof or belonging to the Contractor or procured by him and intended to be used for the execution of the work or any part thereof paying or allowing for the same in account at the contract rates, or in the case of contract rates not being applicable at current market rates to be certified by the Executive Engineer, may after giving notice in writing to the Contractor or his staff of the work or other authorized agent require him to remove such tools and plants, materials or stores from the premises within a time to be specified in such notice and in the event of the Contractor failing to comply with any such requisition, the Executive Engineer may remove them at the contractors expense 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 deemed to have been discharged from his obligations to complete the remaining unexecuted work under his contract. On receipt of such notice the Engineer shall proceed to complete the measurement and make such payment as may be finally due to the contractor within a period of 90 days from the receipt of such Notice in respect of the work already done by the contractor. Such payment shall not in any manner prejudice the right of the contractor to any further compensation under the remaining provisions of this clause.
- (c) Where the Engineer required to Contractor to suspend the work for a period in excess of 30 days at any time or 60 days in the aggregate, the Contractor shall be entitled to apply to the Engineer within 30 days of the resumption of the work after such suspension for payment of compensation to the extent of pecuniary loss suffered by him in respect of working machinery remained

ideal on the site of on the account of his having an to pay the salary of wages and labour engaged by him during the said period of suspension provided always that the contractor shall not be entitled to any claim in respect of any such working machinery, salary or wages for the first 30 days whether consecutive or in the aggregate or such suspension or in respect of any such suspension whatsoever occasion by unsatisfactory work or any other default on his part, the decision of the Engineer in this regard shall be final and conclusive against the contractor.

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

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

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

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

89. Prevention of Fire:

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

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

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

92. Action where no specifications:

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

93. Safety and medical help :

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

96. That at any point of time during execution as well as in DLP period and in next phase i.e. 20 years (in total) the engineering staff from the concerned B.M.C. office can inspect the site and if raise any site observation, successful contractor has to comply that within stipulated time and if failed to comply the observations, then deemed fit action or actions such as imposing penalty or any other appropriate action will be taken by concerned B.M.C. office.

97. Regarding Arbitration & Jurisdiction as mentioned in point no 74 of General Conditions of Contract same shall be as per circular u/no MGC/F/8659 dtd 07/09/2019, it is to be mentioned here that circular u/no MGC/F/8659 dtd 07/09/2019 will supersede over the above mentioned condition no 74 & any other condition/para regarding Arbitration & Jurisdiction mentioned in the tender.

98. Circular u/no.CS/FBK/303 dtd 17/03/2018 regarding not accepting bank guarantee by IDBI bank is also applicable.

SECTION 9
SCOPE AND
SPECIFICATIONS
& SELECTION OF MATERIAL(CIVIL
WORKS AND
ELECTRICAL/MECHANICAL WORKS)

Section –I

SCOPE AND SPECIFICATIONS & SELECTION OF MATERIAL FOR CIVIL WORKS

Specification for Concrete Work

1.0 SCOPE

1.1 This specification covers the general requirements for concrete using on-site production facilities including requirements in regard to the quality, handling, storage of ingredients, proportioning, batching, mixing, transporting, placing, curing, protecting, repairing, finishing and testing of concrete; formwork; requirements in regard to the quality, storage, bending and fixing of reinforcement; as well as mode of measurement and payment for completed works

1.2 It shall be very clearly understood that the specifications given herein are brief and do not cover minute details. However, all works shall have to be carried out in accordance with IS: 456 and other relevant standards and codes of practices or in their absence in accordance with the best accepted current engineering practices or as directed by ENGINEER from time to time. The decision of ENGINEER as regards the specification to be adopted and their interpretation and the mode of execution of work shall be final and binding on CONTRACTOR and no claim whatsoever will be entertained on this account.

2.0 APPLICABLE CODES AND SPECIFICATIONS

2.1 The following specifications, standards and codes, including all official amendments/revisions and other specifications & codes referred to therein, should be considered a part of this specification. In all cases the latest issue/edition/revision shall apply. In case of discrepancy between this specification and those referred to herein below or other specifications forming a part of this bid document, this specification shall govern.

2.2 Materials

IS:383 Specification for coarse and fine aggregates from natural sources for concrete.

IS:455 Specification for portland slag cement

IS:1489 Specification for portland pozzolona cement

IS:1566 Specification for Hard drawn Steel wire fabric for concrete reinforcement

IS:1786 Specification for high strength deformed steel bars and wires for concrete reinforcement.

IS:2062 Hot Rolled Low, Medium & High Tensile Structural Steel.

IS:2645 Specification for integral cement water- proofing compounds.

IS:4990 Specification for plywood for concrete shuttering work.

IS: 8112 Specification for 43 grade ordinary portland cement.

IS:9103 Specification for admixtures for concrete

IS: 12269 Specification for 53 grade ordinary portland cement.

2.3 MATERIAL TESTING

IS:4031 (Parts 1 to 15) Methods of physical tests for hydraulic cement.

IS:4032 Method chemical analysis of hydraulic cement.

IS:650 Specification for standard sand for testing of cement.

IS:2430 Methods for sampling of aggregates for concrete.

IS.2386 (Parts 1 to 8) Methods of test for aggregates for concrete.

IS:3025 Methods of sampling and test (physical and chemical) water used in industry.

IS:6925 Methods of test for determination of water soluble chlorides in concrete admixtures.

2.4 MATERIAL STORAGE

IS:4082 Recommendations on stacking and storing of construction materials at site.

2.5 CONCRETE MIX DESIGN

IS:10262 Recommended guidelines for concrete mix design.

SP:23 (S&T) Handbook on Concrete Mixes.

IS:4926 Ready Mixed Concrete-Code of Practice

2.6 CONCRETE TESTING

IS:516 Method of test for strength of concrete.

IS.1199 Method of sampling and analysis of concrete.

IS:2770 Methods of testing bond in reinforced concrete.

IS:8142 Method of test for determining setting time of concrete by penetration resistance

IS:9013 Method of making, curing and determining compressive strength of accelerated cured concrete test specimens.

IS:9284 Method of test for abrasion resistance of concrete.

2.7 EQUIPMENT

IS:1791 Specification for batch type concrete mixers.

IS:2505 General Requirements for concrete vibrators: Immersion type.

IS:2506 General Requirements for screed board concrete vibrators.

IS:2722 Specification for portable swing weigh batchers for concrete (single and double bucket type).

IS:2750 Specification for steel scaffoldings

IS:4925 Specification for concrete batching and mixing plant.

IS:5892 Specification for concrete transit mixers and agitator.

IS:7242 Specification for concrete spreaders.

2.8 CODES OF PRACTICE

IS:456 Code of practice for plain and reinforced concrete.

IS:2502 Code of practice for bending and fixing of bars for concrete reinforcement.

IS:2571 Code of practice for laying insitu cement concrete flooring.

IS:2751 Code of practice for welding of mild steel plain and deformed bars used for reinforced concrete construction.

IS:3370 (Parts 1 to 4) Code of practice for concrete structures for storage of liquids.

IS:3414 Code of practice for design and installation of joints in buildings.

IS:3558 Code of practice for use of immersion vibrators for consolidating concrete.

IS:4014 (Parts 1 & 2) Code of practice for steel tubular, scaffolding.

IS:4326 Code of practice for earthquake resistant design and construction of building.

IS:5525 Recommendation for detailing of reinforcement in reinforced concrete works.

IS:7861 Code of practice for extreme weather concreting.

Part 1 Recommended practice for hot weather concreting.

Part 2 Recommended practice for cold weather concreting

IS:9417 Specification for welding cold worked bars for reinforced concrete construction.

2.9 CONSTRUCTION SAFETY

IS.3696 (Parts 1& 2) Safety code for scaffolds and ladders.

IS:7969 Safety code for handling and storage of building materials.

IS:8989 Safety code for erection of concrete framed structures.

2.10 MEASUREMENT

IS:1200 – Method of measurement of building and engineering works.

3.0 GENERAL

3.1 ENGINEER

shall have the right at all times to inspect all operations including the sources of materials, procurement, layout and storage of materials, the concrete batching and mixing equipment, and the quality control system. Such an inspection shall be arranged and ENGINEER's approval obtained, prior to starting of concrete work. This shall, however, not relieve CONTRACTOR of any of his responsibilities. All materials, which do not conform to this specification, shall be rejected.

3.2 Materials

should be selected so that they can satisfy the design requirements of strength, serviceability, safety, durability and finish with due regards to the functional requirements and the environmental conditions to which the structure will be subjected. Materials complying with codes/standards shall generally be used. Other materials may be used after approval of the ENGINEER and after establishing their performance suitability based on previous data, experience or tests.

4.0 MATERIALS

4.1 Cement

4.1.1 Cement shall be 43 grade / 53 grade ordinary portland cement conforming to IS:8112/ IS:12269 or portland slag cement conforming to IS:455 or portland pozzolona cement conforming to IS:1489. Type of cement to be used for specific work is covered in item description in section „C2” of the document.

4.1.2 Only one type of cement shall be used in any one mix. The source of supply type or brand of cement within the same structure or portion thereof shall not be changed without approval from ENGINEER.

4.1.3 Cement, which is not used within 90 days from its date of manufacture, shall be tested at a laboratory approved by ENGINEER and until the results of such tests are found satisfactory, it shall not be used in any work.

4.2 AGGREGATES

4.2.1 Aggregates shall consist of naturally occurring stones (crushed or uncrushed), gravel and sand. They shall be chemically inert, strong, hard, clean, durable against weathering, of limited porosity, free from dust/silt/ organic impurities/deleterious materials and conform to IS:383. Aggregates such as slag, crushed over burnt bricks, bloated clay ash, sintered fly ash and tiles shall not be used.

4.2.2 Aggregates shall be washed and screened before use where necessary or if directed by the ENGINEER.

5.0 COARSE AGGREGATE

Coarse aggregate for concrete, except as noted above and for other than lightweight concrete shall conform to IS 383. This shall consist of natural or crushed stone and gravel, and shall be clean, and free from elongated, flaky or laminated pieces, adhering coatings, clay lumps, coal residue, clinkers, slag, alkali, mica, organic matter or other deleterious matter.

5.1 Screening and Washing

Natural gravel and crushed rock shall be screened and/ or washed for the removal of dirt or dust coating, if so demanded by the Engineer.

5.2 Grading

Coarse aggregate shall be either in single size or graded. In both cases, the grading shall be within the limits.

The pieces shall be conical in shape and shall have granular or crystalline surfaces. Friable, flaky and laminated pieces, mica and shale, if present, shall be only in such quantities that will not, in the opinion of the Engineer, affect adversely the

strength and/or durability of concrete. The maximum size of coarse aggregate shall be 40 mm for M15 to M30 concrete and 20 mm for M35 and M40 concrete, or as directed by the Engineer or specified otherwise. The maximum size of coarse aggregate shall be the maximum size specified above, but in no case greater than 1/4 of the minimum thickness of the member, provided that the concrete can be placed without difficulty so as to surround all reinforcement thoroughly and fill the corners of the form. Plums above 160 mm and up to any reasonable size can be used in plain mass concrete work of large dimensions up to a maximum limit of 20% by volume of concrete when specifically approved by the Engineer. For heavily reinforced concrete members, the nominal maximum size of the aggregate shall be 5 mm less than the minimum clear distance between the reinforcing main bars or 5 mm less than the minimum cover to the reinforcement whichever is smaller. The amount of fine particles occurring in the free state or as loose adherent shall not exceed 1% when determined by laboratory sedimentation tests as per IS 2386. After 24 hours' immersion in water, a previously dried sample shall not have gained more than 10% of its oven dry weight in air, as determined by IS 2386.

5.3 Foreign Material Limitations

The percentage of deleterious substances in the aggregate delivered to the mixer shall not exceed the following:

Table 1 –

Sr No	Foreign Material	Percentage by weight	
		Uncrushed	Crushed
i)	Material finer than 75 micron IS sieve	3.00	3.00
ii)	Coal and lignite	1.00	1.00
iii)	Clay lumps	1.00	1.00
iv)	Soft Fragments	3.00	-
v)	Total of all above substances	5.00	5.00

The fineness modulus of sand shall neither be less than 2.2 nor more than 3.2.s

5.4 Fine Aggregate

Fine aggregate except as noted above, and for other than lightweight concrete shall consist of natural or crushed sand conforming to IS 383. The Sand shall be clean, sharp, hard, strong and durable and shall be free from dust, vegetable substances, adherent coating, clay, alkali, organic matter, mica, salt or other deleterious substances, which can be injurious to the setting qualities/strength/durability of concrete.

5.5 Machine-made Sand

Machine-made sand will be acceptable, provided the constituent rock-gravel composition shall be sound, hard, dense, non-organic, uncoated and durable against weathering.

5.6 Screening and Washing

Sand shall be prepared for use by such screening or washing, or both, as necessary, to remove all objectionable foreign matter while separating the sand grains to the required size fractions.

5.7 Grading

Unless otherwise directed or approved, the grading of sand shall be within the limits indicated hereunder:

Table 1 – B

IS Sieve Designation	<u>PERCENTAGE PASSING FOR</u>			
	Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
10 mm	100	100	100	100
4.75 mm	90-100	90-100	90-100	95-100
2.36 mm	60-95	75-100	85-100	95-100
1.18 mm	30-70	55-90	75-100	90-100
600 microns	15-34	35-59	60-79	80-100
300 microns	5-20	8-30	12-40	15-50

Where the grading falls outside the limits of any particular grading zone of sieves, other than 600 micron IS sieve, by total amount not exceeding 5 percent, it shall be regarded as falling within that grading zone. This tolerance shall not be applied to percentage passing the 600 micron IS sieve or to percentage passing any other sieve size on the coarser limit of Grading Zone I or the finer limit of Grading Zone IV. Fine aggregates conforming to Grading Zone IV shall be used unless mix designs and preliminary tests have shown its unsuitability for producing concrete of specified strength and workability.

5.8 Fineness Modulus

The sand shall have a fineness modulus of not less than 2.2 or more than 4.2. The fineness modulus is determined by adding the cumulative percentages retained on the following IS sieve sizes (4.75 mm, 2.36 mm, 1.18 mm, 600 micron, 300 micron and 150 micron) and dividing the sum by 100.

The maximum size of coarse aggregate shall be as stated on the drawings but in no case greater than 1/4 of the minimum thickness of the member.

6.0 WATER

Water used for both mixing and curing shall conform to IS:456. Potable waters are generally satisfactory. Water containing any excess of acid, alkali, sugar or salt shall not be used.

6.1 REINFORCEMENT

Reinforcement bars shall conform to IS:2062 or IS:1786 and welded wire fabric to IS:1566 as shown or specified on the drawing.

All reinforcement shall be clean, free from pitting, oil, grease, paint, loose mill scales, rust, dirty, dust, or any other substance that will destroy or reduce bond.

If permitted by ENGINEER, welding of reinforcement shall be done in accordance with IS:2751 or IS:9417 as applicable at no extra cost to the Owner.

6.1.1 ADMIXTURES

Accelerating, retarding, water-reducing and air entraining admixtures shall conform to IS:9103 and integral water proofing admixtures to IS:2645.

Admixtures may be used in concrete as per manufacturer's instructions only with the approval of ENGINEER based upon the condition that desired slump and strength is obtained with optimum cement content without affecting the durability with the passage of time. An admixture's suitability and effectiveness shall be verified by trial mixes with the other materials used in the works. If two or more admixtures are to be used simultaneously in the same concrete mix, their interaction shall be checked and trial mixes done to ensure their compatibility. There should also be no increase in risk of corrosion of the reinforcement or other embedments.

Calcium chloride shall not be used for accelerating set of the cement for any concrete containing reinforcement or embedded steel parts.

7.0 SAMPLES AND TESTS

All materials such as cement, aggregates (coarse & fine), reinforcement and admixtures etc. used for the works shall be tested as per relevant IS codes before use.

Manufacturer's test certificate shall be furnished, for each batch of cement and samples shall also be got tested by the CONTRACTOR in a laboratory approved by ENGINEER at no extra cost to OWNER. Sampling and Testing shall be as per relevant IS codes.

Manufacturer's test certificate shall be furnished, for each batch of steel and samples shall also be got tested by the CONTRACTOR in a laboratory approved by ENGINEER at no extra cost to OWNER. Sampling and Testing shall be as per relevant IS codes.

Sampling and testing shall be as per IS:2386 under the supervision of ENGINEER. The cost of all tests, sampling etc. shall be borne by CONTRACTOR.

Water to be used shall be tested to comply with requirements of IS:456.

CONTRACTOR shall furnish manufacturer's test certificates and technical literature for the admixture proposed to be used. If directed by Engineer, the admixture shall be got tested at an approved laboratory at no extra cost.

8.0 STORAGE OF MATERIALS

All material shall be stored in a manner so as to prevent its deterioration and contamination, which would preclude its use in the works. Requirements of IS:4082 shall be complied with.

CONTRACTOR will have to make his own arrangements for the storage of adequate quantity of cement. If such cement is not stored properly and has deteriorated, the material shall be rejected. Cement bags shall be stored in dry weatherproof shed with a raised floor, well away from the outer walls and insulated from the floor to avoid moisture from ground. Not more than 15 bags shall be stacked in any tier. Storage under tarpaulins shall not be permitted. Each consignment of cement shall be stored separately and consumed in its order of receipt.

Each size of coarse and fine aggregates shall be stacked separately and shall be protected from leaves and contamination with foreign material. The stacks shall be on hard, clean, free draining bases, draining away from the concrete mixing area.

CONTRACTOR shall make his own arrangements for storing water at site in tanks to prevent contamination.

The reinforcement shall be stacked on top of timber sleepers to avoid contact with ground/water. Each type and size shall be stacked separately.

9.0 CONCRETE

9.1 GENERAL

Concrete grade shall be as designated on drawings. In concrete grade M20, M25 etc. the number represents the specified characteristics compressive strength of 150 mm cube at 28 days, expressed in N/sq.mm as per IS:456. Concrete in the works shall be "DESIGN MIX CONCRETE" or "NOMINAL MIX CONCRETE". All concrete works of grade M7.5, M10, M15 and M20 shall be NOMINAL MIX CONCRETE and M10, M15 and above, shall be DESIGN MIX CONCRETE.

9.1.1 DESIGN MIX CONCRETE

9.1.2 Mix Design & Testing

For Design Mix Concrete, the mix shall be designed according to IS:10262 and SP:23 to provide the grade of concrete having the required workability and characteristic strength not less than appropriate values given in IS:456. The design mix shall in addition to such that it is cohesive and does not segregate and should result in a dense and durable concrete and also capable of giving the finish as specified. For liquid retaining structures, the mix shall also result in water tight concrete. The CONTRACTOR shall exercise great care while designing the concrete mix and executing the works to achieve the desired result.

The minimum cement content and maximum free water-cement ratio for Design Mix Concrete shall be as per table – 5 of IS 456 for “Severe” category of exposure, unless noted otherwise in the specification document.

The minimum cement content stipulated in IS 456 shall be adopted irrespective of whether the CONTRACTOR achieves the desired strength with less quantity of cement. The CONTRACTOR's quoted rates for concrete shall provide for the above

eventuality and nothing extra shall become payable to the CONTRACTOR on this account. Even in the case where the quantity of cement required is higher than that specified above to achieve desired strength based on an approved mix design, nothing extra shall become payable to the CONTRACTOR.

It shall be CONTRACTOR's sole responsibility to carry out the mix designs at his own cost. He shall furnish to ENGINEER at least 30 days before concreting operations, a statement of proportions proposed to be used for the various concrete mixes and the strength results obtained. The strength requirements of the concrete mixes ascertained on 150 mm cubes as per IS:516 shall comply with the requirements of IS:456. The mix design shall be approved by the Engineer before starting the concrete work.

Range of slumps which shall generally be used for various types of constructions shall be as per clause 7.1 of IS:456 unless instructed otherwise by ENGINEER.

Batching & Mixing of Concrete

Proportions of aggregates and cement, as decided by the concrete mix design, shall be by weight. These proportions shall be maintained during subsequent concrete batching by means of weigh batchers capable of controlling the weights within one percent of the desired value.

Amount of water added shall be such as to produce dense concrete of required consistency, specified strength and satisfactory workability and shall be so adjusted to account for moisture content in the aggregates. Water- cement ratio specified for use by ENGINEER shall be maintained. Each time the work stops, the mixer shall be cleaned out, and while recommencing, the first batch shall have 10% additional cement to allow for sticking in the drum.

Arrangement should be made by CONTRACTOR to have the cubes tested in an approved laboratory or in field at his own expense, with prior consent of ENGINEER. Sampling and testing of strength and workability of concrete shall be as per IS:1199, IS:516 and IS:456. Batching Plant where used shall conform to IS 4925.

Ready-Mixed Concrete

Ready-mixed concrete to be used, subject to approval. It shall be produced at an approved plant. The concrete shall conform with IS:4926 and with this specification.

All the constituents for each mix shall be added at the manufacturer's plant. No extra water or other material shall be added after the concrete has left the plant.

All delivery notes shall be retained by the CONTRACTOR and made available for inspection throughout the duration of the contract.

Samples of concrete shall be taken in accordance with the requirements of the specification at the point and time of delivery. The sampled concrete shall be tested in accordance with the specification. The test results shall be certified by Owner/Engineer.

If at any time the ENGINEER is not satisfied that the ready-mixed concrete complies with the specification, ENGINEER may alter the frequency of the sampling.

10.0 NOMINAL MIX CONCRETE

10.1 Mix Design & Testing

Mix design and preliminary tests are not necessary for Nominal Mix Concrete. However, works tests shall be carried out as per IS:456. Proportions for Nominal Mix Concrete and w/c ratio may be adopted as per IS:456. However, it will be CONTRACTOR's sole responsibility to adopt appropriate nominal mix proportions to yield the specified strength.

Batching & Mixing of Concrete

Based on the adopted nominal mixes, aggregates shall be measured by volume. However, cement shall be by weight only.

Fly ash Blended Cements conforming to IS 1489 (Part I) may be used in RCC structures as per guidelines given below

IS 456- 2000 Code of Practice for Plain and Reinforced Concrete (as amended up to date) shall be followed in regard to Concrete Mix Proportion and its production as under

The concrete mix design shall be done as "Design Mix Concrete" as prescribed in clause-9 of IS 456 mentioned above.

Concrete shall be manufactured in accordance with clause 10 of above mentioned IS 456 covering quality assurance measures both technical and organizational, which shall also necessarily require a qualified Concrete Technologist to be available during manufacture of concrete for certification of quality of concrete.

(ii) Minimum M -25 grade of concrete shall be used in all structural elements made with RCC both in load bearing and framed structure. If design demands higher grade shall also used.

(iii) The mechanical properties such as modulus of elasticity, tensile strength, creep and shrinkage of fly ash mixed concrete or concrete using fly ash blended cements (PPCs) are not likely to be significantly different and their values are to be taken same as those used for concrete made with OPC.

(iv) To control higher rate of carbonation in early ages of concrete in PPC based concrete; water/binder ratio shall be kept as low as possible, which shall be closely monitored during concrete manufacture.

If necessitated due to low water/binder ratio, required workability shall be achieved by use of chloride free chemical admixtures conforming to IS 9103. The compatibility of chemical admixtures and super plasticizers with each set OPC, fly ash and /or PPC received from different sources shall be ensured by trials.

(v) In environment subjected to aggressive chloride or sulphate attack in particular, use of fly ash admixed or PPC based concrete is recommended. In cases, where structural concrete is exposed to excessive magnesium sulphate, fly ash substitution/content shall be limited to 18% by weight. Special type of cement with low C3A content may also be alternatively used. Durability criteria like minimum binder content and maximum water /binder ratio also need to be given due consideration in such environment.

(vi) Wet curing period shall be enhanced to a minimum of 10 days or its equivalent. In hot & arid regions, the minimum curing period shall be 14 days or its equivalent.

10.2 Use of Fly Ash Blended Cements in Cement Concrete (PPCC) in RCC Structures

Subject to General Guidelines detailed out as above, PPC manufactured conforming to IS 1489(Part-I) shall be treated at par with OPC for manufacture of Design Mix concrete for structural use in RCC.

(ii) Till the time, BIS makes it mandatory to print the %age of fly ash on each bag of cement, the certificate from the PPC manufacture indicating the same shall be insisted upon before allowing use of such cements in works.

(iii) While using PPC for structural concrete work, no further admixing of fly ash shall be permitted.

11.0 FORMWORK

Formwork shall be all inclusive and shall consist of but not limited to shores, bracings, sides of footings, walls, beams and columns, bottom of slabs etc. including ties, anchors, hangers, inserts, false work, wedges etc.

The design and engineering of the formwork as well as its construction shall be the responsibility of CONTRACTOR. However, if so desired by ENGINEER the drawings and calculations for the design of the formwork shall be submitted to ENGINEER for approval.

Formwork shall be designed to fulfil the following requirements in addition to normal requirements:

Sufficiently rigid and tight to prevent loss of grout or mortar from the concrete at all stages and appropriate to the methods of placing and compacting.

Made of suitable materials.

Capable of providing concrete of the correct shape and surface finish within the specified tolerance limit as per IS 456.

Capable of withstanding without deflection the worst combination of selfweight, reinforcement and concrete weight, all loads and dynamic effects arising from construction and compacting activities, wind and weather forces.

Capable of easily striking without shock, disturbance or damage to the concrete.

Soffit forms capable of imparting a camber if required.

Soffit forms and supports capable of being left in position if required.

Capable of being cleaned and/or coated if necessary immediately prior to casting the concrete; design temporary openings where necessary for these purposes and to facilitate the preparation of construction joints.

The formwork may be of timber, plywood, steel, plastic or concrete depending upon the type of finish specified. Sliding forms and slip form may be used with the approval of ENGINEER. Timber for formwork shall be well seasoned, free from sap, shakes, loose knots, worm holes, warps and other surface defects. Joints between formwork and formwork and structures shall be sufficiently tight to prevent loss of slurry from concrete, using seals if necessary.

The faces of formwork coming in contact with concrete shall be cleaned and two coats of approved mould oil applied before fixing reinforcement. All rubbish, particularly chippings, shavings, sawdust, wire pieces dust etc. shall be removed from the interior of the forms before the concrete is placed. Where directed, cleaning of forms shall be done by blasting with a jet of compressed air at no extra cost.

Forms intended for reuse shall be treated with care. Forms that have deteriorated shall not be used. Before reuse, all forms shall be thoroughly scraped, cleaned, nails removed, holes suitably plugged, joints repaired and warped lumber replaced to the satisfaction of ENGINEER. CONTRACTOR shall equip himself with enough shuttering to allow for wastage so as to complete the job in time.

Permanent formwork shall be checked for its durability and compatibility with adjoining concrete before it is used in the structure. It shall be properly anchored to the concrete.

Wire ties passing through beams, columns and walls shall not be allowed. In their place bolts passing through sleeves shall be used. Formwork spacers left in situ shall not impair the desired appearance or durability of the structure by causing spalling, rust staining or allowing the passage of moisture.

For liquid retaining structures sleeves shall not be provided for through bolts nor shall through bolts be removed if provided. The bolts, in the latter case, shall be cut at 25 mm depth from the surface and the hole made good by cement mortar of the same proportion as the concrete just after striking the formwork.

Where specified or shown on drawings all corners and angles exposed in the finished structure shall have chamfers or fillets of 20 mm x 20 mm size.

CONTRACTOR shall provide adequate props carried down to a firm bearing without overloading any of the structures.

The shuttering for beams and slabs shall be so erected that the side shuttering of beams can be removed without disturbing the bottom shuttering. If the shuttering for a column is erected for the full height of the column, one side shall be built up in sections as placing of concrete proceeds or windows left for placing concrete from the side to limit the drop of concrete to 1.0m or as directed by ENGINEER. CONTRACTOR shall temporarily and securely fix items to be cast in (embedments/ inserts) in a manner that will not hinder the striking of forms or permit loss of grout.

