

BRIHANMUMBAI MUNICIPAL CORPORATION

Department of Chief Engineer (Roads &Traffic)



Request for Proposal (RFP) for appointment of AI/ML Based Fully automated Service Based IT Platform and Solution for Road assessment and Inventory management as per IRC 67/77/2001 and Road Digitization Agency for a period of three years (including two years annual maintenance contract) for carrying out Road Digitization and Quality Data Collection of all BMC roads.

Sd/-

Ch.E.(Rds. & Tr.)

Sd/-

Dy.Ch.E.(Rds.)Plg.

Sd/-

E. E.(Rds.)Plg.(E.S.)

Sd/-

A.E.(Rds.)Plg.(E.S.)

Sd/-

S.E.(Rds.)Plg.(E.S.)

Sd/-

S.E.(Rds.)Plg.(E.S.)

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SECTION – 1
E-Tender Notice

BRIHANMUMBAI MUNICIPAL CORPORATION
Chief Engineer (Rds. & Tr.)

No. Dy.Ch E/ / Rds. / Plg. Date

E-TENDER NOTICE

Subject: Request for Proposal (RFP) for appointment of AI/ML Based Fully automated Service Based IT Platform and Solution for Road assessment and Inventory management as per IRC 67/77/2001 and Road Digitization Agency for a period of three years (including two years annual maintenance contract) for carrying out Road Digitization and Quality Data Collection of all BMC roads.

In order to mitigate road accidents in the country which requires immediate attention and remedial action, Hon'ble Supreme Court constituted the Road Safety Committee under the Chairmanship of retired Judge Shri.Radhakrishnan. The said Committee has appointed Delhi Integrated Multi-Modal Transit System Ltd. (DIMTS) for conducting scientific studies and suggestion of the remedial measure. With this objective, the Committee interacted with various Central & State Ministry and issued the directions to improve the Road Safety in India. The Committee issued directives to prepare road safety plan and related activities as well as it reviews the action taken by the State Government. Intro a road Digitalization system providing near-real-time view of road riding quality and traffic un-safe spots in the city is essential for prompt action on reported issues to take preventive actions. In view of this, for effective & speedy implementation of road safety and road quality monitoring related activities in BMC, it is decided by the BRIHANMUMBAI MUNICIPAL CORPORATION (BMC) to invite 'Request for Proposal (RFP)' for appointment of AI/ML Based Fully automated Service Based IT Platform and Solution for Road assessment and Inventory management as per IRC 67/77/2001 and Road Digitization Agency for a period of three years (including two years annual maintenance contract) including monsoon for carrying out Road Digitization and Quality Data Collection of all BMC roads for three years including 2 years AMC period, the system Needs high resolution Imagery on online web platform Resolution Imagery with Utilities team management Mobile Application based With after work Reporting system for BMC Road Network. The AI/ML based data Collection and Detail analysis of work Service provider is required to prepare a comprehensive road quality and real time road monitoring system along with various channels to collect and analyze road data without any human intervention throughout BMC and provide road quality reports, based on the recommendation of road safety/ road monitoring/road maintenance guidelines of IRC & MoRTH like IRC 67/1977,IRC SP 19/2001,IRC 82/2015, MoRTH Circular -RW / NH-33044/ 32/2019-S&R (P&B) or any other guidelines of Ministry of

Urban development, Government of India to identify road safety aspect of roads categorized into different levels of severity indicators displaying priority of maintenance patches, in all the zones in co-ordination/Service provider with the concerned Central Agency offices i.e. Office of Dy. Chief Engineer of Road (City / Western / Eastern) & Dy. Chief Engineer (Traffic & co-ordination) & other concerned departments of BMC, police department, RTO Mumbai.

The Firm also has to provide necessary software and Licenses, system to collect live road condition data from moving independent vehicles running on BMC roads along with a channel of communication and data input only comes thru that Dedicated vehicles for only to provide construction alerts. The Bidders shall also consider the benefits of implementing a data repository of time-sensitive data parameters such as road Inventory with Tentative Dimension/ Visibility of Assets With Count / Bad Condition Or Hazards alerts to appear instantly on the online Digital road dashboard such as how it can potentially reduce the overall time cost of retrieving important official records and keeping a track of non DLP period sections and assets for timely improvement of road safety. By Implementation Of Digital AI/ML Based Software Systems and apps for the community, vulnerable road users, authorized road contractors, BMC staff finding safe way to Auto capture and upload high priority road distress Data with locations and High-definition Imagery to improve overall road safety on BMC roads within the framework of the project.

Road Digitalization firm is required to prepare a comprehensive road quality and real time road monitoring system along with various channels to collect and analyze road data throughout BMC and provide road quality reports, based on the recommendation of road safety guidelines of IRC & MoRTH and guidelines of Ministry of Urban Development, Government of India IRC SP 16-2019. To identify roughness index of roads categorized into 3 levels of severity indicators displaying priority of maintenance patches, in all the three zones in co-ordination/consultation with the concerned Central Agency offices i.e. Office of Dy. Chief Engineer of Road (City / Western / Eastern) & Dy. Chief Engineer (Traffic) & other concerned departments of BMC, police department, RTO Mumbai. The Road Digitalization firm also has to provide necessary software and hardware equipment's based system to collect live road condition data from moving independent vehicles running on BMC roads along with a channel of communication and data input from authorized contractors to provide construction alerts. The Bidders shall also consider the benefits of implementing a data repository of time-sensitive data parameters such as road asset / contract alerts to appear instantly on the centralized digital road dashboard such as how it can potentially reduce the overall time cost of retrieving important official records and keeping a track of non DLP period sections and assets for timely improvement of road safety, by developing custom software programs and apps for the community, vulnerable road users, authorized road contractors, BMC staff finding safe way for

citizens to capture and upload high priority road distress locations to improve overall road safety on BMC roads within the framework of the project.

Digitally signed and online tenders are invited by BMC from experienced firms who have provided road roughness measurement and Digitalization services to National / International Government / Semi - Government / Public Sector Undertakings (excluding those who are blacklisted or against whom FIR has been filed). All interested bidders, whether already registered or not registered in BMC, are mandated to get registered with BMC for e-tendering process & obtain login Credentials to participate in the online bidding process.

The details of the same are available on BMC portal (portal.mcgm.gov.in) under “e-procurement tab”.

For e-Tendering registration, enrollment for digital signature certificates and user manual, please refer to respective links provided in ‘Tenders’ tab. Bidders 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 of work	Appointment Period	EMD in Rupees	E-Tender Price Rs.
Request for Proposal (RFP) for appointment of AI/ML Based Fully automated Service Based IT Platform and Solution for Road assessment and Inventory management as per IRC 67/77/2001 and Road Digitization Agency for a period of three years (including two years annual maintenance contract) for carrying out Road Digitization and Quality Data Collection of all BMC roads.	Three years (including AMC) including Monsoon from the date of issue of LoA.	Rs. 27,44,823/-	Rs.10400/- + GST

The tender for Digitalization Road work will be invited on percentage basis in three packet type. The technical and financial bids duly filled in should be uploaded & submitted online up to the Bid End date & time mentioned in the Header Data. If there are any changes in the dates, same will be displayed on the BMC's portal as a corrigendum.

The Packet ‘A/B’(Two packet) i.e. Technical-Bid of the bidders will be opened as per the time-table shown in the Header Data in the office of Dy.Ch.E.(Roads) Planning and Packet ‘C’ i.e. Financial-Bid will be opened in the office of Dy.Ch.E.(Roads) Planning, as per the time-table shown in the Header Data at pg. no.8

Pre bid meeting will be held in the office of Chief.Eng.(Roads & Traffic) as per the schedule shown in the header data at pg. no.8. If there are any changes in the dates, time and venue for Pre-bid meeting the same will be displayed on BMC portal.

The bidder shall have to pay the “Tender Fee” as mentioned in the above table through online payment gateway before downloading the tender documents.

The bidders are requested to note the following:

- 1) This is a Percentage rate basis tender, for which SGCC 2016 as well as and usual / approved terms & conditions of SBD are adopted wherever applicable.
- 2) **The appointment period including AMC is Three (03) years (including Monsoon), from the date of issue of Letter of Acceptance (LOA).**
- 3) Bidders should have their office in Mumbai with phone, fax & email facilities. Bidders having their base outside Maharashtra shall submit an undertaking in Packet 'A/B'(Two packet) to the effect that, if awarded, they will establish office with telephone in Mumbai for any official communication within a period of 15 days of intimation, and maintain it till appointment period is over.
- 4) This is Two (2) packets tender, hence packet 'A/B' will be considered as 'ONE' packet for “Technical Bid” and packet 'C' will be considered as “Financial Bid”.
- 5) Bidders are required to pay the above EMD through online gateway of BRIHANMUMBAI MUNICIPAL CORPORATION, on or before the end date & time of submission of tender, failing which, the bids shall be treated as non-responsive and any sort of the submissions of such Bidder shall not be considered.
- 6) In case any difficulties faced while uploading data by the bidder in online process, bidder can contact on following Email id and telephone no.
IT help desk no. – 022-24811275
Email id– etendering.it@mcgm.gov.in
- 7) This bid document is not transferable.
- 8) **Joint venture is allowed .**
- 9) **Subletting of work not allowed.**
- 10) The BMC reserves the rights to accept any of the bid or reject any or all the bids received for the subject mentioned work without assigning any reason thereof.

Deputy Chief Engineer (Roads) Planning

HEADER DATA

Tender Document Number	7200036347
Name of Organization	BRIHANMUMBAI MUNICIPAL CORPORATION
Subject	Appointment of AI/ML Based Fully automated Service Based IT Platform and Solution for Road assessment and Inventory management as per IRC 67/77/2001 and Road Digitization Agency for a period of three years (including two years annual maintenance contract) for carrying out Road Digitization and Quality Data Collection of all BMC roads.
Bid Document fee	Rs. 10400/- + Applicable GST as per latest circular.
Estimated Cost	Rs. 27,44,82,258/-
Earnest Money Deposit / EMD	Rs. 27,44,823/-
Date of issue of Bid Document (Start Date)	20.09.2022 to 11:00 AM
Pre-Bid Meeting	On 23.09.2022 to 11:00 AM Ch.E. (Roads & Tr.), Zero Level, Worli Engg. Hub, E.Moses Road, Worli, Mumbai-400018.
End date & time for sale of Bid Document	10.10.2022 Up to 12:00 Hrs
Last date and time of submission of bid (21 days)	10.10.2022 Up to 15:00 Hrs
Online Opening of Packet A & B	10.10.2022 time 16:00 Hrs onwards
Online Opening of Packet C	19.10.2022 after 16:00 Hrs
Address for communication	email – dyche.rdplg@mcgm.gov.in
Venue for opening of bid	Office of: Dy. Chief Engr.(Roads) plg, 5 th Floor, Pantnagar Garage Building, Behind Pantnagar Bus Depot, Ghatkopar (E), Mumbai -400 075.

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/-
Deputy Chief Engineer (Roads) Planning

SECTION – 2
Scope of work

2. Scope of work

2.1 General

With the rapid urbanization and increase in vehicular population, the city roads are carrying heavy load of traffic. On the other hand, India is the second largest road network in the world, with many of its city roads requiring regular maintenance. Mumbai is situated in coastal region and having high traffic intensity on city roads which affects riding quality of roads adversely. This causes frequent road maintenance work on roads with heavy traffic creating challenges for timely execution of work and traffic management leading to compromise on traffic safety. In general, the constant road quality monitoring is essential which has received less importance; particularly roughness index assessment of intra city roads as per Indian Road Congress guidelines is almost neglected. BMC believes that by conducting Digitalization of Road condition and asset data will bring up probable conceptual measures to prevent accidents and will ensure safety of Vulnerable Road Users (VRU). Hence the scope of this RFP is to build a comprehensive road quality data collection, update and prioritization system. BMC is a Planning Authority for Mumbai & the Road department carries out the improvement of existing roads in frequently through contractual agency. At present scientific roughness index reports are not available with BMC to carry out the Road quality audit. Road surface quality is an important measure to minimize the fatalities and road crash. Hence, BMC has envisaged appointing Road Digitalization contractor to take up the required task of coordinating with all the concerned agencies and to carry out development of a live road quality dashboard system along with real time data collection through various channels of all major BMC roads **as per the guidelines of Indian Road Congress publication IRC SP 16 2019.**

Mumbai situated in costal region and being metropolitan city traffic intensity is very high. Now as the rapid urbanization and increase in vehicular population, the city roads are carrying heavy load of traffic. On the other hand, India is the second largest road network in the world, with many of its city roads requiring regular maintenance. This causes frequent road maintenance work on roads with heavy traffic creating challenges for timely execution of work and traffic management leading to compromise on traffic safety. In general, the constant road quality monitoring is

essential but has received less importance; of intra city roads as per guidelines is almost neglected. BMC believes that by conducting Road Condition Monitoring Survey Frequently with AI/ML which will help to identify Road condition and Inventory condition data will bring up probable conceptual measures to prevent accidents and will ensure safety of Vulnerable Road Users (VRU). Hence the scope of this RFP is to build a comprehensive road Surface quality data collection, update and prioritization Mechanisms. BMC is a Planning Authority for Mumbai & the Road department carries out the improvement and maintenance of existing roads in every financial year through contractual agency. At present we are Collect all scientific data like roughness index reports Frequently thru contractor but that data is not digital with BMC to carry out the Road quality audit. Road surface quality is an important measure to minimize the fatalities and road crash. Hence, BMC has envisaged appointing AI/ML Based Fully automated Road Digitization Service Based IT Platform and Solution for Road assessment and Inventory management system Provider to take up the required task of coordinating with all the concerned agencies and to carry out development of a Web based online road quality dashboard system along with data collection through Automated Dedicated AI/ML Based Technology of all major BMC roads, as per the guidelines of Indian Road Congress publication IRC 67/1977, IRC SP 19/2001, IRC 82/2015. And MoRTH Circular -RW / NH-33044/ 32/2019-S&R (P&B).

Quality Audit methodology for existing roads includes both Operation and Maintenance (O & M). The existing roads represent the present condition of the road after completion of construction as well as any hazardous conditions that may have been created during its lifetime such as potholes, cracks or other deterioration of road conditions etc. Brief guidelines for Road quality audit and Digitalization are as follows:

- a) Assessment of Urban Road quality Scenario in respect of Municipal roads assigned for road audit, development of necessary software and hardware component compliant with latest Indian road congress guidelines in consultation with BMC authorities.
- b) The Service provider shall follow typical urban road quality audit check list, process and tools as guidance provided by Indian Road Congress
- c) The Service provider shall make their own arrangements for inspection of the sites/ roads assigned for road quality data collection.

- d) The Service provider shall carry out the work by well qualified road experts and engineers having experience of such type of work and shall submit report along with details of all engineers who were involved in the inspection of roads
- e) For existing pavements, carriageway and paved shoulders, Service provider shall examine things like effect of potholes, cracking, rutting, skidding, shoving, raveling, damage to pavement, edge drop at shoulders etc
- f) The Service provider shall prepare general analytics on the digitized road dashboard for checking quality of maintenance and historical records of roads.
- g) The Service provider shall follow guidelines of Government of India, IRC SP 16-2019, MoRTH for assessing values of roughness index
- h) The Service provider shall conduct Training and awareness programs for BMC team.
- i) Service provider shall own the responsibility of deployment of the necessary software and hardware components required for data collection.
- j) The Service provider shall Co-ordinate with the Police Department/ Traffic Police department to establish the road quality data collection survey schedule, system so as to record current data and reconcile historical road quality data
- k) The Service provider shall furnish a detailed printed report and video report with interactive video players, geo-tagged to the location of road chainage to the authority for offline viewing and analysis.

The digital database for roads under the scope should include roughness index values, public riding quality indicators, contractor work events, data gathered from crowd-sourced mechanism, digital versions of important road related documents, important reminders and dates, engineer, ward, project assignments in a simple interactive map-based visual collection format. The Service provider developed solution must work across all types of movements of vehicles, different road widths and lane numbers, various traffic, light and weather situations and environmental problems.

Details and Benefits of the assignment:

2.1 (A) Creating base map of about 5581 km road lanes

How will this benefit to citizens and BMC

Mumbai is one of largest municipal corporation in the world with a road network of more than 2050 kilometers, serving a variety of people and businesses. After monsoon season, some of the roads need maintenance and its important for the administration to take a complete stock of the situation, perform detailed assessment of all the roads, find out their riding quality, maintenance patches, prioritize the

important work items and release the work orders as soon as possible to keep the commuters safe and healthy. Creating a detailed base map of roughness index (riding quality index) of all roads in Mumbai will help corporation to take quick action on pothole-Prone and Bad patches which can be fixed as soon as possible. This will help the citizens of BMC with better riding quality roads. Following process is executed two times a year, pre-monsoon and post monsoon to create fresh base maps with latest riding quality indicators and updates road name/ward/engineer assignments. Calibrated the vehicles and sensors for measurement of roughness index.

Detailed scope of work

Necessary number of vehicles are identified which are needed to survey budgeted roads in Mumbai (5581 lane kilometers). The vehicles are fitted with accelerometer-based sensors to capture vehicle vibrations and calculate roughness index values (refer technical specification). The software version used should be which is tested and certified for self-calibration by a competent engineering body in Maharashtra. The fitted vehicles shall be calibrated and tested for roughness index internally first before moving on the field. The vehicle is run on a test patch 3 times to get necessary calibration data needed by software AI and ML models. The 3 runs data is analyzed by software (IoT and Mobile apps) to calculate calibration table automatically. The calibration should expire when the vehicle goes through major repairs or within one week of driving time. The calibration is now saved on the device and available for measurement of roughness index values. Roughness index for all roads is calculated and geo-tagged. The survey vehicle is bough to the start point of the road as per official records and location. No SIM card is inserted into the devices. The software is started to record roughness index as the vehicle moves

If the vehicle had been running for more than a week or had recent major repairs, the software is re-calibrated for given vehicle. Necessary road information such as chainage, contractor name, engineer name is entered in the app. Ward wise numbering for a new road number is generated if a numbering system is not followed yet.

The vehicle will ply from start point of the road to end point of the road with constant speed in given lane. The vehicle should go through the potholes/bad patches and not to avoid it. Importance will be given to standard wheelpath of the given road as per its width by design. The vehicle will be driven in any weather condition, no need to clean the road before survey. The vehicle does not apply brakes, sudden jerks or honks the horn or anything which might cause excessive vibrations in the car.

The software system automatically calculates chainage markers, geo-tag them and add in data base. When the survey is done from start point to end point, the results are directly uploaded to cloud based server without any manual intervention or edits.

The software is not rest to record new road / lane for roughness index. All the assets on given roads are geo-tagged. When the roughness index survey is initiated and started, a bar-code is displayed on the sensor hardware which needs to be time-stamped for right coordination between roughness readings and asset locations. No SIM card is needed into devices. The asset data collection app now shows list of fixed assets which can be documented and geo-tagged in a user-friendly list form of buttons. The assets on the roads to be geo-tagged are Bridges and Speed breakers only, as they may have impact on roughness index readings. A field engineer is sitting in the survey vehicle visually observes the assets and keys in right button on the data recording mobile app to record the asset for given chainage. The total approximately 5581 road lane kilometers will be surveyed twice a year, once before monsoon and secondly after the monsoon. The mobile app should allow user to cancel any entered wrong entries to avoid mis-documentation. Any recorded asset is immediately co-related to GPS readings and existing running chainage marker and recorded in local database of the mobile phone used for surveys. Field engineer stops the trip of the asset recording as soon as roughness trip is stopped. The data is now saved on local database and does not need Internet unless until synchronization point. When the trips are recorded successfully, the field engineer now uploads the data to enterprise server. The enterprise server receives the data in electronic form without any manual intervention and stores it in the digital road record for further analysis. Videography is taken for all roads under Digitalization. When the roughness index survey is initiated and started, a bar-code is displayed on the sensor hardware which needs to be time-stamped for right coordination between roughness readings and video locations.

The videography camera now shows key trip details and is ready to store a complete video with atleast 8 fps frame rate for post analysis. The video field is wide enough to capture complete lane of the road under survey and should support recording in various light conditions. A field engineer is sitting in the survey vehicle mounts the videography camera and related equipment on the front glass of the car to have view without obstruction. The video app continuously records video in HD mode and the video is immediately saved run-time on the disk of the device to avoid loss of data in case of software crashes. The recorded video is immediately co-related to GPS readings and existing running chainage marker and recorded in local database of the mobile phone or device used for surveys. Field engineer stops the trip of the

videography recording as soon as roughness trip is stopped. Now the video data is synchronized with roughness index and asset locations and such assets are now highlighted on the video. The data is now saved on local database and does not need Internet unless until synchronization point. When the trips are recorded successfully, the field engineer now uploads the data to suitable digital storage, linked with enterprise portal system

The enterprise server receives the data in electronic form without any manual intervention and stores it in the digital road record for further analysis.

2.1 (B) IoT devices to collect data real-time:

How will this benefit to citizens and BMC

The official road condition reports are costly and cannot be recorded every day because they need lot of engineering precision quality data to be recorded. Thus, to fill the gap between two base map creation events, and to get the real feel of riding quality from the ground, its important to build a continuous data acquisition method to record riding quality 'real-time'. This data gives a latest representation of citizen concerns and priority. With help of this data and related visualization, BMC officials can quickly identify most important, critical and highest priority issues as faced by daily commuters.

Detailed scope

About 100 vehicles are to be selected in consultation with BMC officials where the vehicles are 4 wheeler passenger cars, manufactured within last 5 years and operating in a good mechanical condition, with an OBD port available to plug in the car. These vehicles may belong to the fleet of vehicles BMC and its officials own and possibly from private sector fleet operators operating in the jurisdiction of Mumbai. If required, BMC will help arrange a meeting between Firm and leading fleet operators in the city to encourage them to participate them in this survey process. MoU is entered between Firm, the fleet operators and with BMC to put IoT devices into fleet operators cars and collect real-time data. Devices is installed on assigned cars. Team installs up to 100 devices in the designated BMC not below the rank of Executive Engineer cars recommended by fleet operators. The installation team creates a base at a centrally located place in Mumbai. The designated cars visit the base for installation process. The installation team installs the device in designated car, tests it and calibrates for given cars current condition. The device is powered through included battery or vehicle fuse box or through OBD or USB ports available in the device. The device is always powered ON when the vehicle is driving. Data is collected every day from the assigned cars. The cars are running on the field and device keep

on collecting data everytime when car goes through a major bump. The devices can sustain multiple restarts and start automatically while recovering from a power loss. The devices are fitted with their own sim cards so to transmit data to enterprise server every night or whenever they get internet connection, whatever is earlier. The data is deleted from the device once uploaded to server however a back up will be preserved on war room designated servers. The device should not need internet connection to process the vehicle data and to identify potholes. Repairs and maintenance of the devices is done by the appointed agency. The devices are supported by the support team for major issues such as software crash or operating system upgrades

When a device is failed beyond recovery it is replaced with a new device at a price of appointed agency, If a device is stolen from the car the same will be replace at the coast of appointed agency till the submission of final bill of the first year, limited to up to 30 devices a year. Data is integrated back into enterprise portal. The devices continuously collect road condition data when the car is on run for the period of tender contract. The data is saved on the devices locally unless next time internet connectivity is obtained. The data is uploaded to enterprise server system for further processing and reporting. Once uploaded the data is deleted from the device. All of the above actions should be automatic and should not need manual intervention by the car driver.

2.1 (C) Contractor app for real-time updates:

How will this benefit to citizens and BMC

BMC has hundreds of enlisted contractors who are doing road construction and maintenance on regular basis. Currently there is no way BMC officials can be notified instantly when certain work is started, in progress or done. This creates a big challenge for road authorities to manage traffic safety with highest efficiency. Creating a instant communication mechanism between road contractors and BMC will help bridge this communication gap and the officials can take their decisions instantly based on available real-time data. When certain roads are given on defect liability period contracts, it's the contractors responsibility to maintain the road quality for stipulated time. Currently lot of cost and time is involved in monitoring these activities from BMC side. The Contractor bridges this gap and saves money and time in monitoring, approval and grievance addressal process, providing world class service to BMC citizens

Detailed Scope of work

An app (Android and iOS) is developed for Contractors to use. A customized communication software will be developed for BMC contractors. The software will have enterprise access control system so contractors responsible for single or multiple roads can see only their roads on the app. The app shows all the assigned roads in textual and map format with high priority maintenance locations coming from war room. Thus BMC can monitor all important contractor activity from the war room and address any risks around traffic management, work management and disaster management. The App is available on private servers for download by authentic contractors. The App is either published on playstore/apple store or is available for download by authorized parties on a separate server hosted in India or is installed manually by firm team on the approved contractors phone. Contractors using any Android and iOS phone can easily download and install the app. Contractors are given separate user name password to login and see their own roads on the app. The App is provided to BMC contractors free of cost.

