RAJKOTMUNICIPALCORPORATION

e-TenderNo.RMC/ENGG/WZ/23-24/

BidDocumentsFor

Construction of 2 Aanganvadi and compund wall near Indira nagar Aavas Yojna in Ward no 1.

Milestonedatesfore-tenderingareasunder	
1.Downloadingofe-documents	16-03-24To06-04-24upto17.00Hrs.
2.Pre-bidmeetingintheO/oCE	23-24at11:00Hrs
3.Lastdatefor onlinesubmissionof e-Tender	06-04-24upto18.00Hrs.
4.SubmissionofEMD,Tenderfeeandotherdocuments for verification by Regd.Post.A.D./SpeedPost	Before08-02-24upto18.00Hrs.
5.OpeningofTechnicalBid	09-04-24at11.00Hoursonwards
6.Verificationofsubmitteddocuments(EMD,e-Tenderfee,etc.)	09-04-24at11.00Hoursonwards
7.Agencytoremainpresentwithoriginaldocumentsforverification	09-04-24between16.00to17.00Hrs
8.OpeningofPriceBid(ForTechnicallyqualifiedbiddersonly)	09-04-24at17.00Hoursonwards
9.BidValidity	180Days

2023-24

CITY ENGINEER (SPECIAL)RAJKOTMUNICIPALCORPORATIONSHRI HARISINHJI GOHILBHAWANWEST ZONE, 150 FT RING ROAD,RAJKOT-360005(GUJARAT)

RAJKOTMUNICIPALCORPORATION

BIDDOCUMENTFOR

CONSTRUCTIONOFMORDENIZEDTOILETATGONDALCHOWKDI INWARDNO.12

PART-I

Section-1 Invitation to Bid, Instructions to BiddersandFormats.

Section-2 GeneralConditionsofContract

PART-II

Section-3 TechnicalSpecifications

PART-III

BillofQuantities(WithPrice)

ABBREVIATIONS

Statementshowingthedetailsofabbreviations

FullForm	Abbreviation
CITYENGINEER(SPL)	ACE
OperationandMaintenance	O&M
NetPresentValue	NPV
EngineeringProcurementandConstruction	EPC
PaschimGujaratVijCo.Ltd.	PGVCL
CriticalPathMethod	CPM
ReinforcedCementConcrete	RCC
HighGroundLevelReservoir	HGLR
Kilometer	KM
MildSteel	MS
BureauofIndianStandard	BIS
AmericanWaterWorksAssociation	AWWA
AmericanPetroleumIndustries	API
MillionLiterperDay	MLD
HighYieldStrengthDeformedbar	HYSD
CorrosionResidenceSteel	CRS
OrdinaryPortlandCement	OPC
AmericanStandardforTestingofMaterial	ASTM
FluxCompensatedMagneticAmplifier	FCMA
CostInsuranceandFreight	CIF
FreeOnBoard	FOB
EX–Works	EXW

PART -
ISECTION-1

INVITATIONFORBIDS

RAJKOTMUNICIPALCORPORATION
***e*-TENDERNOTICE**

Thee-Tendersareinvitedwithtwobidsystembye-Tenderingfromtheexperiencedcontractors registered in GWSSB / State Government / Central Government / SemiGovernmentinappropriateclassforbelowmentionedwork:

Sr No	Nameofwork	a) EstimatedcostinRs. b) EMD c) E-TENDERfee d) Time limit forcompletionofwork
1	Construction of 2 Aanganvadi and compund wall near Indira nagar Aavas Yojna in Ward no 1. **e-TENDERNo.RMC/ENGG/WZ/23-24/**	a.1)Rs.28,50,000/-(withGST) a.2)Rs.24,14,900/-(withoutGST) b)Rs.28,500/- c)Rs.1,875/- d)8Months

Milestonedatesfore-tenderingareasunder	
1.Downloadingofe-documents	16-03-24To06-04-24upto17.00Hrs.
2.Pre-bidmeetingintheO/oCE	23-24at11:00Hrs
3.Lastdatefor onlinesubmissionof e-Tender	06-04-24upto18.00Hrs.
4.SubmissionofEMD,Tenderfeeandotherdocumentsforverificationby Regd.Post.A.D./SpeedPost	Before08-02-24upto18.00Hrs.
5.OpeningofTechnicalBid	09-04-24at11.00Hoursonwards
6.Verificationofsubmitteddocuments(EMD,e-Tenderfee,etc.)	09-04-24at11.00Hoursonwards
7.Agencytoremainpresentwithoriginaldocumentsforverification	09-04-24between16.00to17.00Hrs
8.OpeningofPriceBid(ForTechnicallyqualifiedbiddersonly)	09-04-24at17.00Hoursonwards
9.BidValidity	180Days

1. All bidders must submit Bid security (EMD) as above either directlydepositedinICICIBankAccountNo.015305010638(RajkotMunicipalCorporation)IFSCCodeICIC0000153orsubmitatthebelowmentionedaddress in form of Demand Draft in favour of "Rajkot Municipal Corporation",Rajkot, from any Nationalized Bank or Scheduled Bank (except Co-operativeBank) in India. The receipt of professional tax paid for current year,addressproof,tenderappendixdetailsandIDproofshallhave to besubmitted along with physical submission of required documents shall havetobedoneatthebelowmentionedaddress:

*Officeofthe*CITYENGINEER(SPL)RajkotMunicipalCorporation,SHRIHARISINHJIGOHILBHAWAN,
WEST ZONE
Office,150FTRINGROAD,
Rajkot-*360005(Gujarat)*

2. The e-tender fee will be accepted in form of Demand Draft only in favor of"RajkotMunicipalCorporation"Rajkot,fromanyNationalizedorScheduled

Bank (except Co-operative Bank) in India and must be delivered to aboveaddress.

3. **Theprequalificationrequirementisasunder**:
   i) FinancialCriteria:
   1. Anaverageannualturnoverofsevenyearsshouldnotbelessthan50%oftender amount.
   2. Workingcapitalshouldnotbelessthan25%oftheestimatedamount.
   3. Biddermusthaveminimum"E-1"Classregistration
   4. MinimumamountofsolvencyshouldbeRs.2.00lakhs

   ii) ExperienceCriteria:

   Thebiddershouldpossesfollowingminimumexperience:

   1. Biddershouldhavecompletedsimilarnatureworkatleastoneamounting to **60% OR** two works each amounting to **50%** of tenderamount in last seven years either in government or Semi-governmentasamaincontractor.
   2. Bidder should have enough machinery and experienced personnel tosupervisethework.

   Note:Enhancementfactorat10%peryearwillbeapplicabletoarriveataverage annual turnover and finalize the magnitude of work done in lastsevenyears.

Sr	Year	Enhancefactor
1	CurrentYear(2023-24)	1.00
2	CurrentYear–1(2022-23)	1.10
3	CurrentYear–2(2021-22)	1.21
4	CurrentYear–3(2020-21)	1.33
5	CurrentYear–4(2019-20)	1.46
6	CurrentYear–5(2018-19)	1.61
7	CurrentYear–6(2017-18)	1.77
8	CurrentYear–7(2016-17)	1.95

4. **The contractor has to quote their rates without GST** and including othertaxes. The invoice should be submitted by contractor showing the breakup ofGST in the bill. GST will be paid extra at the prevailing rate at the time ofexecution.

   The contractor shall have to purchase the material required for this tenderwork, only from the supplier having registered GST Number. RMC will not beresponsible to pay any amount towards GST if the material is purchased fromtheunregisteredsupplier/nothavingGSTNumber.

5. **The bidder(s) submitting the tender shall also have to submit thecopyofESIC&EPFRegistrationdocumentalongwiththeotherdocuments, duly self attested, failing which, the tender ofsuch bidder(s) will be considered as non-responsive and theironlinepricebidwillnotbeopened.**

6. TheTenderofthosebidder(s)thosewhofailstosubmitthe requireddocuments for verification within the stipulated date and time, will be treatedasnonresponsiveandtheirPriceBidwillnotbeopened.Thephysicalsubmission of required documents received after the prescribed date and timewillbeoutrightlyrejected.

7. The bidder should not have been Black Listed, suspended, terminated, backedout,debarred&delistedbyanyMunicipalBody/UrbanLocalBody/Development Authority in any State Government Body or undertaking / anydepartmentorundertakingofGovernmentofIndia,sinceinceptionofthefirm/Com pany. Such a case will be rejected out rightly. A Declaration in this regardon Rs.300/- Stamp Paper duly Notarized shall have to be submitted as perAnnexure along with the tender documents. Submission of the bid documentwithoutsuchNotarizeddeclarationwillberejectedoutrightly.

8. The bidder should provide accurate information on any litigation history orarbitration resulting from contracts completed or under execution by him overthelasttenyears.ThisshouldalsoincludesuchcasesWhichareinprocess / progress. A consistent history of awards against the bidder may result infailure of the bid. In case the bidder has not provided such information andhas come to the notice of the authority, the tender will be rejected at whatso ever stage and in such case all the losses that will arise out of this issuewill be recovered from the bidder and he will not have any defense for thesame.

9. After opening of Technical Bid, the procedure for the pre-qualification shall beadopted and the Price Bid of only successful qualified bidder shall beopenedforfinalevaluationofthecontract.ThedecisionofMunicipalCommissioner regarding the pre- qualification shall be final and binding to allthebidders.

10. ConditionalTenderswill beoutrightlyrejected.

11. IfnoagencyremainspresentandarenopointsforPrebidmeeting,"NIL"minutestobeco nsidered and thesamewillnotbeuploaded.

12. Commissioner,RajkotMunicipalCorporation,Rajkot,reservestherighttoaccept/rejec tanyoralle-tender(s)withoutassigninganyreasonsthereof.

CITYENGINEER(SPL)
RajkotMunicipalCorporation

ELIGIBILITYCRITERIA

1. ExperienceCriteria:

Thebiddershouldpossesfollowingminimumexperience:

1. Biddershouldhavecompletedsimilarnatureworkatleastoneamounting to **60% OR** two works each amounting to **50%** of tenderamount in last seven years either in or Semi-government as a maincontractor.
2. Bidder should have enough machinery and experienced personnel tosupervisethework.

2. FinancialCriteria

(1) Anaverageannualturnoverofsevenfinancialyearsshouldnotbelessthan50 %ofestimatedtenderamount.

(2) Workingcapitalshouldnotbelessthan25%oftheestimatedtenderamount.

(3) SolvencymustnotbelessthanRs.2.00Lakh

(4) Available bid capacity- ABC must be more than the estimated tenderamount. The bidding capacity shall be worked out using the followingformula:

Biddingcapacity=[2*__A__*__N__]–__B__ =_____(tobefilledbyApplicant)

where,

A = Maximum value of works executed in any one year during thelastsevenyears(updatedto……*pricelevel)takingintoaccountth ecompleted aswellasworksinprogress.

N =Number of years prescribed for completion of the works forwhichtendersareinvited.

B = Value (…* price level) of existing commitments and on-goingworks to be completed during that next **N** year (period ofcompletionoftheworksforwhichthetendersareinvited)

3. EnhancementFactor

Followingenhancefactorforrespectiveyearwillbeconsideredtoarriveatcurrentfinancialyea r:

Sr	Year	Enhancefactor
1	CurrentYear(2023-24)	1.00
2	CurrentYear–1(2022-23)	1.10
3	CurrentYear–2(2021-22)	1.21
4	CurrentYear–3(2020-21)	1.33
5	CurrentYear–4(2019-20)	1.46
6	CurrentYear–5(2018-19)	1.61
7	CurrentYear–6(2017-18)	1.77
8	CurrentYear–7(2016-17)	1.95

4. LitigationHistory

The bidder should provide accurate information on any litigation history orarbitration resulting from contracts completed or under execution by him overthelastseven years.Thisshouldalso includesuchcases,whichareinprocess/progress. A consistent history of awards against the bidder or anypartner of a joint venture may result in failure of the bid. In case the bidderhasnotprovidedsuchinformationandhascometothenoticeoftheAuthority,th e tender will be rejected at whatsoever stage and in such case all the lossesthatwillariseoutofthisissuewillberecoveredfromtheBidder/contractorandhe willnothaveanydefenseforthesame.

5. Eventhoughthebiddersmeettheabovecriteria,theyaresubjecttobereje cted,iftheyhave:

Misleadingorfalserepresentationmadeintheform,statementsandattachments Submitted And / Or having poor performance record such asabandoning the work, improper completion of contract, inordinate delays incompletion,litigationhistory,financialfailures,etc.

6. Brandnames

Specific reference in the specifications any materials by manufacturer's name(as per the prevailing list of GWSSB), or catalogue shall be constructed asestablishingastandardorqualityandperformanceandnotaslimitingcompetition,a ndtheBidderinsuchcases,willnotathisoptionfreelyuse onlyotherproduct

CITYENGINEER(SPL)
RajkotMunicipalCorporation

NameandsignatureofBidder

INSTRUCTIONS
TO
BIDDERS

INSTRUCTIONS TO BIDDER

IT1.GENERAL

The contract documents may be secured in accordance with the Notice Inviting E-TENDER for the work called. The work shall include supply of materials necessary forconstructionofthework.

IT2.INVITATIONTOE-TENDER

The Rajkot Municipal Corporation hereinafter referred as the Corporation will receivee-Tenders for the work of as per the specifications and schedule of prices in the e-Tender document. The e-Tenders shall be opened online as specified in the e-Tendernoticeinthepresence ofinterestedBidders ortheirrepresentatives.TheCorporationreserves the right to reject the lowest or any other or all e-Tenders or part of itwhichintheopinionoftheCorporationdoesnotappeartobeinitsbestinterest,andthe Bidder shall have no cause of action or claim against the Corporation or itsofficers,employees,successorsorassigneesforrejectionofhise-Tender.

IT3.LANGUAGEOFe-TENDER

E-TENDERs shall be submitted in English, and all information in the e-Tender shallalso be in English, Information in any other language shall be accompanied by itstranslation in English. Failure to comply with this may make the e-Tender liable torejection.

IT4.QUALIFICATIONSOFBIDDERS

A. TheBiddersshallabidebythelawsoftheUnionofIndiaandofGujaratStateandlegaljurisdiction oftheplacewheretheworksarelocated.

B. TheBiddershall furnishawrittenstatementoffinancial andtechnical parameterswithdetailsanddocumentsalongwithhise-Tenderwhichcontainsnamelyasbelow:

i. TheBidder'sexperienceinthefieldsrelevanttothiscontract.
ii. TheBidder'sfinancialcapacity/resourcesandstandingoveratleast7(Seven)years.
iii. TheBidder'spresentcommitments(Jobsonhand).
iv. TheBidder'scapabilityandqualificationsofhimselfandhisregularstaffetc.
v. PlantsandMachineryavailablewiththeBidderfortheworke-Tendered.

C. The Bidder shall furnish original documents on the date mentioned in tender notice.The bid for those bidder will be treated as non-responsive who failing to produceoriginaldocumentsonspecifieddate.

IT5.e-TENDERDOCUMENTS

The e-Tender documents and drawings shall comprehensively be referred to as e-TENDER document. The several sections form in the document are the essentialparts of the contract and a requirement occurring in one shall be as binding asthough occurring in all, they are to be taken as mutually, explanatory and describeandprovidefor completeworks.

IT6.EXAMINATIONBYBIDDERS

A. At this own expense and prior to submitting his e-Tender, each Bidder shall (a)examine the Contract Documents, (b) visit the site and determine local conditionswhich may affect the work including the prevailing wages and other pertinent costfactors, (c) familiarize, himself with all central, state and local laws, ordinance, rulesregulations and codes affecting the material supply including the cost of permits andlicenses required for the work and (d) correlate his observations, investigations, anddeterminations with the requirements of the e-TENDER Documents, site & subsoilinvestigation.

B. Thee-Tenderisinvitedon**..%.rate**andcontractor shallhavetoquotehisprice on % bases **above or below in the schedule -B./ Price Schedule**. The works shallhave to be completed in all respect as stated in the e-Tender document to thesatisfactionoftheCorporation.

C. ThefollowingcomprisesinContractDocumentsatapriceof**Rs.1,875-00**.**e-**

TENDERDocument:

Part-I

1. NoticeinvitingBidders.
2. InstructionstotheBidder.
3. Formats
4. Generalconditionsofcontract

Part-II

Technicalspecifications

Part-III

a. BidForm(WithPrice)
b. PreambletoPriceschedule
c. PriceSchedule(Schedule-B)

D. Copy of the E-TENDER Document should be completed, checked in a responsiblemanner, digitally signed, and submitted. Security Bond shall be submitted in personbythestipulatedate,whichshall form thee-Tender.

The e-Tender is required to complete with all the pages in which entries are requiredto be made by the Bidder are contained in the e-Tender documents and the Biddershall not take out or add to or amend the text of any of the documents except in sofar as may be necessary to comply with any addenda issued pursuant to ClauseIT.17hereof.

IT7.EARNESTMONEYDEPOSIT:

A. Each Bidder must submit a receipt of deposit as Tender guarantee towards **Earnestmoney** amounting to **Rs.28,500/-** in the form of crossed Demand Draft in favor of"Rajkot Municipal Corporation", from any Scheduled bank (except Co-operative Bank) in Indiaacceptable to owner payable at Rajkot. The Tender Bond, shall be valid for a periodof not less than 180 days from the date the e-Tenders are opened and shall complywith the requirements for Bond as stipulated in the General conditions of contract.TheTenderguaranteebondwillbeheldbytheownerasaguaranteethattheBidder,if awarded the contract, will enter into the contract agreement in good faith andfurnish the required bonds. Any e-Tender not accompanied by a Tender guarantee intheformofearnestmoneydepositedforthesumstipulatedinthee-TenderDocumentwillbesummarilyrejected.

B. TheEarnestMoneyDepositwillberefundedtotheunsuccessfulBiddersafteranawardhasbeen finalized.

C. The Earnest Money Deposit (Tender Guarantee) will be forfeited in the event, thesuccessful Bidder fails to accept the contract and fails to submit the "PerformanceGuarantee Bonds to the Owner as stipulated in this e-Tender documents within tendays.(10) daysafter receiptofnoticeofawardofcontract.

D. TheEarnestMoneyDepositof thesuccessfulBidder shallbe returnedafter theperformanceguaranteebond,asrequired,isfurnishedbythecontractor.

E. Nointerestshallbepaidbytheowneronanye-Tenderguarantee.

IT8.INCOMETAXCLEARANCECERTIFICATE: (DELETED):

Latest Income Tax clearance Certificates must accompany with the e-Tender withoutwhich the e-Tender is liable to be summarily rejected. The Income Tax ClearanceCertificate obtained from the Income Tax Officer shall clearly indicate the IncomeTax Pan No/Circle/Ward, District and the reference number of the assessment alongwiththeassessmentyear.

IT9.PREPARATIONOFe-TENDERDOCUMENTS

Biddersarerequiredtonotethefollowingwhilepreparingthee-TENDERDocuments:

A. e-TENDER shall be submitted on the e-TENDER form bound here in English. Allstatements shall be properly filled in. Numbers shall be stated both in words andinfigureswheresoindicated.

B. All entries or prices and arithmetic shall be checked before submission of the e-TENDER. If there is discrepancy between the rates quoted in figures and in words,theratesexpressedinwordsshallbeconsideredas binding.

C. Eache-Tendershallbeaccompaniedbytheprescribede-Tendersecuritybondandother required documents and drawings. Allwitnessesand suretiesshallbepersons of status and probity and their full names, occupations and addressesshall bestatedbelowtheirsignature.

D. Variation to the contract Documents requested by the Bidder may be affixed andduly signed and stamped. Such variations may be approved or refused by theCorporationisnotobligedtogivereasonforhisdecisions.

IT10.SUBMISSIONOFe-TENDERDOCUMENTS

Biddersarerequestedtosubmitthee-TENDERDocumentsonfollowinglines.

A. Volumecontainingfollowingdocuments:
   I. EarnestMoneyDeposit.
   II. CertificatesasregisteredcontractorinappropriateclasswithGovernmentofGujarat orappropriateauthority.
   III. Bidder'sfinancialcapabilitystatementincludinglastthreeyearsIncometaxreturns, balancesheet,dulysignedbyregisteredcharteredaccount.
   IV. Bidder'sexperienceinthefieldrelevanttothiscontract.
   V. AlistoftheequipmenttheBidderpossessesandthatwhichheproposedtoacquireand useforthepurposerelatedtothework.

The time limit for receipt of e-Tender shall strictly apply in all cases. The Biddersshould therefore ensure that their e-Tender is received by the competent authority**TheRajkotMunicipalCorporation**atbeforeexpiryofthetimelimit.Nodelayo naccountofanycauseforreceiptofe-Tendershallbe entertained.

The e-Tender must contain the name address of residence and place of business ofthepersonorpersonssubmittingthee-Tenderandmustbedigitallysigned.

e-TENDERbypartnershipfirmmustbefurnishedwiththefullnamesandaddressesof all partners and be signed by one of the members of the partnership or by alegally authorized representative holding power of attorney followed by signatureand designationofthepersonofpersonsigning.

e-TENDER by Corporations/Companies must be signed with the legal name of theCorporation/Companies by the president/or by the secretary or other person orpersonslegallyauthorizedtobindtheCorporation/Companyinthematter.

IT11 TENDER VALIDITY PERIOD

The validity period of the e-Tender submitted for this work shall be of 180 days from the date of opening of the e-Tender and that the Bidder shall not be allowed to withdraw or modify the e-Tender offer on his own during the validity period. The Bidder will not be allowed to withdrawn the e-Tender or make any modifications or additions in the terms and conditions on his own e-Tender. If this is done then the owner shall, without prejudice to any other right or remedy, be at liberty to reject the e-Tender and forfeit the earnest money deposit in full.

IT12 GENERAL PERFORMANCE DATA

Bidder shall present all the information which sought for in the e-Tender document in form of various schedules if given. e-TENDERs may not be considered if left blank or the schedules are not properly filled in.

IT13 SIGNING OF e-TENDER DOCUMENTS

If the Tender is made by an individual it shall be signed with his full name above his current address. If the Tender is made by a proprietary firm, it shall be signed by the proprietor above his name and the name of his firm with his current address.

If the e-Tender is made by a firm in partnership, it shall be signed by all the partners of the firm above their full names and current address, or by a partner holding the power of attorney for the firm, in which case a certified copy of the power of attorney shall accompany the e-TENDER. A certified copy of the partnership deed, current addresses of all the partners of the firm shall also accompany the e-Tender.

If the e-Tender is made by a limited company or a limited corporation, it shall be signed by a duly authorized person holding the power of attorney, shall accompany the e-Tender. Such limited company or corporation may be required to furnish satisfactory evidence of its existence before the contract is awarded.

If the e-TENDER is made by a group of firms, the sponsoring firm shall submit complete information pertaining to each firms in the group and state along with the bid as to which of the firms shall have the responsibility for e-Tendering and for completion of the contract documents and furnish evidence admissible in law in respect of the authority to such firms on behalf of the group of firms for e-Tendering and for completion of contract documents. The full information and satisfactory evidence pertaining to the participation of each member of the group of firms in the e-Tender shall be furnished along with the e-Tender.

All witnesses and sureties shall be persons of status and probity and their full names, occupations and addresses shall be stared below their signatures. All the signatures in the e-Tender documents shall be dated.

IT14 WITHDRAWAL OF TENDERS

If, during the tender validity period, the Bidder withdraws his Tender, Tender security (Earnest Money) shall be forfeited and Bidder will be debarred for next three years to quote in R.M.C.

IT15 INTERPRETATIONS OF e-TENDER DOCUMENTS

Bidders shall carefully examine the e-TENDER Document and fully inform themselves as to all the conditions and matters which may in any way affect the work or the cost thereof. If a Bidder finds discrepancies, or omission from the specifications or other documents or should be in doubt as to their meaning, he should at once address query to the CITY ENGINEER (SPL), R.M.C. The result of interpretation of the e-TENDER will be issued as addendum.

IT16ERRORSANDDISCREPANCIESINe-TENDERS

In case of conflict between the figures and words in the rates the rate expressed inwordsshallprevailandapplyinsuchcases.

IT17MODIFICATIONOFDOCUMENTS

Modification of specifications and extension of the closing date of the e-Tender, ifrequired will be made by an addendum. Each addendum will be made availableonline to all Bidders. These shall form a part of e-Tender. The Bidder shall not add toor amend the text of any of the documents except in so far as may be necessary tocomplywithanyaddendum.