Formwork showing excessive distortion during any stage of construction shall be repositioned and strengthened. Placed concrete affected by faulty formwork, shall be entirely removed and formwork corrected prior to placement of new concrete at CONTRACTOR's cost.

If ENGINEER rejects any improper formwork after inspection, at any stage of construction, it is responsibility of the CONTRACTOR to get corrected before concreting at no extra cost to the OWNER.

Under normal circumstances forms may be struck after expiry of the time period given in IS:456 unless otherwise directed by Engineer. It is the CONTRACTOR'S responsibility to ensure that forms are not struck until the concrete has developed sufficient strength to support itself, does not undergo excessive deformation and resist surface damage and any stresses arising during the construction period.

11.1.1 FORMWORK FOR EXPOSED ARCHITECTURAL CONCRETE

The specifications as given in CPWD shall generally be followed.

However, the Contractor to note the following:

1. Since the exposed concrete is intended to make a visual statement the Contractor to ensure that the concrete on deshuttering presents a clean and even surface. No surface treatment (apart from application of hydrophobic sealant) is envisaged and therefore no repair/patchwork will be permitted.
2. Form exposed corners of beams and columns to produce square, smooth, solid, unbroken lines, except as otherwise shown.
3. The Contractor to furnish the shutter boards in largest practicable sizes to minimize number of joints and to conform to joint system shown on drawings.
4. All formed joints on concrete surfaces to be exposed shall be taped and shall align so joints will not be apparent on the concrete surfaces.
5. The location of all exposed features such as through tie bolts, joints to be planned in such a way that no bolt hole/joint line etc. Seems to be arbitrary and/or out of place.
6. The shuttering should be of superior construction so as to avoid slurry leakage and consequent honeycombing etc.
7. The pattern of formwork for exposed concrete works shall be approved by the EIC prior to execution.

11.1.2 Mock-up

The Contractor shall prepare a mock-up of the formwork for typical members and carry out trial castings to establish the suitability of formwork, of mould oil proposed to be used on formwork as a releasing agent to prevent surface blemishes etc.

12.0 REINFORCEMENT WORKMANSHIP

Reinforcing bars supplied bent or in coils shall be straightened cold without damage at no extra cost. No bending shall be done when ambient temperature is below 5 Deg.C.

All bars shall be accurately bent gradually and according to the sizes and shapes shown on the drawings/ schedules or as directed by ENGINEER.

Re-bending or straightening incorrectly bent bars shall not be done without approval of ENGINEER.

Reinforcement shall be accurately fixed and maintained firmly in the correct position by the use of blocks, spacers, chairs, binding wire etc. to prevent displacement during placing and compaction of concrete. The tied in place reinforcement shall be approved by ENGINEER prior to concrete placement. Spacers shall be of such materials and designs as will be durable, not lead to corrosion of the reinforcement and not cause spalling of the concrete cover.

Binding wire shall be 16 gauge soft annealed wire. Ends of the binding wire shall be bent away from the concrete surface and in no case encroach into the concrete cover.

Substitution of reinforcement, laps/splices not shown on drawing shall be subject to ENGINEER's approval.

Tolerances on placing of reinforcement and Tolerance for cover shall be as per IS 456.

13.0 TOLERANCES

Tolerance for formed and concrete dimensions shall be as per IS:456 unless specified otherwise.

Tolerances specified for horizontal or vertical building lines or footings shall not be construed to permit encroachment beyond the legal boundaries.

14.0 PREPARATION PRIOR TO CONCRETE PLACEMENT

Before concrete is actually placed in position, the inside of the formwork shall be cleaned and mould oil applied, necessary inserts/embedment's/pipe sleeves and reinforcement shall be correctly positioned and securely held, necessary openings, pockets, etc. provided.

All arrangements-formwork, equipment and proposed procedure, shall be approved by ENGINEER. CONTRACTOR shall maintain separate Pour Card for each pour as per the format enclosed.

15.0 TRANSPORTING, PLACING AND COMPACTING CONCRETE

Concrete shall be transported from the mixing plant to the formwork with minimum time lapse by methods that shall maintain the required workability and will prevent segregation, loss of any ingredients or ingress of foreign matter or water.

In all cases concrete shall be deposited as nearly as practicable directly in its final position. To avoid segregation, concrete shall not be rehandled or caused to flow. For locations where direct placement is not possible and in narrow forms CONTRACTOR shall provide suitable drops and "Elephant Trunks". Minimum diameter of Elephant Trunks shall be 200mm. Concrete shall not be dropped from a height of more than 1.5m.

Concrete shall not be placed in flowing water. Under water, concrete shall be placed in position by tremies or by pipeline from the mixer and shall never be allowed to fall freely through the water.

While placing concrete the CONTRACTOR shall proceed as specified below and also ensure the following :

- a) Continuously between construction joints and predetermined abutments.
- b) Without disturbance to forms or reinforcement.
- c) Without disturbance to pipes, ducts, fixtures and the like to be cast in; ensure that such items are securely fixed. Ensure that concrete cannot enter open ends of pipes and conduits etc.
- d) Without dropping in a manner that could cause segregation or shock.
- e) In deep pours only when the concrete and formwork designed for this purpose and by using suitable chutes or pipes.
- f) Do not place if the workability is such that full compaction cannot be achieved.

g) Without disturbing the unsupported sides of excavations; prevent contamination of concrete with earth. Provide sheeting if necessary. In supported excavations, withdraw the linings progressively as concrete is placed.

h) If placed directly onto hard core or any other porous material, dampen the surface to reduce loss of water from the concrete.

i) Ensure that there is no damage or displacement to sheet membranes.

j) Record the time and location of placing structural concrete.

Concrete shall normally be compacted in its final position within thirty minutes of leaving the mixer. Concrete shall be compacted during placing with approved vibrating equipment without causing segregation until it forms a solid mass free from voids thoroughly worked around reinforcement and embedded fixtures and into all corners of the formwork. Immersion vibrators shall be inserted vertically at points not more than 450 mm apart and withdrawn slowly till air bubbles cease to come to the surface, leaving no voids. When placing concrete in layers advancing horizontally, care shall be taken to ensure adequate vibration, blending and melding of the concrete between successive layers. Vibrators shall not be allowed to come in contact with reinforcement, formwork and finished surfaces after start of initial set. Over-vibration shall be avoided.

Concrete may be conveyed and placed by mechanically operated equipment after getting the complete procedure approved by ENGINEER. The slump shall be held to the minimum necessary for conveying concrete by this method. When concrete is to be pumped, the concrete mix shall be specially designed to suit pumping. Care shall be taken to avoid stoppages in work once pumping has started.

Except when placing with slip forms, each placement of concrete in multiple lift work, shall be allowed to set for at least 24 hours after the final set of concrete before the start of subsequent placement. Placing shall stop when concrete reaches the top of the opening in walls or bottom surface of slab, in slab and beam construction, and it shall be resumed before concrete takes initial set but not until it has had time to settle as determined by ENGINEER. Concrete shall be protected against damage until final acceptance.

All necessary equipment required for concrete works shall be maintained in clean and good working condition by the CONTRACTOR. In case ENGINEER feels that the equipment is not maintained properly, it will be rejected and CONTRACTOR shall replace with new equipment at no extra cost to the OWNER.

16.0 MASS CONCRETE WORKS

Sequence of pouring for mass concrete works shall be as approved by ENGINEER. CONTRACTOR shall exercise great care to prevent shrinkage cracks and shall monitor the temperature of the placed concrete.

17.0 CURING

Curing shall start immediately after the compaction of the concrete to protect it from

- a) Premature drying out, particularly by solar radiation and wind;
- b) leaching out by rain and flowing water;
- c) rapid cooling during the first few days after placing;

- d) high internal thermal gradients;
- e) low temperature or frost;
- f) vibration and impact which may disrupt the concrete and interfere with its bond to the reinforcement.

All concrete, unless directed otherwise by ENGINEER, shall be cured by use of continuous sprays or ponded water or continuously saturated coverings of sacking, canvas, hessian or other absorbent material for the period of complete hydration with a minimum of 7 days. The quality of curing water shall be the same as that used for mixing.

Where a curing membrane is directed to be used by the ENGINEER, the same shall be of a non-wax base and shall not impair the concrete finish in any manner. Curing shall be carried out generally as per ACI:307. Curing compound shall comply with ASTM C 309. The curing compound to be used shall be got approved from the ENGINEER before use and shall be applied with spraying equipment capable of a smooth, even textured coat, generally in conformity with recommendations of the manufacturer.

Curing may also be done by covering the surface with an impermeable material such as polyethylene, which shall be well sealed and fastened.

Extra precautions shall be exercised in curing concrete during cold and hot weather.

18.0 CONSTRUCTION JOINTS AND KEYS

Construction joints will be as shown on the drawing or as approved by ENGINEER. Concrete shall be placed without interruption until completion of work between construction joints. If stopping of concreting becomes unavoidable anywhere, a properly formed construction joint shall be made with the approval of ENGINEER.

Dowels for concrete work, not likely to be taken up in the near future, shall be coated with cement slurry and encased in lean concrete as indicated on the drawings or as directed by ENGINEER.

Before resuming concreting on a surface which has hardened, all laitance and loose stone shall be thoroughly removed by wire brushing/hacking and surface washed with high pressure water jet and treated with thin layer of cement slurry for vertical joints and a 15mm thick layer of cement sand mortar for horizontal layers, the ratio of cement and sand being the same as in the concrete mix.

When concreting is to be resumed on a surface which has not fully hardened, all laitance shall be removed by wire brushing, the surface wetted, free water removed and a coat of cement slurry applied. On this a layer of concrete not exceeding 150 mm thickness shall be placed and well rammed against the old work. Thereafter work shall proceed in the normal way.

19.0 FOUNDATION BEDDING

All earth surfaces upon which or against which concrete is to be placed, shall be well compacted and free from standing water, mud or debris. Soft or spongy area shall be cleaned out and back filled with either soil-cement mixture, lean concrete or clean sand compacted as directed by ENGINEER. The surfaces of absorptive soils shall be moistened.

Concrete shall not be deposited on large sloping rock surfaces. The rock shall be cut to form rough steps or benches by picking, barring or wedging. The rock surface shall be kept wet for 2 to 4 hours before concreting.

20.0 FINISHES

20.1 GENERAL

The formwork for concrete works shall be such as to give the finish as specified. The CONTRACTOR shall make good any unavoidable defects as directed consistent with the type of concrete and finish specified; defects due to bad workmanship (e.g. damaged or misaligned forms, defective or poorly compacted concrete) will not be accepted. CONTRACTOR shall construct the formwork using the correct materials and to meet the requirements of the design and to produce finished concrete to required dimensions, plumbs, planes and finishes.

20.1.1 Surface Finish Type F1

This type of finish shall be for non-exposed concrete surfaces against which back fill or concrete is to be placed. The main requirement is that of dense, well compacted concrete. No treatment is required except repair of defective areas, filling all form tie holes and cleaning up of loose or adhering debris. For surfaces below grade which will receive waterproofing treatment the concrete shall be free of surface irregularities which would interfere with proper and effective application of waterproofing material specified for use.

20.1.2 Surface Finish Type F2

This type of finish shall be for all concrete work which will be exposed to view upon completion of the job. The appearance shall be that of a smooth dense, well-compacted concrete showing the slight marks of well fitted shuttering joints. The CONTRACTOR shall make good any blemishes.

20.1.3 Surface Finish Type F3

This type of finish shall be for concrete work which will be exposed to view but to give an appearance of smooth, dense, well-compacted concrete with no shutter marks, stain free and with no discolouration, blemishes, arrises, airholes etc. Only lined or coated plywood with very tight joints shall be used to achieve this finish. The panel size shall be uniform and as large as practicable. Any minor blemishes that might occur shall be made good by CONTRACTOR.

20.1.4 INTEGRAL CEMENT FINISH ON CONCRETE FLOOR

In all cases where integral cement finish on a concrete floor has been specified, the top layer of concrete shall be screeded off to proper level and tamped with tamper having conical projections so that the aggregate shall be forced below the surface. The surface shall be finished with a wooden float and a trowel with pressure. The finish shall be continued till the concrete reaches its initial set. No cement or cement mortar finish shall be provided on the surface. Where specified, a floor hardener as approved by the ENGINEER shall be supplied and used as recommended by the manufacturer.

21.0 REPAIR AND REPLACEMENT OF UNSATISFACTORY CONCRETE

Immediately after the shuttering is removed, all the defective areas such as honeycombed surfaces, rough patches, holes left by form bolts etc. shall be brought to the notice of ENGINEER who may permit patching of the defective areas or reject the concrete work.

All through holes for shuttering shall be filled for full depth and neatly plugged flush with surface.

Rejected concrete shall be removed and replaced by CONTRACTOR at no additional cost to OWNER.

For patching of defective areas all loose materials shall be removed and the surface shall be prepared as directed by the ENGINEER.

Bonding between hardened and fresh concrete shall be done either by placing cement mortar or by applying epoxy. The decision of the ENGINEER as to the method of repairs to be adopted shall be final and binding on the CONTRACTOR and no extra claim shall be entertained on this account. The surface shall be saturated with water for 24 hours before patching is done with 1:5 cement sand mortar. The use of epoxy for bonding fresh concrete shall be carried out as directed by ENGINEER.

22.0 VACUUM DEWATERING OF SLABS

Where specified floor slabs, either grade or suspended, shall be finished by vacuum dewatering including all operations such as poker vibration, surface vibration, vacuum processing, floating and trowelling as per equipment manufacturers recommendation. The equipment to be used shall be subject to ENGINEER's approval.

22.1 HOT WEATHER REQUIREMENTS

Concreting during hot weather shall be carried out as per IS:7861 (Part I).

22.1.1 COLD WEATHER REQUIREMENTS

Concreting during cold weather shall be carried out as per IS:7861 (Part 2)

The ambient temperature during placement and upto final set shall not fall below 5 Deg C. Approved anti- freeze/accelerating additives shall be used where directed.

For major and large scale concreting works the temperature of concrete at times of mixing and placing, the thermal conductivity of the formwork and its insulation and stripping period shall be closely monitored.

22.1.2 WATER RETAINING STRUCTURES

The CONTRACTOR shall take special care for concrete for underground structures such power house basement, reservoirs etc., and those others specifically called for to guarantee the finish and water tightness. Construction of water retaining structures shall generally follow the requirements of IS:3370.

The minimum level of surface finish for liquid retaining structures shall be Type F2. All such structures shall be hydro-tested.

The CONTRACTOR shall include in his price, hydrotesting of structures including all arrangements for testing such as temporary bulkheads, pressure gauges, pumps, pipelines etc.

All temporary arrangements that may have to be made to ensure stability of structures during testing shall also be considered while quoting rates.

Any leakage that may occur in the structures shall be effectively stopped either by cement/epoxy pressure grouting, guniting or such other methods as may be approved by the ENGINEER. All such rectification shall be done by the CONTRACTOR to the entire satisfaction of the EMPLOYER/ENGINEER at no extra cost to the EMPLOYER.

22.1.3 TESTING CONCRETE STRUCTURES FOR LEAKAGE

Hydro-static test for water tightness shall be done at full storage level or soffit of cover slabs, as may be directed by ENGINEER, as describe below.

In case of structures whose external faces are exposed, such as elevated tanks, the requirements of the test shall be deemed to be satisfied if the external faces show no sign of leakage or sweating and remain completely dry during the period of observation of seven days after allowing a seven day period for absorption after filling with water.

In the case of structures whose external faces are submerged and are not accessible for inspection, such as underground tanks, the structures shall be filled with water and after the expiry of seven days after the filling, the level of surface of water shall be recorded. The level of water shall be recorded again at subsequent intervals of 24 hrs. Over a period of seven days. Backfilling shall be withheld till the tanks are tested. The total drop in surface level over a period of seven days shall be taken as an indication of the watertightness of the structure. The engineer shall decide on the actual permissible nature of this drop in the surface level, taking into account whether the structures are open or closed and the corresponding effect it has on evaporation losses. Unless specified otherwise, a structure whose top is covered shall be deemed to be watertight if the total drop in the surface level over a period of seven days does not exceed 40mm

Each compartment/segment of the structure shall be tested individually and then together.

For structures such as pipes, tunnels etc. The hydrostatic test shall be carried out by filling with water after curing as specified and subjecting to the specified test pressure for specified period. If during this period the loss of water does not exceed the equivalent of the specified rate, the structure shall be considered to have successfully passed the test.

23.0 OPTIONAL TESTS

If the ENGINEER feels that the materials i.e. cement, sand, coarse aggregates, reinforcement and water are not in accordance with the specifications or if specified concrete strengths are not obtained, he may order tests to be carried out on these materials in laboratory, to be approved by the ENGINEER, as per relevant IS Codes. OWNER shall pay only for the testing of material supplied by the OWNER, otherwise CONTRACTOR shall have to pay for the tests. Transporting of all material to the laboratory shall however be done by the CONTRACTOR at no extra cost to OWNER.

In the event of any work being suspected of faulty material or workmanship requiring its removal or if the works cubes do not give the stipulated strengths, ENGINEER

reserves the right to order the CONTRACTOR to take out cores and conduct tests on them or do ultrasonic testing or load testing of structure, etc. All these tests shall be carried out by CONTRACTOR at no extra cost to the OWNER. Alternately ENGINEER also reserves the right to ask the CONTRACTOR to dismantle and re-do such unacceptable work at the cost of CONTRACTOR.

If the structure is certified by ENGINEER as having failed, the cost of the test and subsequent dismantling/ reconstruction shall be borne by CONTRACTOR.

23.1 INSPECTION

All materials, workmanship and finished construction shall be subject to continuous inspection and approval of ENGINEER. Materials rejected by ENGINEER shall be expressly removed from site and shall be replaced by CONTRACTOR immediately at no extra cost to OWNER.

23.2 CLEAN-UP

Upon the completion of concrete work, all forms, equipment, construction tools, protective coverings and any debris, scraps of wood, etc. Resulting from the work shall be removed and the premises left clean.

23.3 CHECKING VERTICALITY, ECCENTRICITY AND LEVELS OF THE STRUCTURES

During the progress of the construction, the CONTRACTOR shall check the levels of the floors, the verticality and eccentricity of all the vertical structural members. Such checking shall be carried out with appropriate survey equipment by an independent registered land surveyor for all floors of the building structures, one floor at a time and as soon as the structural works for each floor are completed.

The CONTRACTOR shall submit two sets of the surveyor's report and field readings compiled in an approved format to the ENGINEER as and when they are completed. Such report shall indicate the levels, verticality, eccentricity and deviation, if any, of the building structures.

The checking of the levels, verticality and eccentricity of the building structures and the submission of such reports to the ENGINEER shall not relieve the CONTRACTOR of any of his duties or responsibilities under the contract.

23.4 SAMPLING AND STRENGTH OF DESIGNED CONCRETE MIX

Samples from fresh concrete shall be taken as per IS 1199 and cubes shall be made, cured and tested at 28 days in accordance with IS 516.

Frequency of sampling, Test specimen and Test results of sample shall be as per IS 456.

Any other tests such as for workability, durability, etc, required at field shall be done as per IS 456.

23.5 ACCEPTANCE CRITERIA

Any concrete work shall satisfy the requirements given below individually and collectively for it to be acceptable.

- a) properties of constituent materials;
- b) characteristic compressive strength;
- c) specified mix proportions;
- d) minimum cement content;
- e) maximum free-water/cement ratio;
- f) workability;
- g) temperature of fresh concrete;
- h) density of fully compacted concrete;
- i) cover to embedded steel;
- j) curing;
- k) tolerances in dimensions;
- l) tolerances in levels;
- m) durability;
- n) surface finishes;
- p) special requirements such as;
 - i) water tightness;
 - ii) resistance to aggressive chemicals
 - iii) resistance to freezing and thawing
 - iv) very high strength
 - v) improved fire resistance
 - vi) wear resistance
 - vii) resistance to early thermal cracking

The ENGINEER's decision as to the acceptability or otherwise of any concrete work shall be final and binding on the CONTRACTOR.

For work not accepted, the ENGINEER may review and decide whether remedial measures are feasible so as to render the work acceptable. The ENGINEER shall in that case direct the CONTRACTOR to undertake and execute the remedial measures. These shall be expeditiously and effectively implemented by the CONTRACTOR. Nothing extra shall become payable to the CONTRACTOR by the OWNER for executing the remedial measures.

24.0 SELF COMPACTING CEMENT CONCRETE (SCC)

The Self Compacting Concrete (referred hereinafter as SCC) shall conform to the requirements of IS 456: 2000 reaffirmed 2005 (Fourth Revision).

In addition to the provisions of the IS code the SCC shall meet the following requirements as per EN standards:

	mm-max
T 50 cm slump flow	2-5 sec
J Ring	0 -10 mm
V funnel	8-12 sec
V Funnel	+ 3 sec
T _{50 min}	
L Box	H2 / H1 = 0,8-1,0
U Box	H2 - H1= 30
Fill Box	90-100 %
Screen Stability	0-15 %
Orimet test	0-5 sec

The mineral admixture in the SCC shall be Flyash with a minimum content of 30% of the total weight of the Cementitious material.

The formwork shall be suitably designed for achieving the desired form finish of the exposed concrete.

24.1 Hydrophilic water sealing materials of assorted profiles at construction joints at different locations during the construction of Basement Raft RCC and peripheral RCC Retaining wall

24.2 Scope

Providing and fixing hydrophilic water sealing materials at construction joints at different locations during the construction of Basement Raft RCC and peripheral RCC Retaining wall and also construction joints at other water retaining structures including creating necessary nominal trapezoidal key shape in the formwork finish or by mason's finish, including applying suitable adhesives and sealants as recommended and supplied by the approved manufacturer for proper and highly secure bonding with substrate, rough / smooth and wet / dry, proper splicing and jointing at corners, T, L and X junctions using suitable glue, at all such locations as directed by Engineer in-charge.

24.3 Material

It shall be hydro-swelling water bar, ready for installation in construction joint to render the joints leak proof. It is based on the specially designed polymer composite that acts as undergoing reversible swelling on exposure to water to form an effective seal.

Hydro swelling water bar has water molecules held by molecular attraction not by vacuum. It should not generate gas or foam with water and prevents water ingress

even when joint width varies. It should have elastomeric properties which keeps swelling and reverting to original volume on drying throughout the life of structure.

Construction joints at the retaining wall shall be installed with hydro-swelling water bar based on advance vinyl acrylate polymers. The water bar shall be formulated to exhibit low pre-mature swelling (less than 50% within 12 hours) and shall not be based on super absorbents. The water bar shall have low swelling pressure; not exceeding 0.25 mpa at full swelling capacity. The water bar shall be installed with special adhesive as per approved manufacturer"s instructions.

24.4 Workmanship

The concrete substrate to which the water bar is to be fixed must be smooth and sound

Cut the water bar to the required length.

Fix the water bar to the concrete substrate using approved adhesive. Apply light tension to the water bar as it is being fixed. Allow the adhesive on the verticals to dry at least over night before concreting.

Protect the fixed water bar from mould release oil and dirt. Do not saturate the water bar before concreting as this may cause it to swell.

For additional work methodology refer Clause 22.4 of CPWD specification Vol. 2, 2009

24.5 Mode Of Measurements

The length shall be measured as per Clause 22.4 of CPWD specification Vol. 2, 2009

25mm thick alkali resistance, closed cell polymer based expansion joint filler board of approved make, having minimum density of 28 Kg/ Cu.m & compression strength of 0.21 Kg/sqm; using double sided adhesive tape as per the manufacturer's specifications etc.

24.6 Scope

Providing and fixing polymer based Expansion joint filler board of approved make and as approved by Engineer in-charge.

24.7 Material

It shall be alkali resistant, closed cell polymer based expansion joint filler material for RCC Columns, Beams, Walls, and Slabs.

It does not react with acids & alkalis.

It should withstand joint movements.

It shall be non-impregnated, non-staining, non-bleeding and negligible water absorption properties.

Technical details

- | | |
|-------------------------|-------------|
| A) Water absorption (%) | : 0.02% |
| B) Density (Kg/cum) | : 28 (min.) |

C) Compression strength (Kg/sqm) : 0.21 (min.)

D) Tensile strength (Kg/sqm) : 1.8 (min.)

E) Elongation (%) : 60 (min.)

F) Bitumen content : NIL

24.8 Workmanship

24.8.1 Surface preparation

While creating expansion joint, the filler board will become one side of shuttering.

In an expansion / movement joint filler board is to be fixed in position to substrate using double sided adhesive tape of approved manufacturer or synthetic rubber adhesive.

SPECIFICATION FOR STEEL WORKS

1.0 SCOPE

1.1 This specification covers the general requirements for supply where specified, fabrication and delivery at site of structural steel. The bill of quantities covers the specific requirements for the project. The two parts are complementary and are to be read together for a correct interpretation of the provisions of this specification.

1.2 This specification also covers design of all connections and substituted members, preparation of all shop fabrication drawings, inspection and shop painting of structures.

2.0. APPLICABLE CODES & SPECIFICATIONS

The following specifications, standards and codes are made a part of this specification. All standards, specifications and codes of practices referred to herein shall be the latest editions including all applicable official amendments and revisions.

In case of discrepancy between this specification and other documents referred to herein, this specification shall govern.

a) Materials

i) IS : 808 Dimensions for Hot Rolled Steel sections

ii) IS : 801 Dimensions for Cold Formed light gauge steel sections

iii) IS : 814 Covered Electrodes for Manual Metal Arc Welding of Carbon and Carbon Manganese Steel

iv) IS : 1161 Steel Tubes for structural purposes

v) IS : 1239 Mild steel tubes, tubulars and other Wrought steel fittings Part 1 - Mild steel tubes Part

2 - Mild steel Tubulars and other wrought steel pipe fittings

vi) IS : 1363 Hexagon Head Bolts, Screws and Nuts of product (Parts 1 to 3) Grade C (Size range

M5 to M64)

vii) IS : 1367 Technical Supply Conditions for Threaded Fasteners (All Parts)

viii) IS : 1852 Rolling and Cutting Tolerances for Hot Rolled Steel Products

xi) IS : 1977 Structural Steel (Ordinary Quality)

x) IS : 2062 Steel for General Structural Purposes

xi) IS : 2074 Ready Mixed Paint, Air drying, Red Oxide Zinc Chrome and Priming

xii) IS : 3502 Steel Chequered Plate

xiii) IS : 3757 High Strength Structural Bolts

xiv) IS : 5369 General Requirements for Plain Washers and Lock Washers

xv) IS : 5372 Taper Washers for Channels

xvi) IS : 5374 Taper Washer for I Beams

xvii) IS : 6610 Heavy Washers for Steel Structures

xviii) IS : 8500 Structural Steel-microalloyed (medium and high strength qualities)

b) Codes Of Practice

i) IS : 800 Code of Practice for General Construction in Steel

ii) IS : 801 Code of practice for use of Cold formed light gauge steel structural members in general building construction

iii) IS : 803 Code of practice for design, fabrication and erection of vertical mild steel cylindrical welded storage tanks

iv) IS : 806 Code of practice for use of steel tubes in general building construction

v) IS : 816 Code of Practice for use of Metal Arc Welding for General construction in Mild Steel

vi) IS : 822 Code of Procedure for Inspection of Welds

vii) IS : 1182 Recommended Practice for Radiographic examination of Fusion - Welded Butt Joints in Steel Plates

viii) IS : 1200 Method of Measurement in Building Civil Engineering Works

ix) IS : 1477 Code of Practice for Painting of (Parts 1 & 2) Ferrous Metals in Buildings

x) IS : 2595 Code of Practice for Radiographic Testing

xi) IS : 3658 Code of Practice for Liquid Penetrant Flaw Detection

xii) IS : 4000 High strength bolts in Steel Structures - Code of Practice

xiii) IS : 5334 Code of Practice for Magnetic Particle Flaw Detection of Welds

xiv) IS : 7215 Tolerances for Fabrication of Steel Structures

xv) IS : 9595 Recommendations for Metal Arc Welding of Carbon and Carbon Manganese Steel

xvi) IS: 819 - Code of practice for Resistance Spot welding for light Assemblies in mild steel.

xvii) IS: 823 - Procedure Code for metal are welding of mild steel.

xviii) IS: 824 - Code of practice for welding of structure subject to Dynamic loading.

xix) IS: 1261 - Code of practice for seam welding in mild steel.

xx) IS: 1323 - Code of practice for oxy-acetylene welding for structural work in mild steel

3.0 STEEL MATERIALS

Steel materials shall comply with the specifications laid down under clause 2.0 and/or as called for on the design drawings.