The app is actively promoted to BMC contractors by providing them online or in-person introductions, training sessions, and keeping necessary information in the war room as well. A meeting is conducted between BMC and all road contractors during launch time where the app is explained in detail and provided for free to all BMC contractors. The App will collect highest priority data from contractor work.

Contractors log in onto the app to access digital records of the roads they are working on. The road records are marked with proper GPS coordinates and chainages as well as assets. The road records also show important citizen-provided issues in separate colour/layer. The Contractor starts the app, and provides update on a road. Open the app and log in using user name password, Select the road you want to update, Provide an update for the road, and take a photo to report an event to BMC. The update may include, Pothole identified, Pothole fixed, Work in progress, Traffic blocked, Traffic released. The app electronically transmits the update and the photo to war room Backoffice executive. The Backoffice staff validates the update using photo provided and approves or rejects the request. The updated information about the road is now displayed on central enterprise portal on the roads digital records. The App is maintained through multiple releases of the software. The Firm technical team keeps a watch on user complaints, if any, through the play store comments section and provides necessary bug fixes. Any new releases of Android operating system are promptly supported within reasonable time of release date by Google. Paid support to be available for contractors who need it.

After initial free training, some contractors may need additional support or installation of the app on more than one phones to distribute it to their staff. In such a case, customized training can be provided to contractor staff at their own office, which will be chargeable with nominal amount. If the app produces certain bugs in defined functionality, the bugs are reported to Backoffice technical team and resolved as soon as possible.

Comprehensive audit of application including security audit by CERT empaneled agency is required to be done within first year of operations of the application.

2.1 (D) Enterprise portal to be used in war room:

How will this benefit to citizens and BMC

Having a full digital representation of the entire road network of BMC roads in the office is going to save tremendous cost and time of the authorities, usually required to do costly onsite surveys, road blocks, and communication. The information which was hidden in files is now digitized and available at a single click of a button, enabling quick decisions, crores of rupees of savings to BMC, which also means more number of roads are fixed in less time and less money, bringing overall best road infrastructure to BMC an its citizens

Scope of work

A portal is developed to show digitized roads on Maps. A enterprise portal software is designed to store, display and provide analysis for digitized roads in a RIS road information system format. The software is installed on cloud servers in India for fast and secure access. The portal is accessible to only BMC employees and war room technicians. A large screen TV display is installed at BMC preferred and allotted location / office room to continuously display the digital road data being collected. A Back office executive (person) is provided to BMC for one year (the tenure of the contract) to provide operations support during office hours of BMC

The data collected by base-map creation activity is uploaded automatically onto the warm room portal. The data is transmitted through secured internet channel from base mapping mobile devices to the enterprise cloud server system. The data is then scrutinized for errors and discrepancy by the Backoffice user and approved or rejected. The approved road digital data is immediately displayed on a freely accessible map on the large screen TV in war room. The data from citizens app is uploaded to warm room / enterprise portal. The data from free citizens Android app is directly transmitted to the enterprise portal. The data is not scrutinized and is mixed with previous user reported data to calculate potential authenticity of the data reports.

The server system identifies potential 'high priority' bumps from the user uploaded data and creates pins on the map to show the user reported events. The data from Contractors app is uploaded to warm room / enterprise portal. The data from contractors Android app is transmitted to the enterprise portal and ends up in Backoffice executives email app for further scrutiny. The backoffice user validates the provided data and photo reports and approves or rejects necessary updates to the base map. The data includes, but not limited to events and road conditions like pothole identified, work in progress, traffic blocked, pothole fixed and road opened for public access. Engineering details are added on the digital roads. The Backoffice user provides necessary man hours to help BMC engineers to add the engineering details on the digital road records. The Backoffice user is provided by BMC detailed list of roads and other details. The Backoffice user logs in to the system and searches for every road. He/she adds the necessary road details through keyboard input onto the map itself. The inputted road details are now available for BMC staff to view through a single click on the map itself. The road details include road name, numbering as per proposed new numbering system, contractor name (latest). DLP and contract expiry reminders is set on the digital roads. The Backoffice user provides necessary man hours to help BMC engineers to add the reminder details on the digital road records.

The Back-office user is provided by BMC detailed list of roads DLP contracts and other details. The Back-office user logs in to the system and searches for related road. He/she adds the necessary road reminders through keyboard input onto the map itself. The inputted road reminders are now available for BMC staff to view through a single click on the map itself. The reminders set include DLP expiry date (where applicable) last audit date (where applicable). Whenever one of the above mentioned reminders goes off (expires), the enterprise portal automatically shows the road name in red with a warning sign to inform the BMC staff for a potential action to be taken as soon as possible. Visualization tools for Real-time data from IoT devices and Apps is built. A visualization tool is developed to collect, analyse and display important road events automatically captured through IoT and Mobile devices mounted on fleet car operators (e.g. taxi services). The data is transmitted by devices mounted permanently on fleet operators cars every night or whenever internet connectivity is acquired, whatever is earlier. The server software understands the data and extracts high priority road condition issues from the data which is then transmitted to enterprise server wirelessly in a secured fashion without any user intervention. The high priority issues captured by car devices are then converted into pins and displayed on the map for a limited time. The data is continuously captured 24 hrs a day, 365

days a year whenever the car is moving on roads under BMC jurisdiction. The events captured by cars expires automatically after 7 days so to always display latest and current information about the roads. Historical analysis is performed on the roads digitized. The Backoffice user receives an request to perform historical analysis of a road for any administrative issue.

The Backoffice user logs into the server software installed at war room and selects a road to analyze. The system allows selection of timeframe for a before-after analysis. The system now displays a before-after analysis on two side by side maps visually, showing any improvement or degradation of the riding quality on the road under observation.

2.1 (E) AI/ML Based Fully automated Service Based IT Platform and Solution for Road assessment and Inventory management as per IRC 67/77/2001

- Creating map of about 4100 kms road lanes including roads under other planning authorities e.g., PWD, MHADA, MMRDA, MBPT, Airport Authority etc. within BMC jurisdiction. All 64+ Types Road Inventory are recorded using AI/ML based solution using computer vision, including water entrance, Trees, Street Lights bridge, Manhole, Water Entrance, Speed breaker, Trees, Electric fiddler pillar, traffic Signal, Street Lights, unauthorized flex, Horizontal/vertical Cracks, Revealing Spots, work estimation amounts, effect of potholes, cracking, skidding, shoving, raveling, damage to pavement, edge drop at shoulders, Footpath condition/ occupancy and roads tentative width, data of Revealing, Horizontal cracks, vertical cracks, patches, pothole as per size Specification etc. on given roads are to be geo-tagged With Exact Count, detail count of each and every pothole, cracks, Patches with all the inventory data as per IRC-67:1997, bridges, trees, street lights, Footpath, un-Authorized flex etc. with 100% Automatically through AI/ML.
- Portable Simple Smart phone devices with AI/ML Based Tech Mobile Application to collect data real-time at anytime.
- CSV file exported with geo-tagged unique road inventory with all 64+ Types Road Inventory are recorded using AI/ML based solution using computer vision, (water entrance, Trees, Street Lights bridge, Manhole, Water Entrance, Speed breaker, Trees, Electric fiddler pillar, traffic Signal, Street Lights, unauthorized flex, Horizontal/vertical Cracks, Revealing Spots, work estimation amounts, data of Revealing, Horizontal cracks, vertical cracks, patches,

pothole as per size Specification, detail count of each and every pothole, cracks, Patches with all the inventory data as per IRC-67:1997, bridges, trees, street lights, Footpath, un-Authorized flex etc. with 100% Automatically through AI/ML etc.), identified with BMC road numbers and Lat/Long and Lane to be integrated with war-room

- Offline data storage in war room of all collected data in human readable format
- Videography and High-Imagery Photography for all roads showing all 64+ types of road Inventory (e.g. water entrance, Trees, Street Lights bridge, Manhole, Water Entrance, Speed breaker, Trees, Electric fiddler pillar, traffic Signal, Street Lights, unauthorized flex, Horizontal/vertical Cracks, Releveling Spots, work estimation amounts, effect of potholes, cracking, skidding, shoving, raveling, damage to pavement, edge drop at shoulders, Footpath condition/ occupancy and roads tentative width, detail count of each and every pothole, cracks, Patches with all the inventory data as per IRC-67:1997, bridges, trees, street lights, Footpath, un-Authorized flex etc. with 100% Automatically through AI/ML etc)
- Budget Calculation tool integrated to Enterprise portal to calculate the approximate budget of road maintenance work from war room or any office cabin and exported in CSV file for integration with War room software
- Training to the BMC staff for how to use this technology for road identification and road defect.
- Superimposing Compressive Mobility Plan (CMP) showing missing link prepared by office of Dy.Ch.E. (Traffic & Coordination) with the data geotagged with 12 Type Analysis.
- All Guidelines as per IRC 67/1977, IRC SP 19/2001, IRC 82/2015, MoRTH Circular -RW / NH-33044/ 32/2019-S&R (P&B) are to be followed with Quality Audit methodology for existing roads includes both Operation and Maintenance (O & M). The existing roads represent the present condition of the road after completion of construction as well as any hazardous conditions that may have been created during its lifetime such as potholes, cracks or other deterioration of road conditions etc.
- Deployment of necessary AI/ML/ Tech System software component compliant with latest MoRTH guidelines like **Circular -RW / NH-33044/ 32/2019-S&R (P&B)**. in consultation with BMC authorities.

- The Service provider shall follow typical urban road quality audit check list, process and tools as guidance provided by Indian Road Congress IRC SP:19/2001 or MoRTH or Dy,Ch. Engineer and above level BMC authorities
- The Service provider shall make their own arrangements for inspection of the sites/ roads assigned for road quality data collection. As Per Guidelines or LOI/Work Order
- The Service provider shall carry out the work by well qualified road experts, Pavement expert and engineers having experience of such type of work and shall submit report along with details of all engineers who were involved in the inspection of roads.
- For existing pavements, carriageway and paved shoulders, Footpaths, Service provider shall record and export in CSV format all 64+ types of road Inventory (e.g., water entrance, Trees, Street Lights bridge, Manhole, Water Entrance, Speed breaker, Trees, Electric fiddler pillar, traffic Signal, Street Lights, unauthorized flex, Horizontal/vertical Cracks, Releveling Spots, work estimation amounts, effect of potholes, cracking, skidding, shoving, raveling, damage to pavement, edge drop at shoulders, Footpath condition/ occupancy and roads tentative width, data of Releveling, Horizontal cracks, vertical cracks, patches, pothole as per size Specification, detail count of each and every pothole, cracks, Patches with all the inventory data as per IRC-67:1997, bridges, trees, street lights, Footpath, un-Authorized flex etc. with 100% Automatically through AI/ML etc.)
- Export all data in CSV in format prescribed by war room system for import, and submit to war room software for integration
- The Service provider shall determine locations of road safety alerts and export and include in exported CSV file. No Manual Information feeding application is acceptable.
- The Service provider shall provide general analytic through API (Application Programmers Interface) for checking quality of maintenance and historical records of roads for further improvement work.
- The Service provided software should include guidelines as per Government of India, IRC 67/1977, IRC SP 19/2001, IRC 82/2015, MoRTH Circular -RW / NH-33044/ 32/2019-S&R (P&B), for assessing values for monitoring Road condition
- The Service provider shall conduct Training and awareness programs for BMC Staff.

- Service provider shall own the responsibility of deployment of the necessary System Required components for data collection, export survey data in prescribed CSV format and expose necessary APIs for analytics reports for war room integration.
- The Service provider shall Co-ordinate with the Police Department/ Traffic Police department to establish the road quality data collection, survey schedule, system so as to record current data and reconcile historical road quality data
- The Service provider shall furnish a detailed printed report with online interactive video/ imagery players, which can be embedded in war room portal, geo-tagged to the location of road chainage to the authority for offline viewing and analysis.

2.2 Project timeline and delivery schedule

Item	Road Digitalization	War-room setup	Contractor App Launch	IoT/Mobility devices installation	AI/ML based inventory data
Description	Number of Lane-kilometers digitized Pre-monsoon+Post monsoon	Number of rooms setup	App launched and active on playstore	IoT device installed on target vehicles	Number of kilometers digitized and available through API
Month1	581				1000
Month2	1000	1			1000
Month3	2000	2			2100
Month4	2000	2	1		
Month5				10	
Month6					
Month7				20	
Month8				20	
Month9	581				1000
Month10	1000			25	1000
Month11	2000			25	2100
Month12	2000				

2.3 The Service provider shall be responsible for carrying out Road quality audit and road inventory data collection using AI/ML technics as per the activities under the scope of work and for co-ordination / interaction with the concerned zonal Dy.Ch.E.(Roads) offices/ Dy.Ch.E.(Traffic) Office and other concerned departments of BMC / Govt. departments.

2.4. Assessment of Services

The Service provider shall make their own assessment of key and support personnel to undertake the assignment. Additional staff or personnel if required (eg. For fire, Mechanical safety etc.) to complete the assignment in the prescribed time, must be provided within the total quoted cost only. BMC shall not be responsible for any wrong assessment by the Service provider and shall not in any case bear any additional cost arising there from. The Service provider shall make its own arrangements for office space, equipment, computer hardware / software etc.

2.5 Reporting

The road Digitalization consultancy work of minimum 11162 road lane kilometers for digitalization and 8200 road kilometers for inventory collection shall be done in all respects in total tenure of one year. The Service provider shall submit the requisite reports as specified below:

Sr. No.	Description	Deliverables
1.	Inspection Report & Detailed Work Plan – This report shall provide the Service provider’s initial assessment; finalizing study area / finalizing network length, formulate detailed work plan, Approach and detailed methodology, data collection procedure etc.	Hard copy + 1 soft copy (in DVD / Pen drive) Shall be delivered as required.
2.	Interim road report along with data analysis – Detailed data analysis, roughness index values per road, per lane under study, Interactive video reports for every survey trip geo-tagged and mapped to chaineges, lat-long coordinates of every chainage, survey, analysis, problem identification, checklist etc.	1 Hard copy + 1 soft copy of detailed road condition report uploaded in centralized map-based Digitalization software (installed on servers in India and accessible through war room)
3.	Printed / PDF Road roughness quality Report along with necessary benchmarking as per IRC guidelines	1 Hard copy + 1 soft copy (in DVD / Pen drive)
4.	All AI/ML based inventory collected data of 64+ different road assets in CSV (comma separated values) text file format	1 Hard copy + 1 soft copy (in DVD / Pen drive)
5.	Complete war-room setup at BMC allotted place with digital road dashboard, linked with all data collection channels in the Digitalization project	5 Online portal with large screen TV and allied manpower

2.6 Road Digitalization and AI/ML based road Data collection Service provider firm shall submit the detailed report as described in the deliverables (clause 2.5) to respective Zonal Dy. Chief Engineer (Roads) Office and war room operators. Zonal Dy. Chief Engineer (Roads) Office shall take cognizance of the suggestions given in the said

report and shall take necessary steps to implement the same, in consultation with Dy.Ch.E.(Traffic) and other concerned departments of BMC.

- 2.7** The detailed list of the roads proposed for road Digitalization and AI/ML based road Data collection work, data such as available base maps, existing road inventories, list of contractor assignments, including data on pavement history and condition, traffic statistics and geographical maps of all divisions/ villages including category of road thereon, will be furnished by respective zonal Dy. Chief Engineer (Roads) Office.
- 2.8** After appointment of the Road Digitalization firm (Bidders), the work order will be issued to the concerned Road Digitalization firm by zonal Dy.Ch.E (Roads) Office as per the priority, after obtaining sanction of competent authority for the same. The list of road will be given by respective zonal Dy.Ch.E (Roads) Office along with the work order. Each assignment shall be completed within the stipulated time period mentioned in the work order. If the compliance of the assignment is delayed without any valid reason, a penalty of Rs.1000/- per day per road, maximum to 1% cost of the work of delay will be imposed, till completion of the assigned job. Multiple delays shall be considered for action as deemed fit & subsequent assignment under the contract shall be given to the other appointed Service provider with risk and cost, as decided by the Ch.E.(Rds.& Tr.).
- 2.9** The Service provider shall quote for the Percentage rate and the rate shall be applicable to entire road network in the jurisdiction of BMC.
- 2.10.** The approximate length of roads is to be covered for Digitalization is about 11162 road lane kilometers for digitalization and 4100 road kilometers for AI/ML based inventory collection, to be surveyed for road condition (roughness index) twice a year
- 2.11** The appointment period is 3 years including monsoon. (one year for Digitalization + 2 years for AMC)
- 2.12** If major errors or lapses are observed in the road Digitalization consultancy work, the Service provider shall be liable for warning, penalty as deemed fit by the Ch. Engineer (Rds. & Tr.), forfeiture of contract deposit and balance payment, blacklisting, recovery of the losses incurred to BMC if any, and legal actions as deemed fit.

SECTION – 3
INSTRUCTION TO BIDDERS

A – GENERAL

3.1 Invitation of E-Tender

The Municipal Commissioner for and on behalf of the BRIHANMUMBAI MUNICIPAL CORPORATION, hereinafter referred as 'the Corporation' invites online tender application for appointment of Firms for Digitalization of Roads in Greater Mumbai for period of one year followed by Two years AMC

3.2 Minimum Qualifying Criteria

i) General

- All firms shall provide qualification information as required to enable their qualification.
- To qualify for this contract, for which tenders are invited, the tenderer(s) must demonstrate and upload requisite documents for having experience and resources sufficient to meet the qualification criteria. The firms shall be in existence for at least Seven years.
- **Joint Venture are permitted as per clause No. 83 (a) of SBD condition.**
- **Subletting of work is not allowed.**
- The Service provider shall be in existence for at least 7 (Seven) years
- The qualification criteria as prescribed below shall be filled and uploaded in the pro-forma given in clause No. 3.28 and supported by documents as mentioned under relevant clause (i.e. in clause No.3.25) of the tender.
- The scope of this assignment is not limited to conduct only road quality assessment. In addition, the Service provider should come up with innovative indigenous software and hardware solutions which will help in improving overall network quality detection speed and cost and collect innovative data parameters to improve safety of BMC roads.

ii) Experience in Road quality measurement and Digitalization:

The bidder should fulfill following Minimum technical criteria as a relevant minimum experience:

S. No.	Eligibility	Minimum Criteria
1.	For the Digitalization of roads, the firm bidding for the tender should have past experience of Digitalization of road network using Class-3 roughness index measurement technology as per IRC SP 16 guidelines 2019	Minimum 100 kilometers of road Digitalization should have been carried out
2.	The technology used for road inventory data collection should be developed using AI/ML (Artificial Intelligence, Machine Learning) Based Fully automated and able to collect data as per MoRTH Circular -RW / NH-33044/32/2019-S&R (P&B) and available on computer vision technology /IT Platform including Detail Road assessment of every square meter area and the proposed system should be also able collect 7 Types surface Data (e.g., Cracks-Horizontal,vertical &alligator, releveling, patch, Pothole-Major & Minor etc.) With The Proof like HD Imagery or Video only required to be uploaded on online portal and not acceptable in Offline modes like in pen drive/DVDs. The system also provides Inventory data including street lights, trees, Signals, Flex boards etc. and other aspects as per IRC-67:1977, with Utilities team management Mobile Application based for after work Reporting system for Road assessment and Inventory management system with geotagging.	Minimum 100 kilometers of road inventory collection work using AI/ML based work should have been carried out

iii) Personnel Capabilities: -

Service provider shall furnish general information on the management structure of the firm, and shall make provision of suitably qualified personnel to fill the key positions as required during the contract implementation.

Required experience and expertise of Key personnel / staff Qualification and competence of key staff is given below. Age of the key staff proposed should not be more than 75 years as on the last day of submission of proposal.

The Service provider shall supply and upload information of a prime candidate for each key position and each shall meet the requirements as specified, below:

Sr. No.	Key Position	Qualification Required
1.	Team Leader / Road Digitalization Specialist	Masters in computer management with min. 20 years' of experience in developing software and Digitalization projects.
2.	Senior road surveyor and data collection field executive	Bachelor's degree with at least 5 years of experience in data collection of roughness index data along with videography along with necessary operations management for on-ground staff
3.	ITES Expert	Bachelors in software engineering with at least 5 years of experience in developing software for Android platform and at least 2 years experience developing software and hardware for road distress identification and Digitalization of data
4.	IoT expert	Software engineer with at least 3 years of experience in developing and deploying Smart Apps, Internet of Things devices including those based on open platforms such as Arduino and Raspberry Pi

- NOTES: 1) The Service provider should also furnish and upload general information on the Organizational set up of the firm.
 2) If any certificate /voucher/Invoices/sales/purchase orders of the date after "Due Date" (End Date) of tender is found submitted, the bidders will be disqualified without any intimation.
 3) Position no. 3 mentioned in the table above shall be available for day to day co-ordination purpose.

iv) Technical Capabilities and Requirement specification: -

The proposed hardware and software system along with consultancy should meet or go above and beyond of following technical capabilities and requirements

1. Road Digitalization specifications
 - a. Riding Quality measurement Technical Specification
 - 1) The riding quality of all the roads should be measured using at least Class-3 compatible AB equipment as specified by IRC-SP-16-2019 guidelines
 - 2) The riding quality indication value should be measured every 100-meter interval

- 3) Every 100-meter riding quality indication record should include Geo-tagged (along with latitude/longitude) start and end chainage markers
- 4) The recorded data should be mapped to MCGM-specified start and end chainages
- 5) Every recorded roughness index should be supplemented with high quality video footage
- 6) The video collected should be electronically playable and selectable to view any chainage condition with single click
- 7) The riding quality collected should also be accompanied with traffic information from reputed sources where required

b. Data storage

- 1) The data should be electronically categorized, accumulated, compiled, and segregated as per road maintenance office hierarchy with special focus on various units and sub-units such as ministry/districts/divisions/sub-divisions etc
- 2) The stored data should be available for viewing 24/7 using a digital map-based system which can be accessed to see all district asset inventory live in real-time
- 3) The system should support real-time editing of the asset status
- 4) The system should be providing meaningful reports to monitor asset lifetime, performance, breakdown, and current condition
- 5) The system should be created with a base-map of riding quality index as per guidelines of Indian road congress and should meet at least Class-III accuracy level as per world bank and ASTM standards of road survey equipment
- 6) The system software should have enterprise level access control with unlimited user logins with data access as per their own jurisdiction
- 7) The system software should come with historic analysis of road condition / riding quality maps and a visual indication of progress made or damage happened over time.
- 8) The system should support recording important road assets as described on Page 11, with 100% online editability for future maintenance
- 9) The system roles and responsibilities should allow only permitted officials to make edits to important and sensitive data
- 10) The software should also include endpoint android app/IoS for authenticated contractors to take picture of road events, status updates and upload the status report to control room
- 11) The software should also include endpoint IoT/Mobile devices to upload riding quality while on regular runs for long period of time and report the high priority issues to control room

c. Hardware

- 1) The proposed portal should include necessary server or cloud hardware and hosting space to maintain all the data for next 3 years
- 2) The proposed portal should include a control room equipped with all the hardware and furniture necessary for real-time viewing of entire district data on click of a mouse button. The

necessary space for setting up the control/war room will be provided by BMC

- 3) The control room furniture should include at least a setup for a monitoring person, computer or laptop, big screen display and printer for generation of reports

d. Others

- 1) The software and tools used for this system should be indigenously developed in India
- 2) The bidder must have experience in working in road sector with public works department.
- 3) Bidder must produce experience of similar work done with PWD/GOI.
- 4) The system and its data should be strictly hosted on Servers in India
- 5) The system should be readily available for use immediately.
- 6) Non-demonstrable, pilots or in-complete system solutions will not be accepted
- 7) Before awarding the contract, a complete system walkthrough and demonstration may be required to the concerned authorities
- 8) The bidders to this tender will be evaluated based on technical readiness, completeness, ability to demonstrate ready system and not on financial qualification
- 9) The surveyed data should be processed and stored in India only and undertaking to that effect on Rs.500/- stamp paper be submitted as per the proforma-V.