ADDENDA

Addenda form part of the Contract Documents, and full consideration shall be givento all Addenda in the preparation of e-Tender. Bidders shall verify the number ofAddenda issued, if any and acknowledge the receipt of all Addenda in the e-TENDERFailuretosoacknowledgemaycausethee-Tendertoberejected.

A. TheOwnermayissueAddendatoadviseBiddersofchangedrequirements.Suchaddenda maymodifypreviouslyissuedAddenda.

B. Noaddendummaybeissuedafterthetimestatedinthenoticeinvitinge-Tenders.

IT18TAXANDDUTIESONMATERIALS

All charge on account of excise duties, Central / State, sales tax, work contract taxand other duties etc. on materials obtained for the works from any source shall bebornebythecontractors.No(P)or'C'or'D'formshallbesupplied.

IT19EVALUATIONOFE-TENDERS

While comparing e-Tenders, the Rajkot Municipal Corporation shall consider factorslikepriceofferisworkablewiththemarketprice,efficiencyandreliabilityofconstruction method proposed, compliance with the specifications, relative quality,workdoneinpastwithRajkotMunicipalCorporationorotherGovernmentOrganizations, litigation issues etc. Evaluation criteria specifically mentioned in thespecificationwillalsobetakenintoconsiderationintheevaluationofe-Tenders.

IT20TIMEREQUIREDFORCOMPLETION

The completion period mentioned in this schedule is to be reckoned from the date ofnotice to proceed. Total completion period is 8 **Months** from the date of issue ofnotice to proceed and contractor should adhere to this completion time. ~~Monsoonperiod from 1st July to 30th September will be considered as non working period andhenceexcludedintimelimit~~.

IT21POLICYFORTENDERUNDERCONSIDERATION

TENDER shall be termed to be under consideration from the opening of the e - Tenderuntilsuchtimeanyofficial announcementorawardismade.

While e-Tenders are under consideration, Bidders and their representative or otherinterestedpartiesareadvisedtorefrainfromcontactingbyanymeansanycorporations personnel or representatives on matters related to the e-Tenders understudy. The Corporation's representatives if necessary will obtain clarification on e-Tenders by requesting such information from any or all the Bidders, either in writingor through personal contact, as may be necessary. The Bidder will not be permittedto change the substance of his e-Tender after e-Tenders have been opened. Thisincludes any post Tender price revision. Non-compliance with his provision shallmaketheTenderliableforrejection.

IT22PRICESANDPAYMENTS

The Bidder must understand clearly that the prices quoted are for the total works orthe part of the total works quoted for and include all costs due to materials, labour,equipment, supervision, other services, royalties, taxes etc. and to include all extrato cover the cost. No claim for additional payment beyond the prices quoted will beentertained and the Bidder will not be entitled subsequently to make any claim onanyground.

IT23PAYMENTTERMS

ThetermsofpaymentaredefinedintheGeneralConditionsofContractandTechnical specifications. The Corporation shall not under any circumstances relaxthesetermsofpaymentandwillnotconsideranyalternativepaymentterms.Bidderssh ouldthereforeintheirowninterestnotethisprovisiontoavoidrejectionoftheire-Tenders.

IT24AWARD

Award of the contract or the rejection or e-TENDERs will be made during the Tendervalidity period. A separate Schedule-B (Price Schedule) is given. The contractors arerequested to quote their price offer **in % below or above on the given price intheschedule-BofPriceSchedule only.**

A. After all contract contingencies are satisfied and the Notice of Award is issued,the successful Bidder shall execute the Contract Agreement within the timestated and shall furnish the Bond as required herein. The contract Agreementshall beexecuted,informstipulatedbythe Owner.

B. If the Bidder receiving the Notice of Award fails or refuses to execute theContract Agreement within the stated time limit or fails or refuses to furnish theBond as required herein. The Owner may annul his award and declare the e-Tendersecurityforfeitedandwilltakeactionasdeemedfit.

C. A corporation, partnership firm or other consortium acting as the Bidder andreceiving the award shall furnish evidence of its existence and evidence that theofficersigningthecontractagreementandBondsforthecorporation,partnershipfir morotherconsortiumactingastheBidderisdulyauthorizedtodoso.

IT25SIGNINGOFCONTRACT

The successful Bidder shall be required to execute the contract agreement within 10days of receipt of intimation to execute the contract, failing which the Corporationwillbeentitledannul totheawardandforfeittheEarnestMoneyDeposit.The personto sign the contract document shall be person as detailed in Article IT.13 (signing ofe-Tenderdocuments).

IT26DISQUALIFICATION

Ae-Tendershallbedisqualifiedandwillnotbetakenforconsiderationif,

(a) TheTenderfeeandTenderEarnestMoneyDepositisnotdepositedinfullandinthemanner asspecifiedasperArticleIT.7i.e.EarnestMoneyDeposit.
(b) Thee-Tenderisinalanguageotherthan Englishordoesnotcontainits EnglishTranslationincase ofotherlanguageadoptedfore-Tenderpreparation.
(c) Thee-Tenderdocumentsarenotsignedbyanauthorizedperson(asperArticleIT.13i.e.signing ofe-Tenderdocuments).
(d) Thegeneralperformancedataforqualificationisnotsubmittedfully(asperArticleIT12i. e.General performanceData).
(e) BidderdoesnotagreetopaymenttermsdefinedasperArticleIT.23i.e.paymentterms.

A. Ae-Tendermayfurtherbedisqualifiedif,

(a) PricevariationisproposedbytheBidderonanyprincipleotherthanthoseprovidedinthee-TENDERDocuments.
(b) Completionscheduleofferedisnotconsistentwiththecompletionscheduledefined andspecifiedine-Tenderdocument.
(c) Thevalidityofe-Tenderbondislessthan thatmentionedin ArticleIT.11i.e.e-Tendervalidityperiod.
(d) Anyofthepageorpagesofe-Tenderis/areremovedorreplaced.
(e) Anyconditionaltender.

IT27PERFORMANCEGUARANTEE(SECURITYDEPOSIT)

Asa contract securitytheBidder to whom the award ismade shallfurnish aperformance guarantee (Security deposit) for the amount of **5%** of the contractprice to guarantee the faithful performance, completion and maintenance of theworks of the contract in accordance with all conditions and terms specified hereinand to the satisfaction of the Engineer-in-charge and ensuring the discharge of allobligationsarisingfromtheexecutionofcontractintheformsmentionedbelow:

A fixed deposit receipt of any Schedule Bank or Nationalized Bank (except Co-operative Bank) duly endorsed in favour of the **Rajkot Municipal Corporation,Rajkot.**

The performance guarantee shall be delivered to the Corporation within ten (10)daysofthenoticeofawardandatleastthree(3)daysbeforethecontractagreementissignedunlessotherwisespecifiedbytheEngineer-in-charge.Alternatively, the contractor may at his option deposit an amount of **2.5%** of thevalue of the contract price within ten days and the balance **2.5%** to be recovered ininstallments through deduction @ the rate of 10% from the running account bills. Itis further clarified that Performance Guarantee (SD) for extra work will also be recovered@10% fromthebillofextra worki.e.worksbeyondtenderamount.

Ondueperformanceandcompletionofthecontractinallrespects,**THEPERFORMANCEGUARANTEE(SECURITYDEPOSIT)WILL BERELEASEDTOTHECONTRACTORWITHOUTANYINTERESTAFTERDEFECTLIABILITYPERIODIS OVER.**

IT28STAMPDUTY

The successful Tenderer shall have to enter into an agreement on a non-judicialstamp paper of amountasperStampDutyActintheformoftheagreementapproved by the Corporation. The cost of stamp paper and adhesive stamp shall bebornebythecontractor.

IT29BRANDNAMES

Specific reference in the specifications to any material by manufacturer's name, orcatalogue shall be constructed as establishing a standard or quality and performanceandnotaslimitingcompetitionandtheBidderinsuchcases,mayathisoptionfreelyuse only other product, provided that it ensures an equal of higher quality than thestandardmentionedandmeetsCorporationapproval.

IT30NONTRANSFERABLE

e-TENDERdocumentsarenottransferable.

IT31COSTOFe-Tendering

TheownerwillnotdefrayexpenseincurredbyBiddersine-Tendering.

IT32EFFECTOFe-Tender

The e-Tender for the work shall remain for a period of 180 days from the date ofopening of the e-Tenders for this work and that the Bidder shall not be allowed towithdrawor modifytheofferinhisownduringtheperiod.IfanyBidderwithdrawsormakesanymodificationoradditionsinthetermsandconditionsofhisowne-Tender,then the Corporation shall, without prejudice to any other right or remedy, be atlibertytorejectthee-Tenderandforfeittheearnestmoneyinfull.

IT33CHANGEINQUANTITY

The Corporation reserves the right to waive any information in any e-Tender and toreject one or all e-Tenders without assigning any reasons for such rejection and alsoto vary the quantities of items or group as specified in the scheduled of prices asmaybenecessary.

IT34NEWEQUIPMENTANDMATERIAL

All materials, equipment and spare parts thereof shall be new, unused and originallycoming from manufacturer's plant to the Corporation. The rebuilt or overhauledequipment/materialswill notbeallowedtobeusedonworks.

IT35RIGHTSRESERVED

The owner reserves the right to reject any or all e-Tenders, to waive any informalityor irregularity in any e-Tender without assigning any reason. The owner furtherreservestherighttowithholdissuance ofthenotice toproceed,evenafterexecutionof the contract agreement. No payment will be made to the successful Bidder onaccount of such withholding. The owner is not obliged to give reasons for any suchaction.

IT36ADDITIONALRIGHTSRESERVED

The Commissioner, Rajkot Municipal Corporation, reserves right to reduce the scopeofwork&splitthee-Tenderontwoormorepartswithoutassigninganyreasonevenaftertheawardsof contract.

IT37MOBILIZATIONADVANCE

Nomobilizationadvanceoradvanceonmachinerywillbegiven.

IT38CONDITIONALe-Tenders

The scope of work is clearly mentioned in the e-Tender documents. The contractorshall have to carry out the work in accordance with the details specifications. Noconditionwillbeaccepted.Theconditional e-Tenderwillliabletoberejected.

IT39CESS&REGISTRATION:

For the welfare of labour working under construction Industry, the agency shall havetotaketheregistrationwithcompetentauthorityasperCircularNo.CWA/2004/841/M-3dated30-01-2006ofGovernmentofGujarat.RajkotMunicipal Corporation will deduct prevailing CESS of the value of work and willdepositthesameinGovernment.

IT40ESIREGISTRATION:

The contractors who are liable to be registered under ESI Act must possess ESIregistration number at the time of filling of tender. The agency should follow all therulesandregulationsof ESIActasperprevailingnorms.

IT41PROFESSIONALTAX

The bidder shall have to pay the Professional Tax for current financial year imposedby Government of Gujarat, and also the bidder shall have to produce EnrollmentCertificateforthesame.

IT42PFCODE:

The contractors who are liable to be registered under EPF Act, 1950 must possessEFP code at the time of filling of tender. The agency should follow all the rules andregulationsoftheActasprevailingcurrently.

IT43LABOURLICENSE:

The contractors who are liable to be registered under Contract Labour Act, 1970must possess online Labour License at the time of filling of tender. The agencyshouldfollowalltherulesandregulationsoftheActasprevailingcurrently.

IT44FILLINGOFe-TENDER

The bidder shall have to fill all the details required in on-line bidding form of e-Tender. Incomplete OR inappropriate OR wrong information filled may cause the e-Tendertoberejected.

Addl/Asst.Engineer	**Dy.Ex.Engineer**	**CITYENGINEER(SPL)**
R.M.C.	**R.M.C.**	**R.M.C.**

SignatureofContractorwithSeal

FO RMATS

Financial&OtherStatements

Information/DetailstobesubmittedbytheBiddersinthePerformamentionedunderStatementno1to9.Allthedocumentssubmittedherewithassupportingdocumentsshallbedulyattestedandcertifiedtruecopy.

STATEMENTNO-1

DECLARATION

I/We _____herebydeclaredthatIam/Wepartner(s)arenotblacklistedorTerminatedorDebarredorsuspended,backedout,delistedorconnectedwithfirmblacklistedorterminatedordebarredorsuspendedorbackedoutordelistedinanyStates,CPWD/MES/RailwaysoranyGovernment,Semi-GovernmentorPrivatebodysincetheinceptionofthefirm /company.Also,noPolicecomplaintislodged againstthefirm/companyorStaffdeployedbyme/us.

AtpresentIam/weareregisteredasapprovedcontractor(s),firmsin_____ _____State,CPWD/MES/Railways.

I, owner / We, the partners of this firm, hereby give an undertaking thatwe are jointly and severally responsible to meet all the liabilities ever and abovethe business of this firm and make good the above financial loss sustained by theRajkot Municipal Corporation as a result of our abandoning the works entrusted tous.

I further undertake that if above declaration proves to be wrong/ incorrectormisleading,ourtender/contractstandstobecancelled/terminated.

Date: _____
Place: SignatureofAuthorizedPerson

WithNotarised

STATEMENTNO-2

APPLICABILITYOFPROVIDENTFUNDANDMISCELLANEOUSPROVISIONS ACT1952

Successful bidder i.e. the agency whose tender is accepted by the RMC shall have tocomply the necessary formalities under the employees provident fund and MiscellaneousProvisions Act, 1952 as Contributory Provident Fund Scheme is applicable to labourersengaged in construction activity and shall have to submit proofs regarding deduction ofprovident fund and other dues and depositingthe same with governmentdepartmentunder the act and the scheme regularly on monthly basis failing which no running / final billpaymentwillbemadebytheRMCtothecontractorinanycircumstances.

Acertificatetotheaboveeffecthastobegivenbythecontractorasunder.

Declaration Of DepositingProvidentFundcontribution

Thistocertifythatwehavedeductedtheemployees'P.F.anddepositedthesamealongwithemployer'scontributiontowardsprovidentfundonlabourcharges /wagespaidbyustothelabourersengagedfortheworkof_____ _____ _____withProvidentFundAuthorityunderourProvidentFundCodeNo._____

Weproduceherewiththecopiesofthechallansfortheprovidentfunddeductionandcontributiondepositedasmentionedabove.

Date: **SealandSignatureofthe Bidder**

STATEMENTNO.–3

CURRICULAMVITAE

Sr.No.	Detailsofperson	
1.	Name	
2.	Age	
3.	Qualifications	
4.	ExperienceinProjectRelatedfield	
5.	Otherexperiences	
6.	EmploymentRecord.	

Sr.No.	Period From - To	Organization underwhich work	Status /position inthe

Note:

(1) Separatesheetforeachperson tobefurnishedasabove.
(2) Thecontractor'sProjectTeamshouldconsistofpersonsinthef ollowing disciplines.

a) SeniorEngineerwithexperienceof Buildingwork
b) Senior materialEngineer.
c) SeniorQuantitySurveyor.
d) Projectmanagementexpert.
e) Siteincharge

STATEMENT–4

INFORMATIONREGARDINGFINANCIALCAPACITYOF THECONTRACTORS

Sr.	Details	Amount(Rs.inlakhs)	Remarks
1.	Solvency		A Banker's Certificate ofcurrent financial yearmaypleasebeattach ed.
2.	AnnualTurnoverforthe lastsevenyears.		Certifiedtruecopyto beattached
3.	Priceofbiggestsimilarn aturejobcarriedout		Certifiedtruecopytob e attached

STATEMENTNO.–4/A

BIDDER'SFINANCIALCAPACITY

Sr.No.	FinancialYear	AnnualTurnover inEngineeringProjectRs.	NetworthRs.	Net CashRs.	Working Capital Rs.
1	2022-2023				
2	2021-2022				
3	2020-2021				
4	2019-2020				
5	2018-2019				
6	2017-2018				
7	2016-2017				

Note:-

1) Figures to be taken from audited balance sheets. Duly certifiedattestedtruecopy
2) Copiesofthebalancesheettobeattached..
3) Thebiddershallhavetoprovidethatforaperiodofatleast4Months the bidder has ability to sustain negative cash balanceandhowheproposestomeetwiththesame.
4) CashPlan/CashflowStatement.

STATEMENTNO.–4/B

AVAILABLEBIDCAPACITY

	2016-17	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**2022-23**
Value ofworksexecutedinRs. Crores.							

Theavailablebidcapacitywillbeworkedoutasfollows.

Availablebidcapacity=(AxNx2)–B,where

A =Maximumofupdatedtotalamountofworkexecutedinanyone yearofthelastfivefinancialyears.

B=Theamountofthe existing commitmentsandongoingworkstobedischargeduringtimeintervalof Nyearsfromthebidduedate.

N= Numberofyearsprescribedforcompletionoftheproposedworks

STATEMENTNO.–5

LISTOFSINGLEPROJECTWORKOFNOTLESSTHAN60%OFTHEESTIMATEDCOSTCOMPLETEDDURINGTHELASTSEVENYEARS.

Sr. No.	*Yearof Construct ionwork*	*NameofProject*	Nameof owner& contact personof theproject, address, phone	Totalcostofthework	Totalvalueofworkdone	Dateofstartingwork	DateofActualcompletionofwork
1	*2*	3	4	5	6	7	8
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

***Note**:Certificatefromtheownersinsupportofaboveworksmaybeenclosed withthis statement.*

STATEMENTNO.5/A

Detailedinformationofsimilartypeofworkcostingnotlessthan50%oftenderamountcompletedwithgoodquality andworkmanshipinthe past sevenyears.

NameofContractor:_____

Sr. No.	Name ofwork	Name ofclient	Estimatedcostofwork(Rs. Lakhs)	TenderedamountRs.(Lakhs)	Dateofawardofcontract	Targetdateofcompletion	Actualdateofcompletion	Reasonfordelay	Amount of work doneduringlastsevenyearspreceding this tender(Rs.Lakhs).							Amountofworkdoneafter March2021 (Rs. Lakhs	Remarks
									2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23		

***Note**:Certificatefromtheownersinsupportofaboveworksmaybeenclosedwiththisstatement.*

STATEMENTNO–5/B

DETAILSOFIMPORTANTCONSTRUCTIONPROJECTS

Sr. No.	Name ofProject	Estimated cost	Prescribedtimeofperformance		ActualCompletion		ActualCompletionCost Rs.	Name,addressand
			Start Date	Completion Date	Start Date	Completion Date		
1	2	3	4	5	6	7	8	9

Note*:Certificatefromtheownersinsupportofaboveworksmaybeenclosedwiththisstatement.*

STATEMENTNO.–5/C

DETAILSOFONGOINGPROJECT

Sr. No	Nameofproject	Value ofremaining work Rs. inlakhs.	Start date	Likelydate ofcompletion	Name,address,telephone,faxno.ofprojectauthorityandcontactperson.

STATEMENTNO.-6

DETAILSOFPLANT&MACHINERYTOBEDEPLOYEDONTHISWORK

Nameofthecontractor/company_____

Sr. No	Nameofplants /machinery	Nos.available(with make&year)	Nos.proposed tobe deployedfor thisproject	Present location	Presentvalueofplant/ machineries
1	2	3	4	5	6

Note:

Plant/machinerieswhicharepproposedtobeprocuredshallhavetobe procured at the earliest after award of the work and before thestartof thework.

STATEMENTNO.7

METHODSTATEMENTANDWORKPLAN

The Bidder shall have to provide a brief write up to be enclosed withthe "Technical Bids" covering his approach and methodology to handlethe project construction activities including his details work plan. Thebriefshallincludethefollowingaspects.

Sr. No.	Components	
1.	Methodology	
2.	Constructionequipmentavailabilitya ndplanofdeployment.	
3.	PERT/Constructionchart/Barchart.	

ApplicationForm(1)
GeneralInformation

Allindividualfirmsandeachpartnerofaconsortiumapplyingforqualification are requested to complete the information in this form.Nationalityinformationtobeprovidedforallownersorapplicantswhoarepartnershipsorindividually-ownedfirms.

Where the Applicant proposes to use named subcontractors for criticalcomponentsoftheworks,orforworkcontentsinexcessof10percentofthe value of the whole works the following information should also besuppliedforthespecialistsubcontractor(s).

1.	NameofFirm	
2.	Headofficeaddress	
3.	Telephone	Contact
4.	Fax	Telex
5.	Placeofincorporation/registration	Year of incorporation/registration

	Nationalityofowners	
	Name	**Nationality**
1.		
2.		
3.		
4.		
5.		

NameofBiddersofficers/Personstobecontacted			
Name.	**Address**	**PhoneNos.**	**Fax.**

Application Form(1A)

StructureandOrganization

Theapplicantis anindividual aproprietaryfirm afirminpartnership aLimitedCompanyorCorporation agroupoffirms/consortium(ifYes,givecompletioninformationinrespectofeachpartner)	
Attach the Organization Chart showingthestructureoftheorganizationincludingthenamesoftheDirectorsandpositionofofficers	
Numberofyearsofexperience:	
as a Prime Contractor (contractorshoulderingmajorresponsibility inowncountry othercountries(specifycountry)	
inaconsortiumino wncountry othercountries(Specifycountry)	
as a sub-contractor (specify maincontractor) inowncountry othercountries(Specifycountry)	
4.Nameandaddressofanyassociatestheapplicanthasin India(incasetheapplicanthappenstobefromforeigncountry)whoareknowledgeableinthe procedures of customs,immigration,taxesandotherinformationnecessarytodothework.	
Forhowmanyyearshasyourorganizationbeeninbusinessofsimilar work under its present name?Whatwereyourfieldswhenyourorganizationwasestablished?Whetherany newfieldswereaddedinyourorganization?Andifso,when?	

5. Were you ever required to suspend construction for a period of more than six months continuously after you started? If so, give the name of project and give reasons thereof.	
6. Have you ever left the work awarded to you incomplete? If so, give name of project and reasons for not completing work.	
In which fields of civil engineering construction do you claim specialization and interest?	
Give details of your experience in mechanized cement concrete lining and in modern concrete technology for manufacture and quality control.	
Give details of your experience in using heavy earth moving equipment and quality control in compaction of soils.	
Give details of your experience in Underground Drainage work in rocky area.	
Give details of civil work for drainage pumping station	
Give details for construction of sewerage treatment plant	
Give details for pumping machinery in drainage pumping station	

GENERALCONDITIONS OFCONTRACT

::TABLEOFCONTESTS::

GC-51	Specialrisks
GC-52	ChangeinConstitution
GC-53	Sub-contractualrelations
GC-54	PatentsandRoyalties
GC-55	Lien
GC-56	Executionofwork
GC-57	Workinmonsoon
GC-58	WorkonSundaysandHolidays
GC-59	GeneralConditionsforconstructionwork
GC-60	DrawingstobesuppliedbytheOwner
GC-61	DrawingstobesuppliedbytheContractor
GC-62	Settingoutwork
GC-63	ResponsibilitiesofContractorforcorrectnessofwork
GC-64	MaterialstobesuppliedbytheOwner
GC-65	ConditionsofissueofmaterialsbytheOwner
GC-66	MaterialsprocuredwithassistanceoftheOwner
GC-67	Materialsobtainedfromdismantling
GC-68	Articleofvalueoftreasurefoundduringconstruction
GC-69	Discrepanciesbetweeninstructions
GC-70	Alternationsinspecificationsanddesignsandextrawork.
GC-71	Actionwhennospecificationsareissued
GC-72	Abnormalrates
GC-73	AssistancetoEngineer-In-Charge
GC-74	Testsforqualityofwork
GC-75	Actionandcompensationincaseofbadworkmanship
GC-76	Suspensionwork
GC-77	Ownermaydopartofthework
GC-78	Possessionpriortocompletion
GC-79	CompletionCertificate
GC-80	ScheduleofRates
GC-81	Procedureformeasurementofworkinprogress
GC-82	Runningaccountpaymentstoberegardedasadvances
GC-83	Noticeforclaimforadditionalpayment
GC-84	PaymentofContractor'sBill
GC-85	FinalBill
GC-86	Receiptforpayment
GC-87	CompletionCertificate
GC-88	Taxes,Duties,etc.
GC-89	Insurance
GC-90	DamagetoProperty
GC-91	ContractortoIndemnifyOwner
GC-92	ImplementationofApprenticeAct1954
GC-93	HealthandSanitaryarrangementsforworkers
GC-94	SafetyCode
GC-95	Accidents

GC-01 **DEFINITIONSANDINTERPRETATIONS:**

1.0 Inthecontract(ashereinafterdefined)thefollowingwordsandexpressionsshall, unlessrepugnanttothesubjectorcontextthereof,havethe followingmeansassignedtothem.

1.1 The "Owner / Corporation" shall mean Rajkot Municipal Corporation andshall include its Municipal Commissioner or other Officers authorized bytheCorporationandalsoincludeowner'ssuccessorsandassignees.

