



# बृहन्मुंबई महानगरपालिका





**BRIHANMUMBAI MUNICIPAL CORPORATION**  
**Hydraulic Engineer's Department**

e-TENDER DOCUMENT

**Subject: - Construction of Maintenance Staff Chowky and various workshops in the premises of Kapurbawdi water works yard in O.C. Division.**

**Due on:- 23.11.2022**

Tender shall be submitted through internet on BMC web site, (i.e., to upload the scanned copies of documents of Packet 'A', Packet 'B' & Packet 'C' (The system to accept EMD amount online has been developed by BMC and accordingly the EMD amount will have to be paid online only by the tenderer, except rate analysis if applicable) in the prescribed Performa required in the e-tender) up to 4.00 p.m. or before due date of tender submission. The bidders shall submit the ASD as applicable in the form of Demand Draft. If A.S.D. is not applicable then the bidders shall submit their letter head mentioning there as 'ASD is not applicable' in the sealed envelope.

Such sealed envelope shall be submitted during office hours minimum one day before opening of Packet 'C' to respective Head Clerk (Expenditure) of the Engineer in-charge of the HE Department in sealed envelope.

Note :- The D. D. for ASD shall be strictly drawn in the favor of "**BRIHANMUMBAI MUNICIPAL CORPORATION**"

**sd/-**  
**Architect**

**sd/-**  
**S.E. (Kasheli)**

**sd/-**  
**S.E. (Constn.)**

**sd/-**  
**A.E.W.W. (Kapurbawdi)**

**sd/-**  
**A.E. (Const.)-II**

**sd/-**  
**E.E.(Operations)**

**sd/-**  
**E.E.(Construction)**

**sd/-**  
**Dy.H.E.(Operations)**



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**SECTION 1**

**e-TENDER NOTICE**

**BRIHANMUMBAI MUNICIPAL CORPORATION**

**Dy. H.E.(Operations)**

Dy.H.E./OPS/5373 Dtd. 31.10.2022

**E-TENDER**

**Subject : Construction of Maintenance Staff Chowky and various workshops in the premises of Kapurbawdi water works yard in O.C. Division.**

The BRIHANMUMBAI MUNICIPAL CORPORATION (BMC) invites e-tender to appoint Contractor for the aforementioned work from contractors of reputed, multidisciplinary engineering organizations i.e. eminent firm, Proprietary/Partnership Firms/ Private Limited Companies/ Public Limited Companies/Companies registered under the Indian companies' act 2013, registered with the BRIHANMUMBAI MUNICIPAL CORPORATION , (BMC) in **Civil Category in class I(C) and above 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, subject to condition that, the contractors who are not registered with BMC will have to apply for registering their firm within three month 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.

**Bidding Process will comprise of THREE stages.**

The application form can be downloaded from BMC's portal (<http://portal.mcgm.gov.in>) on payment of Rs. 10,400/- + 18.00% GST (9% SGST + 9%.CGST) The applicants not registered with BMC are mandated to get registered (Vendor Registration) with BMC for e-tendering process & obtain login credentials to participate in the online bidding process.

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



Tender No.	Name and location of work	Contract period	Estimated Cost of Project
7200038926 / 2022-23	Construction of Maintenance Staff Chowky and various workshops in the premises of Kapurbawdi water works yard in O.C. Division.	24 Months (Exclusive of monsoon)	Rs. 13,68,12,541.75

In terms of the 3 stage system of e-tendering, a Bidder will be required to deposit, along with its Bid, an Earnest Money Deposit of **Rs.13,68,200/- (Rupees Thirteen Lakhs Sixty Eight Thousand Two Hundred only)** (the "EMD"), refundable in accordance to the relevant clause of bid document, from the Bid Due Date, except in the case of the selected Bidder whose Bid Security/EMD shall be retained. The Bidders will have to provide Earnest Money Deposit through the payment gateways while submitting the bids. The Bid shall be summarily rejected if it is not accompanied by the Earnest Money Deposit. The e-tender is available on BMC portal (<http://portal.mcgm.gov.in>) as mentioned in the Header Data of the tender.

As per Three Packet systems, the document for Packet A, B & C is to be uploaded by the bidder in vendors' document online in Packet A, B & for Packet C, bidder fill in data in item data tab in service online item via details and quotes his percentage figure variation. Packet A,B & C shall be opened on dates as mentioned in header data. All the responsive and eligible bidders if they so wish can be present at the time of opening of bids, in the office of **Dy.H.E. (Operations)**. The Packet C shall be opened if bids submission in Packet A, B satisfies/includes all the requirements and same are found acceptable to the Authority.

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

The dates and time for submission and opening the bids are as shown in the Header Data. If there are any changes in the dates the same will be displayed on the BMC Portal. (<http://portal.mcgm.gov.in>)

**The Applicants interested for the above referred works may contact the Dy.H.E.(Operation) at the following address on any working day during office hours.**

Office of the,  
Deputy Hydraulic Engineer (Operations),  
M.C.G.M. Water Works Yard, Kapurbawdi,  
P.O. Sandoz Baug, Thane (West) – 400607.  
Website: [www.portal.mcgm.gov.in](http://www.portal.mcgm.gov.in)

The applicants may wish to visit the site under reference located at aforesaid address.

BMC reserves the rights to accept any of the application or reject any or all the application received for above works, without assigning any reasons thereof. The information regarding above subject matter is available on Website of BMC. (<http://portal.mcgm.gov.in/tenders>).

sd/-  
(S. V. Choudhary)  
**Dy.H.E.(Operations)**

**HEADER DATA**

Tender Document No	<b>7200038926 / 2022-23</b>
Name of Organization	<b>BRIHANMUMBAI MUNICIPAL CORPORATION</b>
Subject	Construction of Maintenance Staff Chowky and various workshops in the premises of Kapurbawdi water works yard in O.C. Division.
Tender Fee	<b>Rs.10,400/- + 18.00% GST (9%SGST+9% CGST)</b>
Cost of E-Tender(Estimated Cost)	<b>Rs. 13,68,12,541.75</b>
Bid Security Deposit/ EMD	<b>Rs.13,68,200/-</b>
Date of issue and sale of tender	<b>02.11.2022 from 11:00 hrs</b>
Last date & time for sale of tender	<b>23.11.2022 up to 12:00 hrs</b>
Submission of Packet A, B & Packet C (Online) & Receipt of Bid Security Deposit	<b>23.11.2022 up to 16:00 hrs</b>
Opening of Packet A	<b>24.11.2022 after 11.00 hrs</b>
Opening of Packet B	<b>24.11.2022 after 11.30 hrs</b>
Opening of Packet C	<b>06.12.2022 after 11.00 hrs</b>
Pre-bid Meeting	10.11.2022 at 12.00 noon In the office of the, Hydraulic Engineer 1st Floor, Engineering Hub Building, Dr. E. Mozes Road, Worli Naka, Worli, Mumbai – 400 015.
Address for communication	Office of the, Executive Engineer(Construction), M.C.G.M. Water Works Yard, Kapurbawdi,P.O. Sandoz Baug,Thane (West) 400607. email ID : ee01constocdiv.he@mcgm.gov.in Website: <a href="http://www.portal.mcgm.gov.in">www.portal.mcgm.gov.in</a>
Venue for opening of bid	Address same as above

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/-  
(S. V. Choudhary)  
**Dy.H.E.(Operations)**



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# **SECTION 2**

# **ELIGIBILITY CRITERIA**



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

<b>Name of the Deptt.</b>	<b>Details of project works</b>
<b>City Engineer/HIC</b>	New buildings for staff quarters /markets /school / offices etc. All dispensaries, health centers/ cemeteries
<b>Bldg. Maintenance</b>	All bldg. repair works, demolition works. New construction such as sheds.
<b>Road &amp; Traffic</b>	Pothole repairs, trenches, asphaltting of minor and major roads, repairs to footpaths, Improvisations of junctions./ new C.C.roads.
<b>Sewage Project</b>	Replacement of sewer lines, laying of new sewer lines for short stretches upto 500m
<b>Sewerage Operation</b>	Remedial works of all sewer lines
<b>S.W.D.</b>	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.
<b>H.E.</b>	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.
<b>Bridges</b>	All maintenance/minor repairs and repairs to bridges, new bridge over major nalla, etc
<b>Garden Department</b>	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.





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### 1.1 Technical Capacity :

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

**a) Three similar completed works each** of value not less than the value equal to **30%** of estimated cost put to tender i.e. **Rs.4,10,43,762.53**.

Or

**b) Two similar completed works each** of value not less than the value equal to **35%** of estimated cost put to tender i.e **Rs.4,78,84,389.61**.

Or

**c) One similar completed work of value equal and or not less than the 50% of estimated cost put to tender Rs.6,84,06,270.88.**

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

The tenderer shall upload scan copy of necessary satisfactory performance certificate along with the work order regarding works carried out as stated above at sr. no. I. The certificate shall be issued by the competent authority of the organization complete with the details of Name of work, Contract Cost, Work Order No. & Date of completion, Contract Period & satisfactory completion remarks etc. as per the Post Qualification Criteria mentioned above.

### 1.2 Financial Capacity : (This clause is not applicable for this tender)

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 (03) financial years** immediately preceding the Financial Year in which bids are issued.

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 the date of issue of tenders.



### 1.3 Similar Experience:

For assessing the technical capacity of major structural repairs / maintenance works and reconstruction / new construction works; similar work shall mean, the completed or ongoing works in Building Construction OR Building Maintenance such as repairs / retrofitting / upgradation / structural repairs.

### 2. For Original and New construction : (This clause is not applicable for this tender)

Name of the Dept.	Details of project works
City Engineer/HIC	Housing 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
Sewage 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

### 2.1 Technical Capacity (Project Experience): (This clause is not applicable for this tender)

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



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

**OR**

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

**OR**

c) **One completed work of similar nature of aggregate 60% of estimated cost.**

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

**2.2 Financial Capacity : (This clause is not applicable for this tender)**

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 issued.

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

**2.3 Similar experience : (This clause is not applicable for this tender)**

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 CCM30 & above used in C.C road/nalla/culverts/ bridges
For asphalt road	Asphalt macadam works in roads
For pressure pipeline work(for HE & allowedWSP)	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
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.

**C) Bid Capacity:**

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

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

Where,

**A** = Maximum value of Civil Engineering works completed 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 invited at a compounded rate of 10% per year) taking into account the completed works.

**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. **(For this e-Tender, N = 2.66)**



**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.



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# **SECTION 3**

# **DISCLAIMER**



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## **DISCLAIMER**

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

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

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

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



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

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

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





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# **SECTION 4**

# **INTRODUCTION**



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## **INTRODUCTION**

### **Background:**

The BRIHANMUMBAI MUNICIPAL CORPORATION covers an area of 437.71sq.kms.with a population of 1.24 Crores as per census of 2011. The metropolis accounts major portion of India's international trade and government's revenue, from being one of the foremost centers of education, science and technological research and advancement.

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

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

### **Scope of Work:**

Kasheli maintainance office is constructed in the campus of Kapurbawdi premises for labour staff for day to day maintenance work. As per request of A.E.W.W. Kapurbawdi work of repairs to Kasheli site office, machinery rooms along with allied structures used as workshops was taken in hand for carrying out structural audit, which are in deteriorated condition. Structural audit of these structures has been done from the BMC panelled structural consultant M/s. Dipak D. Kulkarni & after structural audit these structures declared as C-I category, as such these structures are demolished by calling e-tender. For construction of new structures, total station survey of proposed plot has been already carried out and boundaries of BMC acquired land are finalized.



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Proposed building comprises of G+1 structure having admin office & workshop building. The work comprises of RCC work (includes protective wall, C.C. Road, Storm Water Drain & Building RCC work), Masonry, Waterproofing, Plastering, Painting, Flooring, Window and Doors work, Furniture Works, Landscape works, electrical works, ELV works & HVAC works.

**- The above is general description of the scope of work & actual work shall be governed by B.O.Q. and as directed by Engineer in charge .**

- Contractor to inspect the site before filling the tender.

-Bidder should go through specification given on BMC portal and execute the work as BMC terms and conditions, GCC and as per instruction given by competent officer.



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# **SECTION 5**

# **E-TENDERING ONLINE**

# **SUBMISSION PROCESS**



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## **E-TENDERING ONLINE SUBMISSION PROCESS**

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

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

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

Start Date read as "Sale Date"

End Date read as "Submission Date"

Supplier read as "Contractor/bidder"

Vendor read as "Contractor/bidder"

Vendor Quotation read as "Contractors Bid/Offer"

Purchaser read as "Department/BMC"

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

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

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

a. Contractors already registered with BMC will approach to Vendor Transfer cell.

b. Submit details such as (name, vendor code, address, registered Email ID, pan card etc.) to Vendor transfer cell.

c. BMC authority for Vendor Transfer, transfers the Vendor to SRM application from R3 system to SRM system.

d. Transferred Vendor receives User ID creation link on his supplied mail Id.

e. Vendor creates his User ID and Password for e-tendering applications by accessing link sent to his mail ID.

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

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

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



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

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

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

1. Access e-tender link of SRM Portal

2. Log in with User ID and Password

3. Selects desired Bid Invitation (he wants to bid)

4. To download tender documents bidders will have to pay online Tender fee. The same can be done by accessing Pay Tender Fees option. By this one will be able to pay Tender fee through Payment Gateway-If transaction successful, bidders can register his interest to participate. Without Registration one cannot quote for the Bid/Tender.

5. Applicant will download Tender Documents from Information from purchaser tab by accessing Purchaser document folder through collaboration 'C' folder link.

6. Applicant will upload Packet **A & B** related and Packet **C** related Documents in Packet **A & B** and Packet **C** folder respectively by accessing these folders through "My Notes" Tab and collaboration folder link.

7. All the documents uploaded have to be digitally signed and saved. bidders can procure their digital signature from any certified CA's in India.

8. Bid security deposit/EMD and ASD, if applicable, should be paid online as mentioned in tender.

9. For commercial details (in Packet **C**) bidders will fill data in Item Data tab in Service Line Item via details and quotes his "Percentage Variation" (i.e.% quoted) figure.(If entered '0' it will be treated as at par. By default the value is zero only.

10. Applicants to check the bid, digitally signs & save and submit his Bid Invitation.

11. Applicants can also save his uploaded documents/commercial information without submitting the BID for future editing through 'HOLD' option.

12. Please note that "Hold" action do not submit the Bid.

13. Applicants will receive confirmation once the Bid is submitted.

14. Bid creator (BMC) starts Bid Opening for Packet **A** after reaching End Date and Time and Bid Evaluation process starts.

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

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



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The e-tender is available on BMC portal, <http://portal.mcgm.gov.in>, as mentioned in the Header Data of the tender. The tenders duly filled in should be uploaded and submitted online on or before the end date of submission. The Packet '**A**','**B**' & Packet '**C**' of the tenderer will be opened as per the time-table shown in the Header Data in the office of the, Executive Engineer (Construction), M.C.G.M. Water Works Yard, Kapurbawdi , P.O. Sandoz Baug, Thane (West) – 400607.

The Municipal Commissioner reserves the right to reject all or any of the e-Tender(s) without assigning any reason at any stage. The dates and time for submission and opening the tenders are as shown in the Header Data. If there are any changes in the dates the same will be displayed on the BMC Portal (<http://portal.mcgm.gov.in>).



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# **SECTION 6**

# **INSTRUCTIONS TO**

# **APPLICANTS**





## INSTRUCTIONS TO APPLICANTS

### **Scope of Application**

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

### **Eligibility of Applicants**

The BRIHANMUMBAI MUNICIPAL CORPORATION (BMC) invites e-tender to appoint Contractor for the aforementioned work from contractors of reputed, multidisciplinary engineering organizations i.e. eminent firm, Proprietary/Partnership Firms/ Private Limited Companies/ Public Limited Companies/Companies registered under the Indian companies' act 2013, registered with the BRIHANMUMBAI MUNICIPAL CORPORATION , (BMC) in **Civil Category in class I(C) and above 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, subject to condition that, the contractors who are not registered with BMC will have to apply for registering their firm within three month 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:**

<b>Name of the Deptt.</b>	<b>Details of project works</b>
<b>City Engineer/HIC</b>	New buildings for staff quarters /markets /school / offices etc. All dispensaries, health centers/ cemeteries
<b>Bldg. Maintenance</b>	All bldg. repair works, demolition works. New construction such as sheds.
<b>Road &amp; Traffic</b>	Pothole repairs, trenches, asphaltting of minor and major roads, repairs to footpaths, Improvisations of junctions./ new C.C.roads.
<b>Sewage Project</b>	Replacement of sewer lines, laying of new sewer lines for short stretches upto 500m
<b>Sewerage Operation</b>	Remedial works of all sewer lines
<b>S.W.D.</b>	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. NewR.C.C.box culverts across minor or major roads, desilting of nallas.
<b>H.E.</b>	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.



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<b>Bridges</b>	All maintenance/minor repairs and repairs to bridges, new bridge over major nalla, etc
<b>Garden Department</b>	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.

### 1.1 Technical Capacity :

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

**a) Three similar completed works each** of value not less than the value equal to **30%** of estimated cost put to tender i.e. **Rs.4,10,43,762.53**.

**Or**

**b) Two similar completed works each** of value not less than the value equal to **35%** of estimated cost put to tender **Rs.4,78,84,389.61**.

**Or**

**c) One similar completed work of value equal and or not less than the 50% of estimated cost put to tender Rs.6,84,06,270.88.**

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

The tenderer shall upload scan copy of necessary satisfactory performance certificate along with the work order regarding works carried out as stated above at sr. no. 1. The certificate shall be issued by the competent authority of the organization complete with the details of Name of work, Contract Cost, Work Order No. & Date of completion, Contract Period & satisfactory completion remarks etc. as per the Post Qualification Criteria mentioned above.



### 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 (03) financial years** immediately preceding the Financial Year in which bids are issued.

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 the date of issue of tenders.

### 1.3 Similar Experience:

For assessing the technical capacity of major structural repairs / maintenance works and reconstruction / new construction works; similar work shall mean, the completed or ongoing works in Building Construction OR Building Maintenance such as repairs / retrofitting / upgradation / structural repairs.

## 2. For Original and New construction works : (This clause is not applicable for this tender)

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

### 2.1 Technical Capacity (Project Experience): (This clause is not applicable for this tender)

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

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

**OR**

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

**OR**



**c) One completed work of similar nature of aggregate 60% of estimated cost.**

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

**2.2 Financial Capacity: (This clause is not applicable for this tender)**

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 issued.

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

**2.3 Similar experience** is spelt in definite sense, such as- **(This clause is not applicable for this tender)**

**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



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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.
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**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 completed 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 invited at a compound rate of 10% per year) taking into account the completed works.

**Turnover shall be updated to the price level of financial year 2022-23 (I.e value of A) as below**

**Turnover of 2017-18 x 1.46**

**Turnover of 2018-19 x 1.33**

**Turnover of 2019-20 x 1.21**

**Turnover of 2020-21 x 1.1**

**Turnover of 2021-22 x 1**

**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. **(For this e-Tender, N=2.66)**

**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.



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#### **D. Equipment Capabilities as required for this work**

##### **a) Regular and Routine works:**

The successful bidder will make the arrangements of the required equipment on the day of commencement or with respect to the progress of the work in phases, as per the instructions of site in charge. The successful bidder and, to that effect he will ensure commitment on an undertaking on Rs.500 stamp paper to be submitted along with the Bid in Packet B. However, this condition in no way shall dilute the respective condition in Registration Rules of BMC.

##### **b) New and Original Works: (Not applicable for this tender)**

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

##### **c) Special Works: (Not applicable for this tender)**

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 undertakings 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 Lakhs)	Requirement of Technical Staff		Minimum Experience (year)
	Qualification	Number	
Upto 30	Not Required		
Above 30 to 90	Diploma Engineer	1	
Above 90 to 300	Graduate Engineer (BE)	1	2
	<b>OR</b> Diploma Engineer	1	5
Above 300	1) Graduate Engineer (BE)	1	5
	2) Graduate Engineer (BE)	1	2
	<b>OR</b> 2) Diploma Engineer	1	5

**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	Graduate Engineer	5	Rs.25000/-p.m.
2	Graduate Engineer	2	Rs.15000/-p.m.
3	Diploma Engineer	5	Rs.15000/-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 nature of work by competent authority i.e. Chief Engineer with recorded reasons.



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## **F. TIME PERIOD OF THE PROJECT:**

Entire project should be completed and delivered within **24 Months (Exclusive of monsoon)** from the date of award of contract.

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

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

¼ of the work in .. ¼ of the time

½ of the work in .. ½ of the time

¾ of the work in .. ¾ of the time

Full of the work in .. Full of the time

Full work will be completed in **24 Months (Exclusive of monsoon)**.

The above programme is indicative and need to be worked out for every project for major activities) with respect to parameters such as labour, machineries, settling time, procurement and transportation of materials etc. The Dy.H.E.(Operation) shall approve the phase programme of the project in the Tender Document.

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

## **G. Contract Execution**

All required documents for execution of the contract shall be submitted within 30 days from the date of issue of letter of acceptance. If the documents are not submitted within the stipulated time, a penalty of Rs 5000/- per day will be applicable to the contractor.

All contract documents need to be duly affixed with stamp duty properly signed along with evidence/proof of payment of security/contract deposit/ within 30 days from the date of letter of acceptance received by him

H. If the amount of the Contract Deposit to be paid above is not paid within 30 days from the date of issue of Letter of Acceptance, the Tender / Contractor already accepted shall be considered as canceled and legal steps be taken against the contractor for recovery of the amounts.

I. The amount of Security Deposit retained by the BMC shall be released after expiry of period up to which the contractor has agreed to maintain the work in good order is over. In the event of the contractor failing or neglecting to complete the rectification work within the period up to which the





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contractor has agreed to maintain the work in good order, the amount of security deposit retained by BMC shall be adjusted to-wards the excess cost incurred by the Department on rectification work.

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

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

(a) To rescind the contract (for which recession notice in writing to the contractor under the head of Executive Engineer shall be conclusive evidence) and in that case, the security deposit of the contract shall stand forfeited and be absolutely at the disposal of BMC.

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

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

In case the contract shall be rescinded under Clause (a) above, the contractor shall not be entitled to recover or be paid any sum for any work therefor actually performed by him under this contract unless and until the Executive Engineer shall have certified in writing the performance of such work and the amount payable to him in respect thereof and he shall only be entitled to be paid the amount so certified. In the event of either of the courses referred to in Clause (b) or (c) being adopted and the cost of the work executed departmentally or through a new contractor and other allied expenses exceeding the value of such work credited to the contractors amount of excess shall be deducted from any money due to the contractor, by BMC under the contract or otherwise, howsoever, or from his security deposit or the sale proceeds thereof provided, however, the contractor shall have no claim against BMC even if the certified value of the work done departmentally or through a new contractor exceeds the certified cost of such work and allied expenses, provided always that whichever of the three courses mentioned in clauses (a), (b) or (c) is adopted by the Executive Engineer, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchase or procured any materials or entered in to any engagements or made any advance on account of or with a view to the execution of the work or the performance of the contract.



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

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



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## **Submission of Tenders**

### **PACKET – A**

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

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

- a) Valid Registration Certificate.
- b) Valid Bank Solvency Certificate of Minimum Solvency amount as governed by Registration Rules in force for respective Class of Contractor for Civil and M&E works.
- c) A document in support of Registration under GST Act.
- d) Certified copies of valid 'PAN' documents and photographs of the individuals, owners, Karta of Hindu undivided Family, firms, private limited companies, registered co-operative societies, partners of partnership firms and at least two Directors, if number of Directors are more than two in case of Private Limited Companies, as the case may be. However, in case of Public Limited companies, Semi Government Undertakings, Government Undertakings, no 'PAN' documents will be insisted.
- e) Latest Partnership Deed in case of Partnership firm duly registered with Chief Accountant (Treasury) of BMC.
- f) Affidavit / undertakings as per enclosed formats.
- g) The tenderer shall pay amount of EMD online and upload relevant details

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

**NOTE:**

If the tenderer(s) withdraw tender offer during the tender validity period, his entire E.M.D shall be forfeited.

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

### **PACKET – B**

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

- a) The list of similar type of works as stated in para 'A' of Post qualification successfully completed during the last five years in prescribed proforma, in the role of prime contractor. Information furnished in the prescribed proforma (Proforma – I & III) shall be supported by the certificate duly self-attested.



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Documents stating that it has successfully completed during the last five years at least one contract of similar works as stated in para 'A' of Post qualification.

b) Annual financial turnover for **preceding three financial years as certified by Chartered Accountant** preceding the Financial Year in which bids are invited. **Copies of Applicants duly audited balance sheet and profit and loss account for the preceding three financial years preceding the Financial Year in which bids are invited.** (Proforma – II)

c) Documents stating that, it has access to or has available liquid assets, unencumbered assets, lines of credit and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements for the subject contract in the event of stoppage, start-up, or other delay in payment, of the minimum 15% of the cost of the work tendered for, net of the tenderer's commitment of other contracts (Certificate from Bankers / C.A./Financial Institution shall be accepted as a evidence).

d) The bidder shall give undertaking on Rs 500/-stamp paper that it is his/their sole responsibility to arrange the required machineries either owned/on lease or hire basis, at site before start of the work

i) **Regular and Routine works:** The successful bidder shall make the arrangements of the required equipment on the day of commencement or with respect to the progress of the work in phases, as per the instructions of site in charge. The successful bidder and, to that effect he will ensure commitment on an undertaking on Rs.500 stamp paper to be submitted along with the Bid in Packet B. However, this condition in no way shall dilute the respective condition in Registration Rules of BMC.

ii) **New and Original Works:** The bidder should, undertake their own studies and **furnish with their bid**, a detailed construction planning and methodology supported with assessment study of requirements of equipment/plants & machineries to allow the employer to review their proposal. The bidder shall ensure his commitment to make the arrangements of the required equipment on the day of commencement or with respect to the progress of the work in phases, as per the instructions of site in charge on an undertaking on Rs.500 stamp paper to be submitted along with the Bid in Packet B. However, this condition in no way shall dilute the respective condition in Registration Rules of BMC. **(Not applicable for this tender)**

iii) **Special Works:** The concerned Ch.Eng. shall enlist the equipments in the tender document justified for the project and ensure the capacity of the bidder for the same with the approval of concerned AMC. **(Not applicable for this tender).**

e) Details of works in hand (Proforma VI-A & VI-B) (original), along with copies of work orders & attested copies of percentage of works completed or part thereof.

f) Statement showing assessed available Bid Capacity.

g) The undertaking of Rs.500/- stamp paper as per the proforma annexed in 'Annexure B, C & E'

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

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

i) Details of Litigation History on bidder's letter head.



1. GANTT chart/ PERT/ CPM chart showing the completion of work within prescribed time period, considering major activities.
2. Organizational set up envisaged by the contractors.
3. Plant & equipment proposed to be deployed for this work.
4. Site Offices and Laboratories proposed to be set up.
5. A note on how the whole work will be carried out (work plan including methodology).
6. Quality management plan.
7. All the activities included in the Scope of Work shall be covered in the work plan.

**Note:**

i). The Electrical / Mechanical work shall be got carried out by the civil contractors through the contractors registered with BMC. In class 'A' in Electrical Category. Information about the registered contractors shall be obtained from the office of the Ch.E. (M&E)/ E.E. (Monitoring & Registration Cell). Attested scanned copy of the valid registration certificate in Electrical Category shall be uploaded with the tender along with the undertaking from the registered Electrical Contractor stating his willingness to carry out the tender work.

ii). The successful bidder **shall submit valid registration certificate under E.S.I.C., Act 1948**, if the tenderer has more than 10 employees /persons on his establishment (in case of production by use of energy) and 20 employees/persons on his establishment (in case of production without use of energy) to BMC as and when demanded. In case of less employees/persons mentioned above then the successful bidder has to submit an undertaking to that effect on Rs. 200 stamp paper as per circular u/no. CA/FRD/II/65 of 30.03.2013.

iii) The successful bidder **shall submit valid registration certificate under E.P.F. & M.P., Act 1952**, if tenderer has more than 20 employees/persons on his establishment, to BMC as and when demanded. In case if the successful bidder has less employees/persons mentioned above then the successful bidder has to submit an undertaking to that effect on Rs. 200 stamp paper as per circular u/no. CA/FRD/II/44 of 04.01.2013.

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

**PACKET – C**

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

**Note: 1) In case of rebate/premium of 15% and above as quoted by the tenderer, the rate analysis of major items shall be submitted by L1 and L2 bidder after demand notification by e-**



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mail to bidders by concerned Dy.H.E.(Operation) The format for rate analysis is annexed at Annexure D.

2) Rate analysis in prescribed format shall be submitted online to the Engineer in-charge within 3 working days from the date of communication on e-mail. Failing which EMD will be forfeited and the bid will be rejected and next successful / responsive bidder will be considered. Thereafter, negotiation will be done with the said successive / responsive bidder with respect to his quoted rate.

#### **BID SECURITY OR EMD**

1) The Bidder shall furnish, as part of the Bid, Bid Security/EMD, in the amount specified in the Bid Data Sheet. This bid security shall be in favor of the authority mentioned in the Bid Data Sht and shall be valid till the validity of the bid.

2) The tenderers shall pay the EMD online instead paying the EMD at any of the CFC centres in BMC Ward Offices.

Any bid not accompanied by an acceptable Bid Security and not secured as indicated in sub-clause mentioned above, shall be rejected by the Employer as non-responsive.

The Bid Security of the successful Bidder will be discharged when the Bidder has signed the Agreement and furnished the required Security Deposits.

The Bid Security/ EMD of L-3 and bidder shall be refunded immediately after opening of financial bid but, the EMD/ASD submitted by the L-2 bidder will be returned after obtaining Standing Committee Resolution.

The Bid Security may be forfeited:

a) if the Bidder withdraws the Bid after bid opening (opening of technical qualification part of the bid during the period of Bid validity;

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

i. sign the Agreement; and/or

ii. Furnish the required Security Deposits.

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

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



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

**Note:**

**B) Curable Defect shall mean shortfalls in submission such as:**

- a. Non-submission of following documents,
  - i. Valid Registration Certificate
  - ii. Valid Bank Solvency
  - iii. GST Registration Certificate
  - iv. Certified Copies of PAN documents and photographs of individuals, owners, etc
  - v. Partnership Deed and any other documents
  - vi. Undertakings as mentioned in the tender document.
  - vii. Wrong calculation of Bid Capacity,

**NOTE:-** In packet 'A' as well as packet 'B', 02 nos. of shortfall in curable defects will be allowed & 2% EMD will be forfeited for each shortfall thereafter.

**B) Non-curable Defect shall mean (As per circular No. CHE/BM/019919/IIDtd. 07.01.2019)**

- a. Inadequate submission of EMD/ASD amount,
- b. In-adequacy of technical and financial capacity with respect to eligibility criteria as stipulated in the tender.
- c. No proper submission of experience certificates and other documents, etc.

**BID VALIDITY**

- Bids shall remain valid for a period of not less than one eighty (180) days after the deadline date for bid submission specified in Bid Data Sheet. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.
- In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable. A bidder may refuse the request without forfeiting his Bid Security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his bid security for a period of the extension.



□ The Contractor is expected to carry out the construction work in Workmen like manner so as to meet the requirement and specification for the project. It is expected that the Workmanship and materials will be reasonably fit for the purpose for which they are required.

□ Defects or defective work is where standard and quality of workmanship and materials as specified in the contract is deficient. Defect is defined as a failure of the completed project to satisfy the express or implied quality or quantity obligations of the construction contract. Defective construction works are as the works which fail short of complying with the express descriptions or requirements of the contract, especially any drawings or specifications with any implied terms and conditions as to its quality, workmanship, durability, aesthetic, performance or design. Defects in construction projects are attributable to various reasons.

□ Some of the defects are structural defects results in cracks or collapse of faulty defective plumbing, inadequate or faulty drainage system, inadequate or faulty ventilation, cooling or heating systems, inadequate fire systems etc. The defects could be various on accounts of different reasons for variety of the projects.

□ The Engineering In charge/Project Officer shall issue the practical completion certificate for the project. During the Defect Liability Period which commences on completion of the work, the Engineering In charge shall inform or the contractor is expected to be informed of any defective works by the Employer's representative of the defects and make good at contractor's cost with an intention of giving opportunity to the contractor of making good the defects appeared during that period. It is the contractor's obligation under the contract to rectify the defects that appear during Defect Liability Period and the contractor shall within a reasonable time after receipt of such instructions comply with the same at his own cost. The Engineering In charge/Project Officer shall issue a certificate to that effect and completion of making good defects shall be deemed for all the purpose of this contract to have taken place on the day named in such defect liability certificate.

□ If defective work or workmanship or design have been knowingly covered-up or concealed so as to constitute fraud, commencement of the Defect Liability Period may be delayed. The decided period may be delayed until **discover** actually occurs on at least the defect could have been discovered with reasonable diligence, whichever is earlier.

**The DLP shall be as below:**

<b>Dept</b>	<b>Type of works</b>	<b>DLP</b>
Roads / Bridge	For Cement Concrete road work having thickness 280 mm and above 10 years and 5 years for all other components of the roads i.e. side strip, footpath, SWD, thermoplastic paint, kerb stones, water tables, street furniture, signboards etc	10 years
	Asphalt work	5 years
	Structural work	5 years
	General works	5 years
BM/SIC/HIC	General works	3 years
	Structural work	5 years





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	Waterproofing works	5 years
Ward Works	All ward level works	2 years
Other Works	Pot holes and pre-monsoon bad patch repair work	1 years
For other departments	HE, WSP, SP, SWD, Garden	3 years

**NOTE : The C.C. road DLP is 10 years & building DLP is 3 years. Maximum DLP i.e. 10 years will be considered for contract execution documents including Contract Deposits, Bank Guarantee etc.**

❖ **In case of any type of work not covered in above or any change in DLP, the concerned Ch.Eng. shall stipulate DLP with approval of concerned DMC/AMC.**

Also, in case of defect, the Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at. The Defects Liability Period shall be extended for as long as Defects remain to be corrected. Every time notice of Defect/Defects is given, the Contractor shall correct the notified Defect/Defects within the duration of time specified by the Engineer's notice. The Engineer may issue notice to the Contractor to carry out removal of defects or deficiencies, if any, noticed in his inspection, or brought to his notice. The Contractor shall remove the defects and deficiencies within the period specified in the notice and submit to the Engineer a compliance report.

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

### **SECURITY DEPOSIT AND PERFORMACE GUARANTEE**

#### **A. Security Deposit**

The security deposit shall mean and comprise of

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

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

II) **Retention Money** – The retention money equal to 15% of the Contract sum will be recovered from the contractor's every bill i.e. interim / running / final bill. The clause of retention money will not be applicable M. & E. Department.

#### **B. Additional Security Deposit**

The **additional security deposit shall be applicable as under:-**



Rebate quoted by Contractor	ASD Applicable
Up to 12% rebate	No ASD
Rebate above 12.0% on estimated cost	At 2.00% of Estimated cost for each % rebate and part thereof in D.D. only.

Additional security deposit =  $2(X/100) \times$  office estimated cost,

Where X=percentage rebate quoted above 12%

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

If the bidders fails to submit the sealed envelope as mentioned above at least one day before opening of packet 'C' within office hours then the EMD of the respective bidders will be forfeited and the company with their Directors / 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.

### 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 from 0 % to 12%	PG= 0.92% x contract sum <b>applicable for rebate of 12%</b>
For rebate more than 12 %	P.G. = {0.92% x contract sum applicable for rebate of 12%} +(X) x contract sum where X= percentage rebate quoted more than 12%

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

The PG shall be paid in one of the following forms.

- I) Cash (In case guarantee amount is less than Rs.10,000/-)
- II) Demand Draft (In case guarantee amount is less than Rs.1,00,000/-)
- III) Government securities
- IV) Fixed Deposit Receipts (FDR) of a Schedule Bank.



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V) An electronically issued irrevocable bank guarantee bond of any Schedule bank or in the prescribed form given in Annexure.

Performance Guarantee is applicable over and above the clause of Security Deposit. Performance Guarantee will have to be paid & shall be valid till the defect liability period or finalization of final bill whichever is later.

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

**Note:** Following exceptions shall be adopted for 'Demolition Tenders':

- Irrespective of the offer (Rebate/ at par/ premium), ASD shall be differed and only PG of 10% of contract sum be taken from the successful bidder on award of contract only.

- BMC departments shall ensure to incorporate specific condition regarding above in bid document and e-tender notice.

#### **D. Refund of Security Deposit**

##### **I. Refund of Contract Deposit**

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

##### **II. Refund of Retention Money**

The retention money will be refunded after completion of defect liability period and after issue of "Defect Liability Certificate" (in case of 1 or 3 or 5 years DLP) provided that the Engineer is satisfied that there is no demand outstanding against the Contractor. In the event of different Defects Liability Periods have been specified or become applicable to different sections or parts of the permanent works, the said money will be released within 30 days on expiration of such Defects Liability Periods. In the event, the Engineer issues a Taking-over certificate for a section or part of the permanent works, only such proposition thereof as the Engineer determines (having regard to the relative value of such section or part of the works) shall be considered by the Engineer for payment to the Contractor.

##### **III. Refund of Additional Security Deposit**

One half (50%) of the Additional Security Deposited (ASD) shall be released after the completion of 50% financial progress of the work.

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



#### IV. Refund of Performance Guarantee.

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

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

##### a) Time of Refund for works having 5 years DLP :-

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

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

Deposits refunded after completion of 50% financial progress of work	Deposits refunded after completion	After Completion of DLP
50% ASD	Balance 50% ASD	CD+ RM+PG

#### \*Note:

a) It shall be clearly mentioned that the BG shall be applicable for individual work/contract and clubbing of various contracts of the said contractor will not be allowed. In case of obtaining Bank Guarantee, it is necessary to mention that the same shall be valid further 6 months from the completion of defect liability period/ warranty period.

b) It shall be the responsibility of the bidder to keep the submitted B.G. "VALID" for the stipulated time period in the tender & in case of its expiry it will attract penalization.

c) Bank Guarantee should be issued by way of General Undertaking and Guarantee issued on behalf of the Contractor by any of the Nationalized or Scheduled banks or branches of foreign banks operating under Reserve Bank of India regulations located in Mumbai upto Virar & Kalyan. List of approved Banks is appended at the end of Instructions to Bidders (ITB). The Bank Guarantee issued by branches of approved Banks beyond Kalyan and Virar can be accepted only if the said Bank Guarantee is countersigned by the Manager of a Regional Branch of the same bank within the Mumbai City Limit categorically endorsing thereon that the said Bank Guarantee is binding on the endorsing Branch of the Bank or the Bank itself within Mumbai Limits and is liable to be enforced against the said Branch of the Bank or the bank itself in case of default by the Contractors furnishing the Bank Guarantee. The Bank



Guarantee shall be renewed as and when required and/or directed from time to time until the Contractor has executed and completed the works and remedied any defects therein.

**E. Legal + Stationary Charges: (As per applicable circular enforce at the time )**

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

<b>Sr. No.</b>	<b>Contract Value in Rs.</b>	<b>Legal + Stationery Charges in Rs. (Plus applicable GST)</b>
1	Upto Rs. 50,000/-	Nil
2	From Rs. 50,001/- to Rs. 1,00,000/-	Rs. 6,290/-
3	From Rs. 1,00,001/- to Rs. 3,00,000/-	Rs. 10,380/-
4	From Rs. 3,00,001/- to Rs. 5,00,000/-	Rs. 12,470/-
5	From Rs. 5,00,001/- to Rs.10,00,000/-	Rs. 14,510/-
6	From Rs. 10,00,001/- to Rs. 20,00,000/-	Rs. 16,570/-
7	From Rs. 20,00,001/- to Rs. 40,00,000/-	Rs. 18,660/-
8	From Rs. 40,00,001/- to Rs. 1,00,00,000/-	Rs. 20,720/-
9	From Rs. 1,00,00,001/- to Rs. 10,00,00,000/-	Rs. 24,450/-
10	From Rs. 10,00,00,001/- to Rs. 20,00,00,000/-	Rs. 28,220/-
11	From Rs. 20,00,00,001/- to Rs. 30,00,00,000/-	Rs. 31,980/-
12	From Rs. 30,00,00,001/- to Rs.40,00,00,000/-	Rs. 35,740/-
13	From Rs. 40,00,00,001/- to Rs.50,00,00,000/-	Rs. 39,470/-
14	From Rs. 50,00,00,001/- to Rs. 1,00,00,00,000/-	Rs. 47,000/-
15	From Rs. 1,00,00,00,001/- to Rs.2,00,00,00,000/-	Rs. 58,270/-
16	From Rs. 2,00,00,00,001/- to Rs. 3,00,00,00,000/-	Rs. 65,770/-
17	From Rs. 3,00,00,00,001/- to Rs. 4,00,00,00,000/-	Rs. 75,120/-
18	From Rs. 4,00,00,00,001/- to Rs. 5,00,00,00,000/-	Rs. 84,510/-
19	From Rs. 5,00,00,00,001/- to any amount	Rs. 93,920/-



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

**F. Stamp Duty: (As per applicable circular enforce at the time)**

**Circular No. ChE/BM/17800/II dt 07.01.2016**

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

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

(a)	Where the amount or value set forth in such contract does not exceed rupees ten lakh.	Five Hundred rupees stamp duty
(b)	Where it exceeds rupees ten lakhs	Five hundred rupees plus 0.10% of the amount, above rupees ten lakh subject to the maximum of rupees twenty five lakhs.
(c)	Bank Guarantee : As per the article 54 read with 40 (b) of stamp duty act, stamp duty of 0.5% will be applicable to the all bank guarantee submitted also which are required to be renewed after expiry of time period.	0.5%

ii. The successful bidder within 30 days from the date of issue of work order for executing the contract work under reference shall enter into a contract agreement with the BMC. by submitting the necessary/ required documents to the satisfaction of the concerned Executive Engineer & Account Officer. The Contract agreement shall be adjudicated for payment to stamp duty by the successful bidder and accordingly the successful bidder shall pay the stamp duty on the contract agreement within such time so as to ensure the contract agreement is executed within the stipulated period as aforesaid. The cost worked out after adding physical and cost contingencies shall be considered for computing the stamp duty charges to be paid for the contract agreement.

iii. Further shortfall if any, in amount of stamp duty paid as against prescribed amount for the documents executed in Mumbai City & Mumbai Suburban District be recovered from the concerned work contractors and to deposit the deficit or unpaid Stamp Duty and penalty by two separate Demand Draft or Pay Order in favour of “Superintendent of Stamp, Mumbai” within 15 days from intimation thereof.

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



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### **IMPORTANT DIRECTIONS**

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

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

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

Any queries or request for additional information concerning this TENDER shall be submitted by e-mail to [ee01constocdiv.he@mcgm.gov.in](mailto:ee01constocdiv.he@mcgm.gov.in). The subject shall clearly bear the following identification/ title: **"Queries/ Request for Additional Information: TENDER for "Construction of Maintenance Staff Chowky and various workshops in the premises of Kapurbawdi water works yard in O.C. Division"** any changes in mail ID will be intimated on the portal.

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

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

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

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



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# **SECTION 7**

# **SCOPE OF WORK**





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## INTRODUCTION

### Background:

The BRIHANMUMBAI MUNICIPAL CORPORATION covers an area of 437.71sq.kms.with a population of 1.24 Crores as per census of 2011. The metropolis accounts major portion of India's international trade and government's revenue, from being one of the foremost centers of education, science and technological research and advancement.

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

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

### Scope of Work:

Kasheli maintainance office is constructed in the campus of Kapurbawdi premises for labour staff for day to day maintenance work. As per request of A.E.W.W. Kapurbawdi work of repairs to Kasheli site office, machinery rooms along with allied structures used as workshops was taken in hand for carrying out structural audit, which are in deteriorated condition. Structural audit of these structures has been done from the BMC panelled structural consultant M/s. Dipak D. Kulkarni & after structural audit these structures declared as C-I category, as such these structures are demolished by calling e-tender. For construction of new structures, total station survey of proposed plot has been already carried out and boundaries of BMC acquired land are finalized.

Proposed building comprises of G+1 structure having admin office & workshop building. The work comprises of RCC work (includes protective wall, C.C. Road, Storm Water Drain & Building RCC work), Masonry, Waterproofing, Plastering, Painting, Flooring, Window and Doors work, Furniture Works, Landscape works, electrical works, ELV works & HVAC works.

**- The above is general description of the scope of work & actual work shall be governed by B.O.Q. and as directed by Engineer in charge .**

- Contractor to inspect the site before filling the tender.



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- -Bidder should go through specification given on BMC portal and execute the work as BMC terms and conditions, GCC and as per instruction given by competent officer.

**- Any necessary Material testing (if required) other than the Chief engineer (Vigilance) circular under No. Ch.E.(Vig.)/2673/B date 02.03.2022 during execution of work suggested by Engineer-in-charge shall be carried by the contractor at their own cost.**



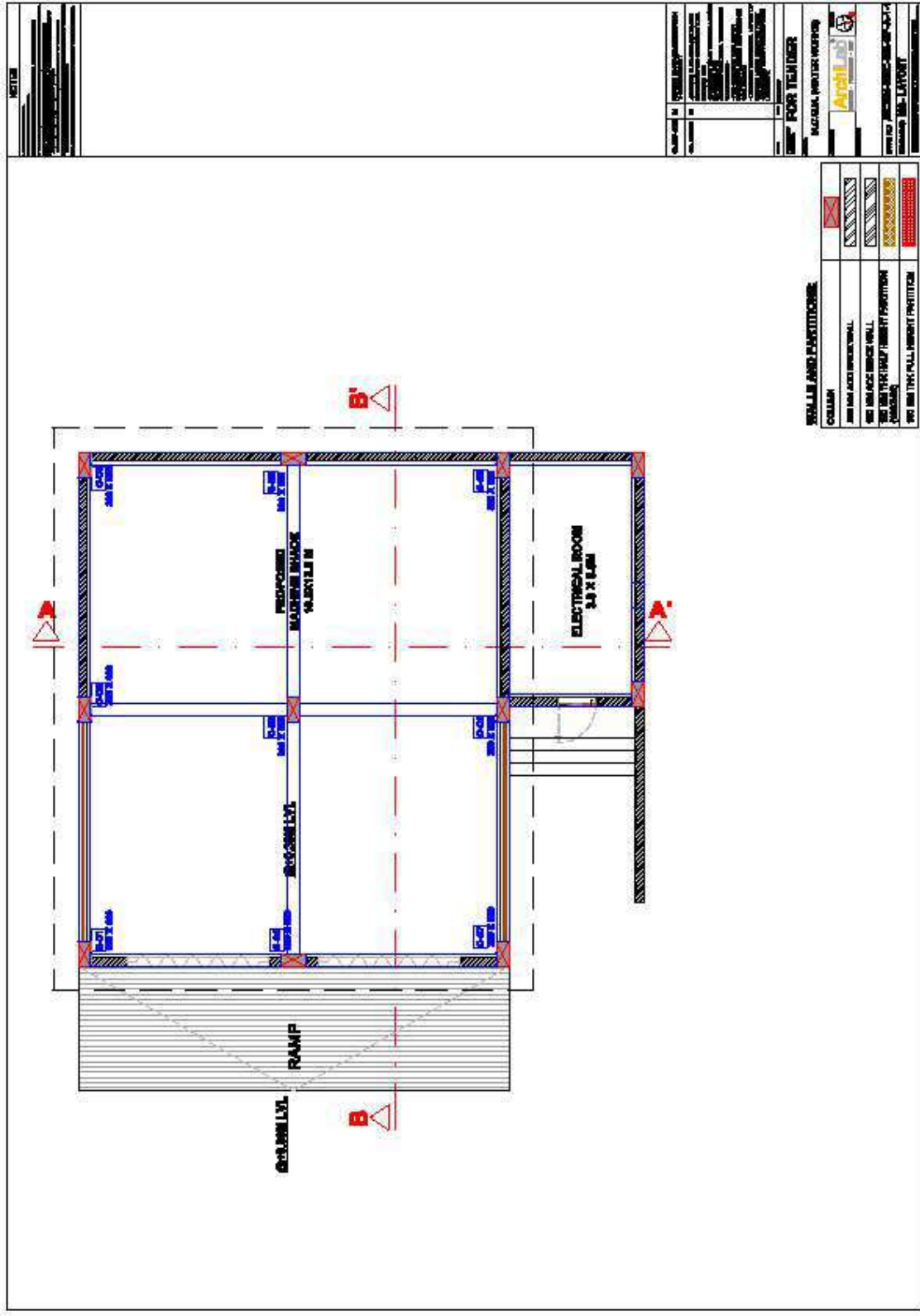
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# **SECTION 8**

# **DRAWINGS & BILL OF**

# **QUANTITIES**





## MACHINE SHED BUILDING







## ADMIN BUILDING



## MEASUREMENT SHEET

<b>BRIHANMUMBAI MUNICIPAL CORPORATION</b>									
<b>H.E. DEPT. / O.C DIVISION</b>									
<b>CONSTRUCTION OF MAINTENANCE STAFF CHAOKY AND VARIOUS WORKSHOPS IN THE PREMISES OF KAPURBAWDI</b>									
<b>WATER WORKS YARD IN O.C DIVISION</b>									
<b>MEASUREMENT SHEET FOR CIVIL WORK</b>									
SR NO	ITEM CODE	DESCRIPTION	UNIT	No's	L	W	H	Area	Total QTY
				a	c	d	e	f=abcde	1.05
		<b>ANTI-TERMITE TREATMENT</b>							
1	<b>R2-CS-AT-1</b>	Providing <b>Pre-constructional Anti-termite treatment</b> conforming to IS- 6313 (part II) using chloropyrifos EC 20 Emulsion or equivalent of 1% concentration by weight for creating barrier under and all around foundation pits, wall trenches, basement excavation, backfill in immediate contact with foundation and treating the top surface of plinth filling, junction of wall & floor, along the external perimeter of building, expansion joints, surrounding of pipes, water conduits and at places suggested and as directed by Engineer-In-Charge. covering 10 years guaranty. (plinth area should be considered for measurement and payment.)							
		<b>ADMIN Building</b> foot print	<b>SQ.M</b>	1.00	29.33	10.60		310.90	
		<b>WORKSHOP Building</b> foot	<b>SQ.M</b>	1.00	37.80	13.50		510.30	





		print							
		<b>Machine Shed</b> foot print	<b>SQ.M</b>	1.00	15.50	10.50		162.75	
								983.95	
		(Additional 5%) extra for vertical Surfaces						<b>1033.15</b>	
		Additional 5 percent buffer						<b>Cu.M</b>	<b>1084.80</b>
								<b>SAY</b>	<b>1085.00</b>
		<b>EXCAVATION</b>							
2	<b>R2-CS-EW-1</b>	Excavation for foundations, substructures, basements, tanks, sumps, walls, chambers, manholes, trenches, poles, pits & general building works in all types of soils, vegetable earth, soft murum, running sand, shingle, turf clay, loam,peat, ash, shale, slag, chalk, garbage, muddy/ marshy/ slushy soil, marine clay, reclaimed land etc. for depths/lifts upto 1.5M measured from the ground level, including dressing/ trimming the sides, leveling and ramming of bottoms, manual dewatering, removing rank vegetation, backfilling in layers not more than 200mm thickness, watering, consolidating, compacting to achieve not less then 97% Modified Proctor density conforming to relevant IS, stacking the selected material in measurable heaps for future use within owners space or disposing within an initial lead of 150m as directed, loading,	<b>CU.M</b>						



		unloading, leveling excluding shoring, strutting etc. complete as directed by Engineer-in-Charge.							
		ADMIN BUILDING	<b>CU.M</b>					162.50	
		WORKSHOP BUILDING	<b>CU.M</b>					225.00	
		MACHINE SHADE	<b>CU.M</b>					95.28	
		PREMISES	<b>CU.M</b>					87.75	
		CC ROAD	<b>CU.M</b>		3500.00		0.95	3325.00	
								570.55	
								570.55	
								570.55	
		Excavation for plumbing	<b>CU.M</b>	1.00	900.00	1.00	1.00	<b>900.00</b>	
								<b>6507.18</b>	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>7157.90</b>
								<b>SAY</b>	<b>7160.00</b>
3	<b>R2-CS- EW-2-a</b>	Extra over above item CS- EW-1 for lift from 1.5m to 3.0m.							
		ADMIN BUILDING	<b>CU.M</b>					162.50	
		WORKSHOP BUILDING	<b>CU.M</b>					225.00	
		MACHINE SHADE	<b>CU.M</b>					95.30	
		PREMISES	<b>CU.M</b>					87.75	
								<b>570.55</b>	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>627.61</b>
								<b>SAY</b>	<b>630.00</b>
4	<b>R2-CS- EW-2-b</b>	Extra over above item CS- EW-1 for lift from 3.0m to 4.5m							
		ADMIN BUILDING	<b>CU.M</b>					162.50	
		WORKSHOP BUILDING	<b>CU.M</b>					225.00	
		MACHINE SHADE	<b>CU.M</b>					95.30	
		PREMISES	<b>CU.M</b>					87.75	
								570.55	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>627.61</b>
								<b>SAY</b>	<b>630.00</b>
5	<b>R2-CS-</b>	Extra over above item CS-							



	<b>EW-2-c</b>	EW-1 for lift from 4.5m to 6.0m							
		ADMIN BUILDING	<b>CU.M</b>					162.50	
		WORKSHOP BUILDING	<b>CU.M</b>					225.00	
		MACHINE SHADE	<b>CU.M</b>					95.30	
		PREMISES	<b>CU.M</b>					87.75	
								570.55	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>627.61</b>
								<b>SAY</b>	<b>630.00</b>
6	<b>R2-CS-EW-12</b>	Filling in plinth, floors, trenches, pits with approved contractor's murum in layers not exceeding 200mm including breaking of clods, watering, consolidating each layer in filled up area by rolling and compacting with roller/ plate compactor as required to achieve not less than 97% modified proctor density conforming to relevant IS etc. complete as directed by Engineer In charge. The rate includes necessary soil testing charges at laboratory & field as per relevant I.S. codes, royalty, octroi and other taxes if any. (Note: Borrow areas selected by CONTRACTOR shall be got approved from Engineer In Charge, before executing the work) 1) The rate includes the royalty and other taxes if any.	<b>CU.M</b>						
		ADMIN BUILDING	<b>CU.M</b>					550.00	
		WORKSHOP BUILDING	<b>CU.M</b>					700.00	
		MACHINE SHADE	<b>CU.M</b>					95.83	



		PREMISES	CU.M					1404.00	
								<b>2749.83</b>	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>3024.81</b>
								<b>SAY</b>	<b>3025.00</b>
7	<b>R2-CS-EW-26</b>	Providing & Laying dry stone Rubble Soling with average 230 mm size hard stone set in regular lines, handpacked and interstices thoroughly filled with small chips including filling in with good quality murum brought from outside, compacting with iron rammers, watering, sand spreading 12mm thk. layer of grit on top etc complete as directed by Engineer In Charge.(Note: The rate includes the royalty and other taxes if any)	CU.M						
		ADMIN BUILDING	CU.M					43.50	
		WORKSHOP BUILDING	CU.M					70.00	
		MACHINE SHADE	CU.M					40.00	
		PREMISES	CU.M					165.68	
		CC ROAD	CU.M		3500.00		0.23	805.00	
		Soiling for plumbing	CU.M	1.00	90.00	1.00	1.00	<b>90.00</b>	
								<b>1214.18</b>	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>1335.60</b>
								<b>SAY</b>	<b>1340.00</b>
		<b>CONCRETE WORK</b>							



		Providing and laying in position ready mixed plain cement concrete, using fly ash and cement content as per approved design mix from Engineer-in-charge and fly ash conforming to grade I of IS 3812 (Part-1) only be used as part replacement of OPC as per IS 456 and uniform blending with cement is to be ensured in accordance with clauses 5.2 and 5.2.1 of IS: 456- 2000 in the items of ready mixed concrete and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for plain cement concrete work, including pumping of R.M.C. from transit mixer to site of laying and curing, including the cost of centering, shuttering and finishing, including cost of curing, admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge.							
8	R2-CS-CW-2-a-	M-15 grade plain cement concrete (cement content	CU.M						



2	considered @ 240 kg/cum).								
	ADMIN BUILDING	CU.M						25.00	
	FIRST FLOOR FOR RACE WAY	CU.M	1.00	108.80	1.00	0.10		10.88	
	WORKSHOP BUILDING	CU.M						40.00	
	MACHINE SHADE	CU.M						40.00	
	PREMISES	CU.M						64.00	
								<b>179.88</b>	
	Additional 10 percent buffer							<b>Cu.M</b>	<b>197.87</b>
								<b>SAY</b>	<b>200.00</b>
	Providing and laying in position ready mixed design mix M-20 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying and the cost of centering, shuttering, finishing and excluding reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. The Mix design as per particular specifications shall be got approved by Engineer-in-Charge before execution of the item. The rate shall include cost of all specified materials and operations at all levels and heights, including the cost of								



		centering, shuttering and and excluding reinforcement which shall be paid under relevant item.(Note :-Cement content considered in this item is @ 300 kg/cum as per IS 456 table showing minimum cement content. No extra will be paid nor any amount will recovered on account of variation of cement in mix design as per specifications for controlled concrete)							
9	<b>R2-CS-CW-7-a</b>	Foundations, footings, bases of columns, rafts, pilecap	<b>CU.M</b>						
		ADMIN BUILDING	<b>CU.M</b>					75.00	
		WORKSHOP BUILDING	<b>CU.M</b>					120.00	
		MACHINE SHADE	<b>CU.M</b>					19.60	
		PREMISES	<b>CU.M</b>					171.56	
								386.16	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>424.78</b>
								<b>SAY</b>	<b>425.00</b>
10	<b>R2-CS-CW-7-b</b>	Walls (any thickness) including attached buttersesses, retaining wall, shear wall, diaphragm wall , trench,pit walls, etc	<b>CU.M</b>						
		ADMIN BUILDING	<b>CU.M</b>					39.18	
		WORKSHOP BUILDING	<b>CU.M</b>					45.42	
		MACHINE SHED	<b>CU.M</b>					30.00	
		PREMISES	<b>CU.M</b>					167.30	
								281.90	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>310.09</b>
								<b>SAY</b>	<b>315.00</b>
11	<b>R2-CS-CW-7-c</b>	Slabs, Suspended floors, roofs, landings, balconies, canopy and access platform	<b>CU.M</b>						



		ADMIN BUILDING	CU.M					130.56	
		WORKSHOP BUILDING	CU.M					184.85	
		MACHINE SHADE	CU.M					48.40	
		PREMISES	CU.M					49.00	
								412.81	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>454.09</b>
								<b>SAY</b>	<b>455.00</b>
12	<b>R2-CS-CW-7-d</b>	Lintels, beams, plinth beams, girders, floor beam, coping.	CU.M						
		ADMIN BUILDING	CU.M					120.00	
		WORKSHOP BUILDING	CU.M					120.00	
		MACHINE SHADE	CU.M					27.97	
								267.97	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>294.77</b>
								<b>SAY</b>	<b>295.00</b>
13	<b>R2-CS-CW-7-e</b>	Columns, Pillars, Piers, Posts and Struts.	CU.M						
		ADMIN BUILDING	CU.M					65.00	
		WORKSHOP BUILDING	CU.M					70.00	
		MACHINE SHADE	CU.M					10.53	
		PREMISES	CU.M					34.20	
								179.73	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>197.70</b>
								<b>SAY</b>	<b>200.00</b>
14	<b>R2-CS-CW-7-f</b>	Stairs (waist slab), folded slab, inclined slab	CU.M						
		ADMIN BUILDING	CU.M					10.77	
		WORKSHOP BUILDING	CU.M					21.00	
		MACHINE SHADE	CU.M					0.00	
								31.77	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>34.95</b>
								<b>SAY</b>	<b>35.00</b>
15	<b>R2-CS-CW-7-i</b>	Weather shade, Chajjas, corbels, cantilever beam, etc., including edges.	CU.M						