2. AI/ML based road inventory data collection and management specification

a. AI Based Road Assessment Technical Specifications

- a. The inventory collection should collect 64+ Types Road Inventory are recorded using AI/ML based solution using computer vision, including water entrance, Trees, Street Lights bridge, Manhole, Water Entrance, Speed breaker, Trees, Electric fiddler pillar, traffic Signal, Street Lights, unauthorized flex, Horizontal/vertical Cracks, Reveling Spots, work estimation amounts, effect of potholes, cracking, skidding, shoving, raveling, damage to pavement, edge drop at shoulders, Footpath condition/ occupancy and roads tentative width, data of Reveling, Horizontal cracks, vertical cracks, patches, pothole as per size Specification, detail count of each and every pothole, cracks, Patches with all the inventory data as per IRC-67:1997, bridges, trees, street lights, Footpath, un-Authorized flex etc. with 100% Automatically through AI/ML.
- b. Every 10-meter/ every square meter interval road quality indication record should include Geo-tagged imagery point of the road with detected road condition and asset marked and meta data like Timestamp, bearing, road name etc.
- c. The recorded data should be mapped to BMC-specified start and end Points, road numbers.
- d. Every recorded Pavement Condition index should be supplemented with high quality / high-Definition imagery.

- e. The video collected should be electronically playable on online web-portal and selectable to view any point condition with single click
 - f. The software system used for AI/ML based inventory data collection should expose complete database and records of collected inventory items by CSV (comma separated values) format and through online always-available API (application programmer interface)
- b. Data storage
- a. The stored data should be available for viewing 24/7 using a digital map-based system which can be accessed to see all BMC inventory live in real-time with Count and condition.
 - b. The system should support real-time assessing of the asset status
 - c. The system data should be available offline for backup purpose at war room location.
 - d. The system should be providing meaningful reports to monitor Inventory lifetime, performance, breakdown, and current condition through API exposed which can be called by war room software.
 - e. The system software should have enterprise level access control with unlimited user logins with data access as per their own territory.
 - f. The system software should come with historic analysis of road condition / riding quality maps and a visual indication of progress made or damage happened over time.
 - g. The system roles and responsibilities should not allow or permitted to make any kind of edits for the reason of authenticity of important and sensitive data
 - h. The software and tools used for this system should be indigenously developed in India
 - i. The system and its data should be strictly hosted on Servers in India
 - j. The system should be readily available for use immediately.
 - k. Non-demonstrable, pilots or in-complete system solutions will not be accepted
- c. Hardware
- a. The proposed portal should include necessary server hardware and hosting space to maintain all the data for next 3 years
 - b. The proposed portal should include a real time web-based online data portal, which is user friendly and not needed the necessary space for setting up the control/war room.
 - c. The proposed system should also export inventory data into CSV format in the format prescribed by war room portal and provide necessary API (Application Programming Interface) for integrating reports.
 - d. Cloud server – specification: shared vCPU cores:1-32 cores
Memory 2 GB – 192 GB Transfer: 1-20 TB Network in: 40 Gbps
Network Out: 1-12 Gbps Dedicated IPv4 and IPv6 addresses
Standard Linux Distributions Full root access Direct console access through Lish

- e. Smartphone – Specification: Any standard Smart phone with good Camera, processor, 256GB storage, 8/12GB RAM, more than 4000MaH battery
- d. Others
 - a. The software and tools used for this system should be indigenously developed in India
 - b. The system should be readily available for use immediately and Demonstratable in a day.
 - c. The bidders to this tender will be evaluated based on technical readiness, completeness, ability to demonstrate ready system
 - d. The surveyed data should be processed and stored in India only and undertaking to that effect on Rs.500/- stamp paper be submitted as per the proforma-V.

Note – Undertaking for Technical Capabilities and Requirement specification on Rs 500/- stamp paper shall be uploaded in packet A & B.

v) Technical Proposal

The Technical Proposal shall not include any financial information and any Technical Proposals containing financial information shall be declared non-responsive. The Technical Proposal should contain the following information.

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

a) **Three similar completed works or currently executing three works** of similar nature each costing **30% of estimated cost.**

OR

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

OR

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

vi) Annual Turnover:-

As per SBD as an Average financial turn over as certified by Chartered Accountant equal to **30% of the estimated cost** of work **in last 3 financial years** i.e 2019-20,2020-21, 2021-22. The value of executed work shall be brought 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.

For the purpose of evaluation, bidders having comparatively larger revenues from professional fees shall be given added weightage. For the avoidance of doubt, professional fees here under refers to fees received by the Bidders for providing advisory or consultancy services to its clients for road Digitalization projects.

vii) Similar Experience - Past experience of road dashboard software is required; The company has to submit road digitization/ road dashboard work-orders from Government, Semi govt organization in India. Experience of road roughness company should have received work-orders from Government departments to measure roughness index measurement or road dashboard project for at least 7500 kilometers

1. The bidder should have performed the road Digitalization work as per following criteria
 - a. The work Digitalization technology should have been developed as per Class-3 type technology as specified in Indian Road Congress publication IRC-SP-16 2019.
 - b. This technology should already used by bidder in government/semi government organization.
 - c. The company/bidder should have designed and empaneled road Digitalization software/dashboard and software should have been in use for at least 1 (one) year in any district in India.
 - d. The company has to validate its road roughness/riding quality measurement software or IoT device software from any government technical institute.
 - e. Completeness and Readiness of solution offered - The digitization work carried out using these features are demonstrated using live software system at any government/semi government organization in India should be demonstrated government organization in India.

3.3 The Service provider shall enclose with its Proposal, certificate(s) from its Statutory Auditors stating its total revenues from professional fees or road survey work or Digitalization work during each of the past three financial years and the fee received in respect of each of the Eligible Assignments specified in the

Proposal. In the event that the Service provider does not have a statutory auditor, it shall provide the requisite certificate(s) from the firm of Chartered Accountants that ordinarily audits the annual accounts of the Service provider.

- 3.4 Any entity which has been barred by the Central Government, any State Government, a statutory authority or a public sector undertaking, as the case may be, from participating in any project, in the last five years from the date of submission of bid, would not be eligible to submit a bid either by itself or through its Associate.
- 3.5 Service provider or its Associate should have, during the last three years, neither failed to perform on any agreement, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Service provider or its Associate, nor been expelled from any project or agreement or have had any agreement terminated for breach by such Service provider or its Associate.
- 3.6 The bidders shall have positive net worth and should be profitable as on 31.03.2022. Documents stating that, it has access to or has available liquid assets of minimum 50 lakhs, unencumbered assets, lines of credit and other financial means (independent of any contractual advance payment) sufficient to meet the cash flow requirements for the subject contract. (Certificate from Bankers / C.A./Financial Institution shall be submitted as an evidence).
- 3.7 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 them 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 BMC, State Govt., Central Govt. or any authority under State or Central Govt./Govt. organization initiated against the company, firm, directors, partners or authorized signatory shall be disclosed for last five years from the date of submission of bid. Also, bidder must disclose the Litigation History for last five years from the date of submission of bid about any action like show cause notices issued, blacklisting, debarring, banning, suspension, deregistration and cheating with BMC and BMC is the 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 the bidder and take decision based on the gravity of the litigation and the adverse effects of the act of the company, firm, directors, partners or authorized signatory on the BMC works which can spoil the quality, output, or any work execution within the time frame.

Even though the bidders meet the 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.

Bidders shall fill litigation history as per PROFORMA – IV given under clause no.3.28.

In case it is revealed that the bidder has suppressed the facts or given false/misleading information in respect of Litigation, then 100% EMD will be forfeited.

3.8 The cases wherein if the shortfalls are not complied by a Service provider, it will be considered as 'Intentional Avoidance' and if three or more cases in 12 months are re-reported, shall be viewed seriously and Registration and Monitoring cell will be informed to initiate disciplinary action against the defaulting Service provider such as banning/deregistration etc. with due approval of the competent authority .

3.9 The Service provider shall make their own assessment of key and support personnel to undertake the assignment. Additional staff or personnel if required to complete the assignment in the prescribed time, must be provided within the total contract cost only. BMC shall not be responsible for any wrong assessment by the Service provider and shall not in any case bear any additional cost arising there from. The Service provider shall make its own arrangements for office space, equipment, computer hardware / software etc.

3.10 Conflict of Interest :-

3.10.1 The Service provider shall not have a conflict of interest that may affect the Selection Process. Any Service provider found to have a conflict of interest shall be disqualified. In the event of disqualification, the BMC shall forfeit / appropriate the Bid Security as mutually agreed genuine pre-estimated compensation and damages payable to the BMC for, *inter alia*, the time, cost and effort of the BMC including consideration of such Service provider's Proposal, without prejudice to any other right or remedy that may be available to the Authority hereunder or otherwise.

3.10.2 The BMC requires that the Service provider provides professional, objective and impartial advice and at all time should the BMC's interests paramount, avoid conflicts with other assignments or its own interests and act without any consideration for future work. The Service provider shall not accept or engage in any assignment that would be in conflict with its prior or current obligations to other clients or that may place it in a position of not being able to carry out the assignment in the best interests of BMC.

3.11 Service provider should familiarize themselves with local conditions and take them into account in preparing their Proposals. To have an idea of the assignment and local conditions, Service provider are encouraged to visit the BMC roads.

3.12 Cost of Proposal

The Service provider shall bear all costs associated with the preparation and submission & uploading of their proposal, and the Employer/ BMC will in no case be responsible and liable for those costs.

3.13 Taxes

GST and other state levies/cess which are not subsume under GST will be applicable. The tenderer shall quote inclusive of all taxes applicable at the time of bid submission it is clearly understood that BMC will not bear Any additional liability towards payment of any taxes and duties.

Wherever the services to be provided by the tenders, 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 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 and if there is any subsequent changes (after submission of bid) In the rate of GST applicable on the works/services to be executed as per tender, i.e. Any increases will be reimbursed by BMC whereas any reduction in the rate of GST shall be passed on to BMC as per the provision of the GST act type.

3.14 Service provider should specifically upload their residential address besides their official addresses, along with the telephone, mobile no., Email ID and fax no. The successful Service provider's will have to establish office in Greater Mumbai and with telephone facility along with FAX. In this respect, the Service provider having their offices at the out skirts of Mumbai viz, Mira-Bhayander municipal region, Thane City municipal region and Navi-Mumbai municipal region can be considered and they will be given the relaxation from the condition of setting up of the office in Mumbai. The Service providers or their partners or authorized representative shall be available on the given telephone number. Any communication sent on above said official address/telephone/ e-mail/fax shall be considered as sufficient communication to the Service provider.

3.14 (A) JOINT VENTURE

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

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

j) Approval for change of constitution of JV firm shall be at the sole discretion of the MCGM. The constitution of the JV firm shall not be allowed to be modified after submission of the tender bid by the JV firm except when modification becomes inevitable due to succession laws etc. and in any case the minimum eligibility criteria should not get vitiated. In any case the Lead Member should continue to be the Lead Member of the JV firm. Failure to observe this requirement would render the offer invalid.

k) Similarly, after the contract is awarded, the constitution of JV firm shall not be allowed to be altered during the currency of contract except when modification become inevitable due to succession laws etc. and in any case the minimum eligibility criteria should not get vitiated. Failure to observe this stipulation shall be deemed to be breach of contract with all consequential penal action as per contract condition.

l) On award of contract to a JV firm, a single Performance Guarantee shall be required to be submitted by the JV firm as per tender conditions. All the Guarantees like Performance Guarantee, Bank Guarantee for Mobilization advance, machinery Advance etc. shall be accepted only in the name of the JV firm and no splitting of guarantees amongst the members of the JV firm shall be permitted.

m) On issue of LOA, an agreement among the members of the JV firm (to whom the work has been awarded) has to be executed and got registered before the Registrar of the Companies under Companies Act or before the Registrar / Sub-Registrar under the Registration Act, 1908. This agreement shall be submitted by the JV firm to the MCGM before signing the contract agreement for the work. (This agreement format should invariably be part of the tender condition). In case the tenderer fails to observe/comply with this stipulation, the full Earnest Money Deposit (EMD) shall be forfeited and other penal actions due shall be taken against partners of the JV and the JV. This joint venture agreement shall have, inter-alia, following clauses:-

i. Joint and several liability - The members of the JV firm to which the contract is awarded, shall be jointly and severally liable to the Employer (MCGM) for execution of the project in accordance with General and Special conditions of the contract. The JV members shall also be liable jointly and severally for the loss, damages caused to the MCGM during the course of execution of the contract or due to no execution of the contract or part thereof.

ii. Duration of the Joint Venture Agreement -It shall be valid during the entire period of the contract including the period of extension if any and the maintenance period after the work is completed.

iii. Governing Laws - The Joint Venture Agreement shall in all respect be governed by and interpreted in accordance with Indian Laws.

iv. Authorized Member -Joint Venture members shall authorize one of the members on behalf of the Joint Venture firm to deal with the tender, sign the agreement or enter into contract in respect of the said tender, to receive payment, to witness joint measurement of work done, to sign measurement books and similar such action in respect of the said tender/contract. All notices/correspondences with respect to the contract would be sent only to this authorized member of the JV firm. No member of the Joint Venture firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other members and that of the employer in respect of the said tender/contract.

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

i. In case one or more of the members of the JV firm is/are partnership firm(s), following documents shall be submitted:

a. Notary certified copy of the Partnership Deed,

b. Consent of all the partners to enter into the Joint Venture Agreement on a stamp paper of appropriate value (in original).

c. Power of Attorney (duly registered as per prevailing law) in favor of one of the partners to sign the MOU and JV Agreement on behalf of the partners and create liability against the firm.

ii. In case one or more members is/are Proprietary Firm or HUF, the following documents shall be enclosed:

a. Affidavit on Stamp Paper of appropriate value declaring that his Concern is a Proprietary Concern and he is sole proprietor of the Concern OR he is in position of "KARTA" of Hindu Undivided Family and he has the authority, power and consent given by other partners to act on behalf of HUF.

iii. In case one or more members is/are limited companies, the following documents shall be submitted:

a. Notary certified copy of resolutions of the Directors of the Company, permitting the company to enter into a JV agreement, authorizing MD or one of the Directors or Managers of the Company to sign MOU, JV Agreement, such other documents required to be signed on behalf of the Company and enter into liability against the company and/or do any other act on behalf of the company.

b. Copy of Memorandum and articles of Association of the Company.

c. Power of Attorney (duly registered as per prevailing law) by the Company authorizing the person to do/act mentioned in the para (a) above.

o. All the members of the JV shall certify that they have not been black listed or debarred by MCGM from participation in tenders/contract in the past either in their individual capacity or the JV firm or partnership firm in which they were members / partners.

p. Credentials & Qualifying criteria: Technical and financial eligibility of the JV firm shall be adjudged based on satisfactory fulfilment of the following criteria:

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

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

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

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

B - PROPOSAL

3.15 Contents of Proposal -

The set of proposal comprises the contents listed below -

1. Invitation of E-Tender/ proposal
2. Scope of work
3. Instruction to E-Tenderer / Bidders.
4. Terms of References

5. Conditions of Contract
6. Agreement Form
7. Financial Bid Form
8. Annexure 'A' forms of Bank Guarantee
9. Annexure 'B' forms of Undertaking for best prices.
10. Annexure 'C' forms.
11. Addendum/corrigendum issued, if any.

3.16 Clarification of contents of proposal

3.16.1 Pre-bid meeting

- a. The Service provider or their authorized representatives are invited to attend a pre-bid meeting as per the date, time and venue mentioned in the published notice/ Header data at pg. no.7
- b. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- c. Any Service provider requiring any clarification of the proposal and/or the works may submit their questions in writing to reach the Dy.Ch.E(Roads) Planning's office at least 1 day before the meeting.
- d. Clarification of the points, including the questions raised in the meeting (without identifying the source of enquiry) and the response given will be published on portal of BMC OR e-mailed.

3.16.2 Amendment of contents of proposal

- a. Before the deadline for submission of bids, if required BMC may modify the bidding documents by issuing addendum/ corrigendum and publishing them on portal of BMC.
- b. Any addendum/corrigendum/ clarifications thus issued shall be part of the bidding documents and shall be published on BMC portal.
- c. The addendum/corrigendum/ clarifications thus issued shall be downloaded, digitally signed by the bidder and uploaded along with the bid.
- d. In order to give prospective bidder reasonable time to consider the addendum / corrigendum/ clarifications before submitting and uploading their bids, the BMC if necessary, may extend the deadline for uploading of bids. Only the bidders who qualify in packet 'A/B' will be considered as responsive for financial bid i.e. packet 'C'. If any discrepancies are observed or false documents are found to be uploaded by the bidder, such bidder will be disqualified from the bidding process and the names of such bidders /firms will be published on BMC portal or displayed at Ch.E.(Rds.& Tr.)'s office. Further action as liable under rules/regulations shall also be initiated against such bidder who submits false documents.

C-PREPARATION OF PROPOSAL

NOTE: All the documents uploaded for online submission must be digitally signed and self-attested with digital signature by the bidders, if not, the bidder/ tenderer will be disqualified.

3.17 Language of Proposal

Proposal shall be written in English. Documents/ Information in any other language shall be accompanied by its translation in English. Only English text shall be governing.

All certificates & documents of Experience uploaded by bidder shall be attested by an officer of Rank not below Assistant Engineer or equivalent and the language of such certificates and documents shall be English. In case the documents are in other language the same shall be submitted along with English translation of the same from a Government recognized translator.

3.18 Service provider shall not amend the text of these documents. If it is found that the Service provider has violated this condition, their proposal is liable to be rejected and the bidder shall be disqualified.

3.19 Bid Prices

- a. The contract shall be for the job as described in scope of work.
- b. The Bidder shall fill in/upload the percentage against the item in the Financial Bid Form. Corrections, if any, can be made till end date (i.e. last date) and time, before submitting the bid.
- c. The rate shall be fixed for the entire jurisdiction of BMC and entire duration of the contract and extended period, if any.
- d. The currencies for the bid shall be INR.
- e. Price variation is not allowed.

3.20 Proposal Validity

The offer for the proposal shall be kept valid for 180 (One Hundred and Eighty) calendar days from the end date of submission of the proposal without change in the terms and conditions of the proposal and the quoted rates/negotiated rates. Thereafter, validity may be extended for further period as may be mutually agreed upon between the Service provider and BMC.

3.21 Format & Signing of Proposal

- i. Bidders shall digitally sign the Financial Bid Form and Addendum, Corrigendum (if any) and upload the same, as detailed below:

- ii. If the proposal is submitted by a firm in partnership, it shall be digitally signed by all the partners of the firm with date, full names and addresses or by a partner/person holding the power of attorney on behalf of the firm for signing the proposal with a copy of the Power of attorney shall be attached along with the proposal. A certified copy of the partnership deed duly registered, addresses of the firm and full names and addresses of all partners of the firm shall be submitted & uploaded with the proposal.
- iii. If a limited company or a Corporation submits a proposal, it shall be digitally signed by a person holding power of attorney for signing the proposal with the certified copy of the Power of Attorney accompanying the Proposal. Such limited company or Corporation shall furnish evidence of its existence before the contract is awarded. The Power of Attorney shall be registered/notarized.
- iv. The Bidders shall quote the percentage rate per lane km for 01 no. of item of road Digitalization consultancy work as given in the table below for carrying out road Digitalization consultancy work anywhere within BMC jurisdiction.
- v. The person submitting bid online shall digitally sign each page of the bid.
- vi. The Bidders shall quote percentage by taking into account the following captioned items for entire jurisdiction of all BMC departments.

Sr. No.	Item Description	Unit (km)	Rate to be quoted by the bidder in Percentage
1.	Digitization of roads		
2.	Personalized digital communication system for Contractors, his Staff and MCGM Staff		
3.	IoT Device		
4.	War Room Setup in space provided by MCGM offices,		
5.	AI/ML Based Road Survey		
6.	Data Transfer and Integration		
7.	Maintenance of data and devices for Year 2		
8.	Maintenance of data and devices for Year 3		

D- Submission of Bid/ Proposal

3.22 In e-tendering (bidding) 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 “**Service provider /bidder**”

Vendor read as “**Service provider /bidder**”

Vendor Quotation read as “**Bid/Offer**”

Purchaser read as “**Department/BMC**”.

- I. Before entering in to online tendering/ bidding process, the bidder should complete the registration process by approaching IT. cell Deptt. of BMC situated at Ground floor, Engineering Hub bldg., Worli, E. Moses road, so as to get Vendor No. for E-Tendering process. After registration of Vendor/bidder the registered Vendor/bidder has to follow the following procedure to transfer from R3 (registered Vendor/bidder) with BMC to SRM.

In case any difficulties faced while uploading data by the bidder/contractor in online process, the bidder can contact on following Email id and telephone no.

IT help desk no. – 022-24811275

Email id – etendering.it@mcgm.gov.in

- II. Transfer from R3 (registered Vendors/Bidders with BMC) to SRM.
 - a. Vendors/Bidders 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. Service provider’s BIDDING: Bidder will quote and Upload Tender Documents by Accessing E-tender link of SRM Portal:
 1. Log in with User ID and Password
 2. Selects desired Bid Invitation (they want to bid)
 3. To download tender documents, bidders will have to pay Tender fee. The same can be done by accessing Pay Tender Fees option. By this, one will be able to pay Tender fee (bid document fee) through Payment Gateway-If transaction successful, Bidder can register his interest to participate. Without Registration, one cannot quote for the Bid.
 4. Bidders will download Tender/Bid Documents from Information purchaser tab by accessing Purchaser document folder through collaboration link for public folder.

5. Bidders will upload packet A/B related Documents in packet A/B folder by accessing these folders through “My Notes” Tab And collaboration folder link.
6. All the documents uploaded has to be digitally signed and saved. Bidder can procure there digital signature from any certified CA’s in India.
7. For financial bid form (in packet C) Bidders will fill/quote rate per unit for one item of the financial Bid form of the tender
8. Bidders shall check the bid, digitally sign the same & save and submit the Bid.
9. Bidders can also save their uploaded documents/commercial information without submitting the BID for future editing through ‘HOLD’ option. Please note that “Hold” action does not submit the Bid.
10. Bidders will receive confirmation once the Bid is submitted.

IV. Bid creator (BMC) starts Bid Opening for Packet A/B after reaching End Date and Time and Bid Evaluation process starts.

V. Payment of Tender Fees (Bid document fees): Payment of Tender Fees (Bid document fees) shall be done online using the online payment gateway.

VI. Documents need to be submitted by bidder/vendor in P.D.F format only. The bidders have to submit their bids online only. Physical submission of bid shall not be accepted. All uploaded documents should be readable.

3.23 Bidder(s) are requested to upload the tenders in time on or before the Stipulated day so as to avoid rush at the closing hours. BMC will not be responsible for poor connectivity of network/internet services/ connectivity of servers/snag in system/breakdown of network/or any other interruptions. If any online information uploaded but not received by Bid creator (BMC) within stipulated time limit, BMC will not be held responsible at any cost and such Bids cannot be validated. Any online intimation/ information asked to be submitted by Bidders or sent to Bidders, if not received or bounced back at the receiving end due to any problem in server or connectivity, BMC will not be held responsible. Intimations about shortfalls in submission will be informed to Bidder by E mail on their e-mail ID. In addition to online submission the bidders should send digitally signed information in reply Email.

3.24 The bidder will mandatorily submit bid online in two packets i.e. Packet ‘A/B’, Packet ‘C’ (i.e. bid submission) as specified in tender. **The copies of the documents asked for in packet ‘A/B’ shall be certified** by the Gazetted Officer or Officers not below the rank of Asstt. Engineer/ Administrative Officer of the BMC or Practicing Notary approved by of the Govt. of Maharashtra or

Govt. of India with his stamp, clearly stating his name & registration number, except where original documents are demanded. Scanned copies of all the documents duly certified by the bidders by signing digitally should be mandatorily uploaded in online submission.