1.2 The "Contractor" shall mean the person or the persons, firm or Companywhosee-TenderhasbeenacceptedbytheOwnerandincludestheContractorslegalrepresentative,hissuccessorsandpermittedassigned.

1.3 **DELETED**

1.4 The "Engineer-In-Charge" shall mean the person designated as such bythe owner from time to time and shall include those who are expresslyauthorized by the Corporation to act for and on its behalf for all functionspertainingtotheoperationof thiscontract.

1.5 Engineer-In-Charge's Representative shall mean any resident Engineer orAssistant to the Engineer-In-Charge appointed from time to time by theowner to perform duties set forth in the E-TENDER Document whoseauthority shall be notified in writing to the Contractor by the Engineer-In-Charge.

1.6 "E-TENDER"–theofferorproposaloftheBiddersubmittedintheprescribed form setting for the prices for the work to be performed, andthedetailsthereof.

1.7 "Contract Price" shall mean total money payable to the Contractor underthecontract.

1.8 "Addenda"shallmeanthewrittenorgraphicnoticesissuedpriortosubmissionofe-Tenderwhichmodifyorinterpretthecontractdocuments.

1.9 "ContractTime"–thetimespecifiedforthecompletionofwork.

1.10 "Contract" shall mean agreement between the parties for the execution ofworksincludingthereinallcontractdocuments.

1.11 "Contract Document" shall mean collectively the e-Tender documents,designs, drawings, specifications, agreed variations, if any and such otherdocumentsconstitutingthee-Tenderandacceptancethereof.

1.12 "The Sub-Contractor" shall mean any person, firm or company (other thanthe Contractor) to whom any part of the work has been entrusted by theContractor with the written consent of the Engineer-In-Charge and thelegal representative successors and permitted assignee of such person,firmorcompany.

1.13 The"Specifications"shallmeanalldirections,thevariousTechnicalSpecifications, provisions and requirements attached to the contract whichpertainstothemethodandmannerofperformingthework,to thequantities and qualities of the work and the materials to be furnishedunder the contract for the work and any order(s) or instruction(s) thereunder. It shall also mean the latest Indian Standard Institute Specificationrelativetotheparticularworkorpartthereof,sofarastheyarenot

contrary to the E-TENDER specifications and in absence of any otherCountryappliedinIndianas amatterofstandardengineeringpractice andapprovedinwritingbytheEngineer-In-Chargewithorwithoutmodification.

1.14 The "Drawings" shall include maps, plans, tracings, or prints thereof withany modification approved in writing by the Engineer-In-Charge and assuch other drawings as may, from time to time, be furnished or approvedinwritingbytheEngineer-In-Chargeinconnectionwiththework.

1.15 The "Work" shall mean the works to be executed in accordance with thecontract or the part thereof as the case may be and shall include extra,additional, altered or substituted works as required for the purpose of thecontract.Itshallmeanthetotalityoftheworkbyexpressionorimplicationenvisagedinthecontractandshallincludeallmaterials,equipmentandlabourrequiredfororrelativeorincidentaltoorinconnection with the commencement, performance and completion of anyworkand /orincorporationinthework.

1.16 The "Permanent Work" shall mean works which will be incorporated in andformpartoftheworktobehandedovertotheownerbytheContractoroncompletionofthecontract.

1.17 The "Temporary Work" shall mean all temporary works of every kindrequired in or about the execution, completion and maintenance of thework.

1.18 "Site" shall mean the land andother places, on, under, in or throughwhich the permanent works are to be carried out and any other lands orplacesprovidedbytheCorporationforthepurposeofthecontracttogether with any other places designated in the contract as forming partofthesite.

1.19 The "Construction Equipment" shall mean all appliances / equipment ofwhatever nature required in or for execution, completion or maintenanceof works or temporary works (as herein before defined) but does notinclude materials or other things intended to form or forming part of thepermanentwork.

1.20 **"Notice inwriting or written Notice"**shall mean a notice written,typed or in printed form delivered personally **OR** sent by Registered Postto the last known private or business address or Registered Office of theContractor **OR** through e-mail **OR** mobile message shall be deemed tohave been received in the ordinary course of post it would have beendelivered.

1.21 The "Alteration / variation order" shall mean an order given in writing bythe Engineer-In-Charge to effect additions or deletions from or alterationsinthework.

1.22 "Final Test Certificate" shall mean the final test certificate issued by theownerwithintheprovisionsofthecontract.

1.23 The "Completion Certificate" shall mean the certificate to be issued by theEngineer-In-Charge when the work has been completed and tested to hissatisfaction.

1.24 The"FinalCertificate"shallmeanthefinalcertificateissuedbytheEngineer-In-Charge after the period of defects liability is over and theworkisfinallyacceptedbytheowner.

1.25 "DefectsLiabilityPeriod"shallmeanthespecifiedperiodbetweentheissueof Completion Certificate and the issue of final certificate during which theContractor is responsible for rectifying all defects that may appear in theworks.

1.26 "Approved"shallmeanapprovedinwritingincludingsubsequentconfirmation in writing of previous verbal approval and "Approval" meansapprovedinwritingincludingasaforesaid.

1.27 "Letter of Acceptance" shall mean an intimation by a letter to Bidder thathise-Tenderhasbeenacceptedinaccordancewiththeprovisionscontainedtherein.

1.28 "Order" and "Instructions" shall respectively mean any written order orinstructiongivenbytheEngineer-In-Chargewithinthescopeofhispowersintermsof thecontract.

1.29 "Running Account Bill" shall mean a bill for the payment of "On Account"money to the Contractor during the progress of work on the basis of workdone and the supply of non-perishable materials to be incorporated in thework.

1.30 "Security Deposit" shall mean the deposit to be held by the owner assecurityforthedueperformanceofthecontractualobligations.

1.31 The "Appointing Authority" for the purpose of Arbitration shall be theMunicipal Commissioner,RajkotMunicipalCorporation.

1.32. "Retention Money" shall mean the money retained from R.A.Bills for theduecompletion ofthe"LETWORS".

1.33 Unlessotherwisespecificallystated,themasculinegendershallincludethefeminine and neuter genders and vice-versa and the singular shall includetheplural andvice-versa.

GC-02 **<u>LOCATIONOFSITEANDACCESSIBILITY</u>:**

Theintendingbiddersshouldinspectthesite&makethyselffamiliarwithsiteconditionsandavailablecommunicationfacilities.

Non-availability of access roads shall in no case be the cause tocondone delay in the execution of the work and no claim or extracompensationwillbepaid.

GC-03 **<u>SCOPEOFWORK</u>:**

The scope of work is defined broadly in the special conditions of contractand specifications. The Contractor shall provide all necessary materials,equipmentandlabouretc.fortheexecutionandmaintenanceof thework.All material that go with the work shall be approved by the Engineer-In-Chargepriortoprocurementanduse.

<u>PowerSupply</u>:

The Contractor shall make his own arrangement for power supply duringinstallation.

LandforContractor'sFieldOffice,GodownEtc.:
Owner will not be in a position to provide land required for Contractor'sfield office, godown, etc. The Contractor shall have to make his ownarrangementfor thesame.

GC-04 **RULINGLANGUAGE:**
The language according to which the contract shall be construed andinterpreted shall be English. All entries in the contract document and allcorrespondencebetweenthecontractorandtheCorporationortheEngineer-In-Charge shall be in English/Gujarati. All dimensions for thematerialsshallbe giveninmetricunitsonly.

GC-05 **INTERPRETATIONOFCONTRACTDOCUMENT:**

1. The provision of the General Conditions of Contract and Special ConditionsofContractshallprevailoverthoseofanyotherdocumentsofthecontractunlessspecificallyprovidedotherwise,shouldhavetherebeanydiscrepancy, inconsistency, error or omission in the several documentsforming the contract, the matter may be referred to the Engineer-In-Chargeforhisinstructionsanddecision.TheEngineer-In-Charge'sdecisioninsuchcaseshallbefinaland bindingtotheContractor.

2. Worksshownuponthedrawingsbutnotdescribedinthespecificationsordescribed in the specifications without showing on the drawings shall betakenasdescribedinthespecificationsandshownonthedrawings.

3. The headings and the marginal notes to the clause of these GeneralConditions of Contract or to the specifications or to any other part of e-Tender documents are solely for the purpose of giving a concise indicationandnotasummaryofcontentsthereof.Theyshallneverbedeemedtobe part thereof or be used in the interpretation or construction of thecontract.

4. Unlessotherwisestatesspecifically,inthiscontractdocumentsthesingular shall include the plural and vice-versa wherever the context sorequires. Works imparting persons shall include relevant Corporations /Bodyofindividual/firmofpartnership.

5. Notwithstanding the sub-division of the documents into separate sectionandvolumeseverypartofeachshallbesupplementarytoandcomplementary of every other part and shall be read with and into thecontextsofarasitmaybepracticabletodoso.

6. WhereanyportionoftheGeneralConditionsofContractisrepugnanttooratvariancewithanyprovisionsoftheSpecialConditionsofContract,then,unlessadifferentintentionappears,theprovisionsofthespecialconditions of contract shall be deemed to over ride the provisions ofGeneralConditionsofContracttotheextentofeachrepugnancyofvariance.

7. The materials, design, and workmanship shall satisfy the relevant IS, andcodesreferredto.Ifadditionalrequirementsareshowninthespecifications, the same shall be satisfied over and above IS and othercodes.

8. IfthespecificationsmentionthattheContractorshallperformcertainworkor provide certain facilities, it shall mean that the Contractor shall do so athisowncost.

9. ContractortoCollectHisOwnInformation-

Thedetailsgiveninthee-Tenderarearrangedmakingnecessaryinvestigations for framing an estimate. However, when the work is beingexecuted,changesinsoilconditionsarelikelytobemetwithinviewofthefor mation of soil, strata in Rajkot District. It is, therefore, desirable thattheContractormakeshisowninvestigations oradditionalinvestigationsasmay be required for correctly assessing the cost of different items of workandsubmithise-Tenderaccordingly.Anychangeindescriptionorquantity of an item shall not vitiate the contract or release the Contractorfromexecutingtheworkcomprisedinthecontractaccordingtothedra wingsandspecificationsatthee-Tenderedrates.

He is deemed to have know the scope, nature and magnitude of the workand the requirements of materials and labour involved and as to whateverwork he has to complete in accordance with the contract.The Contractoris expected to visit the site and surroundings to satisfy himself as to thenature of all existing structures, if any, and also as to the nature and theconditionsofrailways,roads,bridgesandculverts,meansoftransportandco mmunicationswhetherbyland,airorwaterandastopossibleinterruptions thereto and the access and gross from the site, to haveexamined and satisfied himself as to the sites for obtaining sand, stones,bricks and other materials, the site for disposal of surplus materials, theavailable accommodation and make such enquiries as may be necessaryfor executing and completing the work, to have local enquiries as to thesub-soil, subsoil water and variation thereof, storms, prevailing winds,climatic conditions and all other similar matters, effecting work. He isexpected to be familiar with his liability for payment of Government taxes,customs and excise duty and other charges etc. in contract with theexecutionofthiscontract.

GC-06 <u>CONTRACTORTOUNDERSTANDHIMSELFFULLY</u>:

The Contractor by e-Tendering shall be deemed to have satisfied himself,as to all considerations and circumstances affecting the e-Tender price, asto the possibility of executing the works as shown and described in thecontract and to have fixed his prices according to his own view on thesematters and to have understood that no additional allowances except asotherwiseexpresslyprovided,willafterwardsbemadebeyondthecontractpri ce. The Contractor shall be responsible for any misunderstanding orincorrectinformation,however,obtained.

GC-07 <u>ERRORSINSUBMISSIONS</u>:

The Contractor shall be responsible for any errors or omissions in theparticulars supplied by him, whether such particulars have been approvedbytheEngineer-In-Chargeornot.

GC-08 <u>SUFFICIENCYOFe-TENDER</u>:

TheContractorshallbedeemedtohavesatisfiedhimselfbeforee-Tendering as to the correctness of the e-Tender rates which rates shall,except as otherwise provides for, cover all the Contractor's liabilities andobligations set forth or implied in the contract for the proper execution oftheworkforcompliancewithrequirementsofArticleGC-19thereof.

GC-09 **DISCREPANCIES:**

Thedrawingsandspecificationsaretobeconsideredasmutuallyexplanatory of each other, detailed drawings being followed in preferenceto small-scale drawings and figured dimensions in preference to scale andspecialconditionsinpreferencetoGeneralConditions.Thespecialdirections or dimensions given in the specifications shallsupercede allelse.Shouldanydiscrepancieshowever,appearorshouldanymisunderstandingariseastothemeaningandintentofthesaidspecifications or drawings, or as to the dimensions or the quality of thematerials or the due and proper execution of the works, or as to themeasurement or quality and valuation of the work executed under thiscontract or as extra there upon, the same shall be explained by theEngineer-In-Chargeandhisexplanationshallbesubjecttothefinaldecision of the Municipal Corporation in case reference be made to it, bebinding upon the Contractor and the Contractor shall execute the workaccording to such explanation and without addition or to deduction fromthecontractpriceandshall alsodoallsuchworksandthingsnecessaryforthepropercompletionoftheworksasimplied bythedrawingsandspecifications, even though such works and things are not specially shownand described in the said specifications.In cases where no particularspecifications are given for any article to be used under the contract, therelevantspecificationsoftheIndianStandardInstitutionshallapply.

GC-10 **PERFORMANCEGUARANTEE(SECURITYDEPOSIT):**

1. A sum of 5% of the contract price shall be deposited by the Bidder(hereinafter called the contractor when e-Tender is accepted) as securitydepositwiththeownerforthefaithfulperformance,completionandmaintenance of the works in accordance with the contract documents andto the satisfaction of the Engineer-In-Charge and assuring the payment ofall obligations arising from the execution of the contract. This shall bedepositedinoneoftheformsmentionedbelow:

   a. By a Demand Draft on the Rajkot Branch of any Scheduled Bank exceptco-operativebank.

   b. A Fixed Deposit Receipt of a Schedule Bank duly endorsed in favour of the"**RAJKOTMUNICIPALCORPORATION**",Rajkot.

   c. The Contractor may pay 2.5% of the value of works as initial securitydeposit and the balance 2.5% shall be recovered in installments throughdeductions at the rate of 10 (ten) percent of the value of each RunningAccount Bill till the total security execution exceeds the accepted value ofe-Tender because of allotment of further work, further recoveries towardssecurity deposit shall be effected at 10% of the R A Bills to make up thefivepercentsecuritydepositoftherevisedvalueofcontract.Alternatively,the Contractormayathisoptiondepositthefullamountof5percentof securitydeposit within ten daysof receipt byhimof thenotificationacceptingthee-Tenderintheformasaforesaid.**PERFORMANCEGUARANTEE(SECURITYDEPOSIT)WILLBERELEASED TO THE CONTRACTOR WITHOUT ANY INTEREST AFTERDEFECTLIABILITYPERIODISOVER.**

2. If the Contractor, sub-contractor or their employees shall break, deface ordestroy any property belonging to the owner or other agency during theexecution of the contract, the same shall be made good by the contractorat his own expense and in default thereof, the Engineer-In-Charge maycausethesametobemadegoodbyotheragenciesandrecoverexpense

from the Contractor (for which the certificate of the Engineer-In-Chargeshall be final). These expenses can be recovered from the security depositif recovery from other sources is not possible. The amount as reduced insecurity deposit will be made good by deduction from the next R A Bill oftheContractor.

GC-11 **INSPECTIONOFWORK:**

1. The Engineer-In-Charge shall have full power and authority to inspect theworkatanytimewherever in progresseither on thesiteorattheContractor's or any other manufacturer's workshop or factories whereversituatedandtheContractorshallaffordtoEngineer-In-Chargeeveryfacility and assistance to carry out such inspection, Contractor or hisauthorized representative shall, at all time during the usual working hoursand all times when so notified, remain present to receive orders andinstructions.

   OrdersgiventoContractor'srepresentativeshallbeconsideredtohavethe same force as if they had been given to the Contractor himself.Contractor shall give not less than ten (10) days notice in writing to theEngineer-In-Charge before covering up or otherwise placing beyond reachof inspection and measurement any work in order that the same may beinspected and measured. In the event of breach of the above, the sameshallbeuncoveredatContractor'sexpensesforcarryingoutsuchinspectionormeasurement.

2. The material shall be dispatched from Contractor's store on site of workbefore obtaining approval in writing of the Engineer-In-Charge. Contractorshall provide at all times during the progress of work and maintenanceperiod of proper means of access with ladders, gangways, etc. and makenecessaryarrangementasdirectedforinspectionormeasurementofwork by Engineer-In-Charge.

GC-12 **DEFECTLIABILITY:**

1. Contractor shall guarantee the work for a period of**24** Months.Anydamage or defect that may arise or that may remain undiscovered at thetime of issue of Completion Certificate connected in any way with theequipment or materials supplied by him or in the workmanship shall berectified or replaced by Contractor at his own expense as desired byEngineer-In-Charge or in default Engineer-In-Charge may cause the sameto be made good by other agency and deduct expenses of which thecertificate of Engineer-In-Charge shall be final from any sums that maythen or any time thereafter become due to Contractor or from his securitydepositortheproceedsofsalethereoforofasufficientportionthereof.

2. From the commencement to completion of work Contractor shall take fullresponsibility for the care of the work including all temporary works and incase any damages, occur from any cause whatsoever he shall at his owncost, repair and make good the same so that on completion, work shall beingoodorderandinconformity,ineveryrespect,withtherequirementsofcontractandaspertheinstructionsoftheEngineer-In-Charge.

3. Ifatanytimebeforetheworkistakenover,theEngineer-In-Charge-

   a) Decidethatanyworkdoneor materialsusedbytheContractor aredefective or not in accordance with the contract or that work or anyportion thereof is defective or do not fulfill the requirements of contract(allsuchmaterialsbeinghereinaftercalleddefectsinthisclause)heshall

   ,

as soon as reasonably practicably, give notice to Contractor in writing ofthe said defect specifying particulars of the same then Contractor shall athisownexpenseandwithallspeedmakegoodthedefectssospecified.

b) In case Contractor fails to do so, owner may take, at the cost of theContractor, such stops as may in all circumstances be responsible to makegoodsuchdefects.Theexpendituresoincurredbyownerwillberecovered from the amount due to Contractor. The decision of Engineer-In-Charge with regard to the amount to be recovered from Contractor willbe final andbindingontheContractor.

GC-13 POWER OF ENGINEER-IN-CHARGE TO GIVE FURTHERINSTRUCTIONS:

The Engineer-In-Charge shall have the power and authority from time totime and at all times to give further instructions and directions as mayappear to him necessary or proper for the guidance of the Contractor andthe works and efficient execution of the works according to the terms ofthe specifications, and the Contractor shall receive, execute, obey and bebound by the same, according to the true intent and meaning thereof, asfully and effectively as though the same had accompanied or had beenmentioned or referred to in the specifications. No work which radicallychangestheoriginalnatureofthecontractshallbeorderedbytheEngineer-In-Chargeandintheeventofanydeviationbeingordered,whichintheopinionoftheContractorchangestheoriginalnatureofthecontract,heshallneverthelesscarryitoutandanydisagreementastothenatureoftheworkandtheratetobepaidtothereofshallberesolved.

Thetime ofcompletion ofworksshall,intheeventofanydeviationsbeingordered resulting in additional cost or reduction in cost over the contractsum, be extended or reduced reasonably by the Engineer-In-Charge. TheEngineer-In-Charge'sdecisioninthecaseshallbefinalandbinding.

GC-14 PROGRAMME:

The time allowed for execution of works shall be the essence of thecontract. The contract period shall commence from the date of notice ofintimation to proceed. The Bidder at the time of submitting his e-Tendershall indicate in the construction schedule his programme of execution ofwork commencement with the total time specified. The Contractor shallprovidetheEngineer-In-Chargeadetailedprogrammeoftimescheduleforexecution of the works in accordance with the specificationsand thecompletion date. The entire programme to be finalized by the Contractor,has to conform to the execution period mentioned along with the Bill ofQuantitiesinthee-Tenderdocuments.TheEngineer-In-ChargeuponscrutinyofsuchsubmittedprogrammebyContractor,shallexamine suitability of it to the requirement of contract and suggest modifications, iffoundnecessary.

GC-15 SUB-LETTINGOFWORK:

No part of the contract nor any share of interest thereon shall in anymanner or degree be transferred, assigned or sublet by the Contractordirectly or indirectly to any person, firm or Corporation whosoever exceptasprovided for in the succeeding sub-clause, without theconsent inwriting oftheowner.

GC-16 SUB-CONTRACTSFORTEMPORARYWORKSETC.:

The owner may give written consent to sub-contractors for execution ofany part of the works at the site, being entered upon the contractorprovided each individual contract is submitted to the Engineer-In-Chargebefore being entered into and is approved by him. List of sub-contractorstobesupplied.

Not-withstandinganysublettingwithsuchapprovalasaforesaidandnotwithstanding the Engineer-In-Charge shall have received of any sub-contractors, the Contractor shall be and shall remain solely responsible forthe quality and proper and expeditious execution of the works and theperformance of all the conditions of contract in all respects as if suchsubletting or subcontracting had not taken place and as if such works hadbeendonedirectlybytheContractor.

GC-17 TIMEFORCOMPLETION:

1. The work covered under this contract shall be commenced from the datethe Contractor is served with a notice to proceed with the work and shallbe completed before the date as mentioned in the time schedule of work.Thetimeistheessenceofthecontractandunlessthesameisextendedas mentioned in Clause GC-18 "Extension of Time", the Contractor shallpayliquidateddamagesforthedelay.
2. Thegeneraltimescheduleforconstructionisgiveninthee-Tenderdocument.Contractorshallprepareadetailedweeklyormonthlyconstruction programme in consultation with the Engineer-In-Charge soonafter the agreement and the work shall be strictly executed accordingly.Thetimeforconstructionincludes,thetimerequiredfortesting,rectifications,ifany,retestingandcompletionoftheworkinallrespectstothe entire satisfaction of the Engineer-In-Charge except the items whicharenotcominginthewaytocommissiontheproject.
3. ~~Monsoon period from 1st~~July ~~to 30th September shall be consideredasnon-workingperiodhenceexcludedintimelimit~~.

GC-18 EXTENSIONOFTIME:

Time shall be considered as the essence of the contract. If, however, thefailure of the Contractor to complete the work as per the stipulated datesreferredtoabovearisesfromdelaysonthepartofCorporationinsupplying the materials or equipment, it has undertaken to supply underthe contract or from delays on the quantity of work to be done under thecontract, or force majeure an appropriate extension of time will be givenby the Corporation. The Contractor shall request for such extension withinone month of the cause of such delay and in any case before expiry of thecontractperiod.

GC-19 CONTRACTAGREEMENT:

The successful Bidder shall enter into and execute the contract agreementwithin 10 (ten) days of the notice of award, in the form shown in e-Tenderdocuments with such modifications as may be necessary in the opinion ofthe Corporation. It shall be incumbent on the Contractor to pay the stampdutyandthelegalchargesforthepreparationofthecontractagreement.

GC-20 LIQUIDATEDDAMAGES:

If the Contractor fails to complete the work or designated part thereofwithin the stipulated completion date for the work or for the part, he shallpayliquidateddamagesat0.1(zeropointone)percentofcontractvalue

for per day of delay subject to maximum of 10% of the contract value oras decidedbyMunicipalCommissioner.

The Contractor shallcomplete one-sixth quantum of work within onefourth period, four-tenth quantum of work within one-half period andeight-tenth quantum of work within three-fourth period, failing which, theContractorshallbeliabletopayliquidateddamagesanamountasspecifiedab ove,orasdecidedbyMunicipal Commissioner.

The amount of liquidated damages shall, however, be subjected to amaximumof10percentofthecontractvalue.

GC-21 **FORFEITUREOFSECUEITYDEPOSIT:**
Whenever any claim against the Contractor for the payment of a sum ofmoneyout of or under the contract arises,the Corporation shallbeentitledtorecoversuch sumbyappropriatinginpartor whole,thesecuritydepositoftheContractor.Incasethesecuritydepositisinsuffic ient, the balance recoverable shall be deducted from any sum thendue or which at any time thereafter may become due to the Contractor.The Contractor shall pay to the owner on demand any balance remainingdue.