All materials used shall be new, unused and free from defects.

Steel conforming to IS: 1977 or ASTM shall be used only for the following:

Fe310-0(St 32-0) : For general purposes such as door/ window frames, grills, steel gates, handrails, fence posts, tee bars and other non-structural use.

Fe410-0(St 42-0) : For structures not subjected to dynamic loading other than wind loads such as: Platform roofs, foot over bridges, building, factory sheds etc.

Fe410-0(St 42-0) : grade steel shall not be used a) if welding is to be employed for fabrication. b) if site is in severe earthquake zone. c) if plastic theory of design is used.

4.0 DRAWINGS PREPARED BY THE VENDOR/CONTRACTOR

4.1 The VENDOR/CONTRACTOR shall prepare all fabrication and erection drawings based on the structural design for the entire work. All the drawings for the entire work shall be prepared in metric units. The drawings shall preferably be of one standard size and the details shown there in shall be clear and legible.

4.2 The VENDOR/CONTRACTOR shall not commence detailing unless ENGINEER's design drawings are officially approved for preparation of shop drawings. The VENDOR/CONTRACTOR shall be responsible for the correctness of all fabrication drawings. Fabrication drawings shall be revised by the VENDOR/CONTRACTOR to reflect all revisions in design drawings as and when such revisions are made by the ENGINEER.

4.3 All fabrication drawings shall be submitted to the ENGINEER for approval.

4.4 No fabrication drawings will be accepted for ENGINEER's approval unless checked and approved by the VENDOR/CONTRACTOR's qualified structural engineer and accompanied by an erection plan showing the location of all pieces detailed. The VENDOR/CONTRACTOR shall ensure that connections are detailed to obtain ease in erection of structures and in making field connections.

4.5 Fabrication shall be started by the VENDOR/ CONTRACTOR only after ENGINEER's approval of fabrication drawings. Approval by the ENGINEER of any of the drawings shall not relieve the VENDOR/CONTRACTOR from the responsibility for correctness of engineering & design of connections, workmanship, fit of parts,

details, material, errors or omissions of any and all work shown thereon. The ENGINEER's approval shall constitute approval of the size of members, dimensions and general arrangement but shall not constitute approval of the connections between members and other details. The CONTRACTOR will solely be responsible for any sort of delay in fabrication/ erection work.

4.6 The drawings prepared by the VENDOR/CONTRACTOR and all subsequent revisions etc. shall be at the cost of the VENDOR/CONTRACTOR for which no separate payment will be made.

- **Please refer specifications of Building Construction as per USOR (copy uploaded with this tender).**

SPECIFICATIONS FOR ITEMS OF BARRICADING.

Barricading shall be provided as per specification and as per site requirements and the circular issued u/no MGC/F/6342 dated 05.05.2018 shall be applicable as follows.

- It will be entirely responsibility of the contractor to provide and install secure barricades on work site, wholly at his cost.
- The cardinal principal behind installing secure and continuous barricading is to ensure the safety of the road users/residents of vicinity etc. Due to non-installation of barricades or due to inadequate installation of barricades on sites, if any accident occurs on site leading to injury or loss of life then the contractor and contractor's engineer will be liable for consequent action.
- If it is noticed during course of execution that proper barricading is not provided by the contractor then a penalty of Rs 2000/- Per Meter Per day will be imposed. Penalty on account of lapses in providing barricades will be cumulatively imposed to the tune of 5% of the contract cost.

NOTES ON SUPPLY OF CEMENT, STEEL, ETC.

The Tender conditions in respect of procurement of Cement regarding cement works:

- A) M.C.G.M. will not supply cement to the contractors, Successful tenders shall have to purchase cement from open market, manufactured by reputed cement companies. The Cement shall be of minimum 43 Grade ordinary Portland cement. Cement shall have to be got tested at Municipal Laboratory or any other Govt. recognized Laboratory at contractor cost before its use, for each batch. In case the cement test results are not available before its use, the concerting work will be permitted after carrying out compressive strength test for 3 days at the Municipal Laboratory and the C.C. cube test results for 3 days should conform to the proportionate strength. However, cement test results will have to be obtained by the contractors from the approved laboratory before further use of cement.
- B) Only ordinary portland cement of 43/53 Grade will be allowed to be used, Contractors shall provide godown with sufficient capacity as directed by the Engineer in-charge, under double lock system with one lock of contractor and other of Brihanmumbai Municipal Corporation . Cement from locked godown will be released only after getting satisfactory test result as per Clause 'A' above. Advance bill as per rule for cement brought on site and duly tested can be entertained only after getting satisfactory cement test results.

**SCOPE AND SPECIFICATIONS OF ELECTRO
MECHANICAL CAR PARKING WORK**

1.0 Scope of electrical and mechanical work:

Designing and construction of Automatic shuttle type multilevel electro mechanical car parking including foundation, structure, Fire-fighting, fire alarm, all electrical works, all associated works complete.

Scope of work include preparation of civil structural drawings, structural drawings of Multilevel car parking and foundation drawings. These structural and foundation drawings shall have to be vetted from IIT or VJTI or SPCE and the bidder shall furnish, all design data required by vetting agency, to Engineer-in-Charge. Main structure of multilevel car parking should include in designing of structure required provision for erecting façade.

Multilevel car parking will be in a standalone building. Scope of work also includes preparation of architectural plan, facade drawings and complete parking system drawings for approval of Engineer-in-Charge.

- 1.1. The Various works that comprise in the scope of work shall be provided and executed as per all applicable codes; CPWD specifications, NBC-2016, BIS, ECBC, IE rules, UBBL-2016, local body guidelines etc., if not covered in Indian codes , then international codes, good engineering practice shall be followed.
- 1.2. Investigations, designing, planning, risk of engineering and construction, safety, quality lies with the bidder.
- 1.3. Approval from PLANNING AUTHORITY for construction of car parking and Completion Certificate after completion of work are to be obtained by the bidder.
- 1.4. All electrical work, control system & control cabling, programmable logic controller, fire-fighting, addressable fire alarm works are in the scope of bidder. Main power supply source are obtained from M/S BEST ELECTRIC SUPPLY UNDERTAKING by laying underground cables as per direction of Engineer-in-Charge and LT panels, feeders pillars, distribution boards etc required for parking systems/blocks are also to be provided by bidder Fire fighting and life safety shall be provided as per NBC-2016, guidelines of local body authorities etc. Fire fighting system shall be integrated with exiting fire pump station in the same Building as per directions of Engineer-in- Charge. Addressable fire alarm system shall be integrated with control room panel of the Building as per direction of Engineer-in-Charge.

Scope of work also include providing IP CC cameras and instrument set for intercom system in all parking block including cabling for CCTV and intercom The IP CC cameras shall be integrated with CCTV system being installed in the campus by another agency so camera must be compatible for integration.

Intercom shall be provided in each parking block including laying of cable and it shall be connected with EPABX being installed by another agency.

- 1.5 Elevations of the multilevel car parking shall be enveloped by facade

2.0 Specifications of electro mechanical multilevel car parking system:

- 2.1 Designing of automatic shuttle type electro mechanical multilevel car parking shall meet and achieved minimum parking and retrieval time. All required design considerations for achieving lowest minimum parking and retrieval time should be made by bidders for their planning and designing and the successful bidders shall present the design scheme ensuring the parking and retrieval time to Engineer-in-Charge before fabrication and execution of work.
- 2.2 Multilevel car parking system and structure of parking system shall be designed to meet the safety requirement for resistance to Seismic effect and the parking system shall be designed and constructed accordingly.

- 2.4 The work shall be carried out in accordance with Architectural drawings and structural drawings. Before commencement of any item of work, the contractor shall correlate all the relevant architectural and structural drawing, nomenclature of items, specifications etc. and satisfy himself that the information available there from is complete and unambiguous. The figures & the written dimensions of the drawing shall supersede the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer in-charge for immediate decision before execution of the work. The CONTRACTOR alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and or incomplete information and no claim, whatsoever shall be entertained on this account.
- 2.5 Contractor shall provide permanent bench marks, flag tops and other reference points for the proper execution of work and these shall be preserved till the end of work. All such reference points shall be in relation to the levels and locations, given in the Architectural drawings.
- 2.6 Site Electricians / Other Electrical Personnel: The contractor shall engage qualified and competent electricians and other electrical personnel while working for safe execution of contract. The electricians and other electrical personnel must possess requisite certificate issued from competent authority.
- 2.7 Welding and Cutting Gas cylinders in use should be kept upright on a custom built stand or trolley fitted with a bracket to accommodate the hoses and equipment or otherwise secured. The metal cap should be kept in place to protect the valve when the cylinder is not connected for use. Non-return valve and Flashback arrester shall be fixed at both end of cylinder and torch Domestic LPG cylinders shall not be used for Gas welding and cutting purpose. DCP or CO2 type Fire Extinguisher not less than 5 kg shall be fixed at or near to welding process zone in an easily accessible location. Fire Extinguisher should conform to IS 2190: 1992. Welding grounds and returns should be securely attached to the work by cable lugs, by clamps in the case of stranded conductors, or by bolts for strip conductors. The ground cable will not be attached to equipment or existing installations or apparatus.
- 2.8 The contractor shall give performance test of the entire installation(s) as per the standing specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test,

2.9 **Steel**

- 2.9.1 All finished steel shall be well and cleanly rolled to the dimensions and weight specified by BIS subject to permissible to tolerances as per IS: 1852. The finished materials shall be reasonable free from cracks, surface flaws laminations, rough and imperfect edges and all other harmful defects.
- 2.9.2 Steel Sections, shall be free from excessive rust, scaling and pitting and shall be well protected. The decision of the Engineer-in-Charge regarding rejecting any steel section on account of any of the above defects shall be final and binding.

2.10 **Fabrication:**

- 2.10.1 Fabrication shall generally be done as specified in IS : 800.
- 2.10.3 Great accuracy shall be observed in the fabrication of various members, so that these can be assembled without being unduly packed, strained or forced into position and when built up, shall be true and free from twist, kinks, buckles or open joints.
- 2.10.4 Wooden or metal sheet templates shall be made to correspond to each member, and position of rivet holes shall be marked accurately on them and

holes drilled. The templates shall then be laid on the steel members, and holes for riveting and bolting marked on them .the ends of the steel members shall also be marked for cutting as per required dimensions. The base of steel columns and the positions of anchor bolts shall be carefully set out at the required location.

2.11 Erection:

2.11.1 Steel work shall be hoisted and erected in position carefully, without any damage to itself other structures and equipment and injury to workmen. The method of hoisting and erection proposed to be adopted by the contractor shall be got approved from the Engineer-in-charge in advance. The contractor however shall be fully responsible for the work being carried out in a safe and proper manner without unduly stressing the various members and proper equipment such as derricks, lifting tackles, winches, ropes etc. shall be used.

2.12 Fire fighting system and smoke management:

Fire fighting system and smoke management shall be designed and provided as per provision given in NBC-2016 amended up to date, BMC specification for Mechanical/Electrical, CPWD General specifications The bidder shall get the fire fighting system and smoke management system approved from CFO before execution of work and also obtains NOC after completion of work. Nothing extra shall be paid on this account.

2.13 Internal and external electrical installation:

Internal electric installations, external electrical installation and earthing shall be provided and executed as per provision given in BMC general specifications for electrical works, CPWD general specifications for electrical works Part-I: 2013, Part-II: 2008, NBC-2016, IE rules, Relevant BIS codes all amended up to date. Layout of electrical installations and the light fixtures to be used, shall be shall be got approved from Engineer-in-Charge before execution.

2.14 IP CCTV and Intercom:

IP CCTV cameras shall be provided to cover entry and exit of parking, periphery of parking blocks and all parking area. CC cameras shall be compatible for integration. Intercom system shall be provided in the parking blocks. The work includes telephone instrument sets in control room of each parking blocks and laying of cables for intercom. This intercom system shall be integrated with EPABX of the complex which is being executed by another agency.

Applicable codes :

Sr. No	ITEM	CODE NO
1	Steel Wire Rope for General Purpose	IS 2266, 2002
2	Code of practice for selection, installation and maintenance of switch gear & control gear.	IS-10118 (Part I), 1982
3	Electrical wiring system	IS-732, 1989
4	Code of practice for earthing	IS-3043, 1987
5	MCB distribution boards for voltage up to and including 1000V AC	IS-13032, 1992
6	Residual current operated circuit breakers	IS-12640, 2008
7	FRLS PVC insulated flexible (Multi stranded) copper	IS-694, 1990

	conductor wires.	
8	Steel conduit IS- 9537 (Part-II) 9.	IS-9537 (Part-II)
9	Circuit breakers- general requirements	IS-13118, 1991
10	Air break switches for voltage not exceeding 1000V AC or 1200 V DC	IS-13947 (Part-III), 1993
11	Electrical direct acting instruments	IS-1248 (All parts), 2003
12	Degree of protection provided by enclosures for LV switches gear and control gear.	IS-2147, 1962
13	Parking system safety	EN 14010: 2003, EN 14010: 2003 A1:2009
14	For all other equipments, components, materials, parking system controller, control system required to be used in the work	Applicable codes; CPWD specifications, BIS, BS, EN, UL

Note-1: Applicable codes mentioned above shall be amended up to date.

Note-2: Any other codes / specifications required for development for parking facility will be applicable even though not mentioned above.

PARTICULAR SPECIFICATION OF ELECTRICAL WORKS:

XLPE INSULATED HT ARMoured CABLES

Supply & laying of Circular Aluminium conductor, conductor screened with extruded semiconducting compound, XLPE insulated, insulation screened with extruded semiconducting combination in combination with copper tape(0.3KAfor1sec.) cores laid up, FRLS PVC inner sheathed, galvanized steel strip armoured and overall FRLS PVC sheathed cable confirming to IS:7098/II/85working voltage 11KV(UE) grade to be laid 1 m below ground level including excavation, sand cushioning, covering with sand & bricks and back filling the trench etc., of the required size:-

Circular Aluminium conductor, conductor screened with extruded semiconducting compound, XLPE insulated, insulation screened with extruded semiconducting combination in combination with copper tape (0.3KA for 1sec.) cores laid up, FRLS PVC inner sheathed, galvanized steel strip armoured and overall FRLS PVC sheathed cable confirming to IS:7098/II/85working voltage 11KV(UE) grade 70sq.mm (Three Core).

**PARTICULAR SPECIFICATION OF FIRE FIGHTING WORKS:
SPECIFICATIONS FOR FIRE HYDRANT & SPRINKLER SYSTEM.**

General

Work under this subhead is time-bound and has to be completed within the time limit set in the tender. Work shall be executed in accordance with an agreed schedule which shall be submitted by the tenderer along with offer and agreed to by owners.

Scope of work.

The scope of work in this subhead shall consist of furnishing all labour, materials, equipment and appliances necessary and required to completely do all work relating to the supply, installation, testing & commissioning of Fire Fighting System as described herein after and shown on the drawings. The scope of work in general shall include the following.

- i. Fire Fighting Pumps & Accessories and related electrical works.
- ii. Internal Fire Hydrant System.
- iii. Sprinkler system in entire building.
- iv. Hand Appliances.

Without restricting to the generality of the foregoing, the work shall include the following: -

A Hydrant System covering the entire complex and consisting of the following:

- i. One number of Terrace Pump – One number electric horizontal end suction pump of 900 LPM at 35 M head
- ii. Other piping system ancillaries such as Suction and Delivery Headers, Air Vessel, Pressure Gauges, Pressure Switches, Pump Panel etc. as required.
- iii. Internal Hydrant system where required with single headed landing valves on each floor accompanied by 1 number swinging type Hose Reel, 2 numbers RRL Hoses, 1 number of Branch Pipe etc. all housed in the niche. Bidder shall provide front frame with shutter for niche.
- iv. Sprinkler system for entire building.
- v. Hand appliance.

vi. To obtain the approval of the relevant drawings before actual installation at site and to get the complete installation inspected and passed by the concerned authorities, as may be necessary as per local bye-laws. (Any fee payable to the local bodies paid by contractor).

Contractor's Experience.

Contractors shall engaged specialist Successful Bidder only for this work of Fire

Fighting systems.

The selected specialist Successful Bidder must have sufficient experience in the execution of turnkey projects as specified.

Contractor must submit with the tender a list of similar jobs carried out by him as required along with the name of works, name and address of clients, year of execution, capacity of plant and value of work.

Technical Information.

Contractor shall submit along with the tender copies of detailed specifications, cuts, leaflets and other technical literature of equipment and accessories offered by him.

Contractor's attention is specially invited to the special conditions and other clauses in the agreement which required the contractor to: -

- a. Submit detailed shop drawings.
- b. Use material of specific makes and brands
- c. Obtain all approvals from Fire Fighting authorities.
- d. Execute the entire work on a turn-key basis so as to provide a totally operating plant.

Exclusions.

Work under the contract does not include the following work.

Electrical cable up to incoming motor control centre.

Site Accessibility.

The equipment must be carried from the goods receiving station to the site in an extremely careful manner to prevent damage to the equipment building or existing services.

Contractor must visit the site and familiarize himself with above problems to ensure that the equipment offered by him is of dimensions that they can be carried and planed in position without any difficulty.

Approvals.

The contractor shall prepare all submission drawings and obtain all approvals of firefighting works from firefighting authority.

System Description.

The Hydrant System shall comprise of Terrace pump with all required accessories including valves, special fittings, instrumentation, control panels and any other components required to complete the system in all respects.

The Hydrant and Sprinkler System shall be semi-automatic in action and shall be laid covering the all the floors internally.

The Fire Fighting System shall be kept pressurized at all times.

The Internal Hydrant System (Wet Risers) shall be provided at points as indicated on the drawing on each floor.

The hydrant point shall be directly tapped from the Riser pipes, and shall be furnished with required accessories such as –

- a) One no. stainless steel single headed hydrant valves.
- b) Two nos. RRL Hoses of size 63mm dia. x 15m long.
- c) One no. first aid Dunlop hose reel full swinging type 20mm dia. x 40m long.
- d) One no. stainless steel Branch pipe.

The hydrant risers shall be terminated with air release valve at the highest points to release the trapped air in the pipe work.

An overhead tank 10000 liters capacity will be connected to the fire fighting system.

Sprinkler system shall be distributed entire building so as to cover 12-12 Sqm area with one sprinkler.

Sprinkler down comer shall be provided with overhead tank of required capacity.

A suitable drainage arrangement with bye-pass valve shall be provided to facilitate maintenance of sprinkler pipe work.

PARTICULAR SPECIFICATIONS for Pipes and Fittings.

Pipes and Fittings

Pipes for Wet Riser system shall be of MS pipe (Heavy Duty) Pipes up to 150mm dia shall be MS and conform to IS-1239. Pipes with dia. 200mm and above (6mm thick) shall be MS and conform to IS-3589. All pipes shall be I.S.I. marked. Fittings for black steel pipes shall be malleable iron suitable for welding or approved type cast iron fittings with tapered screwed threads.

Jointing

Joint for black steel pipes and fittings shall be metal-to-metal tapered thread or welded joints. A small amount of red lead may be used for lubrication and rust prevention in threaded joints.

Joints between C.I. or black steel pipes, valves and other apparatus, pumps etc. shall be made with C.I. or M.S. flanges with appropriate number of bolts. Flanged joints shall be made with 3mm thick insertion rubber gasket.

Note: Joints for pipes and fittings up to 50mm diameter shall be threaded joints using Teflon Tape or equivalent bonding tape on the threads. Joints for pipe and fittings above 50mm diameter shall be welded joints.

Pipe Protection.

a. All pipes in underground masonry trenches/service tunnels, above ground and in exposed locations shall be painted with one coat of red oxide primer and two or more coats of synthetic enamel paint of approved shade.

b. Pipes in wall chases shall be protected from corrosion by 2 coats of bituminous paints.

c. Protection of Underground pipes.

The underground steel pipes shall be protected by coating and wrapping. The coating and wrapping shall be done, in general as per IS: 10221-1982.

It specified in Bill of Quantities, the proprietary pipe production system shall be provided as per the Manufacturers recommendation. The proprietary system shall be of approved make.

Installation of Pipes.

All pipes shall be adequately supported from ceiling or walls by structural clamps fabricated from M.S. structural e.g. rods, channels, angles and flats. All clamps shall be painted with one coat of primer and two coats of black enamel paint. The contractor shall provide inserts at the time of slab casting or provide suitable anchor fasteners.

The pipe supports or hangers shall be designed to withstand combined weight of pipe, pipes fittings, fluid in pipe and insulation. Pipe supports shall be of steel and coated with rust preventing paint and finished with two coats enamel paint. The maximum spacing for pipes supports shall be as below:

Pipe(MM) Spacing(MTR)Size of support

Up to 25 2.0 6 mm

32 to 65 2.4 8 mm

75 to 125 2.7 10 mm

150 & above 3.0 12 mm

Pipes supports shall be spaced at maximum interval of 1.5 Mtrs. on either side of heavy fittings and valves. Wherever piping passes through walls, pipes sleeves of diameter larger than that of piping shall be provided. Pipe sleeves shall be of steel or cast iron pipe.

Valves & Other Accessories.

General

Each valve body shall be marked with cast or stamped lettering giving the following information's:

- a. The manufacturer's name or trademark.
- b. The size of the valve
- c. The guaranteed working pressures.

Isolating valves on the water supply lines shall be full bore ball valve type for pipe diameters up to 50mm. For 65mm dia. and above these shall be butterfly valves.

Full Way Ball Valve

The valves shall be of full bore type and of quality approved by the Project Architect / EIC. The body and ball shall be of copper alloy and stem seat shall be of Teflon.

Butterfly Valves

Butterfly valves shall be of centric disc construction with single piece body of Cast Iron with disc of bronze/gunmetal with nitrile seat. Shaft shall be stainless steel with Teflon bearing butterfly valve shall conform to PN 1.6 rating and shall be provided with suitable matching flanges compatible with PN 1.6 rating of valves.

Non-Return Valves

Non-return valves are to be IS: 778-1984 manufactured from gun-metal or dezincification resistant brass.

Drain Valve.

Drain Valves are to be provided at all low points in the system for draining the water. These shall be 40mm Dia full way ball valve fixed on 40mm Dia black steel pipe.

Pressure Switches.

Pressure switches shall be differential type for operation of all pumps and for the various duties and settings required. Pressure switches shall be for heavy duty operation and of approved make. All pressure switches shall be factory calibrated.

Internal Landing Valves.

The internal landing valves shall be Single-headed made of stainless steel and conforming to IS: 5290. It shall be complete with hand-wheel, quick coupling connection spring loaded type and blank cap.

Hose pipes, Branch Pipes and Nozzles.

Hose Pipe: Hose pipe shall be rubber lines woven jacketed and 63mm in diameter. They shall conform to type-2 (Reinforced rubber lined) of IS: 639- 1979. The hose shall be sufficiently flexible and capable of being rolled.

Each run of hose pipe shall be complete with necessary coupling at the ends to match with the landing valve or with another run hose pipe or with Branch pipe. The couplings shall be of instantaneous spring lock type.

Branch Pipe: Branch pipe shall be of Stainless steel 63mm Dia and be complete with male instantaneous spring lock type coupling for connection to the hose pipe. The branch pipe shall be externally threaded to receive the nozzle.

Nozzle: The nozzle shall be of Stainless steel, 20mm in internal diameter. The screw threads at the inlet connection shall match with the threading on the branch pipe, the inlet end shall have a hexagonal head to facilitate screwing of the nozzle on to the branch pipe with nozzle spanner.

Internal Fire Hose Cabinet.

Each internal fire hydrant valve shall be housed in a niche of size indicated on drawings. Each internal fire hose Cabinet shall hold Single headed hydrant, 2 Hoses and 1 Branch pipes and 1 no. Dunlop hose reel mounted on a drum.

- A. The cabinet shutters & frames shall be fabricated from boxed steel sections and MS plate 2mm thick.
- B. The front glass of shutters shall be 5.0 mm thick clear glass and shall be held by means of rubber. Locking arrangement shall also be made with one number of mortice lock of approved make. A separate Key Box of 16mm thick MS sheet with glass facing shall be provided.
- C. The Shutter shall be given a powder coat finish in post office red colour.

Hose Reel.

The hose reel shall be directly tapped from the riser through a 25mm dia pipe, the drum and the reel being firmly held against the wall by use of dash fasteners. The Hose Reel shall be swinging type (180 degrees) and the entire Drum, Reel etc. shall be as per IS:884. The rubber tubing shall be of approved quality and the nozzle shall be 6mm Dia shut off type.

Draw out Connections.

2 ways collecting head Fire Brigade connection shall be provided at the location indicated in the drawing.

AUXILIARY PUMPING EQUIPMENT

Scope

This section covers the details or requirements of the auxiliary equipment necessary for the operation of the fire pumps.

The pump shall be directly driven from the electric motor. Flexible coupling and coupling guard shall be provided.

Capacity

The discharge and head of the Terrace pump shall be as required.

The pump casing shall be of cast iron and parts like impeller, sleeve, wearing ring etc. shall be of non- corrosive metal like bronze, brass or gunmetal. The shaft shall be of stainless steel. Bearing of the pump shall be effectively sealed to prevent loss of lubricant or entry of the dust or water. The pump casing shall be designed to withstand 1.5 times the working pressure.

Motor

The motor shall be squirrel cage A.C. induction type suitable for operations on 415 volts 3 phase 50 Hz, system. The motor shall be totally enclosed fan cooled type conforming to protection clause IP55 of IS 4691. The class of insulation shall be H synchronous speed shall be 2900 RPM. The motor shall conform IS 325-1978 and rated for continuous duty.

Sprinkler System**Sprinkler Heads.**

Sprinkler heads shall be of quartzoid bulb type with bulb, valve assembly yoke and the deflector. The sprinklers shall be approved make and type.

Types**Conventional Pattern**

The sprinklers shall be designed to produce a spherical type of discharge with a portion of water being thrown upwards to the ceiling side of wall extra. The sprinklers shall suitable for erection in upright position or pendant position.

A. Side Wall Sprinklers.

These shall be designed for installation along with the walls of room close to the ceiling. The discharge pattern shall be similar to one quarter of sphere with a small proportion discharging on the wall behind the sprinklers.

Construction

- i. Bulb – Bulb shall be made of corrosion-free material strong enough to with stand any water pressure likely to occur in the system. The bulb shall shatter when the temperature of the surrounding air reaches a predetermined level.
- ii. Valve assembly – Water passage of the sprinkler shall be controlling assembly of flexible construction. The valve assembly shall be held in position by the quartzite bulb. The assembly be stable and shall withstand pressure surges or external vibration without displacement.
- iii. Yoke: The yoke shall be made of high quality gunmetal. The arms of yoke shall be so designed as to avoid interference with discharge of water from the deflector. The sprinkler body shall be coated with an approved anti corrosive treatment if the same is to use in corrosive conditions.

iv. Deflector: The deflector shall be suitable for either upright or pendent erection. The deflector shall be designed to give an even distribution of water over the area protected by each sprinkler.

a. Colour Code.