3.25 The packet 'A/B' shall contain the following documents -

- a. The '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.
- b. Latest Partnership Deed in case of Partnership firm.
- c. Necessary documents of JV firm shall be submitted as per clause no 3.14(A)
- d. Scanned copy of Company Registration Certificate.
- e. Scanned copy of duly registered power of attorney, wherever applicable.
- f. Scanned copy of EMD receipt.
- g. Scanned copy of certification by CRRI (Central Road Research Institute) or Indian Association of Highway Engineers or any government/semi-government engineering institute.
- h. Valid bank solvency certificate of Rs. 1.5 crore.
- i. The evaluation of consultancy work experience in road roughness measurement, past projects done and innovation from 01.04.2012 to 31.03.2022 (**Proforma-I** given under clause no. **3.28.3**).
- j. Information on provision of suitably qualified personnel (**Proforma-II** given under clause no. 3.28 (b)) with C.Vs.
- k. An undertaking on Rs 500/- stamp paper only by the Service provider having their base outside Mumbai to the effect that if required, they will establish office with telephone, in Mumbai for any official communication within a period of 15 days of issue of LoA & said office shall be available till contract period is over.
- l. Signed copy of the addendum/ Corrigendum, if any.
- m. Annual turnover during last three years duly certified by chartered accountant as per clause 3.28 (a) 1.
- n. Undertaking on Rs. 500/- stamp paper in the format as included in this document, as per annexure (B) & (C) given

- o. The bidder shall have to submit the registration certificate under Employees Provident Fund and Miscellaneous Provision Act of 1952 (EPF & MF Act 1952) and also should have to submit registration certificate under Employees State Insurance Corporation Act 1948, off the no. of persons/ laborers on the establishment of Service provider firm is 20 or more. If it is less than 20, a notarized undertaking to that effect on Rs. 500/- stamp paper shall be uploaded. In case the bidder has applied for registration, copy of application and its acknowledgment shall be uploaded.
- p. 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.
- q. The documents as per clause no. 3.2 (ii).
- r. Undertaking for Technical Capabilities and Requirement specification on Rs 500/- stamp paper shall be uploaded in packet A & B as per clause no 3.2(iv).
- s. The documents as per clause no. 3.6 (i.e. C.A.'s certificate showing positive net worth and liquid assets)
- t. The litigation history as per Proforma- IV
- u. Registered undertaking on Rs.500/- stamp paper in respect of clause no. 3.5

NOTE:

- (i.) If the tenderer(s) withdraw tender offer during the tender validity period, his entire E.M.D shall be forfeited.
- (ii). Only original document scans shall be uploaded, and they may be cross-checked against original during scrutiny. Bidder shall present with his original documents for checking to the Engineer in-charge of tender scrutiny as and when directed.
- (iii.) If it is found that the tenderer has not submitted required documents in Packet "A" then, the shortfalls will be communicated to the tenderer through

e-mail only and compliance required to be made within a time period of three working days otherwise they will be treated as non-responsive.

(iv.) Maximum two (2) shortfalls will be allowed for curable defects. For more than two (2) nos. of shortfalls, 2% of EMD will be forfeited for each shortfall thereafter. This shall be in addition to any forfeiture of proportionate EMD for curable defects as per other relevant clauses of the tender document, if applicable.

At the time of tender scrutiny if the documents uploaded on-line in Packet A &B:-

(i) do not open or are found corrupted OR

(ii) if the folders are found empty in the SRM system then in such case, it shall be treated as non-submission of the documents and the 2% of E.M.D. per document required in the respective folder will be forfeited. In such cases, for the calculation of this forfeiture amount, the concession of maximum two (2) shortfalls allowed for curable defects will not be considered. vi. Bidders shall cross-check the uploaded documents by downloading the same at their end prior to submission of bid. No representation/complaint shall be entertained in this regard under any circumstances.

(vii) The bidder has to submit compliance of all shortfalls within the stipulated time period on-line only through email.

(viii) In case of non-curable defects, the same will not be communicated and the bid will be made non-responsive and their 10% of E.M.D. will be forfeited. This shall be in addition to any forfeiture of proportionate EMD for curable defects as per other relevant clauses of the tender document, if applicable.

(ix) All documents uploaded in packet a must be accurate and complete in all respects. bidders are requested to upload all documents with highest precision.

(x) Any discrepancy in the above will be treated as shortfall.

(xi) Any Forged / Fake document found uploaded then bidder will be disqualified and debarred from all bidding process for two years.

3.26 The Packet 'C' shall contain the following documents -

On-line financial bid form duly filled in percentage rate against the prescribed item. The bidders are required to submit rate analysis in justification of rates quoted by them after opening of Packet C. After opening of packet C of eligible bidders from which lowest bidder will be awarded the contract.

3.27 REJECTION OF BID

The BID is liable to be rejected interalia:

- a. If it is not in conformity with the instructions mentioned herein.
- b. If it is not accompanied by the requisite application and EMD amount
- c. If it is not properly signed by the bidder.
- d. If it is evasive or incomplete including non-furnishing of the required documents.
- e. If eligibility criteria is not fulfilled as per clause no. 3.1

3.28 (a) Pre Qualification Criteria

General

3.28.a.1) Financial Capacity - As per SBD as an Average financial turn over as certified by Chartered Accountant equal to **30% of the estimated cost** of work in **last 3 financial years** i.e 2019-20,2020-21, 2021-22. The value of executed work shall be brought current costing level by enhancing the actual value of work at compound rate of 10% Per Anum ; Calculated from the date of completion to last date of receipt of applications for tenders.

3.28.a.2) Technical Capacity (Project Experience) –

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

- a) **Three** similar completed works or currently executing three works of similar nature each costing **30% of estimated cost**.
OR
- b) **Two** similar completed works or currently executing two works of similar nature each costing **40% of estimated cost**.
OR
- c) **One** completed work or currently executing one work of similar nature of aggregate **60% of estimated cost**.

3.28.a.3) Similar Experience - Past experience of road dashboard software is required; The company has to submit road digitization/ road dashboard work-orders from Government, Semi govt organization in India. Experience of road roughness company

should have received work-orders from Government departments to measure roughness index measurement or road dashboard project for at least 7500 kilometers

2. The bidder should have performed the road Digitalization work as per following criteria
 - a. The work Digitalization technology should have been developed as per Class-3 type technology as specified in Indian Road Congress publication IRC-SP-16 2019.
 - b. This technology should already used by bidder in government/semi government organization
 - c. The company/bidder should have designed and empaneled road Digitalization software/dashboard and software should have been in use for at least 1 (one) year in any district in India
 - d. The company has to validate its road roughness/riding quality measurement software or IoT device software from any government technical institute
 - e. Completeness and Readiness of solution offered - The digitization work carried out using these features are demonstrated using live software system at any government/semi government organization in India should be demonstrated government organization in India should be demonstrated

PROFORMA- I

The list of similar works as stated in Clause '2.1' of Post qualification during last seven years-

PROFORMA- I					
Sr. No.	Name of the Project	Name of the employer	Stipulated date of completion	Actual date of completion	Actual Cost of work done
1	2	3	4	5	6

NOTE:

- a. Scanned Attested copies of completion/performance certificates from the Engineer-in-Charge for each work should be annexed in the support of information furnished in the above proforma.
- b. Works shall be grouped financial year-wise.

If the bidder is not fulfilling above stated PQC, then 10% EMD will be forfeited.

(b) PERSONNEL CAPABILITIES : PROFORMA – II

Sr. No.	Post	Min. Nos. Required	Name	Qualification	Job Experience		Nos. Employed in the firm	Nos. of similar level persons in the firm
					No.	Name		
1	2	3	4	5	6	7	8	9
1.	Team Leader / Road Digitalization Specialist	1						
2.	Senior road surveyor and data collection field executive	1						
3.	ITES Expert	1						
4.	IoT Expert	1						

(i) Team Leader / Road Digitalization Specialist:

Essential Qualification:

- a) Masters in computer management with min. 15 years experience in developing software and Digitalization projects.
- b) The candidate should have filed a patent on road condition monitoring technology.

(ii) Senior road surveyor/Data collection Specialist

Essential Qualifications:

- a) Bachelors degree with at least 2 years of experience in data collection of roughness index data along with videography along with necessary operations management for on-ground staff
- b) The candidate should have atleast a bachelors in automotive engineering, or road safety or any masters degree

(iii) ITES Expert:

Essential Qualifications:

- a) Masters of science degree holder with at least 5 years of experience developing applications for Android platform;
- b) The candidate should also have atleast 2 years of experience developing software and hardware for road distress identification and Digitalization products

(iv) IoT Expert : (Internet of Things)

Essential Qualifications:

Bachelors in engineering with atleast 3 years of experience in developing and deploying Smart Apps, Internet of Things devices including those based on open platforms such as Arduino and Raspberry Pi

NOTES for Proforma I and II :-

- 1) Scanned, digitally signed copies of qualification and experience certificates for each personnel should be uploaded. If the uploaded document is not original then it shall be attested by the Gazetted Officer or Officers not below the rank of Asstt. Engineer/ Administrative Officer of the BMC or Practicing Notary approved by of the Govt. of Maharashtra or Govt. of India with his stamp, clearly stating his name & registration number before scanning and uploading the same.
- 2) **Proforma I** : Similar works as per clause 3.28.a.3
- 3) **Proforma II** : Personal Capabilities as per clause 3.28.b
- 4) The bidder not satisfying the minimum requirement of technical staff as mentioned in the above Proforma-II (in column 2) will be rejected directly & treated as Non-responsive.

(c) FINANCIAL CAPABILITIES: PROFORMA- III

Yearly turnover of consultancy works during the last three financial years i.e. 2019-20, 2020-21, 2021-22.

Sr.No.	Financial Year	Annual turn over	Updated value of current year	Avg. of last three years
1				
2				
3				
		Total		

Note :- The above figures shall tally with the audited balance sheet uploaded by the tenderer duly certified by chartered accountant. The Bidders shall prepare and upload soft copy of Proforma I, II, III in PDF format along with their bid without fail. The Bidders shall also upload audited balance sheets for last three years certified by Chartered accountant, as proof of his turnover. The value of consultancy work done shall be brought to current costing level by enhancing the actual value of work at simple rate of 10% per annum; calculated from the date of completion to last date of receipt of applications for tenders.

(d) LITIGATION HISTORY: PROFORMA- IV

Bidders shall provide information on any history of litigation or arbitration resulting from contracts executed in the last five years or currently under execution.

YEAR	Award FOR or AGAINST Bidder	Name of client, cause of litigation and matter in dispute	Disputed amount (Current Value- Rs. equivalent)
1	2	3	4

DATA PRIVACY AND LOCATION UNDERTAKING: PROFORMA- V

The surveyed data should be processed and stored in India only and undertaking to that effect on Rs.500/- stamp paper be submitted as per the proforma-V.

E- OPENING AND EVALUATION OF PROPOSAL

3.29 Deadline for Submission of Proposal -

- a) E-Tender(Bid) can be downloaded from BMC'S PORTAL(i.e. <http://www/mcgm.gov.in>) under "e-procurement" section from the Bid start Date & time after paying the scrutiny fee(cost of tender) as mentioned in the tender through online payment gateway before downloading the bid document. The said bid will be open up-to the Bid end date & time as mentioned in the tender notice. The above said Bid shall be submitted online up to the Bid end time & Date as mentioned in the Tender Notice. During the opening of the bidding proposal /Packets, the Bidders/their one authorized representative may remain present.
- b) The packet 'A/B' & packet 'C' of the E-Tender will be opened as per schedule given in Header -Data.
- c) Once the scrutiny/evaluation (as specified in evaluation of proposal) of technical documents are completed, the disqualified bidder if any, are rejected in the e-bidding system against their respective bids in the "Bidders/Bid" tab for technical criteria failure and list of rejected Bidwith reason for rejection will be displayed either at office of Dy.Ch.Eng.(Roads)Planning or on BMC portal or Emailed. The 'C' packets (financial bid) of the only responsive /eligible bidders will be opened there after as per the schedule.
- d) **Price/financial Bid Opening Process:**

Bids which are technically qualified / responsive, shall be evaluated for price comparison once price bid opening i.e. Packet 'C' date and time is reached.

3.30 Process to be Confidential -

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

3.31 Examination of Proposals and Determination of Responsiveness -

Prior to the detailed evaluation of proposals, the BMC will determine whether each proposal-

- (a) Meets the eligibility criteria
- (b) Has been properly signed.
- (c) Is responsive to the requirement of the proposal documents.
- (d) Qualifies for work experience and innovation requirements

If it is found that the bidder hasn't submitted required documents in packet A/B, then the shortfalls will be communicated to the bidder through E mail only and compliance required to be made within a period of 03 working days. Otherwise bidder will be treated as non- responsive and their 10 % EMD will be forfeited.

3.32 Mandatory Requirements

The proposal shall be treated as rejected if the Bidders -

- i) Stipulates the validity period less than 180 days.
- ii) Stipulates his own condition/s.
- iii) Average financial turn over as certified by Chartered Accountant is less than 30% of the estimated cost of work in last 3 financial years immediately preceding the financial year in which bids are invited.
- iv) It is mandatory to process the surveyed road Digitalization data in India. A required notarized undertaking on rupees 500/- stamp paper has to be submitted by the bidder in packet B as per proforma.
- v) Does not fill, upload and sign the Financial Bid Form.
- v) Does not upload digitally signed documents listed in Packet 'A/B'.

3.33 Evaluation:

(I) The bid will be evaluated on the basis of information submitted in the bid.

In comparing the bid, efficiency and reliability of bidder and the eligibility criteria mentioned in the bid document shall be considered. The decision of the award of contract will be as under.

- a) The financial offers i.e. Packet 'C' shall be opened in the presence of authorized representative of Bidder who chooses to attend. The name of the Bidders qualifying scores and their quoted rates shall be read out and recorded when the financial proposals will be opened and the matter shall be dealt further.
- b) The BMC will determine whether the financial proposals are complete.
- c) Bidders are advised to ensure reasonableness and adequacy of their financial proposal.
- d) Please note that BMC is not bound to select any of the bidders submitting the bid.
- e) The Earnest Money Deposit of selected Bidders will be refunded after the Bidders has signed the Agreement & furnished the required Contract Deposit and all necessary documents.

3.34 (A) Evaluation of Proposal

Packet 'C' will be opened for all the bidders, who successfully qualifies in the selection criteria as per the condition no 3.28 and among the lowest bidder will be awarded the contract.

3.35 Correction of Errors

No errors can be corrected in online E-Tendering/ bidding. The SRM doesn't considers it, therefore all the Bidders should fill the online tender carefully after reading all instructions given in tender document and confirming the information which is uploaded on BMC portal.

'F - AWARD of CONTRACT'

3.36 Award Criteria-

- 3.36.1** L1 bidder will be awarded the contract, if L1 bidder do not qualify the next lowest rate quoted successful bidder will be called for negotiation to match the rate quoted by L1 bidder.
- 3.36.2** Corporation reserves its right to accept/reject any or all bids/proposals and to annul the process of bids at any time prior to award of contract, without thereby incurring any liability to the affected Bidders or any obligation to inform the affected Bidders of the grounds for the Employer's action.
- 3.36.3** It shall be noted that the quantum of work to be allotted to Service provider is not fixed. Allotment of work to appointed Service provider will be need based and no claims whatsoever on the grounds of quantum of allotted works shall be entertained.

3.37 Signing of the Contract/Agreement-

After sanction of Standing Committee to appoint the successful bidder concerned divisional Dy.Ch.E.(Roads) Eastern suburb will give the work order.

Within 30 days of receipt of the LOA, the successful Bidders shall furnish a Contract deposit amounting to 2% of contract cost, as informed by the zonal Dy.Ch.E.(Rds. & Tr.) Office, in form of DD/ Cheque/ Pay order and sign the form of Agreement along with all documents required for execution of contract. The contract agreement shall be adjudicated for payment of stamp duty by the successful bidder and accordingly the successful bidder shall pay the stamp duty on the contract agreement. Penalty of Rs.5000/-per day will be recovered till signing of agreement, after stipulated time period.

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 up to Virar & Kalyan. 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

Service provider has executed and completed the works. List of approved Banks is appended at the end of RFP document.

3.38.1 Schedule of Payment

i) The entire AI/ML based road survey and road Digitalization work shall be done in all respects in four months for pre-monsoon and four months for post-monsoon respectively. Entire work in first phase including war room setup and dashboard creation should be finished within period of six months. The payment schedule linked to the specified Deliverables is given below. The payment to each deliverable shall be made after approval of competent authority. The reports submitted by the Service provider shall be verified by the concerned Executive Engineer (Roads) before making the payment to them.

Item No.	Item description	Quantity	Unit	Payment schedule
DZR-01	Digitization of roads	11162	Per lane/ Km	Per lane/km of work completed
	Conducting a survey of roads where roughness index of the road is carried out as per IRC-Sp-16 publication of Indian Road Congress 2019 version, A/B (accelerometer based) digital method of measurement of road roughness every 100meters or 20meters, where the vertical elevations of the road are estimated using RTRRMS (Response Type Road Roughness Meters) method to calculate riding quality and categorize in Good/Average/Poor segments as per IRC guidelines and capturing, video footage of the road using HD camera with at least 8fps framerate, along with geo-tagging of every chainage (100meter or 20meter depending on road length) with Advanced GPS and storing collected data on a mobile computer or a smart phone C4with at least 8GB of RAM and enough free space running Android version 10 or more. Transmitting above mentioned data on server hosted on cloud system, hosted in India, with at least 2GB RAM and enough hard disk space, connected with a centralized war room with broadband connection of 1MBPS or more providing alerts of upcoming expiry dates. Entering road details on the cloud based web portal with road name, number, length, ward, zone, work-code, contractor name, engineer name, audit and other reminder dates. Providing a GIS system			

	with map overlay of the digitized road information with proper login authentication as per official hierarchy and divisions of the business units etc and complete as specified and as directed by engineer in charge. Total no of roads 5702, Length of roads 2050 Km (having lane Km 11162) (lane calculation at page C-)				
DZR-02	<p>Personalized digital communication system for Contractors, his Staff and MCGM Staff,</p> <p>Development and providing of a Android and iOS based smartphone application installable file suitably to run on any good quality smartphone with 4GB RAM and 32GB storage space, providing authentication and login for contractors and field engineers with standard security implementation and SSL connectivity to cloud server with map based visual interface to view the digitized road records with every chainage geo-tagged and button to click on a chainage and report issues and status updates for pothole identification, pothole fixing, road work start, road work end, work in progress along with text data and picture. Installation of the app on mobile phones of contractors, his staff, BMC staff through in-person or remote method, providing training of the app to contractors on using the mobile app, testing its connectivity with the war room digital portal. Unlimited licenses. Integration of contractor uploaded data with war room portal and displaying the data, events and user generated road surveys side by side on portal. Mapping contractor generated content to official geo-coordinates of roads, mapping the incident details to official road name, number, field engineer, contractor, ward, work code.</p>	1	Each	70% on completion of App development and launch	Remaining balance for operations in equal instalments every quarter until end of first year
	IoT Device	100	Each	Per piece (Each)	

DZR-03	<p>Development of minicomputer circuit board with sensors to capture vibration data, processing the collected data with RTRRMS algorithm as per IRC SP 16 2019 A/B based measurement guideline and generating intelligent high priority road riding quality alerts from vehicle vibrations along with GPS coordinates. Calibration of the device for installed vehicle. Maintenance during contract period. Merging the data from accelerometer sensor, GPS sensor attached to the IoT (Internet of Things) device. Installing IoT devices on designated cars with hard attachment and power connections. Combining data from multiple sensors together to collate and identify common experience of users on the roads of BMC. Automatically uploading the user generated data in digital format to war room cloud based server with industry standard security communication protocol. Mapping IoT generated content to official geo-coordinates of roads, mapping the incident details to official road name, number, field engineer, contractor, ward, work code.</p>				
DZR-04	<p>War Room Setup in space provided by MCGM offices,</p> <p>Creating and providing display and access for war-room cloud portal with secured access credentials and live display of road condition data for entire BMC road network. Display of run-time notifications from contractors events and public participation. For each war-room setup, A) Installation of LED Screen - Sony 56 inch or above B) Providing of One Laptop - Lenovo or Dell brand, 16GB RAM, Core i5 CPU with 256GB SSD C) Providing of Printer - Brother T520 series or above/latest) D) Installation of Seating and meeting Furniture for 4 people including war room operator E) Providing of WiFi Router supporting internet connection in war room - TP-Link) Providing one man-year service of one. The candidate should have at least a bachelors degree in BSc (IT) or Computer Science with at least 3 Years experience in IT Department, the candidate should have Excel or Word knowledge (with working hours 10.00 Am to 6.00 Pm). One year cloud hosting for data of all BMC roads</p>	5	Each	<p>50% on completion of war room setup development and launch</p> <p>Remaining balance for operations in equal instalments every quarter until end of first year</p>	

	digitization records along with photographs and videos Data analysis reports and service to generate periodic analytics reports of BMC road network riding quality, user reported issues and automatically identified problems through IoT devices etc.				
DZR-05	AI/ML Based Road Survey	8200	Per Road per Km		
	AI/ML based road data collection and riding quality assessment including pothole, revelling, Cracks etc. with inventory data collection and high-resolution Imagery and Distress identification of roads up to Any width for one Driving direction including dead journey, providing API (application programmer interface) based access to road digitalization system for easy data import. etc and complete as specified and as directed by engineer in charge. Total length of road = 2050 Km Pre monsoon Post monsoon Quantity 2*2*2050=8200 Km this survey to be conducted both direction for the roads having width more than 9.15 mtr.			Per lane/km of work completed	
DZR-06	Data Transfer and Integration	1	Each		
	Automated program to link data collected by AI/ML based inventory data management system and exposed through APIs (Application Programmer Interface) with over all road digitalization database, mapping inventory objects to chainages and official road number records, removing data duplication, building scalability of operations, storage of linked data on cloud servers during contract period			70% on completion of development and launch Remaining balance for operations in equal instalments every quarter	

				until end of first year	
DZR-07	AMC Cost after 1st year, annually Details of AMC period given below	1	Each Year	Quarterly in equal instalments	
DZR-08	AMC Cost after 2nd year, annually Details of AMC period given below	1	Each Year	Quarterly in equal instalments	

- ii) The Service provider shall get one week for submission of the Final Road Digitalization consultancy Report after comments are provided on draft reports by the authority i.e. respective Zonal Dy.Ch.E.(Roads) office.
- iii) The payment to the Service provider for the Deliverables stated above shall be made after approval to the same by the authority i.e., respective Zonal Dy.Ch.E.(Roads) office.

The bills will be certified & released after verification. Retention money amounting to 5% of running bill shall be deducted from running bills.

The Retention Money and Contract deposit will be released after contract period and completion of assigned jobs satisfactorily, whichever is later.

The Service provider shall submit the bill for the work carried out, within 15 days from the date of completion of the stage wise works. If the Service provider fails to submit the bill for the completed work / running bill within 15 days, penalty or action as shown below will be taken for each delayed bill :-

After 15 days from the date of completion / running bill up to certain date, up to next 15 days i.e. up to 30 days	Equal to 5% of bill amount
Next 15 days up to 45 days from the date of completion/running bill up to 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.

3.39 Legal plus stationary Charges -

Successful bidders shall pay to BMC legal plus stationary charges as per circular of legal department u/no.10318/Dtd/24.03.2022. The same will be informed to the Bidders by the respective zonal Dy.Ch.E.(Road)'s office while executing contract agreement.

3.40 The deferred payment is proposed as under:

Payment of bill will be under 80:20 deferred payment scheme-

1st year- 80% after completion of captioned work (A).

20% of (A) after completion of 1st Annual maintenance work.

2nd year AMC-80% after completion of 1st Annual maintenance work (B).

20% of (B) after completion of 2nd Annual maintenance work.

3rd year AMC- 100% after completion of 2nd Annual maintenance work (C).

3.41 SECURITY DEPOSIT, PERFORMANCE GUARANTEE:-

A. Security Deposit

The security deposit shall mean and comprise of

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 in shall be paid within thirty days from the date of issue of letter of acceptance. The said Contract Deposit will be paid in form of **Demand Draft (D.D.)** only.