		ADMIN BUILDING	CU.M					3.40	
		WORKSHOP BUILDING	CU.M					4.14	
		MACHINE SHADE	CU.M					2.10	
								<b>9.64</b>	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>10.60</b>
								<b>SAY</b>	<b>15.00</b>
16	<b>R2-CS-CW-17</b>	Extra and over for providing richer RMC of M-30 grade cement concrete instead of M20 (Note :- Cement content considered in this item is @ 340 kg/cum as per IS 456 table showing minimum cement content.)	CU.M						
		ADMIN BUILDING	CU.M					443.91	
		WORKSHOP BUILDING	CU.M					565.41	
		MACHINE SHADE	CU.M					136.85	
		PREMISES	CU.M					421.29	
								<b>1567.46</b>	
		Additional 10 percent buffer						<b>Cu.M</b>	<b>1724.21</b>
								<b>SAY</b>	<b>1725.00</b>
		Providing and fixing in position steel bars reinforcement of various diameters for R.C.C. pile, pile caps, footings, raft, retaining wall, shear wall, lift wall, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies coping, fins, arches, etc. as per detailed designs, drawings and bar bending schedules, including straightening, cutting, bending, hooking the bars, binding with wires or tack welding, supporting as required etc. all							



		complete at all levels.							
17	<b>R2-CS-CW-35-c</b>	Thermo-Mechanically Treated steel bars. (Fe 500 D)	<b>MT</b>						
		ADMIN BUILDING	<b>MT</b>					63.35	
		WORKSHOP BUILDING	<b>MT</b>					76.59	
		MACHINE SHADE	<b>MT</b>					12.24	
		PREMISES	<b>MT</b>					51.40	
								203.58	
		Additional 10 percent buffer						<b>MT</b>	<b>223.94</b>
								<b>SAY</b>	<b>225.00</b>
18	<b>R2-CS-CW-60</b>	Providing and applying modified approved polymer coating for concrete surfaces up to plinth in locations where attack on steel is anticipated due to excessive presence of sulphates and chlorides in ground water.	Sqm						
		<b>ADMIN Building</b> foot print	<b>SQ.M</b>	1.00	29.33	10.60		310.90	
		<b>WORKSHOP Building</b> foot print	<b>SQ.M</b>	1.00	37.80	13.50		510.30	
		<b>Machine Shed</b> foot print	<b>SQ.M</b>	1.00	15.50	10.50		162.75	
								983.95	
		(Additional 5%) extra for vertical Surfaces						<b>1033.15</b>	
		Additional 5 percent buffer						<b>SQ.M</b>	1084.80
								<b>SAY</b>	<b>1085.00</b>
	<b>MW</b>	<b>MASONRY WORK</b>							
19	<b>R2-CS-MW-4-b</b>	Brick work with common burnt clay modular bricks of class designation 3.5 and above in superstructure above plinth level upto floor five level in all shapes and sizes in: <b>Cement mortar 1:4</b>	<b>CUM</b>	1.00	1.00	1.00	1.00	200.00	



		(1 cement:4 coarse sand)							
								200.00	
		Additional 10 percent buffer						<b>CUM</b>	<b>220.00</b>
								<b>SAY</b>	<b>220.00</b>
20	<b>R2-CS-MW-33</b>	Providing and laying autoclaved aerated (cellular) cement blocks masonry with more than 100 mm thick AAC blocks in cement mortar 1:4 (1 cement : 4 coarse sand ) including RCC stiffeners. The rate includes providing and placing in position 2 Nos 6 mm dia M.S. bars at every third course of masonry work, racking of joints, scaffolding and curing,etc. completed as directed by Engineer-in-Charge.							
		<b>ADMIN BUILDING</b>							
		GF EXTERNAL WALLS	<b>CUM</b>		95.00	0.23	3.60	78.66	
		1F EXTERNAL WALLS	<b>CUM</b>		94.00	0.23	3.60	77.83	
		GF INTERNAL WALLS	<b>CU.M</b>		64.40	0.15	3.60	34.78	
		1F INTERNAL WALLS	<b>CUM</b>		56.40	0.15	3.60	30.46	
		FOR ELEVATION FEATURE	<b>CUM</b>	12.00	1.00	0.23	7.20	19.87	
		<b>WORKSHOP BUILDING</b>							
		GF EXTERNAL WALLS	<b>CUM</b>		159.00	0.23	4.20	153.59	
		1F EXTERNAL WALLS	<b>CUM</b>		103.00	0.23	4.20	99.50	
		GF INTERNAL WALLS	<b>CUM</b>		29.00	0.15	4.20	18.27	
		1F INTERNAL WALLS	<b>CUM</b>		24.00	0.15	4.20	15.12	
		FOR ELEVATION FEATURE	<b>CUM</b>	10.00	1.00	0.23	8.40	19.32	
		<b>MACHINE SHED</b>							
		GF EXTERNAL WALLS	<b>CUM</b>		45.50	0.23	5.20	54.42	
		<b>ELECTRICAL ROOM</b>	<b>CUM</b>		18.20	0.23	4.20	17.58	
		<b>SECURITY CABIN</b>	<b>CUM</b>		18.00	0.23	3.00	12.42	
		<b>PREMISIES</b>	<b>CUM</b>		60.00	0.23	0.60	8.28	



								<b>640.10</b>	
		Additional 10 percent buffer						<b>CUM</b>	<b>704.11</b>
								<b>SAY</b>	<b>705.00</b>
	<b>PL</b>	<b>PLASTERING</b>							
<b>21</b>	<b>R2-CS-PL-03</b>	Providing and applying 6 mm thick internal ceiling plaster in single coat in cement mortar 1:3 with white cementitious wall putty (Birla white or equivalent) finish at all heights and locations for concrete surfaces including hacking of concrete surface, watering, finishing, curing, scaffolding etc. complete.	<b>SQ.M</b>						
		<b>ADMIN BUILDING</b>							
		Ceiling Plaster ground floor	<b>SQ.M</b>					167.65	
		Ceiling Plaster first floor	<b>SQ.M</b>					201.81	
		<b>WORKSHOP BUILDING</b>							
		Ceiling Plaster ground floor	<b>SQ.M</b>					341.40	
		Ceiling Plaster first floor	<b>SQ.M</b>					365.70	
		<b>MACHINE SHED</b>	<b>SQ.M</b>					120.00	
		<b>ELECTRICAL ROOM</b>	<b>SQ.M</b>					17.30	
		<b>SECURITY CABIN</b>	<b>SQ.M</b>					10.00	
								<b>1223.86</b>	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>1346.25</b>
								<b>SAY</b>	<b>1350.00</b>
<b>22</b>	<b>R2-CS-PL-06</b>	Providing and applying 12 mm thick internal plaster in one coat in cement mortar 1:3 with white cementitious wall putty (Birla or equivalent) at all heights and locations for masonry (except stone masonry) and concrete surfaces including racking out joints, hacking of							



		concrete surface, watering, finishing, curing, scaffolding etc. complete.							
		<b>ADMIN BUILDING</b>							
		GF-All internal walls both side	<b>SQ.M</b>	1.00	185.82		3.60	668.95	
		1F-All internal walls both side	<b>SQ.M</b>	1.00	160.35		3.60	577.26	
		STAIRCASE -Internal wall area	<b>SQ.M</b>	2.00	16.80		3.60	120.96	
		<b>WORKSHOP BUILDING</b>							
		GF-All internal walls both side	<b>SQ.M</b>	1.00	351.80		4.20	1477.56	
		1F-All internal walls both side	<b>SQ.M</b>	1.00	354.90		4.20	1490.58	
		STAIRCASE -Internal wall area	<b>SQ.M</b>	2.00	20.00		3.00	120.00	
		<b>MACHINE SHED</b>	<b>SQ.M</b>	1.00	44.00		4.50	198.00	
		<b>ELECTRICAL ROOM</b>	<b>SQ.M</b>	1.00	17.49		4.50	78.71	
		<b>SECURITY CABIN</b>	<b>SQ.M</b>	1.00	22.00		3.00	66.00	
								<b>4798.02</b>	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>5277.82</b>
								<b>SAY</b>	<b>5280.00</b>
23	<b>R2-CS-PL-17-C</b>	Providing and applying 25 mm thick external sand faced cement plaster with neat cement rendering upto 10m from ground level and at all locations in cement mortar proportion specified below in two coats for masonry (except stone masonry) and concrete surfaces including providing water proofing compound to the first coat of plaster as per manufacturers specification, racking out joints, hacking of concrete							



		surface, finishing, curing, scaffolding etc complete as directed By Engineer In Charge. Min. time lag between two coats shall be 24 hours. (as per IS 2402 of 1963.) cement mortar 1:3							
		<b>ADMIN BUILDING</b>							
		PLINTH+GF	<b>SQ.M</b>	1.00	73.00		4.35	317.55	
		FIRST FLOOR EXT WALL	<b>SQ.M</b>	1.00	76.50		3.60	275.40	
		PARAPET WALL (INSIDE-OUTSIDE)	<b>SQ.M</b>	2.00	76.50		1.20	183.60	
		STR BLOCK + OVERHEAD TANK	<b>SQ.M</b>	1.00	16.80		4.65	78.12	
		<b>WORKSHOP BUILDING</b>							
		PLINTH+GF	<b>SQ.M</b>	1.00	130.00		4.95	643.50	
		FIRST FLOOR EXT WALL	<b>SQ.M</b>	1.00	103.50		4.20	434.70	
		PARAPET WALL (INSIDE-OUTSIDE)	<b>SQ.M</b>	2.00	103.50		1.20	248.40	
		STR BLOCK	<b>SQ.M</b>	1.00	19.00		3.00	57.00	
		OVERHEAD TANK	<b>SQ.M</b>	1.00	16.00		1.65	26.40	
		<b>MACHINE SHED</b>							
		PLINTH+GF	<b>SQ.M</b>	1.00	45.00		5.50	247.50	
		ELECTRICAL ROOM	<b>SQ.M</b>	1.00	17.49		4.20	73.46	
		<b>SECURITY CABIN</b>	<b>SQ.M</b>	1.00	22.00		3.00	66.00	
		<b>NORTH SIDE BUND</b>	<b>SQ.M</b>	1.00	140.00	1.00	1.20	168.00	
		<b>SOUTH SIDE RCC WALL</b>	<b>SQ.M</b>	1.00	140.00	1.00	3.00	420.00	
		<b>WELFARE CENTER BUND</b>	<b>SQ.M</b>	1.00	65.00	1.00	0.60	39.00	
		<b>LANDSCAPE</b>	<b>SQ.M</b>	1.00	150.00	1.00	1.00	150.00	
								3428.63	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>3771.49</b>
								<b>SAY</b>	<b>3775.00</b>
24	<b>R2-CS-PL-25</b>	--do-- for additional height of 3 m or part thereof above 10m from ground level for all types of external plastering.	<b>SQ.M</b>						
		LINK TO PL-17-C	<b>SQ.M</b>	1.00	1.00		1.00	3428.63	3600.06
		Additional 10 percent buffer						<b>SQ.M</b>	<b>3600.06</b>



								<b>SAY</b>	<b>3605.00</b>
25	<b>R2-CS-PL-43</b>	Providing and applying Plaster of Paris punning to walls, beams, ceilings, columns in perfect line and level over the base of single coat cement plaster including roughening of existing surface making 6 mm groove at skirting and door, window jamb, sill, lintel, etc. complete. The rate is exclusive of base coat cement plaster.	<b>SQ.M</b>						
		<b>ADMIN BUILDING</b>							
		GF-All internal walls both side	<b>SQ.M</b>	1.00	185.82		3.60	668.95	
		1F-All internal walls both side	<b>SQ.M</b>	1.00	160.35		3.60	577.26	
		STAIRCASE -Internal wall area	<b>SQ.M</b>	2.00	16.80		3.60	120.96	
		<b>WORKSHOP BUILDING</b>							
		GF-All internal walls both side	<b>SQ.M</b>	1.00	351.80		4.20	1477.56	
		1F-All internal walls both side	<b>SQ.M</b>	1.00	354.90		4.20	1490.58	
		STAIRCASE -Internal wall area	<b>SQ.M</b>	2.00	19.00		3.00	114.00	
		<b>MACHINE SHED</b>	<b>SQ.M</b>	1.00	45.00		4.50	202.50	
		<b>ELECTRICAL ROOM</b>	<b>SQ.M</b>	1.00	17.49		4.50	78.71	
		<b>SECURITY CABIN</b>	<b>SQ.M</b>	1.00	22.00		3.00	66.00	
								<b>4796.52</b>	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>5276.17</b>
								<b>SAY</b>	<b>5280.00</b>



26	<b>R2-CS-PL-45</b>	<p>P&amp;F in position Gypsum board false ceiling with 12.5mm th. Gypsum boards, screwed/ fixed to the under struct of suspended G.I. Grid const &amp; suspended from the main ceiling of ceiling sectn at max c to c distance of 450 mm perimeter channel and intermediate channels at max c to c distance 1200 mm galvanised grid should be fixed to RF CC slab.The gypsum board should be fixed to galvanised iron grid with necessary screws. The boards should be taped and filled from underside to give smooth, seamless ceiling. The rate should include necessary additional ceiling sections and intermediate channels to be provided at openings for light fixtures, asbestos cement ducts, vertical drops, offsets etc. Additional intermediate channels should be fixed to strap hangers for additional support to prevent strapping at every 1200 mm item to be comp in all respect.(G.I. perimeter channel size- 27mmx0.5mm thk.,flange- 20mm &amp; 30mm, intermediate channel. size- 45mm &amp; 0.9mm thk., hanger size- 5mmx0.5mm thk.) complete.</p>	<b>SQ.M</b>						
		<b>ADMIN BUILDING</b>							





		GF AREA LESS STAIRCASE	<b>SQM</b>	1.00	150.65	1.00	1.00	150.65	
		1F AREA LESS STAIRCASE	<b>SQM</b>	1.00	167.81	1.00	1.00	167.81	
		<i>LESS MODULAR CEILING</i>	<b>SQM</b>	1.00	149.23	1.00	1.00	149.23	
								<b>169.24</b>	
		ADD 20% FOR VERTICAL SURFACES						<b>203.08</b>	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>223.39</b>
								<b>SAY</b>	<b>225.00</b>
27	<b>R2-CS-PL-46</b>	Providing and Fixing Modular False Ceiling of "Armstrong /M/sHunter Douglas India/USG" make by using 600 x 600 x 15 mm thick prima fine fissured microlook mineral fibre ceiling tiles on superfine 15 mm Tee grid system suspended with the help of 2 mm prestrained G.I.wire,etc.complete. As per Architect's Detailed Drawing & Design as directed by Engineer In Charge.	<b>SQ.M</b>						
		<b>ADMIN BUILDING</b>							
		FOREMEN ROOM	<b>SQ.M</b>	1.00	3.30	3.35		11.06	
		LADIES COMMON ROOM	<b>SQ.M</b>	1.00	2.40	5.40		12.96	
		KITCHEN	<b>SQ.M</b>	1.00	4.50	3.60		16.20	
		1F-STAFF ROOM	<b>SQ.M</b>	1.00	5.40	9.00		48.60	
		1F-MEETING ROOM	<b>SQ.M</b>	1.00	4.20	5.40		22.68	
		1f-REST ROOM 01	<b>SQ.M</b>	1.00	5.40	4.20		22.68	
		1f-REST ROOM 02	<b>SQ.M</b>	1.00	3.50	4.30		15.05	
								149.23	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>164.15</b>
								<b>SAY</b>	<b>165.00</b>
	<b>WP</b>	<b>WATER PROOFING</b>							
28	<b>R2-CS-WP-3</b>	Providing and laying water proofing treatment to vertical and horizontal	<b>SQ.M</b>						



		surfaces of depressed portions of W.C., kitchen and the like consisting of : (i) Ist course of applying cement slurry @ 4.4 kg/sqm mixed with water proofing compound conforming to IS 2645 in recommended proportions including rounding off junction of vertical and horizontal surface. (ii) IInd course of 20 mm cement plaster 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound in recommended proportion including rounding off junction of vertical and horizontal surface. (iii) IIIrd course of applying blown or residual bitumen applied hot at 1.7 kg. per sqm of area. (iv) IVth course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 kg/sqm).							
		<b>ADMIN BUILDING ( for walls)</b>							
		KITCHEN	<b>SQ.M</b>	1.00	15.00	1.00	1.50	22.50	
		COMMON TOILET	<b>SQ.M</b>	1.00	30.52	1.00	1.50	45.78	
		HANDICAP TOILET	<b>SQ.M</b>	1.00	8.20	1.00	1.50	12.30	
		LADIES COMMON ROOM TOILET/ CHANGING ROOM	<b>SQ.M</b>	1.00	13.80	1.00	1.50	20.70	
		COMMON TOILET HIS FIRST FLOOR	<b>SQ.M</b>	1.00	20.20	1.00	1.50	30.30	
		COMMON TOILET HER FIRST FLOOR	<b>SQ.M</b>	1.00	10.30	1.00	1.50	15.45	



		<b>WORKSHOP ( for walls)</b>							
		COMMON TOILET GROUND FLOOR	<b>SQ.M</b>	1.00	25.80	1.00	1.50	38.70	
		COMMON TOILET FIRST FLOOR	<b>SQ.M</b>	1.00	25.80	1.00	1.50	38.70	
		<b>ADMIN BUILDING (PLANS)</b>							
		KITCHEN	<b>SQ.M</b>	1.00	11.00	1.00	1.00	11.00	
		COMMON TOILET	<b>SQ.M</b>	1.00	13.60	1.00	1.00	13.60	
		HANDICAP TOILET	<b>SQ.M</b>	1.00	4.00	1.00	1.00	4.00	
		LADIES COMMON ROOM TOILET/ CHANGING ROOM	<b>SQ.M</b>	1.00	5.75	1.00	1.00	5.75	
		COMMON TOILET HIS FIRST FLOOR	<b>SQ.M</b>	1.00	9.60	1.00	1.00	9.60	
		COMMON TOILET HER FIRST FLOOR	<b>SQ.M</b>	1.00	4.00	1.00	1.00	4.00	
		<b>WORKSHOP (PLANS)</b>							
		COMMON TOILET GROUND FLOOR	<b>SQ.M</b>	1.00	13.50	1.00	1.00	13.50	
		COMMON TOILET FIRST FLOOR	<b>SQ.M</b>	1.00	13.50	1.00	1.00	13.50	
		<b>SECURITY CABIN</b>	<b>SQ.M</b>	1.00	2.00		1.00	2.00	
								<b>301.38</b>	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>331.52</b>
								<b>SAY</b>	<b>335.00</b>
29	<b>R2-CS-WP-22</b>	Providing and filling AAC bats (of size 40-60 mm) with cement mortar mixed in the ratio 1:3:6 (1 cement : 3 coarse sand : 6 block bats) including mixing of approved water proofing compound in recommended proportion for W.C., bath and kitchen. The laid brick bat mix shall be well rammed and compacted as required. Further surfaces shall be screeded with cement concrete mix 1:1.5:3 (1 cement : 1.5 coarse sand : 3	<b>CuM</b>						



		stone grit of size 6 mm and below by volume) admixed with approved integral water proofing compound in recommended proportion, laid to an average thickness of 25mm and finished smooth or ready to receive finish material as specified. Care shall be taken prior to filling all pipes passing through sunk portion such that the pipes are pressure tested by maintaining pressure for 24 hours and junctions of pipes passing through walls, slabs are well grouted and sealed. This shall be tested by ponding water for required depth and maintaining for 7 days.(Rate includes cost of brick bats, cement mortar, top screed, labour charges for working at all levels, leads and heights). For payment the area of sunken slab and the depth of filling including the thickness of screed shall be measured.							
		<b>ADMIN BUILDING</b>							
		KITCHEN	<b>CuM</b>	1.00	11.00	1.00	0.15	1.65	
		COMMON TOILET	<b>CuM</b>	1.00	13.60	1.00	0.15	2.04	
		HANDICAP TOILET	<b>CuM</b>	1.00	4.00	1.00	0.15	0.60	
		LADIES COMMON ROOM TOILET/ CHANGING ROOM	<b>CuM</b>	1.00	5.75	1.00	0.15	0.86	
		COMMON TOILET HIS FIRST FLOOR	<b>CuM</b>	1.00	9.60	1.00	0.15	1.44	
		COMMON TOILET HER FIRST FLOOR	<b>CuM</b>	1.00	4.00	1.00	0.15	0.60	
		<b>WORKSHOP</b>							



		COMMON TOILET GROUND FLOOR	CuM	1.00	13.50	1.00	0.15	2.03	
		COMMON TOILET FIRST FLOOR	CuM	1.00	13.50	1.00	0.15	2.03	
		PASSAGE AREA	CuM	1.00	68.50	1.00	0.15	10.28	
		<b>SECURITY CABIN</b>	CuM	1.00	2.00		0.15	0.30	
								21.82	
		Additional 10 percent buffer						CuM	24.00
								SAY	25.00
30	R2-CS-WP-23	Waterproofing the terrace slabs with average 100 mm thick, brick bats laid in cement mortar bed 1:4 filled with mortar 1:4 of total thickness 100 mm, laid to slope (1:100) with vata 15 cm, at the junction of walls and IPS flooring (1:2:3) 40 mm thick with admixture, of approved water proofing compound, as per manufacturers specification laid after grouting the slab, finishing curing etc. complete as directed and specified. (Horizontal measurement clear between walls will be paid for).	SQ.M						
		<b>ADMIN BUILDING</b>							
		Open TOP terrace	SQ.M		10.20	5.30		54.06	
		Open TOP terrace	SQ.M		9.90	6.45		63.86	
		Open TOP terrace	SQ.M		12.63	5.30		66.94	
		Open TOP terrace	SQ.M		6.00	4.90		29.40	
		<b>WORKSHOP BUILDING</b>							
		Open TOP terrace	SQ.M		5.31	2.85		15.13	
		Open TOP terrace	SQ.M		20.50	9.55		195.78	
		Open TOP terrace	SQ.M		3.90	1.80		7.02	
		Open TOP terrace	SQ.M		13.00	9.55		124.15	
		<b>MACHINE SHED</b>							



			<b>SQ.M</b>		12.50	10.00		125.00	
								<b>681.33</b>	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>749.47</b>
								<b>SAY</b>	<b>750.00</b>
31	<b>R2-CS-WP-25</b>	Providing and installing crystalline waterproofing treatment to inside surfaces of the water retaining structures	SQ.M						
		<b>ADMIN BUILDING</b>							
		OHT	SQ.M	1.00	24.00	1.00	1.60	38.40	
		OHT ( PLAN)	SQ.M	1.00	24.00	1.00	1.00	24.00	
		<b>WORKSHOP BUILDING</b>							
		OHT	SQ.M	1.00	26.00	1.00	1.60	41.60	
		OHT ( PLAN)	SQ.M	1.00	26.00	1.00	1.00	26.00	
								130.00	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>143.00</b>
								<b>SAY</b>	<b>145.00</b>
32	<b>R2-CS-WP-27-A</b>	Waterproofing the terrace slab and staircase roof slab with average 100 mm thick concrete of broken brick bats and cement mortar (1:4) in the proportion of 2 parts of brick bats and 1 part of mortar, laid in proper slope (1:100) well rammed, watered and consolidated with vata 15 cm at junction of walls and Indian patent stone flooring 1:2:3 (12.5 mm chips) 40 mm thick and with admixture of approved water proofing compound as per manufacturers specifications laid after grouting the surface of brickbat coba with neat	SQ.M						



		cement slurry in alternate suitable squares to required slope as directed including filling in joints with bitumen and cleaning the slab top of all dust and loose material; tamping, finishing and curing complete as directed and specified. (Horizontal measurements clear between walls will be paid for).							
		<b>ADMIN BUILDING</b>							
		STAIRCASE	SQ.M	1.00	5.70	6.10	1.00	34.77	
		OHT	SQ.M	1.00	5.70	6.10	1.00	34.77	
		<b>WORKSHOP BUILDING</b>							
		STAIRCASE	SQ.M	1.00	8.76	3.80	1.00	33.29	
		OHT	SQ.M	1.00	8.76	3.80	1.00	33.29	
								136.12	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>149.73</b>
								<b>SAY</b>	<b>150.00</b>
33	<b>R2-CS-WP-37</b>	Providing waterproofing treatment through specialized agencies as per their specifications to the flooring of water closets, bathrooms, kitchen, nahanies, washing places, sanitary blocks etc. by giving INJECTIONS with cement solution with water proofing compound into the floor slab	<b>SQ.M</b>						
		<b>ADMIN BUILDING</b>							
		ADMIN BUILDING GF GENTS TOILET	<b>SQ.M</b>	1.00	5.20	3.35		17.42	
		ADMIN BUILDING GF STORE-01 TOILET	<b>SQ.M</b>	1.00	3.10	1.20		3.72	
		ADMIN BUILDING GF KITCHEN	<b>SQ.M</b>	1.00	5.30	2.10		11.13	



		ADMIN BUILDING 1F GENTS TOILET	<b>SQ.M</b>	1.00	3.80	3.50		13.30	
		ADMIN BUILDING 1F LADIES TOILET	<b>SQ.M</b>	1.00	3.50	2.50		8.75	
		<b>WORKSHOP BUILDING</b>							
		WORKSHOP BUILDING GF COMMON TOILET	<b>SQ.M</b>	1.00	5.30	2.80		14.84	
		WORKSHOP BUILDING 1F COMMON TOILET	<b>SQ.M</b>	1.00	5.30	2.80		14.84	
		<b>SECURITY CABIN TOILET</b>	<b>SQ.M</b>	1.00	1.00	1.00	1.00	2.00	
								<b>86.00</b>	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>94.60</b>
								<b>SAY</b>	<b>95.00</b>
34	<b>R2-CS-WP-49</b>	Providing & Making Waterproofing Treatment to the Chajja by finishing top surface with 20 mm thick 12 C.M. plaster with addition of approved water proofing compound as per manufacturers specifications and neat cement finish,including drip moulding at edge ,at bottom of chajja & cement vatta above chajja along the junction with wall etc complete. as per FMB item No. 5.22 but for new surfaces & as directed by the Engineer-In-Charge	<b>SQM</b>						
		<b>ADMIN BUILDING</b>	<b>SQM</b>	1.00	55.00	1.00	1.00	55.00	57.75
		<b>WORKSHOP BUILDING</b>	<b>SQM</b>	1.00	75.00	1.00	1.00	75.00	78.75
		<b>MACHINE ROOM</b>	<b>SQM</b>	1.00	50.30	1.00	1.00	50.30	52.82
		<b>ELECTRICAL ROOM</b>	<b>SQM</b>	1.00	3.00	1.00	1.00	3.00	3.15
								180.30	189.32
		Additional 10 percent buffer						<b>SQ.M</b>	<b>198.33</b>
								<b>SAY</b>	<b>199.00</b>
	<b>PN</b>	<b>PAINTING</b>							





35	<b>R2-CS-PN-3</b>	Providing and applying first single coat of approved primer and two coats of acrylic distemper (oil bound distemper) of an approved make and colour as per manufacturers specifications to any surface, at all height and locations as directed including scaffolding, cleaning and preparing surfaces for painting with broom by any approved means, etc. complete as directed by Engineer-in-charge. <b>INTERIOR PAINT</b>							
		<b>ADMIN BUILDING</b>							
		GROUND FLOOR-Internal wall area	<b>SQ.M</b>	1.00	202.62		3.60	729.43	765.90
		1st Floor- Internal wall area	<b>SQ.M</b>	1.00	193.95		3.60	698.22	733.13
		TERRACE -Internal wall area	<b>SQ.M</b>	1.00	16.80		3.00	50.40	52.92
		<b>WORKSHOP BUILDING</b>							
		GROUND FLOOR-Internal wall area	<b>SQ.M</b>	1.00	351.80		4.20	1477.56	1551.44
		1st Floor- Internal wall area	<b>SQ.M</b>	1.00	354.90		4.20	1490.58	1565.11
		TERRACE -Internal wall area	<b>SQ.M</b>	1.00	19.00		3.00	57.00	59.85
		<b>MACHINE SHED</b>							
		GROUND FLOOR-Internal wall area	<b>SQ.M</b>	1.00	44.00		4.35	191.40	200.97
		<b>ELECTRICAL ROOM</b>	<b>SQ.M</b>	1.00	17.49	1.00	4.20	73.46	77.13
		<b>SECURITY CABIN</b>	<b>SQ.M</b>	1.00	10.00	1.00	3.00	30.00	31.50
								<b>4798.05</b>	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>5277.86</b>
								<b>SAY</b>	<b>5280.00</b>
		Providing and applying first single coat of approved primer and two coats of <b>synthetic enamel paint/flat oil paint</b> of an approved make and colour as per							



		manufacturers specifications to surfaces specifird below, at all height and locations as directed including scaffolding, cleaning and preparing surfaces for painting by any approved means etc. complete as directed by Engineer-in-charge							
36	<b>R2-CS-PN-4-c</b>	For steelwork	<b>SQ.M</b>						
		ENTRANCE GATE 1 NOS	<b>SQ.M</b>	1.00	1.00		1.00	17.50	18.38
		GROUND FLOOR ENTRANCES	<b>SQ.M</b>	1.00	1.00		1.00	36.40	38.22
		ROLLING SHUTTERS AT WORKSHOP AND MACHINE SHED	<b>SQ.M</b>	1.00	1.00		1.00	195.04	204.79
		MS SAFETY GRILLS	<b>SQ.M</b>	1.00	1.00		1.00	263.72	276.91
		LOCOMOTIVE	<b>SQ.M</b>	1.00	1.00		1.00	30.00	31.50
		Mild STEEL GRILL	<b>SQ.M</b>	1.00	1.00		1.00	189.00	198.45
								731.66	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>768.24</b>
								<b>SAY</b>	<b>770.00</b>
37	<b>R2-CS-PN-6</b>	Providing and applying first single coat of approved primer and two coats of <b>luster paint</b> of an approved make and colour as per manufacturers specifications to any surface, at all height and locations as directed including scaffolding, cleaning and preparing surfaces for painting by any approved means etc. complete as directed by Engineer-in-charge.							
		<b>ADMIN BUILDING</b>							



		ADMIN AREA ( WORKSTATION AREA AND MEETING ROOM)	<b>SQ.M</b>	1.00	58.80	1.00	3.60	211.68	
								211.68	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>232.85</b>
								<b>SAY</b>	<b>235.00</b>
38	<b>R2-CS-PN-12-b</b>	Providing and applying first single coat of approved primer and two coats of anti-algal, anti-fungal, exterior paint as specified below of an approved make and colour as per manufacturers specifications to any surface, upto 10m height from ground level and at all locations as directed including preparing surfaces for painting by any approved means, scaffolding, cleaning and curing etc. complete as directed by Engineer-in-charge. <b>By using acrylic based exterior paint with silicone additives</b>							
		<b>ADMIN BUILDING</b>							
		PLINTH+GF	<b>SQ.M</b>	1.00	73.00		4.35	317.55	
		FIRST FLOOR	<b>SQ.M</b>	1.00	76.50		3.60	275.40	
		PARAPET WALL (INSIDE-OUTSIDE)	<b>SQ.M</b>	2.00	76.50		1.20	183.60	
		STR BLOCK + OVERHEAD TANK	<b>SQ.M</b>	1.00	16.80		4.65	78.12	
		<b>WORKSHOP BUILDING</b>							
		PLINTH+GF	<b>SQ.M</b>	1.00	176.20		4.95	872.19	
		FIRST FLOOR	<b>SQ.M</b>	1.00	103.50		4.20	434.70	
		PARAPET WALL (INSIDE-OUTSIDE)	<b>SQ.M</b>	2.00	103.50		1.20	248.40	
		STR BLOCK + OVERHEAD	<b>SQ.M</b>	1.00	19.00		3.00	57.00	



		TANK							
		<b>MACHINE SHED</b>	<b>SQ.M</b>	1.00	46.00		5.50	253.00	
		<b>ELECTRICAL ROOM</b>	<b>SQ.M</b>	1.00	17.30		4.20	72.66	
		<b>SECURITY CABIN</b>	<b>SQ.M</b>	1.00	22.00	1.00	3.00	66.00	
		<b>NORTH SIDE BUND</b>	<b>SQ.M</b>	1.00	140.00	1.00	1.20	168.00	
		<b>SOUTH SIDE RCC WALL</b>	<b>SQ.M</b>	1.00	140.00	1.00	3.00	420.00	
		<b>WELFARE CENTER BUND</b>	<b>SQ.M</b>	1.00	65.00	1.00	0.60	39.00	
		<b>LANDSCAPE</b>	<b>SQ.M</b>	1.00	150.00	1.00	1.00	150.00	
								<b>3635.62</b>	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>3999.18</b>
								<b>SAY</b>	<b>4000.00</b>
	<b>FL</b>	<b>FLOORING</b>							
		Providing and laying polished natural stone as specified below (Machine cut) of an approved quality and size for paving /flooring in plain and/or diamond /approved pattern including cement mortar bedding of 25 mm thick in 1:4 proportion, cement float, machine cutting, dressing, leveling, jointing, filling the joints with neat cement slurry or with required pigment, machine polishing at site, curing, finishing, etc complete as directed by Engineer In Charge.							
39	<b>R2-CS-FL-01-c</b>	25 to 30 mm thk. Kota stone of size 0.430m x0.56m (17"x22")							
		<b>WORKSHOP AREA</b>							
		GROUND FLOOR	<b>SQ.M</b>					311.70	
		PLINTH AREA	<b>SQ.M</b>					96.00	
		FIRST FLOOR	<b>SQ.M</b>					331.70	
		<b>MACHINE SHED</b>	<b>SQ.M</b>					120.00	
								<b>859.40</b>	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>945.34</b>
								<b>SAY</b>	<b>950.00</b>



40	<b>R2-CS-FL-01-k</b>	18 mm thk. Ruby red, jet black, Hasan green Granite 18 mm thk							
		<b>ADMIN BUILDING</b>							
		STAIRCASE MIDLANDING	<b>SQ.M</b>	4.00	2.50	1.00	1.00	10.00	
		<b>WORKSHOP AREA</b>							
		STAIRCASE MIDLANDING	<b>SQ.M</b>	2.00	8.00	1.00	1.00	16.00	
								26.00	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>28.60</b>
								<b>SAY</b>	<b>30.00</b>
		Providing and laying 800 x 800 x 10 mm thk. vitrified tiles as specified below conforming to I.S.15622-2006 with water absorbtion less than 0.08% for flooring of an approved, quality, make, pattern and size for flooring including cement mortar bedding of 25 mm thick in 1:4 proportion, cutting, leveling, jointing, filling the joints by neat cement slurry or approved colour grout, curing, finishing etc complete as directed by Engineer In Charge.							
41	<b>R2-CS-FL-9-a</b>	Light coloured glazed vitrified tiles							
		<b>ADMIN BUILDING</b>							
		GROUND FLOOR FLOORING	<b>SQ.M</b>					150.65	
		FIRST FLOOR FLOORING	<b>SQ.M</b>					167.81	
		<b>ELECTICAL ROOM</b>	<b>SQ.M</b>	1.00	17.30	1.00	1.00	17.30	
		<b>SECURITY CABIN</b>	<b>SQ.M</b>	1.00	8.00	1.00	1.00	8.00	
								<b>343.76</b>	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>378.14</b>
								<b>SAY</b>	<b>380.00</b>
42	<b>R2-CS-FL-9-c</b>	Light coloured antiskid / matt vitrified tiles							
		<b>ADMIN BUILDING</b>							
		GROUND FLOOR TOILETS AND KITCHEN	<b>SQ.M</b>					30.95	



		FIRST FLOOR TOILETS	SQ.M					13.60	
		<b>WORKSHOP BUILDING</b>							
		ALL FLOOR TOILET	SQ.M					27.00	
		<b>SECURITY CABIN TOILET</b>	SQ.M	1.00	2.00	1.00	1.00	2.00	
								<b>73.55</b>	
		Additional 10 percent buffer						SQ.M	<b>80.91</b>
								SAY	<b>85.00</b>
43	<b>R2-CS-FL-16</b>	Providing and laying 16-20 mm thick and 75mm wide strips of <b>rough jet</b> black Granite stone (or equivalent) of approved colour, <b>on ramp</b> to get anti-skid effect including cement mortar bedding of 25 mm thick in 1:4 proportion, cement float, machine cutting, dressing, leveling, jointing, filling the joints with neat cement slurry or with required pigment, curing, finishing etc. complete as directed by Engineer-incharge.							
		<b>WORKSHOP BUILDING</b>	SQ.M					34.00	
		<b>MACHINE SHED</b>	SQ.M					32.00	
								<b>66.00</b>	
		Additional 10 percent buffer						SQ.M	<b>72.60</b>
								SAY	<b>75.00</b>
		Providing and fixing polished <b>natural stone tiles</b> /slab as specified below of approved quality, pattern and colour for flush/projected <b>skirting and risers</b> including preparing the surface and levelling in the desired line, backing of 20 thk. cement mortar in porportion 1:3, square cut top edge or chamfered top edge in cement mortar 1:3, cement float, machine cutting, leveling, jointing, filling the joints with neat cement or							



		pigment mixed with cement, polishing, finishing, curing etc complete as directed by Engineer In Charge.							
44	<b>R2-CS-FL-21-o</b>	15 to 20mm thk. Kota stone for height upto 300 mm							
		<b>WORKSHOP BUILDING</b>							
		GROUND FLOOR	<b>RMT</b>	1.00	326.00	1.00	1.00	326.00	
		FIRST FLOOR	<b>RMT</b>	1.00	329.10	1.00	1.00	329.10	
		<b>MACHINE SHED</b>	<b>RMT</b>	1.00	44.00	1.00	1.00	44.00	
								<b>699.10</b>	
		Additional 10 percent buffer						<b>RMT</b>	<b>769.01</b>
								<b>SAY</b>	<b>770.00</b>
		Providing and fixing 10mm thk. vitrified tiles as specified below conforming to I.S. 15622-2006 of approved quality, pattern and colour for flush/projected skirting and risers including preparing the surface and levelling in the desired line, backing of 20 thk. cement mortar in porportion 1:3, square cut top edge or chamfered top edge in cement mortar 1:3, cement float, machine cutting, leveling, jointing, filling the joints with neat cement slurry or pigments mixed with cement, finishing, curing etc complete as directed by Engineer In Charge.							
45	<b>R2-CS-FL-26-c</b>	Light coloured antiskid / matt vitrified tiles for height upto 150mm							
		<b>ADMIN BUILDING</b>							
		GROUND FLOOR	<b>MTR</b>	1.00	108.40	1.00	0.15	16.26	



		FIRST FLOOR	<b>MTR</b>	1.00	126.60	1.00	0.15	18.99	
		<b>ELECTRICAL ROOM</b>	<b>MTR</b>	1.00	17.49	1.00	1.00	17.49	
		<b>SECURITY CABIN</b>	<b>MTR</b>	1.00	16.00	1.00	1.00	16.00	
								68.74	
		Additional 10 percent buffer						<b>MTR</b>	<b>75.61</b>
								<b>SAY</b>	<b>80.00</b>
		Providing and fixing polished natural stone tiles as specified below of approved quality, pattern and colour for dado including preparing the surface and levelling in the desired line, backing of 20 thk. cement mortar in porportion 1:3, square cut top edge or chamfered top edge in cement mortar 1:3, cement float, machine cutting, leveling, jointing, filling the joints with neat cement or pigment mixed with cement, polishing, finishing, curing etc complete as directed by Engineer In Charge.							
46	<b>R2-CS-FL-28-d</b>	25 to 30mm thk. Kota stone	<b>Sqm</b>						
		<b>ADMIN BUILDING</b>							
		perimter for plinth	<b>SQ.M</b>	1.00	389.90	1.00	0.60	233.94	
		<b>WORKSHOP AREA</b>							
		perimter for plinth	<b>SQ.M</b>	1.00	375.80	1.00	0.60	225.48	
		<b>MACHINE SHED plinth</b>	<b>SQ.M</b>	1.00	128.90	1.00	0.60	77.34	
								<b>536.76</b>	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>590.44</b>
								<b>SAY</b>	<b>595.00</b>





		Providing and fixing <b>rough natural stone slab</b> as specified below of approved quality, pattern and colour for <b>treads</b> including preparing the surface and levelling in the desired line, in cement mortar 1:4, cement float, machine cutting, leveling, jointing, smooth cement plastering along the sides to match the existing surface in cement mortar 1:3, filling the joints with neat cement or pigment mixed with cement, polishing, finishing, curing etc complete as directed by Engineer In Charge.							
47	<b>R2-CS-FL-39-e</b>	Ruby red, jet black, Hasan green Granite for width upto 300 mm	<b>RMT</b>						
		<b>ADMIN BUILDING</b>							
		ENTRANCE LOBBY	<b>RMT</b>	4.00	4.00			16.00	
		COURTYARD	<b>RMT</b>	8.00	1.50			12.00	
		STORE	<b>RMT</b>	4.00	2.00			8.00	
		<b>WORKSHOP AREA</b>	<b>RMT</b>	8.00	3.00			24.00	
		<b>SECURITY CABIN TOILET</b>	<b>RMT</b>	2.00	4.00	1.00	1.00	8.00	
								<b>68.00</b>	
		Additional 10 percent buffer						<b>RMT</b>	<b>74.80</b>
								<b>SAY</b>	<b>75.00</b>
		Providing and fixing polished natural stone tiles as specified below of approved quality, pattern and colour <b>for sill and jambs</b> including preparing the surface and levelling in the desired line, cement mortar 1:3 bedding or backing, cement float, machine cutting, leveling, jointing, smooth cement plastering along the sides to match the existing surface in cement mortar 1:3, filling the joints							



		with neat cement or pigment mixed with cement, finishing, curing etc complete as directed by Engineer In Charge.							
48	<b>R2-CS-FL-40-j</b>	18mm thk. Ruby red, jet black, Hasan green Granite for width upto 150 mm	<b>RMT</b>						
		<b>WINDOW SILLS AND JAMB</b>							
		<b>ADMIN BUILDING</b>							
		W1 -( 1800 X 2100 ) 3 TRACK WINDOW	<b>RMT</b>	20.00	7.80	1.00	1.00	156.00	
		W2 -( 1200 X 1200 ) 2 TRACK WINDOW	<b>RMT</b>	7.00	4.80	1.00	1.00	33.60	
		W3 -( 900 X 1400 ) FIXED WINDOW	<b>RMT</b>	2.00	4.40	1.00	1.00	8.80	
		W4 -( 600 X 900 ) TOILET WINDOSW	<b>RMT</b>	5.00	3.00	1.00	1.00	15.00	
		<b>WORKSHOP AREA</b>							
		W1 -( 1800 X 2100 ) 3 TRACK WINDOW	<b>RMT</b>	17.00	7.80	1.00	1.00	132.60	
		W4 -( 600 X 900 ) TOILET WINDOSW	<b>RMT</b>	4.00	3.00	1.00	1.00	12.00	
		<b>SECURITY CABIN</b>	<b>RMT</b>	1.00	3.00	1.00	1.00	3.00	
		<b>DOOR SILLS AND JAMB</b>							
		<b>ADMIN BUILDING</b>							
		D1 - 1.80 X 2.1M MAIN ENTRANCE DOOR	<b>RMT</b>	1.00	6.00	1.00	1.00	6.00	
		D2 - 1.20 X 2.1M STAFF AREA	<b>RMT</b>	1.00	5.40	1.00	1.00	5.40	
		D3 - 1.00 X 2.1M COMMON AREAS	<b>RMT</b>	15.00	5.20	1.00	1.00	78.00	
		D4 - 0.750 X 2.1M WC CUBICLES DOOR	<b>RMT</b>	8.00	4.95	1.00	1.00	39.60	
		D5 - 1.00 X 2.1M FORMEN ROOM	<b>RMT</b>	1.00	5.20	1.00	1.00	5.20	
		<b>WORKSHOP AREA</b>							
		D3 - 1.00 X 2.1M COMMON TOILET ENTRY	<b>RMT</b>	2.00	5.20	1.00	1.00	10.40	
		D4 - 0.750 X 2.1M WC CUBICLES DOOR	<b>RMT</b>	4.00	4.95	1.00	1.00	19.80	
		D5 - 1.00 X 2.1M	<b>RMT</b>	1.00	5.20	1.00	1.00	5.20	



		ELECTRICAL ROOM							
		<b>SECURITY CABIN</b>							
		D3 - 1.00 X 2.1M CABIN DOOR	<b>RMT</b>	1.00	5.20	1.00	1.00	5.20	
		D4 - 0.750 X 2.1M WC CUBICLES DOOR	<b>RMT</b>	1.00	4.95	1.00	1.00	4.95	
								<b>540.75</b>	
		<b>DOUBLE THE QUANTITY FOR TWIN FRAME</b>						<b>1081.50</b>	
		Additional 10 percent buffer						<b>RMT</b>	<b>1189.65</b>
								<b>SAY</b>	<b>1190.00</b>
49	<b>R2-CS-FL-40-u</b>	18mm thk. Ruby red, jet black, Hasan green Granite for width upto 300 mm							
		<b>WORKSHOP AREA</b>							
		GROUND FLOOR PASSAGE	<b>RMT</b>	1.00	20.00	1.00	1.00	<b>20.00</b>	
		FIRST FLOOR PASSAGE AREA	<b>RMT</b>	1.00	49.00	1.00	1.00	<b>49.00</b>	
								<b>69.00</b>	
		Additional 10 percent buffer						<b>RMT</b>	<b>75.90</b>
								<b>SAY</b>	<b>80.00</b>
50	<b>R2-CS-FL-46-c</b>	Providing and constructing raised platform of 750 mm wide and 600 to 750mm high using minimum 40mm thick polished kadappa stone slab base with minimum 15mm thk. polished stone top as specified below of approved quality, colour and texture, supported by both side polished, 40mm thk. and minimum 700mm wide kadappa spaced at not more than 1200mm clear, including polished fascia of min. 100mm height as specified below with chamfered/ rounded at the top edges, jointing in approved adhesives, machine cutting, making opening for	<b>RMT</b>						



		sink and fixing the same in position, leveling, smooth cement plastering along the sides to match the existing surface in cement mortar, filling the joints with pigment mixed with cement, cleaning, finishing, curing etc complete as directed by Engineer In Charge. (The cost of providing the sink shall be paid extra as per plumbing items)							
		<b>ADMIN BUILDING</b>							
		KITCHEN AREA	<b>RMT</b>	1.00	9.00	1.00	1.00	9.00	
								<b>9.00</b>	
		Additional 10 percent buffer						<b>RMT</b>	<b>9.90</b>
								<b>SAY</b>	<b>10.00</b>
51	<b>R2-CS-FL-50</b>	Providing and fixing 20mm to 25 mm thk. polished jetblack granite stone plaque for inauguration of approved quality including preparing the surface and levelling in the desired line, cement float, machine cutting, leveling, jointing, filling the joints with neat cement, finishing, curing etc complete as directed by Engineer In Charge.							
		NEAR ADMIN BUILDING	<b>SQ.M</b>	2.00	1.00	2.50		5.00	
								5.00	
								<b>SQ.M</b>	<b>5.50</b>
								<b>SAY</b>	<b>10.00</b>
		Engraving the letters of sizes specified below in golden or any other approved colour on granite stone etc. complete as directed by Engineer In Charge.							



52	<b>R2-CS-FL-51-b</b>	Letters above 30mm and upto 50mm in any language as directed.	<b>No.</b>					100.00	
				100.00	1.00	1.00			
								100.00	
								<b>No.</b>	<b>110.00</b>
								<b>SAY</b>	<b>110.00</b>
53	<b>R2-CS-FL-51-c</b>	Border line upto 12mm thk.	<b>Rmt</b>					7.00	
				1.00	7.00	1.00			
								7.00	
								<b>Rmt</b>	<b>7.70</b>
								<b>SAY</b>	<b>10.00</b>
54	<b>R2-CS-FL-63</b>	Providing and fixing <b>10mm thk. vitrified tiles</b> as specified below conforming to I.S. 15622-2006 with water absorption less than 0.08% and of approved quality, pattern and colour <b>for dado in the wet area</b> including preparing the surface and levelling in the desired line, backing of 20 thk. cement mortar in proportion 1:3 with approved waterproofing compound, square cut top edge or chamfered top edge in cement mortar 1:3, cement float, machine cutting, leveling, jointing, filling the joints with neat cement slurry or approved colour grout, finishing, curing etc complete as directed by Engineer In Charge. Light coloured glazed vitrified tiles/ Dark coloured glazed vitrified tiles/ Light coloured antiskid / matt vitrified tiles/ Dark coloured antiskid / matt vitrified tiles							
		<b>ADMIN BUILDING</b>							
		GROUND FLOOR-ALL TOILET AND KITCHEN WALL AREA	<b>SQ.M</b>	1.00	67.52	1.00	2.40	162.05	
		1ST FLR-ALL TOILET WALL AREA	<b>SQ.M</b>	1.00	30.50	1.00	2.40	73.20	
		<b>WORKSHOP BUILDING</b>							



		GRD FLR-ALL TOILET WALL AREA UPTO 2.4m	<b>SQ.M</b>	1.00	25.80	1.00	2.40	61.92	
		1ST FLR-ALL TOILET WALL AREA UPTO 2.4m	<b>SQ.M</b>	1.00	25.80	1.00	2.40	61.92	
		<b>SECURITY CABIN TOILET</b>	<b>SQ.M</b>	1.00	6.00	1.00	2.40	14.40	
								<b>373.49</b>	
		Additional 10 percent buffer						<b>SQ.M</b>	<b>410.84</b>
								<b>SAY</b>	<b>415.00</b>
55	<b>R2-CS-FL-64</b>	Providing and fixing <b>8mm thk. vitrified tiles</b> as specified below conforming to I.S. 15622-2006 with water absorption less than 0.08% and of approved quality, pattern and colour for <b>dado in the dry area</b> including preparing the surface and levelling in the desired line, backing of 20 thk. cement mortar in proportion 1:3, square cut top edge or chamfered top edge in cement mortar 1:3, cement float, machine cutting, leveling, jointing, filling the joints with neat cement slurry or approved colour grout, finishing, curing etc complete as directed by Engineer In Charge. Light coloured glazed vitrified tiles/ Dark coloured glazed vitrified tiles/ Light coloured antiskid / matt vitrified tiles/ Dark coloured antiskid / matt vitrified tiles							
		<b>ADMIN BUILDING</b>							
		GROUND FLOOR	<b>SQ.M</b>	1.00	49.20	1.00	1.20	59.04	
		FIRST FLOOR	<b>SQ.M</b>	1.00	29.20	1.00	1.20	35.04	
		STAIRCASE	<b>SQ.M</b>	1.00	16.80	1.00	1.20	20.16	
								<b>114.24</b>	
		DEDUCT FOR 1M DOOR	<b>SQ.M</b>	9.00	1.00	1.00	1.20	10.80	
		DEDUCT FOR 1.2M DOOR	<b>SQ.M</b>	1.00	1.20	1.00	1.20	1.44	
		<b>TOTAL DEDUCTION</b>						<b>12.24</b>	
								<b>102.00</b>	



		Additional 10 percent buffer						<b>SQ.M</b>	<b>112.20</b>
								<b>SAY</b>	<b>115.00</b>
56	<b>R2-CS-FL-79</b>	Granite riser 150mm ht. for staircase (black galaxy or approved) polished,including backing coat of 1:4 cement plaster/mortar/cement paste , cleaning etc. complete as per Architects details drawingand design(Basic rate of granite is Rs.220/-Sq.ft.)							
		<b>ADMIN BUILDING</b>							
		STAIRCASE	<b>MTR</b>	44.00	1.50	1.00	1.00	66.00	
		<b>WORKSHOP AREA</b>							
		STAIRCASE	<b>MTR</b>	56.00	1.50	1.00	1.00	84.00	
		<b>ELECTRICAL ROOM</b>	<b>MTR</b>	3.00	3.00	1.00	1.00	9.00	
		<b>SECURITY CABIN</b>	<b>MTR</b>	2.00	1.20	1.00	1.00	2.40	
								<b>161.40</b>	
		Additional 10 percent buffer						<b>MTR</b>	<b>177.54</b>
								<b>SAY</b>	<b>180.00</b>
57	<b>R2-CS-FL-80</b>	Providing & fixing 20 +mm thick machine cut mirror polish 1st quality <b>Granite treads 300mm</b> wide for staircase (black galaxy or approved) including grooves and edge moulding & polishing with backing coat of 1:4 cement plaster/mortar/cement paste,cleaning etc.complete as perArchitects details drawing and design(Basic rate of granite is Rs.220/-Sq.ft.)							
		<b>ADMIN BUILDING</b>							
		STAIRCASE	<b>MTR</b>	44.00	1.50	1.00	1.00	66.00	



		<b>WORKSHOP AREA</b>							
		STAIRCASE	<b>MTR</b>	56.00	1.50	1.00	1.00	84.00	
		<b>ELELCTRICAL ROOM</b>	<b>MTR</b>	3.00	3.00	1.00	1.00	9.00	
		<b>SECURITY CABIN</b>	<b>MTR</b>	2.00	1.20	1.00	1.00	2.40	
								<b>161.40</b>	
		Additional 10 percent buffer						<b>MTR</b>	<b>177.54</b>
								<b>SAY</b>	<b>180.00</b>
58	<b>R2-CS-FL-88</b>	TELEPHONE BLACK GRANITE WASH HAND BASIN COUNTER : Providing and making wash basin counter in single piece of 18 mm to 20 mmthk.Telephone Black granite 600 mm side fixed over 25 to 40 mm thk. Black Cuddappa, stand with type construction, by making zari, in walls upto 75 mm deep & fitting the wall surface by C.M. 1:2 with necessary moulding, profile cutting in granite and cudappa including making hole to receive pillar cock for wash basin etc complete and as per detailed drawing,as directed by the Engineer-In-Charge.							
		<b>ADMIN BUILDING</b>							
		GROUND FLOOR	<b>RMT</b>	1.00	8.00			8.00	
		FIRST FLOOR	<b>RMT</b>	1.00	9.00			9.00	
		<b>WORKSHOP AREA</b>							
		GROUND FLOOR	<b>RMT</b>	1.00	5.00			5.00	
		FIRST FLOOR	<b>RMT</b>	1.00	5.00			5.00	
								27.00	
		Additional 10 percent buffer						<b>RMT</b>	<b>29.70</b>
								<b>SAY</b>	<b>30.00</b>