GC-22 **ACTIONOFFORFEITUREOFSECURITYDEPOSIT:**
In any case in which under any Clause or Clauses of the contract, theContractor shall committed a breach of any of the terms contained in thiscontract,theownershall havepowertoadopt anyofthefollowingcoursesas hemaydeembestsuitedtohisinterest.

a) Torescindthecontract(ofwhichrecessionnoticeinwritingtothecontractor under the hand of the owner shall be conclusive evidence) inwhich case the security deposit of the Contractor shall stand forfeited andbe absolutelyatthedisposaloftheowner.

b) To employ labour and to supply materials to carry out the balance workdebiting Contractor with the cost of labour employed and the cost ofmaterials supplied for which a certificate of the Engineer-In-Charge shallbe final and conclusive against the Contractor and 10% of costs on abovetocoveralldepartmentalchargesandcreditinghim withthevalueofworkdone at the same rates as if it has been carried out by the Contractorunderthetermsofhiscontract.ThecertificateofEngineer-In-Chargeasto the value of the work done shall be final and conclusive against theContractor.

c) To measure up the work of the contractor and to take such part thereof asshall be unexecuted out of his hand and give it to another Contractor tocomplete, the same. in this case the excess expenditure incurred thanwhat would have been paid to the original Contractor, if the whole workhadbeen executedbyhim,shallbeborne andpaidby the originalContractor and shall be deducted from any money due to him by theowner under the contract or otherwise and for the excess expenditure, thecertificateoftheEngineer-In-Chargeshallbefinalandconclusive.

In the event any of the above courses being adopted by the owner, theContractorshallhavenoclaimsforcompensationforanylosssustainedbyhim by reason of his having purchased or procured any materials orenteredintoanyagreementsormadeanyadvanceonaccountoforwithaviewto theexecutionoftheworkortheperformanceofthecontract.

In purchase the Contractor shall not be entitled to recover or be paid anysumforanyworkactuallyperformedunderthiscontractunlesstheEngineer-In-Charge will certify in writing the performance of such workandthevaluepayableinrespectthereofandheshall onlybeentitledtobepaidthevaluesocertified.

In the event of the owner putting in force the powers as stated in a, b, c,abovevestedinhimundertheproceedingclause,hemay,ifhesodesires,take possession of all or any tools and plant, materials and stores in oruponthe worksorthesitethereofbelongingtotheContractor,orprocured by him and intended to be used for the execution of the work oranypartthereofpayingorallowingforthesameinaccountatthecontractrates to be certified by the Engineer-In-Charge. The Engineer-In-Chargemaygivenoticeinwritingtothe Contractororhisrepresentativerequiring him to remove such tools, plant, materials or stores from the premiseswithin the time specified in the notice and in the event of the Contractorfailingtocomplywithanysuchnotice,theEngineer-In-Chargemayremove them at the Contractor's expenses or sell them by auction orprivate sale on account of the Contractor and his risks in all respectswithout any further notice as to the date, time or place of the sale and thecertificate of Engineer-In-Charge as to the expense of any such removaland the amount of the proceeds and the expenses of any such sale shallbefinal andconclusiveagainsttheContractor.

GC-23 **<u>COMPENSATIONFORALTERATIONINORRESTRICTIONINWORK</u>:**

If at any time from the commencement of the work, the owner shall forany reasons whatsoever not require the whole work or part thereof asspecified in the e-Tender to be carried out, the Engineer-In-Charge shallgivenoticeinwritingofthefacttotheContractor,whoshallhavenoclaimto any payment or compensation whatsoever on account of any profit oradvantage which he might have derived from the execution of the work infull but which he did not derive in consequence of full amount of the worknothavingbeencarriedout.Healsoshallnothaveanyclaimforcompensation by reasons of any alterations having been made in originalspecifications, drawings, designs and instructions which shall involve anycurtailmentoftheworkasoriginallycontemplated.

When the Contractor is a partnership firm, the prior approval in writing ofthe owner shall be obtained before any change is made in the Constitutionof the firm. Where the Contractor is an individual or a Hindu UndividedFamily or business concern, such approval as aforesaid shall, likewise beobtained before Contractor enters into an agreement with other partieswhere under, the reconstituted firm would have the right to carry out theworkherebyundertakenbytheContractor.Ineithercase,ifpriorapproval as aforesaid is not obtained, the contract shall be deemed tohave been allotted contravention of subletting clause hereof and the sameaction may be taken and the same consequence shall ensure as providedinthesublettingclause.

GC-24 **<u>INTHEEVENTOFDEATHOFTHECONTRACTOR</u>:**

Without prejudice to any of the rights or remedies under the contract, ifthe Contractor dies, the owner shall have the option of terminating thecontractwithoutcompensationtotheContractor.

GC-25 **MEMBERSOFTHEOWNERNOTINDIVIDUALLYLIABLE:**

No official or employee of the owner shall in any way be personally boundor liable for the acts or obligation of the owner under the contract, oranswerable for any default or omission in the observance or performanceofanyacts,mattersorthings,whichareherein,contained.

GC-26 **OWNERNOTBOUNDBYPERSONALREPRESENTATIONS:**

The Contractor shall not be entitled to any increase on the schedule ofratesoranyotherrightsorclaimswhatsoeverbyreasonofrepresentation,promiseorguaranteesgivenorallegedtohavebeengiventohimbyanyperson.

GC-27 **CONTRACTOR'SOFFICEATSITE:**

The Contractor shall provide and maintain an office at the site for theaccommodation of his agent and staff and such office shall remain open atallreasonablehourstoreceiveinformation,noticesorothercommunications.

GC-28 **CONTRACTOR'SSUBORDINATESTAFFANDTHEIRCONDUCT:**

1. The Contractor on award of the work shall name and depute a qualifiedEngineer having experience of carrying out work of similar nature, whomequipments, materials, if any, shall be issued and instructions for workgiven. the Contractor shall also provide to the satisfaction of Engineer-In-Charge sufficient and qualified staff, competent sub-agents, foreman andloading hands including those specially qualified by previous experience tosupervise the type of works comprised in the contract in such manner aswill ensure work of the best quality and expeditious working. If, in theopinionoftheEngineer-In-Chargeadditionalproperlyqualifiedsupervisionstaff is considered necessary, it shall be employed by the Contractor,without additional charge on account thereof. The Contractor shall ensureto the satisfaction of the Engineer-In-Charge that sub-contractors, if any,shall provide competent and efficient supervision over the work entrustedtothem.

2. If and whenever any of the Contractor's or sub-contractor's agents, sub-agents, assistants, foreman or other employees shall, in the opinion of theEngineer-In-Charge, be guilty of any misconduct or be incompetent orinsufficiently qualified or negligent in the performance of their duties orthat in the opinion of the owner or Engineer-In-Charge, it is undesirableforadministrativeoranyotherreasonforpersonorpersonstobeemployed in the works, the Contractor if so directed by the Engineer-In-Charge, shall at once remove such person or persons from employmentthereon.Anypersonorpersonssoremovedshallnotagainbere-employed in connection with the works without the written permission ofthe Engineer-In-Charge. Any person, so removed from the works shall beimmediately replaced at the expense of the Contractor by a qualified andcompetent substitute. Should the Contractor be required to repatriate anyperson removed from the works he shall do so after approval of Engineer-In-Chargeandshall bearallcostsinconnectiontherewith.

3. The Contractor shall be responsible for the proper behavior of all the staff,foreman, workmen and others and shall exercise proper control over themandinparticularandwithoutprejudicetothesaidgenerality,theContractor shall be bound to prohibit and prevent any employee fromtrespassing or acting in any way detrimental or prejudicial to the interestofthecommunityoroftheproperties oroccupiersoflandandproperties

in the neighborhood and in the event of such employees so trespassing,the Contractor shall be responsible therefore and relieve the owner of allconsequent claims, actions for damages or injury or any other groundwhatsoever. The decision of the Engineer-In-Charge upon any matterarisingunderthisclaimshallbe final.

4. If and when required by the owner, the Contractor's personnel enteringupon the owner's premises shall be properly identified by badges of a typeacceptable to the owner which must be worn at all times on owner'spremises.

GC-29 **TERMINATIONOFSUB-CONTRACTBYOWNER:**

If any sub-contractor engaged upon the works at the site execute anywork which in the opinion of Engineer-In-Charge is not accordance withthecontractdocuments,theownermaybywrittennoticetotheContractor request him to terminate such sub-contract and the Contractorupon the receipt of such notice shall terminate such sub-contracts and thelatter shall forthwith leave the works, failing which, the owner shall havetherighttoremovesuchsub-contractorsfromthesite.

No action taken by the owner under the above clause shall relieve theContractor of his liabilities under the contract or give rise to any right tocompensation,extensionoftimeorotherwise.

GC-30 **POWEROFENTRY:**

If the Contractor shall not commence the work in the manner previouslydescribed in the contract documents or if he shall at any time, in theopinionof Engineer-In-Charge–

i) Failtocarryoutworksinconformitywiththecontractdocuments,or
ii) Failtocarryouttheworksinaccordancewiththetimeschedule,or
iii) Substantiallysuspendworkor the worksfor a periodof seven dayswithoutauthorityfromEngineer-In-Charge,or
iv) FailtocarryoutandexecutetheworktothesatisfactionoftheEngineer-In-Charge,or
v) Fail to supply sufficient or suitable construction plant, temporary works,labour,materialsorthings,or
vi) Commit breach of any other provisions of the contract on his part to beperformedorobservedorpersistsinany oftheabovementionedbreachesof the contract for seven days after notice in writing shall have been givento the Contractor by the Engineer-In-Charge requiring such breach to beremedied,or
vii) Abandonthework,or
viii) During the continuance of the contract becomes bankrupt, make anyarrangement or compromise with his creditors, or permit any execution tobe levied or go into liquidation whether compulsory or voluntary not beingmerelyavoluntaryliquidationforthepurposeofamalgamationorreconstructiontheninanysuchcase.

Theownershallhavethepowerto enteruponthe worksandtakepossession thereof and of the materials, temporary works, constructionalplant and stores therein and to revoke the Contractor's license to use thesame and to complete the works byhis agents,other Contractor orworkmen, to relate the same upon any terms to such other person firm orCorporation as the owner in his absolute discretion may think proper toemploy, and for the purpose aforesaid to use or authorize the use of anymaterials,temporaryworks,constructionalplant,andstoresasaforesaid

withmakingpaymentsorallowancetotheContractorforthesaidmaterials other than such as may be certified in writing by the Engineer-In-Chargetobereasonableandwithoutmakinganypaymentorallowanceto the Contractor for the use of said temporary works, constructional plantand stock or being liable for loss or damage thereto. If the owner shall bereason of his taking possession of the works or of the work being gotcompleted by other Contractor incurred excess expenditure be deductedfrom any money which may be due for the work done by the Contractorunder the contract and not paid for.Any deficiency shall forthwith bemade good and paid to the owner by the Contractor and the owner shallhave power to sell in such manner and for such price as he may think fitalloranyoftheconstructionalplant,materialsetc.,consistconstructedbyor belonging to and to recoup and retain the said deficiency or any partthereofoutoftheproceedsofthesale.

GC-31

CONTRACTOR'SRESPONSIBILITYWITHTHEOTHERCONTRACTORANDAGENCIES:

Withoutrepugnancetoanyotherconditions,itshallbetheresponsibilityof the Contractor executing the work, to work in close co-operation andco-ordination with other Contractors or their authorized representativesand the Contractor will put a joint scheme with the concurrence of othercontractors or their authorized representatives showing the arrangementsfor carrying his portion of the work to the Engineer-In-Charge and get theapproval. The Engineer-In-Charge before approving the joint scheme willcall the parties concerned and modify the scheme if required.No claimwill be entertained on account of the above. The Contractor shall conformin all respects with the provisions of any statutory regulations, ordinancesor bylaws of any local or duly constituted authorities or publicbodieswhich may be applicable from time to time to works or any temporaryworks. The Contractor s shall keep the owner indemnified against allpenalties and liabilities of every kind arising out of non-adherence to suchstatutes,ordinance,laws,rules,regulationsetc.

GC-32 **OTHERAGENCIESATSITE:**

The Contractor shall have to execute the work in such place and conditionwhere other agencies will also be engaged for other works, such as sitegrading, filling and leveling, electrical and mechanical engineering worksetc. No claim shall be entertained for works being executed in the abovecircumstances.

GC-33 **NOTICES:**

Any noticeunderthiscontractmaybeservedontheContractororhisdulyauthorized representative at the job site or may be served by RegisteredPost direct to the official address of the Contractor. Proof of issue of anysuchnoticecouldbeconclusiveoftheContractorhavingbeendulyinformedof allcontents therein.

GC-34 **RIGHTSOFVARIOUSINTERESTS:**

The owner reserves the right to distribute the work between more thanoneContractor.Contractorshallco-operateandaffordreasonableopportunity to other Contractor s for access to the works, for the carriageand storage of materials and execution of their works. Whenever the workbeing done by department of the owner or by other Contractor employedbythe owner is contingent upon workcovered bythiscontract,therespective rightsof thevariousinterests shall bedeterminedbytheEngineer-In-Charge to secure the completion of various portions of theworkingeneralharmony.

GC-35 **PRICEADJUSTMENTS:**

No adjustment in price shall be allowed and no price escalation will beallowed.

GC-36 **TERMSOFPAYMENT:**

The payment of bills shall be made progressively according to the rulesandpracticesfollowedbytheCorporation.Theprogressivepaymentunless otherwise provided in the contract agreement or subsequentlyagreedtobythepartiesshallbemadegenerallymonthlyonsubmis sionofa bill by the Contractor in prescribed form of an amount according to thevalue of the work performed less the price of materials supplied by owneraggregate of previous progressive payments and as required by ClauseGC-37 (Retention of Money) herein.Allsuch progressive payments shallberegardedaspaymentsbywayofadvance againstfinalpayment.PaymentfortheworkdonebytheContractorwillbebasedo nthemeasurementatvariousstagesofthework,inaccordancewiththecondition atclauseGC-81(measurementofworkinprogress).

GC-37 **RETENTIONMONEY:**

Pursuance to clause GC-36 (Terms of Payment) any on at money due tothe Contractor for work done, Corporation will hold as Retention moneyfive(5)percentof thevalueof work.Theretention moneywillnotnormally be due for payment until the completion of the entire work andtill such period the work has been finally accepted by the Corporation anda completion certificate issued by the Corporation in pursuant to Clause-GC79(CompletionCertificate).

GC-38 **PAYMENTSDUEFROMTHECONTRACTOR:**

Allcosts,damagesorexpenses,forwhichunderthecontract,Contractoris liable to the Corporation, may be deducted by the Corporation from anymoney due or becoming due to the Contractor under the contract or fromany other contract with the Corporation or may be recovered by action atlawor otherwisefromtheContractor.

GC-39 **CONTINGENTFEE:**

i) The Contractor warrants that he has not employed a person to solicit orsecure the contract upon any agreement for a commission, percentage,and brokerage contingent fee.Breach of this warranty shall give theCorporationtherighttocancel thecontractortotakeanydrasticmeasureastheCorporationmaydeemfit.Thew arrantydoesnotapplytocommissions payable by the Contractor to establish commercial or sellingagentforthepurposeofsecuringbusiness.

ii) No officer, employer or agent of the Corporation shall be admitted to anyshareorpartofthiscontractortoanybenefitthatmayrisetherefrom.

GC-40 **BREACHOFCONTRACTBYCONTRACTOR:**

If the Contractor fails to perform the work under the contract with duediligenceorshallrefuseorneglecttocomplywithinstructionsgiventohimin writing by the Engineer-In-Charge in accordance with the contract, orshall contravene the provisions of the contract, the Corporation may givenotice in writing to the Contractor to make good such failure, neglect, orcontravention. Should the Contractor fail to comply with such writtennoticewithin10(Ten)daysofreceipt,itshallbelawfulfortheCorporation, without prejudice to any other rights the Corporation mayhaveunderthecontract,toterminatethecontractforallorpartofthe

works, and make any other arrangements it shall deem necessary tocompletetheworkoutstandingunderthecontractatthetimeoftermination.Inthisevent,theperformanceBondshallimmediatelybecome due and payable to the Corporation. The value of the work doneon the date of termination and not paid for shall be kept as deposit foradjustment of excess expenditure incurred in getting the remaining workcompleted and the Corporation shall have free use of any works which theContractormayhaveatthesiteatthetimeofterminationofthecontract.

If Contractor fails to carry out the work in timely manner as mentioned inclause 20 (Liquidated damages), Rajkot Municipal Corporation may givenotice in writing to the Contractor to expedite the work, so that the workcan be completed as per time schedule. If Contractor fails to expedite theworkwithin10daysofreceipt ofnotice,RajkotMunicipal Corporationmayterminate the contract and debar the Contractor for three years and theremaining work will be executed through other agency at the risk and costoftheContractor.

GC-41 **<u>DEFAULTOFCONTRACTOR</u>:**

i) The Corporation may upon written notice of default to the Contractorterminatethecontractcircumstancesdetailedasunder:

a) IfintheopinionoftheCorporation,theContractorfailstomakecompletion of works within the time specified in the completion scheduleorwithintheperiodforwhichextensionhasbeengrantedbytheCorporationtotheContractor.

b) IfintheopinionoftheCorporation,theContractorfailstocomplywithanyoftheotherprovisionsofthiscontract.

ii) In the event, the Corporation terminates the contract in whole or in partas provided in Article GC-50 (Termination of the Contract) the Corporationreserves the right to purchase upon such terms and in such manner as itmaybedeemappropriate,plantsimilartoonewhichisnotsuppliedbytheContractor and the Contractor will be liable to the Corporation for anyadditional costs for such similar plant and / or for liquidated damages fordelayuntilsuchtimeasmayberequiredforthefinalcompletionofworks.

iii) If this contract is terminated as provided in this paragraph GC-40 AND/ORGC-30 (Power of Entry) (1) the Corporation in addition to any other rightsprovided in this clause, may require the Contractor to transfer title anddelivertotheCorporation.

a) Anycompletedworks
b) Such partially completed information and contract rights as the Contractorhas specifically produced or acquired for the performance of the contractsoterminated.

iv) In the event, the Corporation does not terminate the contract as providedin the paragraph GC-50 (Termination of Contract) the Contractor shallcontinue performance of the contract, in which case, he shall be liable tothe Corporation for liquidated damages for delay until the works arecompletedandaccepted.

GC-42 **<u>BANKRUPTCY</u>:**

If the Contractor shall become bankrupt or insolvent or has a receivingordermadeagainsthim,orcompoundwithhiscreditors,orbeingthe

Corporation commence to be wound up not being a member voluntarywinding up for the purpose of amalgamation or reconstruction, or carry onits business under a receiver for the benefit of his creditors or any ofthem,the Corporation shallbe at libertyto either (a) terminate thecontract forthwith by giving notice in writing to the Contractor or to thereceiverorliquidatororto anyperson orOrganization in whomthecontract may become vested and to act in the manner provided in ArticleGC-41 (Default of Contractor) as thought the last mentioned notice hadbeen the notice referred to in such article or (b) to give such receiver,liquidator or other persons in whom the contract may become vested theoption of carrying out the contract subject to his providing a satisfactoryguarantee for the due and faithful, performance of the contract up to anamount to be agreed. In the event that the Corporation terminates thecontractinaccordancewiththisarticle,theperformancebondshallimmediat elybecomedueandpayableondemandtoCorporation.

GC-43 **<u>OWNERSHIP</u>:**

Works hand over pursuant to the contract shall become the propertyoftheCorporation fromwhichever is theearlier of thefollowingtimes,namely;

a) Whentheworksarecompletedpursuanttothecontract.
b) Whenthecontractorhasbeenpaidanysumtowhichhemaybecomeentitledinres pectthereofpursuanttoClauseGC-36(TermsofPayment).

GC-44 **<u>DECLARATIONAGAINSTWAIVER</u>:**

The condemnation by the Corporation of any breach or breaches by theContractor or an authorized sub-contractor of any of the stipulations andconditions contained in the contract, shall in no way prejudice or affect orbe construed as a waiver of the Corporation's rights, powers and remediesunderthecontractinrespectofanybreachorbreaches.

GC-45 **<u>LAWSGOVERNINGTHECONTRACT</u>:**

This contract shall be construed according to and subject to the laws ofIndia and the State of Gujarat and under the jurisdiction of the Courts ofGujaratatRajkot.

GC-46 **<u>OVERPAYMENTANDUNDERPAYMENT</u>:**

Whenever any claim for the payment of a sum to the Corporation arisesout of or under this contract against the Contractor, the same may bededucted by the Corporation from any sum then due or which at any timethereafter may become due to the Contractor under this contract andfailing that under any other contract with the Corporation (which may beavailable with the Corporation), or from his retention money or he shallpay the claim on demand. The Corporation reserves the right to carry outpostpaymentauditandtechnicalexaminationsofthefinalbillincludingallsup porting vouchers, abstracts etc. The Corporation further reserves theright to enforce recovery of any payment when detected, not withstandingthe fact that the amount of the final bill may be included by one of theparties as an item of dispute before an Arbitrator, appointed under ArticleGC-49 (Arbitration) of this contract and notwithstanding the fact that theamount of the final bill figures in the arbitration award. If as a result ofsuch audit and technical examinations any over payment is discovered inrespect of any work done by the Contractor or alleged to have been doneby him under the contract, it shall be recovered by the Corporation fromthe Contractor as prescribed above.If any under payment is discoveredbytheCorporation,theamountduetothe Contractorunderthiscontract,

may be adjusted against any amount then due or which may at any timethereafterbecomeduebeforepaymentismadetotheContractor.

GC-47 **SETTLEMENTOFDISPUTES:**

Except as otherwise specifically provided in the contract, alldisputesconcerning questions of fact arising under the contract shall be decided bythe Engineer-In-Charge subject to a written appeal by the Contractor tothe Engineer-In-Charge and those decisions shall be final and binding onthe parties hereto. Any disputes or differences including those consideredas such by only one of the parties arising out of or in connection with thiscontract shall be to the extent possible settled amicably between theparties. If amicable settlement cannot be reached then all disputed issuesshall be settled as provided in Article GC-48 (Disputes or differences to bereferredto)andArticleNo.GC-49(Arbitration).

GC-48 **DISPUTESOFDIFFERENCESTOBEREFERREDTO:**

Ifatanytime,anyquestion,disputesordifferencesofanykindwhatsoevershallarisebetweentheEngineer-In-Chargeandthecontractorupon or in relation to or in connection with this contract either party mayforthwith give to the other, notice in writing of the existence of suchquestion, dispute or difference as to any decision, opinion, instruction,direction,certificateorevaluationoftheEngineer-In-Charge.Thequestion,disputeordifferencesshallbesettledbytheMunicipalCommissioner, Rajkot Municipal Corporation, who shall state his decisionin writing and give notice of same to the Engineer-In-Charge and to theContractor.Such decision shallbe finaland binding upon both parties.The contract and work on contract if not already breached or abandonedshall proceed normally unless and until the same shall be revised (oruphold)by any arbitrationproceedingsashereinafter provided.Suchdecisions shall be final and binding on the Engineer-In-Charge and theContractor unless the Contractor shall require the matter to be referred toanArbitrationpanelashereinafterprovided.

GC-49 **ARBITRATION:**

In case of any dispute arising during the course of execution, the mattershould be referred to Municipal Commissioner who will be sole ArbitratorwhosedecisionswillbefinalandbindingtotheContractor.

The word "Arbitration" or "Arbitration Clause" wherever mentioned in thistender document, is to be treated to be referred to GC-49. In this context, anOrder bearing No.RMC/Legal/1858 dated 18-02-2017 of Legal Department ofRajkot Municipal Corporation is uploaded separately along with this tender,whichOrder,willhereafterreferredandtakenintoconsiderationforArbitrationrelatedpurpose.

GC-50 **TERMINATIONOFTHECONTRACT:**

i) IftheContractorfindsitimpracticabletocontinueoperation owingtoforcemajeurereasonsorforanyreasonsbeyondhiscontroland/ortheCorporationfinditimpossibletocontinueoperation,thenpromptnotificationinwritingshall begivenbythepartyaffectedtotheother.

ii) If the delay or difficulties so caused cannot be expected to cease orbecome unavoidable or if operations cannot be resumed within two (2)months then either party shall have the right to terminate the contractupon ten (10) days written notice to the other. In the event of suchtermination of the contract, payment to the Contractor will be made asfollows:

a) The Contractor shall be paid for all works approved by the Engineer-In-Chargeandforanyotherlegitimateexpensesduetohim.

b) If the Corporation terminates the contract owing to Force Majeure or dueto any cause beyond its control, the Contractor shall additionally be paidfor any work done during the said two (2) months period including anyfinancial commitment made for the proper performance of the contractandwhicharenotreasonablydefrayedbypaymentsunder(a)above.

c) The Corporation shall also release all bonds and guarantees at its disposalexceptincaseswherethetotalamountofpaymentmadetotheContractorexceedsthefinalamountduetohiminwhichcasetheContractorshallrefundtheexcessamountwithinthirty(30)daysafterthetermination and the Corporation thereafter shall release all bonds andguarantees. Should the Contractor fail to refund the amounts received inexcess within the said period such amounts shall be deducted from thebondsor guaranteesprovided.

iii) On termination of the contract for any cause the Contractor shall see theorderly suspension and termination of operations, with due considerationtotheinterestsoftheCorporationwithrespecttocompletionsafeguardingof storing materials procured for the performance of the contract and thesalvageandresalethereof.