The following colour code shall be adopted for classification of sprinkler according to nomination temperature ratings.

b. Sprinkler Temperature Rating.

c. Size of Sprinklers Orifices.

The sprinklers shall be of 15mm nominal bore size.

Pipes and Fittings

Pipes for sprinkler system shall be of black steel conforming to I.S. 1239 (Heavy class).

Fittings for black steel pipes shall be malleable iron suitable for welding or approved type cast iron fittings with tapered screwed threads.

Jointing

Joint for black steel pipes and fittings shall be metal to metal tapered thread or welded joints. A small amount of red lead may be used for lubrication and rust prevention in threaded joints.

Joints between G.I. or black steel pipes, valves and other apparatus, pumps etc. shall be made with G.I. or M.S. flanges with appropriate number of bolts. Flanged joint shall be made with 3mm thick insertion rubber gasket.

Pipes Protection.

All pipes above ground and in exposed locations shall be painted with one coat of red oxide primer and two or more coats of synthetic enamel paint of approved shade.

Pipes in chase or buried underground shall be painted with two coats of hot bitumen.

Pipe Supports

All pipes shall be adequately supported from ceiling or walls from structural clamps fabricated from M.S. structural e.g. rods, channels, angles and flats. All clamps shall be painted with one coat of primer and two coats of black enamel paint. The contractor shall provide inserts at the time of slab casting or anchor fastener later.

Valves

Sluice valves of sizes 80mm and above shall be double flanged cast iron conforming to I.S.780. Check valve shall be of cast iron double flanged conforming to I.S.5312.

Valves on pipes 65mm and below shall be heavy pattern gunmetal valves with cast iron wheel seat tested to 20 kg/sq.cm. Pressure. Valves shall conform to I.S.778.

A. Air Valves

25mm Dia screwed inlet cast iron single acting air valves on all high points in the system or as shown on drawings.

B. Drain Valves

50mm Dia black steel pipe conforming to I.S.1239 medium class with 50mm gunmetal full way valve for draining and water in the system in low pockets.

Testing

Testing on Completion of Installation.

The entire system shall be tested after completion of installation as per the operating sequence specified.

Standard and Codes.

1. IS-1648-1961 Code of Practice for fire safety of building (general)

Fire fighting equipment and maintenance.

- | | | |
|-----|--------------|---|
| 2. | IS-3844-1966 | Code of practice for installation of internal fire Hydrant in |
| . | IS-2217-1963 | multi-storied Building. |
| 3. | | Recommendation for providing first aid and fire fighting |
| | | arrangement in public buildings. |
| 4. | IS-2190-971 | Code of practice for selection, |
| | | Installation and maintenance of portable first fire |
| | | appliance. |
| 5 | IS-3589 | Electrically Welded Steel pipes |
| | | (Medium class) |
| 6. | IS-1239 | Mild steel tubes, Tubular and other |
| | | vrought steel fittings (Medium class) |
| 7. | IS-780 | C.I. Double flanges sluice valve. |
| 8. | IS-778 | Gun Metal Valve. |
| 9. | IS-909-1965 | External fire hydrant (underground) |
| 10. | IS-5290-1969 | Internal Landing Valve. |
| 11. | IS-884-1969 | First and hose reel. |

12. IS-934-1976 Specification for portable chemical fire Extinguisher soda acid type.
13. IS-2873-1969 Specification for fire extinguisher for carbon dioxide.

PARTICULAR SPECIFICATION FOR AUTOMATED CAR PARKING SYSTEMS

TYPE: SHUTTLE WITH ROBO PARKER

General Description and criteria

Automated Parking System Capacity (Vehicle storage spaces):

- a. Car Parking Spaces: **200**
- b. Transfer spaces (service points): **02**

Gross parking spaces are the total number of developed spaces in the garage. The cost of the installed system shall be based on the gross spaces because each space should be fully developed and serviced by the automated parking equipment.

Vehicle overall Length Measurement Limits:

Following should be the stalls sizes suitable to Vehicle overall measurement Limits.

Max Width outside tyres: 195 cm.

Min Width inside the tyres: 100 cm

Max wheelbase: 315 cm.

Min Wheelbase: 180 cm

Guard to ground: min.9 cm.

Maximum over all dimensions of parkable cars should be 5.2M in length, 2.1M in width and 2.10M in height, i.e. the proposed system should be capable of handling all types of cars used in India.

Weight Capacity

The proposed system should be designed to accommodate a maximum vehicle load of 2,500 kg. Dynamic testing of the system shall be conducted in accordance to standard EN14010 with a total load of 2,750Kg. The designed parameters should cover all types of cars that will fit into the parking system given the limits of the structure.

Description of Basic components of proposed automated car Parking System:

The proposed system should consists of Entrance and exit devices, Robo parker Transporters, Cantilevered Vertical Transport systems/ Vertical Transport systems (CVTS/ VTS), Shuttles capable to accept Robo parker, Electrical controls (ELEC) and parking stall, all as required to make a complete system as specified.

Entry Lobby/Exit Lobby

This is a location up to where user is allowed to enter with car or exit with the car park. This lobby is online monitored, having all proximity sensors, infra-red sensors

and other controls. The lobby is accessible to car lifting and horizontal car transfer equipment. In this project, the total number of Entry Lobby is two and exit Lobby is two.

Entry Access Door to Vertical Transporter

On departure of user from entry lobby and on closing entry barrier, it automatically opens, allows the Robo parker from vertical transporter/ elevator to enter into the entry lobby/ lift, on exit of car from entry lobby/ lift onto the vertical transporter or elevator, it closes automatically. It should operate on motion sensor controls. It operates vice versa on retrieval time; it allows the car to be brought into the exit lobby and closes once car lifter cum horizontal transfer equipment is out of exit. In any case it should not open when user is within entry or exit lobby. Here the total number of Entry Door is two and exit door is two.

Robo Parker

This is a robotic car lifter and transporter transporting car in horizontal plane perpendicular to direction of movement of shuttle with a minimum thickness so that client will get maximum advantages of total building height. This Robo parker is the major device used for pickup the car, transporting to elevator or shuttle to park in stall for parking activity and vice versa for retrieval activity. The Robo parker must have a car centering device to limit the width of parking space to 2.10m. Here the total number of Robo parker is two.

Elevator

This is equipment, which used to for vertical transportation of car along with Shuttle and Robo parker or with car only. This transports the car and Robo parker or only car to required floor from entry level for parking activity and transports the cars from different floor to exit level for exit activity. Here the total number of Elevator is two.

Shuttle

This is equipment which transports the car along with Robo parker in horizontal plane and perpendicular axis to entry and exit axis. It transports the car from one parking slot to another at single parking level. This can be operated independently at one parking level or it can be operated along with elevator when mounted on it. Here the total number of Shuttle is two.

Parking Slots/ Stalls

These are the defined locations for parking the cars, stalls will have arrangement and sensors to allow Robo parker to bring in the cars and park it. Here the total number of Stall is one hundred eight but two will be kept empty for manoeuvring.

Automated Parking System Processing Capacity:

The minimum throughput should be 60 vehicles/hour, in or out, under continuous operation. User time is assumed to be 45 sec.

The complete Vehicle storage cycle shall consist of three steps:

- a. Entrance Cycle
- b. Vertical transfer
- c. Horizontal transfer

The complete vehicle Retrieval cycle consist of three steps:

- a. Horizontal transfer
- b. Vertical transfer
- c. Exit transfer

Under the conditions set above, each, Vertical and Horizontal transfer should Need less time compared to Entrance or exit cycles so the last two only are critical and are considered to determine the maximum throughput.

Garage Operations shall be continuous

The proposed automated parking system should be designed and able to operate continuously and be available for 24 hours per day, 7 days per week. (Regular maintenance should be done at night hours, i.e. no operation time)

Conformance to Accepted Standards

- The system should conform to the requirements of EC- Machinery Directive 98/37 in general and the most of requirements of EN 14010- December 2003, in particular.
- The system should also comply with German Standard VDI4466, January 2001, Automatic parking system- Basic principles, to implement EN 14010.
- Electrical Control: it should be in accordance EN 60204-1.
- Availability: the system should comply with German Standard VDI 4466.
- Noise: the system should comply with German Standard VDI 4466, January 2001.

Software

All software to operate the system shall have a permanent license for use. After the maintenance period upgrades shall be provided at the option of the owner based on an offering, but up to maintenance period vendor shall provide all upgrades.

Technical specifications of various equipment:

Elevator suitable to receive the Robo parker with shuttle device

- a. Counter weight frame with guiding rollers
- b. Set of wire ropes or chains. Chains IWIS as per EN standard and Steel Rope: (DRAKO) or equivalent EN standard
- c. Lifting devices equipped by 2 geared motors.
- d. Set of steel-drawn plates as vertical guides for the guidance of the elevator platform
- e. Steel platform complete with guide rollers.
- f. Locking device for securing the vertical position.
- g. Laser device for vertical positioning.
- h. Set of photocells, sensors and mechanical switches.
- i. Steel frame complete with 4 support wheels Diameter and 4 guiding Rollers.
- j. Vertical movement through 2 geared Motor controlled by inverter with the following characteristics
- k. Actuators committed to locking device for vertical movement

Robo parker, equipped with a cable reel

- a. Actuators committed to Vehicle centering
- b. Actuators committed to lifting
- c. Actuators committed to Horizontal movement

Stall devices

Hot deep galvanized steel sheets for front and rear wheels rest.

Entry Bay

- a. Steel frame suitable to receive Robo parker.
- b. Electrical pictograph for the guidance of wheels of the vehicle during his entrance.
- c. Photocells for the control of the height, length, width and presence of the vehicle
- d. Micro-wave sensor to detect movement inside the entry/exit area.
- e. Traffic light (red/green)

Exit Bay

- a. Steel frame suitable to receive Robo parker.
- b. Photocells for the presence of the vehicle
- c. Micro-wave sensor to detect movement inside the entry/exit area.

BIDDERS MUST FOLLOW FOLLOWING SPECIFICATIONS IN ADDITION TO THE ABOVE

Lobby

- Must have Motorized Wheel stopper device with wheel position detection
- High speed aluminium spiral door with speed min 1 Mtr/Sec
- Car centering mechanism in the dolly
- Light Curtain type sensors to be used for length detection
- LASER type photo sensors to be used for height detection
- There must be a Touch panel and RFID card readers as HMI in the entry and exit points

Lift

- Positioning to be done by 2 nos Digital type LASER positioning devices
- All communication to Variable frequency drives must be over Field bus and STO inputs to be used for additional safety.
- Lifts must have locking mechanism in all levels

Shuttle

- Positioning to be done by 2 nos Digital type LASER positioning devices
- All communication to Variable frequency drives must be over Field bus and STO inputs to be used for additional safety.

Robo Parker

- Lifting capacity 2500 KG
- Provision to bypass the cable reeling drum in case of breakdown
- Dolly should be able to run on concrete

Turn Table

- Positioning of turntable to be done by Absolute type Rotary encoder over Field bus for precise positioning.

General

- The PLC system preferably should be Siemens and "Failsafe" type CPU to be used. All critical low voltage devices to be protected with Micro-controller based

Electronic Circuit breakers .The system must have online connectivity in secure environment so that troubleshooting can be done remotely. A web-based SCADA system is required

BIDDERS TO GIVE FOLLOWING DATA

A. Prescribed Electrical Usage for one operation

The average parking and retrieving operation should not consume more than 0.50 kWh of electrical energy.

Bidders to Fill the Requisite Data so as to evaluate them for Technical Qualification. (Energy Consumption, Sizes of the Equipment, Current Ratings Etc.)

B. Average energy consumption for entry and exit cycle

Average energy consumption for an entry cycle:

Locking Device

Elevator Cycle (Consider Avg height):

Locking device

Door opening

Robo parker cycle

Door closing

Locking Device

Elevator up

Locking device

Shuttle cycle

Robo parker cycle

Shuttle cycle

Sub-Total E1

Average energy consumption for an exit cycle:

Locking Device

Elevator cycle (Consider Avg Height)

Locking Device

Shuttle cycle:

Robo parker cycle:

Shuttle Cycle

Locking device:

Elevator down:

Locking device:

Door Opening

Robo parker cycle:

Door Closing

Sub-Total: E2

TOTAL ENTRY AND EXIT CYCLE = E1+E2

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 10
FRAUD
AND
CORRUPT
PRACTICES

FRAUD AND CORRUPT PRACTICES

- The Applicants and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process. Notwithstanding anything to the contrary contained herein, the Authority may reject an Application without being liable in any manner whatsoever to the Applicant if it determines that the Applicant has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bidding Process.

Without prejudice to the rights of the Authority under relevant Clause hereinabove, if an Applicant is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bidding Process, such Applicant shall not be eligible to participate in any tender or RFQ issued by the Authority during a period of 2 (two) years from the date such Applicant is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.

For the purposes of this Clause, the following terms shall have the meaning hereinafter respectively assigned to them:

- A** **“corrupt practice”** means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bidding Process (for avoidance of doubt, offering of employment to, or employing, or engaging in any manner whatsoever, directly or indirectly, any official of the Authority who is or has been associated in any manner, directly or indirectly, with the Bidding Process or the LOA or has dealt with matters concerning the Concession Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Authority, shall be deemed to constitute influencing the actions of a person connected with the Bidding Process); or save and except as permitted under the relevant sub clause, engaging in any manner whatsoever, whether during the Bidding Process or after the issue of the LOA or after the execution of the Concession Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Concession Agreement, who at any time has been or is a legal, financial or technical adviser of the Authority in relation to any matter concerning the Project;
- B** **“fraudulent practice”** means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding Process ;
- “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;

“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

“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.

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.

Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with relevant Clause.

For the purposes of this Sub-Clause:

- i. “corrupt practice” is the offering, giving, receiving to soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- ii. “another party” refers to a public official acting in relation to the procurement process or contract execution. In this context, “public official” includes Financier staff and employees of other organizations taking or reviewing procurement decisions.
- iii. “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- iv. “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- v. “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- vi. “obstructive practice” is deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede the Financier investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any

party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

- vii.** acts intended to materially impede the exercise of the Financer's inspection and audit rights provided .
- viii.** "party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.
- ix.** "parties" refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, noncompetitive levels.
- x.** a "party" refers to a participant in the procurement process or contract execution.

SECTION 11

PRE BID MEETING

PRE-BID 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.

SECTION –12
LIST OF APPROVED
BANKS

LIST OF APPROVED BANKS

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.

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 the Approved Banks

(A) S.B.I. and 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) Nationalised Banks:

8. Allahabad Bank
9. Andhra Bank
10. Bank of Baroda
11. Bank of India
12. Bank of Maharashtra
13. Central Bank of India
14. Dena Bank Indian
15. Indian Bank
16. Overseas Bank
17. Oriental Bank of Commerce
18. Punjab National Bank
19. Punjab & Sind Bank
20. Syndicate Bank
21. Union Bank of India
22. United Bank of India
23. UCO Bank

24. Vijaya Bank
25. Corporation Bank

(C) Scheduled Commercial Banks:

26. Bank of Madura Ltd.
27. Bank of Rajasthan Ltd.
28. Banaras State Bank Ltd.
29. Bharat Overseas Bank Ltd.
30. Catholic Syrian Bank Ltd.
31. City Union Bank Ltd.
32. Development Credit Bank
33. Dhanalakshmi Bank Ltd.
34. Federal Bank Ltd.
35. Indus Ind. Bank Ltd.
36. I.C.I.C.I. Banking Corporation Ltd.
37. Global Trust Bank Ltd.
38. Jammu and Kashmir Bank Ltd.
39. Karnataka Bank Ltd.
40. Karur Vysya Bank Ltd.
41. Lakshmi Vilas Bank Ltd.
42. Nadungadi Bank Ltd.
43. Ratnakar Bank Ltd.
44. Sangli Bank Ltd.
45. South Indian Bank Ltd.
46. S.B.I. Commercial & Int. Bank Ltd.
47. Tamilnadu Mercantile Bank Ltd.
48. United Western Bank Ltd.
49. Vysya Bank Ltd.

(D) Scheduled Urban Co-op. Banks:

50. Abhyudaya Co.op.Bank Ltd.
51. Bassein Catholic Co.op. Bank Ltd.
52. Bharat Co.op. Bank Ltd.
53. Bombay Mercantile Co.op. Bank Ltd.
54. Cosmos Co.op. Bank Ltd.
55. Greater Mumbai Co.op. Bank Ltd.
56. Janata Sahakari Bank Ltd.
57. Mumbai Dist.Central Co.op. Bank Ltd.
58. Maharashtra State Co.op. Bank Ltd.
59. New India Co.op. Bank Ltd.
60. North Canara G.S.B.Co.op. Bank Ltd.
61. Rupee Co.op. Bank Ltd.
62. Sangli Urban Co.op. Bank Ltd.
63. Saraswati Co.op. Bank Ltd.
64. Shamrao Vithal Co.op. Bank Ltd.
65. Mahanagar Co-op. Bank Ltd.
66. Citizen Bank Ltd.
67. Yes Bank Ltd.

(E) Foreign Banks:

68. AMRO (N.Y.) Bank.
69. American Express Bank Ltd.
70. ANZ Grindlays Bank
71. Bank of America N.T. & SA.
72. Bank of Tokyo Ltd.
73. Bank Indosuez
74. Banque Nationale de Paris
75. Barclays Bank
76. City Bank N.A.
77. Hongkong & Shanghai Banking Corpn.
78. Mitsui Taiyokbe Bank Ltd.
79. Standard Chartered Bank Ltd.
80. Cho Hung Bank

In addition to the list of banks provided above for bank guarantee, following banks in the list of RBI (Reserve Bank of India) will also be allowed. RBI's list of the banks can be downloaded from www.rbi.org.in . From this list of RBI bank under following heads with their branches in greater Mumbai and in Suburbs and extended suburbs upto Virar and Kalyan have been approved for Bank Guarantee:-

SBI and Associates, Nationalised Banks, Other Public Sector Banks, Private Sector Bank, Foreign Banks and Urban Co Operative Banks.

SECTION –13
APPENDIX

FORM OF TENDER

To,
The Municipal Commissioner for Greater Mumbai
Sir,

I/ We have read and examined the following documents relating to the construction of

- i. Notice inviting tender.
- ii. Directions to tenderers (General and special)
- iii. General condition of contract for Civil Works 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 Quantities 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 and other relevant details in all respects.

* At the rates entered in the aforesaid Bill of Quantities and Rates.

3. According to your requirements for payment of Earnest Money amounting to Rs. _____ /-(Rs.

_____)

I/We have deposited the amount through online payment gateways with the C.E. of the Corporation not to bear interest

4. I/We hereby request you not to enter into a contract with any other person/s for the execution of the works until notice of non/acceptance of this tender has first been communicated to me/us, and in consideration of yours agreeing to refrain from so doing I/we agree not to withdraw the offer constituted by this tender before the date of communication to me/us of such notice of non/acceptance, which date shall be not later than ten days from the date of the decision of the Standing Committee or Education Committee of the Corporation, as maybe required under the Mumbai Municipal Corporation Act, not to accept this tender.(Subject to condition 5 below).
5. I/We also agree to keep this tender open for acceptance for a period of 180 days from the date fixed for opening the same and not to make any modifications in its terms and conditions which are not acceptable to the Corporation.
6. I/We agree that the Corporation shall, without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely, if.
 - a. I/We fail to keep the tender open as aforesaid.
 - b. I/We fail to execute the formal contract or make the contract deposit when called upon to do so.
 - c. I/we do not commence the work on or before the date specified by the Engineer in his work order.
7. I/We hereby further agree to pay all the charges of whatsoever nature in connection with the preparation, stamping and execution of the said contract.
8. I/We further agree that, I/we shall register ourselves as 'Employer' with the Bombay Iron and Steel Labour Board' and fulfill all the obligatory provisions of Maharashtra Mathadi, Hamal and other Manual workers (Regulation of Employment and Welfare) Act 1969 and the Bombay Iron and Steel unprotected workers Scheme 1970.
9. "I/We..... have failed in the accompanying tender with full knowledge of liabilities and, therefore, we will not raise any objection or dispute in any manner relating to any action, including forfeiture of deposit and blacklisting, for giving any information, which is found to be incorrect and against the instructions and directions given in this tender.
10. "I/We further agree and undertake that in the event it is revealed subsequently after the allotment of work/contract to me/us, that any information given by me/us in this tender is false or incorrect, I/We shall compensate the Brihanmumbai Municipal Corporation for any such losses or inconvenience caused to the Corporation in any manner and will not resist any claim for such compensation on any ground whatsoever. I/we agree and undertake that I/we shall not claim in such case any amount by way of damages or compensation for cancellation of the contract given to me/us or any work assigned to me/us or is withdrawn 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

A/c No.

.....

1. Name of Bank

2.

3. Name of Branch

4.

5. Vender No.

.....

AGREEMENT FORM

Tender / Quotation

dated 20...

Standing Committee/Education Committee Resolution No.

CONTRACT FOR THE WORKS

.....

.....

...

This agreement made this day of

Two thousand

Between

.....

inhabitants 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 Director(E.S.&P.) (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 Director (E,S.& P)of the

second part and the Brihanmumbai Municipal Corporation (hereinafter called "the

Corporation") of the third part, WHEREAS the contractor 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

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 the DMC(Infra) in the presence of

Executive Engineer (T & C)

DMC (Infra)

The Common seal of the Brihanmumbai Municipal Corporation was hereunto affixed on the 2021 in the presence of two members of the Standing Committee.

1.

1.

2.

2.

And in the presence of the Municipal Secretary

Municipal Secretary

ANNEXURE " A "

1. The Engineer for this work:
- Chief Engineer (Rds.& Traffic)
 - Dy.Ch.Eng.(Traffic)
 - Exe.Eng.(Tr.&Co.)
 - S.E & A.E (Civil)
 - S.E & A.E (Mechanical) of ATC wing

2.

Earnest Money	Rs 53,24,500.00
---------------	-----------------

3. Time Period

Contract as a whole Period completion	(15) MONTHS (Excluding Monsoon)
O & M period	Defect Liability Period of 60 months after record of completion of construction work. Comprehensive Annual Service & Maintenance for 20 years after record of completion of construction work.

Percentage to be charged as supervision charges for the work got executed through other meanspercent.

The "Actual cost of the work" shall mean in the case of percentage rate contracts the actual cost of the work executed at the rates as mentioned in the Contract Schedule adjusted by the Contractor's percentage rate and cost of extra and excess, but excluding the cost on account of Water Charges and Sewerage Charges if any, payable by the contractor and also excluding cost on account of price variation claims as provided in price variation clause as amended up to date.

- 1 In case of item rate contracts the actual cost calculated for the work executed at the rates mentioned in the contract schedule for different items including cost of excess and extra items of the work excluding the cost of water charges and sewerage charges if any, payable by the contractor and excluding cost on account of price variation claims as provided in extra excess conditions as amended up to date.
- 2 In case of lump sum contract the cost of the work actually carried out as per break up and program of the work and the schedule of payment included in the contract including cost of any excess and/or extra items, of the work, excluding the cost on account of water charges and sewerage charges and also excluding cost on account of price variation claims as provided in extra excess conditions as amended up to date.

Signature of Tenderer/Bidder with stamp

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 ;

1 “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;

“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

“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 with stamp

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 nochange 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

BANKERS GURANTEE 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 AGREEMENT WITNESSES that in consideration of the premises, the Bank at the request of the consultants (hereby testified) UNDERTAKES WITH the commissioner to pay to the commissioner upon demand in writing , whenever required by him , from time to time , so to do , a sum not exceeding in the whole Rs. _____ (Rupees _____) under the terms of the said tender and /or the contract .The B.G. Is valid upto _____"Notwithstanding anything what has been stated above, our liability under the above guarantee is restricted to Rs. _____ only and guarantee shall remain in force upto _____ 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 _____

For Messer's _____

address _____

have here into set their respective hands the day and year first above written.

The amount shall be inserted by the Guarantor, representing the Contract Deposit in Indian Rupees.

Annexure- D
Rate Analysis

Item Description

Sr. No.	Description of rate analysis parameters	Unit	Quantity	Rate	Amount
1	Basic Material (Rate should be inclusive of all taxes including GST)				
2	Machinery Hire Charges inclusive of GST				
3	Labour Type inclusive of GST		(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 – E

Irrevocable Undertaking

(on Rs. 500/- Stamp paper)

I Shri/Smt..... aged, years
Indian Inhabitant. Proprietor/ Partner/Director of M/s.....
..... resident at do hereby give
Irrevocable undertaking as under:

- 1) I say & undertake that as specified in section 171 of CGST Act, 2017, any reduction in rate of tax on supply of goods or services or the benefit of input tax credit shall be mandatorily passed on to BMC by the way of commensurate reduction in prices.
- 2) I further say and undertake that I understand that in case the same is not passed on and is discovered at any later stage, BMC shall be at liberty to initiate legal action against me for its recovery including, but not limited to, an appeal to the Screening Committee of the GST Counsel.
- 3) I say that above said irrevocable undertaking is binding upon me/my partners/company/other Directors of the company and also upon my/our legal heir, assignee, Executor, administrator etc.
- 4) If I fail to compliance with the provisions of the GST Act, I shall be liable for penalty/punishment or both as per provisions of GST Act.

Whatever has been stated here in above is true & correct to my/our own knowledge & belief.

Solemnly affirmed at

DEPONANT

This day of

Interpreted Explained and identified by me.

BEFORE ME

Annexure -F

**FORM FOR CERTIFICATE OF NETWORTH FROM CHARTERED
ACCOUNTANT**

“It is to certify that as per the audited balance sheet and profit & loss account during the financial year....., the Net Worth of M/s.....(Name & Registered Address of individual /firm/company), as on(the relevant date) is Rs.....after considering all liabilities. It is further certified that the Net Worth of the company has not eroded by more than 30% in the last three years ending on (the relevant date).”

Accountant.....	Signature of Chartered
Accountant.....	Name of Chartered
ICAI.....	Membership No. of
Seal.....	Date and

NOTE:

1. Net Worth certificate should be on letter head of the Chartered Accountant, sealed in cover addressed to Dy.Ch.E (Traffic) Engineering Hub Building , Worli Naka, Dr.E . Moses Road, Mumbai 400018
2. In case of partnership firm, certificate should include names of all partners as recorded with the Chartered Accountant.
3. The certificate should not be more than 6 months old.

Annexure –G

Structure and Organization

Name of Work: :- Planning, Design, Construction of Underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) and operation and maintenance after completion of same on traffic island opp. Apsara Pen shop at Floor Fountain in A Ward.

1.	Name and Address of bidder	
2	Telephone No/Mobile No/Email Id/Telex No/Fax No	
3	Legal Status of the Bidder (Attach original documents defining legal status	
	a) an individual	
	b) a proprietary firm	
	c) a firm in partnership	
	d) a limited Company or Corporation	
3.	Attach the organization chart showing the structure of the organization, including the names of the directors and position of officers	
4.	Number of years of experience:	
	a) As a Prime Contractor (Contractor shouldering major responsibility)	
	i) in own country	
	ii) in other countries (specify country)	
5	Particulars of registration with various Government bodies (attach attested photo- copy).	
	Organization /Place of Registration	Registration No
	1	
	2	
6	Names and Titles of Directors & Officers with designation to be concerned with this work	
7	Has the bidder or any constituent partner in case of partnership firm, ever abandoned the awarded work before its completion? If so, give name of the project and reasons for abandonment.	
8	Has the bidder or any constituent partner in case of partnership firm/ limited company/ joint venture, ever been convicted by the court of law? If so, give details	
9	In which field of Civil Engineering Construction, the bidder has specialization and interest?	
10	Any other information considered necessary but not included above.	