59	<b>R2-CS-FL-93</b>	Providing & fixing 20mm +/- 2mm thick both side mirror polished approved colour <b>Granite Urinal partitions of 600 mm wide &amp; 1550 mm high with round edges moulding and fixed in C.M. 1:2 and filling joints in white cement mixed with pigment to match the colour of granite including curing, cleaning etc. complete.</b> (Basic Rate 210/Sft.)							
		<b>ADMIN BUILDING</b>							
		GROUND FLOOR	NOS	2.00				2.00	
		FIRST FLOOR	NOS	1.00				1.00	
		<b>WORKSHOP AREA</b>							
		GROUND FLOOR	NOS	2.00				2.00	
		FIRST FLOOR	NOS	1.00				1.00	
								6.00	
		Additional						NOS	<b>6.00</b>
								<b>SAY</b>	<b>10.00</b>
	<b>SS</b>	<b>STRUCUTRAL STEEL WORK</b>							
60	<b>R2-CS-SS-04</b>	Providing, detailing, composite fabricating members like Trusses, Ngirders, girders, bracings, supports, purlins, runners, and similar structural steel members fabricated using M.S. hollow tubular steel sections (circular & rectangular pipes), of TATA Structura Make or equivalent conforming to IS 1239 part 1 and 2 and of grade Fe 250 as per specifications and approved fabrication drawings (which are to be prepared by Contractor and got approved from Engineer),	MT						



		including transportation of the same to site, erection of structural steel members for all heights & at all levels, provision of necessary erection bolts, fixing bolts, nuts, washers, cleats, stiffeners, gussets, base plate, and all necessary operations like preheating as per specifications, straightening, bending, cutting, drilling, grinding, machining if specified, welding, grinding, removing the welding burr and preparing surface for painting with wire brush cleaning and applying two coats of epoxy red oxide zinc phosphate primer of 30 microns each and two coats of Epoxy Corrosion Resistant Enamel paint of 30 microns after fabrication including touching up with spray painting after erection etc complete as directed by Engineer							
		<b>ADMIN BUILDING</b>	MT	1.00	1.00	1.00	1.00	18.50	19.43
		<b>WORKSHOP BUILDING</b>	MT	1.00	1.00	1.00	1.00	15.50	16.28
		<b>PREMISES</b>	MT	1.00	1.00	1.00	1.00	6.00	6.30
								40.00	
		Additional						MT	<b>40.00</b>
								<b>SAY</b>	<b>40.00</b>
61	<b>R2-CS-SS-13</b>	Supplying, fabricating, transportation to site and Fixing Galvanized Chain Link Fencing of 10 gauge G.I. Mesh, sizes 50 x 50 mm diamond pattern, fixed 75 mm below finished ground level / coping, including providing and erecting ISA 50x50x6 angle posts @ 2.5m C/C with cross support at every 8th pole & at corners	<b>SQM</b>						



		and 2 nos 6mm dia MS bars at top and bottom with necessary U hooks, nuts and bolts, washers, total height of fencing @ 2.0m above ground including embedding the angle post in concrete block of 0.45m x 0.45m x 0.6m of cement concrete M15 grade including necessary excavation, and cleaning, preparing the surface, applying one coat of red oxide zinc chromate primer and two coats of Synthetic Enamel paint of approved manufacture, brand, colour, shade etc. complete as directed by Engineer In Charge. (first coat of synthetic enamel paint after fabrication and second coat after erection including touching up the primer coat)							
		<b>ADMIN BUILDING</b>							
		TERRACE FLOOR	<b>SQM</b>	1.00	76.50	1.00	2.10	160.65	168.68
		<b>WORKSHOP BUILDING</b>							
		TERRACE FLOOR	<b>SQM</b>	1.00	103.50	1.00	2.10	217.35	228.22
		<b>PREMISES</b>	<b>SQM</b>	1.00	100.00	1.00	3.50	350.00	367.50
								728.00	
		Additional 5% contingency						<b>SQM</b>	<b>902.40</b>
								<b>SAY</b>	<b>903.00</b>
62	<b>R2-CS-SS-22</b>	Providing, detailing, and fabricating as per specifications, transporting to site and erecting M.S. ladder using hot rolled sections, hollow pipes (Hollow pipes conforming to IS 1239 part 1 and 2) including, fixtures and fastenings, cleats, stiffeners, gussets, etc. and	<b>KG</b>						



		all necessary operations like straightening, bending, cutting, drilling, grinding, machining if specified, welding, removing the welding burr, cleaning etc., fixing in cement concrete block of grade M15, and preparing surface, applying one coat of red oxide zinc chromate primer and one coat of Synthetic Enamel paint after fabrication and second coat of synthetic enamel paint after erection, with approved colour, shade and brand etc. complete as directed by Engineer In Charge.							
		<b>LADDER FOR ADMIN BUILDING AND WORKSHOP BUILDING</b>							
		MAIN 50MMX50MM FRAME		4.00	7.70	1.00	1.00	30.80	32.34
		MAIN 50MMX50MM FRAME HORIZONTAL		25.00	0.60	1.00	1.00	15.00	15.75
									<b>48.09</b>
		<b>TOTAL LENGHT X WEIGHT (4.5KG/MT)</b>	KG	<b>1.00</b>	<b>48.09</b>	<b>1.00</b>	<b>4.50</b>	216.41	227.23
		Additional 5% contengency						<b>KG</b>	<b>227.23</b>
								<b>SAY</b>	<b>228.00</b>
63	<b>R2-CS-SS-31</b>	Providing, fabricating & fixing in position S.S. 304 grade pipe railing for staircase consisting of 18 gauge 50 mm dia.S.S. pipe as top rail,18 gauge 40 mm dia S.S. pipe as verticals, 18 gauge 25 mm dia as secondary rails, including fixing the verticals to the staircase pardi by means of base plate with socket &	<b>MTR</b>						



		anchor fasteners, grinding the welded portion smooth, buffing, protecting the railing members by means of wrappers during construction etc. complete as directed by the Engineer in charge.							
		<b>ADMIN BUILDING</b>							
		GROUND FLOOR TO FIRST FLOOR	<b>MTR</b>	1.00	9.00		1.00	9.00	9.45
		FIRST FLOOR TO TERRACE FLOOR	<b>MTR</b>	1.00	9.00		1.00	9.00	9.45
		LADIES COMMON ROOM	<b>MTR</b>	1.00	5.00		1.00	5.00	5.25
		STORE 02	<b>MTR</b>	1.00	5.00		1.00	5.00	5.25
		<b>WORKSHOP BUILDING</b>							
		GROUND FLOOR TO FIRST FLOOR	<b>MTR</b>	1.00	9.00		1.00	9.00	9.45
		FIRST FLOOR TO TERRACE FLOOR	<b>MTR</b>	1.00	9.00		1.00	9.00	9.45
		PASSAGE	<b>MTR</b>	1.00	48.00		1.00	48.00	50.40
								94.00	
		Additional 5% contingency						<b>MTR</b>	<b>98.70</b>
								<b>SAY</b>	<b>99.00</b>
64	<b>R2-CS-SS-16</b>	Providing, detailing, and fabricating as per specifications, transporting to site and erecting MS Openable / Sliding / Ornamental Entrance Gates including track and wheel, locking arrangement, fixing bolts, nuts, washers, cleats, stiffeners, gussets decorative balusters, arrow heads etc. and all necessary operations like straightening, bending, cutting, drilling, grinding, machining if specified, welding etc. complete weighing 60 to 65 kg/Sqm,							



		including cleaning, Grinding and removing the welding burr and preparing surface and applying one coat of red oxide zinc chromate primer and one coat of Synthetic Enamel paint after fabrication and second coat of Synthetic Enamel paint after erection, with approved colour, shade and brand etc. including touching up with primer etc. complete as directed by Engineer In Charge.							
		<b>ENTRANCE GATE 1 NOS</b>	<b>SQ.M</b>	1.00	7.00		2.50	17.50	18.38
								17.50	
		Additional 5% contingency						<b>SQ.M</b>	<b>18.38</b>
								<b>SAY</b>	<b>19.00</b>
65	<b>R2-CS-SS-32</b>	Providing & fixing S.S. pipe hand rail along the wall in staircase or ramps or passages consisting of 50 mm dia. 18 gauge 304 grade stainless steel pipe. Supported with 25 mm 18 gauge S.S. pipe (304grade) brackets & 5mm thick tapered edge collar base plate fixed to wall with SS screws at approx. 600 mm center to center fixed horizontally or in inclined position at required height including grinding the welded joints, buffing, protecting the railing members by means of wrappers during construction etc. complete as per detailed drawing as directed by the Engineer in	<b>MTR</b>						



		charge.							
		<b>ADMIN BUILDING</b>							
		STAIRCASE AREA GROUND TO FIRST FLOOR	<b>MTR</b>	1.00	12.00	1.00	1.00	12.00	12.60
		STAIRCASE AREA FIRST TO TERRACE FLOOR	<b>MTR</b>	1.00	12.00	1.00	1.00	12.00	12.60
		<b>WORKSHOP BUILDING</b>							
		STAIRCASE AREA GROUND TO FIRST FLOOR	<b>MTR</b>	1.00	15.00	1.00	1.00	15.00	15.75
		STAIRCASE AREA FIRST TO TERRACE FLOOR	<b>MTR</b>	1.00	15.00	1.00	1.00	15.00	15.75
								<b>54.00</b>	
		Additional 5% contingency						<b>MTR</b>	<b>56.70</b>
								<b>SAY</b>	<b>57.00</b>
	<b>SL</b>	<b>STEEL WORK</b>							
66	<b>R2-CS-SL-04</b>	Providing and fixing in position collapsible steel gates with vertical channels 20 x 10 x 2 mm & braced with flat iron diagonals 20 x 5 mm size, top & bottom T section 40 x 40 x 6 mm size, 30 mm steel pulleys complete with bolts-nuts, locking arrangements, stoppers, handles and painting with one coat of red oxide zinc chromate primer and two coats of synthetic enamel paint including all labour, materials, tools and equipments, etc complete as directed by Engineer Incharge.	<b>SQ.M</b>						
		<b>ADMIN BUILDING</b>							
		GROUND FLOOR	<b>SQ.M</b>	1.00	4.00		2.80	11.20	11.76



		ENTRANCES							
		<b>WORKSHOP BUILDING</b>							
		GROUND AND FIRST FLOOR ENTRANCES	<b>SQ.M</b>	2.00	3.50		3.60	25.20	26.46
								36.40	
		Additional 5% contingency						<b>SQ.M</b>	<b>38.22</b>
								<b>SAY</b>	<b>40.00</b>
67	<b>R2-CS-SL-05</b>	Providing and fixing rolling shutters made out of 18 gauge steel sheets for curtains, including bottom rail, 100 mm wide guide channels for opening width up to 4.0m and 150mm wide guide channel for opening width more than 4.0m, lock plates, locking arrangement on both sides, fixing bolts, pulling handles, MS hood of appropriate size, rolling arrangement, standard make springs in brackets etc. including fixing of frames with rag bolts, grouting of parts in position etc. and also including two coats of red oxide zinc chromate primer and two coats of synthetic enamel paint of approved colour, shade and brand etc. complete as per IS:6248 / specifications and as directed by Engineer In Charge. The shutter should withstand wind pressure of 47meters per second.	<b>Sqm</b>						
		<b>WORKSHOP</b>							
		GROUND FLOOR	<b>Sqm</b>	8.00	2.80	1.00	3.20	<b>71.68</b>	75.26
		FIRST FLOOR	<b>Sqm</b>	8.00	2.80	1.00	3.20	<b>71.68</b>	75.26
		<b>MACHINE SHED</b>							
		GROUND FLOOR	<b>Sqm</b>	4.00	3.40	1.00	3.80	<b>51.68</b>	54.26





				20.00				<b>195.04</b>	
		Additional 5% contingency						<b>SQ.M</b>	<b>204.79</b>
								<b>SAY</b>	<b>205.00</b>
68	<b>R2-CS-SL-06</b>	Extra over item R2-CS-SL-05, for providing ball bearing wherever required and directed etc complete.							
			<b>Nos</b>	20.00	1.00	1.00	1.00	<b>20.00</b>	21.00
				20.00				<b>20.00</b>	
		Additional 5% contingency						<b>Nos</b>	<b>21.00</b>
								<b>SAY</b>	<b>25.00</b>
69	<b>R2-CS-SL-07</b>								
		Extra for providing mechanical device for operating rolling shutters.	<b>Nos</b>					<b>20.00</b>	21.00
				20.00	1.00	1.00	1.00		
				20.00				<b>20.00</b>	
		Additional 5% contingency						<b>Nos</b>	<b>21.00</b>
								<b>SAY</b>	<b>25.00</b>
		Providing and Fixing MS Safety grill of weight specified below for windows as per design including fabricating the grill using M.S. square / round bar, flats and angles including painting with one coat of red oxide zinc chromate primer and two coats of synthetic enamel paint of approved colour and brand etc complete as directed.	<b>Sqm</b>						
70	<b>R2-CS-SL-12-d</b>	<b>Grill weighing 25 to 30 kg / sqm</b>							
		R2-CS-AW-02-W1 (1800 x 2100)	<b>Sqm</b>	42.00	2.20		2.50	231.00	242.55
		R2-CS-AW-01-W2 (1200 x 1200)	<b>Sqm</b>	5.00	1.60		1.60	12.80	13.44
		R2-CS-AW-04-W4 (600 x 900)	<b>Sqm</b>	18.00	0.60		0.90	9.72	10.21



		R2-CS-AW-08-W5(600 x 3400)	Sqm	5.00	0.60		3.40	10.20	10.71
								263.72	
		Additional 5% contingency						<b>SQ.M</b>	<b>276.91</b>
								<b>SAY</b>	<b>280.00</b>
		Providing, fabricating and fixing M.S. grill work as per approved design and as per weight specified below to <b>fencing / compound</b> made out of square / round bars, M.S. flats, angles, with necessary holdfast including painting with one coat of red oxide zinc chromate primer and two coats of approved synthetic enamel paint etc. complete as directed by Engineer In Charge.							
71	R2-CS-SL-14-c	Mild steel grill of weight 20 to 25 Kg/sq. m.	SQ.M		10.00		1.20	12.00	12.60
		<b>NORTH SIDE</b>	<b>SQ.M</b>		140.00		0.60	84.00	88.20
		<b>ENTRANCE</b>	<b>SQ.M</b>		35.00		0.60	21.00	22.05
		<b>ROAD DIVIDER</b>	<b>SQ.M</b>		30.00		0.60	18.00	18.90
		<b>NEAR STP</b>	<b>SQ.M</b>		35.00		0.60	21.00	22.05
		<b>NEAR TUNNEL SHAFT</b>	<b>SQ.M</b>		55.00		0.60	33.00	34.65
								189.00	
								<b>SQ.M</b>	<b>198.45</b>
								<b>SAY</b>	<b>200.00</b>
72	R2-CS-RW-15	Providing and fixing box type precoated gutter of width 350 mm and depth 250 mm clear inside, made of 22 gauge G.I.sheets with socket type opening on top to receive ferrules from longitudinal truss gutters and ferrules at end, with all the fixtures and fastenings, gutters to be supported on M.S. flat hangers 750 MM C/C which are fixed on top as directed	Rmt						



		and laid to proper slope, as specified including making necessary connections with rain water pipes etc complete and as directed. (Rate includes cost of hangers, the fixing charges, 3 coats of synthetic enamel paint, and welding if required).							
		<b>ADMIN BUILDING</b>	<b>Rmt</b>	1.00	49.00	1.00	1.00	49.00	51.45
		<b>WORKSHOP</b>	<b>Rmt</b>	1.00	84.50	1.00	1.00	84.50	88.73
								133.50	
								<b>Rmt</b>	<b>140.18</b>
								<b>SAY</b>	<b>145.00</b>
		Providing and fixing UV resistant selffit UPVC pipes of approved make for Rainwater downtakes confirming to IS 13592:1992 Type A suitable for 4kg/sqcm pressure for following pipe diameters including rain water receiving recess with pvc plug bend necessary fittings such as offsets shoes, fixing the pipes on wall with clips filling the joints with solvent/cement and necessary scaffolding etc. complete as directed by Engineer In Charge.	<b>Rmt</b>						
73	R2-CS-RW-16-b	100mm dia	<b>Rmt</b>						
		<b>ADMIN BUILDING</b>	<b>Rmt</b>	5.00	12.00	1.00	1.00	140.00	147.00
		<b>WORKSHOP</b>	<b>Rmt</b>	4.00	12.00	1.00	1.00	48.00	50.40
								188.00	
								<b>Rmt</b>	<b>197.40</b>
								<b>SAY</b>	<b>200.00</b>
		Providing corrugated G.I. sheet roofing including vertical / curved surface fixed with polymer coated J or L hooks, bolts and nuts 8 mm diameter with bitumen and G.I. limpet washers or with G.I. limpet washers filled with	<b>Sqm</b>						



		white lead, including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete (up to any pitch in horizontal/ vertical or curved surfaces), excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.							
74	<b>R2-CS-RW-26-b</b>	0.8 mm thick GI corrugated sheet with zinc coating not less than 275 gm/m <sup>2</sup>	Sqm						
		<b>ADMIN BUILDING</b>	<b>SQ.M</b>	1.00	1.00	1.00	1.00	265.00	278.25
		<b>WORKSHOP</b>	<b>SQ.M</b>	1.00	1.00	1.00	1.00	488.50	512.93
		<b>PREMISES PARKING</b>	<b>SQ.M</b>	1.00	1.00	1.00	1.00	360.00	378.00
								1113.50	
								<b>SQ.M</b>	<b>1169.18</b>
								<b>SAY</b>	<b>1170.00</b>
75	<b>R2-CS-RM-98</b>	Providing & constructing Soft board panelling with soft board & fabric. Basic rate of fabric is 150/metre	<b>SQ.M</b>						
		<b>ADMIN BUILDING</b>							
		FIRST FLOOR AT STAFF WORK AREA	<b>Sqm</b>	5.00	2.00	1.00	0.60	6.00	6.30
								<b>SQ.M</b>	<b>6.30</b>
								<b>SAY</b>	<b>10.00</b>
76	<b>R2-CS-RM-125</b>	Providing & fixing FULL HEIGHT BOTH SIDE LAMINATED PARTITION at required location having height more than 2.8 meter & minimum 77 mm thick made by using 50 x 50 mm (finished size) approved quality seasoned TW section framing at 600 mm center to center, covered with 12 mm marine ply generally confirming to I.S.303 / I.S.710-1980 on both sides. The partitions	<b>SQ.M</b>	1.00	18.00	1.00	1.20	21.60	22.68



		shall be finished with 1.5 mm thk. approved quality laminate matt/suede/fine line finished lamination pattern with grooves on both sides with necessary lipping (BTC) moulding. Antitermite treatment to plywood and woodwork,door frame including all leads & lifts etc complete as per Architect's Drawing and instructions of Engineer In Charge. ( Basic Laminate Rate Rs.30/- per sft.)							
		FOR PELMET GROUND FLOOR	<b>SQ.M</b>	1.00	17.80	0.20	1.00	17.80	18.69
		FOR PELMET FIRST FLOOR	<b>SQ.M</b>	1.00	44.85	0.20	1.00	44.85	47.09
									65.78
		TOATAL							32.89
								<b>SQ.M</b>	<b>55.57</b>
								<b>SAY</b>	<b>60.00</b>
77	R2-CS-RM-130	Providing & fixing stainless steel 20 mm dia,600 mm long grab bar for physicaly handicapped toilet etc complete as directed.	NOS						
		HANDICAP TOILET	NOS	1.00	1.00	1.00	1.00	1.00	1.05
								NOS	<b>1.05</b>
								<b>SAY</b>	<b>5.00</b>
78	R2-CS-RM-132	Providing and fixing Speed Breakers of Size 350 W x 500 L x 50 H mm yellow black color as shown in the drawing with necessary fittings & fixtures as directed by EIC.	MTR						
		PREMISES	MTR	1.00	48.00	1.00	1.00	48.00	50.40
								MTR	<b>50.40</b>
								<b>SAY</b>	<b>55.00</b>
79	R2-CS-RM-139	CORNER GUARD 45MMX45MM : 4FT PCS	NOS						
		ADMIN	NOS	1.00	6.00	1.00	1.00	6.00	6.30



		WORKSHOP	NOS	1.00	32.00	1.00	1.00	32.00	33.60
		MACHINE SHED	NOS	1.00	16.00	1.00	1.00	16.00	16.80
								NOS	<b>56.70</b>
								<b>SAY</b>	<b>60.00</b>
80	R2-CS- RM-143- a	Providing & Fixing solid white acrylic laser cut out MCGM Logo etc complete. Size : 60" x55"	NOS						
		LOGO	NOS	10.00	1.00	1.00	1.00	50.00	52.50
								NOS	<b>52.50</b>
								<b>SAY</b>	<b>55.00</b>
81	R2-CS- RM-143- b	Providing & Fixing solid white acrylic laser cut out MCGM Logo etc complete. Size : 36" x 33"	NOS						
		LETTERS	NOS	600.00	1.00	1.00	1.00	600.00	630.00
								NOS	<b>630.00</b>
								<b>SAY</b>	<b>630.00</b>
82	R2-CS- DD-2	Demolishing R.C.C. slab, R.C.C. wall of any thickness, R.C.C. beams, joists, R.C.C. columns, piles, pile caps etc., in any thickness and size manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in-charge.	Cum						
		EXISTING TOILET	Cum	1.00	16.00	1.00	3.20	51.20	53.76
		METER ROOM	Cum	1.00	10.00	1.00	2.70	27.00	28.35
								Cum	<b>88.35</b>
								<b>SAY</b>	<b>90.00</b>
83	R2-RW- 2-20	Providing & laying, spreading & compacting graded crushed stone aggregate to wet mix macadam to the satisfaction of Engineer including premixing the material with water to OMC in mechanical mix (pug mill) carriage of mix material by tipper to site, laying in uniform layer of 75	Cum						



		mm to 100 mm (compacted thickness each) with sensor paver finisher on prepared subbase & compacting with vibratory roller (10 tonne) to achieve desired density including lighting, guarding barricading & maintenance of diversion etc. as directed by the Engineer, ( Rebate for not using sensor paver should be taken,(metal gradation from 53 mm to 75 micron as per prevailing MCGM specifications for Roadworks clause no.240).							
		PREMISES CC ROAD	Cum	1.00	3500.00	1.00	0.25	875.00	918.75
		TOATAL							918.75
								Cum	<b>918.75</b>
								<b>SAY</b>	<b>920.00</b>
84	R2-RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100 mm to 75 mm (compacted thickness each) with motor grader or paver on prepared murum surface & compacting with 10 tonne vibratory roller to achieve desired density including all material, labour, machinery, lighting, barricading to all lifts & lead, maintenance of diversion etc. complete (metal gradation from 75mm to 75 micron as per prevailing MCGM specifications for Roadworks clause no.210).	Cum						
		PREMISES CC ROAD	Cum	1.00	3500.00	1.00	0.25	875.00	918.75
		TOATAL							918.75



								Cum	<b>918.75</b>
								<b>SAY</b>	<b>920.00</b>
85	R2-RW-8-02	P/L 250 mm dia. R.C.C. hume pipes, NP2 class, jointing, filling in 1:1 cement mortar, including plugging of both the ends with gunny bags, brick masonry in cement mortar 1:4 with plaster in cement mortar 1:4 & curing etc. complete, as specified as directed.	Rmt						
		PREMISES ROAD PERPENDICULAR TO ROAD FOR STORM WATER DRAIN	Rmt	7.00	10.00	1.00	1.00	70.00	73.50
		TOATAL							73.50
								Rmt	<b>73.50</b>
								<b>SAY</b>	<b>75.00</b>
86	R2-RW-10-15	Providing & fixing high density polythene pipe of approved quality to fit around the dowel bars of 32mm dia at the end of expansion joints, fully greased inside, cotton waste in the pipe around the dowel bars & the pipe duly capped at the end as directed. (H.D.P. pipe shall be 30cm in length). As shown in the drawing.	Each						
		PREMISES ROAD	Each	1.00	10.00	1.00	1.00	10.00	10.50
		TOATAL							10.50
								Each	<b>10.50</b>
								<b>SAY</b>	<b>15.00</b>
87	R2-RW-10-17	Providing & fixing in position M.S. dowel bars of 32mm dia 55cm long & 30cm C/C whenever directed including handling, fixing, etc. complete (no extra payment will be made for applying bitumen & grease to dowel bars)	MT						





		PREMISES ROAD	MT	1.00	2.00	1.00	1.00	2.00	2.10
		TOATAL							2.10
								MT	<b>2.10</b>
								<b>SAY</b>	<b>5.00</b>
88	R2-RW-10-18	Providing & laying waterproof paper of 40 GSM including overlap ( to be not less than 10cm) etc. complete as specified as directed.	Sqm						
		PREMISES CC ROAD	Sqm	1.00	1.00	1.00	1.00	3400.00	3570.00
		TOATAL							3570.00
								<b>SQ.M</b>	<b>3570.00</b>
								<b>SAY</b>	<b>3570.00</b>
89	R2-RW-10-32	Providing and laying Dry Lean Concrete base including providing coarse and fine aggregate to the specified gradation using minimum cement content 150 kg/cum of concrete with OPC 43 grade cement, mixing of concrete as per approved design mix using mechanised batch mix plant of appropriate capacity, transporting and laying with self propelled paver with electronic sensor device and compacting with vibratory roller of minimum 80- 100 KN static weight to give desired compacted density and average compressive strength of 10 MPa at 7 days and curing with liquid curing compound and sprinkling water and covering with moist hesian cloth or ponding of water for 7 days including providing construction joints, including all material, labour,	Cum						



		machinery with all leads and lifts etc. complete as specified and as directed by the Engineer. B) Laying by paver with electronic sensor device							
		PREMISES CC ROAD	Cum	1.00	3500.00	1.00	0.15	525.00	551.25
		TOATAL							551.25
								Cum	<b>551.25</b>
								<b>SAY</b>	<b>555.00</b>
90	R2-RW-10-33	Providing & laying M-40 C.C.avg. compressive strength 45 MPa and avg. flextural strength of 5.0 MPa (As per IRC 15-2002.N.1.6) procured from M.C.G.M. approved R.M.C. plant including use of approved make of plasticizer/retarder & Contractor's water with ice flakes and transported by transit mixer and placing at work site. Compacting, finishing, initial curing by approved curing compound & Contractor's water and tarring the sides of slab with hot bitumen as specified and directed (w/c ratio 0.4 maximum)(vata for curring will be paid separately.) (MINIMUM CEMENT CONTENT 350 kg/m <sup>3</sup> )	Cum						
		PREMISES CC ROAD	Cum	1.00	3500.00	1.00	0.15	525.00	551.25
		TOATAL							551.25
								Cum	<b>551.25</b>
								<b>SAY</b>	<b>555.00</b>
		Providing and applying hot applied thermoplastic road marking material with glass beads extremely high skid resistance 2.5 mm thick without primer coat (Tack coat) on Asphalt road surface. All labour, materials, with	Sqm						



		special aggregates as specified in B.S. part - I & II 1989 and carrying out the marking on any road in center line and other marking continuous or intermitten 10cm. or 15cm width also pedestrians crossing strips as well as spraying further quantity of glass beads of type II uniformly into a mono layer on to the hot paint line in quick succession of the paint spraying opration @ 250gms per sqm. area as directed and as per BS / MOST specifications in white / yellow colour.								
91	R2-BW-5-7-i	a) White colour	Sqm							
		PREMISES ROAD	Sqm	1.00	3500.00	0.15	1.00	525.00	551.25	
		TOTAL							551.25	
								<b>SQ.M</b>	<b>551.25</b>	
								<b>SAY</b>	<b>555.00</b>	

**MEASUREMENT SHEET FOR CIVIL WORKS - PART 2 (WW,AW,HW)**

SR NO	ITEM CODE	DESCRIPTION	UNIT	LEVEL	No's	A	L	W	H	qty	QUANTITY
							c	d	e	f=abcde	1.1
		<b>WOOD WORKS</b>									
92	R2-CS-WW-13	Providing and fixing vision panel of size 300mm x 300mm in any type of door with 6mm thick glass including T.W. beading etc. complete as directed bt Engineer in charge	NOS								
		<b>D1 - DOUBLE LEAF MAIN DOOR - 1.80 X 2.4M</b>			2	1	1	1	1	2	2.2
		<b>D2 - SINGLE LEAF DOOR - 1.20 X 2.4M</b>			4	1	1	1	1	4	4.4
		<b>D3 - SINGLE LEAF DOOR - 1.00 X 2.4M</b>			35	1	1	1	1	35	38.5
		TOTAL			<b>41</b>						<b>45.1</b>



		Additional 5% contengency								SAY.	46
93	R2-CS- WW- 37	<p>Fire rated Double leaf Door - Laminate Finish: Providing &amp; Fixing of wooden Fire door with Panic Bar of approved make and of required size, 120 minutes fire rating, integrity and insulation in accordance with the criteria of BS 476: Part22: 1987 and Report 212(1)/FR/2003; insulation on door leaf only. Tested at Fire Research Laboratory Central Building Research Institute, Roorkee with standard heating conditions as specified in IS: 3809-1979 and BS: 476 part 20 &amp; 22, 1987 to achieve the required integrity &amp; insulation (i.e. to restrict the heat radiation, temparature rise on the non fire side to the maximum of 140 degree Centigrade above the ambient temperature on the unexposed surface of the shutter). Red Mirranti Hard wood frame of section 145mm x 70mm with Intumescent strip (Imported) to take care of Hot and cold smoke of size 10mm x 2mm x 2Nos. concealed in the grove of the frame and 55mm thick double leaf shutter made out of perimeter railing of Red Mirranti wood of size 100mm x 29mm and Promina 60.9mm thick. Calcium Silicate Board Fire Retardant compound on each side coated with Intumescent sealant and faced with 4mm thick marine ply</p>	SQM								
		<b>ADMIN BUILDING</b>									
		ELECTRICAL ROOM	SQ.M	GF	3	1.5	1	1	2.4	10.80	11.88



		TOTAL			3						11.88
										<b>SAY.</b>	<b>12</b>
94	R2-CS-WW-47	Fire rated Single leaf Door - Laminate Finish: PnF of Wooden Fire door without Panic Bar of appd make and of required size, 120 minutes fire rating, integrity and insulation in accordance with the criteria of BS 476 ;Part 22 : 1987 and report 212 (1)/FR/2003; Insulation on door leaf only. Tested at Fire Research Lab, CBRI, Roorkee with standard heatingconditions as specified in IS : 3809-1979 and BS : 476 part 20 & 22, 1987 to achieve the required integrity & insulation (i.e. to restrict the heat radiation, temp rise on the non fire side to the max of 140 deg Centi above the ambient temp on the unexposed surface of the shutter). Red Mirranti Hard wood frame of section 145mm x 70mm with Intumescent strip (Imported) to take care of Hot and cold smoke of size 10mmx2mmx2Nos. Concealed in the grove of the frame and 55mm thick single leaf shutter made out of perimeter railing of Red Mirranti wood of size 100mmx29mm and promina 60.9mm thick Calcium Silicate Board Fire Retardant compound on each side coated with Intumescent									



		sealant and faced with 4mm thick marine ply with Fire and smoke Intumescent Seal of size 20mmx2mmx1No., mounted in the grooves in the shutter on all sides except bottom with 10mm thick										
		<b>ADMIN BUILDING</b>										
		<b>D1 - DOUBLE LEAF MAIN DOOR - 1.80 X 2.4M</b>										
		MAIN ENTRANCE	SQ.M	GF	1	1	1.8	1	2.4	4.32	4.752	
		<b>D2 - SINGLE LEAF DOOR - 1.20 X 2.4M</b>										
		STAFF AREA	SQ.M	1F	3	1	1.2	1	2.4	8.64	9.504	
		<b>D3 - SINGLE LEAF DOOR - 1.00 X 2.4M</b>										
		KITCHEN, DINNING ROOM, LOBBY, STORE 01, STORE 02, LADIES COMMON ROOM, TOILET ENTRY DOOR	SQ.M	GF	8	1	1	1	2.4	19.20	21.12	
		MEETING ROOM, OFFICE ROOM, REST ROOM 01, REST ROOM 02, TOILET ENTRY DOOR	SQ.M	1F	5	1	1	1	2.4	12.00	13.2	
		<b>D5-SINGLE LEAF FIRE RATED DOORS - 0.75X 2.4M</b>										
		FOREMEN ROOM	SQ.M	GF	1	1	1	1	2.4	2.40	2.64	
		<b>D6-SINGLE LEAF FIRE RATED DOORS - 1.5X2.4</b>	SQ.M	GF	2	1	1.5	1	2.4	7.20	7.92	
		<b>WORKSHOP AREA</b>										
		<b>D5-SINGLE LEAF FIRE RATED DOORS - 0.75X 2.4M</b>										
		ELECTRICAL ROOM	SQ.M	GF	1	1	1	1	2.4	2.40	2.64	
		<b>ELECTRICAL ROOM</b>	SQ.M	GF	1	1	1	1	2.4	2.40		
		<b>SECURITY CABIN</b>	SQ.M	GF	1	1	1	1	2.4	2.40		
					23					60.96		
		Additional 5% contingency									61.776	
										<b>SAY.</b>	<b>62</b>	



		<b>FRP-PVC</b>										
95	<b>R2-CS-PV-01</b>	<b>DOOR FRAME</b>										
		<b>ADMIN BUILDING</b>										
		<b>D4 - SINGLE LEAF FRP DOOR - 0.75 X 2.1M</b>										
		COMMON TOILET WC CUBICLES, WC CUBICLES STORE01, CHANGING ROOM COMMON LADIES ROOM, TOILET AT LADIES COMMON ROOM	RMT	GF	3	1	4.95	1	1.00	14.85	16.34	
		COMMON TOILET WC CUBICLES,	RMT	1F	3	1	4.95	1	1.00	14.85	16.34	
		<b>WORKSHOP</b>										
		<b>D4 - SINGLE LEAF FRP DOOR - 0.75 X 2.1M</b>										
		COMMON TOILET WC CUBICLES,	RMT	GF	2	1	4.95	1	1.00	9.90	10.89	
		COMMON TOILET WC CUBICLES,	RMT	1F	2	1	4.95	1	1.00	9.90	10.89	
		Additional 5% contingency										54.45
										<b>SAY.</b>	<b>55</b>	
96	<b>R2-CS-PV-05</b>	<b>PVC SHUTTERS</b>										
		<b>ADMIN BUILDING</b>										
		<b>D4 - SINGLE LEAF FRP DOOR - 0.75 X 2.1M</b>										
		COMMON TOILET WC CUBICLES, WC CUBICLES STORE01, CHANGING ROOM COMMON LADIES ROOM, TOILET AT LADIES COMMON ROOM	SQ.M	GF	3	1	0.75	1	2.10	4.73	5.20	
		COMMON TOILET WC CUBICLES,	SQ.M	GF	3	1	0.75	1	2.10	4.73	5.20	
		<b>WORKSHOP</b>										
		<b>D4 - SINGLE LEAF FRP DOOR - 0.75 X 2.1M</b>										
		COMMON TOILET WC CUBICLES,	SQ.M	GF	2	1	0.75	1	2.10	3.15	3.47	
		COMMON TOILET WC CUBICLES,	SQ.M	GF	2	1	0.75	1	2.10	3.15	3.47	
		<b>SECURITY CABIN TOILET</b>										



		<b>D4 - SINGLE LEAF FRP DOOR - 0.75 X 2.1M</b>	SQ.M	GF	1	1	0.75	1	2.10	1.58	1.73
					11						
		Additional 5% contingency									19.06
										<b>SAY.</b>	<b>20</b>
		<b>ALUMINIUM WORKS</b>									
97	R2-CS-AW-01	Providing and fixing in position two track aluminum window of extruded modular and anodized aluminum sections of approved make and of size 61.85 mm x 45.5 mm x 1.3mm thk (wt 1.055 kg/Rm) for bottom, 61.85 mm x 31.75 mm x 1.3 mm thk. (wt 0.659 kg/Rm) for top & sides, mounted on anodized aluminum rectangular frame of size 63mm x 38mm x 2.0mm(1.054). The shutter comprising of bearing bottom and top of size 40mm x 18 mm x 1.25 mm thk (wt. 0.417 Kg/Rm) Interlocking section of size 40mm x 26,7 mm x 1.10 mm thk. (Wt. 0469 kg./Rm) and hand sides of 40mm x 18mm x 1.25 mm thk (wt. 0.417kg/Rm) with 5 mm thick plain / frosted / tinted glass fixed in shutter including approved quality neoprene gasket, fixtures, fastenings and accessories like PVC rollers, PVC weep holes, locks, handles etc. complete as directed by Engineer In Charge. (Note: anodic film must not be less than 15 microns i.e. AC-15 as per IS, the anodizing must be									





		scaleted by keeping the anodized section in boiling de-anodized water for a period of one hour)									
		<b>ADMIN BUILDING</b>									
		<b>W2(1200 X 1200)</b>									
		STAIRCASE MIDLANDING	SQ.M		5	1	1.2	1	1.2	7.20	7.92
					5						
		<b>W3(900 X 1400)</b>									
		GROUND FLOOR ENTRANCE LOBBY	SQ.M	GF	2	1	0.9	1	1.4	2.52	2.772
		Additional 5% contengency								<b>SQ.M</b>	<b>10.69</b>
										<b>SAY</b>	<b>15.0</b>
98	R2-CS-AW-02	Providing and fixing in position three track aluminum window of extruded modular and anodized aluminum sections of approved make and of size 92 mm x 45.5 mm x 1.5 mm thk (wt 1.659 kg/Rm) for bottom and 92 mm x 31.75 mm x 1.3 mm thk. (wt 0.933 kg/Rm) for top and sides mounted on anodized aluminum rectangular frame of size 100mm x 40mm x 1.3mm.(Wt 0.976 kg/m) The shutter comprising of bearing bottom and top of size 40mm x 18 mm x 1.25 mm thk (wt. 0.417 Kg/Rm) Interlocking section of size 40mm x 26.7 mm x 1.10 mm thk. (Wt.	SQ.M								



		0.469 kg./Rm) and hand sides of 40mm x 18mm x 1.25 mm thk (wt. 0.417kg/Rm) with 5 mm thick plain / frosted / tinted glass fixed in shutter including approved quality neoprene gasket, fixtures, fastenings and accessories like PVC rollers, PVC weep holes, locks, handles etc. complete as directed by Engineer In Charge. (Note: anodic film must not be less than 15 microns i.e. AC-15 as per IS, the anodizing must be scaleted by keeping the anodized section in boiling de-anodized water for a period of one hour)									
		<b>ADMIN BUILDING-W1 (1800 X 2000)</b>									
		<b>W1 (1800 X 2000)</b>									
		GROUND FLOOR	SQ.M	GF	8	1	1.8	1	2	28.80	31.68
		FIRST FLOOR	SQ.M	1F	15	1	1.8	1	2	54.00	59.4
		<b>WORKSHOP BUILDING</b>									
		<b>W1 (1800 X 2000)</b>									
		GROUND FLOOR	SQ.M	GF	8	1	1.8	1	2	28.80	31.68
		FIRST FLOOR	SQ.M	1F	8	1	1.8	1	2	28.80	31.68
		STAIRCASE MIDLANDING	SQ.M	1F	2	1	1.8	1	2	7.20	7.92
		<b>SECURITY CABIN</b>									
		W1-(1800 X 2000)	SQ.M	GF	1	1	1.8	1	2	3.6	3.96
					42						
		Additional 5% contengency								<b>SQ.M</b>	<b>166.32</b>
										<b>SAY</b>	<b>170.0</b>
99	R2-CS-AW-04	Providing and fixing in position aluminum louvered window with anodised aluminum frame of approved make and of size 40mm x 20mm x 2.0mm (wt. 0.605	SQ.M								



		kg/Rm) including adjustable aluminum frame, 4 to 6mm thk. frosted glass, fixtures and fastenings etc. complete as directed by by Engineer In Charge.									
		<b>ADMIN BUILDING</b>									
		W4-(600 X 900)FOR ALL FLOOR TOILETS	SQ.M	GF	5	1	0.6	1	0.9	2.7	2.97
			SQ.M	1F	4	1	0.6	1	0.9	2.16	2.376
		<b>WORKSHOP BUILDING</b>									
		W4-(600 X 900)FOR ALL FLOOR TOILETS	SQ.M	GF	4	1	0.6	1	0.9	2.16	2.376
			SQ.M	1F	4	1	0.6	1	0.9	2.16	2.376
		<b>SECURITY CABIN</b>									
		W4-(600 X 900)FOR TOILETS	SQ.M	GF	1	1	0.6	1	0.9	0.54	0.594
					18						
		Additional 5% contengency								<b>SQ.M</b>	<b>10.69</b>
										<b>SAY</b>	<b>15.0</b>
100	R2-CS-AW-08	Providing and fixing in position fixed window made up of extruded and anodised aluminium sections of approved make and of size 50.80 mm x 25.40 mm x 2.41 mm thk (wt. 0.929kg./Rm) for outer rectangular tube, 40 mm x 31.5 mm x 1.5 mm (wt. 0.549 kg/Rm) for outer frame, 40 mm x 31.50 mm x 1.50 mm thk (wt. 0.502 kg/Rm) for central mullion, 16.50 mm x 14.50 mm x 1.20 mm thk (wt. 0.157 kg/Rm) for glazing clip with 5 mm thick including neoprene gasket, fixtures and fastenings etc. complete as directed by Engineer In Charge. (Note: anodic film must not be less than 15 microns i.e. AC-15 as per IS, the anodizing must be scaleted by keeping the anodized section in boiling de-									



		anodized water for a period of one hour)										
		<b>MACHINE ROOM</b>										
		<b>W5(600 X 3400)</b>										
		MACHINE ROOM	SQ.M	GF	4	1	3.4	1	0.6	8.16	8.976	
		Additional 5% contengency								<b>SQ.M</b>	<b>8.98</b>	
										<b>SAY</b>	<b>10.0</b>	
		Providing and fixing anodized (anodic film must not be less than 15 microns i.e. AC-15 as per IS, the anodising must be scaleted by keeping the anodized section in boiling deanodized water for a period of one hour) aluminum fixed/ sliding / pivoted / top hung / side hung / louvered type windows, doors, ventilators and partitions conforming to IS:1948, 1961 with hollow bottom section & standard single / two / three / four track frame section all round (top, bottom and sides) with shutter frame made up of standard handle section standard interlocking section and standard top and bottom section with infill panel of plain / frosted / tinted glass/ Novapan sheet / acrylic sheet / hardner laminated sheet as listed below with nylon guides, gliders glass fixing PVC weather strips, neoprene gasket, PVC weep holes etc complete with approved type of locking arrangement, handles and other										



		fixtures including fixing, filling the gaps with silicon sealant, cleaning polishing the aluminium section with petrol and / or other agents as specified by the manufacturers etc. complete as directed by Engineer In Charge.									
101	R2-CS-AW-15-f	8 mm thick plain / frosted / tinted glass	<b>Sqm</b>								
		W5- FIXED WINDOW (600 X 3400)	<b>Sqm</b>		4	1	3.4	1	0.6	8.16	8.976
										<b>8.16</b>	
		Additional 5% contingency								<b>SQ.M</b>	<b>8.98</b>
										<b>SAY</b>	<b>10.0</b>
102	R2-CS-AW-18	Designing, fabricating, testing, installing and fixing in position Curtain Wall with Aluminium Composite Panel Cladding, with open grooves for linear as well as curvilinear portions of the building , for all heights and all levels etc. including: a) Structural analysis & design and preparation of shop drawings for pressure equalisation or rain screen principle as required, proper drainage of water to make it watertight including checking of all the structural and functional design. b) Providing, fabricating and supplying and fixing panels of aluminium composite panel cladding in pan shape in metallic colour of approved shades made out of 4mm thick aluminium composite panel material consisting of 3mm thick FR grade mineral core sandwiched between two	<b>Sqm</b>								



		Aluminium sheets (each 0.5mm thick). The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500 based PVDF / Lumiflon based fluoropolymer resin coating of approved colour and shade on face # 1 and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc.									
		ADMIN BUILDING	Sqm		1	90	1	1	1	90	
		WORKSHOP BUILDING	Sqm		1	129	1	1	1	129	
		SECURITY CABIN	Sqm		1	1	15	1	3	45	
		ENTRANCE CANOPY PILLAR	Sqm		2	1	1.8	1	6	21.6	
		ENTRANCE CANOPY	Sqm		1	1	6	0.6	1	6	
										<b>291.60</b>	
										<b>SQ.M</b>	<b>320.76</b>
										<b>SAY</b>	<b>325.0</b>
		<b>HARDWARE WORKS</b>									
103	R2-CS-HW-01-a	MORTICE LOCK	NOS		23	1	1	1	1	23	25.3
										<b>SAY</b>	<b>30.0</b>
104	R2-CS-HW-04-b-3	BRASS HINGES	NOS		49	1	1	1	1	49	53.9
										<b>SAY</b>	<b>55.0</b>
105	R2-CS-HW-04-d-3	SS HINGES	NOS		22	1	1	1	1	22	24.2
										<b>SAY</b>	<b>25.0</b>
106	R2-CS-HW-06-b-1	BRASS ALDROP	NOS		26	1	1	1	1	26	28.6
										<b>SAY</b>	<b>30.0</b>



107	R2-CS-HW-08-d-3	TOWER BOLTS	NOS		34	1	1	1	1	34	37.4
										<b>SAY</b>	<b>40.0</b>
108	R2-CS-HW-09-d-2	SS 150MM LONG PULL HANDLE	NOS		11	1	1	1	1	11	12.1
										<b>SAY</b>	<b>15.0</b>
109	R2-CS-HW-09-d-5	300MM LONG PULL HANDLE	NOS		26	1	1	1	1	26	28.6
										<b>SAY</b>	<b>30.0</b>
110	R2-CS-HW-11-b	DOOR CLOSER	NOS		34	1	1	1	1	34	37.4
										<b>SAY</b>	<b>40.0</b>
111	R2-CS-HW-13	DOOR STOPPER	NOS		34	1	1	1	1	34	37.4
										<b>SAY</b>	<b>40.0</b>
		<b>SOIL INVESTIGATION</b>									
112	R2-BW-1-01	Providing and transporting necessary and adequate plant and equipment to site with in a lead of 50 km for taking trial bores for subsoil investigations including conducting an initial survey for establishing datum RLS and locations at trial bores including installation of the drilling equipment of the first bore location etc. complete as specified and directed.	<b>EACH</b>		2.0						2.0
										<b>SAY</b>	<b>2.0</b>
113	R2-BW-1-02	Shifting and locating the drilling equipment from one location to another within a lead of 500 m between	<b>EACH SHIFT</b>		2.0						2.0



		successive locations including surveying the spot for establishing bore hole location, fixing ground levels with reference to datum RLs and observing groundwater level during boring operation etc. complete as specified and directed.										
											<b>SAY</b>	<b>2.0</b>
114	R2- BW-1- 03-a	Taking trial bores upto 150 mm dia. for subsoil investigation through overburden and soil of all sorts including providing of temporary casing and cleaning the bottom of holes before conducting field tests or collecting samples at various depths etc. complete as specified and directed. a) Depth upto 6.0m below ground surface.	<b>RMT</b>		15.0							15.0
											<b>SAY</b>	<b>15.0</b>
115	R2- BW-1- 04-b	Taking trial bores for subsoil investigation through rock using rotary drilling equipment with NX size diamond core drilling bits to obtain approximately 54 mm dia. rock cores including provision of wooden boxes for storage of cores, indexing the core samples at site of work and conveying the same to the head quarters of concerned office etc. complete as specified and directed. b) Depth beyond 10.0 m upto 20.00 m below ground surface.	<b>RMT</b>		8.0							8.0
											<b>SAY</b>	<b>8.0</b>









		complete as specified and directed.									
										<b>SAY</b>	<b>6.0</b>

**MEASUREMENT SHEET FOR PLUMBING WORKS**

SR NO.	ITEM CODE	DESCRIPTION	UNIT	No's	A	L	W	H	QTY
		Supplying, laying, jointing & testing UPVC Drainage class pipes of Foamcore Astral(SN 8) or equivalent make in solvent cement joint including leveling with cutting the pipe to required length, roughining of pipe at wall joint including socket as directed:							
129	R2-CS-PS-208-a	150 mm pipe	Mtr.	1	1	150	1	1	150.00
								<b>TOTAL</b>	<b>150.00</b>
130	R2-CS-PS-208-b	200 mm pipe	Mtr.	1	1	100	1	1	100.00
								<b>TOTAL</b>	<b>100.00</b>
131	R2-CS-PS-208-c	250 mm pipe	Mtr.	1	1	30	1	1	30.00
								<b>TOTAL</b>	<b>30.00</b>
		Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :							
132	R2-CS-PS-163-a	100 mm diameter S.W. pipe	Mtr.	1	1	30	1	1	30.00
								<b>TOTAL</b>	<b>30.00</b>



133	R2-SE-8-1	Constructing brick masonry inspection chamber rectangular 0.9M x 0.45M and 0.6M deep on sewer with 230mm brick walls in cement mortar 1:3 plastered both inside & outside with 20 mm thick cement mortar 1:2 and neat cement rendering so as to give a smooth surface including 230mm cement concrete bedding (M 15) and cement concrete (M 15) in haunches and channels finished smooth with 20 mm thick cement mortar (1:1) and fixing C.I. extra heavy duty airtight rectangular frame & cover of size 0.9M x 0.45M weighing minimum 225Kg. resting on 300 mm high c.c. cap M 20 with (1:1) cement plaster on both the sides & necessary C.I. steps (weighing 5.4 kg each) staggered at 300mm c/c. including 75 mm wide vata all round the external portion of the chamber and the foundation concrete in C.M. 1:1 etc. complete as per plan in Dy.Ch.E.(SP)P&D's office (without excavation ).	NOS		25	1	1	1	1	25.00
									<b>TOTAL</b>	<b>25.00</b>
134	R2-SE-8-1-a	Extra over above for every additional metre depth upto 2.5 M - do- -do- etc. complete as specified and directed.	Mtr.		25	1	1	1	2	50.00
									<b>TOTAL</b>	<b>50.00</b>
		Providing and fixing square-mouth S.W. gully trap class SP-1 Complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of Cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design :	EACH							
135	R2-CS-PS-166-a-1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	EACH		8	1	1	1	1	8.00



									<b>TOTAL</b>	<b>8.00</b>
136	R2-SE-6-1	Constructing on sewer brick masonry conical manholes 1.2M dia. at bottom 0.56 M. dia. at top, built in brick masonry in cement mortar 1:3, plastered both inside and outside with 20 mm thick cement mortar 1:2 and neat cement rendering so as to give a smooth surface, including 300 mm thick M.15 cement concrete in foundation and in haunches and channels finished smooth with 20mm thick cement plaster in cement mortar 1:1 and providing C.I. steps (weighing 5.4 kg each) staggered at 300 mm. c/c including 75mm wide vata all round the external portion of the manhole and the foundation concrete in cement mortar 1:1 and supporting the incoming pipes with brick masonry wherever necessary including C.I. extra heavy duty (EHD) air-tight circular frame & cover (minimum 230 Kg.) with hinge/chain resting on 30 cm high cement concrete M.20 cap with necessary centering etc. all complete as per standard specifications and directions including finishing the cap with cement plaster on both sides 1:2 and neat cement rendering so as to give a smooth surface in line and level with the brick masonry surface and as per drawing in DyCh.E. (Sewerage)P&D's office without excavation depth upto 1.5 M.(Depth of Manhole measured from top of manhole cover to Invert level of manhole	EACH		5	1	1	1	1	5.00
									<b>TOTAL</b>	<b>5.00</b>
137	R2-SE-6-1-a	Extra over above per metre depth above 1.5 M. and upto 2.3 M. depth - do- -do -	Mtr.		10	1	1	1	1	10.00



									<b>TOTAL</b>	<b>10.00</b>
		Supplying & fixing 40 mm thick DI Rain water grating over storm water channel of heavy duty.								
138	R2-CS-PS-213-a	a) 600 x 300 MM(300wide)	NOS		1	1	450	1	1	450.00
									<b>TOTAL</b>	<b>450.00</b>
139	R2-CS-PS-213-b	b) 600 x 450 MM (450wide)	NOS		1	1	250	1	1	250.00
									<b>TOTAL</b>	<b>250.00</b>
140	R2-CS-PS-213-c	c) 600 x 600 MM (600wide)	NOS		1	1	50	1	1	50.00
									<b>TOTAL</b>	<b>50.00</b>
141	R2-WSP-4-39	Providing and fixing in position M.S. angles, tees, plates, rolled steel beams, joist and stachions, M.S. covers on valve chambers etc. including all labour and material, hoisting, fixing with bolts and nuts or by welding, painting will 3 coats of Synthetic Enamel paint etc. complete welding, painting with primer & 3 coats of Synthetic Enamel paint etc. complete.	TON		2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>2.00</b>
142	R2-CS-PS-214	Constructing brick masonry valve & meter/RWH chambers in 250mm thick brick masonry in cement mortar 1: 5 using first class bricks constructed over a bed of 150mm thick cement concrete 1:2:4 plastering inside outside and all exposed surface with 20mm thick cement mortar 1.3, finishing inside with a floating coat of neat cement providing & fixing CI frame & cover size, weight mentioned below painting all CI items with 3 coats of approved bitumastic paint etc. complete. Chamber 600 x 600mm clear inside with 600 x	NOS		20	1	1	1	1	20.00



		600 CI frame & cover weighting not less than 72kg. Depth of chamber not exceeding 1000mm								
									<b>TOTAL</b>	<b>20.00</b>
		Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand)								
143	R2-CS-PS-168-d	300 mm dia. R.C.C. pipe	Mtr.		1	1	200	1	1	200.00
									<b>TOTAL</b>	<b>200.00</b>
144	R2-CS-PS-168-e	450 mm dia. R.C.C. pipe	Mtr.		1	1	612	1	1	612.00
									<b>TOTAL</b>	<b>612.00</b>
145	R2-CS-PS-168-g	600 mm dia. R.C.C. pipe	Mtr.		1	1	70	1	1	70.00
									<b>TOTAL</b>	<b>70.00</b>
		<b>RAIN WATER</b>								
		Supplying & Fixing 3 mm thick lead flashing in single piece of lead sheet all around the rain water outlet mouth on a layer of cold bitmen including heavy duty 5 mm thick C.I. grating,								
146	R2-CS-PS-215-a	a) 150 x 150 (6" x 6") square or dia outlet for 100 mm (4") pipe.	No.		30	1	1	1	1	30.00
									<b>TOTAL</b>	<b>30.00</b>
		Supplying, lowering, laying and jointing in trenches C.I. Class 'LA', S/S pipes conforming to IS:1536 with CI / MS specials of following diameter including chamfering cut edges of pipes for specials and fixing with Styrene Butadiene Rubber (SBR) gaskets conforming to IS:5382 & IS:12820 in proper position, grade and alignment etc complete in all respect and as directed by Engineer in Charge including conveyance of material								



		from any municipal stores in Greater Mumbai to site of work, including cost of jointing materials and rubber rings labour, giving hydraulic testing upto 6 kg/sqm pressure etc complete as directed by Engineer in Charge								
147	R2-HE-1-3-d	250 mm dia pipe	Mtr.		1	1	100	1	1	100.00
									<b>TOTAL</b>	<b>100.00</b>
148	R2-HE-1-3-e	300 mm dia pipe	Mtr.		1	1	100	1	1	100.00
									<b>TOTAL</b>	<b>100.00</b>
		Providing and fixing UV resistant selffit UPVC pipes of approved make for Rainwater downtakes confirming to IS 13592:1992 Type A suitable for 4kg/sqcm pressure for following pipe diameters including rain water receiving recess with pvc plug bend necessary fittings such as offsets shoes, fixing the pipes on wall with clips filling the joints with solvent/cement and necessary scaffolding etc. complete as directed by Engineer In Charge.(Make to be use Supreme / Astral / Aquafit)								
149	R2-CS-RW-16-a	75 mm dia	Mtr.		1	1	45	1	1	45.00
									<b>TOTAL</b>	<b>45.00</b>
150	R2-CS-RW-16-c	150 mm dia	Mtr.		1	1	90	1	1	90.00
									<b>TOTAL</b>	<b>90.00</b>
151	R2-CS-RW-16-d	200 mm dia	Mtr.		1	1	30	1	1	30.00
		<b>SOIL,WASTE &amp; VENT (VRTICAL+INTERNAL)</b>							<b>TOTAL</b>	<b>30.00</b>





152	R2-CS-PS-191	Providing and fixing in position uPVC/SWR (Soil/Waste/Rain) pipe of type-B <b>75 mm dia.</b> in any position including all fittings and accessories, making joints / connections water tight with solvent cement, scaffolding if necessary and making good the damages if any (excluding excavation and refilling the trenches) etc. complete as specified and directed. (All fittings and accessories like clamps, etc. should be of same brand. No separate payment shall be made for fittings and accessories).	Mtr.							
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	50	1	1	50.00
		ALL INTERNAL TOILET	Mtr.	1st F	1	1	50	1	1	50.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	50	1	1	50.00
		ALL INTERNAL TOILET	Mtr.	1st F	1	1	50	1	1	50.00
									<b>TOTAL</b>	<b>200.00</b>
153	R2-CS-PS-192	Providing and fixing in position uPVC/SWR (Soil/Waste/Rain) pipe of type-B <b>110 mm dia.</b> in any position including all fittings and accessories, making joints / connections water tight with solvent cement, scaffolding if necessary and making good the damages if any (excluding excavation and refilling the trenches) etc. complete as specified and directed.(All fittings and accessories like clamps,etc. should be of same brand. No separate payment shall be made for fittings and accessories	Mtr.							
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	40	1	1	40.00
		ALL INTERNAL TOILET	Mtr.	1st F	1	1	40	1	1	40.00



				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	35	1	1	35.00
		ALL INTERNAL TOILET	Mtr.	1st F	1	1	35	1	1	35.00
									<b>TOTAL</b>	<b>150.00</b>
154	R2-CS-PS-202	<b>Type-B 160</b> mm dia. in any position including all fittings and accessories, making joints / connections water tight with solvent cement, scaffolding if necessary and making good the damages if any (excluding excavation and refilling the trenches) etc. complete as specified and directed.(All fittings and accessories like clamps,etc. should be of same brand. No separate payment shall be made for fittings and accessories).	Mtr.							
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	30	1	1	30.00
		ALL INTERNAL TOILET	Mtr.	1st F	1	1	20	1	1	20.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	20	1	1	20.00
		ALL INTERNAL TOILET	Mtr.	1st F	1	1	20	1	1	20.00
									<b>TOTAL</b>	<b>90.00</b>
		Supplying & Fixing screwed <b>cast brass cleanout plug</b> with suitable inset keys & opening, male threaded joint with EPDM rubber gasket jointng as pe DIN- 19543, ASTM C 1277-4.								
155	R2-CS-PS-218-a	a) 80 mm (3") dia	EACH		20	1	1	1	1	20.00
									<b>TOTAL</b>	<b>20.00</b>
156	R2-CS-PS-218-b	b) 100 mm (4") dia.	EACH		20	1	1	1	1	20.00
									<b>TOTAL</b>	<b>20.00</b>
157	R2-CS-PS-218-c	C) 150 mm (6") dia.	EACH		16	1	1	1	1	16.00



									<b>TOTAL</b>	<b>16.00</b>
158	R2-CS-PS-218-d	d) 200 mm (8") dia.	EACH		12	1	1	1	1	12.00
									<b>TOTAL</b>	<b>12.00</b>
159	R2-CS-RM-105	Drilling with <b>core cutting</b> machine in RCC slabs, walls etc. wherever required in buildings, manholes, ducts, water tanks, pits etc. for laying pipes, sleeves and making good the same to give an even finish. The rate shall include the cost of drilling core, providing EPOXY based water proofing compound for sealing the joints around the pipes, nominal reinforcement wherever required, scaffolding and labour charges for working at all levels, leads and heights. (Maximum thickness of RCC members shall be 300mm) and as directed by Engineer-In-Charge. g) Above 150 mm to 200mm dia	EACH		10	1	1	1	1	10.00
									<b>TOTAL</b>	<b>10.00</b>
160	R2-CS-PS-219	Providig & Supplying & Fixing <b>100 mm dia. CI 'P' trap</b> Suspended type floor Drain of standard design. with EPDM rubber gasket jointng as pe DIN- 19543, ASTM C 1277-4.	EA		4	1	1	1	1	4.00
									<b>TOTAL</b>	<b>4.00</b>
		Supplying & Fixing <b>Agricultural PVC 10 kg class pipe</b> as IS 4985-2000 of Approved make with P.V.C. fittings including Chasing of Brick wall & making good the same with 1:3 cement sand plaster using Chiken wire mesh etc. complete	MTR							
161	R2-CS-PS-220-a	a) 50 mm (1 1/2") dia.	MTR		1	1	120	1	1	120.00
									<b>TOTAL</b>	<b>120.00</b>
162	R2-CS-PS-220-	b) 40 mm (1 1/4") dia.	MTR		1	1	140	1	1	140.00



	b									
									<b>TOTAL</b>	<b>140.00</b>
163	R2-CS-PS-221	Providing and fixing <b>cast iron Pan connectors</b> with or without vent holes straight/ bend including providing & jointing with drip seal joints.	NOS		10	1	1	1	1	10.00
									<b>TOTAL</b>	<b>10.00</b>
164	R2-CS-PS-222	75 mm <b>C.I nahani trap</b> with grating with 75 mm C.I. bend with cleaning caps fixed complete	NOS		25	1	1	1	1	25.00
									<b>TOTAL</b>	<b>25.00</b>
		Providing and fixing <b>Chlorinated Polyvinyl Chloride (CPVC) pipes</b> , multi-layer having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the alls etc.	Mtr.							
165	R2-CS-PS-86-a	15 mm nominal outer dia Pipes								
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	25	1	1	25.00
		ALL INTERNAL TOILET	Mtr.	1st F	1	1	20	1	1	20.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	20	1	1	20.00
		ALL INTERNAL TOILET	Mtr.	1st F	1	1	15	1	1	15.00
									<b>TOTAL</b>	<b>80.00</b>
166	R2-CS-PS-86-b	20 mm nominal outer dia Pipes	Mtr.							
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	20	1	1	20.00



		ALL INTERNAL TOILET	Mtr.	1st F	1	1	20	1	1	20.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	20	1	1	20.00
		ALL INTERNAL TOILET	Mtr.	1st F	1	1	15	1	1	15.00
									<b>TOTAL</b>	<b>75.00</b>
167	R2-CS-PS-86-c	25 mm nominal outer dia Pipes								
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	14	1	1	14.00
		ALL INTERNAL TOILET	Mtr.	1st F	1	1	12	1	1	12.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	20	1	1	20.00
		ALL INTERNAL TOILET	Mtr.	1st F	1	1	10	1	1	10.00
									<b>TOTAL</b>	<b>56.00</b>
168	R2-CS-PS-86-d	32 mm nominal outer dia Pipes								
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	18	1	1	18.00
		ALL INTERNAL TOILET	Mtr.	1st F	1	1	12	1	1	12.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	Mtr.	GF	1	1	20	1	1	20.00
		ALL INTERNAL TOILET	Mtr.	1st F	1	1	10	1	1	10.00
									<b>TOTAL</b>	<b>60.00</b>
		<b>Internal work - Exposed on wall in Shaft Piping</b>								
169	R2-CS-PS-85-a	15 mm nominal outer dia Pipes	Mtr.		1	1	30	1	1	30.00
									<b>TOTAL</b>	<b>30.00</b>
170	R2-CS-PS-85-b	20 mm nominal outer dia Pipes	Mtr.		1	1	25	1	1	25.00
									<b>TOTAL</b>	<b>25.00</b>
171	R2-CS-PS-85-c	25 mm nominal outer dia Pipes	Mtr.		1	1	45	1	1	45.00
									<b>TOTAL</b>	<b>45.00</b>
172	R2-CS-PS-85-d	32 mm nominal outer dia Pipes	Mtr.		1	1	50	1	1	50.00
									<b>TOTAL</b>	<b>50.00</b>
173	R2-CS-PS-85-e	40 mm nominal outer dia Pipes	Mtr.		1	1	60	1	1	60.00