GC-51 **<u>SPECIALRISKS</u>:**

If during the contract, there shall be an outbreak of war (whether war isdeclared or not), major epidemic, earthquake or similar occurrence in anypart of the world beyond the control of either party to the contract whichfinanciallyorotherwisematteriallyaffectstheexecutionofthecontract,the Contractor shall unless and until, the contract is terminated under theprovisions of this article use his best endeavors to complete the executionof the contract, provided always that the Corporation shall be entitled atany item after the onset of such special risks, to terminate the contract bygiving written notice to the contractor and upon such notice being giventhis contract shall terminate but without prejudice to the rights of eitherpartyinrespectof anyantecedentbreachthereof.

The Contractor shall not be liable for payment of compensation for delayor for failure to perform the contract for reasons of Force Majeure such asactsofpublicenemy,actsofGovernment,fires,floods,cyclones,epidemics, quarantine restrictions, lockouts, strikes, freight embargoesand provided that the Contractor shall within 10 (ten) days from thebeginning of such delay notify the Engineer-In-Charge in writing, of thecause of delay, the Corporation shall verify the facts and grant suchextensionasthefactsjustify.

GC-52 **<u>CHANGEINCONSTITUTION</u>:**

Where the Contractor is a partnership firm, the prior approval in writing ofthe owner shall be obtained before any change is made in the constitutionof the firm. Where the Contractor is an individual or undivided familybusiness concern such approval as aforesaid shall likewise be obtainedbefore the Contractor enters into any partnership agreement where underthe partnership firm would have the right to carry out the works herebyundertakenbytheContractor.Ifpriorapprovalasaforesaidisnotobtained,thecontractshallbedeemedtohavebeenassignedincontraventionof contract.

GC-53 **SUB-CONTRACTUALRELATIONS:**

All works performed for the contract by a sub-contractor shall be pursuanttoanappropriateagreementbetweentheContractorandthesub-contractor,whichshallcontainprovisionto–

a) Protect and preserve the rights of the Corporation and the Engineer-In-Chargewithrespecttotheworkstobeperformedunderthesub-contractingpartywill notprejudicesuchrights.

b) Require that such work be performed in accordance with the requirementsofcontractdocuments.

c) Requireundersuchcontractto whichthecontractor isaparty,thesubmission to the Contractor of application for payment and claims foradditional costs, extension of time, damages for delay or otherwise withrespect to the sub-contracted portions of the work in sufficient time, thatthe Contractor may apply for payment comply in accordance with thecontractdocumentsforlikeclaimsbytheContractoruptontheCorporation.

d) Waive all rights the contracting parties may have against one another fordamages caused by fire or other perils covered by the property insuranceexcept such rights as they may have to the proceeds of such insuranceheldbytheCorporationastrusteeand,

e) Obligate each sub-contractor specifically to consent to the provisions ofthis Article.

GC-54 **PATENTSANDROYALTIES:**

1. Contractor, if licensed under any patent covering equipment, machinery,materials or composition of matter to be used or supplied or methods andprocess to be practiced or employed in the performance of this contractagreestopayallroyalties andlicense fees,whichmaybeduewithrespectthereto. If any equipment, machinery, materials, composition matters, tobe used or supplied or methods practiced or employed in the performanceof this contract, is covered by a patent under which Contractor is notlicensed, then the Contractor before supplying / using the equipment,machinery, materials, compositions, methods of process shall obtain suchlicense and pay such royalties and license fees as may be necessary forperformance of this contract. In the event Contractor fails to pay suchroyalty or to obtain any such license, any suit for infringement of suchpatentswhichisbroughtagainsttheContractor ortheowneras aresultofsuch failure will be defended by the Contractor at his own expenses andthe Contractor will pay any damages and costs awarded in such suit. TheContractor shall promptly notify the owner if the Contractor has acquiredknowledge of any plant under which a suit for infringement could bereasonably brought because of the use by the owner of any equipmentmachinery,materials,processmethodstobesuppliedinhereunder.Contractor agrees to and does hereby grant to owner together with theright to extend the same to any of the subsidiaries of the owner anirrevocable royalty fee license to use in any Country, any invention madeby the Contractor or his employees in or as a result of the performance ofworkunder contract.

2. With respect to any sub-contract entered into by Contractor pursuant tothe provisions of the relevant clause hereof, the Contractor shall obtainfrom the sub-contractor an understanding to provide the owner with thesame patent protection that contracts is required to provide under theprovisions oftheclause.

3. TheContractorshallindemnify andsaveharmlesstheownerfromanylosson account of claims against owner for the contributory infringement ofpatent rights arising out of and based upon the claim that the use by theCorporationoftheprocessincludedinthedesignpreparedbytheContractor and used in the operation of the plant infringes on any patentrights.

GC-55 **LIEN:**

If, at any time, there should be evidence of any lien or claim for whichownermighthavebecomeliableandwhichischargeabletotheContractor, the owner shall have the right to retain out of any paymentthen due or thereafter to become due an amount sufficient to completelyindemnify the owner against such lien or claim or if such lien or claim bevalid the owner may pay and discharge the same and deduct the amountas paid from any money which may be due or become due and payable totheContractor.Ifanylienorclaimsremainingunsettledafterallpayments are made, the Contractor shall refund or pay to the owner allmoney that the latter may be compelled to pay in discharging such lien orclaimincludingallcostsandreasonableexpenses.

GC-56 **EXECUTIONOFWORK:**

Thewhole workshallbecarriedoutinstrictconformitywiththeprovisionsofthecontractdoc ument,detaileddrawings,specificationsandtheinstructions of the Engineer-In-Charge from time to time. The Contractorshall ensure that the whole work is executed in the most substantial, andproper manner with best workmanship using materials of best quality instrict accordance with the specifications to the entire satisfaction of theEngineer-In-Charge.

GC-57 **WORKINMONSOON:**

When the work continues in monsoon if required, the Contractor shallmaintainminimumlabourforcerequiredfortheworkandplanandexecute the construction and erection work according to the prescribedschedule. No extra rate will be considered for such work in monsoon.During monsoon and entire construction period, the Contractor shall keepthe site free from water at his own cost. ~~However, monsoon period from1stJulyto30thSeptemberwill beexcludedintimelimit~~.

GC-58 **WORKONSUNDAYSANDHOLIDAYS:**

No work except curing shall be carried out on Sunday and holidays.However, if the exigencies of the work need continuation of work onSundays and Holidays, written permission of the Engineer-In-Charge shallbeobtainedinadvance.

GC-59 **GENERALCONDITIONSFORCONSTRUCTIONWORK:**

Working hours shall be eight every day. The over time work in two shiftscouldbecarriedoutwiththewrittenpermissionoftheEngineer-In-Chargebut no compensation shall be paid for the same. The rate quoted shallinclude this. The Contractor shall plan his work in such a way that hislabourers do not remain idle. The owner will not be responsible for idlelabouroftheContractor.TheContractorshallsubmittotheownerprogress report every week. The details and proforma of the report will beas permutualagreement.

GC-60 **DRAWINGSTOBESUPPLIEDBYTHEOWNER:(N.A.)**

The drawings attached with the e-Tender documents shall be for generalguidanceoftheContractortoenablehimtovisualizethetypeofwork

contemplatedandscopeofworkinvolved.Detailworkingdrawingsaccording to which the work is to be done shall be prepared by theContractorforexecutingthework.

GC-61 **DRAWINGSTOBESUPPLIEDBYTHECONTRACTOR:**

Where drawings, data are to be furnished by the Contractor they shall beas enumerated in special conditions of contract and shall be furnishedwithin the specified time.Where approval of drawings has been specifiedit shall be Contractor's responsibility to have these drawings got approvedbefore any work is taken up with regard to thesame.Any changesbecoming necessary in those drawings during the execution of the workshall have to be carried out by the Contractor at no extra cost. All finaldrawings shall bear the certification stamp as indicated below duly signedbyboththeContractorandEngineer-In-Charge.

Certified true for……Project Agreement No……..

Signed…….

Contractor **Engineer-In-Charge**

Drawingswillbeapprovedwithinthree(3weeksofthereceiptofthesamebytheEngineer-In-Charge.

GC-62 **SETTINGOUTWORK:**

The Contractor shall set out the work on the site handed over by theEngineer-In-Charge and shall be responsible for the correctness of thesame. The work shall be carried out to the entire satisfaction of Engineer-In-Charge. The approval thereof or partaking by Engineer-In-Charge orsetting out work shall not relieve Contractor of any of his responsibilities.The Contractor shall provide at his own cost all necessary level posts,pegs,bamboos,flags,rangingrods,stringsandothermaterialsandlabourers required for proper setting out of the work. The Contractor shallprovidefixandberesponsibleforthemaintenanceofallstakes,templates, level markets, profiles and similar other things and shall takeallnecessaryprecautionstopreventtheirremovalordisturbanceandshallbe responsible for the consequences for such removal or disturbance. TheContractor shall also be responsible for the maintenance of all existingsurvey marks, boundary marks, and distance marks and centerline markseither existing or face lines and cross lines shall be marked by smallmasonry pillars. Each pillar shall have distance mark at the center forsetting up the theodolite. The work shall not be started unless the settingout is choked and approved by Engineer-In-Charge in writing but suchapproval shall not relieve the Contractor of his responsibilities about thecorrectness of setting out. The Contractor shall provide all materials,labour and other facilities necessary for checking at his own cost. Pillarsbearing geodetic marks on site shall be protected by the Contractor. Oncompletionofthework,theContractorshallsubmitthegeodeticdocumentsaccordingtowhichtheworkhasbeencarriedout.

GC-63

RESPONSIBILITIESOFCONTRACTORFORCORRECTNESSOFTHEWORK:

TheContractorshallbeentirelyandexclusivelyresponsibleforthecorrectness of every part of the work and shall rectify completely anyerrors therein at his own cost when so instructed by Engineer-In-Charge.Ifanyerrorhascreptintheworkduetonon-observanceofthisclause,

theContractorwillberesponsibleforthe errorandbearthecostofcorrectivework.

1. **MaterialstobesuppliedbytheContractor:**
Contractor shall procure and provide all the material required for theexecution and maintenance of work including M S rods; all tools, tackles,construction plant and equipment except, the materials to be supplied bytheownerdetailedinthecontractdocuments.Owner,shallmakerecommendations forprocurementofmaterialstotherespectiveauthorities if desired by the Contractor but assumes no responsibility ofany nature.Owner shall insist for procurement of materials with ISImarkssuppliedbyreputedfirmsof theDGS&Dlist.

2. If however, the Engineer-In-Charge feels that the work is likely to bedelayedduetoContractor'sinabilitytoprocurematerials,theEngineer-In-Charge shall have the right to procure materials, from the market and theContractorwillacceptthesematerialsattheratesdecidedbyEngineer-In-Charge.

GC-64 **<u>MATERIALSTOBESUPPLIEDBYTHEOWNER</u>:**

1. If the contract provided certain materials or stores to be supplied by theowner,suchmaterialsandstorestransportedbytheContractorathiscostfrom owner's stores or Railway Station. The cost from Contractor for thevalue of materials supplied bythe owner will be recovered from theR.A.Billon thebasisof actualconsumption of materialsin theworkcovered and for which R A Bill has been prepared. After completion of thework, the Contractor has to account for the full quantity of materialssuppliedtohim.

2. The value of store materials supplied by owner to the Contractor shall becharged at rates shown in the contract document and in case any othermaterial not listed in the schedule of materials is supplied by the owner,thesameshallbechargedatcostpriceincludingcartingandotherexpenses incurred in procuring the same. All materials so supplied shallremain the property of the owner and shall not be removed from the siteon any account. Any material remaining unused at the time of completionof work or termination of contracts shall be returned to owner's store orany other place as directed by the Engineer-In-Charge in perfectly goodcondition at Contractor's cost. When materials are supplied free of cost foruseinworkandsurplusandunaccountedbalancethereofarenotreturnedtotheowner,recoveryinrespectofsuchbalancewillbeeffectedatdoublethe applicable issue rate of the material or the market rates whichever ishigher.

GC-65 **<u>CONDITIONSOFISSUEOFMATERIALSBYTHEOWNER</u>:(N.A.)**
The materials specified to be issued by the owner to the Contractor shallbeissuedbytheownerathisstoreandall expensesforitcartingsiteshallbe borne by the Contractor will be issued during working hours and as perrulesof ownerfromtimetotime.

Contractorshallbearallexpensesforstorageandsafecustodyatsiteofmaterialsissuedtohimbeforeuseinwork.

Materialshallbeissuedbytheownerinstandard/non-standardsizesasobtained frommanufacturer.

Contractorshallconstructsuitablegodownsatsiteforstoringthematerials to protect the same from damage due to rain, dampness, fire,theftetc.

The Contractor should take the delivery of the materials issued by theowner after satisfying himself that they are in good condition. Once thematerials are issued, it will be the responsibility of the Contractor to keepthem in good condition and in safe custody. If the materials get damagedor if they are stolen, it shall be the responsibility of the Contractor toreplace them at his cost according to the instructions of the Engineer-In-Charge.

For delay in supply or for non-supply of materials to be supplied by theowner, on account of natural calamities, act of enemies, other difficultiesbeyond the control of the owner, the owner carries no responsibilities. InnocasetheContractorshallbeentitledtoclaim anycompensationforlosssufferedbyhimonthisaccount.

None of the materials issued to the contractor, shall be used by theContractorformanufacturingitemswhichcanbeobtainedfromthemanufacturer's. The materials issued by the owner shall be used for theworkonlyandnoother purpose.

Contractor shall be required to execute indemnity bond in the prescribedformforthesafecustodyandaccountofmaterialsissuedbytheowner.

Contractorshallfurnishsufficientlyinadvanceastatementofhisrequirements of quantities of materials to be supplied by the owner andthe time when the same will be required for the work, so as to enableEngineer-In-Charge to make arrangements to procure and supply thematerials.

A daily account of materials issued by the owner shall be maintained bythe contractor showing receipt, consumption and balance on hand in theform laid down by Engineer-In-Charge with all connected paper and shallbealwaysavailableforinspectioninthesiteoffice.

Contractor shall see that only the required quantities of materials are gotissued and no more. The Contractor shall be responsible to return thesurplusmaterialsat owner'sstoreathisowncost.

GC-66 **<u>MATERIALSPROCUREDWITHASSISTANCEOFTHEOWNER</u>:**

Notwithstanding anything contained to the contrary in any of the clausesof this contract, where any materials for the execution of the contract areprocured with the assistance of the owner either by issue from owner'sstockorpurchasemadeunderordersorpermitsorlicensesissuedmaterialsastrusteesforowner,andusesuchmaterialsnotdisposedthemoff without the permission of owner and unserviceable materials that maybe left with him after completion of the contract or at its termination foranyreasonwhatsoeveronhisbeingpaidorcreditedsuchpriceasEngineer-In-Chargeshalldetermine havingdueregardtotheconditionsofthematerials.ThepriceallowedtoContractor shallnotexceedtheamount charged to him excluding the storage of breach of the aforesaidcondition, the Contractor shall in terms of license or permits and/or forcriminal breach of trust be liable to compensate owner at double the rateor any higher rates. In the event of these materials at that time havinghigherrateornot beingavailableinthemarketthenanyotherratetobe

determined by the Engineer-In-Charge at his decision shall be final andconclusive.

GC-67 **MATERIALSOBTAINEDFROMDISMANTLING:**
If the Contractor, in the course of execution of work, is called upon todismantle any part of work for reasons other than on account of bad orimperfect work, the materials obtained from dismantling will be propertyof the owner and will be disposed off as per instructions of Engineer-In-Chargeinthebestinterestofthe owner.

GC-68 **ARTICLE OF VALUE OF TREASURE FOUND DURING CONS-TRUCTION:**
All gold, silver and other minerals of any description and all preciousstones, coins, treasures, relics, antiques and other similar things whichshall be found in, under or upon site shall be the property of the ownerand the Contractor shall properly preserve the same to the satisfaction oftheEngineer-In-Chargeandshallhandoverthesametotheowner.

GC-69 **DISCREPANCIESBETWEENINSTRUCTIONS:**
If there is any discrepancy between various stipulations of the contractdocumentsorinstructionstotheContractororhisauthorizedrepresentative or if any doubt arises as to the meaning of such stipulationor instructions, the Contractor shall immediately refer in writing to theEngineer-In-Chargeandshall handoverthesametotheowner.

GC-70 **ALTERATIONSINSPECIFICATIONS&DESIGNS&EXTRAWORK:**
TheArchitect/Engineer-In-Chargeshallhavepowertomakeanyalterations in, omission from, addition to substitution for, the schedule ofrates, the original specifications, drawings, designs and instructions thatmay appear to him to be necessary or advisable during the progress ofwork and the Contractor shall be bound to carry out such altered / extra /newitemsofworkinaccordancewithanyinstructionswhichmaybegiventohiminwritingsignedbyEngineer-In-Chargeandsuchalterationomissions, additions or substitutions, shall not invalidate contract and anyaltered,additionalorsubstitutedworkshallbecarriedoutbytheContractor on the same conditions of contract.The time of completionmay be extended by Architect as may be considered just and reasonableby him. The rates for such additional, altered or substitute work shall beworkedoutasunder:

a) If the rates for additional, altered or substitutes work are specified in thecontract for work, the Contractor is bound to carry out such work at thesame ratesasspecifiedinthecontract.

b) If the rates for additional, altered or substituted work are not specificallyprovided in the contract for the work, the rates will be derived from theratesofsimilaritemsofworkinthecontractwork.TheopinionofEngineer-In-Charge as to whether the rates can be reasonably so derivedtheitemsofcontractwillbefinalandbindingtotheContractors.

c) If the rates of altered, additional or substitute work cannot bedetermined as specified in (a) or (b) above, the rate shall be paidasperS.O.R.ofRMCandifnotavailableinRMCSORthanitwillbepaidaccordingtoSORofR&B/GWSSB.

d) If the rates of altered, additional or substitute work cannot be determinedasspecifiedin(a)or(b)or(c)above,theContractorshallwithinseven

days of the receipt of order to carry out the work inform the Architect /Engineer-In-Charge of the rate which he intends to charge for such worksupported by rate analysis and the Architect / Engineer-In-Charge willdetermine the rate on the basis of prevailing market rates of materials,labour cost at scheduleof labour plus15% thereon as Contractor'ssupervision overheads and profit. The opinion of Architect / Engineer-In-Charge as to the market rates of materials and the quantity of labourinvolvedperunitofmeasurementwillbefinalandbindingonContractor.

But under no circumstances, the Contractor suspends work or the plea ofnonsettlementofitemsfallingunderthisclause.

GC-71 **ACTIONWHENNOSPECIFICAITONSAREISSUED:**
In case of any class of work for which no specifications is supplied by theowner in the e-Tender documents, such work shallbe carried out inaccordance with relevant latest ISS and if ISS do not cover the same, theworkshallbecarriedoutasperGeneralTechnicalSpecificationforbuildingwork;andifnotcoveredinthenitistobewithstandardEngineeringPracticesubjecttotheapprovalofEngineer-In-Charge.

GC-72 **ABNORMALRATES:**
Contractor is expected to quote rate for each item after careful analysis ofcost involved for the performance of the completed item considering allspecificationsand conditionsof contract.

GC-73 **ASSISTANCETOENGINEER-IN-CHARGE:**
Contractor shall make available to Engineer-In-Charge free of cost allnecessary instruments and assistance in checking of any work made bytheContractorsettingoutfortakingmeasurementofworketc.

GC-74 **TESTSFORQUALITYOFWORK:**

1. Allworkmanshipshallbeofthebestkinddescribedinthecontractdocuments and in accordance with the instructions of Engineer-In-Chargeand shall be subjected from time to time to such tests at Contractor's costas the Engineer-In-Charge may direct at the place of manufacture offabrication or on the site or at any such place. Contractor shall provideassistance, instruments, labour and materials as are normally required forexamining, measuring and testing of any work of workmanship as may beselectedandrequired byEngineer-In-Charge.

2. All tests necessary in connection with the execution of work as decided byEngineer-In-Charge shall be carried out at an approved laboratory atContractor'scost.

3. ContractorshallfurnishtheEngineer-In-Chargeforapprovalwhenrequested or if required by the specification, adequate samples of allmaterials and finished goods to be used in work sufficiently in advance topermit tests and examination thereof. All materials furnished and finishedgoodsappliedinworkshallbeexactlyaspertheapprovedsamples.

GC-75 **ACTIONANDCOMPENSATIONINCASEOFBADWORKMANSHIP:**
If it shallappear to the Engineer-In-Charge that any work has beenexecuted with materials of inferior description, or quality or are unsoundor with unsound, imperfect or unskilled workmanship or otherwise not inaccordancewiththecontract,theContractorshall,ondemandinwriting

from Engineer-In-Charge or his authorized representative specifying thework, materials or articles complained of, notwithstanding that the samemay have been inadvertently passed, certified and paid for, forthwithrectify or remove and reconstruct the work, so specified. In the event offailure to do so within a period to be specified by the Engineer-In-Chargein his aforesaid demand, Contractor shall be liable to pay compensation atthe rate of half a percent of the estimated cost of work for every worklimited to a maximum of ten (10%) percent of the value of work while hisfailuretodosocontinuesandinthecaseofanysuchfailure,theEngineer-In-Charge may on expiry of the notice period rectify and removeandre-executetheworkorremoveandreplacewithothers attheriskandcost of the Contractor. The decision of the Engineer-In-Charge as to anyquestionarisingunderthisclauseshall befinalandconclusive.

GC-76 **SUSPENSIONWORK:**

Contractorshall,iforderedinwritingbyEngineer-In-Chargeorhisrepresentative temporarily suspended the work or any part thereof forsuch time (not exceeding one month) as ordered and shall notafterreceiving such written notice proceed with the work until he shall havereceived a written order to proceed therewith. The Contractor shall not beentitledtoclaimcompensationforanylossordamagesustainedbyhimbyreason of temporary suspension of work as aforesaid.An extension oftimeforcompletionofworkwillbegrantedtotheContractorcorrespondingto thedelaycausedbysuch suspension of workif heapplies for the same provided the suspension was not consequent uponanydefaultorfailureonthepartoftheContractor.

GC-77 **OWNERMAYDOPARTOFTHEWORK:**

WhentheContractorfailstocomplywithanyinstructionsgiveninaccordance with the provisions of this contract, the owner has the right tocarry out such parts of work as the owner may designate whether bypurchasing materials and engaging labour or by the agency of anotherContractor. In such case the owner shall deduct from the amount whichotherwise might become due to Contractor, the cost of such work andmaterials with then (10) percent added to cover all departmental chargesand should the total amount thereof exceed the amount due to contract,Contractorshallpaythedifferencetoowner.

GC-78 **POSSESSIONPRIORTOCOMPLETION:**

The Engineer-In-Charge shall have the right to take possession of or touseanycompletedorpartlycompletedworkorpartofwork.Suchpossession or use shall not be deemed to be an acceptance of any workcompleted in accordance with the contact. If such prior possession or usebyEngineer-In-Chargedelaystheprocessofwork,equitableadjustmentinthetimeofcompletion willbemadeandthecontractshall bedeemedtobemodifiedaccordingly.

GC-79 **COMPLETIONCERTIFICATE:**

As soon as the work has been completed in accordance with contact(except in minor respects that do not effect their use for the purpose forwhich they are intendedand exceptfor maintenance thereof) as perGeneralConditionsofContracttheEngineer-In-Chargeshallissueacertificate (hereinafter called completion certificate) in which shall certifythe date on which work has been completed and has passed the said testsandownershallbedeemedtohavetakenoverworkonthedateso

certified. If work has been divided in various groups in contract, ownershall be entitled to take over any group or groups before the other orothers and there upon the Engineer-In-Charge will issue a completioncertificate,whichwill,however,beforsuchgrouporgroupssotakeno ver.