B. Additional Security Deposit

“All the bidders are directed to submit the A.S.D. as applicable in the form of Demand Draft, which is to be submitted within office hours one day before opening of ‘Packet C’ to respective Head Clerk (Expenditure) of road division in sealed envelope. If A.S.D. is not applicable then the bidders shall submit sealed envelope mentioning on their letter heads ‘ASD is not applicable’. If the bidders fails to submit the sealed envelope as mentioned above at least one day before opening of ‘Packet C’ within office hours then the E.M.D. of the respective bidders will be forfeited and the company with their Directors / Partners and other companies with the said Directors / Partners will be further debarred from any tendering process for the period of at least 2 years.”

The ASD shall be paid as mentioned above for which shall be applicable as under:

Sr. No.	Rebate quoted by contractor	ASD applicable
1	Upto 12% rebate	No ASD
2	12.01% to 20% rebate	1% of Estimated Cost for each percentage & part thereof above 12% rebate
3	20.01% rebate and above	8% of estimated cost + (2% of estimated cost extra for each percentage and part thereof over and above 20% rebate)

C. Performance Guarantee:

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

Offer	PG applicable %
For premium, at par and rebate upto 12%	$PG = 0.92\% \times \text{contract sum}$ applicable for rebate of 12%
For rebate of 12.01% and above	$P.G. = \{0.92\% \times \text{contract sum applicable for rebate of 12}\} + (X) \times \text{contract sum}$ where $X = \text{percentage rebate quoted more than 12\%}$

Note:

1. **Contract sum shall mean amount after application of rebate/premium as quoted by the contractor with contingencies only and excluding price variation.**
2. **Performance Guarantee shall be paid in the form of Demand Draft (D.D) only.**
3. **Performance Guarantee is applicable over and above the clause of Security Deposit.**
4. **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 Demand Draft (D.D.) only and shall be paid within 15 days after receipt of Letter of Acceptance.

SECTION - 4
TERMS OF REFERENCE

4) TERMS OF REFERENCE FOR RFP FOR APPOINTMENT OF ROAD Digitalization Service provider ON VARIOUS ROADS IN MUMBAI.

4.1 General:

- 1) BMC intends to appoint the Roads Digitation auditors for carrying out Roads Digitation Audit of various major roads in BMC jurisdiction.
- 2) In order to quickly take up the implementation of the project, it is proposed to appoint suitable Service provider to carry out complete road Digitalization consultancy and submission of Inception Report & Detailed Work Plan, Interim Report along with data analysis, identification of the roughness index values on all roads, detailed report on location and other data parameters of various Road furniture items based on safety point of view, Draft Road Digitalization consultancy Report, Final Road Digitalization consultancy Report, Contractor support Services for finalization of Implementing Agency of Final Road Digitalization consultancy report including preparation & providing Bid documents etc.
- 3) The Service provider, if they wish, may hire the suitable qualified and experienced key professional staff to enhance the quality of the team, if such staff is not readily available within their own organization. However, majority of the key professional staff should be permanent employees of the Service provider.
- 4) The team shall consist of the personnel as described in the minimum qualification criteria. Necessary other inputs of expert members and support staff shall also be provided by the Service provider.
- 5) The Team as submitted in minimum qualification criteria shall not be changed without prior approval of the Engineer in charge in writing. If changed, the personnel in the new team appointed shall be equivalent or better than the earlier team in respect of qualification as well as experience.
- 6) The team shall make their own arrangement for transportation.
- 7) Preference shall be given by Service provider to BMC work over other assignments of their firm.
- 8) During the entire execution & audit phase the Service provider shall work in Coordination with the IT department.

4.2.(a) Procedure for Allotment of work:

- 1) List of the roads where Roads Digitalization is to be carried out shall be prepared by the zonal Dy.Ch.E.(Roads)office.

- 2) After deciding priority of the road/roads, the concerned zonal road office executing the work, shall take approval of the competent authority, for the proposed road Digitalization consultancy work.
- 3) After approval of the competent authority, individual work order will be issued to the Service provider along with the list of roads selected and the time period for road Digitalization work. The Work order may contain single road or group of roads. The road Digitalization consultancy work of minimum 100 km length shall be done in all respects in three months.
- 4) The Bank Guarantee, Contract Deposit will be informed to the Service provider at the time of issue of main Work Order, as per the prevailing norms.

4.2 (b) Time Limit for completion of assignment:

The time period will be given by the Zonal Dy.Ch.E.(Roads) offices, while issuing the work order. The Service provider shall coordinate and follow up with all the work related agencies and complete the AI/ML based road survey and road Digitalization work as per the time period and phase stipulated in work order / PO. After collection of all the required data, Service provider shall prepare and submit all the reports and design & drawings within specified time period, in phases as mentioned in clause 2.5 and within stipulated period mentioned in work order. In case it is not possible to complete the assigned work within the stipulated time period due to the circumstances beyond the control of the Service provider the same shall be reported to concerned Deputy Chief Engineer of Road Department in time, who will take further necessary action regarding time extension of individual work order within contract period.

4.3 Objective of the Consultancy service:

The objective of this consultancy is to undertake a detailed road Digitalization consultancy, perform necessary service to generate or procure data and software and prepare a Detailed road quality digital Report of the BMC Roads as per work order and enabling the prospective bidders to assess the Authority's requirements in a clear and predictable manner with a view to ensure:

- i. Enhanced safety and level of service for the road users.
- ii. Superior operation and maintenance enabling enhanced operational efficiency of the roads
- iii. Minimal adverse impact on the local population and road users due to road construction of road safety interventions
- iv. Minimal adverse impact on environment
- v. Minimal additional acquisition of land.

4.4 Assessment of Services

The Service provider shall make their own assessment of key and support personnel to undertake the assignment. Additional staff or personnel if required to complete the assignment in the prescribed time. BMC shall not be

responsible for any wrong assessment by the Service provider and shall not in any case bear any additional cost arising there from. The Service provider should assess the inputs from their experts and support staff for completing the assignment within the above timelines. The Service provider shall make its own arrangements for office space, equipment, computer hardware / software etc.

4.5 Road Digitalization consultancy Team

4.5.1 The Service provider shall form a multi-disciplinary team (the “**Road Digitalization consultancy Team**”) for undertaking the assignment. The following Key Personnel whose experience and responsibilities are briefly described herein would be considered for evaluation of the Technical Proposal.

- 4.5.2 (i) Service provider must have at least following four personnel for performing the Service provider job.
(ii) The qualification and experience requirements of Key professional which will be evaluated are given below:

Sr. No	Position	Nos.
1.	Team Leader / Road Digitalization Specialist	1
2.	Senior Survey engineer / Data collection field Specialist	1
3.	ITES Expert	1
4.	IoT Expert	1
	Total	4

(v) Team Leader / Road Digitalization Specialist:

Essential Qualification:

- c) Masters in computer management with min. 20 years experience in developing software and Digitalization projects.
- d) The candidate should have filed or have approved a patent on road condition monitoring technology.

(vi) Senior road surveyor/Data collection Specialist

Essential Qualifications:

- c) Bachelors degree with at least 5 years of experience in data collection of roughness index data along with videography along with necessary operations management for on-ground staff
- d) The candidate should have at least a bachelors in automotive engineering, or road safety or any masters degree

(vii) ITES Expert:

Essential Qualifications:

- c) Masters of science degree holder with at least 6 years of experience developing applications for Android platform;

- d) The candidate should also have atleast 2 years of experience developing software and hardware for road distress identification and Digitalization products

(viii) IoT Expert : (Internet of Things)

Essential Qualifications:

Bachelors in engineering with atleast 3 years of experience in developing and deploying Smart Apps, Internet of Things devices including those based on open platforms such as Arduino and Raspberry Pi

4.6 Reporting

- 4.6.1 The Service provider may prepare issue reports highlighting issues that could become critical for the timely completion of the Project and that require attention from the Authority.
- 4.6.2 The Deliverables will be submitted as per the schedule provided in this RFP.

4.7. Completion of Services

- 4.7.1 All the study outputs including primary data shall be compiled, classified and submitted by the Service provider to the concerned zonal Dy.Ch.E.(Roads) in soft form, apart from the reports indicated in the Deliverables. The study outputs shall remain the property of the authority and shall not be used for any purpose other than that intended under these Terms of Reference without the permission of the concerned zonal Dy.Ch.E.(Roads).

4.7.2 Engineer-in-charge to be informed and involved in Road Investigation:

The Service provider shall inform the **Engineer-in-charge** of the respective zonal Dy.Ch.E.(Road)Office before carrying out any road Digitalization consultancy work and the road design audit work shall be done in co-ordination with concerned staff of zonal Dy.Ch.E. (Roads) Office.

- 4.8 Suggesting additional contract conditions/ specifications from road safety point of view required to be incorporated in Tenders for road works.

4.9 REPORTS :

The Service provider shall submit the reports as specified in this RFP clause no.2.5 to respective zonal Dy.Ch.E.(Roads).

SECTION – 5

A. CONDITIONS OF CONTRACT

5.1 GENERAL PROVISIONS -

Definitions -

- 5.1.1** (a) The "Employer/Client " 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 Commissioners, to whom the powers of the Municipal Commissioner, have been deputed under section 56 and 56-B of Mumbai Municipal Corporation Act.
- (b) The "Contract" shall mean the Proposal 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.
- (c) The "Bidder" shall mean the individual or firm or company whether incorporated or not, undertaking the works and shall include legal representatives of such individual or persons composing such firm or unincorporated company or successors of such firm or company as the case may be and permitted assigns of such individual or firm or company.
- (d) The "Engineer" shall mean 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 Chief Engineer/ the Special Engineer.
"Engineer's Representative" shall mean the deputy chief Engineer/the Executive Engineer, the Assistant Engineer and/or the Sub-Engineer/Road Engineer or any other municipal employee or employees appointed from time to time by the Commissioner to perform the duties set forth and generally to assist the Engineer for the purpose of the contract and whose authority shall be notified in writing to the Contractor by the Engineer.
- (e) The "Corporation" or the Municipal Corporation" shall mean the BRIHANMUMBAI MUNICIPAL CORPORATION, constituted under the B.M.C. Act.

- (f) The "Annexure" referred to in these conditions shall mean the relevant annexure appended to the Proposal papers issued by the Municipal Corporation.
- (g) "Approved" shall mean approved in writing including subsequent confirmation of previous verbal approval and "approval" shall mean approval in writing including as aforesaid.
- (h) "Specification" means the specifications referred to in the Proposal and any modification thereof or addition or deduction thereto as may from time to time be furnished or approved in writing by the Engineer.
- (i) "Letter of Acceptance" means the formal acceptance by the Employer of the Proposal.
- (j) "Commencement Date" means the date mentioned in the work order issued by the Engineer.
- (k) "Work order/Purchase order" means the formal letter to carry out investigation, design, estimation & drawing work as per TOR mentioned in this contract. The specific work order shall include the name of roads of which safety audit is to be done. The payment shall be in accordance with actual length of road for which safety audit is carried out and as per conditions of this contract. It shall also include any amendment/deletion/addition of scope of work to any work order already issued and as communicated by respective zonal Dy.Ch.E.(Roads) in writing.

5.2 COMMENCEMENT, COMPLETION, MODIFICATION AND TERMINATION OF CONTRACT

5.2.1 Effectiveness of Contract

This Contract shall come into effect on the date the acceptance of the offer of the bidder is communicated to them.

5.2.2 Commencement of Services

The Service provider shall begin rendering his professional services within fifteen days (15) after the date the Contract becomes effective, or at such other date as may be specified in the acceptance letter.

5.2.3 Expiry of Contract

Unless terminated earlier pursuant to Clause 2.12, this Contract shall expire when services have been completed and all payments have been made at the end of such time period after the Effective Date as is specified in the acceptance letter.

5.2.4 Modification

Modification of the terms and conditions of this Contract, including any modification of the scope of the services, may only be made by written agreement between the Parties.

5.2.5 Force Majeure

5.2.5.1 Definition

For the purpose of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Party, and which makes a Party's performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible in the circumstances, and includes, but is not limited to war, riots, civil disorders, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial action (except where such strikes, lockouts or other industrial action are within the power of the Party invoking Force Majeure to prevent), confiscation or any other action by government agencies.

Force Majeure shall not include (i) any event which is caused by the negligence or intentional action of a Party or such Party's Sub-auditors or agents or employees, not (ii) any event which a diligent Party could reasonably have been expected to both (A) take into account at the time of the conclusion of this Contract and (B) avoid or overcome in the carrying out of its obligations hereunder.

Force Majeure shall not include insufficiency of funds to make any payment required hereunder.

5.2.5.2 The failure of a Party to fulfill any of its obligations under the contract shall not be considered to be a breach of, or default under this Contract so far as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract, and (b) has informed the other Party as soon as possible about the occurrence of such an event.

5.2.5.3 Measures to be taken

- (a) A Party affected by an event of Force Majeure shall take all reasonable measures to remove such Party's inability to fulfill its obligations hereunder with a minimum of delay.
- (b) A party affected by an event of Force Majeure shall notify the other party of such event as soon as possible, and in any case not later than fourteen (14) days following the occurrence of such events, providing evidence of the nature and cause of such event, and shall similarly give notice of the restoration of normal conditions as soon as possible.
- (c) The parties shall take all reasonable measures to minimize the consequence of any event of Force Majeure.

5.2.5.4 Extension of Time

Extension of time period will be considered by Zonal Dy.Ch.E.(Roads) for valid reasons, if any.

5.2.5.5 Payments

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Service provider shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.

5.2.5.6 BMC will provide necessary ArcGIS desktop, ArcGIS enterprise software, tools, extensions, SDKs for development of GIS based mobile apps, GIS based portal and dashboards to the Bidder.

5.2.6 Termination

5.2.6.1 The Client may terminate this Contract, by not less than thirty (30) days' written notice of termination to the Service provider, to be given after the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause 5.2.6.1 and sixty (60) days' in the case of the event referred to in (e)

- a) if the Service provider do not remedy a failure in the performance of their obligations under the Contract, within thirty (30) days of receipt after being notified or within such further period as the Client may have subsequently approved in writing;
- b) if the Service provider become insolvent or bankrupt;

- c) if, as the result of Force Majeure, the Service provider are unable to perform a material portion of the Services for a period of not less than sixty (60) days; or
- d) If the Service provider, in the judgment of the Client has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this clause :

“corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the selection process or in contract execution

“fraudulent practice” means a misrepresentation of facts in order to influence a selection process or the execution of a contract to the detriment of the client, and includes collusive practice among Service provider (prior to or after submission of proposals) designed to establish prices at artificial non-competitive levels and to deprive the Borrower from the benefits of free and open competition.

- e) If the Client, in its sole discretion and for any reason whatsoever, decided to terminate this Contract.
- f) If the Service provider become (or, if the Service provider consist of more than one entity, if any of their Members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;
- g) If, as the result of Force Majeure, the Service provider are unable to perform a material portion of the Services for a period of not less than sixty (60) days.

5.2.6.2 Payment upon Termination

- a) Upon termination of this Contract pursuant to Clauses 5.2.6.1, the Client shall make the following payments to the Service provider :Remuneration for Services satisfactorily performed prior to the effective date of termination
- b) Except in the case of termination pursuant to paragraphs (a) and(b) of Clause 5.2.6.1, reimbursement of any reasonable cost incidentto the prompt and orderly termination of the Contract, including the cost of the return travel of the Service providers’ personnel and their eligible dependents.

5.2.7 Payment procedure:

The Service provider shall submit bill of the road Digitalization consultancy works carried out by them as per the schedule of payment given to Zonal Dy.Ch.E.(Roads).

The quantities quoted by the Service provider in their bill shall be verified by respective Zonal Dy.Ch.E.(Roads) office and payment, as per actual quantities as measured on site, shall be paid.

The payment to each deliverable shall be made as per the following stages.

Item No.	Item description	Quantity	Unit	Payment schedule
DZR-01	<p>Digitization of roads,</p> <p>Conducting a survey of roads where roughness index of the road is carried out as per IRC-Sp-16 publication of Indian Road Congress 2019 version, A/B (accelerometer based) digital method of measurement of road roughness every 100meters or 20meters, where the vertical elevations of the road are estimated using RTRRMS (Response Type Road Roughness Meters) method to calculate riding quality and categorize in Good/Average/Poor segments as per IRC guidelines and capturing video footage of the road using HD camera with at least 8fps framerate, along with geo-tagging of every chainage (100meter or 20meter depending on road length) with Advanced GPS and storing collected data on a mobile computer or a smart phone C4 with at least 8GB of RAM and enough free space running Android version 10 or more. Transmitting above mentioned data on server hosted on cloud system, hosted in India, with at least 2GB RAM and enough hard disk space, connected with a centralized war room with broadband connection of 1MBPS or more providing alerts of upcoming expiry dates. Entering road details on the cloud based web portal with road name, number, length, ward, zone, work-code, contractor name, engineer name, audit and other reminder dates. Providing a GIS system with map overlay of the digitized road information with proper login authentication as per official hierarchy and divisions of the business units etc and complete as specified and as directed by</p>	11162	Per lane/ Km	Per lane/km of work completed

	engineer in charge. Total no of roads 5702, Lenght of roads 2050 Km (having lane Km 11162) (lane calculation at page C-)			
DZR-02	<p>Personalized digital communication system for Contractors, his Staff and MCGM Staff,</p> <p>Development and providing of a Android and IoS based smartphone application installable file suitably to run on any good quality smartphone with 4GB RAM and 32GB storage space, providing authentication and login for contractors and field engineers with standard security implementation and SSL connectivity to cloud server with map based visual interface to view the digitized road records with every chainage geo-tagged and button to click on a chainage and report issues and status updates for pothole identification, pothole fixing, road work start, road work end, work in progress along with text data and picture. Installation of the app on mobile phones of contractors, his staff, BMC staff through in-person or remote method, providing training of the app to contractors on using the mobile app, testing its connectivity with the war room digital portal. Unlimited licenses. Integration of contractor uploaded data with war room portal and displaying the data, events and user generated road surveys side by side on portal. Mapping contractor generated content to official geo-coordinates of roads, mapping the incident details to official road name, number, field engineer, contractor, ward, work code.</p>	1	Each	<p>70% on completion of App development and launch</p> <p>Remaining balance for operations in equal instalments every quarter until end of first year</p>
	IoT Device	100	Each	Per piece (Each)

DZR-03	<p>Development of minicomputer circuit board with sensors to capture vibration data, processing the collected data with RTRRMS algorithm as per IRC SP 16 2019 A/B based measurement guideline and generating intelligent high priority road riding quality alerts from vehicle vibrations along with GPS coordinates. Calibration of the device for installed vehicle. Maintenance during contract period. Merging the data from accelerometer sensor, GPS sensor attached to the IoT (Internet of Things) device. Installing IoT devices on designated cars with hard attachment and power connections. Combining data from multiple sensors together to collate and identify common experience of users on the roads of BMC. Automatically uploading the user generated data in digital format to war room cloud based server with industry standard security communication protocol. Mapping IoT generated content to official geo-coordinates of roads, mapping the incident details to official road name, number, field engineer, contractor, ward, work code.</p>			
DZR-04	<p>War Room Setup in space provided by MCGM offices,</p> <p>Creating and providing display and access for war-room cloud portal with secured access credentials and live display of road condition data for entire BMC road network. Display of run-time notifications from contractors events and public participation. For each war-room setup, A) Installation of LED Screen - Sony 56 inch or above B) Providing of One Laptop - Lenovo or Dell brand, 16GB RAM, Core i5 CPU with 256GB SSD C) Providing of Printer - Brother T520 series or above/latest) D) Installation of Seating and meeting Furniture for 4 people including war room operator E) Providing of WiFi Router supporting internet connection in war room - TP-Link) Providing one man-year service of one. The candidate should have at least a bachelors degree in BSc (IT) or Computer Science with at least 3 Years experience in IT Department, the candidate should have Excel or Word knowledge (with working hours 10.00 Am to 6.00 Pm). One year cloud hosting for data of all BMC roads</p>	5	Each	<p>55% on completion of war room setup development and launch</p> <p>Remaining balance for operations in equal instalments every quarter until end of first year</p>

	digitization records along with photographs and videos Data analysis reports and service to generate periodic analytics reports of BMC road network riding quality, user reported issues and automatically identified problems through IoT devices.			
DZR-05	AI/ML Based Road Survey	8200	Per Road per Km	
	AI/ML based road data collection and riding quality assessment including pothole, revelling, Cracks etc. with inventory data collection and high-resolution Imagery and Distress identification of roads up to Any width for one Driving direction including dead journey, providing API (application programmer interface) based access to road digitalization system for easy data import. etc and complete as speci-fied and as directed by engineer in charge. Total lenght of road = 2050 Km Pre mansoon Post mansoon Quantity 2*2*2050=8200 Km this survey to be conducted both direction for the roads having width more than 9.15 mtr.			Per lane/km of work completed
DZR-06	Data Transfer and Integration	1	Each	
	Automated program to link data collected by AI/ML based inventory data management system and exposed through APIs (Application Programmer Interface) with over all road digitalization database, mapping inventory objects to chainages and official road number records, removing data duplication, building scalability of operations, storage of linked data on cloud servers during contract period			70% on completion of App development and launch Remaining balance for operations in equal instalments every quarter

				until end of first year
DZR-07	AMC Cost after 1st year, annually Details of AMC period given below	1	Each Year	Quarterly in equal instalments
DZR-08	AMC Cost after 2nd year, annually Details of AMC period given below	1	Each Year	Quarterly in equal instalments

BMC shall be authorized to deduct all rebates, penalties, fines, recoveries, taxes, statutory charges/penalties/taxes payable to government bodies as deemed fit and as applicable from time to time from the payment payable to the Service provider at any stage.

5.2.8 Penalties

- a) Penalty for not adhering maximum time given in clause 4.2 b shall attract a penalty of Rs. 1000/day/road.
- b) If major error is observed by BMC in the report/drawing etc. the Service provider shall be liable for warnings/ penalty etc. as deemed fit by Ch.Eng.(Rds& Tr.)

5.3 OBLIGATIONS OF THE ROAD Digitalization Service provider

5.3.1 General

The Service provider shall perform the Services and carry out their obligations hereunder with all due diligence, efficiency and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advanced technology and safe methods. The Service provider shall always act, in respect of any matter relating to this Contract or to the Services, as faithful advisers to the Client, and shall at all times support and safeguard the Client's legitimate interests in any dealings with Sub-Auditors or third parties.

5.3.2 Service providers Not to Benefit from Commissions, Discounts etc.

5.3.2.1 The remuneration of the Service provider shall constitute the Service provider's sole remuneration in connection with this Contract or the Services, and the Service provider shall not accept for their own benefit any trade commission, discount or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Service provider shall use their best efforts to ensure that the Personnel, any Sub-Auditors, and agents of either of them, similarly shall not receive any such additional remuneration.

5.3.2.2 Service provider and Affiliates Not to be Otherwise Interested in Project.

5.3.2.3 Prohibition of Conflicting Activities

Neither the Service provider nor their Sub-auditors nor the Personnel shall engage, either directly or indirectly, in any of the following activities.

- a) During the term of this Contract, any business or professional activities which would conflict with the activities assigned to them under this Contract; or
- b) After the termination of this Contract, such other activities as may be specified in the acceptance letter.

5.3.3 Confidentiality

The Service provider, their Sub-auditors, and the Personnel of either of them shall not, either during the term or within two (2) years after the expiry of this Contract, disclose any proprietary or confidential information relating to the Project, the Services, this Contract, or the Client's business or operations without the prior written consent of the Client.

5.3.4 Service provider's actions requiring Client's Prior Approval

The Service provider shall obtain the Client's prior approval in writing before taking any of the following actions:

- a. Entering into a sub contract for the performance of any part of the Services,
- b. Appointing such members of the Personnel other than those listed in proforma ("Key Personnel and Sub-Auditors"), and
- c. Any other action that may be specified in the acceptance letter/Work order.

5.3.5 Reporting Obligations

The Service provider shall submit to the Client the reports and documents in the form, in the numbers, and within the periods set forth.

5.3.6 All plans, drawings, specifications, reports and other documents submitted by the Service provider in accordance with relevant Clauses of this RFP shall become and remain the property of the BMC, and the Service provider shall, not later than upon termination or expiration of this Contract, deliver all such documents and software to the Client, together with a detailed inventory thereof. The Service provider may retain a copy of such documents and software. Restrictions about the future use of these documents, if any, shall be specified in the acceptance letter.