									<b>TOTAL</b>	<b>60.00</b>
174	R2-CS-PS-85-f	50 mm nominal outer dia Pipes (Shaft+O.H. Tank Feed Line+Looping)	Mtr.		1	1	150	1	1	150.00
									<b>TOTAL</b>	<b>150.00</b>
		Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge. <b>External work Loops &amp; Header</b>	Mtr.							
175	R2-CS-PS-87-g	62.50 mm nominal inner dia Pipes	Mtr.		1	1	230	1	1	230.00
									<b>TOTAL</b>	<b>230.00</b>
176	R2-CS-PS-87-h	75 mm nominal inner dia Pipes	Mtr.		1	1	110	1	1	110.00
									<b>TOTAL</b>	<b>110.00</b>
177	R2-CS-PS-87-i	100 mm nominal inner dia Pipes	Mtr.		1	1	40	1	1	40.00
									<b>TOTAL</b>	<b>40.00</b>
		Providing and applying first single coat of approved primer and two coats of synthetic enamel paint/flat oil paint of an approved make and colour as per manufacturers specifications to the CPVC. pipes of electric, gas or roof rain water down takes and fittings etc. as specified below, at all height and locations as directed including scaffolding, scraping, cleaning old paint and preparing surfaces for painting by any approved means etc. complete as directed by Engineer-in-charge (use color of Domestic pipe sky blue & Flushing pipe green)	Mtr.							
178	R2-CS-PN-18-A	For pipe upto 25mm dia.	Mtr.		1	1	56	1	1	56.00



									<b>TOTAL</b>	<b>56.00</b>
179	R2-CS- PN-18-B	For pipe upto 50mm dia.	Mtr.		1	1	25	1	1	25.00
									<b>TOTAL</b>	<b>25.00</b>
180	R2-CS- PN-18-C	For pipe more than 50mm dia. and upto 75mm	Mtr.		1	1	35	1	1	35.00
									<b>TOTAL</b>	<b>35.00</b>
181	R2-CS- PN-18-D	For pipe more than 75mm dia. and upto 100mm	Mtr.		1	1	40	1	1	40.00
									<b>TOTAL</b>	<b>40.00</b>
		Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. <b>External work MUNICIPAL WATER SUPPLY</b>	Mtr.							
182	R2-CS- PS-90-g	65 mm dia nominal bore	Mtr.		1	1	70	1	1	70.00
									<b>TOTAL</b>	<b>70.00</b>
183	R2-CS- PS-90-h	80 mm dia nominal bore	Mtr.		1	1	80	1	1	80.00
									<b>TOTAL</b>	<b>80.00</b>
		Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :								
184	R2-CS- PS-95-a	25 mm nominal bore	EACH		1	1	1	1	1	1.00
									<b>TOTAL</b>	<b>1.00</b>
185	R2-CS- PS-95-c	40 mm nominal bore	EACH		2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>2.00</b>
186	R2-CS- PS-95-d	50 mm nominal bore	EACH		2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>2.00</b>
187	R2-CS- PS-95-e	65 mm nominal bore	EACH		4	1	1	1	1	4.00
									<b>TOTAL</b>	<b>4.00</b>
		Providing, fixing and testing heavy quality gun metal ball valve with screwed ends 20kgm class on GI or copper pipe lines (Leader/ ZOLOTO make)								
188	R2-CS- PS-225- a	15 mm (1/2") dia.	NOS		2	1	1	1	1	2.00



									<b>TOTAL</b>	<b>2.00</b>
189	R2-CS-PS-225-b	20 mm (3/4") dia.	NOS		4	1	1	1	1	4.00
									<b>TOTAL</b>	<b>4.00</b>
190	R2-CS-PS-225-c	25 mm (1") dia.	NOS		8	1	1	1	1	8.00
									<b>TOTAL</b>	<b>8.00</b>
191	R2-CS-PS-225-d	32 mm (1 1/4") dia.	NOS		8	1	1	1	1	8.00
									<b>TOTAL</b>	<b>8.00</b>
192	R2-CS-PS-225-e	40 mm (1 1/2") dia.	NOS		4	1	1	1	1	4.00
									<b>TOTAL</b>	<b>4.00</b>
193	R2-CS-PS-225-f	50 mm (2") dia.	NOS		8	1	1	1	1	8.00
									<b>TOTAL</b>	<b>8.00</b>
		Providing and fixing gun metal ISI mark non-return valve Screwed End vertical type of following diameters etc complete in all respect etc. complete in all respect as directed by Engineer in Charge								
		(Note: Pressure should be 10 KG/Sq.Cm)	EACH							
194	R2-HE-7-19-F	50 mm nominal bore	EACH		2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>2.00</b>
195	R2-HE-7-19-G	65 mm nominal bore	EACH		2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>2.00</b>
196	R2-HE-7-19-H	80 mm nominal bore	EACH		4	1	1	1	1	4.00
									<b>TOTAL</b>	<b>4.00</b>
197	R2-CS-PS-282	Providing and fixing single acting air release valve with Screwed inlet 25mm dia	NOS		6	1	1	1	1	6.00
									<b>TOTAL</b>	<b>6.00</b>
		Supplying & fixing 600 mm (24") to 750 mm (2'-6") long screwed G.I. C class pipe with 3 mm thick								





		M.S. bar flange (plate) welded on it: Flanges should be of Table E of approved make. (Puddle Flange)								
198	R2-CS-PS-226-a	a) 65 mm(2 1/2")dia pipe 5 mm thick with 150X 150(6" X 6") plate, Both ends Flanged of	NOS		16	1	1	1	1	16.00
									<b>TOTAL</b>	<b>16.00</b>
199	R2-CS-PS-226-b	b) 80 mm(3")dia pipe 5 mm thick with 200 X 200 (8" X 8") plate, Both ends Flanged of	NOS		10	1	1	1	1	10.00
									<b>TOTAL</b>	<b>10.00</b>
200	R2-CS-PS-226-c	c) 100 mm (4")dia pipe 5 mm thick with 250 X 250 (10" X 10") plate, Both ends Flanged	NOS		14	1	1	1	1	14.00
									<b>TOTAL</b>	<b>14.00</b>
201	R2-CS-PS-226-d	d) 150 mm(6")dia pipe 7 mm thick with 300 X 300 (12" X 12") plate, Both ends Flanged	NOS		4	1	1	1	1	4.00
									<b>TOTAL</b>	<b>4.00</b>
202	R2-CS-PS-226-e	e) 200 mm (8") dia pipe 7 mm thick with 350 X 350 (14" X 14") plate, Both ends Flanged	NOS		2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>2.00</b>
		Providing and fixing brass screwed/flanged type mosquito proof grating for under ground suction tank/Over Head tank, over flow and vent of the following diameters. 50mm dia								
203	R2-CS-PS-227-a	a) 50 mm (2") dia.	NOS		12	1	1	1	1	12.00
									<b>TOTAL</b>	<b>12.00</b>
204	R2-CS-PS-228	Providing & fixing C.I. Manhole covers with frames / rings for R.C.C., underground water storage tanks/Over Head tank, sizes of covers. (600mm dia.) NOTE:-should be provided with locking arrangement	NOS		12	1	1	1	1	12.00
									<b>TOTAL</b>	<b>12.00</b>
205	R2-CS-PS-229	<b>CI NRV</b> -Supporting and installing cast iron dual plate wafer type PN 16 doubleflanged type non-return valve including nuts bolts 1.6	NOS		2	1	1	1	1	2.00



		mm thick compressed asbestos gasket including matching flanges complete. 100 mm dia									
										<b>TOTAL</b>	<b>2.00</b>
206	R2-CS-PS-230	<b>CI NRV</b> -Supporting and installing cast iron dual plate wafer type PN 16 double flanged type non-return valve including nuts bolts 1.6 mm thick compressed asbestos gasket including matching flanges complete. 65 mm dia	NOS		8	1	1	1	1	1	8.00
										<b>TOTAL</b>	<b>8.00</b>
		Providing and fixing enclosed type water meter (bulk type) conforming to IS : 2373 and tested by Municipal Board complete with bolts, nuts, rubber insertions etc. (The tail pieces if required will be paid separately) :	EACH								
207	R2-CS-PS-138-a	80 mm dia nominal bore	EACH		1	1	1	1	1	1	1.00
										<b>TOTAL</b>	<b>1.00</b>
		Providing and fixing C.I. dirt box strainer for bulk type water meter with nuts, bolts, rubber insertions etc. complete conforming to IS : 2373 :	EACH								
208	R2-CS-PS-139-a	80 mm dia	EACH		1	1	1	1	1	1	1.00
										<b>TOTAL</b>	<b>1.00</b>
209	R2-CS-PS-231	Providing & fixing of <b>CI wafer type butterfly valve</b> (suitable for test pressure of 15 kg / sqm) with flanges, nut bolts, gaskets and necessary pad locking arrangement complete required. - 200 mm dia	NOS		1	1	1	1	1	1	1.00
										<b>TOTAL</b>	<b>1.00</b>
210	R2-CS-PS-232	Supplying, Installing, testing and commissioning <b>CI butterfly valves</b> (PN 16) slim seal standard lever operated type conforming to IS 13039 with required flanges, nuts,	NOS		1	1	1	1	1	1	1.00



		bolts etc. complete.- 150 mm dia.									
										<b>TOTAL</b>	<b>1.00</b>
211	R2-CS-PS-233	Supplying and installing <b>cast iron Butterfly valves PN 16</b> completewith both sides including flanges on receiving pipes with nuts, bolts,1.5mm thick compressed asbestos gasket insertion as required.100 mm dia.	NOS		1	1	1	1	1	1	1.00
										<b>TOTAL</b>	<b>1.00</b>
212	R2-CS-PS-234	Supplying and installing <b>cast iron Butterfly valves PN 16</b> completewith both sides including flanges on receiving pipes with nuts, bolts,1.5mm thick compressed asbestos gasket insertion as required.80 mm dia.	NOS		1	1	1	1	1	1	1.00
										<b>TOTAL</b>	<b>1.00</b>
213	R2-CS-PS-235	Supplying and installing cast iron Butterfly valves PN 16 completewith both sides including flanges on receiving pipes with nuts, bolts,1.5mm thick compressed asbestos gasket insertion as required.65 mm dia.	NOS		8	1	1	1	1	1	8.00
										<b>TOTAL</b>	<b>8.00</b>
214	R2-CS-PS-239-b	Supplying & Fixing & Testing Pressure reducing Valve of Diaphragm type & inbuilt SS strainer type with necessary connectors. b) 65 mm (2 1/2") dia.	NOS		2	1	1	1	1	1	2.00
										<b>TOTAL</b>	<b>2.00</b>
215	R2-CS-PS-239-c	Supplying & Fixing & Testing Pressure reducing Valve of Diaphragm type & inbuilt SS strainer type with necessary connectors. c) 50 mm (2") dia.	NOS		2	1	1	1	1	1	2.00
										<b>TOTAL</b>	<b>2.00</b>
216	R2-CS-PS-241	e) PROVIDING & FIXING 32MM PRESSURE REDUCING VALVE ON DOWN TAKE WATER SUPPLY (Diaphragm type with inbuilt ss strainer)	NOS		4	1	1	1	1	1	4.00



		<b>SANITARY FIXTURES &amp; FITTINGS</b>							<b>TOTAL</b>	<b>4.00</b>
217	R2-CS-PS-2-a	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required : <b>W.C. pan with ISI marked white solid plastic seat and lid</b>								
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	EACH	GF	4	1	1	1	1	4.00
		ALL INTERNAL TOILET	EACH	1st F	3	1	1	1	1	3.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	EACH	GF	2	1	1	1	1	2.00
		ALL INTERNAL TOILET	EACH	1st F	2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>11.00</b>
218	R2-CS-PS-245	Providing and fixing in position Hindware make Indian style WC pan including making inlet/outlet connections and consists of the following i) White colour Orissa pan 580 x 440 mm size open rim of approved make, ii) Porcelain P or S trap with vent pipe, iii) 100 dia C.I. connector pipe from P or S trap to the junction of soil stack on external face of building.etc. complete.(White color Orissa WC Model No. 20004). OR consider equivalent make.	NOS		4					4.00
									<b>TOTAL</b>	<b>4.00</b>



219	R2-CS-PS-78	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water ( 250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge	EACH							
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	EACH	GF	3	1	1	1	1	3.00
		ALL INTERNAL TOILET	EACH	1st F	3	1	1	1	1	3.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	EACH	GF	2	1	1	1	1	2.00
		ALL INTERNAL TOILET	EACH	1st F	2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>10.00</b>
		Providing & fixing chrome plated brass battery based infrared sensor operated <b>pillar cock</b> , having foam flow technology	NOS							
220	R2-CS-PS-162-a	15 mm nominal bore								
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	6	1	1	1	1	6.00
		ALL INTERNAL TOILET	NOS	1st F	5	1	1	1	1	5.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	2	1	1	1	1	2.00
		ALL INTERNAL TOILET	NOS	1st F	2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>15.00</b>
221	R2-CS-PS-248	White Vitreous China of 'Hindustan & Parryware' make or equivalent <b>under counter type Oval wash basin</b> of size 550 x 480mm with CI brackets suitable for mounting below granite counter including waste fitting with CP brass bottle trap, angle	NOS							



		valve with CP connection etc as specified. Oval Wash Basin Model No.10051 OR consider equivalent make.)								
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	6	1	1	1	1	6.00
		ALL INTERNAL TOILET	NOS	1st F	5	1	1	1	1	5.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	2	1	1	1	1	2.00
		ALL INTERNAL TOILET	NOS	1st F	2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>15.00</b>
222	R2-CS-PS-252	Providing and fixing <b>stainless steel sink 600 mm x 450 mm and 200mm deep</b> including 32mm dia. galvanised iron waste pipe, 32mm dia. C.P.brass waste coupling, one C.P. brass screw down tap, caste ironbrackets, rubber plugs with chain etc. complete.	NOS							
				<b>ADMIN BUILDING</b>						
		KITCHEN AREA	NOS	GF	1	1	1	1	1	1.00
									<b>TOTAL</b>	<b>1.00</b>
223	R2-CS-PS-254	Providing and fixing JAQUAR MAKE,HOTELIER series Model No. 1551 <b>Toilet Paper Holder</b> Recessed type (S.Steel) including cutting and making goodthe wall wherever required etc complete.	NOS							
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	4	1	1	1	1	4.00
		ALL INTERNAL TOILET	NOS	1st F	3	1	1	1	1	3.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	2	1	1	1	1	2.00
		ALL INTERNAL TOILET	NOS	1st F	2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>11.00</b>
224	R2-CS-PS-257	Providing and fixing GLITTERS MAKE, SLOPE series <b>Robe hook</b>	NOS							



		etc complete								
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	10	1	1	1	1	10.00
		ALL INTERNAL TOILET	NOS	1st F	5	1	1	1	1	5.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	10	1	1	1	1	10.00
		ALL INTERNAL TOILET	NOS	1st F	5	1	1	1	1	5.00
									<b>TOTAL</b>	<b>30.00</b>
225	R2-CS-PS-258	Providing and fixing GLITTERS MAKE, SLOPE sereis Towel Rack etccomplete	NOS							
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	4	1	1	1	1	4.00
		ALL INTERNAL TOILET	NOS	1st F	2	1	1	1	1	2.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	2	1	1	1	1	2.00
		ALL INTERNAL TOILET	NOS	1st F	2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>10.00</b>
226	R2-CS-PS-259	Supplying & Fixing 100 mm diameter <b>Nahani jali</b> in Steel finsh with necessary fixing required to make the item well functional.	NOS							
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	9	1	1	1	1	9.00
		ALL INTERNAL TOILET	NOS	1st F	6	1	1	1	1	6.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	5	1	1	1	1	5.00
		ALL INTERNAL TOILET	NOS	1st F	5	1	1	1	1	5.00
									<b>TOTAL</b>	<b>25.00</b>
227	R2-CS-PS-260	Providing & fixing in position 'Jacquar Continental' make CP <b>Jet Spray</b> with flexible CP supply pipe, and all other accessories, complete								
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	4	1	1	1	1	4.00
		ALL INTERNAL TOILET	NOS	1st F	3	1	1	1	1	3.00



				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	2	1	1	1	1	2.00
		ALL INTERNAL TOILET	NOS	1st F	2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>11.00</b>
228	R2-CS-PS-261	Providing and fixing ISI marked make CP brass <b>liquid soap dispensers</b> with CP brass bracket capacity 250 ml.	NOS							
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET & KITCHEN	NOS	GF	2	1	1	1	1	2.00
		ALL INTERNAL TOILET	NOS	1st F	1	1	1	1	1	1.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	1	1	1	1	1	1.00
		ALL INTERNAL TOILET	NOS	1st F	1	1	1	1	1	1.00
									<b>TOTAL</b>	<b>5.00</b>
229	R2-CS-PS-262	Providing & fixing chromium plated 32mm Jaguar make Series allied modelno. ALD-769 B <b>Bottle trap</b> (with internal partition) for Wash Basinsincluding Waste Coupling fixed in required position with 250mm long wall connection pipes and wall flange with all necessaryfittings and fixtures, etc. complete and as directed by The Engineer incharge.	NOS							
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	9	1	1	1	1	9.00
		ALL INTERNAL TOILET	NOS	1st F	8	1	1	1	1	8.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	4	1	1	1	1	4.00
		ALL INTERNAL TOILET	NOS	1st F	4	1	1	1	1	4.00
									<b>TOTAL</b>	<b>25.00</b>
230	R2-CS-PS-263	<b>WASTE COUPLING</b> :JAQUAR : NO. 705 (FULL THREAD)								
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET & KITCHEN AREA	EACH	GF	7	1	1	1	1	7.00





		ALL INTERNAL TOILET	EACH	1st F	5	1	1	1	1	5.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	EACH	GF	2	1	1	1	1	2.00
		ALL INTERNAL TOILET	EACH	1st F	2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>16.00</b>
231	R2-CS-PS-264	Providing & fixing <b>2-way Bib cock</b> JAQUAR MAKE, ORNAMIX Model No. 10041etc. Complete.	NOS							
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	4	1	1	1	1	4.00
		ALL INTERNAL TOILET	NOS	1st F	3	1	1	1	1	3.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	2	1	1	1	1	2.00
		ALL INTERNAL TOILET	NOS	1st F	2	1	1	1	1	2.00
									<b>TOTAL</b>	<b>11.00</b>
232	R2-CS-PS-265	Providing and fixing brass <b>CP angle cock</b> for mini geyser of Metro,Seiko or other equivalent approved make.								
				<b>ADMIN BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	15	1	1	1	1	15.00
		ALL INTERNAL TOILET	NOS	1st F	10	1	1	1	1	10.00
				<b>WORKSHOP BUILDING</b>						
		ALL INTERNAL TOILET	NOS	GF	10	1	1	1	1	10.00
		ALL INTERNAL TOILET	NOS	1st F	10	1	1	1	1	10.00
									<b>TOTAL</b>	<b>45.00</b>

**MEASUREMENT SHEET FOR FURNITURE WORK**

SR NO	ITEM CODE	DESCRIPTION	UNIT	LEVEL	No's	A	L	W	H	ADDT. QTY	QUANTITY
							c	d	e	f=abcde	
233	R2-CS-RM-	<b>HIGH BACK CHAIR</b>									



	119											
		MEETING ROOM	EACH	1F	6	1	1	1	1	6.00		
		S.E	EACH	1F	1	1	1	1	1	1.00		
		<b>TOTAL</b>								7.00		
										<b>say</b>	<b>7.00</b>	
234	R2-CS- RM- 120	<b>MID BACK CHAIR</b>										
		MEETING ROOM	EACH	1F	25	1	1	1	1	25.00		
		S.E	EACH	1F	1	1	1	1	1	1.00		
		<b>TOTAL</b>								26.00		
										<b>say</b>	<b>26.00</b>	
235	R2-CS- RM- 121	<b>LOW BACK CHAIR</b>										
		J.E	EACH	1F	4	1	1	1	1	4.00		
		WORKSHOP BUILDING	EACH	GF	30	1	1	1	1	30.00		
		WORKSHOP BUILDING	EACH	1F	30	1	1	1	1	30.00		
		<b>TOTAL</b>								64.00		
										<b>say</b>	<b>64.00</b>	
236	R2-CS- RM- 122	<b>VISITORS CHAIR</b>										
		STAFF AREA	EACH	1F	30	1	1	1	1	30.00		
		<b>TOTAL</b>								30.00		
										<b>say</b>	<b>30.00</b>	
237	FA-MA- 17-005	<b>CANTEEN CHAIRS</b>										
		CANTEEN CHAIRS	NOS.	GF	16	1	1	1	1	16.00		
		<b>TOTAL</b>								16.00		
										<b>say</b>	<b>16.00</b>	
238	FA-MA- 17-013	<b>CAFETERIA TABLES</b>										
		CAFETERIA TABLES	NOS.	GF	5	1	1	1	1	5.00		
		<b>TOTAL</b>								5.00		
										<b>say</b>	<b>5.00</b>	
239	FA-MA- 2018- 05	<b>STAFF OFFICE TABLE -ST.5-1500 x 600 x 750</b>										
		J.E	NOS.	1F	4	1	1	1	1	4.00		
		WORKSHOP BUILDING	NOS.	GF	12	1	1	1	1	12.00		
		WORKSHOP BUILDING	NOS.	1F	12	1	1	1	1	12.00		



		<b>TOTAL</b>								28.00	
										<b>say</b>	<b>28.00</b>
240	FA-MA-2018-20	<b>EXECUTIVE OFFICE TABLE- ET.1-1800 X 750 X 750</b>									
		S.E	NOS.	1F	2	1	1	1	1	2.00	
		<b>TOTAL</b>								2.00	
										<b>say</b>	<b>2.00</b>
241	FA-MA-2018-68	<b>DISCUSSION TABLE-DT.3 1800 x 1200 x 750</b>									
		MEETING ROOM	NOS.	1F	2	1	1	1	1	2.00	
		<b>TOTAL</b>								2.00	
										<b>say</b>	<b>2.00</b>
242	FA-MA-2018-73	<b>CENTRE TABLE 900 x 600 x 450</b>									
		WAITING AREA	NOS.	1F	2	1	1	1	1	2.00	
		<b>TOTAL</b>								2.00	
										<b>say</b>	<b>2.00</b>
243	FA-MA-2018-76	<b>CORNER TABLE 450 X 450 X 450</b>									
		WAITING AREA	NOS.	1F	3	1	1	1	1	3.00	
		<b>TOTAL</b>								3.00	
										<b>say</b>	<b>3.00</b>
244	FA-MA-2018-80	<b>SIDE / BACK CREDENZA (750mm)</b>									
		J.E (SBC.1 900 x 500 x 750 )	NOS.	1F	12	1	1	1	1	12.00	
		<b>TOTAL</b>								12.00	
										<b>say</b>	<b>12.00</b>
245	FA-MA-2018-81	<b>SIDE / BACK CREDENZA (750mm)</b>									
		S.E (SBC.2 1200 x 500 x 750 )	NOS.	1F	4	1	1	1	1	4.00	
		<b>TOTAL</b>								4.00	
										<b>say</b>	<b>4.00</b>
246	FA-MA-2018-86	<b>PEDESTAL DRAWER UNIT</b>									
		J.E(SBC.6 560 x 450 x 650)	NOS.	1F	12	1	1	1	1	12.00	
		<b>TOTAL</b>								12.00	



											<b>say</b>	<b>12.00</b>
247	FA-MA-2018-87	<b>MODULAR STORAGE CUPBOARDS</b>										
		CB1. 900 x 450 x 1200 - 2 SHELVES	NOS.	1F	7	1	1	1	1	7.00		
		<b>TOTAL</b>								7.00		
										<b>say</b>	<b>7.00</b>	
248	FA-MA-2018-92	<b>MODULAR STORAGE CUPBOARDS</b>										
		CB6. 900 x 450 x 1950 - 4 SHELVES (ADMIN BUILDING)	NOS.	1F	13	1	1	1	1	13.00		
		CB6. 900 x 450 x 1950 - 4 SHELVES (WORKSHOP BUILDING)	NOS.	1F	30	1	1	1	1	30.00		
		<b>TOTAL</b>								43.00		
										<b>say</b>	<b>43.00</b>	
249	FA-MA-2018-97	DOULE SEATER SOFA										
		WAITING AREA	NOS.	1F	5	1	1	1	1	5.00		
		<b>TOTAL</b>								5.00		
										<b>say</b>	<b>5.00</b>	
250	FA-MA-2018-102	ROLLER BLINDS-MICRO AERATED										
		ADMIN BUILDING	SQ.M									
		GROUND FLOOR		GF	10	1	2	1	2.1	42.00		
		FIRST FLOOR		FF	14	1	1.8	1	2.1	52.92		
		WORKSHOP BUILDING										
		GROUND FLOOR		GF	8	1	1.8	1	2.1	30.24		
		FIRST FLOOR		FF	7	1	1.8	1	2.1	26.46		
		<b>TOTAL</b>			<b>39</b>					151.62		
										<b>say</b>	<b>155.00</b>	
251	FA-MA-2019-04	Overall size 1980 high (+/-50mm) X 915 wide (+/-25mm) X 485 deep (+/-25mm) with 12 nos. of lockers with ground clearance of 150mm. Each locker shall be fitted with steel sheet door with suitable hinges. Each locker door shall have provision for ventilation. The locker cupboard shall consist of 4 rows with each										



		row containing 3 Nos. of lockets. All the lockers shall be provided with staple arrangement for locking, but without padlocks. The sides, doors, back, shelves and partition of the cupboard shall be fabricated from 20 SWG thick M.S. CRCA sheets. All the lockers shall be provided with Chromium plated label holder. The Unit shall be epoxy polyester powder coated to the thickness of 50 microns in approved colour.									
		WORKSHOP BUILDING	NOS.	GF	10	1	1	1	1	10.00	
		WORKSHOP BUILDING	NOS.	FF	8	1	1	1	1	8.00	
		<b>TOTAL</b>								18.00	
										<b>say</b>	<b>18.00</b>
252	FA-MA-2019-07	Overall Size of 1800mm high X 900mm wide X 450mm deep. Six Shelves, inclusive of top & bottom. Four vertical MS CRCA slotted angles to be size of 38mm X 38mm X 3mm thick and will have slots at approx. 29mm Centre to centre distance for adjusting shelves. The distance between two slots should not be less than 6mm. Each shelf to be made out of 1.20mm thick MS CRCA sheet with sides turned down and fitted to the angles with nuts and bolts of suitable size. Bottom shelf to be fitted at a height of 150mm approx. from the ground. Gussets of minimum 75mm X 75mm X 1.20mm thick to be provided two at each corner for topmost and bottommost shelves. The rack shall be epoxy polyester powder coated to the thickness of 50 microns. The base with rubber shoes.									
		WORKSHOP BUILDING	NOS.	GF	10	1	1	1	1	10.00	
		WORKSHOP BUILDING	NOS.	FF	8	1	1	1	1	8.00	
		<b>TOTAL</b>								18.00	
										<b>say</b>	<b>18.00</b>



**MEASUREMENT SHEET FOR LANDSCAPE WORKS**

	<b>ITEM CODE</b>	<b>ITEM DESCRIPTION</b>	<b>UNIT</b>	<b>No's</b>	<b>L</b>	<b>W</b>	<b>H</b>	<b>Area</b>	<b>QTY</b>
				a	c	d	e	f=abcde	1.05
		<b>Site Dressing and Land Modulation</b>							
253	R2-GW-1-5-A	Digging of Pit having size 1Mtr.x 1Mtr.x1Mtr. on soft surface like soil, Murum Loading and unloading and Transporting Excavated material form site out of Jurisdiction of MCGM Or at site designated by site incharge	NOS	50	1	1	1	50.0	52.5
							<b>NO'S</b>	<b>50.0</b>	
								<b>NO'S</b>	<b>52.50</b>
								<b>SAY</b>	<b>55.0</b>
254	R2-GW-1-5-B	Digging of Pit having size 1Mtr.x 1Mtr.x1Mtr. on soft surface like Concrete, tar, paved footpath, Loading and unloading and Transporting Excavated material form site out of Jurisdiction of MCGM Or at site designated by site incharg	NOS	50	1	1	1	50.0	52.5
							<b>NO'S</b>	<b>50.0</b>	
								<b>NO'S</b>	<b>52.50</b>
								<b>SAY</b>	<b>55.0</b>
255	R2-GW-2-1-A-9	Laying of lush green carpet lawn of specified variety or species, removed along with the soil layer without damaging roots, without any vaccum under the lawn, rolling of lawn immediately after laying,Lawn should be free from Weeds, Ants ,Termites, Or any paste or Diseases, watering of lawn immediately after laying @ 6 lit per sq. Mtr. Maintenance of newly planted lawn for one month without extra cost and filling of casualty if any within this	SQM						



		maintenance period without extra cost. If water facility in not available at site, Item no.R2-GW-7-28 should be operated							
		LAWN NEAR ADMIN BUILDING	SQM	2	10	10	1	200.0	210.0
		ENTRANCE AT LOCOMOTIVE DISPLAY	SQM	2	15	5	1	150.0	157.5
		ENTRANCE AT STP	SQM	2	25	2	1	100.0	105.0
		NEAR TUNNEL SHAFT/ MANDIR	SQM	2	20	2	1	80.0	84.0
							SQM	<b>530.0</b>	
								SQM	<b>556.50</b>
								<b>SAY</b>	<b>560.0</b>
256	R2-GW-2-1-D	Daily watering to the lawn @ 6 Lit. / Sq.Mtr. ,Weeding , Application of Chemical fertilizers, and pesticide as and when required and as instructed by site incharge, Lawn moving at every 20 days interval in dry season, and at 15 days interval during the monsoon , Edging of lawn at every 20 days , Cutting of lawn by using garden shear as and when require , If any endulation fill it with Mixture of RHE & CDM in 2:1 proportion immediately and laying of lawn carpet on it on the same day,If any casualty seen same should be replaced by same variety of lawn without any extra cost. Top dressing of 5 cm Mixture of RHE & CDM in 2:1 proportion once in a year or 2.5 cm twice in a year as instructed by site incharge. Lawn should be Compact, lush green , free from pest or disease in smooth leveled condition as per landscape design.Item should be operated wherever water Supply is available through MCGM	SQM						
		LAWN NEAR ADMIN BUILDING	SQM	1	10	10	1	100.0	105.0



		ENTRANCE AT LOCOMOTIVE DISPLAY	SQM	1	15	5	1	75.0	78.8
		ENTRANCE AT STP	SQM	1	25	2	1	50.0	52.5
		NEAR TUNNEL SHAFT/ MANDIR	SQM	1	20	2	1	40.0	42.0
							SQM	<b>265.0</b>	
		For 12 months						<b>3180.0</b>	
							SQM		3498
							<b>SAY</b>		<b>3500.0</b>
257	R2-GW-2-3-B	Preparation of mound as per the suitable design according to landsape of garden by supply of RHE and CDM Mixing of RHE and CDM in 2:1 proportion with Pesticides & fungicides as instructed by the site incharge 2 Ft Depth at Centre & 1 Ft Depth at sideline of mound.	SQM						
		LAWN NEAR ADMIN BUILDING	SQM	1	10	10	0.6	60.0	63.0
		NEAR TUNNEL SHAFT/ MANDIR	SQM	1	5	10	0.6	30.0	31.5
								<b>90.0</b>	
							SQM		<b>94.50</b>
							<b>SAY</b>		<b>95.0</b>
258	R2-GW-2-4-D	Daily watering @ 6 Lit. / Sq.Mtr.available in the garden , weeding ,loosening of soil for maintaining the porosity as and when required, Application of Chemical fertilizers, and pesticed as and when required and as instructed by site incharge, Pruning as per the desired shape and as instructed by the site incharge, Top dressing 5 cm once in a year or 2.5 cm twice in a year with Mixture of RHE & CDM in 2:1 proportion , plants should be in healthy condition free from pest, disease attack. If any casualty observed same should be replace by the contractor without any extra cost . Item should be operated wherever water supply is available through MCGM. For	SQM						





		Topiaries of plant, shape and size of the topiary should be maintained as it is or at higher side of the size and shape at the time of development work or at the time of starting of maintenance period .							
		NORTH SIDE	SQ.M	1	1	1	1	114.0	119.7
		SOUTH SIDE	SQ.M	1	1	1	1	190.0	199.5
		ENTRANCE	SQ.M	1	1	1	1	80.0	84.0
		LANDSCAPE AREA NEXT TO ADMIN OFFICE	SQ.M	1	1	1	1	170.0	178.5
		AROUND BUILDING	SQ.M	1	1	1	1	88.0	92.4
		ENTRANCE AT STP	SQ.M	1	33	2	1	66.0	69.3
		NEAR TUNNEL SHAFT/ MANDIR	SQ.M	1	100	1	1	100.0	105.0
		<b>TOTAL SHRUB AREA</b>					<b>SQ.M</b>	<b>808.00</b>	
		For 12 months						<b>9696.0</b>	
		<b>Total</b>						<b>SQ.M</b>	10665.6
								<b>SAY</b>	<b>10666.0</b>
259	R2-GW-2-4-E	Digging of Hole in a prepared ground ,Removal of shrub from pollybag without disturbing rootball and planting and resurfacing of planted area by Soil and manure as directed by site incharge. Maintenance of newly planted shrubs for one month and feeling of casualty if any during free maintenance period without extra cost. If water facility not available at site Item no.R2- GW-7-28 should be operated	SQM						
		NORTH SIDE	SQ.M	1	1	1	1	114.0	119.7
		SOUTH SIDE	SQ.M	1	1	1	1	190.0	199.5
		ENTRANCE	SQ.M	1	1	1	1	80.0	84.0
		LANDSCAPE AREA NEXT TO ADMIN OFFICE	SQ.M	1	1	1	1	170.0	178.5
		AROUND BUILDING	SQ.M	1	1	1	1	88.0	92.4
		ENTRANCE AT STP	SQ.M	1	33	2	1	66.0	69.3



		NEAR TUNNEL SHAFT/ MANDIR	SQ.M	1	100	1	1	100.0	105.0
		<b>TOTAL SHRUB AREA</b>					<b>SQ.M</b>	<b>808.00</b>	
		<b>Total</b>						<b>SQ.M</b>	<b>848.40</b>
								<b>SAY</b>	<b>850.0</b>
260	R2- GW-2- 6-D	Daily watering @ 6 Lit. / Sq.Mtr.available in the garden etc., weeding ,loosening of soil for maintaining the porosity as and when required, Application of Chemical fertilizers, and pesticides as and when required and as instructed by site incharge, Pruning as per the desired shape and as instructed by the site incharge, Top dressing of 5 cm or 2.5 cm twice in a year with Mixture of RHE & CDM in 2:1 proportion, plants should be in healthy condition free from pest, disease. If any casualty observed same should be replace by the contractor without any extra cost Item should be operated wherever water supply is available through MCGM.	SQM						
		NORTH SIDE	SQ.M	1	1	1	1	114.0	119.7
		SOUTH SIDE	SQ.M	1	1	1	1	190.0	199.5
		ENTRANCE	SQ.M	1	1	1	1	80.0	84.0
		LANDSCAPE AREA NEXT TO ADMIN OFFICE	SQ.M	1	1	1	1	170.0	178.5
		AROUND BUILDING	SQ.M	1	1	1	1	88.0	92.4
		ENTRANCE AT STP	SQ.M	1	33	2	1	66.0	69.3
		NEAR TUNNEL SHAFT/ MANDIR	SQ.M	1	100	1	1	100.0	105.0
		<b>TOTAL SHRUB AREA</b>					<b>SQ.M</b>	<b>808.00</b>	
		<b>Total</b>						<b>SQ.M</b>	<b>848.40</b>
								<b>SAY</b>	<b>850.0</b>
261	R2- GW-2- 8-D	Watering of tree @12 Lit. Per tree weeding, Application of Fertilizers and pesticide as and when required,loosening of soil for maintaining the porosity , stacking of tree. Removal of lower side shoots time to time for proper growth of the tree. If any	NOS	75	1	1	1	75.0	78.8



		casualty found same should be replaced without extra cost. Top dressing of 5 cm or 2.5 cm twice in a year with Mixture of RHE & CDM in 2:1 proportion, plants should be in healthy condition free from pest, disease. Item should be operated wherever water supply is available through MCGM.							
								<b>NO'S</b>	<b>75.0</b>
								<b>NO'S</b>	<b>78.75</b>
								<b>SAY</b>	<b>80.0</b>
262	<b>R2-GW-3-1-c</b>	Providing and laying Natural unpolished White Pebbles of size 30mm to 50mm laying in 3 layers (finish layer of 150mm nominal thickness), graded pebbles etc complete as per drawing as specified as directed by Engineer. (Refer sketch 22)	KG		800	1		800	840.0
								<b>KG</b>	<b>800</b>
								<b>KG</b>	<b>840.00</b>
								<b>SAY</b>	<b>840.0</b>
		<b>SHRUBS</b>							
263	R2-GW-5-7	Allamanda cathartica india 6 " height Dwarf Green Allam 6 " to 9 " height excluding pollybag	NOS		500			500	
264	R2-GW-5-12	Asparagus springeri shatawari 6 " to 9 " height excluding pollybag	NOS		500			500	
265	R2-GW-5-14	Bougainvillea glabra Purple Single Flowers 6 " to 9 " height excluding pollybag	NOS		1000			1000	
266	R2-GW-5-29	Canna variegata Canna Varigated 6 " to 9 " height excluding pollybag	NOS		800			800	
267	R2-GW-5-39	Chlorophytum comosum Spider Plant 6 " to 9 " height excluding pollybag	NOS		500			500	
268	R2-	Dracaena colorama 6 " to 9 "	NOS		500			500	



	GW-5-49	height excluding pollybag							
269	R2-GW-5-51	Duranta repens Golden duranta 6 " to 9 " height excluding pollybag	NOS	600				600	
270	R2-GW-5-52	Duranta repens "tinge" Sunshine duranta 6 " to 9 " height excluding pollybag	NOS	600				600	
271	R2-GW-5-76	Hibiscus rosasinensis La France Pink / White 6 " to 9 " height excluding pollybag	NOS	500				500	
272	R2-GW-5-88	Jasminum pubescens Kund 6 " to 9 " height excluding pollybag	NOS	500				500	
273	R2-GW-5-94	Lantana camera depressa Yellow Lantana 6 " to 9 " height excluding pollybag	NOS	200				200	
274	R2-GW-5-95	Lantana camera sanguinea Haldikunku Lantana 6 " to 9 " height excluding pollybag	NOS	200				200	
275	R2-GW-5-125	Plumbago auriculata Chitrak / Plumbago 6 " to 9 " height excluding pollybag	NOS	500				500	
276	R2-GW-5-135	Pilea microphylla 6 " to 9 " height excluding pollybag	NOS	500				500	
277	R2-GW-5-145	Roheo discolor Rhoeo Nana 4" to 6" height excluding pollybag	NOS	1000				1000	
278	R2-GW-5-152	Spathiphyllum cupida/petite 6 " to 9 " height excluding pollybag	NOS	1000				1000	
279	R2-GW-5-190	Monstera deliciosa 6 " to 9 " height excluding pollybag	NOS	500				500	
280	R2-GW-5-211	Vernena 6 " to 9 " height excluding pollybag	NOS	1000				1000	
281	R2-GW-5-216	Cuphea Blue 6 " to 9 " height excluding pollybag	NOS	500				500	
		<b>Trees</b>							
282	R2-	Ficus benjamina Benjamina	NOS	25				25	



	GW-5-61	Corporata 6 " to 9 " height excluding pollybag							
283	R2-GW-5-124	Pisonia alba Pisonia 6 " to 9 " height excluding pollybag	NOS	50				50	
284	R2-GW-5-202	Plumeria alba 4 ' Ft. height excluding pollybag	NOS	25				25	
285	R2-GW-5-322	Foxtail palm 10' to 12' height and 6 " girth excluding pollybag	NOS	25				25	
286	GW-5-347	zoysia species 12 " bag	NOS	25				25	
287	R2-GW-6-1	<b>Excavation for Planting of Lawn/ Shrubs/ Creeper/ Climbers/ Ground Cover on Soft Surface – Digging of Soft surface up to 30 Cm. Depth and removal of excavated material from site by contractor.</b> Digging, removal of escavated material up to 30 cm depth on soft surface like soil, Murum, Loading and unloading and Transporting Excavated material form site out of Jurisdiction of MCGM Or at site designated by site incharge	Sqm						
		NORTH SIDE	SQ.M	1	1	1	1	114.0	119.7
		SOUTH SIDE	SQ.M	1	1	1	1	190.0	199.5
		ENTRANCE	SQ.M	1	1	1	1	80.0	84.0
		LANDSCAPE AREA NEXT TO ADMIN OFFICE	SQ.M	1	1	1	1	170.0	178.5
		AROUND BUILDING	SQ.M	1	1	1	1	88.0	92.4
		ENTRANCE AT STP	SQ.M	1	33	2	1	66.0	69.3
		NEAR TUNNEL SHAFT/ MANDIR	SQ.M	1	100	1	1	100.0	105.0
		<b>TOTAL SHRUB AREA</b>					<b>SQ.M</b>	<b>808.0</b>	
								<b>SQ.M</b>	<b>848.40</b>
								<b>SAY</b>	<b>850.0</b>
288	R2-	Excavation for Planting of Lawn/	Sqm						



	GW-6-2	Shrubs/ Creeper/ Climbers/ Ground Cover on Hard Surface – Digging of Hard surfacelike concrete, tar, Paved area up to 30 Cm. Depth and removal of excavated material from site by contractor. Digging, removal of excavated material up to 30 cm depth on Hard surface like concrete, tar, paved area, Loading ,unloading and Transporting Excavated material form site out of Jurisdiction of MCGM Or at site designated by site incharge							
		AT LANDSCAPE NEAR ADMIN BUILDING	SQ.M	1	1	1	1	50.0	52.5
		ROAD DIVIDER	SQ.M	1	1	1	1	20.0	21.0
		ENTRANCE AT STP	SQ.M	1	33	1	1	33.0	34.7
							<b>SQ.M</b>	<b>103.0</b>	
								<b>SQ.M</b>	<b>108.15</b>
								<b>SAY</b>	<b>110.0</b>
289	R2-GW-7-1	<b>Preparation of ground for planting on lawn / shrubs/ ground cover/ creeper/ climbers – Supply and spreading of Red Hill Earth and cow dung mannure in 2:1 proportion up to 30 Cm Depth ( Excluding cost of lawn/ Shrubs/Creepers/ Climbers/ ground covers)</b> Suply and Spreading of Red Hill Earth and Cow Dung Mannure in 2:1 Proportion up to 30 cm. Depth. Application of suitable pesticides and fungicides withRHE and CDM.	SqM						
		NORTH SIDE	SQ.M	1	1	1	1	114.0	119.7
		SOUTH SIDE	SQ.M	1	1	1	1	190.0	199.5
		ENTRANCE	SQ.M	1	1	1	1	80.0	84.0
		LANDSCAPE AREA NEXT TO ADMIN OFFICE	SQ.M	1	1	1	1	170.0	178.5
		AROUND BUILDING	SQ.M	1	1	1	1	88.0	92.4
		ENTRANCE AT STP	SQ.M	1	33	2	1	66.0	69.3



		NEAR TUNNEL SHAFT/ MANDIR	SQ.M	1	100	1	1	100.0	105.0
								808.0	
								SQM	<b>848.40</b>
								<b>SAY</b>	<b>850.0</b>
290	R2-GW-7-7	<b>Providng , Fixing and Preparation of Vertical biowall frame with colourfull planters on prepared steel frame or any other metallic frame</b> Fixing of Vertical Biowall frame on prepared steel or any other metallic frame or wall having black colour planters. Feeling of Vermicompost and Cocopeat in Planters in 1:1 proportion and pant a Shrub/Creeper/ Climbers. Excluding cost of Cost of plant and excluding cost of steel or metallic frame on which biowall tobe install.	SqM						
		NORTH SIDE	SQ.M	25	3	1	2.4	180.0	189.0
							SQM	<b>180.0</b>	
								SQM	<b>189.00</b>
								<b>SAY</b>	<b>190.0</b>
291	R2-GW-7-8	<b>Providng , Fixing and Preparation of Vertical biowall planters only , on prepared steel frame or any other metallic frame</b> Fixing of Vertical biowall planters on already preapired steel or any other metallic frame or wall having colourfull planters of 15" size .Feeling of Vermicompost and Cocopeat in Planters in 1:1 proportion and pant a Shrub/Creeper/ Climbers.( Basic Unit 1000 planters) Excluding cost of Cost of plant and excluding cost of steel or metallic frame on which biowall tobe install.Execution of Item No. R2-GW-9-17 & R2-GW-9-18 in Large scale.( Excluding cost of plants and excluding cost of metallic frame)	No.	3200	1	1	1	3200.0	3360.0



								<b>NO'S</b>	<b>3200.0</b>	
									<b>NO'S</b>	<b>3360.00</b>
									<b>SAY</b>	<b>3360.0</b>
292	R2-GW-7-11	<b>Supply and Spreading of Red Hill Earth</b> Red hill earth free from graass, stones, rubbles redish in colour pass through 5 mm sieve and spreading of red hill earth at site location/ plot and rolling as directed by site incharge	CuM.							
		NORTH SIDE	CuM.	1	1	1	0.6	102.0	107.1	
		SOUTH SIDE	CuM.	1	1	1	0.6	186.0	195.3	
		ENTRANCE	CuM.	1	80	1	0.6	48.0	50.4	
		ENTRANCE AT STP	CuM.	1	33	1	0.6	19.8	20.8	
		NEAR TUNNEL SHAFT/ MANDIR	CuM.	1	100	1	0.6	60.0	63.0	
							CuM.	<b>415.8</b>		
								CuM.	<b>436.59</b>	
								<b>SAY</b>	<b>440.0</b>	
293	R2-GW-7-12	<b>Supply and Spreading of Cow Dung Manure</b> Cow dung Mannure should be bownish in colour free from grass, free from pest and disease imidietly treated with pesticide and fungicides after delivery . Spreading of cow dung manure at site location / plot as directed by site incharge	CuM.							
		NORTH SIDE	CuM.	1	1	1	0.6	102.0	107.1	
		SOUTH SIDE	CuM.	1	1	1	0.6	186.0	195.3	
		ENTRANCE	CuM.	1	80	1	0.6	48.0	50.4	
		ENTRANCE AT STP	CuM.	1	33	1	0.6	19.8	20.8	
		NEAR TUNNEL SHAFT/ MANDIR	CuM.	1	100	1	0.6	60.0	63.0	
							CuM.	<b>415.8</b>		
								CuM.	<b>436.59</b>	
								<b>SAY</b>	<b>440.0</b>	





294	R2-GW-7-13	<b>Preparation of Pit and Planting of Tree In Escavated Pit hard surface Excluding cost of Tree.</b> Filling of Excavated Pit having 1Mtr. X 1Mtr.X 1Mtr. Size with Red Hill Earth and Cow Dung Mannure in 2:1 proportion and pant a tree with Stacking and Preparation of Tree Basin for proper Irrigation . Excluding cost of Tree	Nos	20	1	1	1	20.0	21.0
							<b>NO'S</b>	20.0	
								<b>NO'S</b>	<b>21.00</b>
								<b>SAY</b>	<b>25.0</b>
295	R2-GW-7-14	<b>Preparation of Pit and Planting of Tree In Escavated Pit Soft surface Excluding cost of Tree.</b> Filling of Escavated Pit having 1Mtr. X 1Mtr.X 1Mtr. Size with Escavated soil, Red Hill Earth and Cow Dung Mannure in 1:1:1 proportion and pant a tree with Stacking and Preparation of Tree Basin for proper Irrigation. Excluding cost of Tree.	Nos	30	1	1	1	30.0	31.5
							<b>NO'S</b>	30.0	
								<b>NO'S</b>	<b>31.50</b>
								<b>SAY</b>	<b>35.0</b>
296	R2-GW-7-19	<b>Maintenance of Lawn Including cost of water</b> Daily watering to the lawn @ 6 Lit. / Sq.Mtr. ,Weeding , Application ofChemical fertilizers, and pesticided as and when required and as instructed by site incharge, Lawn moving at every 20 days interval in dry season, and at 15 days interval during the monsoon , Edging of lawn at every 20 days , Cutting of lawn by using garden shear as and when require , If any endulation fill it with Mixture of RHE & CDM in 3:1 proportion immediately and laying of lawn carpet on it on the same day,If any vasualty seen	SqM						



		same should be replaced by same variety of lawn without any extra cost. Top dressing of 5 cm Mixture of RHE & CDM in 2:1 proportion once in a year or 2.5 cm twice in a year as instructed by site incharge. Lawn should be lush green , free from pest or disease attack in smooth leveled condition as per landscape design.Cost of water and watering in included.							
		LAWN NEAR ADMIN BUILDING	SQM	1	10	10	1	100.0	105.0
		ENTRANCE AT LOCOMOTIVE DISPLAY	SQM	1	15	5	1	75.0	78.8
		ENTRANCE AT STP	SQM	1	25	0.6	1	15.0	15.8
		NEAR TUNNEL SHAFT/ MANDIR	SQM	1	50	0.6	1	30.0	31.5
							SQM	<b>220.0</b>	
		For 12 months						<b>2640.0</b>	
							SQM	<b>2904.00</b>	
								<b>SAY</b>	<b>2905.0</b>
297	R2-GW-7-20	<b>Maintenance of Vertical biowall Including cost of Water</b> Daily watering @ 6 Lit. / Sq.Mtr., weeding ,loosening of soil for maintaining the porosity as and when required, Application of Chemical solid and liquid fertilizers at every 15 days interval , and pesticided as and when required and as instructed by site incharge, Pruning as per the desired shape and as instructed by the site incharge, Top dressing of 5 cm once or 2.5 cm twice in a year with Mixture of Cocopeat and vermicompost in 2:1 proportion, plants should be in healthy condition free from pest, disease attack. If any casualty observed same should be replace by the contractor without any extra cost Including cost of water and watering.	SqM						



		NORTH SIDE	SQ.M	1	1	1	1	100.0	105.0
							SQM	<b>100.0</b>	
		For 12 months						<b>1200.0</b>	
							SQM		1320
								<b>SAY</b>	<b>1320.0</b>
298	R2-GW-7-22	<b>Maintenance of Ground cover, creeper , climbers Including cost of water</b> Daily watering @ 6 Lit. / Sq.Mtr.available in the garden etc., weeding ,loosening of soil for maintaining the porosity as and when required, Application of Chemical fertilizers, and pesticed as and when required and as instructed by site incharge, Pruning as per the desired shape and as instructed by the site incharge, Top dressing of 5 cm or 2.5 cm twice in a year with Mixture of RHE & CDM in 2:1 proportion, plants should be in healthy condition free from pest, disease attack. If any casualty observed same should be replace by the contractor without any extra cost Including cost of water and watering.	SqM						
		NORTH SIDE	SQ.M	1	1	1	1	114.0	119.7
		SOUTH SIDE	SQ.M	1	1	1	1	190.0	199.5
		ENTRANCE	SQ.M	1	1	1	1	80.0	84.0
		LANDSCAPE AREA NEXT TO ADMIN OFFICE	SQ.M	1	1	1	1	170.0	178.5
		AROUND BUILDING	SQ.M	1	1	1	1	88.0	92.4
		<b>TOTAL SHRUB AREA</b>					<b>SQ.M</b>	<b>642.0</b>	
		<b>For 12 months</b>						<b>7704.0</b>	
								<b>SQ.M</b>	<b>8474.40</b>
								<b>SAY</b>	<b>8475.0</b>



299	R2- GW-7- 23	<b>Maintenance of Shrubs/ Hedges/ Edges Including cost of water</b> Daily watering @ 6 Lit. / Sq.Mtr.available in the garden , weeding ,loosening of soil for maintaining the porosity as and when required, Aplication of Chemical fertilizers, and pesticided as and when required and as instructed by site incharge, Pruning as per the desired shape and as instructed by the site incharge, Top dressing of 5 cm once in a year or 2.5 cm twice in a year with Mixture of RHE & CDM in 2:1 proportion once in a year , plants should be in healthy condition free from pest, disease attack. If any casualty observed same should be replace by the contractor without any extra cost . Item should be operated wherever water supply is available through MCGM. For Topiaries of plant, shape and size of the topiery should be maintained as it is or at higher side of the size and shape at the time of devepoment work or at the time of starting of maintenance period .Including cost of water and watering.	SqM						
		NORTH SIDE	SQ.M	1	1	1	1	114.0	119.7
		LANDSCAPE AREA NEXT TO ADMIN OFFICE	SQ.M	1	1	1	1	170.0	178.5
		AROUND BUILDING	SQ.M	1	1	1	1	88.0	92.4
		ENTRANCE AT STP	SQM	1	25	0.6	1	15.0	15.8
		NEAR TUNNEL SHAFT/ MANDIR	SQM	1	50	0.6	1	30.0	31.5
		<b>TOTAL SHRUB AREA</b>					<b>SQ.M</b>	<b>417.0</b>	
		<b>For 12 months</b>						<b>5004.0</b>	
								<b>SQ.M</b>	<b>5504.40</b>
								<b>SAY</b>	<b>5505.0</b>



300	R2- GW-7- 24	<b>Maintenance of Newly planted Trees Including cost of water</b> Watering of tree @12 Lit. Per tree . Weeding, aplication of Fertilizers and pesticide as and when required,loosening of soil for maintaining the porosity , stacking of tree. Removal of lower side shoots time to time for proper growth of the tree Preparation of tree basins in a soil . If any casualty found same should be replaced without extra cost.Top dressing of 5 cm or 2.5 cm twice in a year with Mixture of RHE & CDM in 2:1 proportion, plants should be in healthy condition free from pest, disease attack. Including cosst of watering and water.	NPM	50	1	1	1	50.0	52.5
							<b>NO'S</b>	<b>50.0</b>	
		<b>For 12 months</b>						<b>600.0</b>	
								<b>NO'S</b>	660
								<b>SAY</b>	<b>660.0</b>
		<b>PAVER &amp; KERB</b>							
301	R2- RW-3- 18	Providing & fixing in the carriageway 80 mm thick grey cement concrete Lacquer coated (Reflective) interlocking pavers in Red (Terra Cotta), Lemon Yellow, Bright Yellow or any colour with vermeticular or any antiskid texture on top surface of approved pattern/ shape and colour having average crushing strength not less than 50 N/mm <sup>2</sup> manufactured in double layer precast concrete blocks as per technical specifications and IS CODE 15658:2006. The top layer of paver block should be 12 to 15 mm thick and consisting of cubical shape stone aggregate 8 mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron	Sq.m						



		oxide ultra voilete stabilized pigment @ 5% by weight of white cement and should be coated with lacquer having hard, high abrasive resistance and water repellent.The bottom layer should be 65 to 68 mm thick having 12 mm sieve 100% passing aggregate as per technical specifications, placed on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.							
		AROUND BUILDING	SQ.M	1	2800	1	1	2800.0	2940.0
		ENTRANCE AT STP	SQM	1	100	1	1	100.0	105.0
		NEAR TUNNEL SHAFT/ MANDIR	SQM	1	100	1	1	100.0	105.0
							<b>SQ.M</b>	<b>3000.0</b>	
								<b>SQ.M</b>	<b>3150.00</b>
								<b>SAY</b>	<b>3150.0</b>
302	R2- RW-4- 10	Providing and fixing single row of setts 15 cm. to 25 cm. long, 10 cm. wide and 15 cm. deep fair dressed on top and medium dressed on other sides on 15 cm. thick and 15 cm. wide R.M.C. M-20 C.C. bed including filling the joints with C.M. 1:2 and cement pointing , curing etc.complete.	RMT						
		NORTH SIDE	RMT		150			150.0	157.5
		AROUND BUILDING	RMT		135			135.0	141.8
		ENTRANCE AT STP	RMT	1	40	1	1	40.0	42.0
		NEAR TUNNEL SHAFT/ MANDIR	RMT	1	100	1	1	100.0	105.0
							RMT	<b>425.0</b>	
								RMT	<b>446.25</b>
								<b>SAY</b>	<b>450.0</b>



303	R2- RW- 10-37	Providing and fixing of the precast TREE GUARD KERB of M-20 C.C. of height 230mm., width 100mm., Length 400mm., finished neatly, compacting , curing, formwork etc. including bedding of M-10 C.C.procured from M.C.G.M. approved R.M.C. plant,10cm.thick, filling of jointing in C.M. 1:2 and painting the exposed surface with 3 coats of road marking paint, Grade I of approved colours and quality including single coat of approved brand primer including excavation in C.C. ,asphalt etc. as specified and as directed.	RMT						
		IN PARKING AREA END	RMT		150			150.0	157.5
		FOR SHRUB AROUND BUILDING	RMT		140			140.0	147.0
		PREMISES	RMT		218			218.0	228.9
		ENTRANCE AT STP	RMT	1	25	1	1	25.0	26.3
		NEAR TUNNEL SHAFT/ MANDIR	RMT	1	60	1	1	60.0	63.0
							RMT	<b>593.0</b>	
								RMT	<b>622.65</b>
								<b>SAY</b>	<b>625.0</b>
304	R2- RW-4- 01	Providing & Fixing kerb stones 30 cm to 40 cm long, 15 cm wide, 38 cm deep medium dressed in all exposed surfaces, set in cement mortar 1:2 on a 15 cm thick and 25 cm wide RMC M-20 C.C. bed including filling the joints with 1:2 C.M. pointing, curing etc.complete.							
		INTERNAL DRIVE WAY	RMT	1	150			150.0	157.5
		AROUND BUILDING	RMT	1	140			140.0	147.0
		PREMISES	RMT	1	200			200.0	210.0
							RMT	<b>490.0</b>	



								RMT	514.50
								SAY	515.0
305	R2- ME- 14-2- A	<b>GARDEN BENCH WITH ARM -</b> The area- 1.5x0.6m, capacity: 3adult, 1. FRP section: the seating portion and backrest potion shall be made up to 9 nos.FRP trip 2 to 3mm thick. C sectionFRP channel strips of thickness up to 3mm and 1500mm long with wooden finish bolted to both the side frame. The bench strip consist of nylon end caps provided at the two endsof strips for covering the end., 2. Cast iron section- the frame and arm shall be made up of cast iron in casting process. the weight shall be 42kg with arm, 3.MS support- MS flat of size 40x5mm is to be provided at two no. width wise and one no. lengthwise cross support at accommodate 3 adults on it. the paint given to the bench shall increase the life of the product.	nos						
		<b>premises</b>	nos	20	1	1	1	20.0	21.0
							nos	<b>20.0</b>	
								nos	<b>21.00</b>
								<b>SAY</b>	<b>25.0</b>