In order that Contractor could get a completion certificate, he shall makegoodwillallspeedanydefect arisingfromthedefectivematerialssuppliedby Contractor of workmanship or any act or omission of Contractor thatmay have been discovered or developed after the work or groups of workshas been taken over.The period allowed for carrying out such work willbe normally, one month. If any defect be not remedied within the timespecified,ownermayproceedtodoworkatContractor's(Agency,orFirm)ris k and expenses and deduct from the final bill such amount as may bedecidedbyowner.IfbyreasonofanydefaultonthepartoftheContractor,acom pletioncertificatehasnotbeenissuedinrespectofeveryportion of work within one month after the date fixed by contract forcompletion of work, owner shall be at liberty to use work or any portionthereof in respect of which a completion certificate has been issued,provided that work or the portion thereof so used as aforesaid shall beafforded reasonable opportunity for completion of that work or the portionthereof so used as aforesaid shall be afforded reasonable opportunity forcompletionofthatworkfortheissueofcompletioncertificate.

GC-80 **<u>SCHEDULEOFRATES</u>:**

1. The rates quoted by the Contractor shall remain firm till the completion ofthe work and shall not be subject to escalation. Schedule of rates shall bedeemed to include and cover all costs, expenses and liabilities of everydescription and risks or every kind to be taken in executing, completingand handing over the work to owner by Contractor.The contractor shallbe deemed to have known the nature, scope, magnitude and the extent ofwork and materials required though contract documents may not fully andprecisely furnish them. He shall make such provision in the Schedule ofRates as he may consider necessary to cover the cost of such items ofwork and materials as may be reasonable and necessary to complete thework. The opinion of Engineer-In-Charge as to the item of work which arenecessary and reasonable for completion of the work shall be final andbinding on Contractor although the same may be not shown on drawingsordescribedspecificallyincontractdocuments.

2. The Schedule of Rates shall be deemed to include and cover the cost of allconstructionalplant,temporarywork,materials,labourandallothermattersi nconnectionwitheachiteminScheduleofRatesandtheexecutionofworkoranyp ortionthereoffinishedcompleteineveryrespectandmaintainedasshownordesc ribedinthecontractdocumentorasmaybeorderedinwritingduringthecontinua nceofthecontract.

3. The Schedule of Rates shall be deemed to include and cover the cost of allroyalties and fees for the articles and processes, protected by letterspatent or otherwise incorporated in or used in connection with work, alsoallroyalties,rentsandotherpaymentsinconnectionwithobtainingmaterial of whatsoever kind for work and shall include an indemnity toowner whichContractorherebygivesagainstallaction,proceedings,claims, damages, costs and expenses arising from the incorporation in oruse on the works of any such articles, processes or materials.OtherMunicipalor localBoardchargesif leviedon material,equipmentormachineries to be brought to site for use on work shall be borne by theContractor.

4. No exemption or reduction of custom duties, excise duties, sales tax orany other taxes or charges of the Central or State Government or of anyLocal Body whatsoever will be granted or obtained and all such expensesshall be deemed to have been included in and covered by Schedule ofRates.Contractorshallalsoobtainandpayforallpermitsorotherprivilegesnecessarytocompletethework.

5. The Schedule of Rates shall be deemed to include and cover risk onaccount of delay and interference with Contractor's conduct of work whichmay occur from any cause including orders of owner in the exercise of hispowersandon accountofextension of timegranted dueto variousreasons.

6. Forworkunderunitratebasis,noalteration willbeallowedintheSchedule of Rates by reasons of work or any part of them being modified,altered,extended,diminishedoromitted.

GC-81 **<u>PROCEDUREFORMEASUREMENTOFWORKINPROGRESS</u>:**

1. All measurements shall be in metric system. All the work in progress willbe jointly measured by the representative of Engineer-In-Charge andContractor's authorized agent. Such measurements will be got recorded intheMeasurementBookbytheEngineer-In-Chargeorhisauthorizedrepresentative and signed by the Contractor or his authorized agent intoken of acceptance. If the Contractor or his authorized agent fails to bepresentwheneverrequiredbytheEngineer-In-Chargefortakingmeasuresfor every reasons whatsoever, the measurement will be taken by theEngineer-In-Charge or his authorized representative not withstanding theabsence of Contractor and these measurements will be deemed to becorrectandbindingontheContractor.

2. Contractor will submit a bill in approved proforma in quadruplicate to theEngineer-In-Chargeoftheworkgivingabstractanddetailedmeasurements of various items executed during a month as mutuallyagreed. The Engineer-In-Charge shall verify the bill and the claim, as faras admissible, adjusted if possible, within 10 days of presentation of thebills.

GC-82 **<u>RUNNINGACCOUNTPAYMENTSTOBEREGARDEDASADVANCES</u>:**

1. All running account payments shall be regarded as payments by way ofadvance against the final payment only and not as payment for workactually done and completed and shall not preclude the requiring of bad,unsound and imperfect or unskilled work to be removed and taken awayand reconstructed or rejected or to be considered as an admission of theadueperformanceofcontractoranyparttthereof.

2. Five (5) percent of the gross R A Bill amount shall be retained from eachbillasretentionamountandthesamewillbepaidwiththefinal bill.

GC-83 **<u>NOTICEFORCLAIMFORADDITIONALPAYMENT</u>:**

IftheContractorconsidersthatheisentitledtoextrapaymentorcompensationor anyclaimwhatsoeverinrespectofwork,heshallforthwith give notice in writing to the Engineer-In-Charge about his extrapaymentand/orcompensation.SuchnoticeshallbegiventotheEngineer-In-Charge within ten (10) days from the happening of any eventuponwhichContractorbasis suchclaims andsuchnotice shallcontainfull

particularsofthenatureofsuchclaimwithfulldetailsandamountclaimed. Failure on the part of the Contractor to put forward any claimwith the necessary particulars as above, within the time above specifiedshall be an absolute waiver thereof. No omission by owner to reject anysuch claim and no delay in dealing therewith shall waiver by owner or anyrightsinrespectthereof.

GC-84 PAYMENTOFCONTRACTOR'SBILL:

1. The price to be paid by the owner to Contractor for the work to be doneandfortheperformanceofalltheobligationsundertakenbytheContractorundercontractshallbebasedonthecontractpriceandpayment to be made accordinglyfor the work actually executedandapprovedbytheEngineer-In-Charge.

2. No payment shall be made for work costing less than Rs.28,500/- till theworkiscompletedandacertificateofcompletionforConstructionisgiven.But in case of work estimated to cost more than Rs.28,500/-, Contractoronsubmittingthebillthereofwillbeentitledtoreceiveamonthlypayment proportionate to the part thereof, approved and passed by Engineer-In-Charge, whose certificate of such approval and passing of the sum sopayable shall be finaland conclusive against contractor.This paymentshall be made after necessary deductions as stipulated elsewhere in thecontract documents for materials, security deposit etc. The payment shallbe released to the Contractor within two (2) month of submission of thebilldulypre-occupiedonproperrevenuestamp.PaymentduetoContractor shall be made by the owner by ECS/RTGS mode in Indiancurrency. Successful bidder must furnish his Bank details for RTGS/ECSwithAccountBranchofRMC.

GC-85 FINALBILL:

The final bill shall be submitted by Contractor within one (1) month of thedate of physical completion of work, otherwise the Engineer-In-Charge'scertificate of the measurement and of total amount payable for work shallbe final andbindingonallparties.

GC-86 RECEIPTFORPAYMENT:

Receipt for payment made on account of work when executed by a firmmust be signed by a person holding Power of Attorney in this respect onbehalf of Contractor except when described in the e-Tender as a limitedcompany in which case the receipt must be signed in the name of theCompanybyoneofitsprincipalofficersorbysomepersonhavingauthoritytogiveeffectualreceiptfortheCompany.

GC-87 COMPLETIONCERTIFICATE:

1. WhentheContractorfulfilshisobligationasperterms ofcontract,heshallbe eligible to apply for Completion Certificate. Contractor may apply forseparate Completion Certificate in respect of each such portion of work bysubmittingthe completiondocumentsalongwithsuchapplicationforCompletionCertificate.

   The Engineer-In-Charge shall normally issue to Contractor the CompletionCertificatewithinone(1)monthafterreceivinganapplicationthereof fromContractor after verifying, from the completion documents and satisfyinghimselfthatworkhasbeencompletedinaccordancewithandassetoutinntheconstructionanderectiondrawingsandthecontractdocuments.Contractor after obtaining the Completion Certificate is eligible to presentthefinalbillforworkexecutedbyhimunderthetermsofcontract.

2. Within one month of completion of work in all respects Contractor shall befurnished with a certificate by the Engineer-In-Charge of such completionbut no certificate shall be given nor shall work be deemed to have beenexecuted until all (i) scaffolding, surplus materials and rubbish is cleanedoff sitecompletely,(ii) untilwork shallhavebeen measuredbytheEngineer-In-Charge whose measurement shall be binding and conclusiveand, (iii) until all the temporary works, labour and staff colonies etc.constructed are removed and the work site cleaned to the satisfaction oftheEngineer-In-Charge.IfContractorshallfailtocomplywiththerequirements as aforesaid or before date fixed for the completion of work,the Engineer-In-Charge may at the expense of Contractor remove suchscaffolding, surplus materials and rubbish and dispose off the same as hethinksfit.

3. Thefollowingdocumentswillformthecompletiondocuments:-

a) Technicaldocumentsaccordingtowhichtheworkhasbeencarriedout.

b) Three sets of construction drawings showing therein the modifications andcorrections made during the course of execution signed by the Engineer-In-Charge.

c) CompletionCertificatefor"Embedded"or"Covered"upwork.

d) Certificateoffinallevelsassetoutforvariousworks.

e) Certificateoftestperformedforvariouswork.

f) Material appropriation statement for the materials issued by owner forworkandlistofsurplusmaterialsreturnedtoowner'sstoredulysupportedby necessarydocuments.(N.A.)

4. Upon expiry of the period of defect liability and subject to Engineer-In-Charge being satisfied that work has been duly maintained by ContractorduringthedefectliabilityperiodoffixedoriginallyorasextendedsubsequentlyandthatContractorhasinallrespectsmadeupanysubsidence and performed all his obligations under contract, the Engineer-In-Charge (without prejudice to the rights of owner in any way) give finalcertificate to that effect. The Contractor shall not be considered to havefulfilled the whole of his obligation until final certificate shall have beengivenbytheEngineer-In-Charge.

5. FinalCertificateonlyevidenceofcompletion:
Except the final certificate, no other certificate of payment against acertificate or on general account shall be taken to be an admission byownerofthedueperformanceofcontractoranypartthereofofoccupancyorvalidityoranyclaimbytheContractor.

GC-88 <u>TAXES,DUTIES,ETC.</u>:

1. Contractor agrees to and does hereby accept full and exclusive liability forthe payment of any and all taxes including Sales Tax, Duties, etc., now orhereinafter imposed, increased or modified from time to time in respect ofwork and materials and all contributions and taxes for unemployment,compensation,insuranceandoldagepensionorannuitiesnowo rhereinafterimposedbytheCentralorStateGovernmentauthoritieswith

respecttoorcoveredbythewages,salariesorothercompensationpaidtothepersonsemployedbyContractor.
If the Contractor is not liable to Sales Tax assessment, a certificate to thateffect from the Competent Authority shall be produced without which finalpayment to the Contractor shall not be made No.P, 'C' and 'D' Form shallbe supplied by the owner, and the Contractor shall be required to pay fulltaxasapplicable.

2. Contractor shall be responsible for compliance with all obligations andrestrictionsimposedbythelabourlaworanyotherlawaffectingemployer-employeerelationship.

3. Contractor further agrees to comply and to secure the compliance of allsubcontractorswithapplicableCentral,State,Municipalandlocallawsandregulationsandrequirement.Contractoralsoagreestodefend,indemnify the hold harmless the owner from any liability or penalty whichmay be imposed by Central, State or local authority by reasons of anyviolation by Contractor or sub Contractor of such laws, regulations orrequirements and also from all claims, suits or proceedings that may bebroughtagainstownerarising under,growingoutoforbyreasons orworkprovided for by this Contract by third parties or by Central or StateGovernmentauthorityoranyadministrativeSub-Divisionthereof.

TheSalesTaxonworkcontractwillbebornebyContractor.

GC-89 **<u>INSURANCE</u>:**
Contractor shall at his own expenses carry and maintain the reputableInsuranceCompaniestothesatisfactionofownerasfollows:

1. Contractor agrees to and uses hereby accept full and exclusive liability forcompliancewithallobligationsimposedbytheEmployer'sStateInsuranceAct, 1948 and Contractor further agrees to defend, indemnify and holdownerhardness from anyliabilityorpenaltywhichmaybeimposedbytheCentral or State Government or local authority by reasons of any assortedviolationbyContractororSub-ContractorortheEmployeesStateInsurance Act, 1948 and also from all claims, suits or proceedings thatmay be brought against owner arising under, growing out of or by reasonsoftheworkprovidedforbythiscontractwhetherbroughtbyemployeesof Contractor by third parties or by Central or State Government authority orany administrativeSub-divisionthereof.

ContractoragreestofillinwiththeEmployeesStateInsuranceCorporation, the declaration form and all forms which may be required inrespect of Contractor's or sub-Contractor's employees whose aggregateremuneration is Rs.400/- p.m. or less and who are employed in workprovidedfororthosecoveredbyESIfromtimetotimeundertheagreement.
The Contractor shall deduct and secure the agreement of thesub-Contractorto deducttheemployeescontributionasper thefirstschedule of the Employees State Insurance Act from wages. Contractorshall remit and secure the agreement of sub-contractor to remit to theStateBankofIndianEmployeesStateInsuranceAccounts,theemployee'scontribution as required by the Act.Contractor agrees to maintain allcards and records as required under the Act in respect of employees andpaymentsandContractorshallsecuretheagreementsofthesubcontractors to maintain in such records, any expenses incurred for thecontributions,makingcontributionsormaintainingrecordsshallbeto

Contractors or sub-contractors own account. owner shall retain such sumas may be necessary from the contract value until Contractor shall furnishsatisfactory proof that all contribution as required by the Employees StateInsuranceAct,1948havebeenpaid.

2. **Workman'scompensationandemployeesliabilityinsurance:**Insurance shall be effected for all Contractors employees engaged in theperformance of this contract.If any part of work is sublet, Contractorshall require the sub-Contractor to provide workman's compensation andemployer'sliabilityinsurance,whichmayberequiredbyowner.

3. Other Insurance required under law of regulations or by owner Contractorshall also carry and maintain any and all other insurance which may berequired under any law or regulation from time to time.He shall alsocarryandmaintainanyotherinsurance,whichmayberequiredbyowner.

GC-90 **DAMAGETOPROPERTY:**

1. Contractor shall be responsible for making good to the satisfaction ofowneranylossofandanydamagetoallstructuresandpropertiesbelonging to owner or being executed or procured or being procured byowner or of other agencies within the premises of all work of owner, ifsuch loss or damage is due to fault and / or the negligence of willful act oromission of Contractor, his employees, agent, representatives or sub-Contractors.

2. Contractor shall indemnify and keep owner harmless of all claims fordamage to properties other than property arising under by reasons of thisagreement, such claims result from the fault and / or negligence or willfulact or omission of Contractor, his employees, agents representative orsub-contractor.

GC-91 **CONTRACTORTOINDEMNIFYOWNER:**

1. The Contractor shall indemnify and keep indemnified the owner and everymember, officer and employee of owner from and against all actions,claims, demands and liabilities whatsoever under the in respect of thebreach of any of the above clauses and / or against any claim, action ordemandbyanyworkman /employeeoftheContractororanysub-contractor under any laws,rules or regulations having force of laws,including but not limited to claims against the owner under the workmancompensation Act, 1923, the Employee's Provident Funds Act, 1952 and /orthecontractlabour(AbolitionandRegulations)Act,1970.

2. PAYMENTSOFCLAIMSANDDAMAGES: If owner has to pay any money inrespect of such claims or demands aforesaid, the amount so paid and thecost incurred by the owner shall be charged to and paid by Contractorwithout anydisputenot withstandingthesame mayhavebeen paidwithouttheconsentorauthorityoftheContractor.

3. Ineverycaseinwhichbyvirtueofanyprovisionapplicableintheworkman's Compensation Act, 1923 or any other Act, owner be obliged topay compensation to workmen employed by Contractor the amount ofcompensation so paid, and without prejudice to the rights of owner underSection-(12) Sub-section-(2) of the said Act, owner shall be at liberty torecover such amount from any surplus due to on to become due to theContractor or from the security deposit.Owner willnot be bound tocontestanyclaimmadeunderSection-(12)Sub-section-(2)ofthesaidact

except onwrittenrequestofContractorandgivingfullsecurityforall costsconsequentuponthecontestingofsuchclaim.

The Contractor shall protect adjoining sites against structural, decorativeand other damages that could be cased to adjoining premises by theexecution of these works and make good at his cost, any such damage, socaused.

GC-92 **IMPLEMENTATIONOFAPPRENTICEACT1954:**
ContractorshallcomplywiththeprovisionsoftheapprenticeAct1954andthe orders issued there under from time to time. If he fails to do so, it willbeabreachofcontract.

GC-93 **HEALTHANDSANITARYARRANGEMENTSFORWORKERS:**
Contractor shall comply with all the rules and regulations of the localSanitary Authorities or as framed by owner from time to time for theprotectionofhealthandprovidesanitaryarrangementsofalllabourdirectlyor indirectlyemployedontheworkofthiscontract.

GC-94 **SAFETYCODE:**

General:

Contractor shall adhere to safe construction practice and guard againsthazardous and unsafe working conditions and shall comply with owner'srulesassetforthherein.

1.0 **FirstAidandIndustrialInjuries:**

1.1 Contractor shall maintain First-Aid facilities for its employees and those ofhissub-contractors.

1.2 Contractorshallmakeoutsidearrangementsforambulanceserviceandforthetreatmentofindustrialinjuries.NameofthoseprovidingtheseservicesshallbefurnishedtoEngineer-In-Chargepriortostartofconstruction, and their telephone numbers shall be prominently posted inContractor'sfieldoffice.

1.3 AllinjuriesshallbereportedpromptlytoEngineer-In-ChargeandacopyofContractor'sreportcoveringeachpersonalinjuryrequiringtheattentionofaphysicianshallbe furnishedtoowner.

2.0 **GeneralRules:**

2.1 Carryingandstriking,matches,lightersinsidetheprojectareaandsmokingwithinthejobsiteisstrictlyprohibited.Violatorsofsmoking rulesshall be discharged immediately. Within the operation area, no hot workshall be permitted, without valid gas, safety, fire permits. The Contractorshallalsobeheldliableandresponsibleforalllapsesofhissub-Contractors/employeesinthisregard.

3.0 **Contractor'sBarricades:**

3.1 Contractor shall erect and maintain barricades without any extra cost,required in connection with his operation to guard or protect during theentirephaseoftheoperationofthiscontractfor-

i) Excavation
ii) Hoistingareas
iii) AreasadjudgedhazardousbyContractor'sOROwner'sinspectors.
iv) Owner'sexistingpropertyliableto bedamaged byContractor'soperations,intheopinionofEngineer-In-Charge/SiteEngineer.

3.2 Contractor's employees and those of his sub-contractors shall becomeacquaintedwithowner'sbarricadingpracticesandshallrespecttheprovisionsthereof.

3.3 Barricades and hazardous areas adjacent to but not located in normalroutesoftravelshallbemarkedbyredlanternat night.

4.0 Scaffolding:

4.1 Suitable scaffolding shall be provided for workman for all works thatcannot safely be done from ladders. When a ladder is used, an extramazdoor shall be engaged for holding the ladder and if the ladder is usedfor carrying materials as well suitable footholds and handholds shall beprovided on the ladder and the same shall be given an inclination notsteeperthat1in4(1horizontaland4vertical).

4.2 Scaffolding or staging, more than 3.6 M. (12') above the ground or floor,swing or suspended from an overhead support or erected with stationarysupport shall have a guard rail properly attached, bolted, braced andotherwise fixed at least 1.0 M (3') high above the floor or platform orscaffolding or staging and extending along the entire length of the outsideendsthereofwithonlysuchopeningsasmaybenecessaryforthedelivery ofmaterials.Suchscaffolding or staging shallbe so fastened as topreventitfromswayingfromthe buildingorstructure.

4.3 Working platforms, gangways, and stairways should be soconstructedthat they should not sag unduly or inadequately and if the height of theplatform or the gangway of the stairway is more than 3.6 (12') aboveground level or floor level, they should be closely boarded, should haveadequatewidthandshouldbesuitablyfastenedasdescribedin4.2above.

4.4 Every opening in the floor of a building or in a working platform beprovidedwithsuitable meanstopreventthefailofpersonsormaterialsbyproviding suitable fencing or railing whose minimum height shall be 1.0 M(3'.0").

4.5 Safe means of access shall be provided to all working platforms and otherworking places. Every ladder shall be securely fixed. No portable singleladder shall be over 9.0 M.(30') in length while the width between theside rails in rung ladder shall in no case be less than 30 cms (12 inches)for ladder up to and including 3.0 M. (10'), in longer ladders this widthwouldbeincreasedatleast6mm(1/4")foreach addition30c.m.(1.0)oflength. Uniform step spacing shall not exceed 30 cms. (12"). Adequateprecaution shall be taken to prevent danger from electrical equipment. Nomaterials on any of the side of work shall be so stacked or placed as tocause danger or inconvenience to any person or public. The Contractorshall also provide all necessary all necessary fencing and lights to protectthe workers and staff from accidents, and shall be bound to bear theexpenses of defence of every suit action or other proceedings at law thatmay be brought by any persons for injury sustained owning to neglect ofthe above precautions and to pay damages and costs which may beawarded in any such suit or action or proceedings to any such person, orwhich, may be with the consent of the Contractor be paid to compromiseanyclaimbyanysuchperson.

5.0 Excavation:

5.1 All trenches 1.2 M (4') or more in depth, shall at all time be supplied withatleastoneladder.

5.2 Ladder shall be extended bottom of the trench to at least 3" above thesurface of the ground. The side of the trench which are 1.5 M (5') or morein depth shall be stopped back to give suitable slope, or securely held bytimberbracing,so astoavoidthedangerof sidesto collapse.Theexcavated materials shall not be placed within 1.5 M (5') of the trench ofhalf of the trench depth whichever is more. Cutting shall be done from topto bottom.Under no circumstances, undermining or under cutting bedone.

6.0 Demolition:

6.1 Before any demolition work is commenced and also during the progress ofthe work all roads and open area adjacent to the work site shall either beclosed orsuitablyprotected.

6.2 Noelectriccableorapparatuswhichisliabletobea sourceofdangershallremainelectricitycharged.

6.3 All practical steps shall be taken to prevent danger to persons employedfrom risk of fire or explosion of flooding. No floor or other part of thebuilding shall be so over loaded with debris or materials as to render itunsafe.

7.0 SafetyEquipment:

7.1 All necessary personal safety equipment as considered necessary by theEngineer-In-Charge shouldbe made available fortheuse of personsemployed on the site and maintained in a condition suitable for immediateuse, and the Contractor should take adequate steps to ensure proper useofequipmentbythoseconcerned.

7.2 Workers employed on mixing asphaltic materials, cement and line mortarsshallbeprovidedwithprotectivefootwearandprotectivegloves.

8.0 RiskyPlace:

8.1 When the work is done near any place where there is a risk of drowning,all necessary safety equipment shall be provided and kept ready for useand all necessary steps taken for prompt rescue of any person in dangerand adequate provision should be made for prompt first-aid treatment ofallinjurieslikelytobesustainedduringthecourseofthework.

9.0 HoistingEquipment:

9.1 Use of hoisting machines and tackles including their attachments, andstorageandsupportsshallconformtothefollowingstandardsorconditions.

9.2 Theseshallbeofgoodmechanicalconstruction,soundmaterialandadequate strength and free from patent defect and shall be kept in goodconditionandingoodworkingorder.

9.3 Everyropeused in hoistingor loweringmaterialsor asa meansofsuspension shall be of durable quality and adequate strengthand freefrompatentdefects.

9.4 Everycranedriverorhoistingappliance operatorshallbeproperlyqualified and no person under the age of 21 Years should be in-charge ofanyhoistingmachineincludinganyscaffolding.

9.5 In case of every hoisting machine and of every chain ring hook, shackle,swivel and pulley blockused in hoistingor loweringor as meansofsuspension,thesafeworkingloadshallbeascertainedbyadequatemeans. Every hoisting machine and all gear referred to above shall beplainly marked with the safe working load and the conditions under whichit is applicable shall be clearly indicated. No part of any machine or anygear referred to above in this paragraph shall be loaded beyond the safeworkingloadexceptforthepurposeoftesting.