5.3.7 Resolution of disputes:-

If any dispute, difference or claim is raised by either party relating to any matter arising out of the contract, the aggrieved party within a period of 7 days may refer to the concerned Addl. Municipal Commissioner who shall constitute a committee comprising of three officers i.e. concerned D.M.C. or Director (E.S. & P.), Chief Engineer other than the Engineer of the Contract and concerned Chief Accountant. The Committee shall give its decision in writing within 60 days.

Appeal from the order of the Committee may be referred to Municipal Commissioner within seven days. Thereafter the Municipal Commissioner shall constitute the Committee comprising of 3 Addl. Municipal Commissioners including Addl. Municipal Commissioner in-charge of Finance Department. The decision given by this Committee shall be final and binding upon the parties until the completion of the works, and shall forthwith have the given effect to be by the contractor who shall proceed with the work 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 period of 90 days from receipt of such notice. The said decision shall remain final and binding upon the contractor.

5.3.8 Service provider to offer best Prices:-The Service provider shall give undertaking in the format as included in this document, on Rs. 500/- stamp paper, to offer the best prices and shall be liable for action/penalty as mentioned in the undertaking.

5.3.9 Service provider to comply with obligations under E.S.I.C & EPF & MP Acts:-

The tenderer shall have to submit the registration certificate under Employees Provident Fund and Miscellaneous Provision Act of 1952 (EPF & MP Act 1952) and also they shall have to submit registration certificate under Employees State Insurance Corporation Act 1948.

If the no. of persons/ laborers on the establishment of tenderer / firm is 20 or more. If no. is less than 20, a notarized undertaking to that effect on Rs. 200/- stamp paper shall be uploaded. In case the tenderer have applied for registration, copy of application and its acknowledgement shall be uploaded

5.4 Contract Documents and order of precedence:

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

5.5 Arbitration clause

As per Hon'ble M.C.'s circular vide no. MGC/F/8659 dtd. 07.09.2019, the existing arbitration clause in the Standard General Conditions of Contract , point no.13 (e) is now replaced and the same is as follows:

13. e) Arbitration and Jurisdiction

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

(i) In case of a contract where the contract price and / or contract value is less than Rs.5,00,00,000/- (Rupees Five Crores Only), any dispute arising out of or in connection with this contract, including any question regarding its existence, validity or termination, shall be referred to a mutually agreed arbitral

tribunal in accordance with the Arbitration and Conciliation Act, 1996 (amended upto date). The arbitral tribunal shall consist of a sole arbitrator, as mutually agreed upon by the parties and the said dispute shall be finally resolved by the said arbitral tribunal. The decision of the arbitral tribunal shall be in writing (with reasons) and which will be final and binding upon the parties hereto and the expenses of the arbitration shall be paid as may be determined by the arbitral tribunal. The seat of the arbitration shall be Mumbai. The venue of arbitration shall be within the limits of Brihan Mumbai. The language of the Arbitration shall be English.

If the parties fails to appoint mutually agreed arbitral tribunal, within the period of 30 days from the date of application seeking arbitration in the dispute, the arbitral tribunal shall be appointed by the recognised arbitral institution i.e. Mumbai Centre for International Arbitration (approved by Government of Maharashtra under G.R.no. ARB/Case No.1,/2017/ D-19 dtd.28.02.2017) as per the Arbitration Rules of the Mumbai Centre for International Arbitration then in force. ("MCIA Rules")

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

In either case, the law governing this arbitration agreement and the contract shall be Indian Law.

SECTION -6

AGREEMENT FORM

dated.....
.20

Standing Committee Resolution No.

CONTRACT FOR THE WORKS

.....
.....

This agreement made this day of

Two thousand

Between

.....
In habitants of Mumbai, carrying on business at.....

.....
in Mumbai under the style and name of Messer.....

.....
(Hereinafter called "the Road Digitalization firm(Service provider)" of the one part and Shri.....

.....
the D.M.C.(Infra) (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 D.M.C.(Infra)of the second part and the BRIHANMUMBAI MUNICIPAL CORPORATION (hereinafter called "the Corporation") of the third part, WHEREAS the Service provider has Proposed for rendering complete Road Digitalization consultancy, inception report, detailed report, draft report road Digitalization consultancy report, final road Digitalization consultancy report etc.as described herein before and his Proposal has been accepted by the Commissioner (with the approval of the Standing Committee of the Corporation) NOW THIS AGREEMENT WITNESSETH as follows:-

(1) In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract for works hereinafter referred to:-

(2) The following documents shall be deemed to form and be read and construed as a part of this agreement viz.

- (a) The said proposal
- (b) Addendum/ Corrigendum
- (c) Notification of Award
- (d) Any other documents listed as forming part of the contract

(1) In consideration of the payments to be made by the Commissioner to the Service providers as hereinafter mentioned the Service provider hereby

covenants with the Commissioner to complete Road Digitalization consultancy work in conformity in all respects with the provision of the contract.

- (2) The Commissioner hereby covenants to pay to the Service provider inconsideration of giving complete Road Digitalization consultancy work mentioned herein, at times and in the manner prescribed by the contract.

IN WITNESS WHERE OF the parties hereto have caused their respective common seal 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 Service provider

.....
.....
In the presence of Trading under the name and style of
.....
.....

Full Name
Address..... Road Digitalization firm

Signed by the D.M.C.(Infra)in the
Presence of

..... D.M.C.(Infra)
The Common seal of the BRIHANMUMBAI MUNICIPAL
CORPORATION was hereunto affixed on the
.....2017.

In the presence of two Members of the Standing Committee of the Mun.
Corporation.

- 1)..... 1).....
.....
2)..... 2).....
.....

and in the presence of the Municipal
Secretary.....

Municipal Secretary

SECTION -7
FINANCIAL BID FORM

7. FINANCIAL BID FORM

I/We hereby confirm that I/We have examined contents of proposal including Corrigendum & Addendum (as applicable), conditions of contract etc. forming part of the proposal and accordingly I/We hereby submit our offer to execute the said work as per the proposal in all respects at the rates quoted below -

1. Name of the Work: Invitation of RFP for appointment of Road Digitalization firms for carrying out safety audit of BMC roads, for a period of three years.
2. Name of the Client: BMC
3. Name of the Department: Chief Engineer (Rds. & Tr.)

BID FOR AI/ML Based Survey and ROAD Digitalization CONSULTANCY IN ENTIRE BMC JURISDICTION

Budget for 1-year (first) operations plan

Item No.	Item description	Quantity	Rate	Unit	Amount
DZR-01	Digitization of roads, Conducting a survey of roads where roughness index of the road is carried out as per IRC-Sp-16 publication of Indian	11162	9499	Per lane/ Km	10,60,27,838

	<p>Road Congress 2019 version, A/B (accelerometer based) digital method of measurement of road roughness every 100meters or 20meters, where the vertical elevations of the road are estimated using RTRRMS (Response Type Road Roughness Meters) method to calculate riding quality and categorize in Good/Average/Poor segments as per IRC guidelines and capturing video footage of the road using HD camera with at least 8fps framerate, along with geo-tagging of every chainage (100meter or 20meter depending on road length) with Advanced GPS and storing collected data on a mobile computer or a smart phone C4with at least 8GB of RAM and enough free space running Android version 10 or more. Transmitting above mentioned data on server hosted on cloud system, hosted in India, with at least 2GB RAM and enough hard disk space, connected with a centralized war room with broadband connection of 1MBPS or more providing alerts of upcoming expiry dates. Entering road details on the cloud based web portal with road name, number, length, ward, zone, work-code, contractor name, engineer name, audit and other reminder dates. Providing a GIS system with map overlay of the digitized road information with proper login authentication as per official hierarchy and divisions of the business units etc and complete as specified and as directed by engineer in charge. Total no of roads 5702, Length of roads 2050 Km (having lane Km 11162) (lane calculation at page C-)</p>				
DZR-02	Personalized digital communication system for Contractors, his Staff and MCGM Staff,	1	20355000	Each	2,03,55,000

	<p>Development and providing of a Android and iOS based smartphone application installable file suitably to run on any good quality smartphone with 4GB RAM and 32GB storage space, providing authentication and login for contractors and field engineers with standard security implementation and SSL connectivity to cloud server with map based visual interface to view the digitized road records with every chainage geo-tagged and button to click on a chainage and report issues and status updates for pothole identification, pothole fixing, road work start, road work end, work in progress along with text data and picture. Installation of the app on mobile phones of contractors, his staff, BMC staff through in-person or remote method, providing training of the app to contractors on using the mobile app, testing its connectivity with the war room digital portal. Unlimited licenses. Integration of contractor uploaded data with war room portal and displaying the data, events and user generated road surveys side by side on portal. Mapping contractor generated content to official geo-coordinates of roads, mapping the incident details to official road name, number, field engineer, contractor, ward, work code etc and complete as specified and as directed by en-gineer in charge</p>				
DZR-03	IoT Device	100	162840	Each	1,62,84,000

	<p>Development of minicomputer circuit board with sensors to capture vibration data, processing the collected data with RTRRMS algorithm as per IRC SP 16 2019 A/B based measurement guideline and generating intelligent high priority road riding quality alerts from vehicle vibrations along with GPS coordinates. Calibration of the device for installed vehicle. Maintenance during contract period. Merging the data from accelerometer sensor, GPS sensor attached to the IoT (Internet of Things) device. Installing IoT devices on designated cars with hard attachment and power connections. Combining data from multiple sensors together to collate and identify common experience of users on the roads of BMC. Automatically uploading the user generated data in digital format to war room cloud based server with industry standard security communication protocol. Mapping IoT generated content to official geo-coordinates of roads, mapping the incident details to official road name, number, field engineer, contractor, ward, work code etc and complete as specified and as directed by engineer in charge</p>				
DZR-04	War Room Setup in space provided by MCGM offices,	5	6749500	Each	3,37,47,500

	<p>Creating and providing display and access for war-room cloud portal with secured access credentials and live display of road condition data for entire BMC road network. Display of run-time notifications from contractors events and public participation. For each war-room setup,</p> <p>A) Installation of LED Screen - Sony 56 inch or above B) Providing of One Laptop - Lenovo or Dell brand, 16GB RAM, Core i5 CPU with 256GB SSD C) Providing of Printer - Brother T520 series or above/latest) D) Installation of Seating and meeting Furniture for 4 people including war room operator E) Providing of WiFi Router supporting internet connection in war room - TP-Link)</p> <p>Providing one man-year service of one. The candidate should have at least a bachelors degree in BSc (IT) or Computer Science with at least 3 Years experience in IT Department, the candidate should have Excel or Word knowledge (with working hours 10.00 Am to 6.00 Pm). One year cloud hosting for data of all BMC roads digitization records along with photographs and videos Data analysis reports and service to generate periodic analytics reports of BMC road network riding quality, user reported issues and automatically identified problems through IoT devices etc and complete as specified and as directed by engineer in charge.</p>				
DZR-05	AI/ML Based Road Survey	8200	6998	Per Road per Km	5,73,83,600

	AI/ML based road data collection and riding quality assessment including pothole, revelling, Cracks etc. with inventory data collection and high-resolution Imagery and Distress identification of roads up to Any width for one Driving direction including dead journey, providing API (application programmer interface) based access to road digitalization system for easy data import. etc and complete as speci-fied and as directed by engineer in charge. Total lenght of road = 2050 Km Pre mansoon Post mansoon Quantity 2*2*2050=8200 Km this survey to be conducted both direction for the roads having width more than 9.15 mtr.				
DZR-06	Data Transfer and Integration	1	7667050	Each	76,67,050
	Automated program to link data collected by AI/ML based inventory data management system and exposed through APIs (Application Programmer Interface) with over all road digitalization database, mapping inventory objects to chainages and official road number records, removing data duplication, building scalability of operations, storage of linked data on cloud servers during contract period				
DZR-07	AMC Cost after 1st year, annually Details of AMC period given below	1	1,65,08,635	Each Year	1,65,08,635
DZR-08	AMC Cost after 2nd year, annually Details of AMC period given below	1	1,65,08,635	Each Year	1,65,08,635
	Total				27,44,82,258

Note – For Digitization of road the rate given is applicable upto two lanes of a road. If number of lanes are increase above two lanes then 25% rebate shall be taken for each lane.

ANNUAL MAINTENANCE DETAILS

Details of AMC period after 1st year, annually (for 2 consecutive years)

Sr.No	AMC description	Qty.	Rate	Unit	Amount
1	Maintenance of Digitization of roads with assets,	11162	284.97	Per lane/ Km	31,80,835
	Digitised road data maintenance and cloud hosting				
2	Maintenance of Personalized digital communication system for Contractors, his Staff and BMC Staff,	1	4071000	Each	40,71,000
	App maintenance and cloud data storage maintenance				
3	Maintenance of IoT Device	100	32568	Each	32,56,800
	Device maintenance and cloud data storage maintenance				
4	Maintenance of War Room Setup in space provided by BMC offices,	5	1200000	Each	60,00,000
	For each War room maintenance with one full time person on contract to assist with data entry and management. The candidate should have at least a bachelors degree in Computer science or BSc IT having at least 3 years experience in IT Department. the candidate should have conversed to Excel or Word knowledge. (Data Entry Operator to assist with data entry, data retrieval, technical help, troubleshooting and record search, with working hours 10.00 Am to 6.00 Pm)				
	Total				1,65,08,635

NOTES:

1. As per circular of Chief Accountant (Finance/ Projects/ City) department under no. 28, dtd. 10.11.2017, GST and other state levies/ cess which are not subsumed under GST will be applicable. The tenderer shall quote inclusive of

all taxes. It is clearly understood that BMC will not bear any additional liability towards payment of any taxes and duties.

Wherever the services to be provided by the 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 BMC shall hold good till completion of work and no additional individual claim shall be admissible on account of fluctuations in market rates, increase in taxes / any other levies / tolls etc. except that payment / recovery for overall market situation shall be made as per price variation.

The bidders shall take note of above circular and quote the rates accordingly.

In case of any duplication of condition related with taxes in the instant RFP, the above condition shall supersede.

2. General Condition of Contract shall be binding on the Service provider throughout the contract period.
3. Relevant BMC circulars issued time to time during the contract period are applicable for instant RFP.

ANNEXURE 'A'

FORMS OF BANK GUARANTEE

BANKERS GUARANTEE

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

_____ (herein after referred to as 'the
Road Digitalization firms (Service provider)) of the second part

Shri. _____ 0 _____

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 Service provider have submitted to the Commissioner tender for the
execution of the work of
" _____ and the

terms of such tender /contract require that the contractors shall deposit with the Commissioner as/contract deposit/ earnest money and /or the security a sum of Rs._____ (Rupees _____)ANDWHEREAS if and when any such tender is accepted by the Commissioner, the contract to be entered into in furtherance thereof by the contractors 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 contractors, 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 Service provider are constituents of the Bank and in order to facilitate the keeping of the accounts of the Service provider, the Bank with the consent and concurrence of the Service provider 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 Service provider (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 Address _____

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

ANNEXURE 'B'

FORM OF UNDERTAKING FOR BESTPRICES

<UNDERTAKING FOR BEST PRICES ON RS 500/- STAMP PAPER>

"I/We _____

(fullname in capital letters, starting with surname), the Proprietor/Managing Partner/Managing Director/Holder of the Business/Manufacturer/Authorized Dealer, for the establishment/firm/registered company, named here in below, do hereby undertake that we have offered the best prices for the subject supply/work as per the present market rates and that we have not offered less prices for the subject supply/work to any other outside agencies including Govt/Semi-Govt. agencies and within the BMC also. Further, We have filled in the accompanying tender with full knowledge of the above liabilities and therefore we will not raise any objection or dispute in any manner relating to any action, including forfeiture of deposit and blacklisting, for giving any information which is found to be in correct and against the instructions and directions given in this behalf in this tender.

I/We further, agree and undertake that in the event it is revealed subsequently after the allotment of work/contract to me/us, that any information given by me/us in this tender is false or incorrect, I/We shall compensate the BRIHANMUMBAI MUNICIPAL CORPORATION for any such losses or inconvenience caused to the Corporation in any manner and will not resist any claim for such compensation on any ground whatsoever, I/We agree and undertake that I/We shall not claim in such case any amount, by way of damages or compensation for cancellation of the contract given to me/us or any work assigned to me/us or is withdrawn by the Corporation.”

ANNEXURE 'C'

- 1. PRE CONTRACT INTEGRITY PACT**
- 2. DECLARATION CUM INDEMNITY BOND.**

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 dis favour 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 Bidders if it determines that the Bidders has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bidding Process.

For the purposes of this Clause 9, the following terms shall have the meaning herein after respectively assigned to them:

- 1) “fraudulent practice” means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding Process ;
- 2) “coercive practice” means impairing or harming or threatening to impair or harm, directly or indirectly, any person or property to influence any persons participation or action in the Bidding Process;
- 3) “undesirable practice” means (i) establishing contact with any person connected with or employed or engaged by the Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or (ii) having a Conflict of Interest; and
- 4) “Restrictive practice” means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bidding Process.

Signature of Tenderer/Bidder

(On Rs. 500/- Stamp Paper)

DECLARATION CUM INDEMNITY BOND

I, _____ of _____, do hereby declared and Undertakes under.

1. I declare that I have submitted certificates as required to Executive engineer

(Monitoring) at the time of registration of my firm/company _____ and there is no change in the contents of the certificates that are submitted at the time of registration.

2. I declare that I _____ in capacity as Manager/Director/Partners/Proprietors of _____ has not been charged with any prohibitory and /or penal action such as banning(for specific time or permanent)/de-registration or any other action under the law by any Government and/or Semi Government and/or Government undertaking.

3. I declare that I have perused and examined the tender document including addendum and Corrigendum as applicable, 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

ANNEXURE 'D'

1. UNDERTAKING on Rs.500/- FOR PROCESSING SURVEYED DATA IN INDIA

UNDERTAKING FOR PROCESSING SURVEYED DATA IN INDIA

I/WE, _____ of _____, do hereby declare that road video data collected during survey and Digitalization of roads will be stored and processed on servers or devices in India and will not be shared or distributed/disclosed to anywhere outside India including foreign entities.

Signature of Tenderer/Bidder

(on 500rs stamp paper)

LIST OF APPROVED BANKS

LIST OF APPROVED BANKS

1. The following Banks with their branches in Greater Mumbai and in suburbs and extended suburbs up to Virar and Kalyan have been approved only for the purpose of accepting Banker's guarantee from 1997-98 onwards until further instructions.
2. The Bankers Guarantee issued by branches of approved Banks beyond Kalyan and Virar can be accepted only if the said Banker's Guarantee is countersigned by the Manager of a branch of the same Bank, within the Mumbai Limit categorically endorsing thereon that said bankers Guarantee is binding on the endorsing Branch of the bank within Mumbai limits and is liable to be on forced against the said branch of the Bank in case of default by the contractor/supplier furnishing the bankers Guarantee.

List Of Approved Banks – A (SBI & its subsidiaries)

1	State Bank Of India	2	State Bank Of Patiyala.
3	State Bank Of Bikaner & Jaipur	4	State Bank Of Saurashtra.
5	State Bank Of Hyderabad.	6	State Bank Of Travankore
7	State Bank Of Mysore		

List Of Approved Banks – B (Nationalized 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.	15	Indian Bank.

16	Indian Overseas Bank.	17	Oriental Bank Of Commerce.
18	Punjab National Bank.	19	Punjab & Sindh 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 Rajasthan Ltd.	27	Banaras State Bank Ltd.
28	Bank Of Madura Ltd.	29	Bharat Overseas Bank Ltd
30	Nedugundi Bank Ltd.	31	Catholic Syrian Bank Ltd.
32	Ratnakar Bank Ltd.	33	City Union Bank Ltd.
34	Sangli Bank Ltd.	35	Development Credit Bank.
36	South Indian Bank Ltd.	37	Dhanalakshmi Bank Ltd.
38	S.B.I Corporation & Int Bank Ltd.	39	Federal Bank Ltd.
40	Tamilnadu Mercantile Bank Ltd.	41	Indsind Bank Ltd.
42	United Western Bank Ltd.	43	I.C.I.C.I Banking Corporation Ltd.
44	Vysya Bank Ltd.	45	Global Trust Bank Ltd.
46	Karnataka Bank Ltd.	47	Jammu & Kashmir Bank Ltd.
48	KarurVysya Bank Ltd.	49	Laxmi Vilas Bank Ltd.
D- Scheduled Urban Co-op Banks			
52	Abhyudaya Co-op Bank Ltd.	53	JanataSahakari Bank Ltd.
54	Bassein Catholic Co-op Bank Ltd.	55	Mumbai District Central Co-op Bank Ltd.
56	Bharat Co-op Bank Ltd.	57	Maharashtra State Co-op Bank Ltd.
58	Bombay Mercantile Co-op Bank Ltd.	59	New India Co-op Bank Ltd.
60	Cosmos Co-op Bank Ltd.	61	North Canara G.S.B. Co-op Bank Ltd.

62	Greater Mumbai Co-op Bank Ltd.	63	Rupee Co-op Bank Ltd.
64	Sangli Urban Co-op Bank Ltd.	65	Mahanagar Co-op Bank Ltd.
66	Saraswat Co-op Bank Ltd.	67	Citizen Bank Ltd.
68	ShamraoVithal Co-op Bank Ltd.	69	Yes Bank Ltd.
E- Foreign Banks			
70	ABM AMRO (N.Y.) Bank.	71	BanqueNationale de Paris.
72	American Express Bank Ltd.	73	Barclays bank.
74	ANZ Grindlays Bank Ltd.	75	City Bank N.A.
76	Bank Of America N.T. & S.A.	77	Hongkong& Shanghai banking Corporation.
78	Bank Of Tokyo Ltd.	79	Mitsui Taiyokbe Bank Ltd.
80	Bankindosuez.	81	Standard Chartered Bank.
82	Cho Hung Bank.		

Circulars

बृहन्मुंबई महानगरपालिका

परिपत्रक

प्र.ले./वित्त/प्रकल्प/ 25 दि. 12/07/2022

विषय: महानगरपालिकेद्वारे हाती घेण्यात येणारी विविध प्रकल्प कामे तसेच प्राप्त करण्यात येणा-या वस्तु व सेवा इत्यादीबाबतच्या ई-निविदा/निविदा/दरपत्रक यामध्ये वस्तु व सेवा कराच्या अनुषंगाने अंतभूत करावयाच्या अटीबाबत.

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

४) प्र.ले./वित्त/प्रकल्प/शहर/२८ दि.१०.११.२०१७

५) Press Release: 47th Meeting of the GST Council, Chandigarh

28th and 29th June, 2022.

बृहन्मुंबई महानगरपालिकेद्वारे हाती घेण्यात येणाऱ्या विविध प्रकल्प कामे तसेच प्राप्त करण्यात येणा-या वस्तु व सेवा इत्यादीबाबतच्या ई-निविदा/निविदा/दरपत्रक यामध्ये वस्तु व सेवा कराच्या अनुषंगाने अंतभूत करावयाच्या अटीबाबत संदर्भित परिपत्रकान्वये सूचना प्रसृत केल्या आहेत.

वस्तु व सेवाकरांच्या दरात फेरबदल करण्याबाबत शासन विचाराधीन असल्याने महानगरपालिकेतील विविध कामांच्या निविदांबाबत संभाव्य निविदाकार महापालिकेस निवेदन सादर करत आहेत. अतएव, महानगरपालिकेद्वारे हाती घेण्यात येणारी विविध प्रकल्प कामे तसेच प्राप्त करण्यात येणा-या वस्तु व सेवा इत्यादीबाबतच्या ई-निविदा/निविदा/दरपत्रक यामध्ये संदर्भित क्र.५ अन्वये दिलेल्या वस्तु व सेवा कराच्या अनुषंगाने अंतभूत करावयाच्या अटीमध्ये खालीलप्रमाणे बदल करण्यात येत आहे.