Sign & Seal of the Bidder/Tenderer

Form H

MEMORENDUM OF ASSOCIATION (Apostilled if Applicable)

(Applicable When Bidder i.e Main Agency is Civil Contractor and specialized Agency is OEM)

MEMORENDUM OF ASSOCIATION (MOA) BETWEEN(insert Name of Bidder i.e Main Agency) AND(insert Name of Specialized Agency i.e OEM) FOR SUCCESSFUL PERFORMANCE OF THE CONTRACT IS SIGNED FOR THE FOLLOWING WORK.

NAME OF WORK: “Planning, Design, Construction of underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) on EPC Basis and operation and maintenance for the period of Five years after completion of same on traffic island opp. Apsara Pen shop at Floor Fountain in A Ward.

Bid No :.....

This **MEMORENDUM OF ASSOCIATION** is executed on between(insert Name and Address of the Bidder)hereinafter called as “**Main Agency**” (Which expression shall include its successor , administrators Executors and permitted assigns) and.....(insert Name and Address of OEM), hereinafter called as “**Specialized Agency**” (Which expression shall include its successor, administrator Executors and permitted assigned) for the purpose of submitting a bid and entering into a Contract (in case of award) against this Bid document invited by BMC, with the requirement of the Bid criteria as stipulated in the Bid Documents, This MOA is here by created & signed a per terms and condition given below:

1. That all the responsibilities and obligations of each of the Members delineated in this MOU are expressly understood and agreed between the Members.
2. That the Main Agency only will deal with BMC on all matters pertaining to this work.
1. MOA shall be valid during the entire currency of the contract including the period of extension, if any. Both the members of the MOA shall remain associated with the project till completion of the project and during period of Comprehensive Annual Servicing and maintenance period of 20 years from date of completion of Project.
3. There shall be significant technical contribution of both the members for the project. Even after completion of the project, Specialized Agency shall continue to associate with Main Agency for defect liabilities and Operation & Maintenance.

4. The Specialized agency shall function as technology partner and fulfil experiences criteria as specified in section 2 of bid document and submitted valid experience certificates in Packet B as per proforma –A
5. The Specialized agency shall bring in due diligence in installing Multi Level Car Parking by use all its experience and shall be responsible for its functional requirements, quality of work, defect liability, maintenance and operations.
6. Once the bids are submitted, the MOA shall not be modified/altered/terminated during the validity of the tender.
7. The MOA Member will be fully governed by the terms and conditions of the contract and shall be responsible for the quality of works and timely execution thereof to meet the completion schedule under the contract
8. This MOA shall be construed and interpreted in accordance with the law of India and the respective Court Of India shall have exclusive jurisdiction to adjudicate upon the disputes between the parties.
9. We, the MOA Members agree that this association shall be irrevocable and shall form an integral part of the Contract. We further agree that this Agreement shall continue to be enforceable till the successful completion of contract or decided otherwise by BMC for any reason.
10. This Agreement shall be operative from the effective date of the contract.
11. Specialized Agency shall make technical and engineering staff fully available to the technical and engineering staff of the Main Agency to assist that Main Agency(Bidder), on a reasonable and best effort basis, in the performance of all its obligations to the Main Agency under the Contract.
- 12. The Specialised Agency unconditionally support the Main Agency (Bidder) technically throughout the execution of contract as well as for Maintenance/Comprehensive Maintenance Contract for the useful life of the system, and we shall also provide all the spares required for healthy functioning of the equipment for Twenty years from the date of completion of installation of Parking System.**
13. The Minimum design life of the system will be 20 Years.
14. The Main Agency shall be solely and severally responsible for performance of the entire contract.
15. Main Agency and Specialised Agency will submit the Performance Guarantee (PG) of Rs 25 Lacs Each (in form of BG) for successful Operation and Maintenance period

of 5 Years and Comprehensive Annual Servicing and maintenance of system for period of 20 years after record date of completion of Parking System. Same will be paid within one month from the date of issue of Letter of Acceptance.

16. We understand that If the P.G to be paid above is not paid within one month from the date of issue of Letter of Acceptance, the Tender / Contract already accepted shall be considered as cancelled and legal steps be taken against the us for recovery of the amount.
17. We understand that in the event of the failing or neglecting to complete the rectification work within the period up to which the we have agreed to maintain the work in good order, the amount to be adjusted against the Bank Guarantee towards the cost incurred by the Department on rectification work and further liable for action as deemed fit as per tender condition.
18. We understand that we are liable for action such as legal and penalty for non compliance of above.

.(Scanned copy to be uploaded in Packet B at the time of submission of bid.

For Main Agency(Civil Contractor)Bidder

For Specialized Agency (OEM)

Signature and Stamp of Agency

Signature and Stamp of Agency

Form I

MEMORENDUM OF ASSOCIATION (Apostilled if Applicable)

(Applicable When Bidder i.e Main Agency is OEM and specialized Agency is Civil Contractor)

MEMORENDUM OF ASSOCIATION (MOA) BETWEEN(insert Name of Bidder(OEM) i.e Main Agency) AND(insert Name of Specialized Agency i.e Civil Contractor) FOR SUCCESSFUL PERFORMANCE OF THE CONTRACT IS SIGNED FOR THE FOLLOWING WORK.

NAME OF WORK: “Planning, Design, Construction of underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) on EPC Basis and operation and maintenance for the period of Five years after completion of same on traffic island opp. Apsara Pen shop at Floor Fountain in A Ward.

Bid No :.....

This **MEMORENDUM OF ASSOCIATION** is executed on between(insert Name and Address of the Bidder i.e OEM) hereinafter called as “**Main Agency**” (Which expression shall include its successor , administrators Executors and permitted assigns) and.....(insert Name and Address of Civil Contractor), hereinafter called as “**Specialized Agency**” (Which expression shall include its successor, administrator Executors and permitted assigned) for the purpose of submitting a bid and entering into a Contract (in case of award) against this Bid document invited by BMC, with the requirement of the Bid criteria as stipulated in the Bid Documents, This MOA is here by created & signed a per terms and condition given below:

1. That all the responsibilities and obligations of each of the Members delineated in this MOU are expressly understood and agreed between the Members.
2. That the Main Agency only will deal with BMC on all matters pertaining to this work.
3. MOA shall be valid during the entire period of the contract including the period of extension, if any. Both the members of the MOA shall remain associated with the project till completion of the project and during period of Comprehensive Annual Servicing and maintenance period of 20 years from date of completion of Project.
4. There shall be significant technical contribution of both the members for the project. Even after completion of the project, Specialized Agency shall continue to associate with Main Agency for defect liabilities and Operation & Maintenance.

5. The Main Agency shall function as technology partner and fulfil experiences criteria as specified in section 2 of bid document and submitted valid experience certificates in Packet B as per proforma –A
6. The Specialized agency shall carry out civil work to bring in due diligence in installing Multi Level Car Parking by use all its experience and shall be responsible for its functional requirements, quality of work, defect liability, maintenance and operations.
7. Once the bids are submitted, the MOA shall not be modified/altered/terminated during the validity of the tender.
8. The MOA Member will be fully governed by the terms and conditions of the contract and shall be responsible for the quality of works and timely execution thereof to meet the completion schedule under the contract.
9. This MOA shall be construed and interpreted in accordance with the law of India and the respective Court Of India shall have exclusive jurisdiction to adjudicate upon the disputes between the parties.
10. We, the MOA Members agree that this association shall be irrevocable and shall form an integral part of the Contract. We further agree that this Agreement shall continue to be enforceable till the successful completion of contract or decided otherwise by BMC for any reason.
11. This Agreement shall be operative from the effective date of the contract.
12. Specialized Agency shall make technical and engineering staff fully available to the to the Main Agency to assist that Main Agency(Bidder), on a reasonable and best effort basis, in the performance of all its obligations to the Main Agency under the Contract.
- 13. The Specialised Agency unconditionally support the Main Agency (Bidder) technically throughout the execution of contract as well as for Maintenance/Comprehensive Maintenance Contract for the useful life of the system.**
14. The Minimum design life of the system will be 20 Years.
15. The Main Agency shall be solely and severally responsible for performance of the entire contract.
16. Main Agency and Specialised Agency will submit the Performance Guarantee (PG) of Rs 25 Lacs Each (in form of BG) for successful Operation and Maintenance period of 5 Years and Comprehensive Annual Servicing and maintenance of system for

period of 20 years after record date of completion of Parking System. Same will be paid within one month from the date of issue of Letter of Acceptance.

17. We understand that If the P.G to be paid above is not paid within one month from the date of issue of Letter of Acceptance, the Tender / Contract already accepted shall be considered as cancelled and legal steps be taken against the us for recovery of the amount.
18. We understand that in the event of the failing or neglecting to complete the rectification work within the period up to which the we have agreed to maintain the work in good order, the amount to be adjusted against the Bank Guarantee towards the cost incurred by the Department on rectification work and further liable for action as deemed fit as per tender condition.
19. We understand that we are liable for action such as legal and penalty for non compliance of above.

.(Scanned copy to be uploaded in Packet B at the time of submission of bid.

For Main Agency(OEM) , Bidder

For Specialized Agency (Civil Contractor)

Signature and Stamp of Agency

Signature and Stamp of Agency

Annexure -J

Irrevocable Undertaking
(on Rs. 500/- Stamp paper)

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

- 81. I say & undertake that as specified in section 171 of CGST Act, 2017, any reduction in rate of tax on supply of goods or services or the benefit of input tax credit shall be mandatorily passed on to BMC by way of commensurate reduction in prices.
- 82. I further say and undertake that I understand that in case the same is not passed on and is discovered at any later stage, BMC shall be at liberty to initiate legal action against me for its recovery including, but not limited to, an appeal to the screening Committee of the GST Counsel.
- 83. 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.
- 84. If I fail to compliance with the provision 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

DEPONANT

This day of

BEFORE ME

Interpreted Explained and Identified by me.

Annexure – K

GUARANTEE BOND TO BE EXECUTED BY AGENCY FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS

The agreement made this.....day of year two thousand andbetween

.....(Hereinafter called the Guarantor of the one part) and the Municipal Commissioner (Hereinafter called the BMC of the other part).

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the contract) dated and made between the GUARANTOR OF THE ONE PART AND the BMC of the other part, whereby the agency inter-alia,undertook to render the building and structures in the said contract recited completely water and leakproof.

AND WHEREAS THE GUARANTOR agreed to give guarantee to the affect that the said work will remain water and leakproof for **ten** years from the date of giving of water proofing treatment.

NOW THE GUARANTOR hereby guarantee that water proofing treatment given by him will render the structures completely leakproof and the minimum life of such water proofing treatment shall be ten years to be reckoned from the date after the maintenance period prescribed in the contract.

Provided that the guarantor will not be responsible for leakage caused by earthquake or structural defects or misuse or alteration and for such purpose.

a) Misuse of roof shall mean any operation which will damage proofing treatment, like chopping of firewood and things of the same nature which might cause damage to the proof.

b) Alteration shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts.

c) The decision of the Engineer-in-Charge with regard to nature and cause of defects shall be final.

During this period of guarantee, the guarantor shall make good all defects and in case of any defect being found render the building water proof to the satisfaction of the Engineer-in-Charge at his cost and shall commence the work for such rectification within seven days from the date of issue of the notice from Engineer-in-Charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other agency at the Guarantors risk and cost.The decision of the Engineer-in-Charge as to the cost payable by the Guarantor shall be final and binding.

That if guarantor fails to execute the waterproofing or commits breach there under; then the guarantor will indemnify the Principal and his successors against all loss, damage, cost any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/ or damage and/or cost incurred by the Government, the decision of the Engineer-in-Charge will be final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the obligator andBy..... For and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of :

1. 2.

SIGNED FOR AND ON BEHALF OF MUNICIPAL COMMISSIONER

By in the presence of:

1. 2.

PROFORMAS:

PROFORMA- I

The list of similar works as stated in Tender Notice during last Ten 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	Name and Address of (Postal and Email Id)/contact No of Officer to whom Reference may be made
1	2	3	4	5	6	7

NOTE:

Scanned Attested copies of completion/performance certificates from the Engineer-in-Charge for each work should be annexed in the support of information furnished in the above proforma.

Works shall be grouped financial year-wise.

PROFORMA- II

Yearly turnover of Civil Engineering Works during the last three years.

PROFORMA- II					
Sr.No.	Financial year	Annual Turnover of Civil/Main Engineering Works	Updated value to current year	Average of last 3years	Page No.
1					
2					
3					
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 Tender Notice -

PROFORMA- III								
Name of the Project	Name of the Employer	Cost of the Project	Date of issue of work Order	Stipulated Date of Completion	Actual Date of Completion	Actual cost of work done	Remarks explaining reasons for delay, if any	Name and Address of (Postal and Email Id)/contact No of Officer to whom Reference may be made
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.

PROFORMA-IV

PERSONNEL:

PROFORMA-IV					
Sr.	Post	Name	Qualification	Work Experience	
		(Prime Candidate /Alternate)		No. of years	Name of Project
1	Project Manager				
2	Quality Control Engineer				
3	Site Engineer				
4	Site Supervisor				

NOTE: Scanned Attested copies of qualification certificates and details of work experience shall be submitted /uploaded.

MACHINERY: (for special work only)

PROFORMA- V/A			
Sr. No.	Equipment	Number	Owned/Leased/Assured access
1	2	3	4

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- 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									
Des cripti on of work	Plac e	Contra ct No. & Date Work order no and Date	Name & Address es of employe r	Value of Contra ct in Rs.	Schedule d date of completi on	Value of work remaini ng to be comple ted	Antici pated Date of compl etion	Physi cal Progr ess in %	Name and Address of (Postal and Email Id)/contact No of Officer to whom Reference may be made
1	2	3	4	5	6	7	8		

Note: Scanned Attested copies of completion/performance certificates from the Engineer-in-Charge for each work should be annexed in the support of information furnished in the above proforma.

PROFORMA - VI / B

Details of works for which bids are already uploaded –

PROFORMA - VI / B						
Description of work	Place	Name & Addresses of employee	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.

Litigation History

PROFORMA – VII

Other party	Employer	Cause of dispute	Amount involved	Remarks showing present status
1	2	3	4	5

Note- Scanned, attested copies of the documents should be annexes and uploaded. Litigation History must cover – Any action of blacklisting, debarring, banning, suspension, deregistration and cheating with BMC, State or Central Govt. / Govt. Organization initiated against the company, firms, directors, partners or authorized signatory shall be disclosed for last 5 years from the date of submission of bid. Also bidder must disclosed the litigation history for last 5 years from the date of submission of bid about any action like show cause issued , blacklisting, debarring, banning, suspension, Deregistration and cheating with BMC and BMC is party in the litigation against the company, firm, director, partner or authorized signatory for carrying out any work for BMC by any authority of BMC and the order passed by the competent authority or by any court where BMC is the party. While taking decision on litigation history, the concerned Chief Engineer or D.M.C. or Director, as may be the case, should consider the details submitted by the bidder and take decision based on the gravity of the litigation and the adverse effect of the act of company, firm, director, partner, or authorized signatory on the BMC works which can spoil the quality, output, delivery, of any goods or Any work execution and within the timeframe.

SECTION 14
SPECIAL CONDITIONS
OF CONTRACT

14. SPECIAL CONDITIONS OF CONTRACT

14.1 BMC shall not be responsible for providing the sites for dumping ground and in the event dumping ground is not able to be made available by BMC, the bidder shall have to arrange own dumping arrangement for which no any cost will be paid by BMC. Nevertheless, BMC reserves its rights to use surplus excavated materials for its own use anywhere in BMC limits.

14.2 i) All material required for the work can be stacked near the site of work in such manner so as not to cause any inconvenience to the pedestrian and vehicular traffic. If no space is available on site then tenderer shall make his own arrangement for stacking of material etc. No extra payment will be made on this account.

ii) The surplus excavated material from the site shall be removed free of cost to the Municipal dumping ground within 24 hours, as directed. The necessary tipping charges at the dumping ground, as applicable, shall be borne by the contractor.

i) The royalty charges in respect of excavated material shall be paid by the contractors to the collector as and when asked for.

iv) The contractor should note that during the execution of the work, debris etc. dumped on the public streets/places will have to be removed immediately after completion of the work as per direction of the Engineer, failing which the same will be got removed at their risk and cost.

v) The site shall be cleared by removal of surplus material on or before 15th of May every year.

vi) The policy's circulars are issued by BMC from time to time related to various clauses/conditions of bid documents shall remained applicable. The BMC reserves the right of its applicability for the particular work.

14.3 (A) Removal of Excavated Material

All the excavated material belongs to the Brihanmumbai Municipal Corporation and therefore shall be the property of Brihanmumbai Municipal Corporation . It will be mandatory on the part of contractor to use this material in the execution of works under contract if the quality of material available is as per the specification and rest of quality wise unutilized material shall be removed as directed by Engineer.

(B) Royalty Payment on excavated material as per statutory requirement:

The contractor shall pay necessary royalties and submit documentary evidences of such payments to the engineer for his information and records. If and when royalties becomes payable to the government authority on

excavated material as per statutory requirements, the payment shall be made by the contractor.

- 14.4 If the contractor excavates certain portion of the bridge carriageway and fails to reinstate. the same within the stipulated time limit, as per the program and or before 31st of May, the reinstatement will be got carried out at contractor's risk and cost through other Successful Bidder in addition to further penal action.
- 14.5 All trenches taken in connection with the work should be sufficiently barricaded, as specified.
- 14.6 The noise level shall be maintained within the permissible limit in Silence zone area during the construction activities by the Contractors, as per the notification dated 14.2.2000, issued by the Ministry of Environment & Forests.
- 14.7 Permissions:
- 14.7.1 The contractors will have to obtain permission from the traffic police department well in advance either for closing down the bridge carriageway partially/fully or for diversion of traffic for execution of the work. The work may be required to be executed in phases as per traffic police permission. The contractors should therefore consider this factor while quoting.
- 14.7.2 The contractor shall have to obtain all the permissions of all the concerned authorities outside M.C.G.M. required for carrying out the work. Only recommendatory letters will be issued by BMC. if required/asked by contactor.
- 14.8 Methodology of the work, **safety manual** and quality assurance plan shall be submitted before commencement of the work with copy at each site office.
- 14.9 The contractor shall procure all material required for the work from manufacturers with I.S.I. certificates and according to M.C.G.M. specifications wherever applicable.
- 14.10 Corporation will appoint a consultant for quality audit, during execution period. The contractor will extend all help in carrying out any survey; test etc. as directed and adverse decision there of including rectification shall be carried out by the contractors at their cost.
- 14.11 The Engineer not below the rank of **Assistant Engineer** is entitled to impose a penalty of **Rs. 2500/-** per day per lapse for each defective work/lapse, disobedience of orders by the officer not below the rank of site Engineer. Penalty amount will be recovered from contractors running bill. This penalty is over and above Penalty mentioned under G.C.C. enforced.
- 14.12 If it is observed that, the contractor carrying out the work fails to comply with the instructions given by the authorities of the A.C./Ch.E(Rds.& Traffic)/ Zonal

DMC/Dir.(ES&P)/A.M.C./M.C.'s level during execution of work twice, the work may be terminated and will be carried out at the risk and cost of the contractor and penal action will be taken against them. This decision will not be arbitral at all.

14.13 The above mentioned condition will be in addition to the relevant condition in the General Condition of contract regarding cancellation of contract in full or partly final decision of disputes, difference of claims raised by the contractor or relating to any matter out of contract.

14.15 **Other penalties**

In addition to any penal action under the GCC of Individual contracts, a registered contractor will be liable under the registration Rule to one or more of the following penalties as per the procedure laid down in the "Rules Governing registration of Contractor/s for Civil, Mechanical, Electrical and Electronics Engineering works, 2015" of BMC:

- a) Warning
- b) Fine
- c) Suspension of Registration
- d) Demotion
- e) Deregistration
- f) Blacklisting

Warning / Fine:

A contractor will be liable to a warning and /or penalty for

- i) Non-compliance of any provision of the rules.
- ii) Failure to comply with any clause or direction under these rules or failure to comply with any conditions of tenders / contracts.
- iii) Inadequate progress / performance under the contract.

For the first default of any type mentioned above a warning will be issued. For each subsequent default of the types in (i) & (ii) above the minimum penalty will be fine of Rs. 2,500/- while that for a default of the type (iii) the minimum penalty will be Rs. 5,000/- for contracts of upto Rs. 25 Lakhs and Rs. 10,000/- for contracts of above Rs. 25 lakhs. Higher Amount of penalty may be levied by the competent authority for reasons to be recorded.

14.16 Suspension of Registration

Suspension of Registration is meant that no new tender copy will be issued to the Contractor/s and he will not be considered for award of works for the bids in process.

Registration of contractor/s may be suspended as following, as the case may be;

- i. Whenever any Show Cause Notice is issued to the contractor/s calling for the explanation on the alleged lapses by him, the registration of contractor/s may be suspended up to the arrival of final outcome of the said Show Cause Notice, depending on the seriousness of the reasons for which Show Cause Notice is issued by the officer (not below the rank of Executive Engineer) of BMC. Director (E.S.& P.) Or concerned Deputy Municipal Commissioner (Engineering wing) is the competent authority to suspend the registration in such cases. Circular of suspension of registration till further orders, shall be circulated to all departments of BMC by Head of the executing department i.e. Chief Engineer of concerned department / Zonal Deputy Engineer of the concerned Ward.

The registration of the contractor/s will be restored depending on the final outcome of the process of the said Show Cause Notice and circular to that effect shall be issued by concerned Head of the Department.

- ii. After following due process as prescribed in **clause 8.9 on any grounds prescribed on in clause 8.1.4** of “Rules Governing registration of Contractor/s for Civil, Mechanical, Electrical and Electronics Engineering works, 2015” of BMC, if it is proposed to deregistered the contractor/s for a certain period (although deregistration means deletion of registered contractor/s from the list of registered contractor/s) then in such registration shall be suspended for the specified period with the approval of competent authority and circular to that effect shall be issued by concerned Head of the Department .

The registration of the contractor/s will stand restored after the period of suspension and circular to that effect shall be issued by the concerned Head of the Department.

14.17 Demotion:

A contractor/s is liable to be demoted to any of the lower classes of registration on one or more of the following grounds:

- (i) Specific failure or default in execution of individual works in respect of physical progress or quality of such works.
- (ii) Below standard performance as revealed by Quarterly Performance Report in format –IX of Registration Rule of 2015.
- (iii) Deterioration in financial or technical ability /capacity.
- (iv) Repeated failure to properly fill in tender documents fully and correctly or delay in execution of formal contract documents.
- (v) If total penalty imposed exceeds 2% of contract amount

Note: Demotion from the lowest class of registration will amount to suspension for the period specified. In such cases, registration of the contractor/s will stand restored after the period of Demotion/Suspension.

14.18 Deregistration/ Suspension:

A contractor is liable to be deregistered / suspended on one or more of the following grounds.

- i) An attempt to cheat the M.C.G.M.
- ii) An attempt to bribe any of the M.C.G.M. employee / officer.
- iii) An attempt to secure a contract through unfair means or bringing to bear outside influence.
- iv) An attempt to secure unauthorized copies of Municipal Records and documents in relation to any tender / contract or any other official matter.
- v) An attempt to tampered with Municipal record and documents.
- vi) Furnishing false and / or misleading information to registration and / or any tender / contract.
- vii) Threatening, Misbehaving with or physical attack on any Municipal Employees / officer.
- viii) An attempt to instigate or collude with other contractor/s with a view to securing undue advantage.
- ix) Conviction by a Court of Law for any criminal offence.
- x) Any of the grounds mentioned in 5.13(ii) d , if it is deemed to serious enough.

14.19 Black Listing

Blacklisting is the penal action to be initiated against the contractors who are carrying out works for M.C.G.M and are not registered with M.C. G.M. all other criteria and procedure of penal action (i.e. observed for suspension, demotion, deregistration) will remain similar as mentioned in penal action clause 8 of registration rule 2015.

- 14.20 The photographs of work sites & works as and when directed by Engineer are to be taken. A new Digital Camera of Min 5 Mega Pixels shall be provided in the site office for the said purpose. The Photographs should be arranged in the Register showing original site position and finished site position of the same location. The register should be duly signed by site-in-charge and contractor fortnightly.

14.21 Testing of materials

All tests shall be carried out at National Test House, Material Testing Laboratory Andheri (E) or I.C.T. Material Testing Laboratory Matunga (E) and Laboratory approved by M.C.G.M. Test result shall comply MORTH specifications. No extra payment will be made on this account. The list of equipment available with them is to be submitted along with the tender.

All requests for testing of samples must be made in writing to in duplicate specifying there in the following information.

- Name of the work, work code no. if any
- Type of material and tests desired.
- Identification mark on the sample should be mentioned on the forwarding letter
- Name and full postal address of the officer to whom the results must be sent.
- Date of sampling.
- Name of the tenderer carrying out the work.
- Any other information, which is specified by the user department.
- Sample must also bear the identification and signature of site in charge/officer taking the samples.
- Quantity of sample testing must be adequate as shown in the schedule.

14.22 The contractor shall maintain the following registers during execution of work and it is mandatory to provide Lap Top to the site Engineers for this–

1. Correspondence file
2. File containing drawings/sketches
3. Daily Progress Register
4. Instruction Register
5. Penalty Register.
6. Material Testing Result file
7. Photograph file Video Recording CD (Before & after Work with time and date)
- 8 Challans & register

Note: The above list of the Registers to be maintained by the Contractor's Engineer and is subject to be finalized by the Engineer as per requirement of the work.

14.23 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. If contractor fails provide equipments as per instruction of engineer in charge, Penalty of Rs 5000/- day will be imposed and the same will be recovered from contractors ASD or Running Bill.

14.24 Site Office/ Office for the Engineer

- i. If Site office with necessary requirements is not provided within 15 days after issue of work order, a penalty of Rs. 10000/- per day per item will be imposed.

- ii. If there is further delay more than 30 days, a penalty of Rs. 20000/- per day (i.e. starting from 31st day from issue of work order) will be forfeited from paid ASD,OR will be recovered from 1st R.A. Bill or any of the R.A. Bill.
- iii. If there is further delay more than 45 days, a penalty of Rs. 50000/- per day (i.e. starting from 46th day from issue of work order) will be forfeited from paid ASD,OR will be recovered from 1st R.A. Bill or any of the R.A. Bill.
- iv. If any of the items at Sr.No.2 to 6 above is not provided, Additional penalty of Rs. 1000/- per day/per item, will be imposed.

NOTE:

- a The bidders have to consider the costs of all items related to site office and site laboratory and quote their % accordingly.
- b AS per Circular No. Ch.E./487/Rds, Tr. & Br./SR Dated 18/9/12.
On receipt of the work order, the contractor will have to provide for site office as per requirement either on his / her owned place or rented/leased place. The Cost for this may be charged to BMC by incorporating in the offer. No separate payment may be made for providing the Site office and ancillary items.
- c. Transport arrangement for site visits during execution of work shall be made by contractor.

14.25 The contractors will have to work during night time also, if required and no extra claims will be entertained.

Note: - The entire works shall be carried out as per the following manuals, guidelines and specifications which shall be the Part of contract document.

14.26 No extra payment should be made for the transportation of the excavated material. The bidder should quote the rates accordingly.

14.27 Contractor has to take three trial pits without any cost.

14.28 No price variation shall be applicable to this tender.

14.29 Penalty of Rs. 5000/- per day will be levied to contractor beyond 90days from LOA for not obtaining all approvals to commence the work or delay in commencing the work on receipt of all the approvals without valid reasons.