9.6 In case of departmental machine, the safe work load shall be notified bythe Engineer-In-Charge, as regards Contractor s machine, the Contractorshall, notify, the safety working load of the machine to the Engineer-In-Charge. Whenever the Contractor brings any machinery to site of work heshouldgetitverifiedbytheEngineer-In-Chargeconcerned.

10.0 ElectricalEquipment:

Motors, gears, transmission, electric wiring and other dangerous parts ofhoisting appliances shall be provided with efficient safeguards, hoistingappliances should be provided with such means when will reduce to theminimum the risk of accidental descent of the load, adequate precautionsshallbe taken to reduceto theminimum the riskofanypartorasuspendedloadbecomingaccidentallydisplaced.Whenworkersareemployedonelectricalinstallationswhicharealreadyenergized,insulating mats, wearing apparel such as gloves, and booths as may be necessaryshall be provided.The workers shall not wear any rings, watches andcarrykeysorothermaterialswhicharegoodconductorsofelectricity.

11.0 MaintenanceofSafetyDevices:

All scaffolds, ladders and other safety devices as mentioned or describedherein shall be maintained in sound condition and no scaffold, ladder orequipmentshallbealteredorremovedwhileitisinuse.Adequatewashingfacilitiesshouldbeprovidedatornearplaceofwork.

12.0 DisplayofSafetyInstructions:

The safety provisions should be brought to the notice of all concerned bydisplay on a Notice Board at a prominent place at the work spot. Thepersons responsible for compliance of the safety code shall be namedthereinbytheContractor.

13.0 EnforcementofSafetyRegulations:

To ensure effective enforcement of the rules and regulations relating tosafetyprecautions,thearrangementmadebytheContractorshallbeopentoinspectionbytheWelfareOfficer,Engineer-In-ChargeorSafetyEngineeroftheownerortheir representatives.

14.0 NoExemption:

14.1 Notwithstanding the above clause 1.0 to 13.0 there is nothing to exempttheContractor fromtheoperationsofanyotherAct orRulesinforceintheRepublicofIndia.

14.2 In addition to the above, the Contractor shall abide by the safety codeprovisionsasperC.P.W.D.safetycodeframedfromtimetotime.

GC-95 <u>ACCIDENTS</u>:

It shall be Contractor's responsibility to protect against accidents on theworks. He shall indemnify the owner against any claim for damage or forinjury to person or property resulting from, and in the course of work andalso under the provisions of the workman's compensation Act. On theoccurrenceofanaccidentarisingoutoftheworkswhichresultsindeath

orwhichissoseriousastobelikelytoresultindeath,theContractorshallwithintwenty-fourhoursofsuchaccident,reportinwritingtotheEngineer-In-Charge, the facts stating clearly and in sufficient details thecircumstancesofsuchaccidentandthesubsequentaction.Allotheraccidents on the works involving injuries to person or damage to propertyotherthanthatoftheContractorshallbe promptlyreportedtotheEngineer-In-Charge, stating clearly and in sufficient details the facts andcircumstances of the accidents and the action taken. In all cases, theContractor shall indemnity the owner against all loss or damage resultingdirectly or indirectly from the Contractor's failure to report in the manneraforesaid. This includes penalties or fines, if any, payable by the owner asaconsequenceoffailuretogivenoticeundertheWorkman'sCompensationAct, orfailuretoconformtotheprovisionsofthe saidactinregardtosuchaccidents.

In the event of an accident in respect of which compensation may becomepayable under the Workman's Compensation Act VIII of 1923 including allmodificationthereof,theEngineer-In-Chargemayretainoutofmoneydueand payable to the Contractor such sum of sums of money as may in theopinion of Engineer-In-Charge be sufficient to meet such liability.Onreceipt of award from the Labour Commissioner in regard to quantum ofcompensation,thedifferenceinamountwillbeadjusted.

Addl/Asst.Engineer R.M.C.	**Dy.Ex.Engineer R.M.C.**	**CITYENGINEER(SPL) R.M.C.**

SignatureofContractorwithSeal

PART-IISECTION-3

TECHNICALSPECIFICATIONS

PART-IISECTION–3
TECHNICAL

SPECIFICATIONSCONTENT

::TECHNICALSPECIFICATIONS::

A. GENERAL

1. SCOPEOFCONTRACT:

The work entitled comprise of excavation of trenches with shoringandstruttingwhereverrequiredbailingoutwaterwherevernecessary, laying of pipes, jointing including supply of material andmaterialrequiredforjointing,testingasperspecifications,Construction of appurtenances such as brick Masonry Manholes ,house chambers etc. as per the type design specified entirely ofthe specification of various works stipulated in the e- Tender. Thework includes supply of sewer pipes i.e. stone ware pipes of ISIMarked and R.C.C. precast manhole frames & covers which shallhave to be supplied at site or Municipal store by the contractor atspecified and shown in schedule "B". Other material like cement etcshallhavetosuppliedbythecontractorfromopenmarket.

2. e-TENDERPRICE:

The rates quoted in the bill of quantities shall cover everythingnecessary for the due and complete execution of the work accordingto the drawings and other condition and stipulations of the contractincluding specifications of the evident, intend and meaning of all oreither of them or according to customary usage and for periodicaland final inspection and test and proof of the work in every respectand formeasuring,numbering orweighing thesame,includingsetting out and laying or fixing in position and the provision of allmaterials, power, tools, rammers, labour, tackle, platforms withimperviouslappedjointsforscaffolding,rangingroads, straightedged, cantering and boxing, wedges, moulds, templates, posts,straightrods,straightedged,canteringandboxing, wedges,moulds, templates, posts, straight rails, boning staves strutting,barriers,fencinglightingpumpingapparatus,temporaryarrangementforpassageoftrafficaccesstopremisesandcontinuance to drainage water supply and lighting (if interruptedbycontractor'swork)temporarysheds,painting,varnishing,polishingestablishmentforefficientsupervisionandstatingarrangements for the efficient protective of life and property and allrequisiteplantandmachineryofeverykind.

Thecontractorshallkeepeveryportionoftheworkclearofaccumulation from time to time and shall leave every portion of thework clean, clear, perfect and at the conclusion of whole, providingat their own cost all such material implement, appliances and labourastheEngineerinchargemayrequiretoproveifittobeso.

3. COMPLETIONSCHEDULE:

The contract period shall be as prescribed in tender document,from the date of notice to proceed. The Contractor shall submithis completion schedule and the program of works togetherwith this e-Tender in conformity with completion schedule given inthedocuments.

4. GENERALTECHNICALGUIDELINE:

4.1 All the items occurring in the work and as found necessaryduringactualexecutionshallbecarriedoutinthebestwork man like manner as per specifications and the writtenorderoftheEngineerincharge

4.2 Extra Claim in respect of extra work shall be allowed only ifsuchworkisordered tobe carried out inwriting by theEngineerincharge

4.3 ThecontractorshallengageaqualifiedEngineerfortheExecution of work whowillremain present for all the timeonsiteandwillreceiveinstructionsandordersfromtheEngineeri nchargeorhisauthorizedrepresentative.Theinstruction and orders given to the contractor representativeonsiteshallbeconsideredasitgiventothecontractor himself.

4.4 Theworkorderbookasprescribedshallbemaintainedonthe site of the work by the contactor and the contractorshall sign the orders given by the inspecting offers andshallcarryoutthemproperly.

4.5 Quantities specified in the e-Tender may vary at the time ofactual execution and the contractor shall have no claim forcompensation
onaccountofsuchvariation

4.6 Unexcavated lengths shall be left wherever required and sodirected by the Engineer in charge during the currency of thecontractandshallbetackled.Ifrequired,beforecompletionofwo rk.

4.7 Diversionofroad,ifnecessary,shallbeprovidedandmaintainedduri ngthecurrencyofthecontractbythecontractorathiscost.

4.8 FiguredDimensionsofdrawing shall supersedemeasurements by scale, special dimensions or directions inthespecificationsshall supersedeallotherdimensions.

4.9 All levels are given on drawings and the contractorshall be responsible to take regular level on the approvedalignment before actually starting the work. The levels shallbe commence to the G.T.S. levels and shall be got approvedfromtheEngineerincharge

4.10 If the arrangement of temporary drainage is required to bemade during any work of this Contract, this shall bemadebytheContractorwithoutclaiminganyextracost.

5. CLASSIFICATIONOFSTRATA:

5.1 All materials encountered in excavation will be classified inthe following groups irrespective of mode of excavatingthe materials and the decision of the Engineer in charge inthisregardshallbefinalandbindingtothecontractor.

5.2 Soils:

Soils of all sorts, silt, sand, gravel, soft murrum, stiff clay,kunkar and other soft excavation not covered in the itemsmentionedhereunder.

5.3 HardMurrum:

Hard Materials comprising of all kinds of disintegrated rockorshaleorindurateconglomerateinterspersedwithboulders , weathered and decomposed rock which couldbe removed with pick, bar, shove, wedges and hammers,thoughnotwithoutsomedifficulties.

5.4 Soft–Rock:

This shall include all materials which is rock but whichdoes not need blasting and can be removed with apickbar,wedges,pavementbreakers,pneumatictoolsetc.

5.5 HardRock:

This shall include rock accusing in mass or boulderswhichneedblasting,thiswillalsoincluderocktoberemov ed by chiseling or any other method where blasting isnotpermissible.

6. Theratesareinclusiveofdewatering,ifrequired.

7. Regarding water supply for hydro testing, necessary water, power,labour, etc. required for necessary test shall be arranged by thecontractorat hisowncost.

8. During construction activity, proper care must be taken for laboursafetyandmustfollowtheprovisionsoftheLabourlaws.

9. TMT bars of Fe-500 should be confirming to IS:1786. The approvedmakes shall be TATA, SAIL, Vizag, Gallent, Electrotherm or otherequivalentmakeasapprovedbyengineer-in-charge.

10. CementshallbeordinaryPortlandcement53Gradeconformingto

IS:269,IS:8112orIS:12269forallthe worksaspertheinstructionsofengineer-incharge.Theapprovedmakesshallbe Ambuja,Ultratect, LOTUS, Hathi or as per IS confirming. Minimum Cementcontentfortheworkshouldbeasperattached circularNo.RMC/C/Vigi.(Tech)/231dt.11/03/2022.

11. Testing of the materials like Brick, Sand, Aggregate, Reinforcementsteel, etc. should have to be tested peridiocally as suggested by theEngineer-in-chargeatGovernmentapprovedmaterialtestingLaboratory and testing charges for the same has to be borne by thecontractor.

12. In case of any ambiguity found in inspections / drawings etc, thedecision ofengineer-in-charge shallbe finaland binding to thecontractor.

B. DETAILEDTECHNICALSPECIFICATIONS

B1 MATERIALSPECIFICATION

1. Material:

M-1 Water:

Water shall not be salty or brackish and shall be clean, reasonably clearandfreefromobjectionablequantitiesofsiltandtracesofoilandinjuriousalkalis, salts, organic matter and other deleterious material which willeither weaken the mortar of concrete or cause efflorescence or attack thesteel in RCC container for transport, storage and handling of water shallbe clean. Water shall conform to the standards specified in I.S. 456 -Latestedition.

If required by the engineer-in-charge, it shall be tested by comparisonwith distilled water. Comparison shall be made by means of standardcementtestsforsoundness,changeintimeofsettingandmortarstrengt has specified in I.S. 269 (Latest edition). Any indication of unsoundness,changeintimeofsettingby30minutesormoreordecreaseofmore than
10 per cint in strength of mortar prepared with water sample whencompared with the results obtained with mortar prepared with distilledwatershallbesufficientcauseforrejectionofwaterundertest.

Water for curing mortar, concrete or masonry should not be too acidic ortoo alkaline. It shall be free of elements which significantly affect thehydration reaction or otherwise interfere with the hardening of mortar orconcrete during curing or those which produce objectionable stains orotherunsightlydepositsonconcreteormortarsurface.

Hardandbitterwatershallnotbeusedforcuring.
Potablewaterwillgenerallyfoundsuitableforcuringmortarofconcrete.

M-2 Lime:

Lime shall be hydraulic lime as per I S 712 - Latest Edition. NecessarytestsshallbecarriedoutasperIS69329(PartsItoX)Latestedition.

Thefollowingfieldtestsforlimesaretobecarriedout:

i) Averyroughideacanbeformedaboutthetypeoflimebyitsvisualexamination i.e. fat lime bears pure white colour, lime in form ofporous lumps of dirty white colour indicates quick lime and solidlumpsaretheunburntlimestone.

ii) Acid tests fordetermining the carbonate content in lime, limeExcessiveamountofimpuritiesandroughdeterminationoflime.

Storage shall comply with I S 712 - Latest Edition. The slaked lime, itstored, shallbe kept in aweatherproofanddamp-proof shedwithimperviousfloorandsidestoprotectitagainstrain,moisture,andweather and extraneous materials mixing with it. All lime that has beendamaged in any way shall be and all rejected materials shall be removedfromsiteofwork.

Field testing shall be done according to I S 269 (latest edition) to showtheacceptabilityofmaterials.

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M-3 Cement:

Cement shall be ordinary portland cement as per IS:269 or IS:8112 andIS:12669(AllLatestedition).

M-4 WhiteCement:

ThewhitecementshallconformtoIS8042-ELatestedition.

M-5 ColoredCement:

Color cement shall be with white or grey portland cement as specified intheitemofthework.

The pigments used for colored cement shall be of approved quality andshall not exceed 10% of cement used in the mix. The mixture of pigmentand cement shall be properly ground to have a uniform color and shade.Thepigmentsshallhavesuchpropertiesastoprovidefordurabilityundere xposuretosunlightand weather.

Thepigmentshall havethepropertysuchthatitisneitheraffectedby thecementnordetrimentaltoit.

M-6 Sand:

Sand shall be natural sand or silica, clean well graded, hard strong,durable and gritty particles free from injurious amounts of dust, clay,kankar nodules, soft or flaky particles Shale, alkali, salts organic matter,loam, mica or other deleterious substances and shall be got approvedfrom the engineer-in-charge. The sand shall not contain more than 8percent of silt as determined by field test. If necessary, the sand shall bewashedtomakeitclean.

CoarseSand:

The fineness modules of coarse sand shall not be less than 2.5 and shallnotexceed3.0.Thesieveanalysisofcoarseshallbeasunder:

I.S.SieveDesignation	Percentagebyweightpassingsieve	ISSievepercentage Designation	by weightpercent-agepass-ingsieve.
4.75mm	100	600Micron	30-100
2.36mm	90to100	300Micron	5-70
1.18mm	70-100	150Micron	0-50

FineSand:

The fineness modules shall not exceed 1.0 The sieve analysis of fine sandshallbeasunder:

I.S.Sieve Designation	Percentagebyweight passingsieve	ISSievepercentage Designation	byweight percent-agepass-ingsieve.

4.75mm	100	600Micron	40-85
2.36mm	100	300Micron	5-50
1.18mm	75-100	150Micron	0-10

M-7 StoneDust:

Thisshallbeobtainedfromcrushinghardblacktraporequivalent.Itshallnotcontainmorethan8%ofsiltasdeterminedbyfieldtestwithmeasuringcylinder.Themethodofdeterminingsiltcontentsbyfieldstestisgivenasunder:

A sample of stone dust to be tested shall be placed without drying in 200mm measuring cylinder. The quantity if the sample shall be such that itfillsthecylinderupto100mmmark,thecleanwatershallbeaddedupto 150mmmark.Themixtureshallbestirredvigorouslyandcontentallowedtosettlefor3hours.

The height of silt visible as settled layer above the stone dust shall beexpressed as percentage of the height of the stone dust below. The stonecontaining more than 8% silt shall be washed so as to bring the contentwithintheallowablelimit.

Thefitnessnodulesofstonedustshallnotbelessthan1.80

M-8 StoneGrit:

Grit shall consist of crushed or broken stone and be hard, strong densedurable clean of proper gradation and free from skin or coating likely topreventproperadhesionofmortar.Gritshallgenerallybecubicalinshapeand as far as possible flaky elongated pieces shall be avoided. It shallgenerally comply with the provisions of IS 383 (Latest Edition). Unlessspecial stone of particular quarries is mentioned, grit shall be obtainedfrom the best black trap or equivalent hard stone as approved by theengineer-in-charge.Thegritshallhavenodeleteriousreactionwithcement.

Thegritshallconformtothefollowinggradationaspersieveanalysis:

I.S.SieveDesignation	Percentagepassing throughsieve	IS SieveDesignation	percentage passingthroughsieve
12.50mm	100%	4.75mm	0-20%
10.00mm	85-100%	2.36mm	0-25%

The crushing strength will be such as to allow the concrete in which itusedtobuildupthespecifiedstrengthofconcrete.

Thenecessarytestsforgritshallbecarriedoutaspertherequirementsof I S 2386 (Part I to VIII) Latest edition as per instruction of engineer-in-charge.Thenecessityoftestwillbedecidedbytheengineer-in-charge.

M-9 Cinder:

Cinder is well burnt furnace residue which has been fused or sintered intolumpsofvaryingsizes.

Cinder aggregates shall be well burnt furnaces residue obtained fromfurnace using coal fuel only. It shall be sound clean and free from clay,dirt,ashorotherdeleteriousmatter.

Theaveragegradingforcinderaggregateshallbeasmentionedbelow:

I.S.SieveDesignation	Percentagepassing	IS SieveDesignation	percentage passing
20mm	100%	4.75mm	70
10mm	86	2.36mm	52

M-10 LimeMortar:

Lime: Limeshallconformtospecification M-2.**Water:**Watershallconform to specification M-1. **Sand:** Sand shall conform to specification M-6.

ProportionofMix:
Mortarshallconsistofsuchproportionsofslakedlimeandsandasmaybespecified initem.theslakedlimeandsandshallbemeasuredbyvolume.

PreparationofMortar:
Lime mortar shall be prepared by process as per IS 1625 Latest edition.Power drive mill shall be used for preparation of lime mortar. The slakedlime shall be placed in the mill in an even layer and ground for 180revolutions with a sufficient water. Water shall be added as requiredduringgriding(carebeingtakennottoaddmorewater)thatwillbringthe mixed material to a consistency of stiff paste. Thoroughly wetted sandshall then be added evenly and the mixture ground for another 180revolutions.

Storage:
Mortarshallalwaysbekeptdamp,protectedfromsunandraintillusedup,coverin gitbytarpaulinoropensheds.

All mortar shall be used as soon as possible after grinding. It should beusedonthedayonwhichitprepared.Butinnocase,mortarmadeearlierthan36 hoursshallbepermittedforuse.

M-11 CementMortar:
Water shall conform to specification M-1. Cement: Cement shall conformtospecifications M-3.Sand:SandshallconformtoM-6.

ProportionofMix:
Cement and sand shall be mixed to specified proportion, sand beingmeasured by measuring boxes. The proportion of cement will be byvolume on the basis of 50 kg/Bag of cement being equal to 0.342 Cu.M.Themortarmaybehand mixedasdirected.

ProportionofMortar:

In hand mixed mortar, cement and sand in the specifications shall bethoroughly mixed dry on a clean impervious platform by turning over atleast 3 times or more till a homogeneous mixture of uniform color isobtained.mixingplatformshallbesoarrangedthatnodeleteriousextraneous material shall get mixed with mortar or mortar shall flow out.Whilemixing,thewatershallbegraduallyaddedandthoroughlymixedtofor mastillplasticmassofuniformcolorsothateachparticleofsandshallbe completely covered with a film of wet cement. the water cement ratioshallbeadoptedasdirected.

The mortar so prepared shall be used within 30 minutes of adding water.Only such quantity of mortar shall be prepared as can used within 30minutes.

M-12 StoneCoarseAggregateforNominalMixConcrete.

Coarse aggregate shall be of machine crushed stone of black trap orequivalent and be hard, strong, dense, durable clean and free from skinandcoatinglikelytopreventproperadhesionofmortar.

Theaggregateshallgenerallybecubicalinshape.Unlessspecialstonesofparticular quarries are mentioned, aggregates shall be machine crushedfrom the best black trap or equivalent hard tone as approved. Aggregateshall have no deleterious reaction with cement. The size of the coarseaggregatefor plain cement concreteandordinaryreinforced cementconcreteshallgenerallybe asperthetablegivenbelow,however,incaseof reinforced cement concrete the maximum limit may be restricted to 6mm, less than the minimum lateral clear distance between bars of 6 mmlessthanthecoverwhicheverissmaller.

IS Sievedesigna-tion	Percentage passing for singlesized aggregates of nominalsize			ISSieved esig-nation	Percentagepassingforsinglesizedaggregatesofnominalsize		
	40mm	20mm	16mm		40mm	20mm	16mm
80mm	--	--	--	12.5 mm	--	--	--
63mm	100	--	--	10mm	0.5	--	0.30
40mm	85-100	100	--	4.75mm	--	0.20	0.5
20mm	0-20	85-100	100	2.35mm	--	0.50	--
16mm			8-100	--	--	--	--

Note:

This percentage may be the engineer-in-charge when considerednecessaryforobtainingbetterdensityandstrengthofconcrete .

The grading test shall be taken in the beginning and at the change ofsourceofmaterials.The necessarytestsindicatedinIS383Latesteditionand IS 456 Latest edition shall have to be carried out to ensure theacceptability. The aggregates shall be stored separately and handled insuch a manner as to prevent the intermixing of different aggregates. Ifthe aggregates are covered with dust, they shall be washed with water tomakethemclean.

M-13 BlackTraporEquivalentHardStoneCoarse:AggregateforDesignMixconcrete:

Coarse aggregate shall be of machine crushed stone of black trap orequivalent hard stone and be hard strong, dense, durable, clean and freefromskinandcoatinglikelytopreventproperadhesionofmortar.

The aggregates shall generally be cubical in shape. Unless special stonesofparticularquarriesarementioned,aggregatesshallbemachinecrushedfromthebest,blacktraporequivalenthardstonesasapproved.Aggregateshall havenodeleteriousreactionwithcement.

The necessary tests indicated in IS 383 Latest edition and IS 456 Latesteditionshallhavetocarriedouttoensuretheacceptabilityofthematerial.

Ifaggregateiscoveredwithdust,itshallbewashedwithwatertomakeitclean.

M-14 BrickBatsAggregate:

Brick bat aggregate shall be broken from well burnt or slightly over burntand dense bricks. It shall be homogeneous in texture, roughly cubical inshape, clean and free from dirt of any other foreign material. The brickbats shall be of 40 mm to 50 mm size unless otherwise specified in theitem.Theunderburntofoverbruntbrickbatsshallnotbeallowed.

Thebrickbatsshallbemeasuredbysuitableboxesasdirected.

M-15 Bricks:

Thebricksshallbehardormachinemouldedandmadefromsuitablesoilsand burnt. They shall be free from cracks and flaws and nodules of freelime. They shall have smooth rectangular faces with sharp corners andshallbeofuniformcolors.

The bricks shall be moulded with a frog of 100 mm x 40 mm and 10 mmto 20 mm deep on one of it's flat sides. The bricks shall not break whenthrownonthegroundfromaheightof600mm.

Thesizeofmodularbricksshallbe190mmx90mm.

Thesizeoftheconventionalbricksshallbeasunder:(9"x4 .3/8"x2,3/4")225x110x75mm

Only bricks of one standard size shall be used in one work. The followingtolerancesshallbepermittedintheconventionalsizeadoptedinaparticular work.
Length±1/8"(3mm)width:±1/16"(1.5mm)Heig
ht:±1/16"(1.5mm)

Thecrushingstrengthofthe brickshallnotbelessthan35kg/sq.cm.Theaverage water absorption shall not be more than 20 percent by weight.Necessary tests for crushing strength and water absorption etc., shall becarriedoutasperIS:3495(PartItoIV)-latestedition.

M-16 Stone:

The stone shall be of the specified variety such as granite / trap stone /quarzite or any other type of good hard stones. The stones shall beobtainedonlyfromtheapprovedquarryandshallbehard,sound,durableand free from defects like cavities cracks, sand holes flaws, injuriousreins, patches of loose or soft materials etc. and weathered portion andotherstructuraldefectsorimperfectiontendingtoaffectedtheirsoundness and strength. The stone with round surface shall not be used.Thepercentageofwaterabsorptionshallnotbemorethan5%dryorwet.Wh en tested in accordance with I.S.1124 - Latest edition. The minimumcrushingstrengthofthestonebe200kg/sq.cmunlessotherwisespecifi ed.