विद्यमान अट	सुधारित अट
<p>"GST 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.</p> <p>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.</p> <p>Rates accepted by BMC shall hold good till completion of work and no additional individual claim shall be admissible on account of fluctuations in market rates; increase in taxes/any other levies/tolls etc. except that payment/recovery for overall market situation shall be made as per Price variation.</p>	<p>"GST and other state levies/cess which are not subsumed under GST will be applicable. The tenderer shall quote inclusive of all taxes <u>applicable at the time of bid submission</u>. It is clearly understood that BMC will not bear any additional liability towards payment of any Taxes & Duties.</p> <p>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.</p> <p>Rates accepted by BMC shall hold good till completion of work and no additional individual claim shall be admissible on account of fluctuations in market rates; increase in taxes/any other levies / tolls etc. except that payment/recovery for overall market situation shall be made as per Price variation and if there is any subsequent change (after submission of bid) in rate of GST applicable on the work/services to be executed as per tender, i.e. any increase will be reimbursed by BMC whereas any reduction in the rate of GST shall be passed on to BMC as per the provisions of the GST Act.</p>


उपरोक्त सुधारित अट ही ज्या कामांच्या ई-निविदा/निविदा/दरपत्रक दस्तावेज यामध्ये समाविष्ट केलेली असेल फक्त त्याच कामांकरिता लागू असेल.

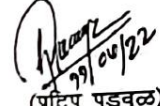
अतएव, प्राप्त होणारे देकार प्रचलित वस्तु व सेवा करांच्या दरानुसार प्राप्त होणार असल्याने, सध्या ज्या ई-निविदा/निविदा/दरपत्रक मागविलेल्या आहेत अशा निविदांमध्ये

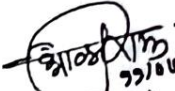
९-३७
१२४


नियत दिनांकपूर्वी शुद्धीपत्रकाद्वारे उपरोक्त सुधारीत अट समाविष्ट करण्याबाबत तसेच यापुढे मागविण्यात येणाऱ्या ई-निविदा/निविदा/दरपत्रक यांमध्ये उपरोक्त सुधारीत अट समाविष्ट करण्याची संबंधित खातेप्रमुख यांनी दक्षता घ्यावी. तसेच वस्तु व सेवा कराच्या दरातील बदल हा शासन निर्णयामधील दिनांकापासुन प्रभाव्य राहिल.

सर्व खातेप्रमुख, रूग्णालयांचे अधिष्ठाता, सहायक आयुक्त, यांनी उपरोक्त सुचनांचे काटेकोरपणे अनुपालन करावे.


(पांडुरंग गोसावी)
प्रमुख लेखापाल (पा.पु.म.नि.)


(प्रदिप पडवळ)
प्रमुख लेखापाल (वित्त) प्र.


(रामदास अक्काड)
उप आयुक्त (वित्त)


(पी. देवाराव)
अतिरिक्त आयुक्त (प्रकल्प)

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MUNICIPAL CORPORATION OF GREATER MUMBAI

CIRCULAR

No.CA (F)/Project/31 Dt. 26/10/2020.

Subject: - Revised Policy for Governing Extra-excess-saving

Ref:- 1. Circular No.CA/FRD/1/57 dt.13.03.2013.
2. Circular No. Dir/E.S.&P./324 dt.15.07.2015.

At present the extra/excess/saving proposals are dealt as per Decision Rules framed under circular No.CA/FRD/1/57 of 13.03.2013 &Dir/E.S.&P./324 dt.15.07.2015.

Hon'ble M.C. has directed to review the existing Decision Rules and amend it suitably. Accordingly, in view to exercising effective control over the extra/excess and speedy process of such proposal during execution of the work, the powers of approval of extra/excess /saving and Fair items are reviewed and delegated according to the attached modified statement-"A". Except this, other conditions of Circular No. DIR./E.S.&P./324 dt.15.07.2015 shall remain unchanged and will be applicable as it is.

The "Decision Rules" framed and circulated apropos circular No.CA/FRD/1/57 of 13.03.2013 and Dir/ES&P/324 of 15.07.2015 shall remain applicable for those extra/excess works which were executed before issuance of these amended rules/directives by obtaining prior administrative approval of competent authority, as the case may be.

The revised policy for governing Extra/Excess and Fair items will come into effect immediately from the issuance of this circular.

All Chief Engineers/ Head of Departments/Deans shall note the above directives and follow them scrupulously.

Sd/- 13.10.2020

C. A. (WSSD)

Sd/- 13.10.2020

C. A. (Finance)i.c.

Sd/- 13.10.2020

D.M.C. (Infra)

Sd/- 13.10.2020

D.M.C.(E.)

Sd/- 14.10.2020

D.M.C.(S.E.)

Sd/- 13.10.2020

Dir.(E.S.&P.)

Sd/- 16.10.2020

A.M.C. (Project)

Sd/- 23.10.2020

Municipal Commissioner

Statement –A

(i) **Extra/Excess/Saving**

Nature of work	Permissible limit of Extra/Excess/Saving and Approving authority		
	DMC(Infra)/ DMC(E)/ DMC(SE)/ Dir(ES&P)/ Jt.M.C.	Concerned A.M.C.	Municipal Commissioner
General Work/ Underground works/ Unforeseen works	(i) <u>Cumulative</u> amount of Extra/Excess/Saving in any <u>individual item</u> Upto Rs.25 Lakh And (ii) Total <u>Cumulative</u> amount of Extra/Excess/Saving <u>on all items</u> upto 5% of the total contract cost, but not exceeding Rs.1 crore	(i) <u>Cumulative</u> amount of Extra/Excess/Saving in any <u>individual item</u> Upto Rs.1 crore And (ii) Total <u>Cumulative</u> amount of Extra/Excess/Saving <u>on all items</u> upto 15 % of the total contract cost, but not exceeding Rs.10 crore	(i) <u>Cumulative</u> amount of Extra/Excess/Saving in any <u>individual item</u> above Rs.1Crore And / OR (ii) Total <u>Cumulative</u> amount of Extra/Excess/Saving <u>on all items</u> above 15% of the total contract cost. And / OR <u>Cumulative</u> amount of Extra/Excess/Saving <u>on all items</u> exceeding Rs.10 Crores.

Payment Terms:

Excess Items shall be paid as per the rates quoted by the tenderer at the time of tender

Extra Items shall be paid as per the rate prevailing in "Unified Schedule of Rate" of MCGM at the time of tender at rebate quoted by the contractor or at Par in case of premium quoted by the contractor at the time of tender

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(ii) **Fair Item**

Nature of work	Permissible limit of Fair Item and Approving authority		
	DMC(Infra)/ DMC(E)/ DMC(SE)/ Dir(ES&P)/ Jt.M.C.	Concerned A.M.C.	Municipal Commissioner
For all nature of work	Total <u>Cumulative</u> amount of Fair <u>on all items</u> upto 2% of the total contract cost, but not exceeds Rs.20 Lakh	Total <u>Cumulative</u> amount of Fair <u>on all items</u> upto 5% of the total contract cost, but not exceeds Rs.1 crore (Other than the proposals in the purview of DMC/Jt.MC)	Total <u>Cumulative</u> amount of Fair <u>on all items</u> above 5% of the total contract cost. And / OR <u>Cumulative</u> amount of Fair <u>on all items</u> exceeding Rs.1 Crore.

Payment Terms:

Fair Items shall be got approved by the concerned DMC/Dir(ES&P)/Jt.M.C. The engineer in-charge shall work out these fair items at fair and reasonable market rates on the basis of material, labour and operation of construction equipment required to execute the item and allowing 15% to cover profits and overhead charges(i.e. including taxes, duties, etc.) On the same lines of rate analysis prepared for the items that are in "Unified Schedule of Rate" of MCGM.

The rates of Fair Items shall be valid for one year only. Moreover, no escalation will be admissible on the fair items till the completion of such works, in which the fair items are executed.

Fair Items shall be paid **at PAR** in case of premium quoted by the contractor, in newly created FAIR ITEM or item not included in prevailing "Unified Schedule of Rate" of MCGM at the time of tender. OR at rebate quoted by the contractor if it is already added in prevailing "Unified Schedule of Rate" of MCGM at the time of tender.

Sd/- 13.10.2020 Sd/- 13.10.2020 Sd/- 13.10.2020 Sd/- 13.10.2020 Sd/-14.10.2020 Sd/-13.10.2020
C. A. (WSSD) C. A. (Finance) i.e. D.M.C.(Infra) D.M.C.(E.) D.M.C.(S.E.) Dir.(E.S.&P.)

428

MUNICIPAL CORPORATION OF GREATER MUMBAI

NO.MDD/7878 dt: 27.09.2016

CIRCULAR

Subject: Amendments in MCGM's Tender Conditions, Standard Bid Document (SBD) and Standard General Conditions of Contracts (GCC).

Ref: MGC/F/160/ dtd:26.09.2016

Hon' Municipal Commissioner has accorded the approval to the amendments in the MCGM's Tender Conditions, SBD and GCC under No. **MGC/F/160/ dtd:26.09.2016** which shall be made effective for all tenders from 15th Oct., 2016. The Circular covers the important parameters :-

- (1) Eligibility Criteria
- (2) Bid Capacity
- (3) Requirement of Technical Personnel
- (4) Rationalization of Defect Liability Period
- (5) Security Deposits / Additional Security Deposits / Performance Guarantee
- (6) Guidelines for Joint Ventures
- (7) Rationalization of Penalties
- (8) Schedule of Bidding
- (9) Allotment of works in case of Equal Percentage
- (10) Forfeiture of EMD for being non-responsive
- (11) Refund of EMD / ASD
- (12) Equipment capabilities
- (13) Barring Physical Submissions
- (14) Downloading Bid Documents on the Portal
- (15) Appointment of Designated Officer for Contractors' grievances
- (16) Extension of Time in Contracts
- (17) Price Variation
- (18) Taxation
- (19) Subletting

(20) Exception of Additional Security Deposits / Performance Guarantee for demolition work tenders.

The circular and the guidelines for fixing Eligibility Criteria, Requirement of Technical Staff, Rationalization of Defect Liability Period, Security Deposits / Additional Security Deposits / Performance Guarantee and for participation of Joint Venture, being voluminous, is being e-mailed on all HODs Official e-mail IDs. The copy of circular, guideline annexure, Standard Bid Document and Standard General Conditions of Contract, is uploaded on Homepage of MCGM's Portal <https://portal.mcgm.gov.in>.

HODs are requested that all Engineers and Account Officers be informed about these amendments to the MCGM's Tender Conditions, SBD and GCC to be made effective from **15.10.2016**.

The introduction to these reforms is being planned shortly which will be informed after finalization of the program.

-sd-(dtd:27.09.2016)

(Chandrashekhar D. Chore)

D.M.C.(Improvement)

City Engineer / Ch.Eng.(Roads & 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.(D.P.) / Ch.Eng.(SWD) / Ch.Eng.(SWM) / Ch.Eng.(CTIRC) / Dy. Ch.Eng.(HIC) / Dy.Ch.Eng.(SIC)

C.C. to : C.A. (Fin) / C.A. (WSSD)

C.C. to : Director (ES&P) / DMC(SE) / DMC(E) / DMC(Vig) / DMC(MCO) / DMC(SWM) / DMC(GA) / DMC(CPD) / DMC(Z-I) / DMC(Z-II) / DMC(Z-III) / DMC(Z-IV) / DMC(Z-V) / DMC(Z-VI) / DMC(Z-VII) / Director(ME&MH) / Dean(KEM) / Dean(SION) / Dean(NAIR)

C.C. to : Hon' M.C.

A.M.C.(P) / A.M.C.(W.S.) / A.M.C.(E.S.) / A.M.C.(City)

Submitted please.

-sd-(dtd:27.09.2016)

(Chandrashekhar D. Chore)

D.M.C.(Improvement)

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E. SECURITY DEPOSITS / ADDITIONAL SECURITY DEPOSITS / PERFORMANCE GUARANTEE

1. Security Deposit

The security deposit shall mean and comprise of:

- I) Contract Deposit and
- II) Retention Money.

- I) **Contract Deposit** – The successful tender, here after referred to as the contractor shall pay an amount equal to **two (2)** percent of **the contract sum**.
- II) **Retention Money** – The contractor shall pay retention money of an amount equal to **five (5)** percent of **the contract sum** which will be recovered from the contractor's every bill i.e. interim / running / final bill. The clause of retention money will not be applicable to M. & E. works.

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

2. Additional Security Deposit

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

Additional security deposit = (X) x office estimated cost (tendered value),

Where X=percentage rebate quoted more than 12%

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

modified as per circular No. C/P/42 Dt. 9.2.2021

3. Performance Guarantee

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

Offer	PG applicable %
For premium, at par and rebate less 0 to 12%	PG= 0.92% x contract sum applicable for rebate of 12%

For rebate of 12.01% and more	$P.G. = \{0.92\% \times \text{contract sum applicable for rebate of } 12\%\} + (X) \times \text{contract sum}$ where $X = \text{percentage rebate quoted more than } 12\%$
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4. The detailed guidelines of applicable deposits and refund of these deposits is attached at **Annexure IV**

F. GUIDELINES RECOMMENDED FOR JV FIRMS IN TENDER:

1. Joint Venture should be allowed only when the number of identifiable different works is more than one and/or the estimated cost of tender is more than Rs.100 Crores. JV shall also be allowed for complex technical work below Rs.100 Crores with the approval of concerned AMC.
2. Number of members in a JV firm shall not be more than three in normal circumstances, if the work involves only one discipline (say Civil or Electrical). If number of members in JV is required to be more than three, then approval of concerned AMC needs to be sought.
3. **Joint and several liability** - The members of the JV firm to which the contract is awarded, shall be jointly and severally liable to the Employer (MCGM) for execution of the project in accordance with General and Special conditions of the contract. The JV members shall also be liable jointly and severally for the loss, damages caused to the MCGM during the course of execution of the contract or due to no execution of the contract or part thereof.
4. **The guidelines for Joint Venture as mentioned in Annexure – V are to be followed for the projects in which JV is proposed. In case of any deviations or complete change in the Guidelines of Joint Venture for a particular project, specific approval of the concerned AMC must be taken clearly mentioning the reasons for deviation/changes.**

G. RATIONALISATION OF PENALTIES

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 provisions as per clause 8.f and 9.b of GCC, only then, the contractor shall be liable to pay compensation at the same rate as

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बृहन्मुंबई महानगरपालिका

परिपत्रक

२०२०-२१

क्र.प्रले(वित्त)/४२ दिनांक .०९.०२.२०२१

विषय:- बृहन्मुंबई महानगरपालिकेत कंत्राटदारामार्फत पार पाडावयाच्या कामाच्या मसुदा निविदेमध्ये अतिरिक्त सुरक्षा अनामत रक्कमेबाबतची सुधारित अट समाविष्ट करण्याबाबत.

संदर्भ:- एमडीडी/७८७८ दिनांक २७.०९.२०१६.

बृहन्मुंबई महानगरपालिकेत कंत्राटदारामार्फत पार पाडण्यात येणाऱ्या कामाकरिताच्या मसुदा-निविदेत समाविष्ट करावयाच्या अतिरिक्त सुरक्षा अनामत रक्कमेबाबतच्या अटीबाबतचे निर्देश संदर्भित परिपत्रकान्वये निर्गमित करण्यात आले आहेत. त्यामध्ये खालीलप्रमाणे सुधारणा करण्यात येत आहे.

विद्यमान पध्दत:-

ई-निविदा सूचनेस प्रतिसाद करून ज्या ज्या कंत्राटदारांनी वजा -१२% पेक्षा कमी दराने टक्केवारी उदधृत केली आहे, अश्या सर्व कंत्राटदारांना वजा १२% पेक्षा जास्त नमूद केलेल्या प्रत्येक टक्क्याला १% याप्रमाणे कोणतीही मर्यादा न ठेवता ऑनलाईन निविदा सादर करताना अतिरिक्त सुरक्षा अनामत रक्कम ऑनलाईन स्विकारली जाते.

सुधारित पध्दत:-

१. कंत्राटदाराने वजा -१२% पेक्षा कमी दराने टक्केवारी उदधृत केली असल्यास वजा १२% पेक्षा जास्त असलेल्या प्रत्येक टक्क्याला १% याप्रमाणे ऑनलाईन निविदा सादर करताना अतिरिक्त सुरक्षा अनामत रक्कमेचा ऑनलाईन भरणा करणे आवश्यक नसेल.
२. कंत्राट रकमेनुसार सक्षम प्राधिकार्यांची मंजूरी प्राप्त झाल्यानंतर प्रथम लघुतम असलेल्या निविदाकाराने कार्यस्विकृती पत्रात नमूद केल्यानुसार कार्यालयीन कामकाजाच्या १५ दिवसात विद्यमान पध्दतीनुसार अतिरिक्त सुरक्षा अनामत रक्कम डिमांड झाप्ट स्वरूपात महानगरपालिकेचा नागरी सुविधा केंद्रात जमा करणे व त्या पावतीची प्रत खातेपमुखाकडे सादर करणे आवश्यक असेल.
३. जर प्रथम लघुतम निविदाकाराने कार्यस्विकृती पत्रात नमूद केल्यानुसार कार्यालयीन कामकाजाच्या १५ दिवसांमध्ये अतिरिक्त सुरक्षा अनामत रक्कम जमा केली नाही तर सदर कंपनीने भरणा केलेली संपूर्ण इसारा अनामत रक्कम (EMD) जप्त केली जाईल तसेच कंपनीला दोन वर्षासाठी डीबार (Debar) करण्यात येईल, त्याचप्रमाणे त्या कंपनीचे संचालक/

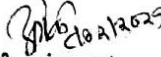
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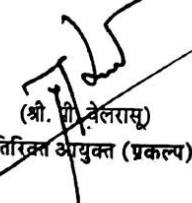
पार्टनर इतर कंपनीमध्ये संचालक/ पार्टनर म्हणून कार्यरत असतील तर ती कंपनी सुद्धा दोन वर्षाकरिता डीबार (Debar) करण्याची कार्यवाही करण्यात येईल.


यापुढील कामाकरिताच्या मसुदानिविदेत परिपत्रकात नमूद केल्याप्रमाणे अतिरिक्त सुरक्षा अनामत रक्कमेबाबतची अट अंतर्भूत करण्यात यावी.

उपरोक्त सूचनांचे काटेकोरपणे अंमलबजावणी करण्याबाबत सर्व खाते प्रमुख/ सहाय्यक आयुक्त/ रुग्णालय अधिष्ठाता/ वैद्यकीय अधीक्षक/ उप प्रमुख लेखापाल/ लेखा अधिकारी यांनी दक्षता घ्यावी.

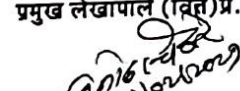

(श्री. अनंत कदम)

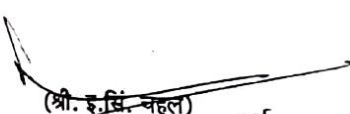
उपायुक्त - (पायाभूत सुविधा)


(श्री. पी. वेलरासु)
अतिरिक्त आयुक्त (प्रकल्प)


(रा. क. आहिर)

प्रमुख लेखापाल (वित्त) प्र.


(श्री. विनोद प्र. चितोरे)
संचालक (अ.से.व.प्र)


(श्री. इ.सि. चहल)

महानगरपालिका आयुक्त

बृहन्मुंबई महानगरपालिका
परिपत्रक

२०२१-२२

क्र. सीए/एफआरजी / २० दिनांक १७.०१.२०२२

विषय:- महानगरपालिकेच्या विविध खात्यांमार्फत मागविण्यात येणा-या अनस्टार दरपत्रिका / निविदा / दरपत्रिका / ई-दरपत्रिका / ई-निविदा दस्तऐवजांच्या किंमतीच्या दरात वाढ करण्याबाबत

संदर्भ :- १) क्र. प्रले/एफसीई/२८ दि. १३.०१.२०१६

२) क्र.सीए/एफआरजी/ ४० दिनांक १३.०१.२०२१

३) परिपत्रक क्र. सीए/एफआरटी/१७ दि. २३.१२.२०२१

बृहन्मुंबई महानगरपालिकेच्या विविध खात्यांमार्फत मागविण्यात येणाऱ्या अनस्टार दरपत्रिका / निविदा / दरपत्रिका / ई-दरपत्रिका / ई-निविदा दस्तऐवज यांची पक्षकारांकडून आकारण्यात येणारी किंमत उपरोक्त संदर्भ क्र. ०२ बरील परिपत्रकानुसार दिनांक ०१.०४.२०२१ पासून दिनांक ३१.०३.२०२२ पर्यंत सुधारित दराने आकारण्याबाबत निर्देश देण्यात आले होते.

दिनांक ०१.०४.२०२१ पासून लागू करण्यात आलेल्या अनस्टार दरपत्रिका / निविदा / दरपत्रिका / ई-दरपत्रिका / ई-निविदा दस्तऐवजांच्या किंमतीच्या दरांमध्ये सन २०२२-२३ या वर्षामध्ये १०% वाढ करण्यात येत आहे. तसेच परिपत्रक क्र. सीए/एफआरटी/१७ दि. २३.१२.२०२१ नुसार सुधारित दरावर १८% दराने वस्तु व सेवाकराची वसुली करणे आवश्यक राहिल. त्यानुसार लागू करावयाचे सुधारित दर खालीलप्रमाणे आहेत :-

स्वारस्याची अभिव्यक्ती प्रस्ताव/मालाचा पुरवठा/सल्लागार सेवासह स्थापत्य कामे आणि सेवा इत्यादी विषयक कार्यालयीन अंदाजे रक्कम	अनस्टार दरपत्रिका / निविदा / दरपत्रिका/ई-दरपत्रिका / ई-निविदा दस्तऐवजांची सुधारित किंमत दिनांक ०१.०४.२०२२ पासून
रु. ३ लाखापर्यंत	रु. २२०/- अधिक वस्तु व सेवाकर
रु. ३,००,००१/- पेक्षा अधिक	कार्यालयीन अंदाजाच्या ०.११% (अशी येणारी रक्कम पुढील शंभराच्या पटीत परिवर्तीत करणे यासापेक्ष) अधिक वस्तु व सेवाकर (म्हणजेच कमीत कमी रु. ३३०/- अधिक वस्तु व सेवाकर आणि जास्तीत जास्त रु. १०४००/- अधिक वस्तु व सेवाकर)

अनस्तर दरपत्रिका / निविदा / दरपत्रिका / ई-दरपत्रिका / ई-निविदा दस्तऐवजांच्या किंमतीचे सुधारीत
दर दिनांक ०१.०४.२०२२ पासून दिनांक ३१.०३.२०२३ पर्यंत अंगलात येतील.

तरी सर्व खाते प्रमुख/सहाय्यक आयुक्त / रुग्णालय प्रमुख / अधिष्ठाता यांनी त्यांच्या अखत्यारीतील
संबंधित कर्मचारी वृंदांना उपरोक्त सुचनेची काटेकोरपणे अंमलबजावणी करण्याचे तसेच दिनांक ०१.०४.२०२२
पासून मागविण्यात येणाऱ्या अनस्तर दरपत्रिका / निविदा / दरपत्रिका / ई-दरपत्रिका / ई-निविदा
दस्तऐवजांकरीता या परिपत्रकातील सुधारीत किंमतीनुसार दर आकारण्याचे निर्देश द्यावेत.

सही/- १७.०१.२०२२
श्री. पांडुरंग वि. गोसावी
प्रमुख लेखापाल (वित्त)

परिपत्रक

२०२१-२२

क्र.सीए/एफआरजी/ २० दिनांक १७.०१.२०२२

प्रत(जादाप्रतीसह) यांना

माहितीकरिता व पुढील आवश्यक त्या कार्यवाहीकरिता अग्रेषित

सुयंसाठ
२०.१.२०२२
प्रमुख लेखापाल (वित्त) योजकरिता

बृहन्मुंबई महानगरपालिका
विधी खाते

परिपत्रक क्र. 10318 दि. 24.03.2022

विषय - कंत्राट करार करण्यासाठी वसूल करावयाचे विधी आकार (Legal charges) व लेखनसाहित्य आकार (Stationery charges)

- संदर्भ - 1. विधी खात्याचे परिपत्रक क्र. 03 दि. 22.06.2021
2. परिपत्रक क्र. सीए/एफआरएम/49 दि. 07.02.2013
3. क्र. सीए/एफआरएम/एफआय/82 दि. 07.03.2022

महानगरपालिकेच्या विविध खात्यांमार्फत मागविण्यात येणा-या निविदासंदर्भात लेखी करार करताना पक्षकाराकडून एकत्रितरित्या आकारावयाच्या विधी आकार व लेखनसाहित्य आकाराची उपरोक्त संदर्भित क्र. 1 वरील परिपत्रकानुसार दि. 01.04.2021 पासून आकारणी करण्यात येते.