## ABSTRACT SHEET OF CIVIL WORKS

<b>BRIHANMUMBAI MUNICIPAL CORPORATION</b>						
<b>H.E. DEPT. / O.C DIVISION</b>						
<b><u>CONSTRUCTION OF MAINTENANCE STAFF CHAOKY AND VARIOUS WORKSHOPS IN THE PREMISES OF</u></b>						
<b><u>KAPURBAWDI WATER WORKS YARD IN O.C DIVISION</u></b>						
<b><u>ABSTRACT FOR CIVIL WORK</u></b>						
SR NO	ITEM CODE	DESCRIPTION	UNIT	QTY	RATE (IN INR)	TOTAL (IN INR)
1	R2-CS-AT-1	Providing Pre-constructional Anti-termite treatment conforming to IS- 6313 (part II) using chloropyrifos EC 20 Emulsion or equivalent of 1% concentration by weight for creating barrier under and all around foundation pits, wall trenches, basement excavation, backfill in immediate contact with foundation and treating the top surface of plinth filling, junction of wall & floor, along the external perimeter of building, expansion joints, surrounding of pipes, water conduits and at places suggested and as directed by Engineer-In-Charge. covering 10 years guaranty. (plinth area should be considered for measurement and payment.)	SQ.M	1085.00	159	172515
		<b>EXCAVATION</b>				



2	R2-CS-EW-1	Excavation for foundations, substructures, basements, tanks, sumps, walls, chambers, manholes, trenches, poles, pits & general building works in all types of soils, vegetable earth, soft murum, running sand, shingle, turf clay, loam, peat, ash, shale, slag, chalk, garbage, muddy/ marshy/ slushy soil, marine clay, reclaimed land etc. for depths/lifts upto 1.5M measured from the ground level, including dressing/ trimming the sides, leveling and ramming of bottoms, manual dewatering, removing rank vegetation, backfilling in layers not more than 200mm thickness, watering, consolidating, compacting to achieve not less than 97% Modified Proctor density conforming to relevant IS, stacking the selected material in measurable heaps for future use within owners space or disposing within an initial lead of 150m as directed, loading, unloading, leveling excluding shoring, strutting etc. complete as directed by Engineer-in-Charge.	CU.M	7160.00	307	2198120
3	R2-CS-EW-2-a	Extra over above item CS-EW-1 for lift from 1.5m to 3.0m.	CU.M	630.00	71	44730
4	R2-CS-EW-2-b	Extra over above item CS-EW-1 for lift from 3.0m to 4.5m	CU.M	630.00	106	66780
5	R2-CS-EW-2-c	Extra over above item CS-EW-1 for lift from 4.5m to 6.0m	CU.M	630.00	171	107730
6	R2-CS-EW-12	Filling in plinth, floors, trenches, pits with approved contractor's murum in layers not exceeding 200mm including breaking of clods, watering, consolidating each layer in filled up area by rolling and compacting with roller/ plate compactor as required to achieve not less than 97% modified proctor density conforming to relevant IS etc. complete as directed by Engineer In charge. The rate includes necessary soil testing charges at laboratory & field as per relevant I.S. codes, royalty, octroi and other taxes if any. (Note: Borrow areas selected by CONTRACTOR shall be got approved from Engineer In Charge, before executing the work) 1) The rate includes the royalty and other taxes if any.	CU.M	3025.00	1244	3763100



7	R2-CS-EW-26	Providing & Laying dry stone Rubble Soling with average 230 mm size hard stone set in regular lines, handpacked and interstices thoroughly filled with small chips including filling in with good quality murum brought from outside, compacting with iron rammers, watering, sand spreading 12mm thk. layer of grit on top etc complete as directed by Engineer In Charge. (Note: The rate includes the royalty and other taxes if any)	CU.M	1340.00	2231	2989540
		<b>CONCRETE WORK</b>				
		Providing and laying in position ready mixed plain cement concrete, using fly ash and cement content as per approved design mix from Engineer-in-charge and fly ash conforming to grade I of IS 3812 (Part-1) only be used as part replacement of OPC as per IS 456 and uniform blending with cement is to be ensured in accordance with clauses 5.2 and 5.2.1 of IS: 456- 2000 in the items of ready mixed concrete and manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for plain cement concrete work, including pumping of R.M.C. from transit mixer to site of laying and curing, including the cost of centering, shuttering and finishing, including cost of curing, admixtures in recommended proportions as per IS : 9103 to accelerate/retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge.				
8	R2-CS-CW-2-a-2	M-15 grade plain cement concrete (cement content considered @ 240 kg/cum).	CU.M	200.00	6764	1352800



		Providing and laying in position ready mixed design mix M-20 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying and the cost of centering, shuttering, finishing and excluding reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. The Mix design as per particular specifications shall be got approved by Engineer-in-Charge before execution of the item. The rate shall include cost of all specified materials and operations at all levels and heights, including the cost of centering, shuttering and and excluding reinforcement which shall be paid under relevant item. (Note :-Cement content considered in this item is @ 300 kg/cum as per IS 456 table showing minimum cement content. No extra will be paid nor any amount will recovered on account of variation of cement in mix design as per specifications for controlled concrete)				
9	R2-CS-CW-7-a	Foundations, footings, bases of columns, rafts, pilecap	CU.M	425.00	7515	3193875
10	R2-CS-CW-7-b	Walls (any thickness) including attached buttresses, retaining wall, shear wall, diaphragm wall , trench,pit walls, etc	CU.M	315.00	10518	3313170
11	R2-CS-CW-7-c	Slabs, Suspended floors, roofs, landings, balconies, canopy and access platform	CU.M	455.00	11790	5364450
12	R2-CS-CW-7-d	Lintels, beams, plinth beams, girders, floor beam, coping.	CU.M	295.00	9556	2819020
13	R2-CS-CW-7-e	Columns, Pillars, Piers, Posts and Struts.	CU.M	200.00	11184	2236800
14	R2-CS-CW-7-f	Stairs (waist slab), folded slab, inclined slab	CU.M	35.00	11059	387065
15	R2-CS-CW-7-i	Weather shade, Chajjas, corbels, cantilever beam, etc., including edges.	CU.M	15.00	12329	184935



16	R2-CS-CW-17	Extra and over for providing richer RMC of M-30 grade cement concrete instead of M20 (Note :- Cement content considered in this item is @ 340 kg/cum as per IS 456 table showing minimum cement content.)	CU.M	1725.00	532	917700
		Providing and fixing in position steel bars reinforcement of various diameters for R.C.C. pile, pile caps, footings,raft,retaining wall,shear wall, lift wall, foundations, slabs, beams, columns, canopies, staircases, newels, chajjas, lintels, pardies coping, fins, arches, etc. as per detailed designs, drawings and bar bending schedules,including straightening, cutting, bending, hooking the bars, binding with wires or tack welding, supporting as required etc. all complete at all levels.				
17	R2-CS-CW-35-c	Thermo-Mechanically Treated steel bars. (Fe 500 D)	MT	225.00	76770	17273250
18	R2-CS-CW-60	Providing and applying modified approved polymer coating for concrete surfaces up to plinth in locations where attack on steel in anticipated due to excessive presence of sulphates and chlorides in ground water.	SQ.M	1085.00	906	983010
		<b>MASONRY WORK</b>				
19	R2-CS-MW-4-b	Brick work with common burnt clay modular bricks of class designation 3.5 and above in superstructure above plinth level upto floor five level in all shapes and sizes in: Cement mortar 1:4 (1 cement:4 coarse sand)	CUM	220.00	6930	1524600
20	R2-CS-MW-33	Providing and laying autoclaved aerated (cellular) cement blocks masonry with more than 100 mm thick AAC blocks in cement mortar 1:4 (1 cement : 4 coarse sand ) including RCC stiffeners. The rate includes providing and placing in position 2 Nos 6 mm dia M.S. bars at every third course of masonry work, racking of joints, scaffolding and curing,etc. completed as directed by Engineer-in- Charge.	CUM	705.00	6911	4872255



<b>PLASTERING</b>						
21	R2-CS-PL-03	Providing and applying 6 mm thick internal ceiling plaster in single coat in cement mortar 1:3 with white cementitious wall putty (Birla white or equivalent) finish at all heights and locations for concrete surfaces including hacking of concrete surface, watering, finishing, curing, scaffolding etc. complete.	SQ.M	1350.00	304	410400
22	R2-CS-PL-06	Providing and applying 12 mm thick internal plaster in one coat in cement mortar 1:3 with white cementitious wall putty (Birla or equivalent) at all heights and locations for masonry (except stone masonry) and concrete surfaces including racking out joints, hacking of concrete surface, watering, finishing, curing, scaffolding etc. complete.	SQ.M	5280.00	352	1858560
23	R2-CS-PL-17-C	Providing and applying 25 mm thick external sand faced cement plaster with neat cement rendering upto 10m from ground level and at all locations in cement mortar proportion specified below in two coats for masonry (except stone masonry) and concrete surfaces including providing water proofing compound to the first coat of plaster as per manufacturers specification, racking out joints, hacking of concrete surface, finishing, curing, scaffolding etc complete as directed By Engineer In Charge. Min. time lag between two coats shall be 24 hours. (as per IS 2402 of 1963.) cement mortar 1:3	SQ.M	3775.00	561	2117775
24	R2-CS-PL-25	--do-- for additional height of 3 m or part thereof above 10m from ground level for all types of external plastering.	SQ.M	3605.00	55	198275
25	R2-CS-PL-43	Providing and applying Plaster of Paris punning to walls, beams, ceilings, columns in perfect line and level over the base of single coat cement plaster including roughening of existing surface making 6 mm groove at skirting and door, window jamb, sill, lintel, etc. complete. The rate is exclusive of base coat cement plaster.	SQ.M	5280.00	298	1573440



26	R2-CS-PL-45	P&F in position Gypsum board false ceiling with 12.5mm th. Gypsum boards, screwed/ fixed to the under struct of suspended G.I. Grid const & suspended from the main ceiling of ceiling sectn at max c to c distance of 450 mm perimeter channel and intermediate channels at max c to c distance 1200 mm galvanised grid should be fixed to RF CC slab.The gypsum board should be fixed to galvanised iron grid with necessary screws. The boards should be taped and filled from underside to give smooth, seamless ceiling. The rate should include necessary additional ceiling sections and intermediate channels to be provided at openings for light fixtures, asbestos cement ducts, vertical drops, offsets etc. Additional intermediate channels should be fixed to strap hangers for additional support to prevent strapping at every 1200 mm item to be comp in all respect.(G.I. perimeter channel size- 27mmx0.5mm thk.,flange-20mm & 30mm, intermediate channel. size-45mm & 0.9mm thk., hanger size- 5mmx0.5mm thk.) complete.	SQ.M	225.00	839	188775
27	R2-CS-PL-46	Providing and Fixing Modular False Ceiling of " Armstrong /M/sHunter Douglas India/USG" make by using 600 x 600 x 15 mm thick prima fine fissured microlook mineral fibre ceiling tiles on superfine 15 mm Tee grid system suspended with the help of 2 mm prestraitened G.I.wire,etc.complete. As per Architect's Detailed Drawing & Design as directed by Engineer In Charge.	SQ.M	165.00	1211	199815
		<b>WATER PROOFING</b>				



28	R2-CS-WP-3	Providing and laying water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like consisting of : (i) Ist course of applying cement slurry @ 4.4 kg/sqm mixed with water proofing compound conforming to IS 2645 in recommended proportions including rounding off junction of vertical and horizontal surface. (ii) IInd course of 20 mm cement plaster 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound in recommended proportion including rounding off junction of vertical and horizontal surface. (iii) IIIrd course of applying blown or residual bitumen applied hot at 1.7 kg. per sqm of area. (iv) IVth course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 kg/sqm).	SQ.M	335.00	994	332990
29	R2-CS-WP-22	Providing and filling AAC bats (of size 40-60 mm) with cement mortar mixed in the ratio 1:3:6 (1 cement : 3 coarse sand : 6 block bats) including mixing of approved water proofing compound in recommended proportion for W.C., bath and kitchen. The laid brick bat mix shall be well rammed and compacted as required. Further surfaces shall be screeded with cement concrete mix 1:1.5:3 (1 cement : 1.5 coarse sand : 3 stone grit of size 6 mm and below by volume) admixed with approved integral water proofing compound in recommended proportion, laid to an average thickness of 25mm and finished smooth or ready to receive finish material as specified. Care shall be taken prior to filling all pipes passing through sunk portion such that the pipes are pressure tested by maintaining pressure for 24 hours and junctions of pipes passing through walls, slabs are well grouted and sealed. This shall be tested by ponding water for required depth and maintaining for 7 days.(Rate includes cost of brick bats, cement	CuM	25.00	13300	332500





		mortar, top screed, labour charges for working at all levels, leads and heights). For payment the area of sunken slab and the depth of filling including the thickness of screed shall be measured.				
30	R2-CS-WP-23	Waterproofing the terrace slabs with average 100 mm thick, brick bats laid in cement mortar bed 1:4 filled with mortar 1:4 of total thickness 100 mm, laid to slope (1:100) with vata 15 cm, at the junction of walls and IPS flooring (1:2:3) 40 mm thick with admixture, of approved water proofing compound, as per manufacturers specification laid after grouting the slab, finishing curing etc. complete as directed and specified. (Horizontal measurement clear between walls will be paid for).	SQ.M	750.00	992	744000
31	R2-CS-WP-25	Providing and installing crystalline waterproofing treatment to inside surfaces of the water retaining structures	SQ.M	145.00	2537	367865
32	R2-CS-WP-27-A	Waterproofing the terrace slab and staircase roof slab with average 100 mm thick concrete of broken brick bats and cement mortar (1:4) in the proportion of 2 parts of brick bats and 1 part of mortar, laid in proper slope (1:100) well rammed, watered and consolidated with vata 15 cm at junction of walls and Indian patent stone flooring 1:2:3 (12.5 mm chips) 40 mm thick and with admixture of approved water proofing compound as per manufacturers specifications laid after grouting the surface of brickbat coba with neat cement slurry in alternate suitable squares to required slope as directed including filling in joints with bitumen and cleaning the slab top of all dust and loose material; tamping, finishing and curing complete as directed and specified. (Horizontal measurements clear between walls will be paid for).	SQ.M	150.00	1418	212700



33	R2-CS-WP-37	Providing waterproofing treatment through specialized agencies as per their specifications to the flooring of water closets, bathrooms, kitchen, nahanies, washing places, sanitary blocks etc. by giving INJECTIONS with cement solution with water proofing compound into the floor slab	SQ.M	95.00	512	48640
34	R2-CS-WP-49	Providing & Making Waterproofing Treatment to the Chajja by finishing top surface with 20 mm thick 12 C.M. plaster with addition of approved water proofing compound as per manufacturers specifications and neat cement finish,including drip moulding at edge ,at bottom of chajja & cement vatta above chajja along the junction with wall etc complete. as per FMB item No. 5.22 but for new surfaces & as directed by the Engineer-In-Charge	SQM	199.00	503	100097
		<b>PAINTING</b>				
35	R2-CS-PN-3	Providing and applying first single coat of approved primer and two coats of acrylic distemper (oil bound distemper) of an approved make and colour as per manufacturers specifications to any surface, at all height and locations as directed including scaffolding, cleaning and preparing surfaces for painting with broom by any approved means, etc. complete as directed by Engineer-in-charge. INTERIOR PAINT	SQ.M	5280.00	98	517440
		Providing and applying first single coat of approved primer and two coats of synthetic enamel paint/flat oil paint of an approved make and colour as per manufacturers specifications to surfaces specifird below, at all height and locations as directed including scaffolding, cleaning and preparing surfaces for painting by any approved means etc. complete as directed by Engineer-in- charge				
36	R2-CS-PN-4-c	For steelwork	SQ.M	770.00	139	107030



37	R2-CS-PN-6	Providing and applying first single coat of approved primer and two coats of luster paint of an approved make and colour as per manufacturers specifications to any surface, at all height and locations as directed including scaffolding, cleaning and preparing surfaces for painting by any approved means etc. complete as directed by Engineer-in-charge.	SQ.M	235.00	127	29845
38	R2-CS-PN-12-b	Providing and applying first single coat of approved primer and two coats of anti-algal, anti-fungal, exterior paint as specified below of an approved make and colour as per manufacturers specifications to any surface, upto 10m height from ground level and at all locations as directed including preparing surfaces for painting by any approved means, scaffolding, cleaning and curing etc. complete as directed by Engineer-in-charge. By using acrylic based exterior paint with silicone additives	SQ.M	4000.00	188	752000
		<b>FLOORING</b>				
		Providing and laying polished natural stone as specified below (Machine cut) of an approved quality and size for paving /flooring in plain and/or diamond /approved pattern including cement mortar bedding of 25 mm thick in 1:4 proportion, cement float, machine cutting, dressing, leveling, jointing, filling the joints with neat cement slurry or with required pigment, machine polishing at site, curing, finishing, etc complete as directed by Engineer In Charge.				
39	R2-CS-FL-01-c	25 to 30 mm thk. Kota stone of size 0.430m x0.56m (17"x22")	SQ.M	950.00	1179	1120050
40	R2-CS-FL-01-k	18 mm thk. Ruby red, jet black, Hasan green Granite 18 mm thk	SQ.M	30.00	2275	68250



		Providing and laying 800 x 800 x 10 mm thk. vitrified tiles as specified below conforming to I.S.15622-2006 with water absorption less than 0.08% for flooring of an approved, quality, make, pattern and size for flooring including cement mortar bedding of 25 mm thick in 1:4 proportion, cutting, leveling, jointing, filling the joints by neat cement slurry or approved colour grout, curing, finishing etc complete as directed by Engineer In Charge.				
41	R2-CS-FL-9-a	Light coloured glazed vitrified tiles	SQ.M	380.00	1762	669560
42	R2-CS-FL-9-c	Light coloured antiskid / matt vitrified tiles	SQ.M	85.00	1762	149770
43	R2-CS-FL-16	Providing and laying 16-20 mm thick and 75mm wide strips of rough jet black Granite stone (or equivalent) of approved colour, on ramp to get anti-skid effect including cement mortar bedding of 25 mm thick in 1:4 proportion, cement float, machine cutting, dressing, leveling, jointing, filling the joints with neat cement slurry or with required pigment, curing, finishing etc. complete as directed by Engineer-incharge.	SQ.M	75.00	5501	412575
		Providing and fixing polished natural stone tiles /slab as specified below of approved quality, pattern and colour for flush/projected skirting and risers including preparing the surface and levelling in the desired line, backing of 20 thk. cement mortar in porportion 1:3, square cut top edge or chamfered top edge in cement mortar 1:3, cement float, machine cutting, leveling, jointing, filling the joints with neat cement or pigment mixed with cement, polishing, finishing, curing etc complete as directed by Engineer In Charge.				
44	R2-CS-FL-21-o	15 to 20mm thk. Kota stone for height upto 300 mm	RMT	770.00	336	258720



		Providing and fixing 10mm thk. vitrified tiles as specified below conforming to I.S. 15622-2006 of approved quality, pattern and colour for flush/projected skirting and risers including preparing the surface and levelling in the desired line, backing of 20 thk. cement mortar in porportion 1:3, square cut top edge or chamfered top edge in cement mortar 1:3, cement float, machine cutting, leveling, jointing, filling the joints with neat cement slurry or pigments mixed with cement, finishing, curing etc complete as directed by Engineer In Charge.				
45	R2-CS-FL-26-c	Light coloured antiskid / matt vitrified tiles for height upto 150mm	MTR	80.00	274	21920
		Providing and fixing polished natural stone tiles as specified below of approved quality, pattern and colour for dado including preparing the surface and levelling in the desired line, backing of 20 thk. cement mortar in porportion 1:3, square cut top edge or chamfered top edge in cement mortar 1:3, cement float, machine cutting, leveling, jointing, filling the joints with neat cement or pigment mixed with cement, polishing, finishing, curing etc complete as directed by Engineer In Charge.				
46	R2-CS-FL-28-d	25 to 30mm thk. Kota stone	SQ.M	595.00	1559	927605
		Providing and fixing rough natural stone slab as specified below of approved quality, pattern and colour for treads including preparing the surface and levelling in the desired line, in cement mortar 1:4, cement float, machine cutting, leveling, jointing, smooth cement plastering along the sides to match the existing surface in cement mortar 1:3, filling the joints with neat cement or pigment mixed with cement, polishing, finishing, curing etc complete as directed by Engineer In Charge.				
47	R2-CS-FL-39-e	Ruby red, jet black, Hasan green Granite for width upto 300 mm	RMT	75.00	1016	76200



		Providing and fixing polished natural stone tiles as specified below of approved quality, pattern and colour for sill and jambs including preparing the surface and levelling in the desired line, cement mortar 1:3 bedding or backing, cement float, machine cutting, leveling, jointing, smooth cement plastering along the sides to match the existing surface in cement mortar 1:3, filling the joints with neat cement or pigment mixed with cement, finishing, curing etc complete as directed by Engineer In Charge.				
48	R2-CS-FL-40-j	18mm thk. Ruby red, jet black, Hasan green Granite for width upto 150 mm	RMT	1190.00	377	448630
49	R2-CS-FL-40-u	18mm thk. Ruby red, jet black, Hasan green Granite for width upto 300 mm	RMT	80.00	621	49680
50	R2-CS-FL-46-c	Providing and constructing raised platform of 750 mm wide and 600 to 750mm high using minimum 40mm thick polished kadappa stone slab base with minimum 15mm thk. polished stone top as specified below of approved quality, colour and texture, supported by both side polished, 40mm thk. and minimum 700mm wide kadappa spaced at not more than 1200mm clear, including polished fascia of min. 100mm height as specified below with champhered/ rounded at the top edges, jointing in approved adhesives, machine cutting, making opening for sink and fixing the same in position, leveling, smooth cement plastering along the sides to match the existing surface in cement mortar, filling the joints with pigment mixed with cement, cleaning, finishing, curing etc complete as directed by Engineer In Charge. (The cost of providing the sink shall be paid extra as per plumbing items)	RMT	10.00	3949	39490



51	R2-CS-FL-50	Providing and fixing 20mm to 25 mm thk. polished jet black granite stone plaque for inauguration of approved quality including preparing the surface and levelling in the desired line, cement float, machine cutting, leveling, jointing, filling the joints with neat cement, finishing, curing etc complete as directed by Engineer In Charge.	SQ.M	10.00	3636	36360
52	R2-CS-FL-51-b	Engraving the letters of sizes specified below in golden or any other approved colour on granite stone etc. complete as directed by Engineer In Charge.	No.	110.00	39	4290
53	R2-CS-FL-51-c	Border line upto 12mm thk.	Rmt	10.00	224	2240
54	R2-CS-FL-63	Providing and fixing 10mm thk. vitrified tiles as specified below conforming to I.S. 15622-2006 with water absorbtion less than 0.08% and of approved quality, pattern and colour for dado in the wet area including preparing the surface and levelling in the desired line, backing of 20 thk. cement mortar in porportion 1:3 with approved waterproofing compound, square cut top edge or chamfered top edge in cement mortar 1:3, cement float, machine cutting, leveling, jointing, filling the joints with neat cement slurry or approved colour grout, finishing, curing etc complete as directed by Engineer In Charge. Light coloured glazed vitrified tiles/ Dark coloured glazed vitrified tiles/ Light coloured antiskid / matt vitrified tiles/ Dark coloured antiskid / matt vitrified tiles	SQ.M	415.00	1832	760280



55	R2-CS-FL-64	Providing and fixing 8mm thk. vitrified tiles as specified below conforming to I.S. 15622-2006 with water absorption less than 0.08% and of approved quality, pattern and colour for dado in the dry area including preparing the surface and levelling in the desired line, backing of 20 thk. cement mortar in proportion 1:3, square cut top edge or chamfered top edge in cement mortar 1:3, cement float, machine cutting, leveling, jointing, filling the joints with neat cement slurry or approved colour grout, finishing, curing etc complete as directed by Engineer In Charge. Light coloured glazed vitrified tiles/ Dark coloured glazed vitrified tiles/ Light coloured antiskid / matt vitrified tiles/ Dark coloured antiskid / matt vitrified tiles	SQ.M	115.00	1672	192280
56	R2-CS-FL-79	Granite riser 150mm ht. for staircase (black galaxy or approved) polished,including backing coat of 1:4 cement plaster/mortar/cement paste , cleaning etc. complete as per Architects details drawingand design(Basic rate of granite is Rs.220/-Sq.ft.)	MTR	180.00	831	149580
57	R2-CS-FL-80	Providing & fixing 20 +mm thick machine cut mirror polish 1st quality Granite treads 300mm wide for staircase (black galaxy or approved) including grooves and edge moulding & polishing with backing coat of 1:4 cement plaster/mortar/cement paste,cleaning etc.complete as perArchitects details drawing and design(Basic rate of granite is Rs.220/- Sq.ft.)	MTR	180.00	1934	348120
58	R2-CS-FL-88	TELEPHONE BLACK GRANITE WASH HAND BASIN COUNTER : Providing and making wash basin counter in single piece of 18 mm to 20 mmthk.Telephone Black granite 600 mm side fixed over 25 to 40 mm thk. Black Cuddappa, stand with type construction, by making zari, in walls upto 75 mm deep & fitting the wall surface by C.M. 1:2 with necessary moulding, profile cutting in granite and cudappa including making hole to receive pillar cock for wash basin etc complete and as per detailed	RMT	30.00	9056	271680





		drawing,as directed by the Engineer-In-Charge.				
59	R2-CS-FL-93	Providing & fixing 20mm +/- 2mm thick both side mirror polished approved colour Granite Urinal partitions of 600 mm wide & 1550 mm high with round edges moulding and fixed in C.M. 1:2and filling joints in white cement mixed with pigment to match the colour of granite including curing, cleaning etc.complete.(Basic Rate 210/Sft.)	NOS	10.00	5344	53440
		<b>STRUCUTRAL STEEL WORK</b>				
60	R2-CS-SS-04	Providing, detailing, composite fabricating members like Trusses, Ngirders, girders, bracings, supports, purlins, runners, and similar structural steel members fabricated using M.S. hollow tubular steel sections (circular & rectangular pipes), of TATA Structura Make or equivalent conforming to IS 1239 part 1 and 2 and of grade Fe 250 as per specifications and approved fabrication drawings (which are to be prepared by Contractor and got approved from Engineer), including transportation of the same to site, erection of structural steel members for all heights & at all levels, provision of necessary erection bolts, fixing bolts, nuts, washers, cleats, stiffeners, gussets, base plate, and all necessary operations like preheating as per specifications, straightening, bending, cutting, drilling, grinding, machining if specified, welding, grinding, removing the welding burr and preparing surface for painting with wire brush cleaning and applying two coats of epoxy red oxide zinc phosphate primer of 30 microns each and two coats of Epoxy Corrosion Resistant Enamel paint of 30 microns after fabrication including touching up with spray painting after erection etc complete as directed by Engineer	MT	40.00	82427	3297080



61	R2-CS-SS-13	Supplying, fabricating, transportation to site and Fixing Galvanized Chain Link Fencing of 10 gauge G.I. Mesh, sizes 50 x 50 mm diamond pattern, fixed 75 mm below finished ground level / coping, including providing and erecting ISA 50x50x6 angle posts @ 2.5m C/C with cross support at every 8th pole & at corners and 2 nos 6mm dia MS bars at top and bottom with necessary U hooks, nuts and bolts, washers, total height of fencing @ 2.0m above ground including embedding the angle post in concrete block of 0.45m x 0.45m x 0.6m of cement concrete M15 grade including necessary excavation, and cleaning, preparing the surface, applying one coat of red oxide zinc chromate primer and two coats of Synthetic Enamel paint of approved manufacture, brand, colour, shade etc. complete as directed by Engineer In Charge. (first coat of synthetic enamel paint after fabrication and second coat after erection including touching up the primer coat)	SQM	903.00	957	864171
62	R2-CS-SS-22	Providing, detailing, and fabricating as per specifications, transporting to site and erecting M.S. ladder using hot rolled sections, hollow pipes (Hollow pipes conforming to IS 1239 part 1 and 2) including, fixtures and fastenings, cleats, stiffeners, gussets, etc. and all necessary operations like straightening, bending, cutting, drilling, grinding, machining if specified, welding, removing the welding burr, cleaning etc., fixing in cement concrete block of grade M15, and preparing surface, applying one coat of red oxide zinc chromate primer and one coat of Synthetic Enamel paint after fabrication and second coat of synthetic enamel paint after erection, with approved colour, shade and brand etc. complete as directed by Engineer In Charge.	KG	228.00	120	27360



63	R2-CS-SS-31	Providing, fabricating & fixing in position S.S. 304 grade pipe railing for staircase consisting of 18 gauge 50 mm dia.S.S. pipe as top rail,18 gauge 40 mm dia S.S. pipe as verticals, 18 gauge 25 mm dia as secondary rails, including fixing the verticals to the staircase pardi by means of base plate with socket & anchor fasteners, grinding the welded portion smooth, buffing, protecting the railing members by means of wrappers during construction etc. complete as directed by the Engineer in charge.	MTR	99.00	3394	336006
64	R2-CS-SS-16	Providing, detailing, and fabricating as per specifications, transporting to site and erecting MS Openable / Sliding / Ornamental Entrance Gates including track and wheel, locking arrangement, fixing bolts, nuts, washers, cleats, stiffeners, gussets decorative balusters, arrow heads etc. and all necessary operations like straightening, bending, cutting, drilling, grinding, machining if specified, welding etc. complete weighing 60 to 65 kg/Sqm, including cleaning, Grinding and removing the welding burr and preparing surface and applying one coat of red oxide zinc chromate primer and one coat of Synthetic Enamel paint after fabrication and second coat of Synthetic Enamel paint after erection, with approved colour, shade and brand etc. including touching up with primer etc. complete as directed by Engineer In Charge.	SQ.M	19.00	7834	148846
65	R2-CS-SS-32	Providing & fixing S.S. pipe hand rail along the wall in staircase or ramps or passages consisting of 50 mm dia. 18 gauge 304 grade stainless steel pipe. Supported with 25 mm 18 gauge S.S. pipe (304grade) brackets & 5mm thick tapered edge collar base plate fixed to wall with SS screws at approx. 600 mm center to center fixed horizontally or in inclined position at required height including grinding the welded joints, buffing,protecting the railing members by means of wrappers during construction etc. complete as per detailed	MTR	57.00	1675	95475



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		drawing as directed by the Engineer in charge.				
		<b>STEEL WORK</b>				
66	R2-CS-SL-04	Providing and fixing in position collapsible steel gates with vertical channels 20 x 10 x 2 mm & braced with flat iron diagonals 20 x 5 mm size, top & bottom T section 40 x 40 x 6 mm size, 30 mm steel pulleys complete with bolts-nuts, locking arrangements, stoppers, handles and painting with one coat of red oxide zinc chromate primer and two coats of synthetic enamel paint including all labour, materials, tools and equipments, etc complete as directed by Engineer Incharge.	SQ.M	40.00	7493	299720
67	R2-CS-SL-05	Providing and fixing rolling shutters made out of 18 gauge steel sheets for curtains, including bottom rail, 100 mm wide guide channels for opening width up to 4.0m and 150mm wide guide channel for opening width more than 4.0m, lock plates, locking arrangement on both sides, fixing bolts, pulling handles, MS hood of appropriate size, rolling arrangement, standard make springs in brackets etc. including fixing of frames with rag bolts, grouting of parts in position etc. and also including two coats of red oxide zinc chromate primer and two coats of synthetic enamel paint of approved colour, shade and brand etc. complete as per IS:6248 / specifications and as directed by Engineer In Charge. The shutter should withstand wind pressure of 47meters per second.	SQ.M	205.00	3534	724470
68	R2-CS-SL-06	Extra over item R2-CS-SL-05, for providing ball bearing wherever required and directed etc complete.	Nos	25.00	266	6650
69	R2-CS-SL-07	Extra for providing mechanical device for operating rolling shutters.	Nos	25.00	792	19800



		Providing and Fixing MS Safety grill of weight specified below for windows as per design including fabricating the grill using M.S. square / round bar, flats and angles including painting with one coat of red oxide zinc chromate primer and two coats of synthetic enamel paint of approved colour and brand etc complete as directed.				
70	R2-CS-SL-12-d	Grill weighing 25 to 30 kg / sqm	SQ.M	280.00	3231	904680
		Providing, fabricating and fixing M.S. grill work as per approved design and as per weight specified below to fencing / compound made out of square / round bars, M.S. flats, angles, with necessary holdfast including painting with one coat of red oxide zinc chromate primer and two coats of approved synthetic enamel paint etc. complete as directed by Engineer In Charge.				
71	R2-CS-SL-14-c	Mild steel grill of weight 20 to 25 Kg/sq. m.	SQ.M	200.00	2576	515200
72	R2-CS-RW-15	Providing and fixing box type precoated gutter of width 350 mm and depth 250 mm clear inside, made of 22 gauge G.I.sheets with socket type opening on top to receive ferrules from longitudinal truss gutters and ferrules at end, with all the fixtures and fastenings, gutters to be supported on M.S. flat hangers 750 MM C/C which are fixed on top as directed and laid to proper slope, as specified including making necessary connections with rain water pipes etc complete and as directed. (Rate includes cost of hangers, the fixing charges, 3 coats of synthetic enamel paint, and welding if required).	Rmt	145.00	1325	192125
		Providing and fixing UV resistant selffit UPVC pipes of approved make for Rainwater downtakes conforming to IS 13592:1992 Type A suitable for 4kg/sqcm pressure for following pipe diameters including rain water receiving recess with pvc plug bend necessary fittings such as offsets shoes, fixing the pipes on wall with clips filling the joints with solvent/cement				



		and necessary scaffolding etc. complete as directed by Engineer In Charge.				
73	R2-CS-RW-16-b	100mm dia	Rmt	200.00	406	81200
		Providing corrugated G.I. sheet roofing including vertical / curved surface fixed with polymer coated J or L hooks, bolts and nuts 8 mm diameter with bitumen and G.I. limpet washers or with G.I. limpet washers filled with white lead, including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete (up to any pitch in horizontal/ vertical or curved surfaces), excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	SQ.M			
74	R2-CS-RW-26-b	0.8 mm thick GI corrugated sheet with zinc coating not less than 275 gm/m <sup>2</sup>	SQ.M	1170.00	360	421200
75	R2-CS-RM-98	Providing & constructing Soft board panelling with soft board & fabric. Basic rate of fabric is 150/metre	SQ.M	10.00	900	9000
76	R2-CS-RM-125	Providing & fixing FULL HEIGHT BOTH SIDE LAMINATED PARTITION at required location having height more than 2.8 meter & minimum 77 mm thick made by using 50 x 50 mm (finished size) approved quality seasoned TW section framing at 600 mm center to center, covered with 12 mm marine ply generally conforming to I.S.303 / I.S.710-1980 on both sides. The partitions shall be finished with 1.5 mm thk. approved quality laminate matt/suede/fine line finished lamination pattern with grooves on both sides with necessary lipping (BTC) moulding. Antitermite treatment to plywood and woodwork, door frame including all leads & lifts etc complete as per Architect's Drawing and instructions of Engineer In Charge. ( Basic Laminate Rate Rs.30/- per sft.)	SQ.M	60.00	6732	403920
77	R2-CS-RM-130	Providing & fixing stainless steel 20 mm dia, 600 mm long grab bar for physically handicapped toilet etc complete as directed.	NOS	5.00	1161	5805



78	R2-CS-RM-132	Providing and fixing Speed Breakers of Size 350 W x 500 L x 50 H mm yellow black color as shown in the drawing with necessary fittings & fixtures as directed by EIC.	MTR	55.00	2270	124850
79	R2-CS-RM-139	CORNER GUARD 45MMX45MM : 4FT PCS	NOS	60.00	670	40200
80	R2-CS-RM-143-a	Providing & Fixing solid white acrylic laser cut out MCGM Logo etc complete. Size : 60" x55"	NOS	55.00	30	1650
81	R2-CS-RM-143-b	Providing & Fixing solid white acrylic laser cut out MCGM Logo etc complete. Size : 36" x 33"	NOS	630.00	30	18900
82	R2-CS-DD-2	Demolishing R.C.C. slab, R.C.C. wall of any thickness, R.C.C. beams, joists, R.C.C. columns, piles, pile caps etc., in any thickness and size manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	Cum	90.00	1837	165330
83	R2-RW-2-20	Providing & laying, spreading & compacting graded crushed stone aggregate to wet mix macadam to the satisfaction of Engineer including premixing the material with water to OMC in mechanical mix (pug mill) carriage of mix material by tipper to site, laying in uniform layer of 75 mm to 100 mm (compacted thickness each) with sensor paver finisher on prepared subbase & compacting with vibratory roller (10 tonne) to achieve desired density including lighting, guarding barricading & maintenance of diversion etc. as directed by the Engineer, ( Rebate for not using sensor paver should be taken,(metal gradation from 53 mm to 75 micron as per prevailing MCGM specifications for Roadworks clause no.240).	Cum	920.00	2937	2702040



84	R2-RW-2-21	Providing & laying, spreading & compacting specified crushed stone in granular subbase course including premixing the material in mechanical mixer (pug mill or approved type), spreading of mixed material in uniform layer of 100 mm to 75 mm (compacted thickness each) with motor grader or paver on prepared murum surface & compacting with 10 tonne vibratory roller to achieve desired density including all material, labour, machinery, lighting, barricading to all lifts & lead, maintenance of diversion etc. complete (metal gradation from 75mm to 75 micron as per prevailing MCGM specifications for Roadworks clause no.210).	Cum	920.00	2547	2343240
85	R2-RW-8-02	P/L 250 mm dia. R.C.C. hume pipes, NP2 class, jointing, filling in 1:1 cement mortar, including plugging of both the ends with gunny bags, brick masonry in cement mortar 1:4 with plaster in cement mortar 1:4 & curing etc. complete, as specified as directed.	Rmt	75.00	640	48000
86	R2-RW-10-15	Providing & fixing high density polythene pipe of approved quality to fit around the dowel bars of 32mm dia at the end of expansion joints, fully greased inside, cotton waste in the pipe around the dowel bars & the pipe duly capped at the end as directed. (H.D.P. pipe shall be 30cm in length). As shown in the drawing.	Each	15.00	31	465
87	R2-RW-10-17	Providing & fixing in position M.S. dowel bars of 32mm dia 55cm long & 30cm C/C whenever directed including handling, fixing, etc. complete (no extra payment will be made for applying bitumen & grease to dowel bars)	MT	5.00	62904	314520
88	R2-RW-10-18	Providing & laying waterproof paper of 40 GSM including overlap ( to be not less than 10cm) etc. complete as specified as directed.	SQ.M	3570.00	11	39270





89	R2-RW-10-32	Providing and laying Dry Lean Concrete base including providing coarse and fine aggregate to the specified gradation using minimum cement content 150 kg/cum of concrete with OPC 43 grade cement, mixing of concrete as per approved design mix using mechanised batch mix plant of appropriate capacity, transporting and laying with self propelled paver with electronic sensor device and compacting with vibratory roller of minimum 80- 100 KN static weight to give desired compacted density and average compressive strength of 10 MPa at 7 days and curing with liquid curing compound and sprinkling water and covering with moist hesian cloth or ponding of water for 7 days including providing construction joints, including all material, labour, machinery with all leads and lifts etc. complete as specified and as directed by the Engineer. B) Laying by paver with electronic sensor device	Cum	555.00	4481	2486955
90	R2-RW-10-33	Providing & laying M-40 C.C.avg. compressive strength 45 MPa and avg. flexural strength of 5.0 MPa (As per IRC 15-2002.N.1.6) procured from M.C.G.M. approved R.M.C. plant including use of approved make of plasticizer/retarder & Contractor's water with ice flakes and transported by transit mixer and placing at work site. Compacting, finishing, initial curing by approved curing compound & Contractor's water and tarring the sides of slab with hot bitumen as specified and directed (w/c ratio 0.4 maximum)(vata for curring will be paid separately.) (MINIMUM CEMENT CONTENT 350 kg/m <sup>3</sup> )	Cum	555.00	7968	4422240



		Providing and applying hot applied thermoplastic road marking material with glass beads extremely high skid resistance 2.5 mm thick without primer coat (Tack coat) on Asphalt road surface. All labour, materials, with special aggregates as specified in B.S. part - I & II 1989 and carrying out the marking on any road in center line and other marking continious or intermitten 10cm. or 15cm width also pedestrians crossing strips as well as spraying further quantity of glass beads of type II uniformly into a mono layer on to the hot paint line in quick succession of the paint spraying opration @ 250gms per sqm. area as directed and as per BS / MOST specifications in white / yellow colour.				
91	R2-BW-5-7-i	a) White colour	SQ.M	555.00	874	485070
		<b>WOOD WORKS</b>				
92	R2-CS-WW-13	Providing and fixing vision panel of size 300mm x 300mm in any type of door with 6mm thick glass including T.W. beading etc. complete as directed bt Engineer in charge	NOS	46.00	254	11684



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93	R2-CS-WW-37	Fire rated Double leaf Door - Laminate Finish: Providing & Fixing of wooden Fire door with Panic Bar of approved make and of required size, 120 minutes fire rating, integrity and insulation in accordance with the criteria of BS 476: Part22: 1987 and Report 212(1)/FR/2003; insulation on door leaf only. Tested at Fire Research Laboratory Central Building Research Institute, Roorkee with standard heating conditions as specified in IS: 3809-1979 and BS: 476 part 20 & 22, 1987 to achieve the required integrity & insulation (i.e. to restrict the heat radiation, temperature rise on the non fire side to the maximum of 140 degree Centigrade above the ambient temperature on the unexposed surface of the shutter). Red Mirranti Hard wood frame of section 145mm x 70mm with Intumescent strip (Imported) to take care of Hot and cold smoke of size 10mm x 2mm x 2Nos. concealed in the groove of the frame and 55mm thick double leaf shutter made out of perimeter railing of Red Mirranti wood of size 100mm x 29mm and Promina 60.9mm thick. Calcium Silicate Board Fire Retardant compound on each side coated with Intumescent sealant and faced with 4mm thick marine ply	SQM	12.00	15556	186672
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94	R2-CS-WW-47	Fire rated Single leaf Door - Laminate Finish: PnF of Wooden Fire door without Panic Bar of appd make and of required size, 120 minutes fire rating, integrity and insulation in accordance with the criteria of BS 476 ;Part 22 : 1987 and report 212 (1)/FR/2003; Insulation on door leaf only. Tested at Fire Research Lab, CBRI, Roorkee with standard heating conditions as specified in IS : 3809-1979 and BS : 476 part 20 & 22, 1987 to achieve the required integrity & insulation (i.e. to restrict the heat radiation, temp rise on the non fire side to the max of 140 deg Centi above the ambient temp on the unexposed surface of the shutter). Red Mirranti Hard wood frame of section 145mm x 70mm with Intumescent strip (Imported) to take care of Hot and cold smoke of size 10mmx2mmx2Nos. Concealed in the groove of the frame and 55mm thick single leaf shutter made out of perimeter railing of Red Mirranti wood of size 100mmx29mm and promina 60.9mm thick Calcium Silicate Board Fire Retardant compound on each side coated with Intumescent sealant and faced with 4mm thick marine ply with Fire and smoke Intumescent Seal of size 20mmx2mmx1No., mounted in thE grooves in the shutter on all sides except bottom with 10mm thick	SQ.M	62.00	20295	1258290
		<b>FRP- PVC</b>				
95	R2-CS-PV-01	Providing and fixing Fiber Glass Reinforced plastic (FRP) Door Frames of cross-section 90mm x 45mm having rebates of 32mm x 15mm size to receive shutter of 30mm thickness. The laminate shall be moulded with fire resistant grade unsaturated polyester resin and chopped mat. Door frame laminate shall be 2mm thick and shall be filled with suitable wooden block in the frame. The frame shall be covered with fiberglass from all sides. M.S. stay shall be provided at the bottom to steady the frame etc. complete as directed.	RMT	55.00	587	32285



96	R2-CS-PV-05	Providing and fixing 24 mm thick factory made PVC door shutters made of styles and rails of a UPVC hollow section of size 59x24 mm and wall thickness 2 mm $\pm$ 0.2 mm with inbuilt edging on both sides. The styles and rails mitered and joined at the corners by means of M.S. galvanised/plastic brackets of size 75x220 mm having wall thickness 1.0 mm and stainless steel screws. The styles of the shutter reinforced by inserting galvanised M.S. tube of size 20x20 mm and 1 mm $\pm$ 0.1 mm wall thickness. The lock rail made up of 'H' section, a UPVC hollow section of size 100x24 mm and 2 mm $\pm$ 0.2 mm wallthickness fixed to the shutter styles by means of plastic/galvanised M.S. 'U' cleats. The shutter frame filled with a UPVC multi-chambered single panel of size not less than 620 mm, having over all thickness of 20 mm and 1 mm $\pm$ 0.1 mm wall thickness. The panels filled vertically and tie bar at two places by inserting horizontally 6 mm galvanised M.S. rod and fastened with nuts and washers, as per manufacturer's specification etc. complete as directed. (For W.C. and bathroom door shutter).	SQ.M	20.00	1548	30960
		<b>ALUMINIUM WORKS</b>				



97	R2-CS-AW-01	Providing and fixing in position two track aluminum window of extruded modular and anodized aluminum sections of approved make and of size 61.85 mm x 45.5 mm x 1.3mm thk (wt 1.055 kg/Rm) for bottom, 61.85 mm x 31.75 mm x 1.3 mm thk. (wt 0.659 kg/Rm) for top & sides, mounted on anodized aluminum rectangular frame of size 63mm x 38mm x 2.0mm(1.054). The shutter comprising of bearing bottom and top of size 40mm x 18 mm x 1.25 mm thk (wt. 0.417 Kg/Rm) Interlocking section of size 40mm x 26,7 mm x 1.10 mm thk. (Wt. 0469 kg./Rm) and hand sides of 40mm x 18mm x 1.25 mm thk (wt. 0.417kg/Rm) with 5 mm thick plain / frosted / tinted glass fixed in shutter including approved quality neoprene gasket, fixtures, fastenings and accessories like PVC rollers, PVC weep holes, locks, handles etc. complete as directed by Engineer In Charge. (Note: anodic film must not be less than 15 microns i.e. AC-15 as per IS, the anodizing must be scaleted by keeping the anodized section in boiling de-anodized water for a period of one hour)	SQ.M	15.00	5266	78990
98	R2-CS-AW-02	Providing and fixing in position three track aluminum window of extruded modular and anodized aluminum sections of approved make and of size 92 mm x 45.5 mm x 1.5 mm thk (wt 1.659 kg/Rm) for bottom and 92 mm x 31.75 mm x 1.3 mm thk. (wt 0.933 kg/Rm) for top and sides mounted on anodized aluminum rectangular frame of size 100mm x 40mm x 1.3mm.(Wt 0.976 kg/m) The shutter comprising of bearing bottom and top of size 40mm x 18 mm x 1.25 mm thk (wt. 0.417 Kg/Rm) Interlocking section of size 40mm x 26.7 mm x 1.10 mm thk. (Wt. 0.469 kg./Rm) and hand sides of 40mm x 18mm x 1.25 mm thk (wt. 0.417kg/Rm) with 5 mm thick plain / frosted / tinted glass fixed in shutter including approved quality neoprene gasket, fixtures, fastenings and accessories like PVC rollers, PVC weep holes, locks, handles etc. complete as	SQ.M	170.00	5227	888590



		directed by Engineer In Charge. (Note: anodic film must not be less than 15 microns i.e. AC-15 as per IS, the anodizing must be scaleted by keeping the anodized section in boiling de-anodized water for a period of one hour)				
99	R2-CS-AW-04	Providing and fixing in position aluminum louvered window with anodised aluminum frame of approved make and of size 40mm x 20mm x 2.0mm (wt. 0.605 kg/Rm) including adjustable aluminum frame, 4 to 6mm thk. frosted glass, fixtures and fastenings etc. complete as directed by by Engineer In Charge.	SQ.M	15.00	4246	63690
100	R2-CS-AW-08	Providing and fixing in position fixed window made up of extruded and anodised aluminium sections of approved make and of size 50.80 mm x 25.40 mm x 2.41 mm thk (wt. 0.929kg./Rm) for outer rectangular tube, 40 mm x 31.5 mm x 1.5 mm (wt. 0.549 kg/Rm) for outer frame, 40 mm x 31.50 mm x 1.50 mm thk (wt. 0.502 kg/Rm) for central mullion, 16.50 mm x 14.50 mm x 1.20 mm thk (wt. 0.157 kg/Rm) for glazing clip with 5 mm thick including neoprene gasket, fixtures and fastenings etc. complete as directed by Engineer In Charge. (Note: anodic film must not be less than 15 microns i.e. AC-15 as per IS, the anodizing must be scaleted by keeping the anodized section in boiling de-anodized water for a period of one hour)	SQ.M	10.00	5506	55060



		Providing and fixing anodized (anodic film must not be less than 15 microns i.e. AC-15 as per IS, the anodising must be scaleted by keeping the anodized section in boiling deanodized water for a period of one hour) aluminum fixed/ sliding / pivoted / top hung / side hung / louvered type windows, doors, ventilators and partitions conforming to IS:1948, 1961 with hollow bottom section & standard single / two / three / four track frame section all round (top, bottom and sides) with shutter frame made up of standard handle section standard interlocking section and standard top and bottom section with infill panel of plain / frosted / tinted glass/ Novapan sheet / acrylic sheet / hardner laminated sheet as listed below with nylon guides, gliders glass fixing PVC weather strips, neoprene gasket, PVC weep holes etc complete with approved type of locking arrangement, handles and other fixtures including fixing, filling the gaps with silicon sealant, cleaning polishing the aluminium section with petrol and / or other agents as specified by the manufacturers etc. complete as directed by Engineer In Charge.				
101	R2-CS-AW-15-f	8 mm thick plain / frosted / tinted glass	SQ.M	10.00	1963	19630





102	R2-CS-AW-18	Designing, fabricating, testing, installing and fixing in position Curtain Wall with Aluminium Composite Panel Cladding, with open grooves for linear as well as curvilinear portions of the building , for all heights and all levels etc. including: a) Structural analysis & design and preparation of shop drawings for pressure equalisation or rain screen principle as required, proper drainage of water to make it watertight including checking of all the structural and functional design. b) Providing, fabricating and supplying and fixing panels of aluminium composite panel cladding in pan shape in metallic colour of approved shades made out of 4mm thick aluminium composite panel material consisting of 3mm thick FR grade mineral core sandwiched between two Aluminium sheets (each 0.5mm thick). The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500 based PVDF / Lumiflon based fluoropolymer resin coating of approved colour and shade on face # 1 and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc.c) The fastening brackets of Aluminium alloy 6005 T5 / MS with Hot Dip Galvanised with serrations and serrated washers to arrest the wind load movement, fasteners, SS 316 Pins and anchor bolts of approved make in SS 316, Nylon separators to prevent bi-metallic contacts all complete required to perform as per specification and drawing The item includes cost of all material & labour component, the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working curtain wall with aluminium composite panel cladding, cleaning and protection of the curtain wall with aluminium composite panel cladding till the handing over of the building for occupation. Base frame	SQ.M	325.00	4228	1374100
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		<p>work for ACP cladding is payable under the relevant aluminium item.s The Contractor shall provide curtain wall with aluminium composite panel cladding, having all the performance characteristics all complete , as per the Architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineer-in-Charge. However, for the purpose of payment, only the actual area on the external face of the curtain wall with Aluminum Composite Panel Cladding (including width of groove) shall be measured in sqm. up to two decimal places.</p>				
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		Designing, fabricating, testing, installing and fixing in position Curtain Wall with Aluminium Composite Panel Cladding, with open grooves for linear as well as curvilinear portions of the building , for all heights and all levels etc. including: a) Structural analysis & design and preparation of shop drawings for pressure equalisation or rain screen principle as required, proper drainage of water to make it watertight including checking of all the structural and functional design. b) Providing, fabricating and supplying and fixing panels of aluminium composite panel cladding in pan shape in metallic colour of approved shades made out of 4mm thick aluminium composite panel material consisting of 3mm thick FR grade mineral core sandwiched between two Aluminium sheets (each 0.5mm thick). The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500 based PVDF / Lumiflon based fluoropolymer resin coating of approved colour and shade on face # 1 and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc.				
		Performance Testing of ACP system				
		Tests to be conducted in the NABL certified laboratories				
		1. Performance Laboratory Test for Air Leakage Test (-50pa to -300pa) & (+50pa to +300pa) as per ASTM E-283-04 testing method for a range of testing limit 1 to 200 mVhr“				
		2. 2. Static Water Penetration Test. (50pato 1500pa) as per ASTME-331-09 testing method for a range upto 2000 ml.“				
		3. Dynamic Water Penetration (50pato 1500pa) as per AAMA 501.01-05 testing method for a range upto 2000 ml“				



		4. Structural Performance Deflection and deformation by static air pressure test ( 1.5 times design wind pressure without any failure) as per ASTM E-330-10 testing method for a range upto failure) as per ASTM E-330-10 testing method for a range upto 50 mm"				
		5. Seismic Movement Test (Upto 30 mm) as per AAMA 501.4-09 testing method for Qualitative test.				
		Tests to be conducted on site				
		6. Onsite Test for Water Leakage for a pressure range 50 kpa to 240 kpa (35 psi) upto 2000 ml"				
		<b>HARDWARE WORKS</b>				
		Providing and fixing mortise lock of approved make manufactured as per IS:2209 and 6607 and as described below for doors with necessary fixtures and materials and labour etc. complete.				
103	R2-CS-HW-01-a	Brass mortice latch and lock	NO'S	30.00	689	20670
		Providing and fixing butt hinges as described below, manufactured as per relevant IS for door & windows with necessary materials and labour costs etc. complete.				
104	R2-CS-HW-04-b-3	125 mm Long	NO'S	55.00	171	9405
105	R2-CS-HW-04-d-3	125 mm Long	NO'S	25.00	87	2175
		Providing and fixing aldrops of 16 mm diameter bars manufactured as per IS:2681-1991, wherever they apply for doors and windows with necessary materials and labour etc. complete.				
106	R2-CS-HW-06-b-1	250 mm long.	NO'S	30.00	285	8550
		Providing and fixing tower bolts as described below conforming to IS:204-1992 (Part I,II) for doors & windows with necessary materials and labour etc. complete.				
107	R2-CS-HW-08-d-3	200 mm long.	NO'S	40.00	282	11280



		Providing and fixing handles as described below, manufactured as per IS:208-1992 for doors and windows and with necessary materials and fixtures like screws etc. and all labour etc. complete.				
108	R2-CS-HW-09-d-2	150 mm long.	NO'S	15.00	91	1365
109	R2-CS-HW-09-d-5	300 mm long.	NO'S	30.00	161	4830
		Providing and fixing hydraulic door closer of approved make manufactured as per IS:3564 for doors with necessary materials and labour cost etc. complete.				
110	R2-CS-HW-11-b	Medium ( for shutter weighting from 36 – 60kg)	NO'S	40.00	822	32880
111	R2-CS-HW-13	Providing and fixing magnetic type floor door stopper of approved make including necessary screws, fixtures, materials and labour etc. complete.	NO'S	40.00	84	3360
		<b>SOIL INVESTIGATION</b>				
112	R2-BW-1-01	Providing and transporting necessary and adequate plant and equipment to site with in a lead of 50 km for taking trial bores for subsoil investigations including conducting an initial survey for establishing datum RLS and locations at trial bores including installation of the drilling equipment of the first bore location etc. complete as specified and directed.	EACH	2.00	27500	55000
113	R2-BW-1-02	Shifting and locating the drilling equipment from one location to another within a lead of 500 m between successive locations including surveying the spot for establishing bore hole location, fixing ground levels with reference to datum RLs and observing groundwater level during boring operation etc. complete as specified and directed.	EACH SHIFT	2.00	1100	2200
114	R2-BW-1-03-a	Taking trial bores upto 150 mm dia. for subsoil investigation through overburden and soil of all sorts including providing of temporary casing and cleaning the bottom of holes before conducting field tests or collecting samples at various depths etc. complete as specified and	RMT	15.00	1100	16500



		directed. a) Depth upto 6.0m below ground surface.				
115	R2-BW-1-04-b	Taking trial bores for subsoil investigation through rock using rotary drilling equipment with NX size diamond core drilling bits to obtain approximately 54 mm dia. rock cores including provision of wooden boxes for storage of cores, indexing the core samples at site of work and conveying the same to the head quarters of concerned office etc. complete as specified and directed. b) Depth beyond 10.0 m upto 20.00 m below ground surface.	RMT	8.00	1100	8800
116	R2-BW-1-06	Conducting Standard penetration test as per specifications in soil at various levels of bore holes and reporting the results in the approved format etc. complete as specified and directed.	NO'S	6.00	220	1320
117	R2-BW-1-08	Collecting undisturbed samples of soil as per specifications at any depth in M.S. black tube 100 mm dia. 450 mm long, sealed at both ends with paraffin wax and delivering the same to the testing laboratory anywhere in Greater Mumbai etc. complete as specified and directed.	NO'S	6.00	495	2970
		<b>(C) SUB-SURFACE EXPLORATIONS</b>				
118	R2-BW-1-19	Preparing and submitting reports and drawings in triplicate for location depth and details of underground pipe lines, cables and services as existing according to standard technique as specified upto whatever depth of excavation and including all equipment, material, and labour of technical expertise as directed excluding excavation.	Each Trench	4.00	16500	66000
		<b>(D) LABORATORY TESTING</b>				
119	R2-BW-1-21-a	Carrying out tests as per specifications for determination of: i) Natural moisture Content (NMC) of soil by Oven Drying method	NO'S	6.00	165	990
		<b>ii) Atterberg limits (03 NO'S FOR EACH)</b>				
120	R2-BW-1-21-b	a) Liquid limit	NO'S	6.00	165	990



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121	R2-BW-1-21-c	b) Plastic limit	NO'S	6.00	165	990
122	R2-BW-1-21-d	c) Shrinkage limit	NO'S	6.00	165	990
		iii) Grain size analysis including grain size distribution curves in accordance with IS 2720 (part 4)				
123	R2-BW-1-21-e	a) Sieve Analysis	NO'S	6.00	220	1320
124	R2-BW-1-21-f	b) Hydrometer Analysis	NO'S	6.00	330	1980
125	R2-BW-1-21-g	iv) In-situ density of soil samples	NO'S	6.00	165	990
126	R2-BW-1-21-h	v) Specific gravity	NO'S	6.00	165	990
127	R2-BW-1-21-i	vi) Unconfined compressive strength of rock samples, including determination of percentage of water absorption and density.	NO'S	6.00	550	3300
128	R2-BW-1-28	Conducting Unconfined compression test on undisturbed soil samples or soil samples compacted to specified density in accordance with IS : 2720 (part 10) and reporting results thereof as per prescribed Proforma etc. complete as specified and directed.	NO'S	6.00	385	2310
		<b>TOTAL ESTIMATED COST OF CIVIL WORKS</b>				<b>95725856</b>



**ABSTRACT FOR PLUMBING WORK**

SR. NO.	ITEM NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		<b>DRAINAGE</b>				
		Supplying, laying, jointing & testing UPVC Drainage class pipes of Foamcore Astral(SN 8) or equivalent make in solvent cement joint including leveling with cutting the pipe to required length, roughining of pipe at wall joint including socket as directed:				
129	R2-CS-PS-208-a	150 mm pipe	MTR	150	862	129300
130	R2-CS-PS-208-b	200 mm pipe	MTR	100	1271	127100
131	R2-CS-PS-208-c	250 mm pipe	MTR	30	2218	66540
		Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :				
132	R2-CS-PS-163-a	100 mm diameter S.W. pipe	MTR	30	323	9690





133	R2-SE-8-1	Constructing brick masonry inspection chamber rectangular 0.9M x 0.45M and 0.6M deep on sewer with 230mm brick walls in cement mortar 1:3 plastered both inside & outside with 20 mm thick cement mortar 1:2 and neat cement rendering so as to give a smooth surface including 230mm cement concrete bedding (M 15) and cement concrete (M 15) in haunches and channels finished smooth with 20 mm thick cement mortar (1:1) and fixing C.I. extra heavy duty airtight rectangular frame & cover of size 0.9M x 0.45M weighing minimum 225Kg. resting on 300 mm high c.c. cap M 20 with (1:1) cement plaster on both the sides & necessary C.I. steps (weighing 5.4 kg each) staggered at 300mm c/c. including 75 mm wide vata all round the external portion of the chamber and the foundation concrete in C.M. 1:1 etc. complete as per plan in Dy.Ch.E.(SP)P&D's office (without excavation ).	NOS	25	40697	1017425
134	R2-SE-8-1-a	Extra over above for every additional metre depth upto 2.5 M - do- -do- etc. complete as specified and directed.	MTR	50	13531	676550
		Providing and fixing square-mouth S.W. gully trap class SP-1 Complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of Cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design :				
135	R2-CS-PS-166-a-1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	EA	8	2564	20512



136	R2-SE-6-1	Constructing on sewer brick masonry conical manholes 1.2M dia. at bottom 0.56 M. dia. at top, built in brick masonry in cement mortar 1:3, plastered both inside and outside with 20 mm thick cement mortar 1:2 and neat cement rendering so as to give a smooth surface, including 300 mm thick M.15 cement concrete in foundation and in haunches and channels finished smooth with 20mm thick cement plaster in cement mortar 1:1 and providing C.I. steps (weighing 5.4 kg each) staggered at 300 mm. c/c including 75mm wide vata all round the external portion of the manhole and the foundation concrete in cement mortar 1:1 and supporting the incoming pipes with brick masonry wherever necessary including C.I. extra heavy duty (EHD) air-tight circular frame & cover (minimum 230 Kg.) with hinge/chain resting on 30 cm high cement concrete M.20 cap with necessary centering etc. all complete as per standard specifications and directions including finishing the cap with cement plaster on both sides 1:2 and neat cement rendering so as to give a smooth surface in line and level with the brick masonry surface and as per drawing in DyCh.E. (Sewerage)P&D's office without excavation depth upto 1.5 M.(Depth of Manhole measured from top of manhole cover to Invert level of manhole	EA	5	62019	310095
137	R2-SE-6-1-a	Extra over above per metre depth above 1.5 M. and upto 2.3 M. depth - do -do -	MTR	10	18654	186540
		<b>STORM WATER</b>				
		Supplying & fixing 40 mm thick DI Rain water grating over storm water channel of heavy duty.				