14.30 Project management consultancy will be appointed for scrutiny of tender ,selection of contractor ,supervision work of the contractor by BMC.The observation ,comments ,remarks shall be complied by the appointed agency/contractor during all phases of the work.

SECTION – 15
DRAWINGS

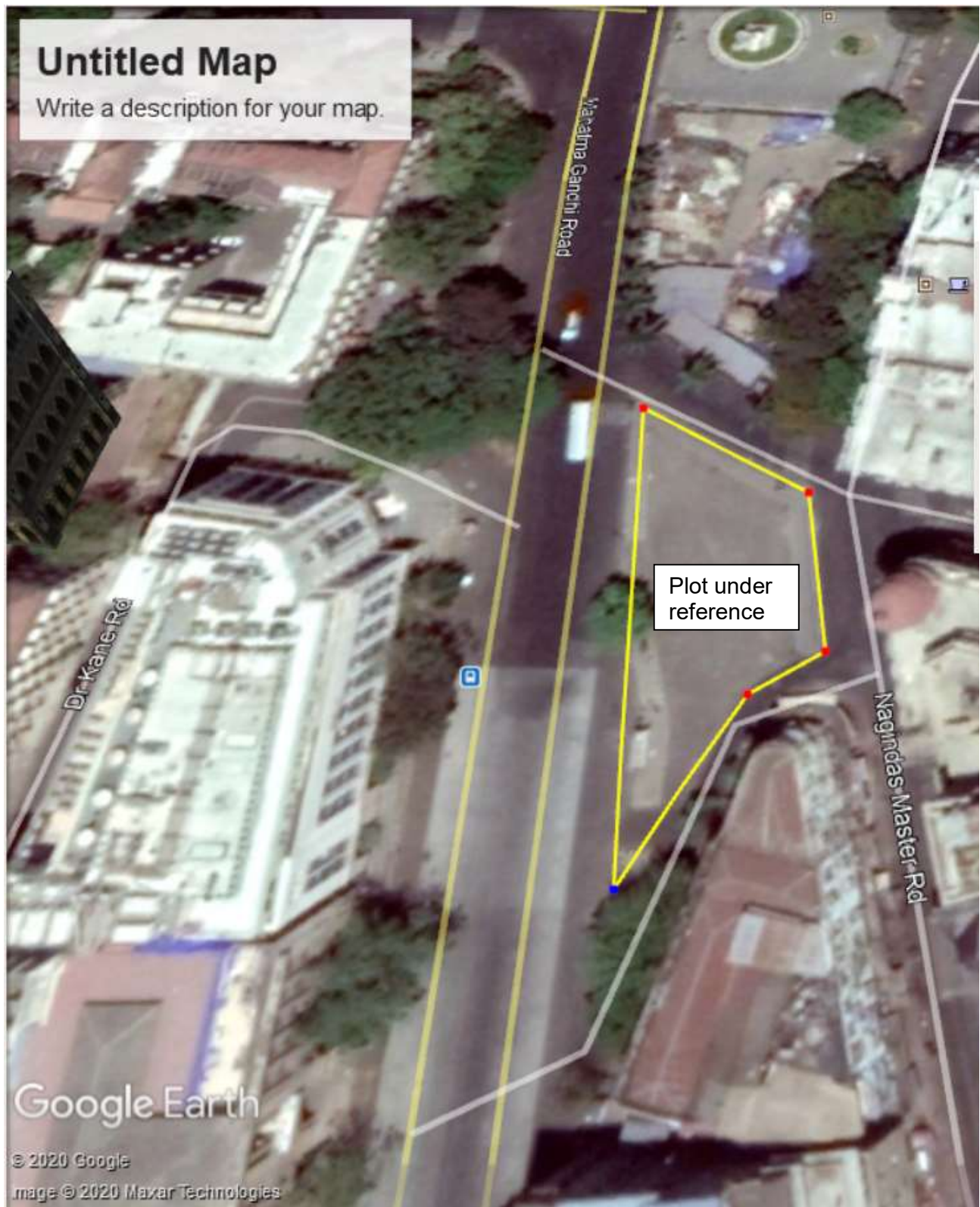
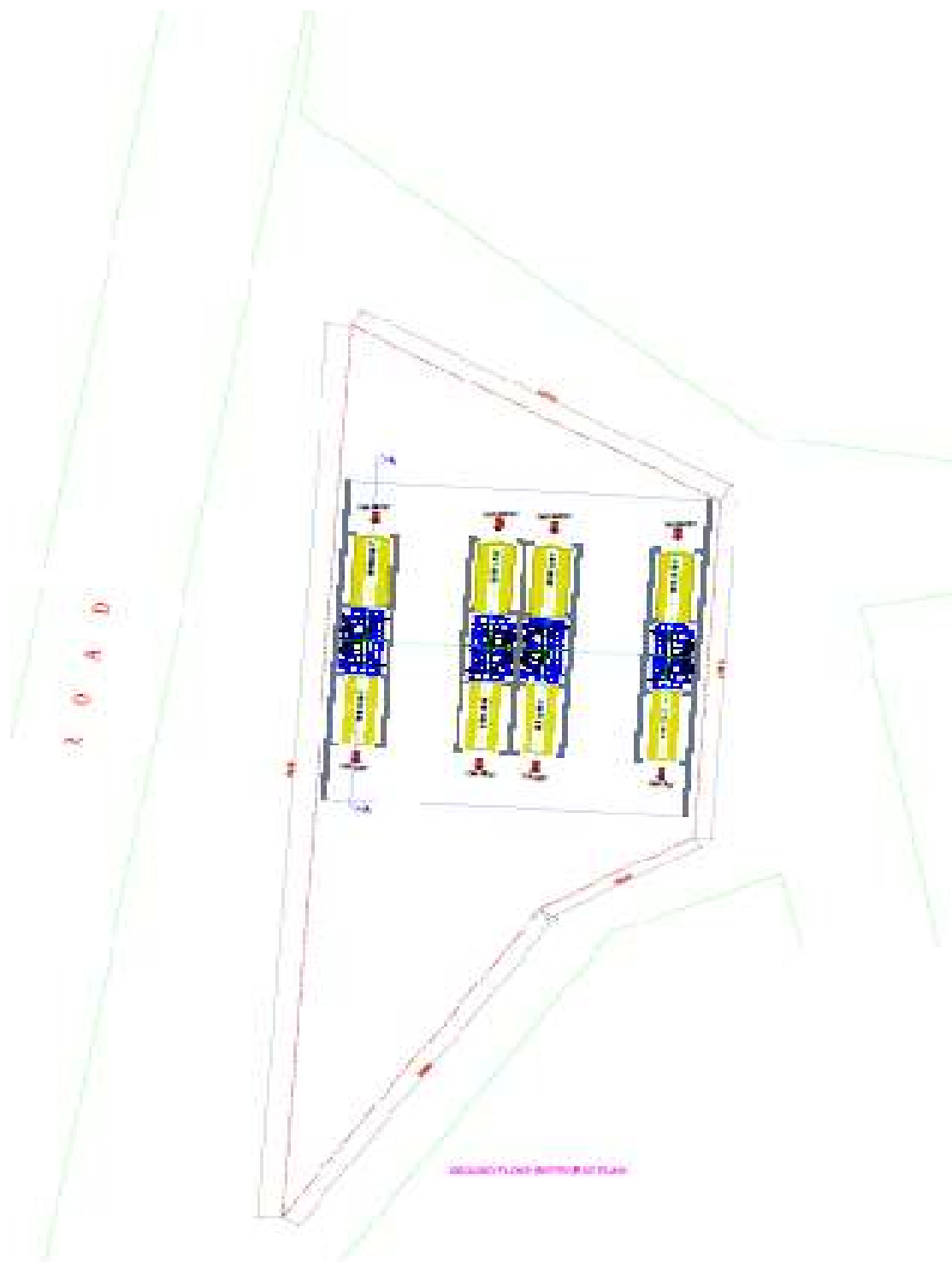


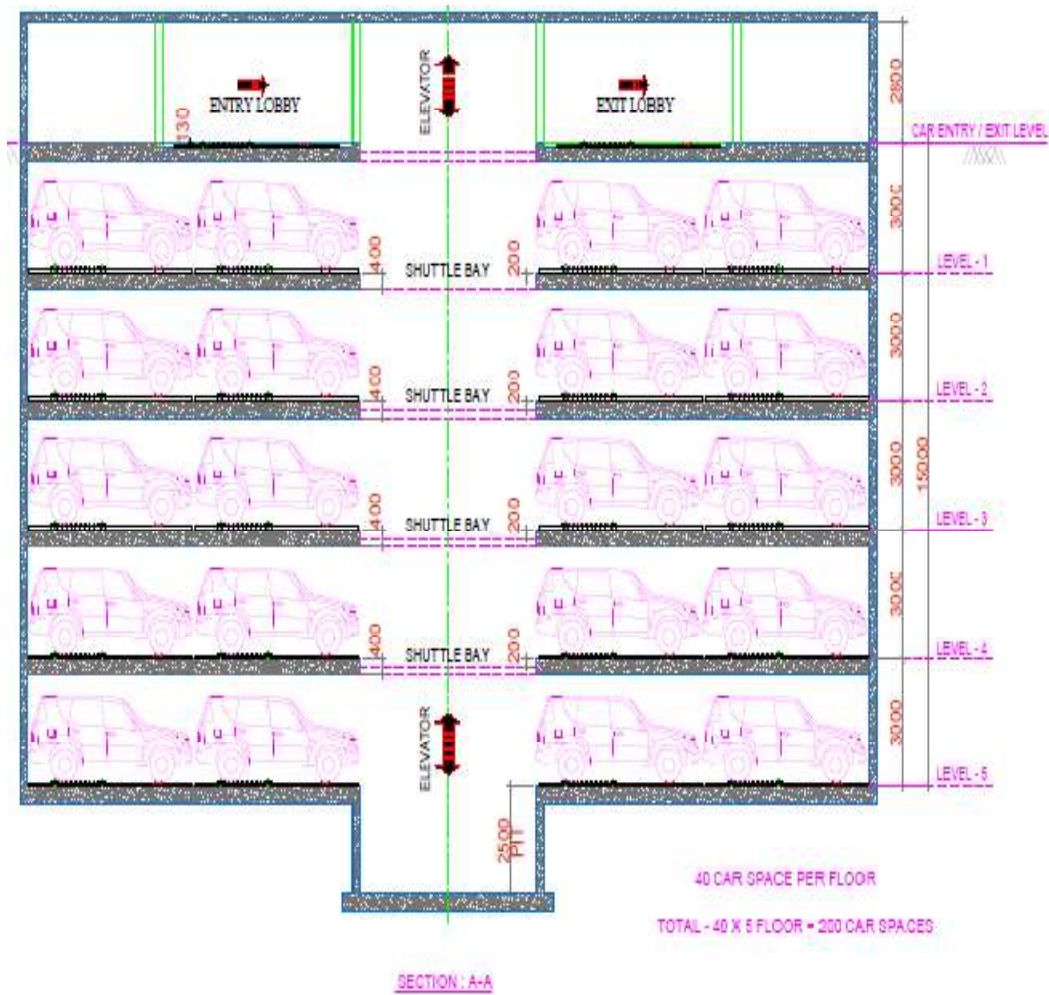
Figure 1: Google map location of site





TYPICAL PARKING LEVEL PLAN
40 CAR SPACES PER FLOOR

TOTAL - 10 X 5 FLOOR = 500 CAR SPACES



Note : These are tentative drawing/section to get rough idea to Bidder . However Bidder has to inspect site before participating in Tender.

SECTION 16
CIRCULARS

MUNICIPAL CORPORATION OF GREATER MUMBAI

No. : MGC/F/4565 dtd. 25-9-2018

CIRCULAR

Sub : Setting up the parameters of litigation history of the bidders.

As approved by Hon'ble M.C., the clause of litigation history be included as part of SBD as below :-

- 1) The bidder shall disclose the litigation history in Packet 'B' under the head "Details of Litigation History".

If there is no Litigation History, the bidder shall specifically mention that there is no Litigation History against him as per the clause of Litigation History. In case there is Litigation History -

Litigation History must cover – Any action of blacklisting, debarring, banning, suspension, deregistration and cheating with MCGM, State Govt., Central Govt. or any authority under State or Central Govt./Govt. organisation initiated against the company, firm, directors, partners or authorized signatory shall be disclosed for last 5 years from the date of submission of bid. Also, bidder must disclose the litigation history for last 5 years from the date of submission of bid about any action like show cause issued, blacklisting, debarring, banning, suspension, deregistration and cheating with MCGM and MCGM is party in the litigation against the company, firm, directors, partners or authorized signatory for carrying out any work for MCGM by any authority of MCGM and the orders passed by the competent authority or by any Court where MCGM is a party. While taking decision on litigation history, the concerned Chief Engineer or D.M.C. or Director, as may be the case, should consider the details submitted by bidder and take decision based on the gravity of the litigation and the adverse effect of the act of company, firm, directors, partners or authorized signatory on the MCGM works which can spoil the quality, output, delivery of any goods or any work execution and within the timeframe.

- 2) The litigation history shall be treated as curable defect and hence, the portion/clause of SBD, (C) Bid Capacity at Pg. 15 & in the chapter of "Instructions to Applicants" at Pg. 31 of the SBD will be now corrected by deleting the word litigation history and shall be read as below.

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."

All the concerned are directed to implement the above directions with immediate effect.

9/c

Director (E. S. & P.)

City Engineer/Ch.Eng.(Roads & Traffic) / Ch.Eng. (Bridges) / H. E. / Ch.Eng. (WSP) /Ch.Eng.(S.P.) /Ch.Eng.(S.O.)/ Ch.Eng.(MSDP) / Ch.Eng. (BM) / Ch.Eng.(Vig) / Ch.Eng. (M&E) / Ch.Eng.(D.P.)/Ch.Eng.(SWD) / Ch.Eng. (Coastal Road) / Ch.Eng.(SWM) / Ch.Eng.(CTIRC)/Dv. Ch.Eng.(HIC) / Dv.Ch.Eng.(SIC), Supt. of Gardens/

Asstt. Comm. Ward / Asstt. Comm.(Markets) / Asstt. Comm. (Estate) / Asstt. Comm.(Planning) / Asstt. Comm.(R.E.) City/W.S./E.S.

No. DIR/ES & P/915/MC dtd. 27-9-2018

C.C. to : DMC(MCO)/ DMC (Imp.) / DMC(GA)/ DMC(Vig)/ DMC(SE) / DMC(E)/ DMC(CPD)/ DMC(SWM)/DMC (Education)/DMC (RE)/ DMC(PH)/ DMC(Z-I) / DMC(Z-II) / DMC(Z-III) / DMC(Z-IV) / DMC(Z-V)/ DMC(Z-VI)/ DMC(Z-VII) / C.A. (F) / C.A. (WSSD) / C.A. (C.P.D.) / Law Officer

Forwarded for information please.

9/c

Director (E.S. & P.)

No. No. DIRE/ES & P/915/MC dtd. 27-9-2018

C.C. to:

Submitted please.

9/c

Director (E.S. & P.)

A.M.C.(City) / A.M.C.(E.S.) / A.M.C(W.S) / A.M.C(P)

Sir/Madam,

बृहन्मुंबई महानगरपालिका

परिपत्रक

प्र.ले./वित्त/प्रकल्प/शहर/२८ दि. १०.११.२०१७

विषय: महानगरपालिकेद्वारे हाती घेण्यात येणारी विविध प्रकल्प कामे तसेच खरेदी करण्यात येणा-या वस्तु व सेवा इत्यादीबाबतच्या निविदांमध्ये वस्तु व सेवा कराच्या अनुषंगाने घ्यावयाचे विशेष परिशिष्ट-१(Special Annexure-I) बाबत.

संदर्भ: १) प्र.ले./वित्त/प्रकल्प/शहर/३३ दि.०४.०३.२०१७

२) प्र.ले./वित्त/प्रकल्प/शहर/१२०अे दि.०८.०५.२०१७

३) प्र.ले./वित्त/प्रकल्प/शहर/८ दि.१४.०७.२०१७

संदर्भित परिपत्रकांन्वये वस्तु व सेवाकराच्या अनुषंगाने, निविदांमध्ये निविदाकाराने त्याच्या देकरामध्ये समाविष्ट असलेल्या सर्व करांची माहिती Special Annexure-I मध्ये दर्शविण्याबाबत वेळोवेळी यथोचित सूचना देण्यात आल्या आहेत.

संदर्भित परिपत्रकानुसार, निविदेतील अनुषंगिक अटी व शर्तीनुसार निविदाकाराने निविदा सादर करावयाच्या अंतिम दिनांकस लागू असलेल्या सर्व करांसहित दर उद्भूत करणे आवश्यक आहे. तसेच सदर Special Annexure-I मध्येही निविदाकाराने दर उद्भूत करताना विचारात घेतलेले कर, कराची टक्केवारी व रक्कम, दिलेल्या रकम्यात दर्शविणे आवश्यक आहे. तथापि, काही खातेप्रमुखांकडून काही प्रकरणी कंत्राटदाराच्या नियुक्तीसाठी लघुत्तम निविदाकाराची शिफारस करणारे प्रस्ताव व मसुदापत्र लेखाविभागास पडताळणीसाठी सादर केले असता, निविदाकाराने लिफाफा 'क' मध्ये उद्भूत केलेला दर व त्या अनुषंगाने आलेली रक्कम आणि Special Annexure-I मध्ये उद्भूत केलेली रक्कम, कराची टक्केवारी अथवा कराची रक्कम इत्यादींमध्ये तफावत/विसंगती असल्याचे निदर्शनास येत आहे. त्यामुळे अशा प्रकरणी कंत्राटदार म्हणून नियुक्तीसाठी निविदाकाराची शिफारस करताना खालील निर्देशांचे पालन करावे.

१. प्रथम लघुत्तम निविदाकार (L1) ठरविण्यासाठी निविदेचे मूल्यमापन (Tender Evaluation) करताना निविदाकारांनी सॅप कार्यप्रणालित लिफाफा 'क' मध्ये उद्भूत केलेला दर तसेच रक्कम व त्या अनुषंगाने आलेला निविदा तुलनात्मक तक्ता (Bid Comparison Statement Generated by SAP) हा अंतिम समजण्यात यावा.

२. निविदा दाखल करावयाच्या अंतिम दिनांकास (Last date of Tender Submission) लागू असलेले कर, सदर निविदेस त्यावेळी लागू होते असे विचारात घेऊन आणि प्रथम लघुत्तम निविदाकाराने (L1 as per 'C' packet, i.e. Bid Comparison Statement Generated by SAP) निविदेसोबत Special Annexure-I अपलोड केलेले असेल तरच व आवश्यक असल्यास, प्रथम लघुत्तम निविदाकाराकडून सुधारीत Special Annexure-I घेण्यात यावे. तथापि, ज्या प्रकरणी प्रथम लघुत्तम निविदाकाराने निविदेसोबत अपलोड केलेल्या Special Annexure-I मध्ये नमूद केलेली कराची टक्केवारी, निविदा सादर करावयाच्या शेवटच्या दिनांकास लागू असलेल्या जीएसटी दरापेक्षा जास्त असल्यास, प्रथम लघुत्तम निविदाकाराकडून स्पष्टीकरण घ्यावे.
३. प्रथम लघुत्तम निविदाकाराशिवाय (L1 as per 'C' packet, i.e. Bid Comparison Statement Generated by SAP) अन्य निविदाकारांशी वाटाघाटी (Negotiations) करू नयेत.
४. जीएसटी अंमलबजावणीनंतर सर्व प्रकारच्या वस्तु व सेवा खरेदी मधील कर स्वतंत्रपणे दर्शविणे अनिवार्य आहे. याकरीता कार्यालयीन कामकाजात सुलभता येण्यासाठी निविदांमध्ये Special Annexure-I बाबतची अट समाविष्ट करण्यात आली असून त्याअनुषंगाने निविदाकारांकडून Special Annexure-I घेण्यात येते. कोणत्याही परिस्थितीमध्ये निविदेचे मूल्यमापनासाठी, प्रथम लघुत्तम निविदाकार ठरविण्यासाठी (Tender Evaluation i.e. deciding L1) Special Annexure-I प्रमाण मानता येणार नाही.
५. महापालिकेने वस्तु व सेवाकराच्या अनुषंगाने निविदाकारांनी उद्धृत केलेल्या दरामधील कररचना/कर रक्कम Special Annexure-I मध्ये दिलेल्या विहित नमुन्यात जाहिर करण्याबाबत संदर्भित परिपत्रकांन्वये निर्देश देण्यात आले होते. आता वस्तु व सेवाकराचे दर, रचना इत्यादी बाबी जाहिर झालेल्या असून Special Annexure-I ची प्रासंगिकता संपुष्टात आली आहे. यास्तव, यापुढील मागविण्यात येणाऱ्या निविदा/अतारांकित निविदा/दरपत्रक यांमध्ये Special Annexure-I घेणे आवश्यक नाही. यास्तव संदर्भित क्र.३ स्थित परिपत्रकामध्ये कराबाबत दिलेल्या अटीमध्ये खालील प्रमाणे बदल करण्यात येत आहे.

Tax:

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

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

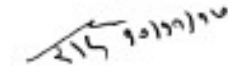
Rates accepted by MCGM shall hold good till completion of work and no additional individual claim shall be admissible on account of fluctuations in market rates; increase in taxes/ any other levies / tolls etc. except that payment / recovery for overall market situation shall be made as per Price Variation."

यापुढील मागविण्यात येणाऱ्या निविदा/अतारांकित निविदा/ दरपत्रक यांमध्ये कराबाबत उपरोक्त अटीचा समावेश करावा.

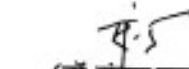
सर्व खातेप्रमुख , रुग्णालयांचे अधिष्ठाता, सहायक आयुक्त, उपप्रमुख लेखापाल तसेच सर्व लेखाधिकारी यांनी उपरोक्त सुचनांचे काटेकोर पालन करावे.

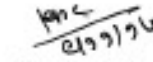

(रा.क.आर्काड)

प्रमुख लेखापाल(पा.पु.म.नि.)

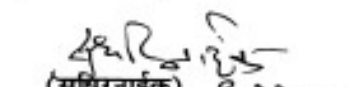

(रामधस)

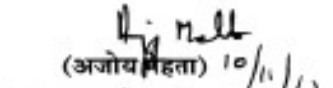
उप आयुक्त(म.ख.खा.)


(डॉ. संजय मुखर्जी)
अतिरिक्त आयुक्त(प्रकल्प)


(हेमलता येखे)

प्रमुख लेखापाल (वित्त)


(सुधिरनाईक)
उप आयुक्त(सा.प्र.)


(अजय महता)
महानगरपालिका आयुक्त

MUNICIPAL CORPORATION OF GREATER MUMBAI

No. DIR/ES & P/1078/mc dtd. 30/11/2018

4

Sub: Govt. directives issued u/No.

- 1) सार्वजनिक बांधकाम विभाग, शासन निर्णय क्र. सीएटी-1096/प.क्र.172/इमावती-2, दि. 20-4-1998.
- 2) सार्वजनिक बांधकाम विभाग, शासन निर्णय क्र. सीएटी-2017/प.क्र.8/इमावती-2, दि. 12-4-2017 व दि. 29-6-2017 चे सुदीपत्रक.
- 3) सार्वजनिक बांधकाम विभाग, शासन निर्णय क्र. सीएटी-1096/प.क्र.172/इमावती-2, दि. 16-8-2017.
- 4) शासन सुदीपत्रक क्रमांक सीएटी-1096/प.क्र.172/इमा-2 (संकीर्ण-2017/प.क्र.94/इमावती-2) दि. 21-9-2017.
- 5) शासन निर्णय क्रमांक सीएटी-2017/प.क्र.08/इमा-2 दि. 27-9-2018.

Ref: - Hon'ble M.C.'s order under no.MGC/F/7640 dtd. 05-11-2018.

Reference is requested to the above Govt. directives wherein it is clarified that the P.W.D. has now stopped registration of contractors from 21-8-2017 for more than Rs. 1.5 crore works and now there is only one category for registration i.e. upto Rs. 1.5 crore.

The proposal was submitted for Hon'ble M.C.'s approval to accept the work experience of Semi-Govt./Govt. works and registration condition with P.W.D. shall not be insisted hereafter for the works more than Rs. 1.5 crores as the registration for more than Rs. 1.5 crore work is stopped by P.W.D. The same is approved by Hon'ble M.C. vide No. MGC/F/7640 dtd. 05-11-2018.

All the concerned are hereby directed to note the above approval and act accordingly while scrutinizing the tenders.

Director (E. S. & P.)

City Engineer/Ch.Eng.(Ronds & Traffic) / Ch.Eng. (Bridges) / H. E. / Ch.Eng. (WSP)
Ch.Eng.(S.P.) / Ch.Eng.(MSDP) / Ch.Eng. (BM) / Ch.Eng.(Vig) / Ch.Eng. (M&E) /
Ch.Eng.(DIP)/Ch.Eng.(SWD) / Ch.Eng.(SWYD) / Ch.Eng.(CTIRC) / Ch.Eng. (Coastal
Ronds) / Dy.Ch.Eng.(HIC) / Dy.Ch.Eng.(SIC) / Supt. of Gardens
Asstt. Comm. A-7 Ward

No. DIR/ES & P/1078/mc dtd. 30/11/2018

C.C. to: DMC(MCO) / DMC(GA) / DMC(Vig) / DMC(SE) / DMC(E) / DMC(CPD) /
DMC(SWM) / DMC(Z-I) / DMC(Z-II) / DMC(Z-III) / DMC(Z-IV) / DMC(Z-V) /
DMC(Z-VI) / DMC(Z-VII) / C.A. (E) / C.A. (WSSD)

For information please

जुन-९३-२५००(३२)

बृहन्मुंबई महानगरपालिका

परिपत्रक

२०१२-२०१३

परिपत्रक क्र.प्र.ले./एफआरटी/१२ दिनांक २१.०६.२०१२

विषय:- इमारत व इतर बांधकाम कामगार (रोजगार नियमन व सेवाशर्ती) अधिनियम १९९६ तसेच इमारत व इतर बांधकाम कामगार कल्याण उपकर नियम १९९८ अंतर्गत उपकर वसूल करावयाची कार्यपध्दती निश्चित करणेबाबत.

- संदर्भ:- १) इमारत व इतर बांधकाम कामगार (रोजगार नियमन व सेवाशर्ती) अधिनियम १९९६
२) इमारत व इतर बांधकाम कामगार उपकर अधिनियम १९९६
३) इमारत व इतर बांधकाम कामगार उपकर नियम १९९८
४) महाराष्ट्र इमारत व इतर बांधकाम कामगार (रोजगार व सेवाशर्ती नियमन) नियम २००७ दि.०५.०२.२००७.
५) महाराष्ट्र इमारत व इतर बांधकाम कामगार कल्याण उपकर नियम २००७.
६) शासन निर्णय क्र.बीसीए/२००९/प्र.क्र.१०८/कामगार ७-अ मंत्रालय मुंबई-३२ दि.१७.०६.२०१०.