तथापि महापालिकेच्या विविध खात्यांच्या आकार/शुल्कसूचीमध्ये नियमित वाढ करण्याबाबत परिपत्रक क्र. सीए/एफआरएम/49 दि. 07.02.2013 अन्वये, दरवर्षी 1 एप्रिल या दिनांकापासून शुल्कसूचीतील दरामध्ये 10 टक्के इतकी वाढ करून पुढील रु.10/- च्या पूर्णाकात दर लागू करण्याबाबतच्या सूचना प्रसूत करण्यात आलेल्या आहेत. त्यानुसार खालील तक्त्यामध्ये दर्शविल्याप्रमाणे सुधारीत विधी व लेखन साहित्य आकार (एकत्रितरित्या) विहित करण्यात आले आहेत.

अनु. क्र.	कंत्राट करार करण्यासाठी एकत्रितरित्या आकारावयाच्या विधी व लेखन साहित्य आकारासाठी कंत्राट कराराची रक्कम	एकत्रितरित्या आकारावयाचे सुधारीत विधी व लेखन साहित्य आकार दि. 01.04.2022 पासून दि. 31.03.2023 पर्यंत
1	रु. 10,000 ते रु. 50,000	निरंक
2	रु. 50,001 ते रु. 1,00,000	रु. 6,290/-
3	रु. 1,00,001 ते रु. 3,00,000/-	रु. 10,380/-
4	रु. 3,00,001 ते 5,00,000/-	रु. 12,470/-
5	रु. 5,00,001 ते रु. 10,00,000/-	रु. 14,510/-
6	रु. 10,00,001 ते रु. 20,00,000/-	रु. 16,570/-
7	रु. 20,00,001 ते रु. 40,00,000/-	रु. 18,660/-
8	रु. 40,00,001 ते रु. 1,00,00,000/-	रु. 20,720/-
9	रु. 1,00,00,001 ते रु. 10,00,00,000/-	रु. 24,450/-
10	रु. 10,00,00,001 ते रु. 20,00,00,000/-	रु. 28,220/-

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11	₹. 20,00,00,001 ते ₹. 30,00,00,000/-	₹. 31,980/-
12	₹. 30,00,00,001 ते ₹. 40,00,00,000/-	₹. 35,740/-
13	₹. 40,00,00,001 ते ₹. 50,00,00,000/-	₹. 39,470/-
14	₹. 50,00,00,001 ते ₹. 1,00,00,00,000/-	₹. 47,000/-
15	₹. 1,00,00,00,001 ते ₹. 2,00,00,00,000/-	₹. 58,270/-
16	₹. 2,00,00,00,001 ते ₹. 3,00,00,00,000/-	₹. 65,770/-
17	₹. 3,00,00,00,001 ते ₹. 4,00,00,00,000/-	₹. 75,120/-
18	₹. 4,00,00,00,001 ते ₹. 5,00,00,00,000/-	₹. 84,510/-
19	₹. 5,00,00,00,00 पासून कोणत्याही मर्यादेपर्यंत	₹. 93,920/-

Modle
मोदले
(सुखश्री मि. मोदले)
उप कायदा अधिकारी (हस्तांतरण 1 व 2)
विधि खाते

(सुनिल क. सोनवणे)
कायदा अधिकारी
विधि खाते

परिपत्रक क्र. 10318 दि. 24.03.2022

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4290

MUNICIPAL CORPORATION OF GREATER MUMBAI

No. : MGC/F/8659 Dtd. 07.09.2019.

Sub : Arbitration clause in the Standard General Conditions of
Contract for Construction Works, 2016.

In one of the cases of W.S.P. regarding arbitration dispute, a note was submitted by DyLaw Officer (High Court, Sult & PIL) and subsequently the report is submitted by Jt. M.C. (Vig.) vide No. Jt.M.C./Vig./69/MC dtd. 21-8-2019 proposing a process to deal with the arbitration matters as per the Law & Judiciary, Govt. of Maharashtra, policy for institutional arbitration vide it's G.R. dtd. 13-10-2016 and the report submitted by Jt. M.C. (Vig.) is approved by Hon'ble M.C. on 17-8-2019.

There is a provision of arbitration clause in the Standard General Condition of Contract for Construction Works, point no. 13 (e) reads as follows :-

13.e) 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.

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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.

As per Hon'ble M.C's approval dtd. 17-8-2019, the existing clause is now replaced as follows :

13.e Arbitration and Jurisdiction

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

i) In case of a contract where the contract price and/ or contract value is less than Rs. 5,00,00,000/- (Rupees Five Crore Only), any dispute arising out of or in connection with this contract, including any question regarding its existence, validity or termination, shall be referred to a mutually agreed arbitral tribunal in accordance with the Arbitration and Conciliation Act, 1996 (amended upto date). The arbitral tribunal shall consist of a sole arbitrator, as mutually agreed upon by the parties and the said dispute shall be finally resolved by the said arbitral tribunal. The decision of the arbitral tribunal shall be in writing (with reasons) and which will be final and binding upon the parties hereto and the expenses of the arbitration shall be paid as may be determined by the arbitral tribunal. The seat of the arbitration shall be Mumbai. The venue of arbitration shall be within the limits of Brihan Mumbai. The language of the Arbitration shall be English.

If the parties fails to appoint mutually agreed arbitral tribunal, within the period of 30 days from the date of application seeking arbitration in the dispute,

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the arbitral tribunal shall be appointed by the recognised arbitral institution i.e. Mumbai Centre for International Arbitration (approved by Government of Maharashtra under G.R. no. ARB/Case No. 1/2017/D-19 dtd. 28.02.2017) as per the Arbitration Rules of the Mumbai Centre for International Arbitration then in force ("MCIA Rules").

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

In either case, the law governing this arbitration agreement and the contract shall be Indian Law.

All the HoDs are hereby directed to note the revised clause in G.C.C. as mentioned above and ensure that the same is included in the tenders invited from 15-1-2019 onwards. If the tenders are already invited before 15-1-2019 and the Packet 'A' is not opened, then the corrigendum shall be issued so as to see that all the new tenders accepted/invited after 15-9-2019 shall include this revised condition and will become a part of the contract for all such works.

Sd/-22.08.2019
Dir. (E.S. & P.)
P

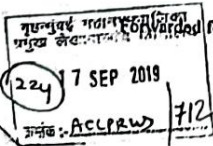
Sd/-29.08.2019
A.M.C. (P)

Sd/-06.09.2019
M.C.

No. : DIR/ES&P/919/MC dtd. 16.09.2019.

Copy to :

Asstt. Comm. Ward / City Engineer/Ch.Eng.(Roads & 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. (D.P.) / Ch.Eng. (SWD) / Ch.Eng. (SWM) / Ch.Eng. (CTIRC) / Ch.Eng. (Constal Roads) / Dy. Ch.Eng. (HIC) / Dy. Ch.Eng. (SIC) / Supt. of Gardens / CA (P) / CA (WSSD) / CA (CPD)



for information and necessary action please.

DY-CA (Exp)

लेखा अधिकारी (प्रकार्य) प. 15
C-A (F) / उप. प्रमुख लेखापाल (प्रव)

10/9/19
Director (E.S. & P.)

4303

MUNICIPAL CORPORATION OF GREATER MUMBAI

Central Purchase Department

CIRCULAR

No. D.M.C./CPD/3217 Date: 02.03.2019

Sub : To Incorporate new clause of Internal "GRIEVANCE REDRESSAL MECHANISM" in the standard Bid document.

Ref: I) CA/FRD/I/05 dt. 10.05.2016
II) MGC/F/8155 dtd. 30.01.2019.

- Vide above reference, Hon'ble M.C. has granted to discontinue the existing Procurement Redressal Committee & to Incorporate new clause of internal "GRIEVANCE REDRESSAL MECHANISM" as mentioned below in the bid document.

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 provisions of the tender or any rules or guidelines Issued therein, In Packet 'A', 'B' & 'C' can make an application for review of decision of responsiveness In Packet 'A', 'B' & 'C' within a period of 7 days or any such other period, as may be specified in the Bid document.

While making such an application to procuring entity for review, aggrieved bidders or prospective bidders shall clearly specify the ground or grounds in respect of which he feels aggrieved.

Provided that after declaration of a bidder as a successful in Packet 'A' (General Requirements), an application for review may be filed only by a bidder who has participated in procurement proceedings and after declaration of successful bidder in Packet 'B' (Technical Bid), an application for review may be filed only by successful bidders of Packet 'A'. Provided further that, an application for review of the financial bid can be submitted, by the bidder whose technical bid is found to be acceptable / responsive.

Upon receipt of such application for review, 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

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may be considered appropriate and communicate its decision to the Applicant and is 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 receipt of such application or such other period as may be specified in pre-qualification document, bidder registration document or bid documents, as the case may be.

Where M.C.G.M. fails to dispose off the application within the specified period or if the bidder or prospective bidder feels aggrieved by the decision of the procuring entity, such bidder or prospective bidder may file an application for redressal before the 'Internal Procurement Redressal Committee' within 7 days of the expiry of the allowed time or of the date of receipt of the decision, as the case may be. Every such application for internal redressal before Redressal Committee shall be accompanied by fee of Rs.25,000/- and fee shall be paid in the form of D.D. in favour of M.C.G.M.

1st Appeal by the bidder against the decision of C.E./HoD/Dean can be made to concerned 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(CPD) office where appeals of aggrieved bidder will be received with fee of Rs. 25,000/- from aggrieved bidder. The necessary correspondence in respect of said applications to the aggrieved bidder & concerned department, issuing notices, arranging of Grievance Redressal Committee (GRC) with D.M.C and further proceeding will be carried out through registrar appointed by MCGM.

No application shall be maintainable before the redressal Committee in regard of any decision of the 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 not exceeding 20 days, as may be considered necessary from the date of receipt of the recommendation and in case of non-acceptance of any recommendation, the reason of such non-acceptance shall also be mentioned in such communication.

4/305

Additional Municipal Commissioner and/or Grievance Redressal Committee, if found, come to the conclusion that any such complaint or review is of vexatious, frivolous or malicious nature and submitted with the intention of delaying or defeating any procurement or causing loss to the procuring entity or any other bidder, then such complainant shall be punished with fine, which may extend to Five Lac rupees or two percent of the value of the procurement, whichever is higher.

- All head of department are therefore requested to take a note of above and process tenders accordingly.

Sd/- 21.02.19
D.M.C(CPD)

CIRCULAR

2018-19

No. D.M.C./CPD/3217 Date: 02.03.2019

CC: to

Director(E.S&P)	D.M.C(E)	D.M.C(S.E)	D.M.C(SWM)	D.M.C(Education)
D.M.C(Vlg.)	D.M.C(Z-I)	D.M.C(Z-II)	D.M.C(Z-III)	D.M.C(Z-IV)
D.M.C(Z-V)	D.M.C(Z-VI)	D.M.C(Z-VII)	D.M.C(A&C)	D.M.C(Improvement)
D.M.C(D.M)	D.M.C(Spl.)	D.M.C(M.C's Office)	D.M.C(E.R.)	Director(M.E & M.I)
Ch.M.S(Sp. Hosp.)	E.H.O Dean (LTMG Hosp. & Med. College)	P.S. to M.C. Dean (B.Y.L Nair Hosp.)	C.E. Dean (Nair Hosp. Dental College)	P.S. to AMC(P)/w/e/z/s/c H.E.
Ch.E.(D.P)	Ch.E.(Roads & Traffic)	Ch.E.(M.S.D.P)	Ch.E.(SWD)	Ch.E.(S.O)
Ch.E.(S.P)	Ch.E.(W.S.P)	Ch.E.(Vlg.)	Ch.E.(B.M)	Ch.E.(S.V.M)
Ch.E.(Bridge)	Ch.E.(M&E)	Ch.E.(C.T.I. & R.C)	Ch. L.O	Edu. Officer
M.A	Security Officer	Law Officer	Supt. Of Garden	Supt. Of Licence
M.C.A	M.S.	C.A.(T)	C.A.(T)	C.A.(W.S.S.D)

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DY. CA (Exp)

02/03/19
DY/Ch.E.(CPD)

लेखा अधिकारी (उपस्थान - 17/1/19)
3/3/19
सप प्रमुख लेखापाल (व्यक्त)

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

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

1. For Regular, Routine and Maintenance works:

<i>Name of the Deptt.</i>	<i>Details of project works</i>
<i>City Engineer/HIC</i>	<i>New buildings for staff quarters/markets/school/offices etc. All dispensaries, health centers/cemeteries</i>
<i>Bldg. Maintenance</i>	<i>All bldg. repair works, demolition works. New construction such as sheds.</i>
<i>Road & Traffic</i>	<i>Pothole repairs, trenches, asphalt-ing of minor and major roads, repairs to footpaths, Improvisations of junctions./ new C.C.roads.</i>
<i>Sewage Project</i>	<i>Replacement of sewer lines, laying of new sewer lines for short stretches upto 500m</i>
<i>Sewerage Operation</i>	<i>Remedial works of all sewer lines</i>
<i>S.W.D.</i>	<i>Repairs and rehabilitation of SWD, rehabilitation of culverts on minor roads, repairs to minor nallas, remodeling of SWD system, repairs to roadside drains, training of minor drains/nallas, reconstruction of collapsed walls. New R.C.C. box culverts across minor or major roads, desilting of nallas.</i>

H.E.	Routine laying of pipeline works up to 1200mm dia .rehabilitation of distribution system, Replacement of household connections and other minor works related to the dept.
Bridges	All maintenance/minor repairs and repairs to bridges, new bridge over major nalla, etc
Garden Department	All Civil works related to Landscaping such as pergolas, gazebos, etc and horticulture works

- ❖ The above detailing of the project as per the Department is indicative and not exhaustive.
- ❖ The Chief Engineers shall obtain approval of concerned AMC regarding the definition of regular and routine and maintenance works as also what should be called as Similar Nature of works for respective departments. This will be a standing order till changed. They should prepare an exhaustive list of all works under their control and categorize to keep no doubts for future tendering processes.

1.1 Technical Capacity

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

a) **Three similar completed works each** of value not less than the value equal to **20%** of estimated cost put to tender

Or

b) **Two similar completed works each** of value not less than the value equal to **25%** of estimated cost put to tender

Or

c) **One similar completed work** of value equal and or not less than the **40%** of estimated cost put to tender

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

1.2 Financial Capacity

Achieved an average annual financial turnover as certified by 'Chartered Accountant' (in all classes of civil engineering construction works only) equal to **30%** of the estimated cost of work in **last three (3) financial years** immediately preceding the Financial Year in which bids are invited.

The value of executed works shall be brought to current costing level by enhancing

the actual value of work at compound rate of 10 % per annum; calculated from the date of completion to last date of receipt of applications for tenders.

1.3 Similar Experience:

For assessing the technical capacity of Regular, Routine and Maintenance works; Similar work shall mean, the completed or ongoing works in Building Construction OR Building Maintenance such as repairs/retrofitting /structural repairs OR construction/repairs of Asphalt/ Concrete roads OR laying/rehabilitation of sewer lines along with allied components OR laying/rehabilitation of water pipe lines in Cast Iron/ M.S. pipes / HDPE/ MDPE pipes OR repairs/maintenance/ construction of culverts over nullah.

No specific quantities shall be insisted as eligibility criteria for qualification of bidder. This shall mean similar works in broader scope and not based on specific quantities.

The Chief Engineer, shall decide other than aforesaid works in the definition of Regular and Routine Works with recorded reasons in writing and with approval of concerned AMC

2. For Original and New construction works

Name of the Dept.	Details of project works
City Engineer/HIC	Hosing colonies for staff quarters/Markets admeasuring more than 20000.00 sq.mts .etc. Or High Rise Buildings Or Buildings for major hospital more than 200 beds.
Road & Traffic	Asphalting/concreting of major roads in long stretches (single road more than 5000 m) and costing more than Rs.100.00 crores.
Sewage Project	laying of new sewer lines for long stretches i.e. beyond 500m.
Sewerage Operation	New pumping stations etc.
S.W.D	New pumping stations etc.
H.E.	Laying of pipe lines more than 1200mm dia., Trunk mains etc. Pumping stations etc.
Bridges	New bridges over roads, rivers,etc.

- ❖ *The above detailing of the project as per the Department is indicative and non exhaustive.*
- ❖ *The Chief Engineers shall obtain approval of concerned AMC regarding the definition of Original & new construction works as also what should be called as Similar Nature of works for respective departments. This will be a standing order till changed. They should prepare an exhaustive list of all works under their control and categorize to keep no doubts for future tendering processes.*

2.1 Technical Capacity (Project Experience):

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

- a) **Three similar completed works or currently executing three works of similar nature each costing 30% of estimated cost.***

OR

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

OR

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

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

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

2.2 Financial Capacity

Achieved a average annual financial turnover as certified by 'Chartered Accountant' (in all classes of civil engineering construction works only) equal to **30%** of the estimated cost of work in **last three (3) financial years** immediately preceding the Financial Year in which bids are invited.

- To ascertain this, tenderer(s) shall furnish /upload the financial statement (Audited balance sheet) duly certified by Chartered Accountant.
- The turnover can be enhanced by 10% every year to bring the present level.

2.3 Similar experience is spelt in definite sense, such as- For-Building Construction

Nos of stories	Experience of construction
Up to 4 stories	No special experience
From 5 to 10 stories	Minimum 5 stories
From 11 to 15 stories	Minimum 8 stories
From 15 + stories	Minimum 10 stories
In case of basement	Minimum 1 basement

**The contractors having experience of Retro-fitting (Jacketing of columns, recasting of structural members, polymer grouting, etc) works can also be eligible for Building Construction works.*

For other works:

For RCC box drain/ RCC nalla work/ Reservoir/ ESR	Any type of RCC retaining structures +C.C. M-30 and above
For CC Road	Any type of high grade CC M 30 & above used in C.C road/nalla/culverts/ bridges
For asphalt road	Asphalt macadam works in roads
For pressure pipeline work(for HE& WSP)	Any type of pressure pipeline works used in water/rising main/petroleum/gas and ½ dia of the proposed dia in the tender is to be allowed
For gravity main	RCC pipe line used is sewage network/SW Drain/Network
For Bridges	Any bridge work of road over bridge/ river over bridge/ – No particular requirement of girders, steel shall be insisted in normal circumstances etc.
For special works	Chief Engineer shall decide the experience of particular works with recorded reasons in writing appropriately. E.g. I) Pilling work in severe exposure conditions, etc. II) Very specific and technologically specialized such as pre-stressing, tunneling, bridges and outfall pumping stations
For works related to M&E dept	As mostly works of M&E dept are of special nature, experience of particular categories of special work may be added in tender document with prior approval competent authority i.e. Ch.E./ DMC(E)/ DMC(Spl. Engg) as the case may be depending upon the delegation of powers for administrative approval.

Note: No specific quantities shall be insisted as eligibility criteria for qualification of bidder. Also, Ch.Eng. of respective departments should define "Similar Nature" works with approval of respective AMC.

C) Bid Capacity:

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

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

Where,

A = Maximum value of Civil Engineering works executed in any one year (year means Financial year) during the last five years (updated to the price level of the Financial

year in which bids are received at a rate of 10% per year) taking into account the completed as well as works in progress.

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

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

Note: The statement showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be attached along with certificates duly signed by the Engineer-in Charge, not below the rank of an Executive Engineer or equivalent.

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

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

D. Equipment Capabilities as required for this work

- a) **Regular and Routine works:** The successful bidder will make the arrangements of the required equipment on the day of commencement or with respect to the progress of the work in phases, as per the instructions of site in charge. The successful bidder and, to that effect he will ensure commitment on an undertaking on Rs.500 stamp paper to be submitted along with the Bid in Packet B. However, this condition in no way shall dilute the respective condition in Registration Rules of MCGM.
- b) **New and Original Works:** The bidder should, undertake their own studies and **furnish with their bid**, a detailed construction planning and methodology supported with assessment study of requirements of equipment/plants & 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 MCGM.
- c) **Special Works:** *The concerned Ch.Eng. shall enlist the equipments in the tender document justified for the project and ensure the capacity of the bidder for the same with the approval of concerned AMC.*

Note:

1. **Bidders shall submit the undertaking for equipment capability and other un-**

dertakings as such on a single Rs.500/- stamp paper.

2. *Insistence of availability of equipments/plants at a particular distance from site should not be made in the tender document.*

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

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

(A) General Guidelines for Fixing Requirement of Technical Staff

Cost of work (Rs in Crore)	Requirement of Technical Staff (of Major + Minor Component)		Minimum Experience (years)	Designation
	Qualification	Number		
more than 100	i) Graduate Engineer (Major component)	1	20	Project Manager in major discipline of engineering
	ii) Graduate Engineer	2+1	12	Deputy Project Manager in major discipline of engineering
	iii) Graduate Engineer or Diploma Engineer	4	5	Project/Site Engineer
	iv) Graduate Engineer	1+1	8	Quality Engineer
	v) Diploma Engineer	1	8	surveyor
	vi) Graduate Engineer	1+1	6	Project Planning/ Billing Engineer

More than 50 to 100	i) Graduate Engineer	1	20	Project Manager
	ii) Graduate Engineer	1+1	12	Deputy Project Manager
	iii) Graduate Engineer or Diploma Engineer	2+1	5 Or 10	Project/Site Engineer
	iv) Graduate Engineer	1	8	Quality Engineer
	v) Diploma Engineer	1	8	surveyor
	vi) Graduate Engineer	1+1	6	Project Planning/ Billing Engineer
More than 20 to 50	i) Graduate Engineer	1	20	Project Manager
	ii) Graduate Engineer or Diploma Engineer	1+1	5 Or 10	Project/Site Engineer
	iv) Graduate Engineer	1	8	Quality Engineer
	v) Diploma Engineer	1	8	surveyor
	vi) Graduate Engineer	1	6	Project Planning/ Billing Engineer

Notes- 1 "Cost of work", in table above, shall mean the agreement amount of the work.
2. Rate of recovery in case of non-compliance of the clause be stipulated at following

rates:-

Sr. No	Qualification	Experience(years)	Rate of Recovery
1	Project Manager with degree	20	Rs.60000/- p.m.
2	Deputy Project Manager with degree	12	Rs.40000/- p.m.
3	Project/Site Engineer(Degree/Diploma)	5 or 10 respectively	Rs.25000/- p.m.
3	Quality Graduate Engineer	8	Rs.25000/- p.m.
4	Surveyor	8	Rs.15000/- p.m.
5	Project Planning/ Billing Engineer	6	Rs.20000/- p.m.

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

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

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

(D) General Guidelines for Fixing Requirement of Technical Staff

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

the sum to which the Contractor is considered entitled by way of interim payment for all the work executed, after deducting there from the amount already paid, the security deposit / retention money and such other amounts as may be deductible or recoverable in terms of the contract.

iii) On request, the contractor will be paid upto 75 percent of the value of the work carried out as an adhoc payment in the first week of next month after deducting there from recoveries on account of advances, interest, retention money, income tax etc. The balance payment due will be paid thereafter.

iv) No interim payment will be admitted until such time the Contractor have fully complied with the requirement of the Condition no.8 (g) and 8 (h) concerning submission and approval of Network Schedule for the works, as detailed in Condition 8 (h). A fixed sum shall be held in abeyance at the time of next interim payment for non-attainment of each milestone in the network and shall be released only on attainment of the said milestone.

v) An interim certificate given relating to work done or material delivered may be modified or corrected by a subsequent interim certificate or by the final certificate. No certificate of the Engineer supporting an interim payment shall of itself be conclusive evidence that any work or materials to which it relates is / are in accordance with the contract.

82 Banning/De-Registration of Agencies of Construction works in MCGM

- **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 MCGM.**

83. JOINT VENTURE

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

- a) Joint Venture should be allowed only when the number of identifiable different works is more than one and/or the estimated cost of tender is more than Rs.100 Crores. JV shall also be allowed for complex technical work below Rs.100 Crores with the approval of concerned AMC
- b) Separate identity/name shall be given to the Joint Venture firm.
- c) Number of members in a JV firm shall not be more than three in normal circumstances, if the work involves only one discipline (say Civil or Electrical). If number of members in JV is required to be more than three, then approval of concerned AMC needs to be sought.
- d) A member of JV firm shall not be permitted to participate either in individual capacity or as