138	R2-CS-PS-213-a	a) 600 x 300 MM(300wide)	NOS	450	8460	3807000
139	R2-CS-PS-213-b	b) 600 x 450 MM (450wide)	NOS	250	9657	2414250
140	R2-CS-PS-213-c	c) 600 x 600 MM (600wide)	NOS	50	14378	718900
141	R2-WSP-4-39	Providing and fixing in position M.S. angles, tees, plates, rolled steel beams, joist and stachions, M.S. covers on valve chambers etc. including all labour and material, hoisting, fixing with bolts and nuts or by welding, painting will 3 coats of Synthetic Enamel paint etc. complete welding, painting with primer & 3 coats of Synthetic Enamel paint etc. complete.	TON	2	83749	167498
142	R2-CS-PS-214	Constructing brick masonry valve & meter/RWH chambers in 250mm thick brick masonry in cement mortar 1: 5 using first class bricks constructed over a bed of 150mm thick cement concrete 1:2:4 plastering inside outside and all exposed surface with 20mm thick cement mortar 1.3, finishing inside with a floating coat of neat cement providing & fixing CI frame & cover size, weight mentioned below painting all CI items with 3 coats of approved bitumastic paint etc. complete. Chamber 600 x 600mm clear inside with 600 x 600 CI frame & cover weighting not less than 72kg. Depth of chamber not exceeding 1000mm	NOS	20	17500	350000
		Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand)				
143	R2-CS-PS-168-d	300 mm dia. R.C.C. pipe	MTR	200	866	173200
144	R2-CS-PS-168-e	450 mm dia. R.C.C. pipe	MTR	612	1197	732564
145	R2-CS-PS-168-g	600 mm dia. R.C.C. pipe	MTR	70	1808	126560



<b>RAIN WATER</b>						
		Supplying & Fixing 3 mm thick lead flashing in single piece of lead sheet all around the rain water outlet mouth on a layer of cold bitmen including heavy duty 5 mm thick C.I. grating,				
146	R2-CS-PS-215-a	a) 150 x 150 (6" x 6") square or dia outlet for 100 mm (4") pipe.	No.	30	495	14850
		Supplying, lowering, laying and jointing in trenches C.I. Class 'LA' , S/S pipes conforming to IS:1536 with CI / MS specials of following diameter including chamfering cut edges of pipes for specials and fixing with Styrene Butadiene Rubber (SBR) gaskets conforming to IS:5382 & IS:12820 in proper position, grade and alignment etc complete in all respect and as directed by Engineer in Charge including conveyance of material from any municipal stores in Greater Mumbai to site of work, including cost of jointing materials and rubber rings labour, giving hydraulic testing upto 6 kg/sqm pressure etc complete as directed by Engineer in Charge				
147	R2-HE-1-3-d	250 mm dia pipe	MTR	100	3163	316300
148	R2-HE-1-3-e	300 mm dia pipe	MTR	100	4199	419900
		Providing and fixing UV resistant selffit UPVC pipes of approved make for Rainwater downtakes confirming to IS 13592:1992 Type A suitable for 4kg/sqcm pressure for following pipe diameters including rain water receiving recess with pvc plug bend necessary fittings such as offsets shoes, fixing the pipes on wall with clips filling the joints with solvent/cement and necessary scaffolding etc. complete as directed by Engineer In Charge.(Make to be use / Astral / Aquafit)				



149	R2-CS-RW-16-a	75 mm dia	MTR	45	246	11070
150	R2-CS-RW-16-c	150 mm dia	MTR	90	756	68040
151	R2-CS-RW-16-d	200 mm dia	MTR	30	373	11190
		<b>SOIL,WASTE &amp; VENT (VRTICAL+INTERNAL)</b>				
152	R2-CS-PS-191	Providing and fixing in position uPVC/SWR (Soil/Waste/Rain) pipe of type-B <b>75 mm dia.</b> in any position including all fittings and accessories, making joints / connections water tight with solvent cement, scaffolding if necessary and making good the damages if any (excluding excavation and refilling the trenches) etc. complete as specified and directed. (All fittings and accessories like clamps, etc. should be of same brand. No separate payment shall be made for fittings and accessories).	MTR	200	314	62800
153	R2-CS-PS-192	Providing and fixing in position uPVC/SWR (Soil/Waste/Rain) pipe of type-B <b>110 mm dia.</b> in any position including all fittings and accessories, making joints / connections water tight with solvent cement, scaffolding if necessary and making good the damages if any (excluding excavation and refilling the trenches) etc. complete as specified and directed.(All fittings and accessories like clamps,etc. should be of same brand. No separate payment shall be made for fittings and accessories	MTR	150	478	71700



154	R2-CS-PS-202	<b>Type-B 160</b> mm dia. in any position including all fittings and accessories, making joints / connections water tight with solvent cement, scaffolding if necessary and making good the damages if any (excluding excavation and refilling the trenches) etc. complete as specified and directed.(All fittings and accessories like clamps,etc. should be of same brand. No separate payment shall be made for fittings and accessories).	MTR	90	1134	102060
		Supplying & Fixing screwed <b>cast brass cleanout plug</b> with suitable inset keys & opening, male threaded joint with EPDM rubber gasket jointng as pe DIN- 19543, ASTM C 1277-4.				
155	R2-CS-PS-218-a	a) 80 mm (3") dia	EA	20	1477	29540
156	R2-CS-PS-218-b	b) 100 mm (4") dia.	EA	20	1843	36860
157	R2-CS-PS-218-c	C) 150 mm (6") dia.	EA	16	4004	64064
158	R2-CS-PS-218-d	d) 200 mm (8") dia.	EA	12	4603	55236
159	R2-CS-RM-105	Drilling with <b>core cutting</b> machine in RCC slabs, walls etc.wherever required in buildings, manholes,ducts, water tanks, pits etc. for laying pipes,sleeves and making good the same to give an even finish . The rate shall include the cost of drilling core, providing EPOXY based water proofing compound for sealing the joints around the pipes, nominal reinforcement wherever required,scaffolding and labour charges for working at all levels ,leads and heights . (Maximum thickness of RCC members shall be 300mm) and as directed by Engineer-In-Charge. g) Above 150 mm to 200mm dia	EA	10	990	9900



160	R2-CS-PS-219	Providing & Supplying & Fixing <b>100 mm dia. CI 'P' trap</b> Suspended type floor Drain of standard design. with EPDM rubber gasket jointing as per DIN- 19543, ASTM C 1277-4.	EA	4	2109	8436
		Supplying & Fixing <b>Agricultural PVC 10 kg class pipe</b> as IS 4985-2000 of Approved make with P.V.C. fittings including Chasing of Brick wall & making good the same with 1:3 cement sand plaster using Chicken wire mesh etc. complete				
161	R2-CS-PS-220-a	a) 50 mm (1 1/2") dia.	MTR	120	240	28800
162	R2-CS-PS-220-b	b) 40 mm (1 1/4") dia.	MTR	140	206	28840
163	R2-CS-PS-221	Providing and fixing <b>cast iron Pan connectors</b> with or without vent holes straight/ bend including providing & jointing with drip seal joints.	NOS	10	1359	13590
164	R2-CS-PS-222	75 mm <b>C.I nahani trap</b> with grating with 75 mm C.I. bend with cleaning caps fixed complete	NOS	25	2649	66225
		<b>WATER SUPPLY</b>				
		Providing and fixing <b>Chlorinated Polyvinyl Chloride (CPVC) pipes</b> , multi-layer having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. Concealed work, including cutting chases and making good the alls etc.				
165	R2-CS-PS-86-a	15 mm nominal outer dia Pipes	MTR	80	346	27680
166	R2-CS-PS-86-b	20 mm nominal outer dia Pipes	MTR	75	405	30375



167	R2-CS-PS-86-c	25 mm nominal outer dia Pipes	MTR	56	429	24024
168	R2-CS-PS-86-d	32 mm nominal outer dia Pipes	MTR	60	531	31860
		<b>Internal work - Exposed on wall in Shaft Piping</b>				
169	R2-CS-PS-85-a	15 mm nominal outer dia Pipes	MTR	30	206	6180
170	R2-CS-PS-85-b	20 mm nominal outer dia Pipes	MTR	25	261	6525
171	R2-CS-PS-85-c	25 mm nominal outer dia Pipes	MTR	45	279	12555
172	R2-CS-PS-85-d	32 mm nominal outer dia Pipes	MTR	50	374	18700
173	R2-CS-PS-85-e	40 mm nominal outer dia Pipes	MTR	60	567	34020
174	R2-CS-PS-85-f	50 mm nominal outer dia Pipes (Shaft+O.H. Tank Feed Line+Looping)	MTR	150	810	121500
		Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement ,trenching ,refilling & testing of joints complete as per direction of Engineer in Charge. <b>External work Loops &amp; Header</b>				
175	R2-CS-PS-87-g	62.50 mm nominal inner dia Pipes	MTR	230	1698	390540
176	R2-CS-PS-87-h	75 mm nominal inner dia Pipes	MTR	110	2313	254430
177	R2-CS-PS-87-i	100 mm nominal inner dia Pipes	MTR	40	3275	131000





		Providing and applying first single coat of approved primer and two coats of synthetic enamel paint/flat oil paint of an approved make and colour as per manufacturers specifications to the CPVC. pipes of electric, gas or roof rain water down takes and fittings etc. as specified below, at all height and locations as directed including scaffolding, scraping, cleaning old paint and preparing surfaces for painting by any approved means etc. complete as directed by Engineer-in-charge (use color of Domestic pipe sky blue & Flushing pipe green)				
178	R2-CS-PN-18-A	For pipe upto 25mm dia.	MTR	56	14	784
179	R2-CS-PN-18-B	For pipe upto 50mm dia.	MTR	25	17	425
180	R2-CS-PN-18-C	For pipe more than 50mm dia. and upto 75mm	MTR	35	20	700
181	R2-CS-PN-18-D	For pipe more than 75mm dia. and upto 100mm	MTR	40	26	1040
		Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. <b>External work MUNICIPAL WATER SUPPLY</b>				
182	R2-CS-PS-90-g	65 mm dia nominal bore	MTR	70	590	41300
183	R2-CS-PS-90-h	80 mm dia nominal bore	MTR	80	719	57520
		Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
184	R2-CS-PS-95-a	25 mm nominal bore	EA	1	578	578
185	R2-CS-PS-95-c	40 mm nominal bore	EA	2	1221	2442
186	R2-CS-PS-95-d	50 mm nominal bore	EA	2	2021	4042
187	R2-CS-PS-	65 mm nominal bore	EA	4	3752	15008



	95-e					
		Providing, fixing and testing heavy quality gun metal ball valve with screwed ends 20kgm class on GI or copper pipe lines (Audco/Sant make)				
188	R2-CS-PS-225-a	15 mm (1/2") dia.	NOS	2	545	1090
189	R2-CS-PS-225-b	20 mm (3/4") dia.	NOS	4	678	2712
190	R2-CS-PS-225-c	25 mm (1") dia.	NOS	8	944	7552
191	R2-CS-PS-225-d	32 mm (1 1/4") dia.	NOS	8	1499	11992
192	R2-CS-PS-225-e	40 mm (1 1/2") dia.	NOS	4	2108	8432
193	R2-CS-PS-225-f	50 mm (2") dia.	NOS	8	2906	23248
		Providing and fixing gun metal ISI mark non-return valve Screwed End vertical type of following diameters etc complete in all respect etc. complete in all respect as directed by Engineer in Charge				
		(Note: Pressure should be 10 KG/Sq.Cm)				
194	R2-HE-7-19-F	50 mm nominal bore	EA	2	3769	7538
195	R2-HE-7-19-G	65 mm nominal bore	EA	2	6974	13948
196	R2-HE-7-19-H	80 mm nominal bore	EA	4	11085	44340
197	R2-CS-PS-282	Providing and fixing single acting air release valve with Screwed inlet 25mm dia	NOS	6	1315	7890
		Supplying & fixing 600 mm (24") to 750 mm (2'-6") long screwed G.I. C class pipe with 3 mm thick M.S. bar flange (plate) welded on it: Flanges should be of Table E of approved make. (Puddle Flange)				
198	R2-CS-PS-226-a	a) 65 mm (2 1/2") dia pipe 5 mm thick with 150X 150 (6" X 6") plate, Both ends Flanged of	NOS	16	2785	44560



199	R2-CS-PS-226-b	b) 80 mm(3")dia pipe 5 mm thick with 200 X 200 (8" X 8") plate, Both ends Flanged of	NOS	10	3035	30350
200	R2-CS-PS-226-c	c) 100 mm (4")dia pipe 5 mm thick with 250 X 250 (10" X 10") plate, Both ends Flanged	NOS	14	3764	52696
201	R2-CS-PS-226-d	d) 150 mm(6")dia pipe 7 mm thick with 300 X 300 (12" X 12") plate, Both ends Flanged	NOS	4	5803	23212
202	R2-CS-PS-226-e	e) 200 mm (8") dia pipe 7 mm thick with 350 X 350 (14" X 14") plate, Both ends Flanged	NOS	2	8047	16094
		Providing and fixing brass screwed/flanged type mosquito proof grating for under ground suction tank/Over Head tank, over flow and vent of the following diameters. 50mm dia				
203	R2-CS-PS-227-a	a) 50 mm (2") dia.	NOS	12	778	9336
204	R2-CS-PS-228	Providing & fixing C.I. Manhole covers with frames / rings for R.C.C., underground water storage tanks/Over Head tank, sizes of covers. (600mm dia.) NOTE:-should be provided with locking arrangement	NOS	12	4604	55248
205	R2-CS-PS-229	<b>CI NRV</b> -Supporting and installing cast iron dual plate wafer type PN 16 doubleflanged type non-return valve including nuts bolts 1.6 mm thickcompressed asbestos gasket including matching flanges complete.100 mm dia	NOS	2	7545	15090
206	R2-CS-PS-230	<b>CI NRV</b> -Supporting and installing cast iron dual plate wafer type PN 16 doubleflanged type non-return valve including nuts bolts 1.6 mm thickcompressed asbestos gasket including matching flanges complete. 65 mm dia	NOS	8	5218	41744



		Providing and fixing enclosed type water meter (bulk type) conforming to IS : 2373 and tested by Municipal Board complete with bolts,nuts, rubber insertions etc. (The tail pieces if required will be paid separately) :				
207	R2-CS-PS-138-a	80 mm dia nominal bore	EA	1	20876	20876
		Providing and fixing C.I. dirt box strainer for bulk type water meter with nuts, bolts, rubber insertions etc. complete conforming to IS : 2373 :				
208	R2-CS-PS-139-a	80 mm dia	EA	1	6830	6830
		Providing and fixing gun metal ISI mark <b>Non-Return valve</b> Screwed End of following diameters etc. complete in all respect etc complete. In all respect as directed by Engineer-In-Charge				
209	R2-CS-PS-231	Providing & fixing of CI <b>wafer type butterfly valve</b> (suitable for testpressure of 15 kg / sqm) with flanges, nut bolts, gaskets and necessary pad locking arrangement complete required. - 200 mm dia	NOS	1	16420	16420
210	R2-CS-PS-232	Supplying, Installing, testing and commissioning <b>CI butterfly valves</b> (PN 16) slim seal standard lever operated type conforming to IS 13039 with required flanges, nuts, bolts etc. complete.- 150 mm dia.	NOS	1	9873	9873
211	R2-CS-PS-233	Supplying and installing <b>cast iron Butterfly valves PN 16</b> complete with both sides including flanges on receiving pipes with nuts, bolts,1.5mm thick compressed asbestos gasket insertion as required.100 mm dia.	NOS	1	5576	5576
212	R2-CS-PS-234	Supplying and installing <b>cast iron Butterfly valves PN 16</b> complete with both sides including flanges on receiving pipes with nuts, bolts,1.5mm thick compressed asbestos gasket insertion as required.80 mm dia.	NOS	1	4246	4246



213	R2-CS-PS-235	Supplying and installing cast iron Butterfly valves PN 16 complete with both sides including flanges on receiving pipes with nuts, bolts, 1.5mm thick compressed asbestos gasket insertion as required. 65 mm dia.	NOS	8	4113	32904
214	R2-CS-PS-239-b	Supplying & Fixing & Testing Pressure reducing Valve of Diaphragm type & inbuilt SS strainer type with necessary connectors. b) 65 mm (2 1/2") dia.	NOS	2	17034	34068
215	R2-CS-PS-239-c	Supplying & Fixing & Testing Pressure reducing Valve of Diaphragm type & inbuilt SS strainer type with necessary connectors. c) 50 mm (2") dia.	NOS	2	10221	20442
216	R2-CS-PS-241	e) PROVIDING & FIXING 32MM PRESSURE REDUCING VALVE ON DOWN TAKE WATER SUPPLY (Diaphragm type with inbuilt ss strainer)	NOS	4	5243	20972
		<b>SANITARY FIXTURES &amp; FITTINGS</b>				
217	R2-CS-PS-2-a	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required : <b>W.C. pan with ISI marked white solid plastic seat and lid</b>	EA	11	6483	71313



218	R2-CS-PS-245	Providing and fixing in position Hindware make Indian style WC pan including making inlet/outlet connections and consists of the following i) White colour Orissa pan 580 x 440 mm size open rim of approved make, ii) Porcelain P or S trap with vent pipe, iii) 100 dia C.I. connector pipe from P or S trap to the junction of soil stack on external face of building etc. complete. (White color Orissa WC Model No. 20004). OR consider equivalent make.	NOS	4	3518	14072
219	R2-CS-PS-78	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water ( 250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge	EA	10	21317	213170
		Providing & fixing chrome plated brass battery based infrared sensor operated <b>pillar cock</b> , having foam flow technology				
220	R2-CS-PS-162-a	15 mm nominal bore	NOS	15	10653	159795
221	R2-CS-PS-248	White Vitreous China of 'Hindustan & Parryware' make or equivalent <b>under counter type Oval wash basin</b> of size 550 x 480mm with CI brackets suitable for mounting below granite counter including waste fitting with CP brass bottle trap, angle valve with CP connection etc as specified. Oval Wash Basin Model No.10051 OR consider equivalent make.)	NOS	15	8192	122880



222	R2-CS-PS-252	Providing and fixing <b>stainless steel sink 600 mm x 450 mm and 200mm deep</b> including 32mm dia. galvanised iron waste pipe, 32mm dia. C.P.brass waste coupling, one C.P. brass screw down tap, caste ironbrackets, rubber plugs with chain etc. complete.	NOS	1	8215	8215
223	R2-CS-PS-254	Providing and fixing JAQUAR MAKE,HOTELIER series Model No. 1551 <b>Toilet Paper Holder</b> Recessed type (S.Steel) including cutting and making goodthe wall wherever required etc complete.	NOS	11	1842	20262
224	R2-CS-PS-257	Providing and fixing GLITTERS MAKE, SLOPE series <b>Robe hook</b> etc complete	NOS	30	788	23640
225	R2-CS-PS-258	Providing and fixing GLITTERS MAKE, SLOPE sereis <b>Towel Rack</b> etccomplete	NOS	10	1448	14480
226	R2-CS-PS-259	Supplying & Fixing 100 mm diameter <b>Nahani jali</b> in Steel finsh with necessary fixing required to make the item well functional.	NOS	25	356	8900
227	R2-CS-PS-260	Providing & fixing in position `Jacquar Continental' make CP <b>Jet Spray</b> with flexible CP supply pipe, and all other accessories, complete	NOS	11	2113	23243
228	R2-CS-PS-261	Providing and fixing ISI marked make CP brass <b>liquid soap dispensers</b> with CP brass bracket capacity 250 ml.	NOS	5	2645	13225
229	R2-CS-PS-262	Providing & fixing chromium plated 32mm Jaguar make Series allied modelno. ALD-769 B <b>Bottle trap</b> (with internal partition) for Wash Basinsincluding Waste Coupling fixed in required position with 250mm long wall connection pipes and wall flange with all necessaryfittings and fixtures, etc. complete and as directed by The Engineer incharge.	NOS	25	1913	47825
230	R2-CS-PS-263	<b>WASTE COUPLING :JAQUAR : NO. 705 (FULL THREAD)</b>	EA	16	655	10480



231	R2-CS-PS-264	Providing & fixing <b>2-way Bib cock</b> JAQUAR MAKE, ORNAMIX Model No. 10041etc. complete.	NOS	11	2578	28358
232	R2-CS-PS-265	Providing and fixing brass <b>CP angle cock</b> for mini geyser of Metro,Seiko or other equivalent approved make.	NOS	45	721	32445
		NOTE:-1) WHEREVER SINGLE BRAND IS MENTIONED IN SANITARY FIXTURES & FITTINGS THE SAME SHOULD BE READ AS " OR APPROVED EQUIVALENT" 2) ALL VERTICAL & SUSPENDED DRAINAGE,SEWER, WATER SUPPLY PIPES SHOULD BE FIXED ON HORIZONTAL/VERTICAL SURFACE ON SUITABLY DESIGNED BRACKET AS APPROVED BY ENGINEER-IN-CHARGE. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS ACCOUNT. THE CONTRACTOR SHOULD NOTE THIS WHILE QUOTING THE RATE IN TENDER.				
<b>GRAND TOTAL</b>						<b>15067935</b>





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**ABSTRACT FOR FURNITURE WORK**

SR NO	ITEM CODE	DESCRIPTION	UNIT	QTY	RATE	TOTAL
		<b>CHAIRS</b>				
233	R2-CS-RM-119	<b>High back Chair:</b> Providing and supplying center pivot, revolving, High back chair Depth-45cm, width-50cm,height-121cm to 131cm & seat height-45cm to 55cm. (+/- 2cm) with five legged metal/moulded nylon base with push back arrangement. Chairs shall have high density moulded ,360 revolving on suitable base, gas lift , heavy duty twin wheel castors to take min 80kg/castor with two - pneumatic height adjustment one piece moulded type polypropylene armrest. The chair shall be provided with approved tapestry upto Rs 300/m with necessary beading wherever required. All metal work shall be Epoxy Polyester Powder Coated.	Each	7.00	6490.00	45430.00



234	R2-CS-RM-120	<b>Mid back Chair:</b> Providing and supplying center pivot, revolving, Mid back chair Depth-45cm, width-50cm,height-105cm to 115cm & seat height-45cm to 55cm. (+/- 2cm ) with five legged metal/moulded nylon base with push back arrangement. Chairs shall have high density moulded,360 revolving on suitable base, gas lift , heavy duty twin wheel castors to take min 80kg/castor with two - pneumatic height adjustment one piece moulded type polypropylene armrest. The chair shall be provided with approved tapestry upto Rs 300/m with necessary beading wherever required. All metal work shall be Epoxy Polyester Powder Coated.	Each	26.00	4130.00	107380.00
235	R2-CS-RM-121	<b>Low back Chair:</b> Providing and supplying center pivot, revolving, low back chair Depth45cm, width-50cm, height-81cm to 91cm & seat height-45cm to 55cm. (+/- 2cm ) with five legged metal /moulded nylon base with push back arrangement. Chairs shall have high density moulded ,360 revolving on suitable base, gas lift , heavy duty twin wheel castors to take min 80 kg/castor with two - pneumatic height adjustment one piece moulded type polypropylene armrest. The chair shall be provided with approved tapestry upto Rs 300/m with necessary beading wherever required. All metal work shall be Epoxy Polyester Powder Coated.	Each	64.00	3540.00	226560.00



236	R2-CS-RM-122	Visitor Chair : Providing and supplying visitor chair having size Depth-62cm, width-55cm, height-80cm & seat height 45 cm. (+/- 2cm ), having seat & back, shall be made up of 1.2 cm hot pressed plywood, approved tapestry upto Rs.300/m and mould polyurethane foam with P.V.C. lipping all around. The chair shall be provided with two one piece armrest made of polypropylene. The chair shall be supported by cantilever type powder coated tubular frame dia 2.54cm x 14 B G M.S.E.R.W. tube. All aluminium steel component shall have Epoxy Polyester Powder Coated. Dry film thickness shall be more than 45 Micron.	Each	30.00	4720.00	141600.00
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237	FA-MA-17-005	<b>Canteen Chair</b> Providing and supplying chair having specification 1. SEAT/BACK (CAFÉ/ARM/DESKLET/LOUNGE) : The seat and back should be made up of injection moulded high impact strength polypropylene polymer compound with indoor grade UV resistance (Refer colour chart in product catalogue ) <ul style="list-style-type: none"><li>• SEAT SIZE : 52.5 cm. (W) X 53.2cm. (D)</li><li>• BACK SIZE : 51.6 cm. (W) X 40.5 cm. (H)</li></ul> 2. M.S. POWDER COATED UNDERSTRUCTURE FOR CAFÉ / ARMREST /DESKLET : The powder coated (DFT 50+-10 Microns) welded tubular frame should be made from 2.22+-0.03 cm X 0.16 +- 0.0128 cm and 3.5+-0.03 cm X 1.5 +- 0.03 cm X 0.16 +- 0.0128 cm M.S.E.R.W tube. 3. S.S. UNDERSTRUCTURE OPTION FOR CAFE CHAIR : The tubular welded frame should be made from Dia 2.22 +- 0.03cm X 0.12+-0.0128 cm and 3.5 +- 0.03 cm x 1.5 +- 0.03cm x 0.12 +- 0.0128 cm stainless steel 202 grade tube. The tube should be buff polished to give shiny finish. 4. POWDER COATED BEAM STRUCTUR FOR LOUNGE : The powder coated (DFT 50+-10 microns) welded beam M.S structure should be made from 5.08+- 0.03cm x 5.08 +- 0.03cm x 0.16 x 0.0128 cm. The 0.135+-0.008 cm thk HR steel plated should be welded to beam for fixing seat and back frame. The powder coated (DFT 50+-10 microns) welded Leg M.S. structure should be made from 5.08+-0.03cm x 5.08+- 0.03cm x 0.16 x 0.128 cm and 5.08 +- 0.03cm x 2.45 +- 0.03cm x 0.16 +- 0.128cm. 5. SHOE : The shoes should be made of high impact strength polypropylene polymer compound with indoor grade UV resistance and pressed fitted with tubular frame.	NOS	16.00	3866.00	61856.00
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238	FA-MA-17-013	<p>CAFETERIA TABLES</p> <p>Providing and suppling 4 Seater table Membrane size shall be 1135 Width mm x 1175 Depth mm x 750 Height mm . Top shall be 25 mm thick base material shall be 25 mm MDF board . PVC Membrane foil on top 8 x 2 mm deep groove on centre of the table as graphics . Specially profiled edge to prevent striping of foil &amp; comfortable touch . Brown laminate on bottom surface . The Understructure shall be having bend pipe structure of MS powder coated . Pipe dia 38 mm , 2 mm thick and it shall be fitted with top by SS machine screws . Legs shall be of SS and 38 mm dia. pipe legs are fixed with inderstructure and table top . Glide shall be of Plastic fixed at the understructure to prevent the damage of table top during stacking .</p>	NOS	5.00	23584.00	117920.00
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S.T	S.T	<p>Providing and fixing of Modular table of required size. Table top shall be made of 25mm thick plain particle board (Interior Grade), FIRE RETARDENT laminate on all sides / surfaces. Sides in 25mm Pre laminate Particle boards (Interior Grade). All boards components like top, sides etc. are finished with 2mm thick machine pressed PVC edge banding in matching colour. (Rehau Make/or Equivalent) for better impact resistance. Other components like modesty panels of 600mm height (apron) shall be made of 18mm thick both side pre laminated particle board (Interior Grade) in approved colour and shade as per pre-approved sample.</p> <p>Accessories</p> <p>Key Board Tray -Size: - Width: 600mm, Depth: 270, Height: 70mm keyboard pullout tray made up of durable ABS (Acrylonitrile Butadiene Styrene) material provided with sliding telescopic channels. The tray hanged below the top by steel MS brackets. Finish: All steel components should be epoxy powder coated with seven tanks anti corrosion pre-treatment of surface. ABS wire managers to be provided wherever required for the table top.</p> <p>CPU Trolley: Size: - Width: 180mm Depth: 245mm, Height: 210mm Made up of press formed MS CR sheet Finish provision for height &amp; width adjustment. All steel components should be epoxy powder coated with seven tanks anti corrosion pre-treatment of surface. (Coating thickness 50 to 60 micron).</p>				
239	FA-MA-2018-05	ST.5 -1500 x 600 x 750	NOS	28.00	10686.00	299208.00



E.T	E.T	<p><b>EXECUTIVE OFFICE TABLE</b></p> <p>Providing and fixing of Modular table with fixed pedestal having 2 book drawers and 1 file drawer. Table top shall be made of 25mm thick plain particle board (Interior Grade), FIRE RETARDENT laminate on all sides / surfaces. Sides in 25mm particle boards (Interior Grade). All boards components like top, sides etc. are finished with 2mm thick machine pressed PVC edge banding in matching colour. (Rehau Make/or Equivalent) for better impact resistance. Other components like modesty panels of 600mm height (apron) shall be made of 18mm thick both side pre laminated particle board (Interior Grade) in approved colour and shade as per pre-approved sample.</p> <p>Fixed Pedestal Unit Width of drawer unit shall be of standard size of 450mm. Drawer tray shall of 18 mm thk Pre laminate Particle boards (Interior Grade) completely ( bottom included) of size suitable to accommodate telescopic glides for smooth operation All visible edges of drawer trays shall have 2mm thk edge banding to match the colour of the fascia. Inside edge of trays shall have 0.8mm thk PVC edge banding to match the colour of the tray. Front Central lock to be provided for locking all drawers. Aluminium furniture feet – Round tube, diameter 40 mm with 10 mm height adjustable with steel mounting plate with suitable finish to match handles, 'C' Shape SS Brush finished handles as indicated in the drawing, suitable locking Accessories</p> <p>Key Board Tray -Size: - Width: 600mm, Depth: 270, Height: 70mm keyboard pullout tray made up of durable ABS (Acrylonitrile Butadiene Styrene) material provided with sliding</p>				
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		telescopic channels. The tray hanged below the top by steel MS brackets. Finish: All steel components should be epoxy powder coated with seven tanks anti corrosion pre-treatment of surface. ABS wire managers to be provided wherever required for the table top.CPU Trolley: Size: - Width: 180mm Depth: 245mm, Height: 210mm Made up of press formed MS CR sheet Finish provision for height & width adjustment. All steel components should be epoxy powder coated with seven tanks anti corrosion pre-treatment of surface. (Coating thickness 50 to 60 micron).				
240	FA-MA-2018-20	ET.1-1800 X 750 X 750	NOS	2.00	19663.00	39326.00





<b>DT</b>	<b>DT</b>	<b>DISCUSSION TABLE</b> Providing and fixing of Modular table of required size. Table top shall be made of 25mm thick plain particle board (Interior Grade), FIRE RETARDENT laminate on all sides / surfaces. Sides in 25mm particle boards (Interior Grade). All boards components like top, sides etc. are finished with 2mm thick machine pressed PVC edge banding in matching colour. (Rehau Make/or Equivalent) for better impact resistance. Double modesty panel height max 450mm of 18mm the Pre-lam particle board in (Interior Grade) in approved colour and shade as per pre-approved sample. Modesty panels to be separated by min 50mm clear gap between and cut-outs etc. to make to accommodate electrical/data switches/sockets where indicated. Cables from floor to the modesty panel should be concealed / fixed along with the table vertical supports. Adjustable levellers to be provided to supports. Provision of Power Dock for wire management.				
241	FA-MA-2018-68	DT.3 1800 x 1200 x 750	NOS.	2.00	20511.00	41022.00



CENT	CENT	<b>CENTER TABLE</b> Providing and supplying centre table of required size with top made of 8mm thick clear toughened glass with bevelled edge from bottom edge of the glass border and vertical edge with polish. Understructure made of 25mm thick both side pre laminated particle board (Interior Grade) with all exposed edge finished with 2mm thick machine pressed PVC edge banding in matching colour. (Rehau Make/or Equivalent) for better impact resistance. Nylon button stopper to hold glass top in position, Nylon bushers etc.				
242	FA-MA-2018-73	CENTRE TABLE 900 x 600 x 450	NOS.	2.00	5374.00	10748.00
CORT	CORT	<b>CORNER</b> Providing and supplying centre table of required size with top made of 8mm thick bevelled glass and under structure made of 18mm thick both side pre laminated particle board (Interior Grade) with all exposed edge asre finished with 2mm thick machine pressed PVC edge banding in matching colour. (Rehau Make/or Equivalent) for better impact resistance. Nylon button stopper to hold glass top in position, Nylon bushers etc.				
243	FA-MA-2018-76	CORNER TABLE 450 X 450 X 450	NOS.	3.00	3623.00	10869.00



SBC	SBC					
		<p>SIDE / BACK CREDENZA (750mm) Providing and supplying Modular side unit made up of required size. Top made of 25mm thick plain particle board (Interior Grade), having post formed decorative laminate of 0.8mm on top and FIRE RETARDENT laminate on all sides / surfaces. Sides, Bottom, shelf made in 18mm &amp; shutter made in 12mm thick particle boards (Interior Grade). Shelf to be placed on standard shelf pins, adjustable to 2 alternate heights. All the exposed edges of Sides, Shutters, Bottom, and shelf shall be finished with 2mm thick machine pressed PVC Edge banding. Storage Back made of 9mm thick pre laminated particle board etc. Hardware set to include 110 degree opening self-closing box hinges, Counter Sunk screw, S.S.Brush Finished, Handles L' Clips Selves support. Multipurpose lock, Levelling Bolt with inserts etc. Aluminium furniture feet – Round tube, diameter 40 mm with 10 mm height with suitable finish to match handles'' Shape SS Brush finished handles as indicated in the drawing, suitable locking provision</p>				
244	FA-MA-2018-80	SBC.1 900 x 500 x 750	NOS.	12.00	7409.00	88908.00
245	FA-MA-2018-81	SBC.2 1200 x 500 x 750	NOS.	4.00	9974.00	39896.00



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246	FA-MA-2018-86	<p>PU PEDESTAL DRAWER UNIT</p> <p>Providing and supplying Modular Pedestal unit with 3 drawers of required shape and size, 560 x 450 x 650 mm LxWxH. Top made of 18mm thick plain particle board (Interior Grade), having post formed decorative laminate of 0.8mm on top and 0.6mm balancing laminate on unexposed face. Sides in 18 mm both side Prelaminate Particle boards (Interior Grade) and Back made of 9mm thick both side prelaminated particle board, finished with 2 mm thick machine pressed PVC edge band on all edges. Width of drawer unit shall be of standard size of 450mm. Drawer tray shall be of 12 mm thk both side Prelaminate Particle boards (Interior Grade) bottom included, of size suitable to accommodate telescopic glides for smooth operation. All visible edges of drawer trays shall have 2mm thk edge banding to match the colour of the fascia. Inside edge of trays shall have 0.8mm thk PVC edge banding to match the colour of the tray. Front Central lock to be provided for locking all drawers with all necessary hardware fittings, castors, handles etc.</p>	NOS	12.00	6107.00	73284.00
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<b>CB</b>	<b>CB</b>	<b>MODULAR STORAGE CUPBOARDS</b> Providing and supplying Modular CUPBOARD made up of required size. Top made of 25mm thick plain particle board (Interior Grade), having post formed decorative laminate of 0.8mm on top and FIRE RETARDENT laminate on all sides / surfaces. Sides, Sides in 25mm thk both side particle boards (Interior Grade). Adjustable shelf made in 25mm thk both side pre laminated particle board (interior grade) placed on standard shelf pins. Storage Back made of 9mm thick particle board etc. Sides, Shutters, Bottom, adjustable shelf, finished 2mm thick machine pressed PVC Edge banding of required size etc. Hardware set to include 110 degree opening self-closing box hinges, Counter Sunk screw, S.S.Brush Finished, Handles L' Clips Selves support. Multipurpose lock, Levelling Bolt with inserts etc. Aluminium furniture feet – Round tube, diameter 40 mm with 100 mm height with suitable finish to match handles'' Shape SS Brush finished handles as indicated in the drawing, suitable locking provision				
247	FA-MA-2018-87	FA-MA-2018-87-CB.1 CB1. 900 x 450 x 1200 - 2 SHELVES	NOS	7.00	12111.00	84777.00
248	FA-MA-2018-92	FA-MA-2018-92-CB.6 CB1. 900 x 450 x 1950 - 4 SHELVES	NOS	43.00	19663.00	845509.00



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CS	CS	<p><b>CABIN SOFA</b> Providing and supplying wooden sofa made with minimum 19mm. ply structure and internal frame work made of C.P. teak / Maranti wood seat made with minimum 19mm. ply and cushion made with foam of 150mm thick - 32 density on seat covered with 14mm thick - 18 density foam. Back made with wooden frame of minimum 50mm X 40mm with 4 mm. ply and covered with foam of 100mm thick - 32 densities covered with 14mm thick - 18 density foam for back extra support to the shape all foam of seat and back covered with tapestry approved by E-I-Charge. (Basic rate Rs. 450/- metre.) Handle made with wooden frame with box of 12mm. ply covered with 14mm thick - 18 density foam with tapestry.</p>				
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249	FA-MA-2018-97	<p>DOULE SEATER SOFA</p> <p>Providing and supplying wooden sofa made with minimum 19mm. ply structure and internal frame work made of C.P. teak / Maranti wood seat made with minimum 19mm. ply and cushion made with foam of 150mm thick - 32 density on seat covered with 14mm thick - 18 density foam. Back made with wooden frame of minimum 50mm X 40mm with 4 mm. ply and covered with foam of 100mm thick - 32 density covered with 14mm thick - 18 density foam for back extra support to the shape all foam of seat and back covered with tapestry approved by E-I-Charge. (Basic rate Rs. 450/- metre.) Handle made with wooden frame with box of 12mm. ply covered with 14mm thick - 18 density foam with tapestry. 2 - Seater</p>	NOS	5	26360.00	131800.00
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250	FA-MA-2018-102	<p>Providing &amp; fixing premium quality Roller blinds with prestress Micro-aerated solar protection fabric of high tenacity Polyester yarn with PVC coating and fungi static treatment and should block the light flux &amp; offer elimination of glare and sunlight. ‘</p> <p>Fabric composition - 40% Polyester / 60% PVC.</p> <p>Weight - 400 g/sq.m (+/- 5%)</p> <p>Thickness - 0.45 mm</p> <p>Fabric openness factor - 4%</p> <p>Tensile strength (warp / weft) - 220/220 daN/5cm</p> <p>Tearing Strength (warp/weft) - 30/25 daN</p> <p>Fire retardancy: M2</p>	SQ.M	155.00	1517.00	235135.00
251	FA-MA-2019-04	<p>Overall size 1980 high (+/-50mm) X 915 wide (+/-25mm) X 485 deep (+/-25mm) with 12 nos. of lockers with ground clearance of 150mm. Each locker shall be fitted with steel sheet door with suitable hinges. Each locker door shall have provision for ventilation. The locker cupboard shall consist of 4 rows with each row containing 3 Nos. of lockets. All the lockers shall be provided with staple arrangement for locking, but without padlocks. The sides, doors, back, shelves and partition of the cupboard shall be fabricated from 20 SWG thick M.S. CRCA sheets. All the lockers shall be provided with Chromium plated label holder. The Unit shall be epoxy polyester powder coated to the thickness of 50 microns in approved colour.</p>	NOS.	18.00	14927.00	268686.00





252	FA-MA-2019-07	Overall Size of 1800mm high X 900mm wide X 450mm deep. Six Shelves, inclusive of top & bottom. Four vertical MS CRCA slotted angles to be size of 38mm X 38mm X 3mm thick and will have slots at approx. 29mm Centre to centre distance for adjusting shelves. The distance between two slots should not be less than 6mm. Each shelf to be made out of 1.20mm thick MS CRCA sheet with sides turned down and fitted to the angles with nuts and bolts of suitable size. Bottom shelf to be fitted at a height of 150mm approx. from the ground. Gussets of minimum 75mm X 75mm X 1.20mm thick to be provided two at each corner for topmost and bottommost shelves. The rack shall be epoxy polyester powder coated to the thickness of 50 microns. The base with rubber shoes.	NOS.	18.00	10992.00	197856.00
		<b>TOTAL ESTIMATED COST OF FURNITURE WORKS</b>				<b>3067770.00</b>

**ABSTRACT FOR LANDSCAPE WORKS**

SR NO	ITEM CODE	ITEM DESCRIPTION	UNIT	Qty	Rate (INR)	Total (INR)
253	R2-GW-1-5-A	Digging of Pit having size 1Mtr.x 1Mtr.x1Mtr. on soft surface like soil, Murum Loading and unloading and Transporting Excavated material form site out of Jurisdiction of MCGM Or at site designated by site incharge	No.s	55	364.00	20020.00
254	R2-GW-1-5-B	Digging of Pit having size 1Mtr.x 1Mtr.x1Mtr. on soft surface like Concrete, tar, paved footpath, Loading and unloading and Transporting Excavated material form site out of Jurisdiction of MCGM Or at site designated by site incharg	NOS	55	466.00	25630.00
255	R2-GW-2-1-A-9	Laying of lush green carpet lawn of specified variety or species, removed along with the soil layer without damaging roots, without any vaccum under the lawn, rolling of lawn immediately after laying,Lawn should be free from Weeds, Ants ,Termites, Or any paste or Diseases, watering of lawn immediately after laying @ 6 lit per sq. Mtr. Maintenance of newly planted lawn for one month without extra cost and filling of casualty if any within this maintenance period without extra cost. If water facility in not available at site, Item no.R2-GW-7-28 should be operated	SQM	560	207.00	115920.00
256	R2-GW-2-1-D	Daily watering to the lawn @ 6 Lit. / Sq.Mtr. ,Weeding , Application of Chemical fertilizers, and pesticide as and when required and as instructed by site incharge, Lawn moving at every 20 days interval in dry season, and at 15 days interval during the monsoon , Edging of lawn at every 20 days , Cutting of lawn by using garden shear as and when require , If any endulation fill it with Mixture of RHE & CDM in 2:1 proportion immediately and laying of lawn carpet on it on the same day,If any casualty seen same should be replaced by same variety of lawn without any extra cost. Top dressing of 5 cm Mixture of RHE & CDM in 2:1 proportion once in a year or 2.5 cm twice in a year as instructed by site incharge. Lawn should be	SQM	3500	21.00	73500.00



		Compact, lush green , free from pest or disease in smooth leveled condition as per landscape design.Item should be operated wherever water Supply is available through MCGM				
257	R2-GW-2-3-B	Preparation of mound as per the suitable design according to landsape of garden by supply of RHE and CDM Mixing of RHE and CDM in 2:1 proportion with Pesticides & fungicides as instructed by the site incharge 2 Ft Depth at Centre & 1 Ft Depth at sideline of mound.	SQM	95	567.00	53865.00
258	R2-GW-2-4-D	Daily watering @ 6 Lit. / Sq.Mtr.available in the garden , weeding ,loosening of soil for maintaining the porosity as and when required, Application of Chemical fertilizers, and pesticided as and when required and as instructed by site incharge, Pruning as per the desired shape and as instructed by the site incharge, Top dressing 5 cm once in a year or 2.5 cm twice in a year with Mixture of RHE & CDM in 2:1 proportion , plants should be in healthy condition free from pest, disease attack. If any casualty observed same should be replace by the contractor without any extra cost . Item should be operated wherever water supply is available through MCGM. For Topiaries of plant, shape and size of the topiary should be maintained as it is or at higher side of the size and shape at the time of development work or at the time of starting of maintenance period .	SQM	10666	50.00	533300.00
259	R2-GW-2-4-E	Digging of Hole in a prepared ground ,Removal of shrub from pollybag without disturbing rootball and planting and resurfacing of planted area by Soil and manure as directed by site incharge. Maintenance of newly planted shrubs for one month and feeling of casualty if any during free maintenance period without extra cost. If water facility not available at site Item no.R2- GW-7-28 should be operated	SQM	850	40.00	34000.00



260	R2-GW-2-6-D	Daily watering @ 6 Lit. / Sq.Mtr.available in the garden etc., weeding ,loosening of soil for maintaining the porosity as and when required, Application of Chemical fertilizers, and pesticides as and when required and as instructed by site incharge, Pruning as per the desired shape and as instructed by the site incharge, Top dressing of 5 cm or 2.5 cm twice in a year with Mixture of RHE & CDM in 2:1 proportion, plants should be in healthy condition free from pest, disease. If any casualty observed same should be replace by the contractor without any extra cost Item should be operated wherever water supply is available through MCGM.	SQM	850	29.00	24650.00
261	R2-GW-2-8-D	Watering of tree @12 Lit. Per tree weeding, Application of Fertilizers and pesticide as and when required,loosening of soil for maintaining the porosity , stacking of tree. Removal of lower side shoots time to time for proper growth of the tree. If any casualty found same should be replaced without extra cost.Top dressing of 5 cm or 2.5 cm twice in a year with Mixture of RHE & CDM in 2:1 proportion, plants should be in healthy condition free from pest, disease. Item should be operated wherever water supply is available through MCGM.	NOS	80	112.00	8960.00
262	R2-GW-3-1-c	Providing and laying Natural unpolished White Pebbles of size 30mm to 50mm laying in 3 layers (finish layer of 150mm nominal thickness), graded pebbles etc complete as per drawing as specified as directed by Engineer. (Refer sketch 22)	KG	840	53.00	44520.00
		<b>SHRUBS</b>				
263	R2-GW-5-7	Allamanda cathartica india 6 " height Dwarf Green Allam 6 " to 9 " height excluding pollybag	Nos	500	25.00	12500.00
264	R2-GW-5-12	Asparagus springeri shatawari 6 " to 9 " height excluding pollybag	Nos	500	23.00	11500.00
265	R2-GW-5-14	Bougainvillea glabra Purple Single Flowers 6 " to 9 " height excluding pollybag	Nos	1000	46.00	46000.00



266	R2-GW-5-29	Canna variegata Canna Varigated 6 " to 9 " height excluding pollybag	Nos	800	46.00	36800.00
267	R2-GW-5-39	Chlorophytum comosum Spider Plant 6 " to 9 " height excluding pollybag	Nos	500	23.00	11500.00
268	R2-GW-5-49	Dracaena colorama 6 " to 9 " height excluding pollybag	Nos	500	46.00	23000.00
269	R2-GW-5-51	Duranta repens Golden duranta 6 " to 9 " height excluding pollybag	Nos	600	21.00	12600.00
270	R2-GW-5-52	Duranta repens "tinge" Sunshine duranta 6 " to 9 " height excluding pollybag	Nos	600	24.00	14400.00
271	R2-GW-5-76	Hibiscus rosasinensis La France Pink / White 6 " to 9 " height excluding pollybag	Nos	500	37.00	18500.00
272	R2-GW-5-88	Jasminum pubescens Kund 6 " to 9 " height excluding pollybag	Nos	500	23.00	11500.00
273	R2-GW-5-94	Lantana camera depressa Yellow Lantana 6 " to 9 " height excluding pollybag	Nos	200	23.00	4600.00
274	R2-GW-5-95	Lantana camera sanguinea Haldikunku Lantana 6 " to 9 " height excluding pollybag	Nos	200	23.00	4600.00
275	R2-GW-5-125	Plumbago auriculata Chitrak / Plumbago 6 " to 9 " height excluding pollybag	Nos	500	17.00	8500.00
276	R2-GW-5-135	Pilea microphylla 6 " to 9 " height excluding pollybag	Nos	500	12.00	6000.00
277	R2-GW-5-145	Roheo discolor Rhoeo Nana 4" to 6" height excluding pollybag	Nos	1000	17.00	17000.00
278	R2-GW-5-152	Spathiphyllum cupida/petite 6 " to 9 " height excluding pollybag	Nos	1000	48.00	48000.00
279	R2-GW-5-190	Monstera deliciosa 6 " to 9 " height excluding pollybag	Nos	500	75.00	37500.00
280	R2-GW-5-211	Vernena 6 " to 9 " height excluding pollybag	Nos	1000	17.00	17000.00
281	R2-GW-5-216	Cuphea Blue 6 " to 9 " height excluding pollybag	Nos	500	17.00	8500.00
		<b>TREES</b>				
282	R2-GW-5-61	Ficus benjamina Benjamina Corporata 6 " to 9 " height excluding pollybag	Nos	25	52.00	1300.00
283	R2-GW-5-124	Pisonia alba Pisonia 6 " to 9 " height excluding pollybag	Nos	50	26.00	1300.00
284	R2-GW-5-	Plumeria alba 4 ' Ft. height excluding pollybag	Nos	25	288.00	7200.00



	202					
285	R2-GW-5-322	Foxtail palm 10' to 12' height and 6 " girth excluding pollybag	Nos	25	3220.00	80500.00
286	GW-5-347	zoysia species 12 " bag	Nos	25	34.00	850.00
287	R2-GW-6-1	Excavation for Planting of Lawn/ Shrubs/ Creeper/ Climbers/ Ground Cover on Soft Surface – Digging of Soft surface up to 30 Cm. Depth and removal of excavated material from site by contractor. Digging, removal of escavated material up to 30 cm depth on soft surface like soil, Murum, Loading and unloading and Transporting Excavated material form site out of Jurisdiction of MCGM Or at site designated by site incharge	Sqm	850	156.00	132600.00
288	R2-GW-6-2	Excavation for Planting of Lawn/ Shrubs/ Creeper/ Climbers/ Ground Cover on Hard Surface – Digging of Hard surfacelike concrete, tar, Paved area up to 30 Cm. Depth and removal of escavated material from site by contractor. Digging, removal of escavated material up to 30 cm depth on Hard surface like concrete, tar, paved area, Loading ,unloading and Transporting Excavated material form site out of Jurisdiction of MCGM Or at site designated by site incharge	Sqm	110	187.00	20570.00
289	R2-GW-7-1	Preparation of ground for planting on lawn / shrubs/ ground cover/ creeper/ climbers – Supply and spreading of Red Hill Earth and cow dung mannure in 2:1 proportion up to 30 Cm Depth ( Excluding cost of lawn/ Shrubs/Creepers/ Climbers/ ground covers) Suply and Spreading of Red Hill Earth and Cow Dung Mannure in 2:1 Proportion up to 30 cm. Depth. Application of suitable pesticides and fungicides withRHE and CDM.	SqM	850	378.00	321300.00



290	R2-GW-7-7	Providng , Fixing and Preparation of Vertical biowall frame with colourfull planters on prepared steel frame or any other metallic frame Fixing of Vertical Biowall frame on prepared steel or any other metallic frame or wall having black colour planters. Feeling of Vermicompost and Cocopeat in Planters in 1:1 proportion and pant a Shrub/Creeper/ Climbers. Excluding cost of Cost of plant and excluding cost of steel or metallic frame on which biowall tobe install.	SqM	190	1706.00	324140.00
291	R2-GW-7-8	Providng , Fixing and Preparation of Vertical biowall planters only , on prepared steel frame or any other metallic frameFixing of Vertical biowall planters on already preapired steel or any other metallic frame or wall having colourfull planters of 15" size .Feeling of Vermicompost and Cocopeat in Planters in 1:1 proportion and pant a Shrub/Creeper/ Climbers.( Basic Unit 1000 planters) Excluding cost of Cost of plant and excluding cost of steel or metallic frame on which biowall tobe install.Execution of Item No. R2-GW-9-17 & R2-GW-9-18 in Large scale.( Excluding cost of plants and excluding cost of metallic frame)	No.	3360	102.00	342720.00
292	R2-GW-7-11	Supply and Spreading of Red Hill Earth Red hill earth free from graass, stones, rubbles redish in colour pass through 5 mm sieve and spreading of red hill earth at site location/ plot and rolling as directed by site incharge	CuM.	440	1283.00	564520.00
293	R2-GW-7-12	Supply and Spreading of Cow Dung Manure Cow dung Mannure should be bownish in colour free from grass, free from pest and disease imidietly treated with pesticide and fungicides after delivery . Spreading of cow dung manure at site location / plot as directed by site incharge	CuM.	440	1281.00	563640.00



294	R2-GW-7-13	Preparation of Pit and Planting of Tree In Escavated Pit hard surface Excluding cost of Tree. Filling of Escavated Pit having 1Mtr. X 1Mtr.X 1Mtr. Size with Red Hill Earth and Cow Dung Mannure in 2:1 proportion and pant a tree with Stacking and Preparation of Tree Basin for proper Irrigation . Excluding cost of Tree	Nos	25	1152.00	28800.00
295	R2-GW-7-14	Preparation of Pit and Planting of Tree In Escavated Pit Soft surface Excluding cost of Tree. Filling of Escavated Pit having 1Mtr. X 1Mtr.X 1Mtr. Size with Escavated soil, Red Hill Earth and Cow Dung Mannure in 1:1:1 proportion and pant a tree with Stacking and Preparation of Tree Basin for proper Irrigation. Excluding cost of Tree.	Nos	35	793.00	27755.00
296	R2-GW-7-19	Maintenance of Lawn Including cost of water Daily watering to the lawn @ 6 Lit. / Sq.Mtr. ,Weeding , Application ofChemical fertilizers, and pesticided as and when required and as instructed by site incharge, Lawn moving at every 20 days interval in dry season, and at 15 days interval during the monsoon , Edging of lawn at every 20 days , Cutting of lawn by using garden shear as and when require , If any endulation fill it with Mixture of RHE & CDM in 3:1 proportion immediately and laying of lawn carpet on it on the same day,If any vasualty seen same should be replaced by same variety of lawn without any extra cost. Top dressing of 5 cm Mixture of RHE & CDM in 2:1 proportion once in a year or 2.5 cm twice in a year as instructed by site incharge. Lawn should be lush green , free from pest or disease attack in smooth leveled condition as per landscape design.Cost of water and watering in included.	SqM	2905	42.00	122010.00





297	R2-GW-7-20	Maintenance of Vertical biowall Including cost of WaterDaily watering @ 6 Lit. / Sq.Mtr., weeding ,loosening of soil for maintaining the porosity as and when required, Application of Chemical solid and liquid fertilizers at every 15 days interval , and pesticided as and when required and as instructed by site incharge, Pruning as per the desired shape and as instructed by the site incharge, Top dressing of 5 cm once or 2.5 cm twice in a year with Mixture of Cocopeat and vermicompost in 2:1 proportion, plants should be in healthy condition free from pest, disease attack. If any casualty observed same should be replace by the contractor without any extra cost Including cost of water and watering.	SqM	1320	72.00	95040.00
298	R2-GW-7-22	Maintenance of Ground cover, creeper , climbers Including cost of water Daily watering @ 6 Lit. / Sq.Mtr.available in the garden etc., weeding ,loosening of soil for maintaining the porosity as and when required, Application of Chemical fertilizers, and pesticided as and when required and as instructed by site incharge, Pruning as per the desired shape and as instructed by the site incharge, Top dressing of 5 cm or 2.5 cm twice in a year with Mixture of RHE & CDM in 2:1 proportion, plants should be in healthy condition free from pest, disease attack. If any casualty observed same should be replace by the contractor without any extra cost Including cost of water and watering.	SqM	8475	51.00	432225.00



299	R2-GW-7-23	Maintenance of Shrubs/ Hedges/ Edges Including cost of water Daily watering @ 6 Lit. / Sq.Mtr.available in the garden , weeding ,loosening of soil for maintaining the porosity as and when required, Aplication of Chemical fertilizers, and pesticided as and when required and as instructed by site incharge, Pruning as per the desired shape and as instructed by the site incharge, Top dressing of 5 cm once in a year or 2.5 cm twice in a year with Mixture of RHE & CDM in 2:1 proportion once in a year , plants should be in healthy condition free from pest, disease attack. If any casualty observed same should be replace by the contractor without any extra cost . Item should be operated wherever water supply is available through MCGM. For Topiaries of plant, shape and size of the topiery should be maintained as it is or at higher side of the size and shape at the time of devepoment work or at the time of starting of maintenance period .Including cost of water and watering.	SqM	5505	72.00	396360.00
300	R2-GW-7-24	Maintenance of Newly planted Trees Including cost of water Watering of tree @12 Lit. Per tree . Weeding, aplication of Fertilizers and pesticide as and when required,loosening of soil for maintaining the porosity , stacking of tree. Removal of lower side shoots time to time for proper growth of the tree Preparation of tree basins in a soil . If any casualty found same should be replaced without extra cost.Top dressing of 5 cm or 2.5 cm twice in a year with Mixture of RHE & CDM in 2:1 proportion, plants should be in healthy condition free from pest, disease attack. Including cosst of watering and water.	NPM	660	166.00	109560.00
		<b>PAVER &amp; KERB</b>				