इमारत व इतर बांधकाम कामगार (रोजगार विनियमन व सेवाशर्ती) अधिनियम १९९६ (केंद्रिय अधिनियम २७/१९९६) आणि त्या अंतर्गत इमारत व इतर बांधकाम कामगार कल्याण उपकर अधिनियम १९९६ हे कायदे केंद्र शासनाने, इमारत व इतर बांधकाम क्षेत्रात कार्यरत असलेल्या बांधकाम मजुरांचे कल्याण करण्याच्या उद्देशाने पारित केले असून, सदर कायद्याची महाराष्ट्र राज्यात अंमलबजावणी करण्याच्या दृष्टीने, महाराष्ट्र शासन निर्णय क्र. बीसीए२००९/प्र.क्र.१०८/कामगार ७-अ दि.१७ जून २०१० अन्वये, इमारत व इतर बांधकाम कामगार (रोजगार विनियमन व सेवाशर्ती) अधिनियम १९९६ तसेच इमारत व इतर बांधकाम कामगार कल्याण उपकर नियम १९९८ अंतर्गत उपकर वसूल करावयाची कार्यपध्दती विहित केली आहे. त्यानुसार दि.०१.०१.२००८ च्या पूर्वलक्षी प्रभावापासून विहित केलेल्या दराने उपकर वसूल करून ३० दिवसांच्या आत शासकीय तिजोरीमध्ये भरणा करावयाचा आहे.

या संदर्भात, उप प्रमुख अभियंता (इमारत प्रस्ताव) शहर यांनी परिपत्रक क्र.उपप्रमुख अभियंता/३६६३/इ.प्र.(शहर) दि.३०.०९.२०११ अन्वये धोरण निश्चित केले आहे. मात्र त्यामधील खालील नमूद करावयाच्या राहून गेलेल्या मुद्दांबाबत सुधारित आदेश देण्यात येत आहेत.

अ.क्र.	परिपत्रक क्र.संप्रमुख अभियंता/३६६३/इ.प्र.(शहर) दि.३०.०९.२०११ मधील नमूद मुद्दा	सुधारीत आदेश
१.	इमारत व इतर बांधकाम (रोजगार नियमन व सेवाशर्ती) अधिनियम १९९६ तसेच इमारत व इतर बांधकाम कामगार कल्याण उपकर नियम १९९८ अंतर्गत उपकराची वसुली दि.०१.०७.२०१० पासून करणे आवश्यक आहे.	इमारत व इतर बांधकाम (रोजगार नियमन व सेवाशर्ती) अधिनियम १९९६ तसेच इमारत व इतर बांधकाम कामगार कल्याण उपकर नियम १९९८ अंतर्गत उपकराची वसुली दि.०१.०१.२००८ च्या पूर्वलेखी प्रभावाने करण्यात यावी.
२.	उपकराच्या रकमेचा भरणा करणे, ताळेबंद करणे व तो गोळा करण्याकरिता झालेल्या खर्चाचा परतावा इ. बाबतीची कार्यवाही प्रमुख लेखापाल खात्याने करणे अपेक्षित आहे.	शासन निर्णयासोबत जोडलेल्या प्रपत्र-१, परिशिष्ट-२, ३ व ४ अन्वये मंडळाला सादर करावयाचा तपशील संबंधित खात्यांशी निगडित असल्याकारणाने उपकराच्या रकमेचा भरणा / ताळेबंद व तो वसूल करण्यासाठी झालेल्या खर्चाचा परतावा इ. बाबतीची कार्यवाही संबंधित खात्यानेच करावी व त्याचे लेखापरीक्षण व त्याबाबतच्या संप कार्यप्रणालीमध्ये नोंद घेण्याबाबतची कार्यवाही प्रमुख लेखापाल खात्यातर्फे करण्यात यावी. (याबाबतच्या अधिक स्पष्ट सूचना सादर परिपत्रकामध्ये पुढे देण्यात आल्या आहेत.)
३.	सादर अधिनियमांतर्गत - संबंधित विभाग शासकीय / निमशासकीय उपक्रम यांनी बांधकामास परवानगी देण्याच्या प्रत्येक प्रकरणास युनिक क्रमांक देऊन, बांधकाम सुरु करण्याच्या प्रमाणपत्रामध्ये तो नमूद करणे आवश्यक असल्याचा तरतुदीचा उल्लेख सादर परिपत्रकामध्ये केलेला नाही.	सर्व संबंधित विभाग शासकीय / निमशासकीय उपक्रम यांनी बांधकामास परवानगी देण्याच्या प्रत्येक प्रकरणास युनिक क्रमांक द्यावा आणि हा क्रमांक बांधकाम सुरु करण्याच्या प्रमाणपत्रामध्ये नमूद करावा. महाराष्ट्र व इतर बांधकाम उपकरासंबंधीचा हा युनिक कोड नसेल तर बांधकाम सुरु करण्याचे प्रमाणपत्र अपूर्ण असल्याचे मानण्यात यावे.

उप प्रमुख अभियंता (इमारत प्रस्ताव) शहर यांनी उपरोक्त परिपत्रकान्वये केवळ इमारत प्रस्ताव विभागापुरतेच धोरण निश्चित केले आहे. तथापि, कंत्राटदाराच्या बाबतीत त्यांच्या देयकामधून उपकराची रक्कम वसूल करावयाची असून, स्थानिक प्राधिकरणामार्फत करण्यात येणाऱ्या इमारत व इतर बांधकामावरही उपकराची आकारणी करावयाची असल्याने शासन परिपत्रक क्र.बीसीए२००७/प्र.क्र.७८८/कामगार ७-अ दि.२६.१०.२००९ व शासन निर्णय क्र.बीसीए/२००९/प्र.क्र.१०८/कामगार ७-अ दि.१७.०६.२०१०

च्या प्रती सोबत जोडल्या असून त्यामधील मार्गदर्शक तत्त्वांनुसार विहित केलेल्या कार्यपध्दतीने उपकराची वसुली व शासकीय तिजोरीमध्ये भरणा करण्यात यावा.

याशिवाय वरील कार्यपध्दतीमध्ये सुसूत्रता राखण्याच्या दृष्टीने तसेच लेखा परीक्षण व सॅप कार्यप्रणालीच्या अनुषंगाने खालील मार्गदर्शक तत्त्वे / सूचना विहित करण्यात आल्या आहेत.

- १) इमारत व इतर बांधकामावर आकारण्यात येणाऱ्या उपकराची रक्कम ३५०३०९९०५ (इमारत बांधकाम कल्याणकारी उपकर) या लेखा संकेतांकाखाली जमा करण्यात यावी.
- २) जमा करण्यात आलेली उपकराची रक्कम-शासकीय तिजोरीत भरणा करण्यापूर्वी संबंधित खात्याने, संबंधित लेखा विभागाकडून त्याची पडताळणी करून घेतल्यावरच उपकराच्या रकमेचा धनादेश विहित केलेल्या कालावधीमध्ये संबंधित खात्यानेच (विभागीय कार्यालयामध्ये ज्यांनी कंत्राटद्वारा कायदेश दिला असेल त्या संबंधित खात्याने) शासकीय तिजोरीमध्ये जमा करावा. मात्र कोणत्याही परिस्थितीमध्ये विहित केलेल्या कालावधीचे उल्लंघन होणार नाही याबाबीची खबरदारी संबंधित खात्याने घ्यावी.
- ३) "इमारत व इतर बांधकाम उपकराद्वारे" जमा केलेली रक्कम मंडळाकडे ३० दिवसांच्या आत जमा करणे आवश्यक असल्याने कार्यालयीन सोयीसाठी प्रत्येक महिन्याच्या पहिल्या पंधरवड्यात जमा होणारा उपकर त्याच महिन्याच्या ३० तारखेपर्यंत तर दुसऱ्या पंधरवड्यात जमा होणारा उपकर पुढील महिन्याच्या १४ तारखेपर्यंत संबंधित खात्यांनी मंडळाकडे भरावा.
- ४) उपकराच्या रकमेचा धनाकर्ष महाराष्ट्र राज्य इमारत व इतर बांधकाम कामगार कल्याणकारी मंडळ मुंबई यांच्या खाते क्र. ००४२२०९१००००१५३ 'बँक ऑफ इंडिया' मुंबई यांच्या कोणत्याही शाखेत विहित चलनाद्वारे जमा करावा. चलनाची प्रत शासन निर्णयासोबत जोडली असून चलनाच्या प्रती बँकेत किंवा मंडळाच्या वांटे कुर्ला कॉम्प्लेक्स येथील कार्यालयात उपलब्ध असतील.
- ५) भरणा केलेल्या उपकराच्या रकमेबाबतचा त्रैमासिक अहवाल अर्थसंकल्प अ, व व ई च्या बाबतीत संबंधित खात्याने लेखा अधिकारी (महसूल) विक्रीकर विभाग व अर्थसंकल्प 'ग' बाबतीत लेखा अधिकारी (रोख) प.पु.म.नि. यांजकडे दिनांक १५ एप्रिल, १५ जुलै, १५ ऑक्टोबर, १५ जानेवारी पूर्वी नियमितपणे पाठवावा.
- ६) उपकराची वसुली व भरणा इ. संदर्भातील आवश्यक तो सर्व तपशील संबंधित खात्याने शासन निर्णयामध्ये विहित केलेल्या कालावधीमध्ये त्यासोबत जोडलेल्या विहित प्रपत्र / परिशिष्टांन्वये अध्यक्ष, महाराष्ट्र इमारत व इतर बांधकाम कामगार कल्याण मंडळ, वांटे कुर्ला कॉम्प्लेक्स, कामगार आयुक्तांचे कार्यालय, कामगार भवन, आर.बी.आय.च्या बाजूला, वांटे (पूर्व), मुंबई - ४०० ०५९ यांना सादर करावा.

मंडळाला विविध परिशिष्टे सादर करावयाच्या कालावधीचा तपशील खालीलप्रमाणे आहे.

१	प्रपत्र - १	प्रत्येक मालक बांधकामाचे काम सुरु झाल्यापासून ३० दिवसांत किंवा उपकराची रक्कम भरल्यानंतर मंडळाला सादर करेल.
२.	परिशिष्ट-२	संबंधित खात्याने उपकरापोटी जमा करण्यात आलेल्या रकमेचा तपशील दर्शविणारा मासिक तक्ता पुढील महिन्याच्या १० तारखेपूर्वी मंडळाला सादर करावा.
३.	परिशिष्ट-३	संबंधित खात्याने मंडळाला १५ मे पूर्वी सादर करावयाचे वार्षिक विवरणपत्र.
४.	परिशिष्ट-४	आराखडे मंजूर करण्याच्या प्राधिकाऱ्याने १५ मे पूर्वी सादर करावयाचे वार्षिक विवरणपत्र.

७) उपकराची वसुली व शासकीय तिजोरीमध्ये भरणा केल्याबाबतचा सर्व अभिलेख संबंधित खात्यांनी, जतन करावा.

८) सोबत जोडलेल्या शासन निर्णयामधील परिशिष्ट एक मधील मार्गदर्शक तत्त्व क्र. १२ अन्वये युनिक कोड नंबर संबंधीच्या सूचना केलेल्या आहेत त्या संदर्भात अधिक स्पष्टीकरणासाठी शासन परिपत्रक क्र. बीसीए २००७/प्र.क्र.७८८/कामगार ७-अ वि.२६ ऑक्टोबर २००९ ची प्रतदेखील सोबत जोडण्यात आली आहे.

९) ज्या प्रकरणी कंत्राटदारांच्या देयकामधून तसेच खात्यामार्फत करण्यात येणाऱ्या बांधकामाच्या खर्चाच्या १% एवढी उपकराची वसुली करावयाची असेल अशा प्रकरणी सदर रकमेतील शासनाला अधिदानीत करावयाची ९९% रक्कम ३५०३०९९०५ (इमारत व इतर बांधकाम कामगार कल्याण उपकर) या लेखा संकेताकाखाली जमा करण्यात येऊन त्याबाबतचा धनाकार्य बँकेत जमा करावा व सदर उपकराच्या वसुली खर्चापोटी कापून घेतलेली उर्वरित १% एवढी रक्कम १४०७००९०७ (इमारत व इतर बांधकाम कामगार कल्याण उपकराच्या वसुलीपोटी प्रशासकीय आकार) या लेखा संकेताकाखाली जमा करण्यात यावी.

तसेच ज्या प्रकरणी बांधकामाच्या आराखड्यास संबंधित प्राधिकरणाच्या मंजूरीची आवश्यकता आहे त्या प्रकरणी उपकरापोटी जमा केलेली १% एवढी सर्व रक्कम धनादेशाद्वारे बँकेत जमा करण्यात यावी व त्याच्या वसुलीपोटी येणाऱ्या खर्चाची रक्कम शासनाकडून विहित कालावधीमध्ये (१५ मे पूर्वी) द्यावा सादर करून प्राप्त करण्यात यावी.

१०) अर्थसंकल्प अ, ब व ई ज्या बाबतीत प्रमुख लेखापाल (वित्त) खात्यातील संबंधित लेखा विभागाने तसेच अर्थसंकल्प 'ग' च्या बाबतीत प्रमुख लेखापाल (पा.पु.म.नि.) यांच्या अखत्यारितील संबंधित लेखा विभाग यांनी उपकराचा भरणा करावयाच्या रकमेचे लेखापरीक्षण करावे.

११) ज्या प्रकरणी, उपकराच्या वसुली खर्चापोटीची रक्कम शासनाकडून प्राप्त करावयाची आहे, त्या प्रकरणी शासनाला द्यावा दाखल केल्याच्या दिनांकाला सादर रक्कम शासनाकडून येणे रक्कम (रिसीव्हेबल) म्हणून

SECTION 17
LIST OF PREFERRED
MAKE

LIST OF PREFERRED MAKE: ELECTRICAL AND MECHANICAL ITEMS

Sr. No.	Description of Items	Name of Makes/ Manufactures
MULTILEVEL PARKING SYSTEM		
1.	Automatic shuttle type car parking system	SOTEFIN/ RR PARKON/ KLAUS/ WOHR
2.	Steel Plates	TATA/ JINDAL/ ISPAT/ SAIL
3.	Sheet	ESSAR/ ISPAT/ JINDAL/ POSCO
4.	Geared Motors with DC Magnate Brake	LHP/ HINDUSTAN MOTORS/ CROMPTON GREAVES/ OEM OF PARKING SYSTEM
5.	Wire Ropes	USHA MARTIN/ BHARAT WIRE ROPE LTD./ OEM OF PARKING SYSTEM
6.	P.L.C. (Control Panel)	OMRON/ SCHNEIDER/ MERLIN GERIN/ LS KOREA
7.	Welding rods	ADVANI/ ADOR/ ESAB/ ESSAR
8.	Paints	ASIAN PAINT / BURGER / ICI / NEROLAC
9.	Limit switch/ Sensors	HONEYWELL/ EMERSON/ SIEMENS/ AUTONICS/ OMRON
ELECTRICAL ITEMS		
10.	FRLS PVC insulated copper wire/Telephone cable/Copper conductor control cable	L&T/ HAVELLS/ POLYCAB/ FINOLEX/ RR KABEL/ KEI/ GRANDLAY
11.	Co-axial TV cable	L&T/ HAVELLS/ POLYCAB/ FINOLEX
12.	LT XLPE aluminium cable	HAVELLS/ POLYCAB/ RR KABEL/ KEI/ BATRA HENLAY/ GRANDLAY
13.	Steel Conduit	RM CON/ AKG/BEC/ NIC ISI marked
14.	Modular Type switch/socket/Telephone socket/Electrinics fan regulator/GI boxes	LEGRAND(MYRIUS)/ HAVELLS(CORAL)/ MKHONEYWELL(BLENZE)/ NORTH WEST(NOWA)
15.	MCB/MCB DB	LEGRAND/ SIEMENS/ L&T/ ABB/ SCHNEIDER
16.	MCCB	L&T-DSINE/ SCHNEIDER-COMPACT NSX/ ABB-TMAX/ LEGRAND-DPX3/ SIEMENS
17.	LT panel/Feeder Pillar/Meter Board	ADLECMUNDKA/ CONTROL AND SWITCHGEARS PVT LTD/ TRICOLITE/ SPC ELECTROTECH LTD/ AMBIT SWITCHGEARS PVT LTD/ NEPTUNE INDIA/ MILESTONE/ PRECISION SYSTEM CONTROL

18.	LED fittings for indoor lighting	PHILLIPS/ CROMPTON/ WIPRO/ GE/ HAVELLS
19.	LED fittings for outdoor lighting	PHILLIPS/ BAJAJ/ CROMPTON/ WIPRO/ GE/ HAVELLS
20.	Tube/Vane Axial Fan	KRUGER/ NICOTRA/ GREENHECK/ AIRFLOW/ HUMIDIN/ FLAFTWOOD
21.	BLDC ceiling fan	USHA/ HAVELLS/ CROMPTON/ ORIENT
FIRE FIGHTING SYSTEM		
22.	Fire Extinguishers	SAFEX/ MINIMEX/ SUPEREX/ CEASFIRE
23.	GI/ MS Pipe	JINDAL(HISAR)/ TATA/ BST/ PRAKASH SURYA
24.	Standard M.S. Fitting & GI fittings	JAINSONS INDUSTRIES/ INDUS/ JINDAL/ ZOLOTO
25.	Ball Valve / Sluice Valve / Check Valve / Pot /Y- Strainer	AUDCO / KIRLOSKAR/ ADVANCE/ CASTLE/ C&S
26.	Butterfly Valve	AUDCO/ ADVANCE/ CASTLE
27.	Pressure Switch	SYSTEM SENSOR/ INDFOSS/ DENFOSS
28.	Flow Switch/ Level Switch/ Level Indicator	SIEMENS/ HONEYWELL/ SONTAY/ KELE
29.	Thermo plastic (Textile reinforced) Hose Reel ISI Mark	MITRA/ KESRA/ PADMINI
30.	Stainless Steel Branch Pipe	SAFEX/ PADMINI/ GETECH/ NEW AGE
31.	Fireman Axe/ Installation Control Valve	SAFEX/ PADMINI/ GETECH
32.	2-way/ 4-way FBC	SAFEX/ NEWAGE (MUMBAI)/ GETECH
33.	Sprinkler Heads	TYCO/ HD/ OMAX UL LISTED
34.	Pipe Protection Pypcoat (AW4) Wrapping	IWL/ TAXA/ MAC- POLY COAT
35.	Rubber Bellow	KANWAL INDUSTRIAL CORPORATION/ RESISTROFLEX/ AIP VALVES
36.	Window Sprinkler	TYCO/ HD
37.	Deluge Valve	SAFEX/ TYCO/ HD
38.	Air release valve	SUPEREX/ GETECH/ NEWAGE/ SAFEX
39.	Fastner	HILTI/ FISHER
40.	Hose Box(External) (GI Powder Coated)	SPC ELECTROTECH LTD/ ADLECMUNDKA/ AMBIT SWITCHGEAR PVT LTD/ MILESTONE/ TRICOLITE
41.	Flexible Drop (UL Approved)	SAFEX/ HD/ KOFULSO (EASY FLEX)
42.	Welding Rods	ADOR/ ESAB/ ESSAR/ ADVANI

43.	Dash fasteners/suspension accessories with anti-seismic feature	HILTI/ FISCHER/ CANON
44.	Fire Sealant	3M/ HILTI
CCTV CAMERA, TELEPHONE INSTRUMENT SET		
45.	IP Based CCTV (indoor / outdoor) camera: Fixed Dome, Bullet, PTZ	PELCO/ BOSCH/ HONEYWELL/ VERINT/ TYCO/ MOBOTIX/ HANWHA/ WISENET
46.	VMS Software	PELCO/ BOSCH/ HONEYWELL/ VERINT/ TYCO/ MOBOTIX/ HANWHA/ WISENET
47.	VMS Server / Network Video Recorder	DELL/ HP/ CISCO/ FUJITSU
48.	Telephone Handsets	BEETEL/ BINATONE/ PANASONIC/ AVAYA/ NEC/ NORTEL/ CISCO/ MITEL

LIST OF PREFERRED MAKE: CIVIL ITEMS

S.No.	Description of Item	Preferred Makes
STRUCTURE		
1.	Ordinary Portland Cement / Portland Pozzolana Cement	ACC / ULTRATECH / SHREE/ AMBUJA / JK CEMENT
2.	White Cement	BIRLA CEMENT/ JK WHITE / TRAVANCORE
3.	Reinforcement Steel	SAIL/ TATA STEEL LTD./ RINL/JINDAL STEEL & POWER LTD / JSW / OR AS APPROVED BY CPWD FROM TIME TO TIME AS PRIMARY PRODUCER/
4.	Parallel Threaded Couplers	DEXTRA / G-TECH
5.	Re-barring Chemical	HILTI / 3M INDIA
6.	HR Structural Steel	TATA / JSW STEEL LTD / SAIL / JINDAL STEEL & POWER LTD / RINL
7.	LGS Frame/ CR Coil	JSW / TATA BLUE/ EVEREST / PENNAR INDUSTRIES
8.	Fiber Cement Board	VISHAKHA / EVEREST / HYDERABAD INDUSTRIES
9.	Gypsum Board	USG BORAL / SAINT GOBAIN
10.	Rock Wool insulation	SHREE RAM / LLOYD INSULATION / POLYBOND INSULATION / ROCKWOOL INSULATION / ROXUL ROCKWOOL INSULATION
11.	Galvanized Steel deck sheet	TATA BLUE / JSW / JINDAL / INTERARCH
12.	FIRE COATING FOR STEEL STRUCTURE	SUKRI/ NEWCHEM / SAPC INDIA / PROMAT / AKZO NOBEL / FSI LTD / JOTUN / PROMAT
13.	Plasticizer / Super Plasticizer / Admixtures / Other construction chemicals	FOSROC / SIKA / BASF / ASIAN LABORATRIES / CHOKESY / STERLING / CICO / SUNANDA
14.	AAC Block	AEROCON / BILTECH/ J K LAXMI/ MAGICRETE / MODCRETE / BIRLA AEROCON / J.K.
15.	AAC Block Adhesive	ULTRATECH / FERROUS CRETE / ARDEX ENDURA
16.	Polymer modified cementitious adhesive, mortar & Grout for tiling etc.	ARDEX ENDURA / WEBBER / MYK LATICRETE / FERROUSCRETE
17.	RMC producers	ULTRATECH/ NUVOCO / ACC / READY MIX INDIA PVT. LTD / NDCON CONSTRUCTIONS Note: The Agency shall get the design mix

		approved for the source RMC plant.
18.	Expansion Joint- modular	HERCULES / Z-Tech / SANFIELD
19.	VACUUM DEWATERING SYSTEM	SWITECH INDIA PVT LTD / TREMIX FLOORING /
20.	THERMOPLASTIC PAINTS	ASIAN PAINTS / BERGER / RELIANCE THERMOPLAST / S.N. IND. OSCAR / AUTOMARK (INDIA) INDUSTRIES LTD / STP LTD
21.	ROAD MARKING PAINT	NEROLAC / ASIAN / SHALIMAR / BERGER / STP LTD.
22.	PU COATINGS FOR STRUCTURAL STEEL	SUNANDA SPECIALITY COATINGS / SIKA / VELOSIT / X CALIBUR CONSTRUCTION SYSTEMS INC / CHOWGULE / STP LTD
23.	ANCHOR PLUG SOIL/ ROCK ANCHOR	BBR / VSL / FREYSSINET
24.	CC PAVERS / PRECAST CC KERB STONE / CC TILES / RCC SLAB/ GRASS PAVER	NITCO / HINDUSTAN / ULTRA / DALAL / UNISTONE / CECO
25.	SFRC/PRECAST C.C. COVERS	KK MANHOLE & COVERS / JAIN / PRAGATI / HINDUSTAN
26.	Cement based Ready Mix Plaster	FERROUSCRETE / ULTRATECH / SAINT GOBAIN
For WATERPOOFING		
27.	Single Component Liquid PU Elastomeric Membrane (spray applied) for Deck Waterproofing	PIDILITE / ASIAN SMART CARE /SUNANDA
28.	Sunken Portion / Terrace Waterproofing Cementitious Treatment	FORSOC/ MC BAUCHEMIE/ SUNANDA SPECIALITY COATINGS/ MYK SCHOMBURG/ BENGAL BITUMEN/ STP LTD.
29.	Polymeric Cementitious Coating	BASF / FOSROC/ PIDILITE / TIKIDAN
30.	Elastomeric Acrylic PU coating (UV resistant) liquid applied coating or equivalent	BASF/ FOSROC/ SIKA / TIKADEN / ASIAN SMARTCARE
31.	PVC WATER STOPS	VELOSIT / X CALIBUR CONSTRUCTION SYSTEMS INC
32.	POLYSULPHIDE / SILICON SEALANT	TUFFSEAL / GE / DOW CORNING / PIDILITE / WACKER / SUNANDA / SUPREME BITUCHEM / BENGAL BITUMEN / MYK SCHOMBURG / STP LTD
For DOOR / WINDOWS & WOODWORK		

33.	Laminated Particle Board / Particle board / Laminates / Plywood	MERINO / GREENLAM / CENTURY / DECOLAM/ ARCHIDPLY / KITLAM / GREEN PLY / DURO
34.	Flush door shutters	GREENPLY/ ARCHIDPLY / DURO / MERINO / CENTURY / KITPLY
35.	Toilet Cubicles	GREENLAM / MERINO / ARCHID / CENTURY
36.	Polycarbonate Sheet	GE LEXAN / DANPALON/ GALLINA
37.	Natural wood veneer	SONEAR / GREEN PLY / TRUWOOD / ARCHID
38.	Anti-static high-pressure laminate	FORMICA / BAKELITE HYLAM / DECOLAM MERINO / KITMICA / CENTURY
39.	Fire Sealant	HILTI / 3M INDIA / FISCHER
40.	Extruded Polystyrene Board	STP / SUPREME / OWNESCORNING / SHALIMAR
41.	Wooden / Metal / Glaze-fire rated Door Shutters & Acoustic	NAVAIR / KUTTY / GODREJ/ SUKRI / SHAKTIMET / PCIFIC
42.	UPVC Windows	ALUPLAST / ENCRAFT / FENESTA / NCL VECCA / LG / DUROPLAST / REHAU
43.	Fire Rated door	KINDLE / NAVAIR / PROMATE / SHAKTIMET / PACIFIC
44.	Fire rated glass (2 hours fire rating)	GLAVERBEL / SAINT GOBAIN / SCHOTT / PYROGUARD/ PILKINGTON
45.	ACP Panel	ALSTONE / ALUDECORE / ALSTRONG
46.	Adhesives	FEVICOL / ANCHOR / DUNLOP / 3M / PIDILITE /THERMOSHIELD / VAMORGANIC
47.	Pu Polish For Wood Works	ICA / ASIAN PAINTS / DULUX
For FINISHING		
48.	WOOD FINISH (MELAMINE & PU POLISH)	ASIAN / ICI LTD / BERGER / NEROLAC / PIDILITE / WEMBLEY/ STP LTD/ DULUX
49.	Polyester Powder Coating Shades	NEROLAC / BERGER / AKZONOBEL
50.	Wall Putty	BIRLA WHITE / JK WHITE / FERROUSCRETE / BERGER / ASIAN PAINT
51.	Oil Bound Washable / Acrylic Distemper	ASIAN PAINTS / BERGER / NEROLAC / ICI / AKZONOBEL DULUX
52.	Cement Primer	BP WHITE (BERGER) / DECOPRIME WT (ASIAN) / NEROLAC / AKZONOBEL (DULUX) / ICI LTD / SNOWCEM INDIA LTD.

53.	Steel / Wood Primer	AKZONOBEL (DULUX) / NEROLAC / BERGER / ASIAN PAINT / JENSON & NICHOLSON/ ICI LTD
54.	Adhesives	ANCHOR / DUNLOP / PIDILITE-FEVICOL
55.	PLASTIC/ACRYLIC EMULSION PAINT	ASIAN / ICI LTD / BERGER / NEROLAC / SUNANDA SPECIALITY COATINGS / MYK SCHOMBURG / STP LTD / DULUX
56.	Textured Exterior Finish	ASIAN (ULTIMA) / BERGER (WEATHER COAT ALL GUARD) / DULUX AKZONOBEL (ULTRA CLEAN)
57.	Synthetic Enamel Paint	ASIAN / BERGER / NEROLAC / AKZONOBEL / ICI (DULUX)
58.	CC PAVERS / GRASS PAVERS/ PRECAST CC KERB STONE / CC TILES / RCC SLAB	NITCO / BHARAT / HINDUSTAN / ULTRA / PAVER INDIA / DALAL / UNISTONE
59.	SFRC/PRECAST C.C. COVERS	KK MANHOLE & COVERS / JAIN / PRAGATI / HINDUSTAN
60.	POLY CARBONATE SHEET	SABIC LEXAN / BAYER / COXABELL
61.	STONE SEALER	AQUA MIX SEALER FROM CHOICE GOLD/ LATECRETE/ ARDEX ENDURA/ KERAKOLL/
62.	Metal façade panels	HUNTER DOUGLAS/ NOVELISE/ DWALL METALLIC/ NEW AGE
For STEEL & ALUMINIUM WORKS		
63.	Stainless Steel Railing / Accessories etc(Grade SS 316)	SALEM STEEL / JINDAL STAINLESS STEEL / SAIL / HAFELE / DORMA / OZONE / GEZE
64.	Powder coated Aluminium frame with glass glazing	AXSYS SOLUTIONS/ FAÇADE ONE /
65.	Aluminium Railing system	ART& GLASS / AXSYS SOLUTIONS
66.	Welding Electrodes	ADVANI-OERLIKON / MODI
67.	Dash / Anchoring Fasteners	HILTI / FISHER / BOSCH / AXEL/ TRIXEL FROM AXEL INDIA/ CANON
68.	ALUMINUM SHEET	NOVELIS / EURAMAX
69.	SS WIRE MESH	HAYER STANDARD / GRAND METAL / STRELING / TRIMURTY/ TIGER/GKD/WMW
70.	PANIC EXIT DEVICE	INGEROLL RAND / MONARCH
CEILINGS		
71.	False Ceiling – Acoustical Gypsum tiles, with ceiling Grid	SAINT GOBAIN GYPROC / AMF / USG USGBORAL INDIA GYPSUM / HUNTER

	system/ Moisture resistant	DOUGLAS
72.	Acoustical Calcium Silicate ceiling tiles/ Board with ceiling Grid system	GYPROC / AEROLITE / USG BORAL / RAMCO HILUX / ARMSTRONG / EVEREST/ NCL / PROMAT / SAINT GOBAIN/ DEXUNE
73.	Aluminium Composite Panel	ALUCOBOND/ ALPOLIC / ALUDECOR / REYNOBOND
74.	Acrylic Solid Surfaces	HANEX / L.G-HIMAC / DUPONT
FLOORINGS		
75.	Tiles: Ceramic / Vitrified tiles / Antiskid / Matt / Glazed / Heat Resistant /Solar Reflective	KAJARIA / H&R JOHNSON / SOMANY / ORIENTBELL / RAK CERAMICS / RESTILE /AGL
76.	Engineered stone - Marble / Quartz	ASIAN / JOHNSON / KALINGA / QUTONE
GLAZINGS		
77.	Glazing Structural / Suspended / Skylight/Clear / Float / Frosted Glass / Mirror / skylight / Toughened Glass / Hermetically sealed performance glass/ Interior partition	AIS / GLAVERBELL / MODIGUARD / PILKINGTON / SAINT GOBAIN/ ATUL/ MODI / ASAHI
78.	MODULAR TOUGHENED GLASS FOR PARTITIONS	JEB / OTIC PARTITION / KUBIK / CETTERIO / DAMIAN / SAINT GOBAIN / ASAHI INDIA GLASS / SCHOTT
79.	Glass Spider Fittings	DORMA / OZONE
80.	HIGH PERFORMANCE SOLAR TOUGHENED GLASS	SAINT GOBAIN / ASAHI / PILKINGTON
81.	FIRE RATED GLASS/ HARDWARE	ST. GOBAIN / PILKINGTON / SCHOTT / SUKRITI
82.	TWO HOUR FIRE RATED METAL GLASS DOOR/ HARDWARE	ST. GOBAIN / PILKINGTON / SCHOTT / SUKRITI
HARDWARE		
83.	Nuts / Bolts & Screws	GKW / HILTI / ATUL / TW BUILDEX & BOUSTED / CORROSHIELD / ATUL FATERNERS LTD
84.	All type of hardware and fitting for all type of glazing / doors/ windows etc. including mortise latch & lock / tower bolt / ball bearing butt hinges / friction stay hinges / sliding door bolts / lever handle / magic eye, door closer etc.	DORMA / HAFELE / GEZE / GODREJ / ASSA-ABLOY / INGERSOLL RAND / OZONE / HETTICH

85.	Toilet Cubicles	MERINO / GREENLAM / DORMA/ CENTURY
86.	Hardware for Fire Check Door/ panic bar/ panic trim/ door closer/ hinges/ mortise lock	INGERSOLL RAND / DORMA / GEZE / HAFELE / ASSA-ABLOY / KICH
87.	EPDM Gasket	HANU / ANAND / OSAKA
88.	HYDRAULIC DOOR CLOSURE/FLOOR SPRING	GODREJ / DORMA / HAFELE / GEZE
Plumbing & Sanitary		
89.	GI Pipes	JINDAL (HISAR) / TATA/ PRAKASH SURYA
90.	GI Fittings	UNIK / ZOLOTO / SURYA / KS / ICS / K.S / NVR / JINDAL / R BRAND / AMCO
91.	G.I. PIPE JOINTING MATERIALS	LOCTITE 55/DR. FIXIT / MC BAUCHEMIE
92.	SS Pipes & fittings	JINDAL / VIEGA / J-PRESS
93.	HDPE Pipes	RELIANCE / JAIN IRRIGATION / KISAN/ ORIPLAST / SUPREME
94.	CI Double flanged sluice valve/ non return valve	KIRLOSKAR / SONDHI / KEJRIWAL/ IVC/ BURN / SIR
95.	BALL, BUTTERFLY, FLOAT VALVES	LEADER / SANT / ZOLOTO / CASTLE / IBP / ARCO/ KSB / SIR
96.	Soil waste Pipe	JAYSWAL NECO / RIF / SKF
97.	SEWAGE WATER/RAIN WATER PIPES	ASTRAL / PRINCE / SUPREME / FINOLEX / PRAKASH / AJAY / ASHIRWAD / BIRLA AEROCON / KISAN
98.	SFRC / RCC Manhole Covers, Frames& Gratings	KK / OCR / PARGATI / T-CON / JAIN / PRAGATI / BIC / KAPILANSH DHATU UDHYOG / NECO / RIF / BCM / S.S. &CO./ GRATING
99.	Stoneware Pipes and Gully Traps	PERFECT / PARRY / BURN / ANAND / RK / HIND
100.	Sanitary CP Fittings & Accessories and Chinaware	JAQUAR / ROCA/ hindware/ Parryware/Kerovit/ Somany
101.	UPVC / CPVCPipe& Fittings	ASTRAL / SUPREME / FINOLEX / ASHIRWAD / PRINCE / PRAKASH / AJAY / BIRLA AEROCON / KISAN / APL APOLLO
102.	Stainless Steel Sink	NEELKANTH / NIRALI / CERA / JAYNA
103.	RCC Pipes	LAKSHMI / SOOD & SOOD / JAIN & CO. / PRAGATI CONCRETE / KK / USHA / DIWAN SPUN PIPE / JAIN
104.	Centrifugally Cast (Hubless) Iron Pipes & Fittings (IS:	JAYSWAL NECO / RIF / SKF

	15905) /Centrifugally Cast (Spun) Iron Pipes (IS:1536)	
105.	C.I. MANHOLES COVERS	BIC / KAPILANSH DHATU UDHYOG / NEECO / RIF / BCM / SKF / HIF
106.	SS HINGED GRATING	GMGR / NEER / CHILLY
107.	MASKING TAPES	SUNCONTROL / WONDER POLYMER
108.	TREATMENT ON MS BRACKETS	GALVANISED BRACKETS AS PER IS :4759-1996 / 610
109.	FLOOR TRAP	JAINA / CHILLY / NIRALE
MISCELLANEOUS		
110.	FRP water tank / SMC PANEL water tank	SINTEX / POLYCON/ SFMC/ SPL / UNITEK / SHEETAL
111.	SIGNAGES	PROLITE/ GLOLITE VISTA

* Raw material source to be approved by the Engineer-in-charge.

Note:- In case of shortage or scarcity or non-availability of material from above mentioned manufacturers, Engineer-in-charge may approve the fresh / new manufacturers after the testing of material.

SECTION 18
SCOPE &
SPECIFICATION OF
MAINTENANCE WORK
(Part B of Financial Quote)

MAINTENANCE AND OPERATION OF ASSETS (Part B of Financial Quote)

1.0 General Scope for maintenance:

1.1 All assets created from this contract agreement and services shall be maintained by the agency as per maintenance procedures for 1825 days (5years) after record date of completion of construction work

1.2 During defect liability period, every asset found defective shall be replaced. After that, during whole maintenance period, every asset shall be maintained by repairing the same and if repairing is not found possible, the same shall be replaced. The defective items, materials, finishes, fitting shall be replaced with items of same specifications and compatible to the work.

1.3 Contractor shall bear the cost of all AMCs required for all assets including routine, preventive & breakdown service of the system.

1.4 All T&P, testing instruments etc. required for the work shall have to be arranged by the Contractor. No T&P shall be issued by the Department.

1.5 Contractor shall depute trained staff for maintenance of the system having experience in the field. Wherever Safety staff / facility staff / Marshals required, same shall be provided by the Contractor

1.6 The Contractor shall make all safety arrangement required for the staff engaged by him at his own cost. All consequences due to negligence or due to lapse of security/safety or otherwise shall remain with the agency. The BMC shall not be responsible for any mishap, injury, accident or death of the agency's staff. No claim in this regard shall be entertained /accepted by the department. Staff engaged by the Contractor shall be staff of Contractor for all purpose, not the principal employer.

1.7 Contractor shall be fully responsible for any damage to property of Government and / or user of the system, by him or his labour during carrying out the work and the same shall be rectified by the Contractor at his own cost.

1.8 The watch & ward of the whole campus during maintenance period shall be the responsibility of the Contractor.

1.9 Contractor shall set up maintenance & operation centre which will operate 24 X 7 on all working days.

1.10 Contractor shall hire adequate electro mechanical car parking operators, technicians, Engineers for respective field of job on Part Time basis. The staff engaged shall have a mobile phone to enable the Engineer-in-charge for timely communication.

1.11 Staff employed by the agency shall be well behaved, polite & courteous. In case of any complaint against staff, such staff shall be replaced by the Contractor on demand from Engineer-in-Charge. Agency will submit police verification of worker employed for the maintenance work.

1.12 The facilities to be made available at the Service Centre by contractor.

1.12.1 All furniture required for Contractor's staff shall be arranged by the Contractor at his own cost.

1.12.2 Electric connection for general purpose at the service centre shall be taken and Bills for the electricity consumed shall be paid by the Contractor .

1.13 The Contractor shall be responsible for watch and ward. The loss, if any shall be made good by the agency at his cost. The decision of Engineer-in-Charge in this respect shall be final and binding on the Contractor.

1.14 Stores and bins shall be provided by the Contractor for storing the Materials.

- 1.15 The Contractor will maintain attendance records of the staff, which may be checked by the Engineer-in-charge or his representative of the work. In case of absence of any staff, recovery shall be made at the following rates: -
- 1.16 Bad workman ship whenever noticed and conveyed to the agency shall be rectified by the agency to the satisfaction of the Engineer-in-charge
- 1.17 After the expiry of the contract, the Contractor shall hand over the complete installations to the department in proper working order. All defects and deficiencies shall have to rectified by the firm to the entire satisfaction of Engineer-in-charge failing which the work shall be got done at the risk and cost of the firm.
- 1.18 The Contractor will submit full names, address, and photographs of the staff, they are going to appoint at said location.
- 1.19 The Contractor shall provide uniform along with Badge and shoes wearing logo of BMC service centre. In the event of non-compliance, a recovery of Rs.100/- per day per employee shall be made. Contractor will provide neat & clean uniform to all workers. Colour & pattern of uniform shall be as per decision of Engineer-in-charge.
- 1.20 The Contractor shall have registration with Employees Provident Fund Commissioner and employees State Insurance Corporation for safeguarding welfare of his workmen. He shall obtain all other necessary approvals from statutory bodies as per law in force.
- 1.21 No residential accommodation shall be provided to any of the staff engaged by the agency. The Contractor shall also not be allowed to erect any temporary set up for staff on site.
- 1.22 All the consumable required for housekeeping work shall be supplied by the contractor.
- 1.23 All the taxes, duties, payments towards EPF & ESIC, Workmen's compensation shall be included in total cost. No claims shall be entertained later on in this respect .The vendor shall pay the wages to employees as per 'Minimum Wages Act' and while quoting rates in the tender, he has to consider future periodical increase in rate of 'Minimum Wages Act'. No compensation claim will be entertained in this respect.
- 1.24 **Not to claim for employment in M.C.G.M.:** Under no circumstances whatsoever, the staff/personnel appointed by the contractor for performing duties shall be allowed to claim, for his employment in Brihanmumbai Municipal Corporation .
- 1.25 In case of non attendance of the duty by any of the staff , a substitute arrangement shall be made within 30 minutes. In case of absenteeism of any of the staff beyond this limit, the staff present on duty shall not leave the work place until next duty staff resumes his duty. However, if in case the sufficient staffs strength is not maintained in particular shift , penalty as described below will be imposed.
 - 1) Parking System Operator:- Rs.1500/- per shift
 - 2) Parking attendant: - Rs.1200/- per shift
 - 3) House Keeper :- Rs.1000/- per shift
- 1.26 Accidents: The vendor shall be responsible to ensure proper protection against accident on the work sites. The vendor shall indemnify the Corporation against any claims for damage or injury to person or property resulting from and in the course of work undertaken and also under the provision of the Workman's Compensation Act.

2.0 Scope of Maintenance work:

2.1 The Contractor shall maintain all assets created through this agreement. Any damage to the installation shall be made good by the contractor within the scope of work.

3.0 Scope of operation & maintenance of Electro Mechanical Parking System including services:

3.1 Operation & maintenance:

3.1.1 The successful contractor shall deploy the requisite nos. of CAR parking operators, parking attendant & sweeper with acquired necessary qualifications along with general Tools, safety gears, housekeeping consumable items etc

Deployment of Manpower:

Designation	Shift- I	Shift - II	Shift- III	Reliever
	(7 a.m to 3 p.m)	(3 p.m to 11 p.m)	(11 p.m to 7 a.m)	
Car Parking operator	1	1	1	1
Parking Assistant	2	2	2	1
House Keeper	2	2	Nil	1
Total	5	5	3	3
Grand Total	16			

Note:- USER Department have the rights to minimize the nos. of manpower as per their requirement. The shift timing may varies as per requirement of User department.

4.0 Desired Qualification for Car Parking operator & Parking Assistant

- ITI NCTVT in Electrician/ Wireman/ Mechanic-Auto, Electrical, Electronics/ Mechanic - Medical electronics or equivalent

OR

- One Year Full Course in above / equivalent technical trade from reputed private institute
- At least One year full-time experience in this field.
- Should be able to Read, Write and Understand Marathi, Hindi, English Language.
- Should have valid driving License of light motor vehicle.

4.1 Duties of Manpower is as below :

l] Car parking operators:

1. Guide the car owner to the nearest vacant entry level platform.
2. Operator issued the dummy token to car owner and give flash card along with car keys to parking assistant.

3. Request car owner to follow the instructions of using and parking the car as per instructions by parking elevator provider (displayed on BT panel).
4. Operator will supervise parking assistant for park the car on designated location on turn table.
5. Operator will ensure that only vehicle will be on the turn table while cars are moving for the parking process.
6. If the car parking systems reject the car for parking as the dimension of car exceed than the car parking slot then operator should inform the car owner for same.
7. When car owner come for pick up his car, operator should collect dummy token from the car owner and place dummy token with flash card in designated place together.

II] Parking Assistant:

1. Controlling the traffic on Entry & Exit Gate.
2. Guide the car owner to the nearest vacant entry level platform.
3. Take keys from Operator to park the car from entry level platform to designated location of turn table.
4. Request car owner to follow the instructions of using and parking the car as per instructions by parking elevator provider (displayed on BT panel).
5. Car keys along with Chip should be place in safe and designated place (key box) till the car exit.
6. When car owner come to pick up the his car, the parking assistant will flash the chip of concerned cards to BT panel and take car keys from designated place (key box) and Drive the car from turn table to nearest vacant exit level platform.

III] Housekeeper:

1. Removal of waste from all floors etc. from the common areas.
2. Dusting of furniture & clean the Collection room
3. Cleaning and scrubbing of tiles of Entry & Exit gate as & when required.
4. Cleaning Ramp floors with dry & wet mops.
5. Dry & wet mopping of stair ways.
6. Removal of cobwebs.

SECTION 19

SCOPE OF COMPREHENSIVE ANNUAL MAINTENANCE AND SERVICING OF SERVICING OF PARKING SYSTEM

Comprehensive Annual Maintenance and Servicing for period of 20 years from record date of completion of Parking System :

- a) **The Successful Bidder shall carry out Comprehensive Annual Maintenance and Servicing for period of 20 years from record date of completion of Parking System in coordination with OEM Cost of the same is included in Quoted cost of project(Part A of Financial Quote). No Extra payment will be made for the same.**
- b) The contractor shall use the services of trained, appropriately skilled personnel who shall be directly employed and appointed by the contractors. They shall be experienced to keep the entire parking system and its equipments in proper working condition. They will also take all reasonable care to maintain the equipments properly and they will take all reasonable care to maintain the system in efficient, reliable, neat tidy and safe operational condition.
- c) The contractor shall direct their said personnel to the above said mechanized multi level car parking once in a three month to examine, lubricate and adjust the equipments of the said equipment in presence of either Municipal Engineer or concerned person of user department. They shall obtain from them signature on the service report with Names, Designation for each Quarterly servicing and maintenance and produce the same in every quarter. The contractor shall check and adjust, clean, lubricate etc. all the items mentioned below if applicable and enter into log book duly signed.
- d) Most of the jobs should be carried out on line mode, means no shutdown is required, however if the course of shutdown is required, then the same shall be applicable with valid justification.
 - a) The contractor shall replace/ repair all the spare parts free of cost immediately for normal wear and tear whenever necessary.
 - b) The contractor shall arrange to direct the maintenance personnel to attend the multi level car parking immediately after break down. The contractors shall give priority in their service, repair and manufacturing facilities to restore the equipments to normal service.
 - c) The successful contractor shall attend the breakdown calls & carry out the minor repairs immediately & put the unit in perfect working condition. The breakdown period shall not be more than 24 hrs for minor repair work & 72 hrs for major repair work. Otherwise, a penalty of Rs.5000/- per day will be recovered.
 - d) The CONTRACTOR shall maintain a complaint register, duly paged, at site and shall make it available to the users of the parking to note down the complaints. The complaint register will be kept properly and it shall be mentioned on the signboard about its availability.
 - i) Stock of standard consumable spares will be maintained at site by Contractor. The consumption of major spares will be recorded immediately.
 - j) The system shall be checked for its proper functioning. Any defects, if found shall be rectified within the stipulated time. All defective spares shall be repaired /replaced as and where required during the contract.
 - k) The contractor / firm has to arrange a technically qualified liaisoning officer in respect of day to day servicing and maintenance of car parking system, who will keep regular contact with office of ATC wing of Office of Dy.Ch.E (Traffic). and attend to the defects informed to him immediately. He shall give feedback to BMC after complying with the rectification/repairs.

- l) The CONTRACTOR should carry out the maintenance works in such a way as to minimize inconvenience to users of the car Parking Systems.
- m) No equipments, manpower, tools etc, will be provided by M.C.G.M, during the course of servicing contract.
- n) The bidder as well as OEM has to submit the Performance Guarantee (PG) of Rs 25 Lacs Each for successful Operation and Maintenance period of 5 Years and Comprehensive Annual Servicing and maintenance of system for period of 20 yeats after record date of completion of Parking System. Same shall be paid within one month from the date of issue of Letter of Acceptance.
If the P.G to be paid above is not paid within one month from the date of issue of Letter of Acceptance, the Tender / Contractor already accepted shall be considered as cancelled and legal steps be taken against the contractor for recovery of the amount.

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 to be adjusted against the Bank Guarantee towards the cost incurred by the Department on rectification work and Further Necessary action as deem fit will be taken.

Section 20
SCHEDULE OF STAGE
PAYMENTS

**PAYMENT – SCHEDULE FOR ORIGINAL WORK
FOR PART ‘A’ OF FINANCIAL QUOTE**

Sr.No	Activity	Break up of Payable(%)	Total Payable (%) of quoted amount
A	Investigation, planning, Designing and obtaining permission from competent authorities of BMC etc. for entire scope of work (1% of Total Quoted Amount for all items)	-	1.00%
	1) On approval of inception report, Geo-technical investigation and preparation of preliminary Drawings etc.	0.10%	
	2)On approval of structural design by Engineer-in-charge aftr vetted by IIT or VJTI or SPCE institutes	0.30%	
	3)On preparation of drawings of parking system along with detail technical data and all drawings of services like firefighting, fire alarm, electrical installations, CC cameras etc. and building façade drawings and the same shall be vetted by IIT or VJTI or SPCE institutes	0.30%	
	4)On completion of entire work as per scope of Tender	0.30%	
B	Completion of Parking system as per scope of work and as per approved plan with structural drawings (99%of Quoted Amount for Item No.1)	-	99.00%
	1) On Completion of Shoring Piles	05%	
	2) On completion of Excavation	05%	
	3) On completion of Foundation work	05%	
	4) RCC work below Basement – 6 levels - On pro rata basis for intermediate payment as per stages of work	24%	
	5) Civil Fininshing work including electriacl work	05%	
	6) Structure work, Façade & Painting - On pro rata basis for intermediate payment as per stages of work.	05%	
	7) Installations of lifts, shuttles, other equipment's of multilevel parking - On pro rata basis for intermediate payment as per stages of work. a) Lift – 5% b) Shuttle – 5% c) Dolly system – 15% d) Other equipement – 5%	30%	

	8)Electrical works, fire fighting, fire alarm, CC camera,intercom etc- On pro rata basis for intermediate payment as per stages of work.	05%	
	9)Testing of system after installation	10%	
	10) On recording completion by the competent authority	05%	

- Note: 1. For intermediate payments on “pro-rata basis” amount shall be worked out on the basis of fraction of work done out of total scope of work under each activity / Item in the table above. The assessment made by Engineer-in-charge shall be final in this regard.
2. All running / intermediate & final payments shall be made to the contractor in accordance with the above schedule.
3. Note: 3) The bidders should note that the payment as per Sr.No. A of payment schedule will only be applicable on successfully submission of approval of plan for proposed Parking Tower from competent authority by obtaining requisite NOC's from the various agencies of state Govt. /Central Govt. /BMC.
4. Note: 4) The bidders shall also note that, without obtaining approval of plan from competent authority as mentioned above, the work mentioned at Sr. No.1,2 & 3 of Sr.No.A of payment schedule shall not carry out any work under any circumstances.

PAYMENT - SCHEDULE FOR OPERATION & MAINTENANCE
FOR PART 'B' OF FINANCIAL QUOTE

Year	Activity	% of total payable quoted for that year	
First	After successful operation & maintenance of work for every 3 months	25 %	
SECOND	After successful operation & maintenance of work for every 3 months	25 %	
THIRD	After successful operation & maintenance of work for every 3 months	25 %	
FOURTH	After successful operation & maintenance of work for every 3 months	25 %	
FIFTH	After successful operation & maintenance of work for every 3 months	25 %	

SECTION 21

SCHEDULE OF FINANCIAL BID

FINANCIAL QUOTE - PART – A

SCHEDULE OF QUANTITIES FOR EPC WORK

Name of work :- Planning, Design, Construction of Underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) and operation and maintenance after completion of same on traffic island opp. Apsara Pen shop at Floor Fountain in A Ward.

Sr.No	Description of Item	Quantity	Units	Rate in Rs.		Amount in Rs
				In Figure	In Words	
1	Designing ,Fabrications, Assembling, Installations and Testing & Commissioning of automatic shuttle type multilevel electro mechanical parking system including construction of building structure and foundation and complete with all equipments, accessories, control systems, programmable logic controller, electrical works, fire fighting, smoke management, fire alarm, CC cameras, intercom system etc. as required and including supplying and installation of external façade complete as per scope and specifications given in this document and directions of Engineer-in-Charge. (including Annual servicing & Maintenance of Parking System for 20 years after record date of completion)	200	Per car space			
	TOTAL					

Note : if car spaces are reduce due to planning constraint or site condition proportionate payment as per quoted amount will be made to successful bidder .

FINANCIAL QUOTE - PART- B

SCHEDULE OF QUANTITIES FOR OPERATION & MAINTENANCE

Name of work:- Planning, Design, Construction of Underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) and operation and maintenance after completion of same on traffic island opp. Apsara Pen shop at Floor Fountain in A Ward.

Sr.No	Description of Item	Quantity	Units	Rate in Rs.		Amount in Rs
				In Figure	In Words	
1	Providing services for the operation and house keeping of automatic shuttle type multilevel electro mechanical car parking system engaging skilled Car parking operators, Parking Assistants and House keepers in 3 shifts a day on all working days of the month complete with general up keeping, watch and ward of the system etc. complete as per scope & conditions given in this document (Section 18) and direction of Engineer-in-Charge (200 car spaces)					
	FIRST YEAR	1	PER YEAR			
	SECOND YEAR	1	PER YEAR			
	THIRD YEAR	1	PER YEAR			
	FOURTH YEAR	1	PER YEAR			
	FIFTH YEAR	1	PER YEAR			
	TOTAL					

Note : if car spaces are reduce due to planning constraint or site condition proportionate payment of quoted amount will be made to successful bidder .

Financial Quote

ABSTRACT

Name of Work : :- Planning, Design, Construction of Underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) and operation and maintenance after completion of same on traffic island opp. Apsara Pen shop at Floor Fountain in A Ward.

Schedule	Work	Total Quoted Amount for Respective Schedule (Rs.)
A	Planning, Design, Construction after completion of Underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) SH : Original Work	
B	Planning, Design, Construction after completion of Underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) SH : Operation & maintenance work for 5 YEARS after completion of construction work.	
TOTAL QUOTED AMOUNT		

Note : The tenderer should be quote rate in C packet inclusive of all Taxes.

Financial Bid Form

Sub:Planning, Design, Construction of Underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) and operation and maintenance after completion of same on traffic island opp. Apsara Pen shop at Floor Fountain in A Ward.

Due Date of e-Tender: As on cover page.

Sr. No.	Brief description and office estimate
1.	Planning, Design, Construction of Underground Multilevel Electro Mechanical Car Parking System in Five levels (Shuttle and Dolly System) on EPC Basis including Comprehensive Annual servicing and maintenance of Parking System for period of 20 years from date of Completion and operation(Part A of Financial Bid) and maintenance of same by deploying manpower for the period of five years from completion (part B of Financial Bid) Total car parking spaces : 200 nos

I/We have received, read and am/are agreeable to the content of page no. 01 to page no. 270 including scope of work, qualification, Experience, financial Criteria etc in bid documents. We have considered the contents of the documents contained in the above mentioned pages and into thereof, I/We have signed the documents.

Name and Title of Signatory:

Name of Tenderer(s):

Address:

E-Mail Address of the firm:

Telephone numbers:

**Digital Signature of Tenderer(s)
Trading under the Name and style of**

(A separate sheet must be filled, scanned and uploaded in packet B along with e-tendering)