301	R2-RW-3-18	Providing & fixing in the carriageway 80 mm thick grey cement concrete Lacquer coated (Reflective) interlocking pavers in Red (Terra Cotta), Lemon Yellow, Bright Yellow or any colour with vermeticular or any antiskid texture on top surface of approved pattern/ shape and colour having average crushing strength not less than 50 N/mm <sup>2</sup> manufactured in double layer precast concrete blocks as per technical specifications and IS CODE 15658:2006. The top layer of paver block should be 12 to 15 mm thick and consisting of cubical shape stone aggregate 8 mm sieve 100% passing and retained on 4.75 mm size sieve, silica sand and with pure iron oxide ultra voilette stabilized pigment @ 5% by weight of white cement and should be coated with lacquer having hard, high abrasive resistance and water repellent.The bottom layer should be 65 to 68 mm thick having 12 mm sieve 100% passing aggregate as per technical specifications, placed on average compacted thickness of 25 mm well graded sand cushioning uniformly compacted with proper capacity mechanical compactor with required level, grade and camber etc. complete as specified and as directed by the Engineer.	Sq.m	3150	1042.00	3282300.00
302	R2-RW-4-10	Providing and fixing single row of setts 15 cm. to 25 cm. long, 10 cm. wide and 15 cm. deep fair dressed on top and medium dressed on other sides on 15 cm. thick and 15 cm. wide R.M.C. M-20 C.C. bed including filling the joints with C.M. 1:2 and cement pointing , curing etc.complete.	Rmt	450	335.00	150750.00
303	R2-RW-10-37	Providing and fixing of the precast TREE GUARD KERB of M-20 C.C. of height 230mm., width 100mm., Length 400mm.,finished neatly, compacting ,curing, formwork etc. including bedding of M-10 C.C.procured from M.C.G.M. approved R.M.C. plant,10cm.thick, filling of jointing in C.M. 1:2 and painting the exposed surface with 3 coats of road marking paint, Grade I of approved colours and quality	Rmt	625	471.07	294418.75



		including single coat of approved brand primer including excavation in C.C. ,asphalt etc. as specified and as directed.				
304	R2-RW-4-01	Providing & Fixing kerb stones 30 cm to 40 cm long, 15 cm wide, 38 cm deep medium dressed in all exposed surfaces, set in cement mortar 1:2 on a 15 cm thick and 25 cm wide RMC M-20 C.C. bed including filling the joints with 1:2 C.M. pointing, curing etc.complete.	Rmt	515	605.00	311575.00
305	R2-ME-14-2-A	GARDEN BENCH WITH ARM - The area- 1.5x0.6m, capacity: 3adult, 1. FRP section: the seating portion and backrest potion shall be made up to 9 nos.FRP trip 2 to 3mm thick. C sectionFRP channel strips of thickness up to 3mm and 1500mm long with wooden finish bolted to both the side frame. The bench strip consist of nylon end caps provided at the two ends of strips for covering the end., 2. Cast iron section- the frame and arm shall be made up of cast iron in casting process. the weight shall be 42kg with arm, 3.MS support- MS flat of size 40x5mm is to be provided at two no. width wise and one no. lengthwise cross support at accommodate 3 adults on it. the paint given to the bench shall increase the life of the product.	nos	25	12209.00	305225.00
		<b>TOTAL ESTIMATED COST OF LANDSCAPE WORKS</b>				<b>9201023.75</b>



## **ABSTRACT SHEET OF M&E WORKS**

<b>BRIHANMUMBAI MUNICIPAL CORPORATION</b>						
<b>Hydraulic Engineer's Department/ O.C. Division</b>						
<b>Name Of Project :- Construction of Maintenance Staff Chowky and various workshops in the premises of Kapurbawdi water works yard in O.C. Division.</b>						
<b><u>ESTIMATE FOR ELECTRICAL WORKS</u></b>						
<b>SR. NO.</b>	<b>ITEM CODE</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>TOTAL AMOUNT</b>
<b>ELECTRICAL PANELS INSTALLATION</b>						
<b>ISOLATORS / SWITCHES: (SP-ME-TS-3)</b>						
	R2-ME-1-7	Isolator / Switches as per IEC 60947 Part 3 / IS 13947 part 3 to be enclosed in CRCA Sheet steel 18/20 SWG standard with powder coated, rust protected(if 16/18 SWG/1.62/1.21 mm Nost avilable) with bus bar, earthing terminal, and all other accessories to complete the work. Isolator shall be wall/column mounted. Enclosure shall be weather proof. Colour shade shall be as per IS 5. MS angle iron frame to mount the unit is included.IP for enclosure shall be IP43 for Indoor unit and IP 55 for Outdoor unit				
1	R2-ME-1-7-c	30/32 Amp. 415V TPN switch unit with CRCA sheet steel powder coated enclosure with accessories.	Nos	40	1,702.00	68,080.00
2	R2-ME-1-7-q	40 A TPN switch unit with CRCA sheet steel powder coated enclosure with accessories.	Nos	40	1,457.00	58,280.00
<b>APFC Panel (SP-ME-TS- 2)</b>						
	R2-ME-1-29	APFC Panel-1				
3	R2-ME-1-29-a	Automatic Power Factor Corrector Panel (APFC) above 30KVAR only.	kVAr	50	4,322.00	2,16,100.00



4	R2-ME-1-4-k	250 Amp. 415V FP ON Load Changeover Switch with CRCA sheet steel powder coated enclosure.	Nos	2	21,208.00	42,416.00
<b>SWITCHGEARS, MCB DB, PANELS</b>						
		<b>Distribution Board (Box only) (SP-ME-TS- 3)</b>				
	R2-ME-1-15	IP43 & 30 SPN, TPN, Vertical TPN Distribution board with metal door of various sizes on wall/ Column/ floor mounting, with detachable gland plate, terminal connectors and other required hardware & fasteners. DB shall be designed with provision for FP MCB/ Isolator/ RCCB / RCBO as incomer & SP / TP MCB as outgoing as per requirement. (Cost of the DBs will be without MCB, MCCB). DB shall be as per IS 8623- 1 & 3 / IEC 61439- 1 & 3.				
5	R2-ME-1-15-ak	IP 43 TPN Distribution Board with metal door (Box only) 12 Way ( 4 + 36 way)	No.	7	12,209.00	85,463.00
6	R2-ME-1-15-at	IP 43 Vertical TPN Distribution Board with Modular Incomer Metal door (Box only) 12 Way (8 + 36 way)	No.	2	24,829.00	49,658.00
		<b>MCB</b>				
	R2-ME-1-17	Unit rate of 240V/415V, 'C' Curve, 10kA, Miniature circuit breaker suitable for DB mounting complete with connection, testing & commissioning etc. as required.				
7	R2-ME-1-17-b	10A SP MCB	No.	147	335.00	49,245.00
8	R2-ME-1-17-c	16A/20A SP MCB	No.	63	335.00	21,105.00
9	R2-ME-1-17-i	32A DP MCB	No.	10	995.00	9,950.00
10	R2-ME-	63A 4P MCB	No.	4		



	1-17-w				3,161.00	12,644.00	
11	R2-ME-1-17-ak	40A 4P MCB	No.	3	3,378.00	10,134.00	
		<b>MCCB (SP-ME-TS- 3)</b>					
	R2-ME-1-18	Unit rate of 415V, 10kA/16kA, Moulded case circuit breaker with Thermal magnetic overload suitable for DB mounting complete with connection, testing & commissioning etc. as required.					
12	R2-ME-1-18-a	100A TPN MCCB	No.	4	5,299.00	21,196.00	
13	R2-ME-1-18-b	125A TPN MCCB	No.	5	8,887.00	44,435.00	
		<b>Earth Leakage circuit Breaker / Residual Current circuit Breaker (SP-ME-TS- 4)</b>					
	R2-ME-1-25	ELCBs In 16 SWG CRCA sheet steel enclosure, powder coated, wall / column mounted with provision for support arrangement, 2 earthing terminal, Incoming & outgoing cable terminal etc. Colour shade shall be RAL 7032 Smoke gray as per IS 5.					
		<b>with 100mA Sensitivity</b>					
14	R2-ME-1-25-c1	63Amp, 2 pole	No.	12	6,064.00	72,768.00	
		<b>with 30mA Sensitivity</b>					
15	R2-ME-1-25-i	40Amp. 2 Pole	No.	9	4,843.00	43,587.00	
<b>CABLES, EXCAVATION, G.I. CABLE TRAYS &amp; ACCESSORIES, CABLE JOINTS, CABLE PROTECTION PIPE.</b>							
		<b>Cables : Supply &amp; laying " XLPE cables" on walls or through existing trenches etc. (SP-ME-TS-6)</b>					



		LV Cables of following sizes to be laid buried in ground/ laid in cable trays in ready made trenches, cables shall be fitted on wall / ceiling by the means of saddle & spacers. Miscellaneous items such as cable dressing accessories like nylon tie, Aluminium clamps, GI cleats, cable tags etc. are included in the scope. Removal of empty drums, cartoons and making the site normal as instructed by Purchaser client is included in scope.				
	R2-ME-2-1	<b>1.1 kV grade stranded Al conductor, XLPE insulated, extruded PVC inner and FRLS outer sheathed, galvanised steel round or strip armoured cables</b>				
16	R2-ME-2-1-s	4C x 16 Sq.mm	Mtr.	2200	194.00	4,26,800.00
17	R2-ME-2-1-u	3.5C x 35 Sq.mm	Mtr.	715	292.00	2,08,780.00
18	R2-ME-2-1-v	3.5C x 50 Sq.mm	Mtr.	400	379.00	1,51,600.00
19	R2-ME-2-1-w	3.5C x 70 Sq.mm	Mtr.	820	505.00	4,14,100.00
20	R2-ME-2-1-x	3.5C x 95 Sq.mm	Mtr.	100	611.00	61,100.00
21	R2-ME-2-1-z	3.5C x 150 Sq.mm	Mtr.	300	903.00	2,70,900.00
		<b>1.1 kV grade stranded Cu conductor, XLPE insulated, extruded PVC inner and FRLS outer sheathed, galvanised steel round or strip armoured cables (SP-ME-TS- 6)</b>				
22	R2-ME-2-3-j	3C x 4.0 Sq.mm	Mtr.	44	195.00	8,580.00
23	R2-ME-2-3-o	4C x 6.0 Sq.mm	Mtr.	150	311.00	46,650.00
24	R2-ME-2-3-s	4C x 10 Sq.mm	Mtr.	220	556.00	1,22,320.00





<b>Cable End Termination For Aluminium Cables : (SPME-TS-6)</b>						
	R2-ME-2-11	Cable end terminations for LV, XLPE/PVC insulated,PVC sheathed, armoured/ unarmoured cables including supply and fixing of Double compression cable glands,stripping of cable insulation, supply and fixing of aluminium lugs for aluminium cables for all phases and crimping the same to the conductor for the following cables.Miscellaneous items like cable lugs, G.I nut - bolts and G.I washers , consumables and other hardware materials as required to make the installation complete, are in the scope.All G.I Nut, bolt and washers shall be HDGI with 80 micron.One set of termination includes gland, lugs for cable core & accessories				
25	R2-ME-2-11-r	4C x 16 Sq.mm	Set	139	305.00	42,395.00
26	R2-ME-2-11-t	3.5C x 35 Sq.mm	Set	10	275.00	2,750.00
27	R2-ME-2-11-u	3.5C x 50 Sq.mm	Set	10	296.00	2,960.00
28	R2-ME-2-11-v	3.5C x 70 Sq.mm	Set	12	330.00	3,960.00
29	R2-ME-2-11-w	3.5C x 95 Sq.mm	Set	4	775.00	3,100.00
30	R2-ME-2-11-y	3.5C x 150 Sq.mm	Set	6	894.00	5,364.00
<b>Cable End Termination For Copper Cables : (SP-METS-6)</b>						



	R2-ME-2-12	Cable end terminations for LV, XLPE/PVC insulated, PVC sheathed, armoured/ unarmoured cables including supply and fixing of Double compression cable glands, stripping of cable insulation, supply and fixing of <b>tinned plated copper lugs for copper cables</b> for all phases and crimping the same to the conductor for the following cables. Miscellaneous items like cable lugs, G.I nut - bolts and G.I washers , consumables and other hardware materials as required to make the installation complete, are in the scope. All G.I Nut, bolt and washers shall be HDGI with 80 micron. One set of termination includes gland, lugs for cable core & accessories				
31	R2-ME-2-12-h	3C x 4.0 Sq.mm	Set	6	172.00	1,032.00
32	R2-ME-2-12-r	4C x 6.0 Sq.mm	Set	20	186.00	3,720.00
33	R2-ME-2-12-s	4C x 10 Sq.mm	Set	14	199.00	2,786.00
		<b>G.I. Cable tray with all other accessories : Perforated Type (SP-ME-TS-7)</b>				
	R2-ME-2-13	Readymade 2500mm standard length, prefabricated, perforated cable tray from MS sheet and then hot dip galvanised, of following sizes and associated accessories such as coupler plates, tees, elbow etc. Galvanisation thickness shall be minimum 86 Micron.				
34	R2-ME-2-13-b	100 x 25mm (W x H) - (16 SWG - 1.6mm) without cover	Rmtr.	20	1,197.00	23,940.00
35	R2-ME-2-13-c	150 x 25mm (W x H) - (16 SWG - 1.6mm) without cover	Rmtr.	20	1,237.00	24,740.00



36	R2-ME-2-13-e	300 x 50mm (W x H) - (16 SWG - 1.6mm) without cover	Rmtr.	50	2,067.00	1,03,350.00
		<b>Providing &amp; laying Hume pipe across road or below the plinth beams and buried cable protection (SP-ME-TS- 06)</b>				
	R2-ME-2-19	Supply and laying of Heavy duty RCC Hume pipe for road crossing, below plinth beam of following size as diameter.				
37	R2-ME-2-19-d	300mm Dia.	Mtr.	400	1,113.00	4,45,200.00
	R2-ME-2-25	<b>Raceways / Conduits for under floor trenches</b>				
38	R2-ME-2-25-a	Supply and laying Raceways / Conduits (for under floor trenches) on existing flooring 100mm X 40mm Aluminium raceways, 2 mm thick.	Mtr.	20	846.00	16,920.00
39	R2-ME-2-25-b	Supply and laying Raceways / Conduits (for under floor trenches) on existing flooring 60mmX40mm Aluminium raceways, 2 mm thick.	Mtr.	20	655.00	13,100.00
40	R2-ME-2-25-c	Supply and laying Raceways / Conduits (for under floor trenches) on existing flooring 50mmX25mm Aluminium raceways, 2 mm thick	Mtr.	50	543.00	27,150.00
41	R2-ME-2-23	Supplying, installation, testing & commissioning of following sizes of 11kV (UE) grade XLPE aluminium conductor PVC sheathed round wire armoured cable				
		<b>WIRING FOR SUBMAINS/ CIRCUIT WIRING (SP-ME-TS- 12)</b>				



	R2-ME-3-1	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FR PVC insulated copper conductor wire in surface/ recessed medium class PVC conduit as required				
42	R2-ME-3-1-b	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire in 20mm Conduit	Mtr	500	147.00	73,500.00
43	R2-ME-3-1-c	2 X 4 sq. mm + 1 X 4 sq. mm earth wire in 25mm Conduit	Mtr	100	213.00	21,300.00
44	R2-ME-3-1-d	2 X 6 sq. mm + 1 X 6 sq. mm earth wire in 25mm Conduit	Mtr	400	292.00	1,16,800.00
45	R2-ME-3-1-k	4 X 4 sq. mm + 2 X 4 sq. mm earth wire in 38mm Conduit	Mtr	400	402.00	1,60,800.00
	R2-ME-13	<b>Point wiring by using PVC insulated copper conductors (alongwith same size of pvc insulated copper conductor for earthing &amp; 3 plate ceiling rose) : PVC conduit concealed with modular switches &amp; FR wires. (SP-ME-TS- 12)</b>				
46	R2-ME-3-13-a	Light /Fan / Ex. fan Points Concealed Manner with Modular switches & FR wires	Each Pt.	429	857.00	3,67,653.00
47	R2-ME-3-13-b	3/5 Pin Independent Plug (IP) Concealed Manner with Modular switches & FR wires	Each Pt.	50	951.00	47,550.00
48	R2-ME-3-13-c	5A/6A - 3/5 Half Plug Concealed Manner with Modular switches & FR wires	Each Pt.	20	274.00	5,480.00
49	MTAR-EL-5	SITC of switch socket and industrial socket 32A 3PH+E	Each Pt.	10	6,545.00	65,450.00
50	MTAR-EL-4	SITC of switch socket and industrial socket 32A 1PH+E	Each Pt.	30	4,040.00	1,21,200.00
51	R2-ME-3-31-k	Group Control Point Wiring 4-8 Points Controlled by One 15 A SP Switch	Each Pt.	10	433.00	4,330.00



	<b>R2-ME-12-5</b>	<b>SITC OF COMPUTER ACCESSORIES</b>				
52	R2-ME-12-5-b	Switch BOX point for computers through PVC Conduit Description of Item 8 Modular SURFACE BOX - 1 No. 8 Modular PLATE - 1 No. INDICATOR LAMP - 1 No. 15A SWITCH - 1 No. 6A 5 PIN SOCKET - 3 Nos. 2Modular SURFACE BOX - 1 Nos. 2M PLATE - 1Nos. RJ11 SOCKET - 1 Nos. RJ45 SOCKET - 1Nos.	Nos	2	1,462.00	2,924.00
53	R2-ME-12-5-c	PVC box & cover plate with RJ-45 for LAN access only	Nos	20	317.00	6,340.00
54	R2-ME-12-5-d	PVC box & cover plate with RJ-11 for Telephone access only	Nos	20	244.00	4,880.00
55	R2-ME-12-5-e	PVC box & cover plate for combined access of RJ-11 for Telephone & RJ-45 for LAN	Nos	10	391.00	3,910.00
	R2-ME-12-2	<b>SITC OF TELEPHONE CABLES</b>				
56	R2-ME-12-2-a	PVC Telephone Cable -2 pair	Mtr	500	25.00	12,500.00
	R2-ME-12-3	<b>SITC OF ARMoured JELLY FILLED TELEPHONE CABLES</b>				
57	R2-ME-12-3-c	Armoured Telephone Cable -50 pair	Mtr	150	337.00	50,550.00
	R2-ME-12-4	<b>SITC OF COMPUTERS CABLES</b>				
58	R2-ME-12-4-b	Cat 6 Gigabyte	Mtr	1000	32.00	32,000.00
59	R2-ME-12-9-c	Fiber Optic Cable	Mtr	150	49.00	7,350.00

**FANS**

<b>FANS (SP-ME-TS-28)</b>						
60	R2-ME-4-12-a	Ceiling fan of 600 mm sweep with <b>all accessories including Electronic Regulator</b> for completing installation as per specification.	No.	55	2,508.00	1,37,940.00
61	R2-ME-4-12-g	Exhaust fan of 150mm sweep, 1400RPM, AC, 230V , 50 Hz, single phase complete with all necessary accessories for completing installation	No.	5	1,757.00	8,785.00
62	R2-ME-4-12-h	Exhaust fan of 230mm sweep, 1400RPM, with 450 CFM free air delivery, AC 230V/415V , 50 Hz, single phase / three phase complete with all necessary accessories for completing installation .	No.	10	2,014.00	20,140.00
63	R2-ME-4-12-p	Wall mounting fan of 400mm sweep, 230 Volts,AC 50 Hz, oscillating type complete with all necessary accessories for completing installation.	No.	10	2,892.00	28,920.00
64	R2-ME-4-12-s	Fan safety rope/ Fan wire.	No.	55	407.00	22,385.00
<b>S' TYPE HOOK FOR CEILING FANS: (SP-ME-TS- 19)</b>						
65	R2-ME-4-15-b	S' type M.S. fan hook fabricated from suitable dia. M.S. rod for fixing ceiling fan by using pair of Anchor fastener.	Set	55	229.00	12,595.00
<b>FIXING OF CEILING FANS WITH EXTENDED 1/2" G.I./ M.S. PIPE WITH SHACKLE MOUNTING ETC. WITH PAINTING:</b>						
	R2-ME-4-17	Fixing of Ceiling fans with MS down rod, painting etc as required for completing installation as per specification				
66	R2-ME-	Upto 0.5 Mtr.	Set	55		



	4-17-a				146.00	8,030.00
<b>EARTHING &amp; LIGHTNING PROTECTION SYSTEM</b>						
<b>Earthing (SP-ME-TS-38)</b>						
67	R2-ME-7-1-b	Earthing station with 100mm Dia., 13mm thick, 3000 mm long GI pipe (Class B or better) earth pit as per IS 3043. The earth pit shall be provided with watering pipe (Class B) with wire messed funnel, 25x3 GI strip /2X8SWG G.I. wire up to chamber ( wire or strip size as per fault level), disconnecting links with 600 x 600 mm (clear) RCC chamber & heavy duty 3mm thick CI chequered plate cover with hinge & stainless steel bolts. Bentonite/ Charcoal & Salt shall be provided for earth pits. Excavation, back filling, removal of excess soil is included in the scope.	Nos	4	18,793.00	75,172.00
68	R2-ME-7-1-d	600 X 600 X 3.15 mm <b>Copper Plate</b> , 3000mm dip with suitable size cu strip earth pit as per IS 3043. The earth pit shall be provided with watering pipe (Class B) with wire messed funnel, 12 SWG cu wire upto chamber, disconnecting links with 600 x 600 mm (clear) RCC chamber & 3mm thick heavy duty CI chequered plate cover with hinge. Bentonite shall be provided for earth pits. Excavation, backfilling, removal of excess soil is included in the scope.	Nos	2	23,434.00	46,868.00
<b>Test links (SP-ME-TS-38)</b>						
	R2-ME-7-3	Supply and installation of following size Test Links with required wiring and other accessories to complete the work.				



69	R2-ME-7-3-a	25 x 3 mm GI (length : 300 mm)	Nos	4	23.00	92.00
70	R2-ME-7-3-b	32 x 6 mm GI (length : 300 mm)	Nos	2	55.00	110.00
71	R2-ME-7-3-c	25 x 3 mm Cu (length : 300 mm)	Nos	4	234.00	936.00
		<b>Earthing Continuity Conductors (SP-ME-TS-38)</b>				
	R2-ME-7-4	Supply & installation of Earth conductor of the following sizes to be cleated on wall / columns with nuts & bolts or laid in cable tray / buried in ground including cutting, drilling, tapping, jointing by welding, connecting to equipments, painting to welded portion by black bitumen paint and with all necessary GI hardware & accessories to complete the work				
72	R2-ME-7-4-a	25 x 3mm Tinned copper	Mtr	50	780.00	39,000.00
73	R2-ME-7-4-e	25 x 3mm GI	Mtr	100	49.00	4,900.00
74	R2-ME-7-4-f	25 x 6mm GI	Mtr	135	97.00	13,095.00
75	R2-ME-7-4-g	50 x 6mm GI	Mtr	5	195.00	975.00
76	R2-ME-7-4-k	Bare Copper Conductor size 8 SWG	Mtr	50	125.00	6,250.00
77	R2-ME-7-4-m	Bare G.I. Conductor size 8 SWG	Mtr	1000	9.00	9,000.00
		<b>Lightning Protection (SP-ME-TS-38)</b>				
78	R2-ME-7-2	Lightning Protection of 5 pronged air terminal as per of technical specification. Earth continuity conductor as per requirement & rate. Earth station as per above specification & rate.	Nos	4	1,736.00	6,944.00
<b>LIGHTING FIXTURES</b>						





79	R2-ME-4-5-c	1x28W, T-5 Industrial Luminaires comprises of CRCA box channel with bi-directional M.S. white powder coated reflector and end cap. The luminaries prewired with high efficiency electronics ballast suitable for T-5 Lamps & PF > 0.98, & T-5 lamp.	Nos	32	1,841.00	58,912.00
		<b>SITC OF LED LIGHT FIXTURES (SP-ME-TS-21a)</b>				
	R2-ME-4-27	SITC of LED Street Light fittings:-				
80	R2-ME-4-27-e	70-90 W	Nos	80	5,774.00	4,61,920.00
	R2-ME-4-28	SITC of LED Flood Light Fitting:-				
81	R2-ME-4-28-a	150 W	Nos	30	11,547.00	3,46,410.00
82	R2-ME-10-10-e	Flood light 2x400W for high mast	Nos	20	3,658.00	73,160.00
		<b>Downlighter/Wall mounted LED:-</b>				
83	R2-ME-4-32-a	5-8 W	Nos	24	480.00	11,520.00
84	R2-ME-4-32-b	9-10 W	Nos	10	585.00	5,850.00
85	R2-ME-4-32-d	13-18 W	Nos	33	754.00	24,882.00
	<b>R2-ME-4-33</b>	<b>LED Square Recessed Downlighter</b>				
86	R2-ME-4-33-d	18-20W	Nos	26	1,416.00	36,816.00
87	R2-ME-4-33-f	36W (600X600)	Nos	55	5,546.00	3,05,030.00
	R2-ME-4-34	<b>Tubelight fixtures</b>				
88	R2-ME-4-34-a	1X 18W	Nos	140	538.00	75,320.00
89	R2-ME-	LED Bulkhead fitting	Nos	29		



	4-34-e				1,162.00	33,698.00
90	R2-ME-4-5-k	Garden light luminaire type bollard of powder coated aluminium housing suitable for PLS 1 x 9 / 18 W lamp along with gear unit and 1 No. PLS 9 / 18 W lamp	Nos	50	6,552.00	3,27,600.00
<b>Lighting Poles</b>						
	R2-ME-10-1	Swedged poles -Design, engineering, manufacture, testing at factory, packing & forwarding, delivery to site, unloading and handling at site, assembly, installation, testing and commissioning of sewage street light poles with embeded junction box inclusive of terminals, 3Cx 2.5 sqmm PVC insulated multistranded flexible copper cable from Junction box to the luminaires, termination at both ends and other accessories. Foundation for the pole erection and all civil works shall be in the scope of the contractor. Pole designation as per IS 2713 Part II 1980.				
91	R2-ME-10-1-b	410 SP-26 Swedged pole 7 meter in length weight of pole 92 Kgs. (Add 10 Kg. weight of sleeve & base plate)	Nos	55	25,982.00	14,29,010.00
	<b>R2-ME-10-3</b>	<b>Brackets</b>				
92	R2-ME-10-3-a	Single arm bracket	Nos	60	2,930.00	1,75,800.00
93	R2-ME-10-3-B	Double arm bracket	Nos	15	5,861.00	87,915.00
<b>PVC Trunking</b>						



	AI	<b>PVC Trunking with cover &amp; all other accessories (SP-ME-TS- 10)</b>				
	R2-ME-2-16	Following sizes PVC trunking with cover and all other accessories to complete the work like bend, partion, internal and external angles etc. cost of trunking shall be included base, cover, finishing accessories, junction boxes and mounting wiring accessories.				
94	R2-ME-2-16-a	50 x 50mm (W x H) - PVC Trunking with cover	Rmtr.	50	280.00	14,000.00
95	R2-ME-2-16-c	100 x 50mm (W x H) - PVC Trunking with cover	Rmtr.	20	1,090.00	21,800.00
		<b>ISOLATORS / SWITCHES: (SP-ME-TS-3)</b>				
	R2-ME-1-7	Isolator / Switches as per IEC 60947 Part 3 / IS 13947 part 3 to be enclosed in CRCA Sheet steel 18/20 SWG standard with powder coated, rust protected(if 16/18 SWG/1.62/1.21 mm Nost avilable) with bus bar, earthing terminal, and all other accessories to complete the work. Isolator shall be wall/column mounted. Enclosure shall be weather proof. Colour shade shall be as per IS 5. MS angle iron frame to mount the unit is included.IP for enclosure shall be IP43 for Indoor unit and IP 55 for Outdoor unit.				
96	R2-ME-1-7-d	63 Amp. 415V TPN switch unit with CRCA sheet steel powder coated enclosure with accessories.	Nos	5	3,446.00	17,230.00
97	R2-ME-1-7-c	30/32 Amp. 415V TPN switch unit with CRCA sheet steel powder coated enclosure with accessories.	Nos	20	1,702.00	34,040.00



		<b>Air Termination</b> <b>Makes: Cape electric,OBO</b> <b>Bettermann, ABB (FURSE),</b>				
98	FAIR-AMH-EE-14	Supply of 8mm Aluminum Solid Round Conductor for roof as a horizontal air terminal as per required LPL and should be tested for electrical resistivity, Tensile strength, Yield strength, % elongation, salt spray & humidity test to meet the requirements of IS/IEC 62305 and IEC 62561-1&2.	Mtr	100	140.00	14,000.00
99	FAIR-AMH-EE-15	Supply of Metal roof Conductor Holder for Aluminium Round Conductor horizontal air terminal above roof / metal sheet to meet the requirements for IS/IEC 62305.	Nos	100	200.00	20,000.00
100	FAIR-AMH-EE-16	Supply and Installation of Adhesion glue for fixing the metal roof conductor holder over the flat surface to meet the requirement of IS/IEC 62305.	Nos	3	3,500.00	10,500.00
101	FAIR-AMH-EE-17	Supply of Stainless Steel cross connector suitable for 8mm dia and should be tested for electrical resistivity, Mechanical strength, salt spray & humidity test to meet the requirement of IS/IEC - 62305 and IEC 62561-1&2.	Nos	10	550.00	5,500.00
102	FAIR-AMH-EE-18	Supply of Expansion Piece with connector to compensate the expansion and contraction of Solid Round Al. Conductor during temperature variations to be provided on conductors length over 20 meters with Expansion Piece Connector for to connect Solid ROUNG Al. Conductor at both ends to meet the requirements for IS/IEC 62305	Nos	10	250.00	2,500.00



103	FAIR-AMH-EE-19	Supply of Aluminium Straight conductor connector for interconnecting 8mm Aluminium conductor to meets the requirement of IS/IEC 62305. Tested for Electrical , Mechanical and chemical as per IEC 62561.	Nos	20	70.00	1,400.00
		<b>DOWN CONDUCTOR SYSTEM</b> <b>Makes: Cape electric,OBO</b> <b>Bettermann, ABB (FURSE)</b>				
104	FAIR-AMH-EE-20	Supply of 8mm Aluminum Solid Round Conductor for down condutor as per required LPL and should be tested for electrical resistivity, Tensile strength, Yield strength, % elongation, salt spray & humidity test to meet the requirements of IS/IEC 62305 and IEC 62561-1&2.	Mtr	100	140.00	14,000.00
105	FAIR-AMH-EE-21	Supply of SS conductor holder for fixing the (wall) down conductor after test joint for holding 10 mm copper boarded Round steel solid Conductor to meet the requirement of IS/IEC - 62305	Nos	100	190.00	19,000.00
106	FAIR-AMH-EE-22	Supply of Aluminium Straight conductor connector for interconnecting 8mm Aluminium conductor to meets the requirement of IS/IEC 62305. Tested for Electrical, Mechanical and chemical as per IEC 62561.	Nos	20	70.00	1,400.00
107	FAIR-AMH-EE-23	Supply of Lightning counter - LCD screen shows the number of lightning strikes, hour and date of lightning events Buttons enable TIME/DATE setting and log viewing. Replaceable battery, working life minimum five years, Complies with IEC/EN 62561-6.	Nos	1	38,000.00	38,000.00



108	FAIR-AMH-EE-24	Supply of Stainless Steel Test Joint with IP55 enclosure suitable connector for 8 mm round Al. conductor & 10 mm round copper coated conductor to meet the requirement of IS/IEC - 62305.	Nos	10	1,050.00	10,500.00
109	FAIR-AMH-EE-25	Supply of Bridging cable with suitable connector for interconnect air termination with down conductor system to meet the requirement of IS/IEC 62305 .Tested for Electrical, Mechanical and Chemical as per IEC 62561.	Nos	10	650.00	6,500.00
		<b>Earthing System</b> <b>Makes: Cape electric,OBO</b> <b>Bettermann, ABB (FURSE)</b>				
110	FAIR-AMH-EE-26	Supply of 10 mm copper bonded Solid Steel Round Conductor with average coating thickness minimum of 70µm for Type-B Earthing and should be tested for Tensile strength, Electrical Resistance, salt mist, Bend & Adhesion to meet the requirements of IS/ IEC 62305 and IEC 62561-1&2.	Mtr	150	430.00	64,500.00
111	FAIR-AMH-EE-27	Supply, installation, testing & commissioning of chemical type , maintenance free earthing comprising 3mtr long and 80mm dia Copper pipe earthing electrode etc. complete. chamber shall be as per IS 3043.	Nos	6	16,500.00	99,000.00



112	FAIR-AMH-EE-06	Supplying transporting to project site including unloading, installing, testing & commissioning M.S. cubicle pattern panel board, fully compartmentalized, dust and vermin proof, free floor standing, top entry and as per detailed tender drawings and technical specifications of the tender and in particular as per shop drawings to be approved by the Architects. Busbarwise this panel board shall be in two sections connected to each other by three bus coupler switches. Note:- Panel shall be IP 43 rating unless it is not specified in the SLD The panel board shall be complete with Circuit Breakers, Releases, indicators, Surge Arrestors, interconnections, control wiring, ferrule numbering, connectors for outgoing feeder cables etc. as per the Single Line Diagram and shall incorporate the following: RYB Indicating Lamps shall be filament/neon type and Control MCBs shall be provided. <b>ADMIN BUILDING - MAIN PANEL</b>	No.	2	2,25,000.00	4,50,000.00
<b>ELV Works</b>						
		<b>EPABX AND ACCESORIES, COMPUTER ACCESORIES, PUBLIC ADDRESS SYSTEM, CCTV (SP-ME-TS- 48 to 54)</b>				



113	Fair-AMH-ELV-01	<p>SITC of the 2000W Plena controller with built-in 500W amplifier,12 business and emergency control inputs and supporting 6 zones ,extendable upto 120 zones,with single or dual channel operation, with loudspeaker line supervision,IEC 60849 certified.</p> <p>With Following Features:</p> <ol style="list-style-type: none"> <li>1.Voltage 230VAC, 50/60 Hz</li> <li>2.Max power consumption 2000W</li> <li>3.Battery power supply Voltage 24 VDC, +15% / -15%</li> <li>4.Output power (rms/maximum) 500 W</li> <li>5.Frequency response 60 Hz to 18 kHz</li> <li>6.Distortion &lt;1% at rated output power, 1 kHz</li> <li>7.Programmable Trigger Inputs 12</li> <li>8.Speech filter -3 dB at 315 Hz, high-pass,6 dB/oct</li> <li>9.Messages Data format WAV-file, 16-bit PCM, mono</li> <li>10.Memory capacity 16 MB Flash ROM</li> </ol> <p>Makes: Honeywell/Aties / Bosch</p>	Nos.	1	2,15,000.00	2,15,000.00
	R2-ME-12-10	<b>SITC OF PUBLIC ADDRESS SYSTEM</b>				
114	R2-ME-12-10-p	Supply and installation of 6W recessed ceiling mount speaker with VARIABLE VOLTAGE TAPPING OF 6/3 watt	Nos	20	1,180.00	23,600.00
115	R2-ME-12-10-q	Supply and installation of 10W recessed ceiling mount speaker with VARIABLE VOLTAGE TAPPING OF 10/5 watt	Nos	10	1,726.00	17,260.00
116	R2-ME-12-10-f	Speaker wiring using 40/36 cable with PVC conduit	Mtr	990	101.00	99,990.00
117	R2-ME-12-10-i	Supply & installation of 6W/100V wall mounting box speakers.	Nos	13	1,579.00	20,527.00





118	R2-ME-12-10-j	Supply & installation of Unidirectional Dynamic Vocal & Speech Microphone	Nos	2	3,956.00	7,912.00
119	R2-ME-12-10-k	Supply & installation of Microphone floor stand	Nos	2	1,628.00	3,256.00
120	R2-ME-12-10-v	Supply and installation of Booster amplifier 300W with all accessories.	Nos	2	21,790.00	43,580.00
121	R2-ME-12-10-h	Supply & installation of 16 channel zone control panel/ Zone selector to control the output of the amplifier.	Nos	2	7,488.00	14,976.00
122	BAH-DVNET-FA-173	Push button type Telephone instruments having speaker phone caller ID	Nos	70	750.00	52,500.00
123	RBH18-NW-E68	SITC of Telephone instruments digital desk phone	Nos	10	5,040.00	50,400.00
	<b>R2-ME-12-13</b>	<b>SITC OF CCTV</b>				
124	R2-ME-12-13-a	Supply, Installation, Testing & Commissioning of IP Dome camera with 1/2.8" CMOS, Progressive Scan, HD 720P Horizontal Resolution, Dual H.264 streaming, 25 FPS, 2.8mm-10mm varifocal auto iris lens, 0.01 lux, Tamper detection, Wide dynamic Range, 3D Noise reduction, PoE & standard 2VDC/24VAC power input, Indoor surface mount enclosure, Mounted on True Ceiling / False ceiling as per site requirement (including required accessories), UL Listed Or Equivalent. Camera Shall be ONVIF compliant.	Nos	25	35,977.00	8,99,425.00



125	R2-ME-12-13-o	Supply, Installation, Testing & Commissioning of IP PTZ camera with HD1080P 2.1MP Resolution, 20x optical zoom, 16X Digital zoom, Day/Night, Wide dynamic range, Dual H.264 streaming, 0.05 lux, vandal resistant, 360° continuous pan, -5° to +95° tilt, 300 preset, 4 tours, IP66 rated with built in heater and blower, Mounted on Wall/Pole as per site requirement (including required accessories), UL listed as per detailed specifications. Camera Shall be ONVIF compliant.	Nos	4	2,03,490.00	8,13,960.00
126	R2-ME-12-13-P	Design, Supply, testing, installation and commissioning of modular 16 channel 1080P NVR, Recording: 1920X1080P, 15 FPS, 30 days recording, 24 hours/day; Real time monitoring with 25 FPS. Hard disc : 8 SATA III Ports, Each 6TB, up to 48TB, 1 eSATA port, Disk array: Support RAID 0/1/5/6/10, Two no's of RJ -45 10/100/1000 Mbps self adaptive Ethernet interface, RS 232, RS 485, keyboard interfaces, VGA/HDMI compatible, 2nos front USB 2.0 & 1 no at rear USB 2.0 compatible & 8 TB hard disc and as per storage configuration contractor shall consider the separate hard discs	Nos	2	1,05,180.00	2,10,360.00
127	R2-ME-12-13-t	Supply, Installation, Testing & commissioning of 42inches LED monitor, Full HD Resolution, Backlight LED, Brightness : 400 NITS min., Contrast : 1200 : 1 or better., Power supply : 230 ±10%, 50 Hz.	Nos	2	73,859.00	1,47,718.00



128	R2-ME-12-13-u	Supply, Installation, Testing & commissioning of Hot dipped galvanised, round shape steel pole for installation of PTZ Camera and Outdoor Dome Camera, length 6 meters, diameter 4 inches (Nominal bore) Medium class, ISIS marked to IS:1239 with latest amdts and with atleast 1 Meter below ground with grouting.	Nos	18	22,791.00	4,10,238.00
129	R2-ME-12-9-y	SITC of 8 ports 10/100/1000 with 2 combo ports PoE switch with installation	Nos	3	32,558.00	97,674.00
130	R2-ME-12-4	SITC OF COMPUTERS CABLES				
131	R2-ME-12-4-b	Cat 6 Gigabyte	Mtr	1500	32.00	48,000.00
132	R2-ME-12-9	SITC OF COMPUTER NETWORKS ACCESSORIES				
133	R2-ME-12-9-c	Fiber Optic Cable	Mtr	350	49.00	17,150.00
134	R2-ME-12-9-h	24 Port Manageable Switch	Nos	2	13,837.00	27,674.00
135	R2-ME-12-9-u	SITC of 9 inch Rack	Nos	3	7,326.00	21,978.00
136	R2-ME-12-9-w	SITC of 32 inch Rack	Nos	1	44,768.00	44,768.00
137	R2-ME-12-9-x	SITC of Media convertor (fibre to Ethernet) with 10/100/1000 support	Nos	1	9,605.00	9,605.00
138	R2-ME-12-9-aa	2" C Class GI Pipe	Mtr	200	832.00	1,66,400.00
	R2-ME-15-32	Addressable Fire Alarm System				



139	R2-ME-15-32-o	Supply, Installation, testing & commissioning of addressable 4 loop main fire alarm electronic control panel, Shall having maximum 250 devices (any combination detectors plus devices) per loop & Audio/ Visual alarm complete as per IS: 2189 specification - modular type front operated with interlocking door arrangement totally enclosed dust and vermin proof for indoor type applications.	Nos	1	1,34,920.00	1,34,920.00
140	R2-ME-15-32-m	Supply, Installation, testing & commissioning of Active Repeater panel with all accessories, which shall be replica of main fire alarm panel with control keys I,e. Mute, silent & sounder alarm.	Nos	1	1,30,234.00	1,30,234.00
141	R2-ME-15-32-c	Supply, Installation, testing & commissioning of 2Cx1.5 sq.mm armoured RED color copper FRLS cable with necessary saddles, screws, junction boxes, sleeves, elbows couplings etc. for Fire alarm System	Mtr	500	98.00	49,000.00
142	R2-ME-15-32-d	Supply, Installation, testing & commissioning of Intelligent Photoelectric Smoke Detector along with mounting box & termination glands	Nos	40	2,123.00	84,920.00
143	R2-ME-15-32-e	Supply, Installation, testing & commissioning of Intelligent Heat Detector along with mounting box & termination glands.	Nos	2	3,256.00	6,512.00
144	R2-ME-15-32-g	Supply, Installation, testing & commissioning of Strobe Lights along with mounting box & termination glands	Nos	4	6,023.00	24,092.00



145	R2-ME-15-32-h	Supply, Installation, testing & commissioning of Addressable Manual call point/station with mounting back box	Nos	12	3,284.00	39,408.00
146	R2-ME-15-32-i	Supply, Installation, testing & commissioning of Programmable Electronic Sounders (Hooters):	Nos	5	4,607.00	23,035.00
147	R2-ME-15-32-j	Supply, Installation, testing & commissioning of remote response indicator	Nos	70	62.00	4,340.00
148	R2-ME-15-32-k	Supply, Installation, testing & commissioning of Isolator Module along with mounting box & termination glands.	Nos	4	2,761.00	11,044.00
149	R2-ME-15-32-l	Supply, Installation, testing & commissioning of Addressable control Relay module with required accessories along with junction box, glands and terminators ( For AC trip off, Access trip off, PA system, sprinkler flow switch, lift interface, sounder, fire fighter & telephone jack)	Nos	8	7,326.00	58,608.00
150	RBH18-FIRE ALA-15	S/I/T/C Of Addressable Monitor Modules With Rotary Decade Address Switches (0-159) and Required Accessories Including GI Junction Box And Glands. - For Fire Fighting Inteface (Flow Switch & Limit Switch). UL Listed.	Nos	12	4,592.00	55,104.00
		G.I. Cable tray with all other accessories : Perforated Type (SP-ME-TS- 7)				
	R2-ME-2-13	Readymade 2500mm standard length, prefabricated, perforated cable tray from MS sheet and then hot dip galvanised, of following sizes and associated accessories such as coupler plates, tees, elbow etc. Galvanisation thickness shall be minimum 86 Micron.				



151	R2-ME-2-13-b	100 x 25mm (W x H) - (16 SWG - 1.6mm) without cover	Mtr	50	1,197.00	59,850.00
152	R2-ME-2-13-e	300 x 50mm (W x H) - (16 SWG - 1.6mm) without cover	Mtr	50	2,067.00	1,03,350.00
<b>HVAC System</b>						
		<b>AIR CONDITIONING HVAC SYSTEM (SP-ME-TS-63) SUPPLY, INSTALLATION, TESTING &amp; COMMISSIONING OF AIR CONDITIONING EQUIPMENTS / UNITS AND ALLIED WORKS</b>				
	R2-ME-9-2	Split type Air Conditioning fitted with Hermetically sealed Rotary Compressors operating on Refrigerant R-407c/ R-410A Non CFC / R-134a environment friendly refrigerant, suitable for wall /ceiling mounting Conforming to IS (Except power Consumption Norms) suitable for operation on 230 V +/- 10% n 50 Hz, single phase AC supply capable of performing 1) Cooling 2) Dehumidifying 3) Air circulating 4) Filtering.				
153	R2-ME-9-2-b	Nominal Capacity 1.5 TR (4500 Kcal / Hr. ( 1 indoor unit of 1.5 TR & 1 outdoor unit of 1.5 TR ) including MS stand and Bracket for indoor and outdoor unit	Nos	4	56,486.00	2,25,944.00
154	R2-ME-9-2-d	Nominal Capacity 2.5 TR Mega Split AC ( 1 indoor unit of 2.5 TR each & 1 outdoor unit of 2.5 TR.) including MS stand and Bracket for indoor and outdoor unit	Nos	2	77,910.00	1,55,820.00
155	R2-ME-9-2-k	Providing & fixing of Extra Refrigerant piping including electrical cabling & earthing as per specification.	Rmt	10	1,638.00	16,380.00



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156	R2-ME-9-2-l	Providing & fixing of Extra Drain piping as per specification.	Rmt	40	273.00	10,920.00
157	R2-ME-9-2-f	Providing & fixing of Boxing to cover refrigeration piping, cabling etc.	Rmt	20	390.00	7,800.00
		<b>Control Cabling</b>				
		Providing and fixing of communication cable, 1.1 kV grade stranded Cu conductor, XLPE insulated, extruded PVC inner and FRLS outer sheathed, galvanised steel round or strip armoured cables (SP-ME-TS- 6)				
158	R2-ME-2-3-a	2C x 1.5 Sq.mm	Rmt	25	80.00	2,000.00
<b>Total Estimated Amount</b>						<b>1,37,49,957.00</b>



<b>BRIHANMUMBAI MUNICIPAL CORPORATION</b>			
<b>H.E. DEPT. / O.C DIVISION</b>			
CONSTRUCTION OF MAINTENANCE STAFF CHAWKY AND VARIOUS WORKSHOPS IN THE PREMISES OF KAPURBAWDI WATER WORKS YARD IN O.C DIVISION			
<b>SUMMARY ABSTRACT</b>			
<b>SR NO</b>	<b>ITEM DESCRIPTION</b>	<b>ITEM NO.</b>	<b>Total COST (IN INR)</b>
<b>PART-A</b>			
1	CIVIL WORKS	1 TO 128	Rs. 9,57,25,856.00
2	PLUMBING WORKS	129 TO 232	Rs. 1,50,67,935.00
3	FURNITURE ESTIMATE	233 TO 252	Rs. 30,67,770.00
4	LANDSCAPE WORKS	253 TO 305	Rs. 92,01,023.75
	<b>PART A -TOTAL</b>		<b>Rs. 12,30,62,584.75</b>
<b>PART-B</b>			
5	M&E WORKS	1 TO 158	Rs. 1,37,49,957.00
	<b>PART B -TOTAL</b>		<b>Rs. 1,37,49,957.00</b>
	<b>TOTAL ESTIMATED (PART A + PART B)</b>		<b>Rs. 13,68,12,541.75</b>





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# **SECTION 9**

# **GENERAL CONDITIONS**

# **OF CONTRACT**



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## General Conditions of Contract

### **A. General**

#### **1. Definitions**

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

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

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

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

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

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

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

Note : The contract sum shall include the following –

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

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

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



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

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

**The Authority** shall mean BRIHANMUMBAI MUNICIPAL CORPORATION (BMC)

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

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

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

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

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

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

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

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

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

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

**The “Site”** shall mean the land and other places including water bodies more specifically mentioned in the special conditions of the tender, on, under in or through which the permanent works or temporary works



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

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

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

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

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

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

**Variation** means a change to the:-

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

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

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

## **2. Interpretation**

2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer will provide instructions clarifying queries about these Conditions of Contract.

2.2 If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

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



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### **3 . Engineer's Decisions**

3.1 Except where otherwise specifically stated, the Engineer will decide contractual matters between the Employer and the Contractor in the role representing the Employer. However, if the Engineer is required under the rules and regulations and orders of the Employer to obtain prior approval of some other authorities for specific actions, he will so obtain the approval, before communicating his decision to the Contractor.

3.2 Except as expressly stated in the Contract, the Engineer shall not have any authority to relieve the Contractor of any of his obligations under the contract.

### **4. Delegation**

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

### **5. Communications**

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

### **6. Subcontracting**

6.1 Unless specifically mentioned in the contract subletting will not be allowed. Subletting, where otherwise provided by the contract shall not be more than 25% of the contract price.

6.2 The Contractor shall not be required to obtain any consent from the Employer for:

- a. the sub-contracting of any part of the Works for which the Subcontractor is named in the Contract;
- b. the provision for labour, or labour component.
- c. the purchase of Materials which are in accordance with the standards specified in the Contract.

6.3 Beyond what has been stated in clauses 6.1 and 6.2, if the Contractor proposes sub contracting any part of the work during execution of the Works, because of some unforeseen circumstances to enable him to complete the Works as per terms of the Contract, the Employer will consider the following before according approval:

a. The Contractor shall not sub-contract the whole of the Works. b. The permitted subletting of work by the Contractor shall not establish any contractual relationship between the sub-contractor and the BMC and shall not relieve the Contractor of any responsibility under the Contract.

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

- a. the circumstances warrant such sub-contracting; and



b. the sub-Contractor so proposed for the Work possesses the experience, qualifications and equipment necessary for the job proposed to be entrusted to him.

## **7. Other Contractors**

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

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

## **8. Personnel**

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

8.2 The Contractor's personnel shall appropriately be qualified, skilled and experienced in their respective trades or occupations. The Engineer shall have authority to remove, or cause to be removed, any person employed on the site or works, who carries out duties incompetently or negligently and persists in any conduct which is prejudicial to safety, health or the protection of the environment.

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

8.4 The Contractor shall not employ any retired Gazetted officer who has worked in the Engineering Department of the BMC /State Government and has either not completed two years after the date of retirement or has not obtained BMC/State Government's permission to employment with the Contractor.

## **9. Employer's and Contractor's Risks**

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

## **10. Employer's Risks**

10.1 The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in the Employer's country, the risks of war, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot, commotion or disorder (unless restricted to the Contractor's employees) and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive, or (b) a cause due solely to the design of the Works, other than the Contractor's design.

## **11. Contractor's Risks**



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**11.1** All risks of loss of or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract other than the excepted risks, referred to in clause 11.1, are the responsibility of the Contractor.

## **12. Insurance**

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

- a) Loss of or damage to the Works, Plant and Materials;
- b) Loss of or damage to Equipment;
- c) Loss of or damage to property (other than the Works, Plant, Materials, and Equipment) in connection with the Contract; and
- d) Personal injury or death.

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

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

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

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

## **13. Site Investigation Reports**

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

## **14. Queries about the Contract Data**

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

## **15. Contractor to Construct the Works and Undertake Maintenance (if specified in the tender)**

15.1 The Contractor shall construct, and install and maintain the Works in accordance with the Specifications and Drawings and as per instructions of the Engineer.

15.2 The Contractor shall construct the works with intermediate technology, i.e., by manual means with medium input of machinery required to ensure the quality of works as per specifications. The Contractor shall deploy the equipment and machinery as required in the contract.



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

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

□ The Water (Prevention and Control of Pollution) Act, 1974, this provides for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of water. 'Pollution' means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms.

□ The Air (Prevention and Control of Pollution) Act, 1981, this provides for prevention, control and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.

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

□ The Public Liability Insurance Act, 1991, This provides for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

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

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

#### **17. Approval by the Engineer**

17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Engineer, who is to approve them if they comply with the Specifications and Drawings.

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





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

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

17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Engineer before their use.

## **18. Safety**

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

Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.

Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Power warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.

The workers engaged for cleaning the manholes/sewers should be properly trained before allowing working in the manhole.

### **18.2 Safety Programs:-**

I. Have adequate safety supervision in place to ensure that safety programs set up by the firms/agencies are in compliance with prevalent laws and regulations.

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

III. Monitor day to day implementation of safety procedures.

### **18.3 First Aid Facilities: -**

i. At every work place there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.

ii. The first-aid box shall be distinctly marked with a red cross on white back ground.

iii. Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.

iv. Nothing except the prescribed contents shall be kept in the First-aid box.

v. The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.



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**vi.** A person in charge of the First-aid box shall be a person trained in First-aid treatment, in the work places where the number of contract labour employed is 150 or more.

## **19. Discoveries**

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

## **20. Possession of the Site**

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

## **21. Access to the Site**

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

## **22. Instructions**

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

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

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

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

No work which radically changes the original nature of the Contract shall be ordered by the Engineer and in the event of any deviation being ordered which in the opinion of the Contractor changes the original



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nature of Contract he shall nevertheless carry it out and disagreement as to the nature of the work and the rate to be paid therefore shall be resolved in accordance with condition no.13d.

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

## **B. Time Control**

### **23. Programme**

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

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

23.2 The Contractor shall submit the list of equipment and machinery being brought to site, the list of key personnel being deployed, the list of machinery/ equipments being placed in field laboratory and the location of field laboratory along with the Programme. The Engineer shall cause these details to be verified at each appropriate stage of the programme.

23.3 An update of the Programme shall be a programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining Works, including any changes to the sequence of the activities.

23.4 The Contractor shall submit to the Engineer for approval an updated Programme at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Programme within this period, the Engineer may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Programme has been submitted.

23.5 The Engineer's approval of the Programme shall not alter the Contractor's obligations. The Contractor may revise the Programme and submit it to the Engineer again at any time. A revised Programme shall show the effect of Variations and Compensation Events.

### **24. Extension Of Time In Contracts :**

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

#### **a)Extension attributable to BMC**

**(i) Extension Due To Modification:** If any modifications have been ordered which in the opinion of the Engineer have materially increased the magnitude of the work, then such extension of the contracted date



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of completion may be granted as shall appear to the Engineer to be reasonable in the circumstances, provided moreover that the Contractor shall be responsible for requesting such extension of the date as may be considered necessary as soon as the cause thereof shall arise and in any case **should not be less than 30 days before the expiry of the date fixed for completion of the works.**

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

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

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

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

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

## **25. Delays Ordered by the Engineer**

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

## **26. Management Meetings**

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

26.2 The Engineer shall record the business of management meetings and provide copies of the record to those attending the meeting. The responsibility of the parties for actions to be taken shall be decided by



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the Engineer either at the management meeting or after the management meeting and stated in writing to all those who attended the meeting.

### **C. Quality Control**

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

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

#### **27.2. Notice To Be Given Before Work Is Covered Up**

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

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

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

### **28. Identifying Defects**

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

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

### **29. Tests**



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

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

29.2 If the Engineer instructs the Contractor to carry out a test not specified in the Specification/ Quality Assurance Handbook to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no defect, the test shall be a compensation event.

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

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

**29.3 Setting of Site Laboratories:**

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

1. Set of Sieves as per I.R.C. /I.S.
2. Compressive Testing Machine(For new works)
3. Oven, Electrically Operated
4. Weighing Balance (20 kg capacity)
5. 3 m straight edge
6. Sieve shaker
7. First Aid Box
8. Measuring Jar (for silt content)
9. Other Machines/apparatus as may be directed by the Engineer
10. Level / Theodolite / Modern leveling machines.
11. Aggregate drying equipments M.S. Tray of 0.6 M x 0.45 M and Kerosene stove or electric hot plate.



12. Infra Red thermometer calibrated upto 250 degree Celsius (for checking asphalt / bitumen temperature).
13. Kadappa stone platform of size 2.5m. X 0.90m. Approx.
14. Camber Board
15. Other machines as may be directed by the Engineer.

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

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

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

(a) The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and ends after five years. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

(b) Every time notice of Defect/Defects is given, the Contractor shall correct the notified Defect/Defects within the duration of time specified by the Engineer's notice.

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

### **31. Uncorrected Defects and Deficiencies**

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

## **D. Cost Control**

### **32. Variations**

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



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### **33. Payments for Variations**

33.1 If rates for Variation items are specified in the Bill of Quantities, the Contractor shall carry out such work at the same rate.

33.2 The rate for Extra/Excess shall be governed by clause 10.A of Standard General Condition of Contract

### **34. Cash Flow Forecasts**

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

### **35. Payment Certificates**

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

(a) A bill shall be submitted by the Contractor monthly or before the date fixed by the Engineer In-charge for all works executed in the previous month, and the Engineer In-charge shall take or cause to be taken requisite measurement for the purpose of having the same verified and the claim, so far as it is admissible, shall be adjusted, if possible, within 10 days from the presentation of the bill. If the contractor does not submit the bill within the time fixed as aforesaid, the Engineer In-charge may depute a subordinate to measure up the said work in the presence of the contractor or his duly authorized agent whose counter signature to the measurement list shall be sufficient warrant, and Engineer In-Charge may prepare a bill from such list which shall be binding on the contractor in all respects.

(b) The Engineer shall check the Contractor's fortnightly/monthly statement within 14 days and certify the amount to be paid to the Contractor.

(c) The value of work executed shall be determined, based on measurements by the Engineer.

(d) The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.

(e) The value of work executed shall also include the valuation of Variations and Compensation Events.

(f) The Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

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

### **36. Payments**

36.1 Payments shall be adjusted for deductions for advance payments, retention, security deposit, other recoveries in terms of the Contract and taxes at source, as applicable under the law. The Employer shall pay the Contractor the amounts certified by the Engineer within 15 days of the date of each certificate.

36.2 All sums payable by a contractor by way of compensation under any of these conditions, shall be considered as a reasonable compensation to be applied to the use of BMC without reference to the actual loss or damage sustained and whether any damage has or has not been sustained.





36.3 No payment shall be made for any work estimated to cost less than Rupees One Thousand till after the whole of work shall have been completed and the certificate of completion given. But in the case of works estimated to cost more than Rs. One Thousand, the contractor shall on submitting a monthly bill therefore be entitled to receive payment proportionate to the part of the work than approved and passed by the Engineer In-charge, whose certificate of such approval and passing of the sum so payable shall be final and conclusive against the contractor. All such intermediate payments shall be regarded as payments by way of advance against the final payments only and not as payments for work actual done and completed and shall not preclude the Engineer In-charge from requiring any bad, unsound, imperfect or unskillful work to be removed or taken away and reconstructed or re-erected nor shall any such payment be considered as an admission of the due performance of the contract or any part thereof in any respect or the offering of any claim not shall it conclude, determine or effect in any other way, the powers of the Engineer In-charge as to the final settlement and adjustment of the accounts or otherwise, or in any other way vary or effect the contract. The final bill shall be submitted by the Contractor within one month of the date fixed for the completion of the work otherwise the Engineer In-charge's certificate of the measurements and of the total amount payable for the work shall be final and binding on all parties.

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

#### **38. Tax**

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

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

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 works/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 provision of the GST Act.**

#### **39. Currencies**

All payments will be made in Indian Rupees.

#### **40. Liquidated Damages**

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



in case the Contractor achieves the next milestone, the amount of the liquidated damages already withheld shall be restored to the Contractor by adjustment in the next payment certificate. The Employer and the contractor have agreed that this is a reasonable agreed amount of liquidated damage. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's other liabilities.

#### **41. Cost of Repairs**

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

#### **42. Completion of Construction and Maintenance**

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

#### **43. Taking Over**

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

#### **44. Final Account**

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

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

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

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

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

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

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

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

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

#### **45. Operating and Maintenance Manuals**

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

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

#### **46. Termination**

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

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

- a) the Contractor stops work for 30 days when no stoppage of work is shown on the current Programme and the stoppage has not been authorized by the Engineer;
- b) the Contractor is declared as bankrupt or goes into liquidation other than for approved reconstruction or amalgamation;



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c) the Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;

d) the Contractor does not maintain a Security, which is required;

e) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in relevant clause.

f) the Contractor fails to provide insurance cover as required under relevant clause

g) if the Contractor, in the judgment of the Employer, has engaged in the corrupt or fraudulent practices as defined in GCC in competing for or in executing the Contract.

h) if the Contractor fails to set up a field laboratory with the prescribed equipment, within the period specified in the Contract Data; and

i) any other fundamental breaches as specified in the Contract Data.

j) if the Contractor fails to deploy machinery and equipment or personnel as specified in the Contract Data at the appropriate time.

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

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

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

#### **47. Payment upon Termination**

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

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

#### **48. Property**

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



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#### **49. Release from Performance**

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

#### **A) Other Conditions of Contract**

##### **50. Labour**

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

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

##### **51. Compliance with Labour Regulations**

(a) During continuance of the Contract, the Contractor and his sub-Contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority.

(b) Furthermore, the Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer/Employer shall have the right to deduct any money due to the Contractor including his amount of performance guarantee. The Employer/Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

(c) The Contractor shall require his employees to obey all applicable laws, including those concerning safety at work.

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

##### **52. Drawings and Photographs of the Works**

52.1 The Contractor shall do photography/video photography of the site firstly before the start of the work, secondly mid-way in the execution of different stages of work as required by Engineer In-charge and lastly after the completion of the work. No separate payment will be made to the Contractor for this.



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52.2 The Contractor shall not disclose details of Drawings furnished to him and works on which he is engaged without the prior approval of the Engineer in writing. No photograph of the works or any part thereof or plant employed thereon, except those permitted under above clause, shall be taken or permitted by the Contractor to be taken by any of his employees or any employees of his sub-Contractors without the prior approval of the Engineer in writing. No photographs/ Video photography shall be published or otherwise circulated without the approval of the Engineer in writing.

### **53. The Apprentices Act, 1961**

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

### **54 Contract Document**

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

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

### **55 Conflict of Interest**

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

1. A constituent of such Applicant is also a constituent of another Applicant; or
2. Such Applicant has the same legal representative for purposes of this Application as any other Applicant; or



3. Such Applicant, or any Associate thereof has a relationship with another Applicant, or any Associate thereof, directly or through common third party/ parties, that puts either or both of them in a position to have access to each other's information about, or to influence the Application of either or each other; or

4. The Applicant shall be liable for disqualification if any legal, financial or technical adviser of the Authority in relation to the Project is engaged by the Applicant, its Member or any Associate thereof, as the case may be, in any manner for matters related to or incidental to the Project. For the avoidance of doubt, this disqualification shall not apply where such adviser was engaged by the Applicant, its Member or Associate in the past but its assignment expired or was terminated 6 (six) months prior to the date of issue of this TENDER. Nor will this disqualification apply where such adviser is engaged after a period of 3 (three) years from the date of commercial operation of the Project.

#### **56. Applications and costs thereof**

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

#### **57. Acknowledgment by Applicant**

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

- a. made a complete and careful examination of the tender;
- b. received all relevant information requested from the Authority;
- c. accepted the risk of inadequacy, error or mistake in the information provided in the tender or furnished by or on behalf of the Authority relating to any of the matters referred; and
- d. Agreed to be bound by the undertakings provided by it under and in terms hereof.

"The Authority" shall not be liable for any omission, mistake or error in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to the TENDER or the Bidding Process, including any error or mistake therein or in any information or data given by the Authority.

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

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

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

- (a) At any time, a material misrepresentation is made or uncovered, or
- (b) The Applicant does not provide, within the time specified by the Authority, the supplemental information sought by the Authority for evaluation of the Application. In case it is found during the evaluation or at any time before signing of the Agreement or after its execution and during the period of subsistence



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thereof including the concession thereby granted by “The Authority”, that one or more of the pre-qualification conditions have not been met by the Applicant, or the Applicant has made material misrepresentation or has given any materially incorrect or false information, the Applicant shall be disqualified forthwith if not yet appointed as the Successful Bidder either by issue of the LOA (Letter of Approval) or entering into of the Agreement, and if the Applicant has already been issued the LOA or has entered into the Concession Agreement, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this TENDER, be liable to be terminated, by a communication in writing by “The Authority” to the Applicant, without the Authority being liable in any manner whatsoever to the Applicant and without prejudice to any other right or remedy which the Authority may have under this TENDER, the Bidding Documents, the Concession Agreement or under applicable law.

“The Authority” reserves the right to verify all statements, information and documents submitted by the Applicant in response to the TENDER. Any such verification or lack of such verification by the Authority shall not relieve the Applicant of its obligations or liabilities hereunder nor will it affect any rights of the Authority there under.

**59 The bid shall be rejected if the bidder-**

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

**60 Clarifications**

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

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

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

**61 Amendment of tender**

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

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





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

### **Preparation and Submission of Application**

#### **62 Language**

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

#### **63 Format and signing of Application**

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

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

#### **64 Marking of Applications**

The Applicant shall submit the Application in the format specified at Appendix-I, together with the documents, upload in folder as "VENDOR" together with their respective enclosures

Applications submitted by fax, telex, telegram shall not be entertained and shall be rejected outright.

#### **65 Late Applications**

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

#### **66 Confidentiality**

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

#### **67 Clarifications of Financial Bids**



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

**68 Inspection of site and sufficiency of tender:**

1. The Contractor shall inspect and examine the site and its surrounding and shall satisfy himself before submitting his tender as to the nature of the ground and subsoil (so far as is practicable), the form and nature of the site, the quantities and nature of the work and materials necessary for the completion of the works and means of access to the site, the accommodation he may require and in general shall himself obtain all necessary information as to risk, contingencies and other circumstances which may influence or affect his tender. He shall also take into consideration the hydrological and climatic conditions.

2. The Employer may make available to the Contractor data on hydrological and sub-surface conditions as obtained by or on his behalf from investigations relevant to the works but the Contractor shall be responsible for his own interpretation thereof. The contractor shall engage his investigating agency with prior approval of the Engineer from the approved list of such agencies by BMC or Govt at his cost initially before commencing actual work and which shall be reimbursed immediately subject to satisfaction of the Engineer for faithful compliance and submission of required data regarding such investigation within specified time.

3. The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the schedule of works / items / quantities, or in Bill of Quantities, which rates and prices shall, except as otherwise provided cover all his obligations under the Contract and all matters and things necessary for proper completion and maintenance of the works. No extra charges consequent on any misunderstanding.

**4. Not Foreseeable Physical Obstructions or Conditions:** If, however, during the execution of the Works the Contractor encounters physical obstructions or physical conditions, other than climatic conditions on the Site, which obstructions or conditions were, in his opinion, not foreseeable by an experienced contractor, the Contractor shall forthwith give notice thereof to the Engineer. On receipt of such notice, the Engineer shall, if in his opinion such obstructions or conditions could not have been reasonably foreseen by an experienced contractor, after due consultation with the Contractor, determine:

- Any extension of time to which the Contractor is entitled and
- The amount of any costs which may have been incurred by the Contractor by reason of such obstructions or conditions having been encountered, which shall be added to the Contract Price.
- and shall notify the Contractor accordingly.

Such determination shall take account of any instruction which the Engineer may issue to the Contractor in connection therewith, and any proper and reasonable measures acceptable to the Engineer which the Contractor may take in the absence of specific instructions from the Engineer. However such costing shall be got approved by the competent authority as governed vide rules prevailing with authority.



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

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

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

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

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

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

#### **69 Official Secrecy:**

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



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### **70 Subsequent Legislation:**

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

### **71 Patent, Right and Royalties:**

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

### **72 Payments, Tax and Claims:**

#### **The limit for unforeseen claims**

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

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

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

### **73 Settlement of Disputes:**

#### **Termination of contract for death**

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



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the deceased Contractor and or surviving partners of the Contractor's firm liable in damages for not completing the contract.

□ **Settlement of Disputes:**

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

**74 Arbitration and Jurisdiction:**

If the Commissioner shall fail to give notice of the decision as aforesaid within a period of 90 days after being requested as aforesaid, or if the Contractor be dissatisfied with any such decision, then and in any such case the Contractor may within 90 days after receiving notice of such decision or within 90 days after the expirations of the first named period of 90 days (as the case may be) require that the matter or matters in dispute be referred to arbitration as hereinafter provided. All disputes or differences in respect of which the decision (if any) of the Commissioner has not become final and binding as aforesaid shall be finally settled by Arbitration as follows:

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



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awards shall be in writing and for claims equivalent to 5,00,000 or more such awards shall state reasons for amounts awarded. The expenditure of arbitration shall be paid as may be determined by arbitrator.

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

**75 Copyright:**

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

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

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

**77 Proprietary data**

All documents and other information supplied by the Authority or submitted by an Applicant to the Authority shall remain or become the property of the Authority. Applicants are to treat all information as strictly confidential and shall not use it for any purpose other than for preparation and submission of their Application. The Authority will not return any Application or any information provided along therewith.

**78 Correspondence with the Applicant**

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

**79 Price Variation Clause**

The Contractor shall be reimbursed or shall refund to the Corporation as he case may be the variation in the value of the work carried out from time to time, depending on whether the prices of material and labour as a whole rise or fall, and the method adopted for such computations shall be as given below, it being clearly understood that the contractor shall have no claim for being reimbursed on the ground that the price



of a particular material or group of materials have risen beyond the limits of the presumptions made in the following paras, however, no price variations shall be made applicable for contracts upto 12 months:

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

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

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

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

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

$$VL = (0.88 R) \times 30 \times (I - IO)$$

$$100 IO$$

b) Formula for Material component :

$$VM = (0.88 R \times 70 - C) \times (W - WO)$$

$$100 WO$$

Where –

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

I = Consumer Price Index number of working class for Mumbai (declared by the Commissioner of Labour and Director of Employment, Mumbai) applicable to the period under reference (base year ending 2004-05 as 100 i.e. new series of indices). IO = Consumer price index number for working class for Mumbai (declared by the Commissioner of labour and Director of Employment, Mumbai) prevailing, on the day of 28 days prior to the date of submission of the tender.

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

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





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

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

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

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

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

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

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

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

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

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

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

**80. Maximum Price Variation shall be as follows:**

Time Period of Project	Maximum limit of Price Variation
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Up to 12 months	No variation allowed
Above 12 months to 24 months	5%
Above 24 months	<b>10%</b>

**Note:**

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

2) Operative period shall mean original or extended time period of contract.

For example:

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

**Price Variation during Extended Period of Contract:**

(i) Extension Due To Modification & Extension for delay due to BMC :

The price variation for the period of extension granted shall be limited to the amount payable as per the Indices. In case the indices increases or decreases, above/below the indices applicable, to the last month of the original or extended period vide clause 8(l)(a)(i) and (ii) of standard GCC

(ii) Extension Of Time For Delay Due To Contractor :

(a) The price variation for the period of extension granted shall be limited to the amount payable as per the Indices in case the indices increase, above the indices applicable, to the last month of the original completion period or the extended period vide above clause 8(l)(a)(i) and (ii) of standard GCC.

(b) The price variation shall be limited to the amount payable as per the indices, in case the indices decrease or fall below the indices applicable, to the last month of original / extended period of completion period vide above clause 8(l)(b) of standard GCC, then lower indices shall be adopted.

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



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

### **81. Payment:**

#### **Interim Payment :**

i) Interim bills shall be submitted by the Contractor from time to time (but at an interval of not less than one month) for the works executed. The Engineer shall arrange to have the bills verified by taking or causing to be taken, where necessary, the requisite measurement of work.

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

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

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

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

### **82 Banning/De-Registration of Agencies of Construction works in BMC**

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

### **83. JOINT VENTURE (Not applicable for this tender)**

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

a) Joint Venture should be allowed only when the number of identifiable different works is more than one and/or the estimated cost of tender is more than Rs.100 Crores. JV shall also be allowed for complex technical work below Rs.100 Crores with the approval of concerned AMC

b) Separate identity/name shall be given to the Joint Venture firm.



**c)** Number of members in a JV firm shall not be more than three in normal circumstances, if the work involves only one discipline (say Civil or Electrical). If number of members in JV is required to be more than three, then approval of concerned AMC needs to be sought.

**d)** A member of JV firm shall not be permitted to participate either in individual capacity or as a member of another JV firm in the same tender.

**e)** The tender form shall be purchased and submitted in the 'name of the JV firm or any constituent member of the JV.

**f)** Normally EMD shall be submitted only in the name of the JV and not in the name of constituent member. However, EMD in the name of lead partner can be accepted subject to submission of specific request letter from lead partner stating the reasons for not submitting the EMD in the name of JV and giving written confirmation from the JV partners to the effect that the EMD submitted by the lead partner may be deemed as EMD submitted by JV firm.

**g)** One of the members of the JV firm shall be the lead member of the JV firm who shall have a majority (at least 51%) share of interest in the JV firm. The other members shall have a share of not less than 20% each in case of JV firms with up to three members and not less than 10% each in case of JV firms with more than three members. In case of JV firm with foreign member(s), the lead member has to be an Indian firm with a minimum share of 51%.

**h)** A copy of Letter of Intent or Memorandum of Understanding (MoU) executed by the JV members shall be submitted by the JV firm along with the tender. The complete details of the members of the JV firm, their share and responsibility in the JV firm etc. particularly with reference to financial technical and other obligation shall be furnished in the agreement.

**i)** Once the tender is submitted, the agreement shall not be modified/altered/terminated during the validity of the tender. In case the tenderer fails to observe/comply with this stipulation, the full Earnest Money Deposit (EMD) shall be forfeited. In case of successful tenderer, the validity of this agreement shall be extended till the currency of the contract expires.

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

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

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

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



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be taken against partners of the JV and the JV. This joint venture agreement shall have, interalia, following clauses:-

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

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

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

**iv. Authorized Member** -Joint Venture members shall authorize one of the members on be-half of the Joint Venture firm to deal with the tender, sign the agreement or enter into con-tract in respect of the said tender, to receive payment, to witness joint measurement of work done, to sign measurement books and similar such action in respect of the said tender/contract. All notices/correspondences with respect to the contract would be sent only to this authorized member of the JV firm.

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

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

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

a. Notary certified copy of the Partnership Deed,

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

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

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

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

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

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

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



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

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

When the delay is not a full week or in multiple of a week but involves a fraction of a week the compensation payable for that fraction shall be proportional to the number of days involved.

Provided always that the total amount of compensation for delay to be paid this condition shall not exceed the undernoted percentage of the Contract Value of the item or group of items of work for which a separate period of completion is given.

i) Completion period (as originally stipulated or as extended) not exceeding 6 months: **10 percent.**

ii) Completion period (as originally stipulated or as extended) exceeding 6 months and not exceeding 2 years : **7½ percent.**

iii) Completion period (as originally stipulated or as extended) exceeding 2 years : **5 percent.**

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

#### **84. Action And Compensation Payable In Case Of Bad Work And Not Done As Per Specifications**

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

If it shall appear to the Engineer-in-charge or his authorized subordinates in-charge of the work or to the officer of Vigilance Department, that any work has been executed with unsound, imperfect or unskillful workmanship or with materials of any inferior description, or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to that contracted for or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do

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.

**85. Compensation for delay:**

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

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

so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 8.e. of the general condition of contract in section 9 of tender document (for Compensation for delay) for this default. In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the Engineer in charge may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

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



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

1. The Engineer-in-charge shall issue notice to the contractor for rectifying the defects or redoing of the work if necessary, within specific time to achieve the desired quality and quantity of the work and this should be governed by clause 8.f and 9.b of Standard General Conditions of Contract.

2. If the contractor fails to comply the same, only then, the contractor shall be liable to pay compensation at the same rate as under clause 8.e of the Standard General Condition of Contract (for Compensation for delay) for this default.

3. If the penalization amount exceeds the maximum limit, then the contractor will be liable for being banned/ deregistered from business dealings with BMC and this shall be governed by relative provision in Registration Rules of BMC and Standard General Conditions of Contract.

4. This penalization shall be levied only on account of delay in work, unsound, imperfect or unskillful workmanship or with materials of any inferior description, or that any materials or articles provided by him for the execution of the work are unsound or of quality inferior to that contracted for or otherwise not in accordance with the contract.

**86. Contractors remain liable to pay compensation:**

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

In the event of the Executive Engineer taking action against these **relevant clauses**,

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

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

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





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

(b) Where the total suspension of Work Order as aforesaid continued for a continuous period exceeding 90 days the contractor shall be at liberty to withdraw from the contractual obligations under the contract so far as it pertains to the unexecuted part of the work by giving 10 days prior notice in writing to the Engineer within 30 days of the expiry of the said period of 90 days, of such intention and requiring the Engineering to record the final measurement of the work already done and to pay final bill. Upon giving such Notice, the Contractor shall be deemed to have been discharged from his obligations to complete the remaining unexecuted work under his contract. On receipt of such notice the Engineer shall proceed to complete the measurement and make such payment as may be finally due to the contractor within a period of 90 days from the receipt of such Notice in respect of the work already done by the contractor. Such payment shall not in any manner prejudice the right of the contractor to any further compensation under the remaining provisions of this clause.

(c) Where the Engineer required to Contractor to suspend the work for a period in excess of 30 days at any time or 60 days in the aggregate, the Contractor shall be entitled to apply to the Engineer within 30 days of the resumption of the work after such suspension for payment of compensation to the extent of pecuniary loss suffered by him in respect of working machinery remained ideal on the site of on the account of his having an to pay the salary of wages and labour engaged by him during the said period of suspension provided always that the contractor shall not be entitled to any claim in respect of any such working machinery, salary or wages for the first 30 days whether consecutive or in the aggregate or such suspension or in respect of any such suspension whatsoever occasion by unsatisfactory work or any other default on his part, the decision of the Engineer in this regard shall be final and conclusive against the contractor.

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

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

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

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





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person or which may with the consent of the contractor be paid for compromising any claim by any such person.

**89. Prevention of Fire:**

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

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

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

**92. Action where no specifications:**

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

**93. Safety and medical help :**

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

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

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

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



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

**95. Anti-malaria and other health measures:**

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

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



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**SECTION 10**  
**SPECIFICATIONS**  
**& SELECTION OF**  
**MATERIAL**



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## **SPECIFICATIONS & SELECTION OF MATERIAL**

The tender is prepared on the basis of Unified Schedule of Rates and specifications 2018. The specifications of the items of USOR are available on BMC portal <http://portal.mcgm.gov.in> under the Tender tab. Hence the deserving contractor shall either download the same from BMC portal or the same may be collected in the soft copy format at the time of purchasing the tender from this office.

### **SELECTION OF MATERIAL**

1. All materials brought on the site of work and meant to be used in the same, shall be the best of their respective kinds and to the approval of the Engineer. The Engineer or his representative will accept that the materials are really the best of their kinds, when it is proved beyond doubt that no better materials of the particular kind in question are available in the market.

2. The contractor shall obtain the approval of the Engineer of samples of all materials to be used in the works and shall deposit these samples with him before placing an order for the materials with the suppliers. The materials brought on the works shall conform in every respect to their approved samples. Fresh samples shall be deposited with the Engineer whenever the type or source of any material changes.

3. The contractor shall check each fresh consignment of materials as it is brought to the site of works to see that they conform in all respects to the Specifications of the samples approved by the Engineer, or both.

4. The Engineer will have the option to have any of the materials tested to find out whether they are in accordance with the Specifications and the Contractor will bear all expenses for such testing. All B bills, vouchers and test certificates, which in the opinion of the Engineer or his representative are necessary to convince him as to the quality of the materials or their suitability shall be produced for his inspection when required.

5. Any materials that have not been found to conform to the specifications will be rejected forthwith and shall be removed from the site by the contractor at his own cost within 24 hours.

6. The Engineer shall have power to cause the Contractors to purchase and use such materials from any particular source, as may in his opinion be necessary for the proper execution of the work.

7. Notwithstanding the source, the sand shall be washed using sand washing machine before use.



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**SECTION 11**

**FRAUD AND CORRUPT**

**PRACTICES**



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## **FRAUD AND CORRUPT PRACTICES**

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

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

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

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

**B. “fraudulent practice”** means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding Process;

**C. “coercive practice”** means impairing or harming or threatening to impair or harm, directly or indirectly, any person or property to influence any persons participation or action in the Bidding Process;

**D. “undesirable practice”** means (i) establishing contact with any person connected with or employed or engaged by the Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or (ii) having a Conflict of Interest; and

**E. “Restrictive practice”** means forming a cartel or arriving at any understanding or arrangement among Applicants with the objective of restricting or manipulating a full and fair competition in the Bidding Process.



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**F.** If the Employer/Financier determines that the Contractor has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days' notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of relevant Clause shall apply as if such expulsion had been made.

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

For the purposes of this Sub-Clause:

i. "corrupt practice" is the offering, giving, receiving to soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

ii. "another party" refers to a public official acting in relation to the procurement process or contract execution. In this context, "public official" includes Financier staff and employees of other organizations taking or reviewing procurement decisions.

iii. "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;

iv. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

v. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

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

**vii.** acts intended to materially impede the exercise of the Financier's inspection and audit rights provided .

**viii.** party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.

**ix.** "parties" refers to participants in the procurement process (including public officials) attempting to establish bid prices at artificial, noncompetitive levels. x. a "party" refers to a participant in the procurement process or contract execution. n.



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# **SECTION 12**

# **PRE BID MEETING**





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## **PREBID MEETING**

Pre-bid meeting of the interested parties shall be convened at the designated date, time and place. A maximum of three representatives of each Applicant shall be allowed to participate on production of authority letter from the Applicant.

During the course of Pre-bid meeting, the Applicants will be free to seek clarifications and make suggestions for consideration of the Authority. The Authority shall Endeavour to provide clarifications and such further information as it may, in its sole discretion, consider appropriate for facilitating a fair, transparent and competitive Bidding Process.



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**SECTION –13**

**SPECIAL**

**INSTRUCTIONS TO**

**TENDERERS**



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### **Special Tender Conditions**

#### **1. Work Records**

**All specified, up to date site record should be prepared & maintained by the contractors and shall be produced as and when required, duly certified by the site engineer.**

2. Contract Labour (Regulation and Abolition Act 1970): The tenderer(s) should specifically note that the successful tenderer shall have to strictly comply with all the statutory requirement under the provision of the Contract Labour (Regulation and Abolition) Rules 1970 and with the Maharashtra State Contract Labour (Regulation and Abolition) Rules 1971 and indemnify the Corporation against any claim(s) whatsoever.

As per contract labour (Regulating Abolition Act 1970) every contractor should obtain a license certificate from the office of labour commissioner situated at commerce centre Tardeo, near A.C.Market, Mumbai 400 034.

3. Tenderer are requested to take cognizance of Child Labour Act and take precaution not to employ child Labourers on site. If Child Labourer is found to be employed on the work , a penalty of Rs. 5000/- on the spot will be imposed on the defaulting contractors and further action, as deemed fit as per law will be initiated.
4. Tenderer is requested to refer to relevant prevailing Fair Market Schedules of M.C.G.M. for full description of the items in the B.O.Q.
5. No extra payment shall be admissible for dewatering the trenches, carrying the material by head load transport or approaches to the work site.
6. The contract period is excluding monsoon but including period required for mobilization, procurement of material, traffic permission, other required permissions, erection of site office etc. complete and shall be reckoned from the date of issue of work order.
7. Tenderer(s) is requested to note the units for various items carefully before quoting the rates.
8. Rates of each item of work mentioned in the schedule should be well scrutinized with the due consideration of each item before submitting the tender as no variation in rates will be allowed on any ground as mistake or misunderstanding after the tender has been submitted.
9. Tenderer should specifically state their residential addresses besides their official addresses along with the telephone and mobile number. The contractor or their partners and authorized representative shall be available on a given telephone number during any hours.
10. The tenderers may need to work simultaneously at multiple places as desired by Engineer in charge to complete the work within contract period.
11. Tenderers shall pursue to obtain permission from traffic police department within mobilization period and shall provide various boards and proper barricading of trenches wherever necessary on site to have smooth traffic as per the requirement of traffic police department and shall have proper co-ordination with office of Dy. H.E. (Ops.)
12. Tenderer shall pursue to obtain all the permissions of the concerned authorities required for carrying out the work. Only recommendatory letters will be issued by the M.C.G.M.
13. On completion of work the contractors shall furnish free of cost five sets of completion drawing and soft copy in pendrive or CD, showing details of all work. The same shall be checked and sign by engineer and shall be submitted within 1 month of completion of work or at time of submission of final bill



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whichever is earlier. The payments of final bill shall be made to contractor after receipt of above sets. In the case the contractor fails to submit the completion drawings, a compensation at the rate of Rs. 5000/- per drawing shall be recovered from the final bill.

14. The Contractors should provide suitably required number of M.S. plates on trenches of suitable thickness and size for smooth movement of vehicular traffic as per the requirement of traffic department. Contractor should note that no payment will be made to the contractor for providing, removing and refixing M.S. plates on trench etc.
15. While excavation of trenches, temporary arrangement like placing of M.S. plate over trenches in front of the entrances of the properties shall be done to allow vehicles/ public entries to the properties. No extra payment will be made for this.
16. Tenderer should note that the supply of material such as Bricks, Metal and Sand included in the Bill of Quantities shall be made available anywhere in the Outside City Division or at the departmental work chowkies as directed. The rates of these supply items include transport, loading, unloading etc. complete.
17. Tenderer shall be registered under the GST Act.
18. The entire excavated material & debris is to be removed from the site by the contractor at their risk & cost as directed by Engineer for any distance. The bidders shall note that no payment will be given for removal & transportation of excavated debris / material. Any claim in respect of this, will be refused or rejected.
19. As per circular under no.AMC/ES/6791/II dt.6/10/2015, regarding provision of barricades, it will be the sole responsibility of contractor to provide and install secure barricades on work site wholly at his cost. No separate payment will be made for the barricading.
20. The noise level shall be maintained within the permissible limit in Silence Zone area during the construction activities by the Contractors as per the notification dated 14.02.2000 issued by the Ministry of Environments and Forests.
21. Building & other construction labour welfare cess shall be applicable to the tenderer as per circular no. CA/FRT/12 dated 21.06.2012
22. The conditions regarding revised "Decision rule" will be applicable as per the Circular under no. Dir/ES&P /324 dt.15.07.2015.

### **23. Material Testing:-**

**All material testing shall be in accordance with Chief engineer (Vigilance) circular under No. Ch.E.(Vig.)/7123/B date 14.03.2017 as below.or circular enforce at the time of execution of work.**



**MUNICIPAL CORPORATION OF GREATER MUMBAI**

No. : MGC/F/6565 dtd. 25-9-2018

**CIRCULAR**

Sub : Setting up the parameters of litigation history of the bidders.

As approved by Hon'ble M.C., the clause of litigation history be included as part of SBD as below :-

- 1) The bidder shall disclose the litigation history in Packet 'B' under the head "Details of Litigation History".

If there is no Litigation History, the bidder shall specifically mention that there is no Litigation History against him as per the clause of Litigation History. In case there is Litigation History -

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

- 2) The litigation history shall be treated as curable defect and hence, the portion/clause of SBD, (C) Bid Capacity at Pg. 15 & in the chapter of 'Instructions to Applicants' at Pg. 31 of the SBD will be now corrected by deleting the word litigation history and shall be read as below.

**C) Bid Capacity :**

**The bid capacity of the prospective bidders will be calculated as under: Assessed Available Bid Capacity = (A\* N\* 2 - B)**

Where,

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

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

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

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





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

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

All the concerned are directed to implement the above directions with immediate effect.

o/c

Director (E. S. & P.)

City Engineer/Ch.Eng.(Roads & Traffic) / Ch.Eng. (Bridges) / H. E. / Ch.Eng. (WSP) /Ch.Eng.(S.P.) /Ch.Eng(S.O.)/ Ch.Eng.(MSDP) / Ch.Eng. (BM) / Ch.Eng.(Vig) / Ch.Eng. (M&E) / Ch.Eng.(D.P.)/Ch.Eng.(SWD) / Ch.Eng. (Coastal Road) / Ch.Eng.(SWM) / Ch.Eng.(CTIRC)/Dy. Ch.Eng.(HIC) / Dy.Ch.Eng.(SIC), Supt. of Gardens/

Asstt. Comm. Ward / Asstt. Comm.(Markets) / Asstt. Comm. (Estate) / Asstt. Comm.(Planning) / Asstt. Comm.(R.E.) City/W.S./E.S.

No. DIR/ES & P/915/MC dtd. 27-9-2018

C.C. to : DMC(MCO)/ DMC (Imp.) / DMC(GA)/ DMC(Vig)/ DMC(SE) / DMC(E)/ DMC(CPD)/ DMC(SWM)/DMC (Education)/DMC (RE)/ DMC(PH)/ DMC(Z-I) / DMC(Z-II) / DMC(Z-III) / DMC(Z-IV) / DMC(Z-V)/ DMC(Z-VI)/ DMC(Z-VII) / C.A. (F) / C.A. (WSSD) / C.A. (C.P.D.) / Law Officer

Forwarded for information please. o/c

Director (E.S.& P.)

No. No. DIR/ES & P/915/MC dtd. 27-9-2018

C.C. to:

Submitted please. o/c

Director (E.S.& P.)

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

Sir/Madam,



Office of the DMC CPD,  
Central Purchase Department,  
505, N.M.Joshi Marg, Byculla, Mumbai-400 011.

No. DyChE/CPD/2025 / dt. 01/09/2021

CIRULAR

**Sub:** Formation of Grievance Redressal Committee (GRC)  
to address grievances from bidders.

**Ref.:** MGC/F/4961 dated 09/08/2021.

Hon. M.C.'s accorded sanction under reference to form Grievance Redressal Committee (GRC) to address grievances from the bidders regarding responsiveness/ non-responsiveness in Packets 'A', 'B' or 'C' in all the tenders. Therefore, all HOD's are requested to incorporate following condition in all the tenders;

Grievance Redressal Committee (GRC)

1. If a Bidder is not satisfied with the decision of responsiveness/ non responsiveness in Packets 'A', 'B' or 'C', by the concerned HOD, he may appeal to D.M.C. (C.P.D.) by paying fee of Rs. 25,000/-.
2. D.M.C. (C.P.D.) will assign the work of co-ordination of various activities and administration work of G.C.R. to nominated Registrar – Shri. Uday B. Mande.
3. The Committee for hearing grievances and passing orders will be constituted as follows:
  - (a) The Committee will comprise of D.M.C. / Director / Jt.M.C. of tender inviting department and D.M.C. / Director / Jt.M.C. of the department for which tender is being invited.  
  
For example, if tender is invited by C.P.D. dept, for K.E.M. Hospital then the Committee will be of DMC(CPD) and DMC (PH).
  - (b) In case the tender inviting department and department for which tender is being invited are same then the concerned DMC/ Director/ Jt.M.C. of the same department and DMC(CPD) will be the members of the Committee.  
  
For example, if tender is invited by Dean (KEM) for KEM Hospital then the Committee will be DMC (PH) and DMC(CPD).



<i>Tender inviting Department</i>	<i>Work belonging Department</i>
<i>DMC(CPD) or DMC /Director / Jt.M.C. of concerned Department.</i>	<i>Concerned DMC / Director/ Jt.M.C.</i>

4. *In case the work is pertaining to various departments then concerned DMC / Director/ Jt.M.C. having major contribution of work will be one of the member of the Committee.*
5. *The Committee will hear the grievances of bidder within 30 days on receipt of bidder's application and will pass an order within 45 days.*
6. *If Bidder is not satisfied with the decision of the above Committee, he may appeal to the concerned Addl. Municipal Commissioner of Tender Inviting Department. The Addl. Municipal Commissioner will hear the case within 45 days from the date of receipt of application for second appeal from the bidder and will pass the order within 60 days.*


Sd/- 27.07.2021  
Dy ChE (Civil) CPD

sd/- 27.07.2021  
D.M.C. (C.P.D.)

Sd/- 30.07.2021  
A.M.C. (WS)

sd/- 06.08.2021  
Hon,ble M. C.

The above circular approved by Hon,ble MC is submitted for necessary action please.

  
01/09/2021  
Dy ChE (CPD) Civil





Copy To:

Additional Commissioner (E/S/ Project/ City/ W/S)

Jt MC (Vig/ Education)/ Jt MC/ DMC- Zone (I/ II/ III/ IV/ V/ VI/ VII) (Public Health/ A&C/ Education/ Improvement/ CPD/ Infrastructure/ Engineering/ Special Engineering/ Environment/ SWM/ Sp/ RE)/ Director (Disaster Management/ Information Technology/ Zoo/ ES&P/ Medical Education & Major Hospitals)

City Engineer/ Hydraulic Engineer/ Chief Engineer (BM/ Rd&Tr/ Bridges/ SWD/ Coastal Road/ WSP/ MSDP/ SP/ SO/ SWM/ M&E/ CTI&RC/ DP/ Vigilance)/ Municipal Architect

Dean (Nair/ LTMG/ KEM/ Cooper/ Nair Dental/ ChMS&HOD)/ Director)

Executive Health Officer/ Law Officer/ Chief Fire Officer/ Education Officer/ Insecticide Officer/ Security Officer/ Chief Labour Officer/ Supt. of Gardens/ Supt. of License/ Asstt. Assessor & Collector/ Ch. Inspector Shop & Est./ GM Deonar Abattoir/ Manager Printing Press/ MCA/ MS

Chief Accountant (Finance/ Treasury/ WSSD/ CPD)

Asstt. Comm. (A, B, C, D, E, F/S, F/N, G/S, G/N, H/E, HW, K/E, KW, L, M/E, MW, N, P/S, P/N, R/C, R/N, R/S, S, T) Wards/ RE/ Estate

बृहन्मुंबई महानगरपालिका		
जल अभियंता यांचे कार्यालय		
सी. नं.		आयसी
5	17 SEP 2021	आय वर
एमसीएल		एन सी
सी ओ/	1261	आय ✓
वॉच	जअ	वॉच

GRC - Circular Circular

for information for further n/a p.

HE/1261/I  
Dt - 31/9/2024

Att. Dy HES (DPS)

HE 02/9/24

COPY



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## **Important Notes**

### **TESTING OF CONCRETE AND ALLIED WORKS**

#### **I. CONTROLLED CONCRETE**

Testing for compressive strength of concrete works shall be carried out as directed by the Engineer in-charge.

Twelve cubes (150 mm x 150 mm x 150 mm) shall be cast & tested for compressive strength for 7 & 28 days at the site laboratory for everyday's work. In case of failure in compressive strength for 28 days, the remaining three cubes shall be sent to the municipal laboratory or any other approved laboratory, as directed by engineer in-charge for retesting.

Besides, once in a month, compressive strength for 7 & 28 days (for concrete of all grades) shall be carried out at municipal laboratory or approved laboratory as directed by the Engineer in-charge.

Initial curing shall be done immediately, either by covering with hessian cloth and sprinkling with water over the concreted portion as soon as the concrete starts setting or by the application of approved resin based aluminized reflective curing compound which hardens into an impervious film of membrane (with the help of mechanical sprayer.)

Further curing of concrete shall be done as directed, for a minimum period of 14 days from the date of casting of c.c. slab.

A penalty of Rs.100/- per Sq.M. per day will be levied for broken vatas. A penalty of Rs.500/- per day will be levied for improper curing.

In controlled concrete the determination of the proportions of cement, aggregate and water to attain the required strength shall be made with preliminary test by designing the concrete mix at contractors cost.

Mix - design to give the target strength as required shall be prepared preferably in accordance with the relevant IRC / IS specifications. The same shall be checked by the Asst. Engineer / Executive Engineer

All type of concrete works shall conform to relevant I.S. Codes as mentioned below or their latest editions:

- |    |                   |                                  |
|----|-------------------|----------------------------------|
| a. | I.S. 10262        | 1982 for concrete mix design.    |
| b. | I.S. 383          | 1970 for aggregates.             |
| c. | I.S. 456          | 1978 for concrete. (As modified) |
| d. | I.S. 1791         | for mixer                        |
| e. | I.S. 516.         | 1959 for testing concrete.       |
| f. | I.S. 9103         | for admixtures for concrete.     |
| g. | I. S. 8142 & 8122 | for cement concrete vibrators    |
| h. | I.S. 2505         | for immersion type vibrators     |



- 
- i. I. S. 2911 1 to IV water retaining structures
  - j. Any other relevant I.S. codes as directed.

Ready mix concrete if any will be brought to the site from RMC plant only by transit mixers. (Agitators).

Every transit mixer will carry delivery challan, mentioning the minimum following details

Name of Manufacturer and Depot.

Serial No. of challan.

Date

Truck No.

Name of contractor to whom the RMC is being supplied.

Location of contract work.

Grade of concrete.

Specified workability.

Cement content and Grade of cement.

Time of loading

Quantity of concrete.

Batch report

When the truck arrives on site, the drum should always be speeded to about 10 to 15 rev/min, for at least 3 minutes, to make sure that the concrete is thoroughly mixed and uniform, before discharge.

Testing of Ready Mixed Concrete:- The sampling and testing requirements for ready mixed concrete are the same as those for site mixed concrete. As regards testing of workability, following procedure be followed.

After making sure that the concrete has been uniformly mixed, take a sample from the first 0.5 cu.m. of concrete discharge, and do a slump (or compacting factor) test on the sample. If the result complies with the specified requirements, then the load should be accepted. If the results are beyond limits, a further sample should be taken from the second 0.5 cu.m. of the discharge, and if this is satisfactory, the load should be accepted, if not, the concrete load shall be rejected, as the same is not as per the specification range.

No extra payment will be made for the use of admixtures.

The defect liability period will be the responsibility of the main tenderer.

It will be the sole right of the Administration to allow or disallow the use of ready mixed concrete in specific works based on the site situation, number of works, distance of plant from the site of work, etc.



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The rate unless otherwise specified shall cover the cost of complete work including boxing, ramming consolidating, watering, placing, curing. Concrete lost in interstices of rubble and / or metal packing etc. will not be paid for. The rate includes cost of finishing all exposed surfaces to match with type of finish to surrounding surfaces or as directed by the engineer.

The rates also include cost of providing, placing, launching, removing, cleaning, striping the form work unless otherwise specifically mentioned.

The rates are also inclusive of cost of vibrating by mechanical vibrator of appropriate type.

#### **24. Ready Mix Concrete/ Asphalt Mix**

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

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

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

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

a) Calibration check of the RMC/Asphalt plant.

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

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

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

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

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

reports as issued by the RMC/Asphalt plant as a documentary proof in lieu of supply of RMC/Asphalt mix before releasing payment.

**Note.** In case of any changes to above mentioned testing clauses, the prevailing testing circulars & conditions, specifications at the time of execution of work be taken into consideration.



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g) **List of approved R.M.C. Plants**

Contractor shall arrange to bring RMC mixes from approved plants registered with BMC, during the execution of the work. **The valid list of approved R.M.C. plants at “the time of execution of works” to be obtained from the Dy.Ch.Engineer (Rds)E.S.'s office.**

The Municipal Site Engineer to ensure the validity of registration certificate of RMC plant and compliance of conditions laid down in the registration certificate issued to the RMC plant owner before receiving RMC mixes.

**Note:- Tenderer shall note that any changes/modification in any type of Taxes / Levies / Charges / Fees etc. came in force time to time is binding upon the Tenderer & the same shall be borne by them without any dispute.**



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**SECTION –14**

**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:-**

<b>A</b>	<b>S.B.I and its subsidiary Banks</b>	<b>D</b>	<b>Schedule Urban Co-op Banks</b>
1	State Bank Of India.	49	Abhyudaya Co-op Bank Ltd.
2	<del>State Bank Of Bikaner &amp; Jaipur.</del>	50	Bassein Catholic Co-op Bank Ltd.
3	State Bank Of Hyderabad.	51	Bharat Co-op Bank Ltd.
4	State Bank Of Mysore.	52	Bombay Mercantile Co-op Bank Ltd.
5	State Bank Of Patiyala.	53	Cosmos Co-op Bank Ltd.
6	State Bank Of Saurashtra.	54	Greater Mumbai Co-op Bank Ltd.
7	State Bank Of Travankore.	55	JanataSahakari Bank Ltd.
<b>B</b>	<b>Nationalized Banks</b>	56	Mumbai District Central Co-op Bank Ltd.
8	Allahabad Bank.	57	Maharashtra State Co-op Bank Ltd.
9	Andhra Bank.	58	New India Co-op Bank Ltd.
10	Bank Of Baroda.	59	North Canara G.S.B. Co-op Bank Ltd.
11	Bank Of India.	60	Rupee Co-op Bank Ltd.
12	Bank Of Maharashtra.	61	Sangli Urban Co-op Bank Ltd.
13	Central Bank Of India.	62	Saraswat Co-op Bank Ltd.
14	Dena Bank.	63	ShamraoVithal Co-op Bank Ltd.
15	Indian Bank.	64	Mahanagar Co-op Bank Ltd.
16	Indian Overseas Bank.	65	Citizen Bank Ltd.
17	Oriental Bank Of Commerce.	66	Yes Bank Ltd.
18	Punjab National Bank.	<b>E</b>	<b>Foreign Banks</b>
19	Punjab & Sindh Bank.	67	ABM AMRO (N.Y.) Bank.
20	Syndicate Bank.	68	American Express Bank Ltd.
21	Union Bank Of India.	69	ANZ Grindlays Bank Ltd.
22	United Bank Of India.	70	Bank Of America N.T. & S.A.
23	UCO Bank.	71	Bank Of Tokyo Ltd.
24	Vijaya Bank.	72	Bankindosuez.



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24A	Corporation Bank.	73	Banque Nationale de Paris.
<b>C</b>	<b>Scheduled Commercial Banks</b>	74	Barclays bank.
25	Bank Of Madura Ltd.	75	City Bank N.A.
26	Bank Of Rajasthan Ltd.	76	Hongkong & Shanghai banking Corporation.
27	Banaras State Bank Ltd.	77	Mitsui Taiyokbe Bank Ltd.
28	Bharat Overseas Bank Ltd	78	Standard Chartered Bank.
29	Catholic Syrian Bank Ltd.	79	Cho Hung Bank.
30	City Union Bank Ltd.		
31	Development Credit Bank.		
32	Dhanalakshmi Bank Ltd.		
33	Federal Bank Ltd.		
34	Indsind Bank Ltd.		
35	I.C.I.C.I Banking Corporation Ltd.		
36	Global Trust Bank Ltd.		
37	Jammu & Kashmir Bank Ltd.		
38	Karnataka Bank Ltd.		
39	KarurVysya Bank Ltd.		
40	Laxmi Vilas Bank Ltd.		
41	Nedugundi Bank Ltd.		
42	Ratnakar Bank Ltd.		
43	Sangli Bank Ltd.		
44	South Indian Bank Ltd.		
45	S.B.I Corporation & Int Bank Ltd.		
46	Tamilnadu Mercantile Bank Ltd.		
47	United Western Bank Ltd.		
48	Vysya Bank Ltd.		





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# **SECTION –15**

# **APPENDIX**



**FORM OF TENDER**

**BID NO. - 7200038926**

To,

The Municipal Commissioner for Greater Mumbai

Sir,

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

i. Notice inviting tender.

ii. Directions to tenderers (General and special)

iii. General condition of contract for Civil Works of the BRIHANMUMBAI MUNICIPAL CORPORATION as amended up to date.

iv. Relevant drawings

v. Specifications.

vi. Special directions

vii. Annexure A and B.

viii. Bill of Quantities and Rates.

1A. I/We \_\_\_\_\_

(full name in capital letters, starting with surname), the Proprietor/ Managing Partner/ Managing Director/ Holder of the Business, for the establishment / firm / registered company, named herein below, do hereby offer \_\_\_\_\_ to

.....

.....

.....

Referred to in the specifications and schedule to the accompanying form of contract of the rates entered in the schedule of rates sent herewith and signed by me/ us" (strike out the portions which are not applicable).



---

1B. I/We do hereby state and declare that I/We, whose names are given herein below in details with the addresses, have not filled in this tender under any other name or under the name of any other establishment /firm or otherwise, nor are we in any way related or concerned with the establishment /firm or any other person, who have filled in the tender for the aforesaid work.”

2. I/We hereby tender for the execution of the works referred to in the aforesaid documents, upon the terms and conditions, contained or referred to therein and in accordance with the specifications designs, drawings and other relevant details in all respects.

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

3. According to your requirements for payment of Earnest Money amounting to Rs. \_\_\_\_\_ /-Rs. \_\_\_\_\_ )

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

4. I/We hereby request you not to enter into a contract with any other person/s for the execution of the works until notice of non/acceptance of this tender has first been communicated to me/us, and in consideration of yours agreeing to refrain from so doing I/we agree not to withdraw the offer constituted by this tender be-fore the date of communication to me/us of such notice of non/acceptance, which date shall be not later than ten days from the date of the decision of the Standing Committee or Education Committee of the Corporation, as maybe required under the Mumbai Municipal Corporation Act, not to accept this tender.(Subject to condition 5 below).

5. I/We also agree to keep this tender open for acceptance for a period of 180 days from the date fixed for opening the same and not to make any modifications in its terms and conditions which are not acceptable to the Corporation.

6. I/We agree that the Corporation shall, without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely, if.

a. I/We fail to keep the tender open as aforesaid.

b. I/We fail to execute the formal contract or make the contract deposit when called upon to do so.

c. I/we do not commence the work on or before the date specified by the Engineer in his work order.

7. I/We hereby further agree to pay all the charges of whatsoever nature in connec-tion with the preparation, stamping and execution of the said contract.



8. I/We further agree that, I/we shall register ourselves as 'Employer' with the Bom-bay Iron and Steel Labour Board' and fulfill all the obligatory provisions of Maharashtra Mathadi, Hamal and other Manual workers (Regulation of Employment and Welfare) Act 1969 and the Bombay Iron and Steel unprotected workers Scheme 1970.

9. "I/We..... have failed in the accompanying tender with full knowledge of liabilities and, therefore, we will not raise any objection or dispute in any manner relating to any action, including forfeiture of deposit and blacklisting, for giving any information, which is found to be incorrect and against the instructions and directions given in this tender.

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

Address Yours faithfully,

.....  
 .....

Digital Signature of the Tenderer or the Firm

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....

Full Name and private residential address of all the partners constituting the Firm		A/c No. .....
1.	.....	
2.	.....	
3.	.....	
4.	.....	
5.	.....	



**AGREEMENT FORM**

Tender / Quotation dated ..... 20...

Standing Committee/Education Committee Resolution No. ....

CONTRACT FOR THE WORKS

.....  
.....This  
s agreement made this day of .....

Two thousand ..... Between

.....inhabitants of Mumbai,  
carrying on business at .....

in Bombay under the style and name of Messrs  
..... (Hereinafter called "the  
contractor of the one part and Shri .....

the Dy. Municipal Commissioner (S.E.) (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 the Dy. Municipal Commissioner (S.E.) of the second part and the BRIHANMUMBAI MUNICIPAL CORPORATION (hereinafter called "the Corporation") of the third part, WHEREAS the contractor has tendered for the construction, completion and maintenance of the works described above and his tender has been accepted by the Commissioner (with the approval of the Standing Committee/Education Committee of the Corporation NOW THIS

THIS AGREEMENT WITNESSETH as follows:-

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

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

- a) The letter of Acceptance
- b) The Bid:
- c) Addendum to Bid; if any
- d) Tender Document
- e) The Bill of Quantities:
- f) The Specification:
- g) Detailed Engineering Drawings
- h) Standard General Conditions of Contracts (GCC)
- i) All correspondence documents between bidder and BMC



3) In consideration of the payments to be made by the Commissioner to the contractor as hereinafter mentioned the contractor hereby covenants with the Commissioner to construct, complete and maintain the works in conformity in all respects with the provision of the contract.

4) The Commissioner hereby covenants to pay to the Contractor in consideration of the construction, completion and maintenance of the works the contract sum at times and in the manner prescribed by the contract.

**IN WITNESS WHEREOF** the parties hereto have caused their respective common seals to be here into affixed (or have hereunto set their respective hands and seals) the day and year above written.

Signed and delivered by the contractors

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

In the presence of \_\_\_\_\_ Trading under the name & Style of \_\_\_\_\_

\_\_\_\_\_

Full Name \_\_\_\_\_ **Contractors.**

Address \_\_\_\_\_

\_\_\_\_\_

Signed by the Deputy Municipal Commissioner \_\_\_\_\_

**Deputy Municipal Commissioner (S.E.)**

In the presence of \_\_\_\_\_

\_\_\_\_\_

The Common Seal of the Municipal Corporation

of Greater Mumbai was hereunto affixed on

the \_\_\_\_\_ 20\_\_\_\_ in the presence of two

Members of Standing Committee of the Corporation.

(1) \_\_\_\_\_ (1) \_\_\_\_\_

\_\_\_\_\_

(2) \_\_\_\_\_ (2) \_\_\_\_\_

\_\_\_\_\_

and in the presence of the Municipal Secretary.

**Municipal Secretary**





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## **Annexure- B**

**BID NO. - 7200038926**

### **PRE-CONTRACT INTEGRITY PACT**

The Bidder commits himself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of his bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commits himself to the following:-

- 1) The Bidder will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BMC, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the Contract.
- 2) The Bidder further undertakes that he has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BMC or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the Contract or any other Contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the Contract or any other Contract with the Government.
- 3) The Bidder will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- 4) The Bidder will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 5) The Bidder, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the BMC or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- 6) The Bidder shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the BMC as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The Bidder also undertakes to exercise due and adequate care lest any such information is divulged.





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7) The Bidder commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

8) The Bidder shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

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

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

1. "fraudulent practice" means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding Process ;

1. "coercive practice" means impairing or harming or threatening to impair or harm, directly or indirectly, any person or property to influence any persons participation or action in the Bidding Process;

2. "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

3. "restrictive practice" means forming a cartel or arriving at any understanding or arrangement among Applicants with the objective of restricting or manipulating a full and fair competition in the Bidding Process.

**Signature of Tenderer/Bidder**



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**Annexure- C**

(On Rs. 500/- Stamp Paper)

**BID NO. - 7200038926**

**DECLARATION CUM INDEMNITY BOND**

I, \_\_\_\_\_ of \_\_\_\_\_, do hereby declared and undertake as under.

1. I declare that I have submitted certificates as required to Executive engineer (Monitoring) at the time of registration of my firm/company \_\_\_\_\_ and there is no change in the contents of the certificates that are submitted at the time of registration.

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

3. I declare that I have perused and examined the tender document including addendum, condition of contract, specifications, drawings, bill of quantity etc. forming part of tender and accordingly, I submit my offer to execute the work as per tender documents at the rates quoted by me in capacity as \_\_\_\_\_ of \_\_\_\_\_.

4. I further declare that if I am allotted the work and I failed to carry out the allotted work in accordance with the terms and conditions and within the time prescribed and specified, BMC is entitled to carry out the work allotted to me by any other means at my risk and cost, at any stage of the contract.

5. I also declare that I will not claim any charge/damages/compensation for non availability of site for the contract work at any time.

6. I declare that I will positively make the arrangements of the required equipment on the day of commencement or with respect to the progress of the work in phases, as per the instructions of site in charge

**Signature of Tenderer/Bidder**



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**BANKERS GUARANTEE IN LIEU OF CONTRACT DEPOSIT**

**BID NO. - 7200038926**

THIS INDENTURE made this \_\_\_\_\_ day of \_\_\_\_\_ BETWEEN

THE \_\_\_\_\_ BANK incorporated under the English/Indian Companies Acts and carrying on business in Mumbai (hereinafter referred to as 'the bank' which expression shall be deemed to include its successors and assigns) of the first part \_\_\_\_\_ inhabitants carrying on business at \_\_\_\_\_ in Mumbai under the style and name of Messer's \_\_\_\_\_ (hereinafter referred to as 'the consultant') of the second part Shri. \_\_\_\_\_

THE MUNICIPAL COMMISSIONER FOR GREATER MUMBAI (hereinafter referred to as 'the commissioner' which expression shall be deemed, also to include his successor or successors for the time being in the said office of Municipal Commissioner ) of the third part and THE BRIHANMUMBAI MUNICIPAL CORPORATION (hereinafter referred to as 'the Corporation') of the fourth part WHEREAS the consultants have submitted to the Commissioner tender for the execution of the work of " \_\_\_\_\_ and the terms of such tender /contract require that the consultants shall deposit with the Commissioner as/contract deposit/ earnest money and /or the security a sum of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) AND WHEREAS if and when any such tender is accepted by the Commissioner, the contract to be entered into in furtherance thereof by the consultants will provide that such deposit shall remain with and be appropriated by the Commissioner towards the Security -deposit to be taken under the contract and be redeemable by the consultants, if they shall duly and faithfully carry out the terms and provisions of such contract and shall duly satisfy all claims properly chargeable against them there under AND WHEREAS the consultants are constituents of the Bank and in order to facilitate the keeping of the accounts of the consultants, the Bank with the consent and concurrence of the consultants has requested the Commissioner to accept the undertaking of the Bank hereinafter contained, in place of the contractors depositing with the Commissioner the said sum as earnest money and /or security as aforesaid AND WHEREAS accordingly the Commissioner has agreed to accept such undertaking NOW THIS AGREEMENT WITNESSES that in consideration of the premises, the Bank at the request of the consultants ( hereby testified ) UNDERTAKES WITH the commissioner to pay to the commissioner upon demand in writing , whenever required by him , from time to time , so to do , a sum not exceeding in the whole Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) under the terms of the said tender and /or the contract .The B.G. Is valid upto \_\_\_\_\_" Notwithstanding anything what has been stated above, our liability under



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the above guarantee is restricted to Rs. \_\_\_\_\_ only and guarantee shall remain in force upto \_\_\_\_\_ unless the demand or claim under this guarantee is made on us in writing on or before \_\_\_\_\_ all your right under the above guarantee shall be forfeited and we shall be released from all liabilities under the guarantee thereafter”

IN WITNESS WHEREOF

WITNESS(1) \_\_\_\_\_

Name and \_\_\_\_\_

address \_\_\_\_\_

WITNESS(2) \_\_\_\_\_

Name and \_\_\_\_\_ the duly constituted Attorney Manager

address \_\_\_\_\_

the Bank and the said Messer's \_\_\_\_\_

\_\_\_\_\_ (Name of the Bank)

WITNESS(1) \_\_\_\_\_

Name and \_\_\_\_\_

address \_\_\_\_\_

WITNESS(2) \_\_\_\_\_

Name and \_\_\_\_\_

For Messer's \_\_\_\_\_

address \_\_\_\_\_

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

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



**Annexure- D**

**BID NO. - 7200038926**

**Rate Analysis**

Item Description

Sr.No.	Description of rate analysis parameters	Unit	Quantity	Rate	Amount
1	Basic Material (Rate should be inclusive of all taxes)				
2	Machinery Hire Charges				
3	Labour Type		(labour components)		
4	Total of all components				
5	Overhead & Profit 15% on 4				
6	Total Rate (4+5)				
7	Per unit rate				

**Sign & Seal of the Tenderer**



Annexure- E

Irrevocable Undertaking

**BID NO. - 7200038926**

(on Rs. 500/- Stamp Paper)

I Shri/Smt \_\_\_\_\_ aged \_\_\_\_\_ years Indian inhabitant  
Proprietor/Partner/Director of M/s. \_\_\_\_\_ resident \_\_\_\_\_ do  
hereby give Irrevocable undertaking as under:

I say and undertaking that as specified in section 171 of CGST Act, 2017, any reduction in rate of tax on supply of goods or services or the benefit of input tax credit shall be mandatorily passed on the BMC by way of commensurate reduction in prices.

I further say and undertake that I understand that in case the same is not passed on and is discovered at any later stage, BMC shall be at liberty to initiate legal action against me for its recovery including, but not limited to, any appeal to the Screening Committee of the GST Counsel.

I say that above said irrevocable undertaking is binding upon me/my partners/company/other Directors of the company and also upon my/our legal heirs, assigned, Executor, administrator etc.

If I fail to compliance with the provisions of the GST Act, I shall be liable for penalty/punished or both as per the provisions of GST Act.

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

Solemnly affirmed at DEPONANT

This day of BEFORE ME

Interpreted Explained and Identified by me



## **PROFORMAS:**

### **PROFORMA- I**

The list of similar works as stated in para 'A' of Post qualification during last five years–

<b>PROFORMA- I</b>					
Sr. No.	Name of the Project	Name of the employer	Stipulated date of completion	Actual date of completion	Actual cost of work done
1	2	3	4	5	6

**NOTE:**

j. Scanned Attested copies of completion/performance certificates from the Engineer-in-Charge for each work should be annexed in the support of information furnished in the above proforma.

k. Works shall be grouped financial year-wise.

### **PROFORMA- II**

**Yearly turnover of civil Engineering Construction Works during the last five years.**

<b>PROFORMA- II</b>						
Sr.No.	Financial year	Annual Turnover of Civil Engineering Works	Updated value to current year	Average of last 5 years	Page No.	
1						
2						
3						
4						
5						
Total						

**NOTE:** The above figures shall tally with the audited balance sheets uploaded by the tenderers duly certified by Chartered Accountant.



### PROFORMA- III

At least similar work, as stated in para 'A' of Post qualification,

PROFORMA- III							
Name of the Project	Name of the Employer	Cost of the Project	Date of is-sue of work Order	Stipulated Date of Completion	Actual Date of Completion	Actual cost of work done	Remarks explaining reasons for delay, if any
1	2	3	4	5	6	7	8

**Note:** Scanned Attested copies of completion/performance certificates from the Engineer-in-charge for each work should be annexed in support of information furnished in the above proforma.

### PROFORMA- IV

PERSONNEL:

PROFORMA- IV					
Sr. No.	Post	Name	Qualification	Work Experience	
		(Prime Candidate/ Alternate)		No. of Years	Name of Projects
1	Project Manager				
2	Quality Control Engineer				
3	Site Engineer				
4	Site Supervisor				

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





**PROFORMA- V**

**PROFORMA- V/A**

**MACHINERY: (for special work only)**

<b>PROFORMA- V/A</b>			
Sr. No.	Equipment	Number	Owned / Leased / Assured access
1	2	3	4

**PROFORMA- V/B**

<b>PROFORMA- V/B</b>			
Sr. No.	Equipment	Number	Owned
1	2	3	4

**Note:** The tenderer(s) shall furnish/upload the requisite Scanned Attested documents of ownership/leased of machineries. The undertaking from the suppliers will not be accepted.

**PROFORMA- VI**

**PROFORMA - VI / A**

**Details of Existing Commitments and ongoing works –**

<b>PROFORMA - VI / A</b>							
Description of work	Place	Contract No. & Date	Name & Addresses of employer	Value of Contract in Rs.	Scheduled date of completion	Value of work remaining to be completed	Anticipated date of completion
1	2	3	4	5	6	7	8

**Note:** Scanned Attested copies of completion/performance certificates from the Engineer-in-Charge for each work should be annexed in the support of information furnished in the above proforma.



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**PROFORMA - VI / B**

**Details of works for which bids are already uploaded –**

<b>PROFORMA - VI / B</b>						
Description of work	Place	Name & Addresses of employee	Value of Contract in Rs.	Time Period	Date on which decision is expected	Remarks
1	2	3	4	5	6	7

**Note:** Scanned Attested copies of certificates from the Engineer-in-charge for each work shall be annexed