The samples of the stone to be used shall be got approved before theworkisstarted.

The khanki facing stone shall be dressed by chisel as specified in the itemforkhankifacinginrequiredshapeandsize.Thefaceofthestoneshallbesodr essedthatthebushingontheexposedfaceshallnotprojectbymorethan 40 mm from the general wall surface and on face to be plastered itshall not project by more than 19 mm nor shall it have depressions morethan10mmfromtheaveragewallsurface.

M-17 LateriteStone

Laterite stone shall be obtained from the approved quarry. It shall becompacted, in texture, sound, durable and free from soft patchs. Its shallhave minimum crushing strength of 10 Kg/sq.cm in its dry condition. Itshallnotabsorbwatermorethan20%ofitsownweight,whenimmersedfor 24 hours in water After quarrying, the stone shall be allowed toweatherforsometimebeforeusinginwork.'

Thestoneshallbedressedintoregularrectangularblockssothatallfacesarefreef romwavinessandunevenness,andtheedgestrueandsquare.

Thosetypesofstoneinwhichwhiteclyoccursshouldnotbeused.Specialcorn

erstonesshallbeprovidedwheresodirected.

M-18 MildSteelBars:

Mild steel bars reinforcement for RCC work shall confirm to IS 432 (Part-II) Latest edition and shall be of tested quality. It shall also comply withrelevantpartofIS456Latestedition.
All the reinforcement shall be clean and free from dirt, paint, grease, millscaleorlooseorthickrustatthetimeofplacing.
For the purpose of payment, the bar shall be measured correct upto 10mmlengthandweightpayableworkedoutattheratespecifiedbelow:

1	6mm	0.22Kg/Rmt	8	20mm	2.47Kg/Rmt
2	8mm	0.39Kg/Rmt	9	22mm	2.98Kg/Rmt

3	10mm	0.62Kg/Rmt	10	25mm	3.85Kg/Rmt
4	12mm	0.89Kg/Rmt	11	28mm	4.83Kg/Rmt
5	14mm	1.21Kg/Rmt	12	32mm	6.31Kg/Rmt
6	16mm	1.58Kg/Rmt	13	36mm	7.99Kg/Rmt
7	18mm	2.00Kg/Rmt	14	40mm	9.86Kg/Rmt

M-19 HighYieldStrengthSteelDeformedBars:

High yield strength steel deformed bars shall be either cold twisted otherrolled and shall conform to IS 1786 Latest edition and IS 1139 Latesteditionrespectively.

Other provisions and requirements shall conform to specification No.M-18forMildSteelBars.

M-20 HighTensileSteelWires:

The high tensile wires for use in prestressed concrete work shall conformtoIS2090Latestedition.

The tensile strength of the high tensile steel bars shall be as specified inthe item. In absence of the given strength the minimum strength shall betaken as per part 6-1 of the IS 1785 Latest edition. Testing shall be doneasperISrequirements.

Thehightensileshallbefreefromloosemillscale,rust,oilgrease,oranyotherharmfulmatter.Cleaningofsteelbarsmaybecarriedoutimmersioninsolventsolution,wirebrushingorpassingthroughapressureboxcontainingcarborundum.

The high tensile wire shall be obtained from manufacturer in coil havingdiameter not less than 350 times the diameter of wire itself, so that wirespringsbackstraightonbeinguncoiled.

M-20(A) PlainCarbonDrawnSteelWires:

The plain carbon drawn steel wires for use in precast concrete work shallbeconformtoIS1785(Part-II)Latestedition.

The tensile strength of the P C steel bars shall be as specified in the item.Inabsence ofthegivenstrength,theminimumstrengthshallbetakenasperIS:1785Latestedition.TestingshallbedoneasperISrequirements.

The P C steel bars shall be free from loose mill scale, rust, oil grease, orany other harmful matter. Cleaning of steel bars may be carried outimmersioninsolventsolution,wirebrushingorpassingthroughapressureboxcontainingcarborandum.

M-21 MildSteelBindingWire:

The mild steel wire shall be of 1.63 mm, 22 mm (16 or 18 gauge)diameterandshallconformtoIS280Latestedition.

The use of black wire will be permitted to binding reinforcement bars. Itshallbefreerust,oilpaint,grease,loosemillscaleoranyotherundesirablecoatingwhichmaypreventadhesionofcementmortar.

M-22 StructuralSteel:

AllstructuralsteelshallconfirmtoIS226Latestedition.Thesteelshallbefree from the defects mentioned in IS 226 Latest edition and shall have asmooth finish. the material shall be free from loose mill scale, rust pits orotherdefectsaffectingthestrengthanddurability.RiverbarsshallconformtoI S1148Latestedition.

When thesteel issuppliedbythe contractor,testcertificateof themanufacturer shall be obtained according to IS 226 Latest edition andotherrelevantIndianStandards.

M-23 GalvanizedIronSheets:

The galvanized iron sheets shall be plain or corrugated sheets of guagesas specified in item. The G.I. Sheets shall conform to I.S.latest edition.Thesheetsshallbeundamagedincarriageandhandlingeitherbyrubbing off of zinc coating or otherwise. They shall have clean and bright surfaceandshallbefreefrombends,holes,rustorwhitepowderydeposit.

ThelengthandwidthG.I.sheetshallbeasdirectedaspersitecondition.

M-23-A:G.I.Valleysgutter,ridges:

TheG.I.ridgesandhipsshallbeofplaingalvanizedsheetsClass-3ofthethickness as specified in item. These shall be 600 mm in and width andproperly bent up to shape without damage to the sheets an in process ofbending.

Valleysguttersandflashingsshallalsobeofgalvanizedsheetsofthickness as specified in item. Valleys shall be 900 mm. wide overall andflashingshall be380mm.
wideoverall.Theyshallbebenttotherequiredshapewithoutdamagetothesheeti ntheprocessofbending.

M-24.AsbestosCementSheets:

Asbestos cement sheets plain, corrugatedor semi-corrugated shall-conform shall conform to I.S. latest edition. The thickness of the sheetsshall be as specified in The item. the sheets shall be free from all defectssuchascracks,holes,deformities,edgesorotherwisedamaged.

Ridge&Hips:

Ridge and hips shall, be of same thickness as that of A.C. sheets. Thetypesofridgesshallbesuitableforthetypeofsheetsandlocation.
Other accessories to be used in roof such as flashing pieces eaves fillerpieces,valleygutters,northlightandventilatorcurves,barge
boardsetc.shall be of standard manufacture and shall be suitable for the type ofsheetsandlocation.

M-25.ManglorePatternRoofTiles:

The mangalore pattern tiles shall conform to I.S. latest edition for ClassAA or class A type as specified in item. Sample of the tiles to be providedshall be got approved from the Engineer-in-charge. Necessary tests shallbecarriedoutasdirected.

M-26 Shuttering:

The shuttering shall be either of wooden planking of 30 mm minimumthickness with or without sheet lining or of steel plates stiffened by steelangles. The shuttering shall be supported on battens and beams andprops of vertical bullies properly cross braced together so as to make thecentering rigid. In places of bullies props, brick pillar of adequate sectionbuiltinmudmortarmaybeused.

The form work shall be sufficiently strong and shall have camber, so thatitassumescorrectshapeafterdepositionoftheconcreteandshallbeabletoresistforcescausedbyvibrationofliveload ofmenworkingoveritandother incidental load associated with it. The shuttering shall have smoothandevensurface.Itsjointsshallnotpermitleakageofcementgrout.

If at any stage of work during or after placing concrete in the structure,the form work sags or bulges out beyond the required shape of thestructure, the concrete and adequately rigid form work. The completeform work shall be got inspected by and got approved from the engineer-in-chargebeforethereinforcementbarsareplacedinposition.

Thepropsshallconsistofbullieshaving100mmminimumdia.measurementatmidlengthand80mmatthinendandshallbeplacedasper design requirement. These shall rest squarely on wooden sole plates40 mm thick and minimum bearing area of 0-10 sq.m laid on sufficientlyhardbase.

Double wedges shall further be provided between the sole pite and thewooden props so as to facilitate tightening and easing of shutteringwithoutjerkingtheconcrete.

The timber used in shuttering shall not be so dry as too absorbed waterfrom concrete and swell or bulge nor so green or wet as the shrink aftererection. The timber shall be properly sawn and planned on the sides andthe surface coming in contact with concrete. Wooden form work withmetalsheetliningorsideplatesstiffenedbysteelanglesshallbepermitted.

As far as practicable, clamps shall be used to hold the forms together anduseof nailsandspikesavoided.

Thesurfaceoftimbershutteringthatwouldcomeincontact withconcreteshallbewellwettedandcoatedwithsoapsolutionbeforetheconcreting isdone.Alternatively,coatofrawlinseedoiloroilofapprovedmanufacturermaybeappliedinplaceofsoapsolution.Incaseofsteelshutteringeithersoap solution or raw linseed oil shall be applied after thoroughly cleaningthesurface.Undernocircumstances,blackorbruntoilshallbepermitted.

The shuttering for beams and slabs shall have camber of 4 mm per meter(1 in 250) or as directed by the engineer-in-charge, so as to offset thesubsequentdeflectionforcantilevers,thecamberoffreeendshallbe1/50ofthe projectedorasdirectedbytheengineer-in-charge.

M-27.Expansionjoints-Premouldedfiller:

The item provides for expansion joints in R.C.C. frame structures forinternal joints, as well as exposed joints, with the use of premouldedbituminousjointfiller.

Premoulded bituminous joint filler, i.e. performed strip of expansionjoint filler shall not got deformed or broken by twisting, bending orother handling when exposed to atmospheric condition. Pieces of jointfillerthathavebeendamagedshallberejected.

Thicknessofthepre-mouldedjointfillershallbe25mm.unlessotherwisespecified.

PremouldedbituminousjointfillershallconformtoI.S.Latestedition.

M-28.ExpansionjointsCopperstrips&holdfasts:

TheitemprovideforexpansionjointsinR.C.C.framestructureforinternal joint as well as for exposed joints with the use of necessarycopperstrip andholdfasts.

Coppersheetshallbeof1.25mmthickandof1.25mmwidthandthe"U"shapeinth emiddle.
Copperstrip shall have holdfast of3mmdiametercopperrodfixedtotheplate soldered on strip at intervals of about 30 cm or as shown in thedrawing or as directed. The width of each flange (horizontal side) of thecopper plate to be emvidded in the concrete work shall be 25 mm. depthof"U"tobeprovidedintheexpansionjoint,inthecopperplateshallbeof25m m.

M-29.Teakwood:

The teak wood shall be of good quality as required for the item to beexecuted. When the kind of wood is not specifically mentioned, goodIndianteakwoodasapprovedshallbeused.

Teak wood shall generally be free from large, loose, dead of cluster knotsflaws,shakes,warps,twists,bends;oranyotherdefects.Itshallgenerallyb euniforminsubstanceandofstraightfibresasfaraspossible.Itshallbefreefromro t,decay,harmfulfungiandotherdefectsofharmfulnature, which will affect the strength, durability or its usefulness for thepurpose for which it is required. The colour shall be uniform as far aspossible . Any effort like paining, using any adhesive resinous materialsmade to hide the defects shall render the pieces liable to rejection by theEngineer-in-Charge.

Allscantlings,planksetc.shallbesawninstraightlinesandplanesinthedirectiono fgrainsand ofuniformthickness.

The tolerancesinthedimensionsshallbeallowedattherateof 1.5mm,perfaceto beplaned.

Firstclassteakwood:

First class teak wood shall have no individual hard and sound knots,more than 6 sq.cm. in size and the aggregate area of such knots shallhotbethan1%ofareaofpiece,thetimbershallbeclosedgrained.

SecondClassTeakWood:

No individual hard and sound knots shall be more than 15 sq.cm. in sizeand aggregates area of such - knots shall not exceed 2 % of the area ofpiece.

M-29A.Non-teakwood:

The non-teak wood shall be chemically treated, seasoned as per I.S.Specificationandofgoodquality.Thetypeof, woodshallbegotapprovedbefore collecting the same an site. Fabrication of wooden members shallbestartedonlyafterapproval.

For this purpose wood of Bio, Kalai, Sires, Saded, Behda, Jamun, Sisoowill be used for door where as only Kalai, Halda, Sires, Kalam etc. will bepermitted far shutters after proper seasoning and chemical treatment,The non-teak wood shall be free from large, loose dead of cluster knots,flows, shakes, warps, bends or any other defects. It shall be uniform insubstance and of straight fibres as far as possible. It shall be free fromrots,decay,harmfulfungiandotherdefectsofnaturewhichwilleffectthestraightdurabilityorits usefulnessforthepurposeforwhichitisrequired.The colour of wood shall-be uniform as far as possible. The scantalingsplanks etc. shall be saw in straight lines and planes in the direction ofgrain and of uniform thickness. The department will use the Agency toproduce certificate from Forest Department in event of Dispute and thedecision of the Department shall be final and binding to the contractor:Thetoleranceinthedimensionshallbe allowedat1.5mm.perfacetobeplaned.

M-30.Woodenflushdoorshutters(solidcore):

The solid core type flush door shutters shall be of decorative or non-decorativetypeasspecifiedinthedrawing.Thesizeandthicknessoftheshutter shall be as specified in drawings or as directed. The timberspecies for core shall be used as per I.S. Latest edition. The timber shallbefreefromdecayandinsectattack.Knotsandknotholeslessthanhalfthe width of cross-section of the members in which they occur may bepermitted. Pitch pockets, pitch streaks and harmless pin holes shall bepermissible except in the exposed edges of the care members. Thecommercialplywood,cross-bandsshallconformtoI.S:latestedition.

Thefacepanelofthesheetsshallbeformedbygluingbythe hotpressprocess on both faces of the care with either, plywood or cross-bandsandfaceveneers.Thelipping,rebating,openingofglazing;venetianetc.shallbeprovidedifspecifiedinthedrawing.

All edges of the door shutters shall be square. The shutters shall be freefrom twist of warp in its plant Both faces of the shutters shall be sandpaperedtosmootheventexture.

Theshuttersshallbetestedfor

(1) **End immersion test :** The test shall be carried out as per I.S.latestedition.Thereshallbenodelaminatianattheendofthetest.
(2) **Knife test :** The face panel when tested in accordance with I.S.latesteditionshallpassthetest.
(3) **Glue adhesion test :** The flush door shall be tested for glueadhesive test in accordance with I.S.: latest edition. The shuttersshall be considered to have passed the test if no delaminationoccursinthegluelinesintheplywoodandifnosingledelamination more than 80 mm in length and more than 3 mm indepthhasoccuredintheassemblygluelinesbetweentheplywoodface and the style and rail. Delamination at the corner shall bemeasured continously around the corner. Delamination at theknots, knot holes and other permissible wood defects shall not beconsideredinassessingthesample.

Thetoleranceinsizeofsolidcaretypeflushdoorshallbeasunder:InNominalthickness ±1.2mminNominalheight±3mm.

Thethicknessoftheshuttershallbeuniformthroughoutwithapermissible variation of not more than 0:8 mm: when measured at anytwopoints.

M-31.<u>Aluminumdoors,windows,ventilators</u>:

Aluminum alloy used in the manufacture of extruded window sectionsshall conform to I.S. designation HEA-WP of LS. : latest edition and alsoto I.S. Designation WVG-.WP of I.S. latest edition. The section shall be asspecified in the drawing and design. The fabrication shall be done asdirected.

Thehinges shallbecastorextrudedaluminumhingesofsametypeasinwindowbutoflargersize.

The hinges shall normally be of 50 mm. projecting type. Non-projectingtype of hinges may also be used if directed. The handles of door shall beof specified design. A suitable lock for the door operable from outside orinside shall be provided. In double, shutter door, the first closing shuttershallhaveconcealedaluminumalloyboltattopandbottom,

M-32.<u>RollingShutters</u>.

The rolling shutters shall conform to I.S. latest edition. Rolling shuttersshall be supplied of specified type with accessories. The size of the rollingshutters shill be specified in the drawings. The shutters shall be con-structedwithinterlockinglathsectionsformedfromcoldrolledsteelstripsnot less than 0.9 aim. thick and 80 mm. wide for shutters upto 3.5 mm,width not less than 1.25 mm, thick and 80 mm. wide for shutter 3.5 mminwidthandaboveunlessotherwisespecified,

Hood covers shall be of mild steel deep channel section and of rolledpressed or build up (fabricated) jointless construction. The thickness ofsheetusedshallnotbelessthan3.5mm.

Hood covers shall be made of M S Sheets not less than 0.90 mm. thick.For shutters having width 3.5 Meter and above, the thickness of M.S.sheetforthehoodcovershallbenotlessthan1.25mm.

The spring shall be of ′best quality and shall be manufactured from testedhigh tensile spring steel wire or strip of adequate strength to balance theshutters in all position. The spiting pipe shaft etc, shall be supported onstrong M.S. or malleable C.I. brackets. The brackets shall be fixed on orunderthelintelasspecifiedwithrawlplugsandscrewsboltsetc.

Therollingshuttersshallbeofselfrollingupto8Sq.m.clearareawithoutballbearin gandupto12Sq.rn.clearareawithballbearing.Iftherollingshuttersareoflarger, thangearoperatedtypeshuttersshallbeused
The locking arrangement shall be provided at the bottom of shutter atbothends.Theshuttersshallbeopenedfromoutside,

Theshutterscompletedwithdoorsuspensionshafts,lookingarrangements,pulli nghookshandlesandotheraccessories.

M-33.<u>CollapsibleSteelGate</u>:

The collapsible steel gate shall be in one or two leaves and size as perapproved drawings or as specified. The gate shall be fabricated from bestqualitymildsteelchannels,flatesetc.Eithersteelpulleysorball-bearings shall be provided in every doubly channel, Unless otherwisespecifiedtheparticulars ofcollapsiblegateshallbeasunder:

(a) **Pickets** : These shall be of 20 mm. M.S. channels of heavy sectionsunless otherwise shows on drawings. The distance center to center ofpicketsshallbe12cmswithanopeningof10Cms.

(b) PivotedM.&flatsshallbe20mmx6mm.
(c) Topandbottomguidesshallbefromteeorflatironofapprovedsize.
(d) Thefittingslikestoppers,fixingholdfasts,lockingcleatsbrasshandlesandca stironrollersshallbeofapproveddesignandsize.

M-34.<u>WeldedSteelWireFabric</u>

Welded steel wire fabric for general purpose shall be manufactured fromcold drawn steel wire "as drawn" or galvanized steel conforming to LS.Latest edition with longitudinal and transverse wire securely connected ateveryintersectionbyaprocessofelectricalresistanceweldingandconforming to I.S. latest edition. It shall be fabricated and finished inworkmanlike manner and shall be free from injurious defects and shall berust proof. The type of mesh shall be oblong or square as directed. Themeshsizes andsizeofwireforsquareas wellas oblongweldedsteelwirefabric shall be as directed. The steel wire fabric in panels shall be in onewholepieceineachpanelasfarasstocksizespermit.

M-35.ExpandedMetal,Sheets:

Theexpandedmetalsheetsshallbefreefrom flaws,joints,brokenstrands, laminations and other harmful surface defects. Expanded metalsteel sheet shall conform to I.S. latest edition, except that blank sheetsheed not be with guaranteed mechanical properties. The seze of the sizeofthediamoddmeshofexpandedmetalanddimensionsofstrands(widthand thickness) shall be as specified. The tolerance on nominal weight ofexpandedmetalsheetsshallbeof10percent.

Expanded metal in panels shall be in one whole piece in each panel as faras stocks sizes permit. the expanded metal sheets shall be coated withsuitableprotectivecoatingtopreventcorrosion,

M-36.MildSteelWire(WireGauzeJali):

Mild steel wire may be galvanized, as indicated. A11 finished steel wireshallbewellcleanlydrawntothedimensions,andsizeofwireasspecifiedin item. The wire shall be sound, free from splits, surface flaws, roughjagged-and imperfect edges and other harmful surface defect and shallconformtoI.S.latestedition.

M-37.Plywood

TheplywoodforgeneralpurposeshallconformI.S.latestedition.
Plywood is made by cementing together thin boards or sheets of woodinto panels. There are always an odd number of layers, 3, 5, 7, 9 ply etc.The plies are placed so that grain of each layer is at right angle to thegrainintheadjacentlayer.

Thechiefadvantagesofplywoodoverasingleboardofthesamethickness is the more uniform strength of the plywood, along the lengthandwidthoftheplywoodandgreater,resistance,tocrackingandsplitting withchangeinmoisturecontent.

Usually synthetic resins are used for gluing, phenolic resions are usuallycuredinahotpresswhichcompressesandsimultaneouslyheatsthepliesb etween hot plates which maintain a temperature of 90 degree C to 140degree and a pressure of 11 to 14 Kg/Sq. Cm. on the wood. The time ofheatingmaybeanythingfrom2to60minutesdependinguponthickness.

When water glue are used the wood absorbs so much water that thefinished plywood must be dried carefully When synthetic resigs are usedas adhesive the finished plywood must be exposed to an atmosphere ofcontrolledhumidityuntiltheproperamountofmoisturehasbeenabsorbed.

According to I.S. Latest edition, the plywood far general purpose shall beofthegradesnamelyBWR;WWRandCWR,dependinguponthеadhesives used for bonding the veneers, and it will be further classifiedinto six type namely AA, AB, AC, BB, BC and CC, based on the quality ofthe two faces, each face being moisture content not less than 8 percentand riotmorethan16percent.

37.A.Thicknessofplywoodboards

Board	Thickness	Board	Thickness	Board	Thickness	Board	Thickness
3ply	3mm	3ply	5mm	3ply	9mm	3ply	16mm
	4mm		6mm		13mm		19mm
	5mm		8mm		16mm		19mm
	6mm		9mm		13mm		25mm

M-38 Glass:

All glass shall be of the bet quality, from specks, bubbles, smokes, veins,air, holes blisters, and other defects. The kind of glass to be used shall beas mentioned in the item or specification or in the special provisions or asshown in detailed drawings. Thickness of glass panes shall be uniform.Thespecifications fordifferentkindsshallbeasunder:

SheetGlass:

In absence of any specified thickness or weight in the item or detailedspecifications of the item of work, sheet glass shall be weighing 7.5Kg/Sq.m.forpanesupto600mmx500mm.

For panes larger than 600 mm.x600 mm. and upto 800 mm.x800 mm.the glass weighing not less than 8.75 Kg Sq. m. shall be used. For biggerpanesupto900mm:x900mm.glassweighing notlessthan8.75Kg/Sq. m.shallbeused.Forbiggerpanesupto900mm.x900mm.glassweighingnotlesst han11.25Kg/Sq.M.shallbeused

Sheet glass shall be patent flattened glass of best quality and of glazingand framing purposes shall conform to I.S. latest edition. Sheet glass ofthespeckedcolourused,ifsoshownondetaileddrawingsorsospecified.For important buildings and for panes with any dimension over 900 mm.plateglassofspecifiedthickness shallbeused.

PlateGlass:-

When plate glass is specked, it shall be "Polished patent plate glass" ofbest quality. It shall have both the surface ground late and parallel andpolished to obtain clear undisturbed vision and reflection. The plate glassshallbeofthethicknessmentionedintheitemorasshowninthedetaileddra wingorasspecified.Inabsenceofany specifiedthickness,the,thicknessofplateglasstobesuppliedshallbe6mm.anda toleranceof 0.20mrn.shallbeadmissible.

ObscuredGlass:

This type of glass transmits light so that vision is partially or almostcompletely obscured. Glass shall be plain rolled, figured, ribbed or fluted,orfrostedglassasmaybespeckedasrequired.Thethicknessandtypeofgla ssshallbeasperdetailsondrawingsorasspecifiedorasdirected.

WiredGlass:

Glass shall be with wire netting embedded in a sheet of plate glass.Electricallywelded13mm.Georgiansquaremeshshallbeused.

Thickness of glass shall not be less than 6 mm. Wired glass shall be oftypeandthickness asspecified.

M-39 AcrylicSheets:

Acrylic sheet shall be of thickness as specified in the item and of anspecked shape size as the case maybe. Panels may be flat or curved. Itshould be light in weight. It shall be colourless or coloured or opaque asspecified in the item. Colourless sheet shall be as transparent as thefinest optical glass. Its light transmission rate shall be about 95%.Transparency shall not be affected for the sheets thickness of it shall beextremelyresistanttosunlight,weatherandtemperatures.
Itshallnotshowanysignificantyellowingorchangeinphysicalproperties or loss of light transmission over a longer period of use. Thesheet shall be impact resistant also. Sheets should be of such qualitythat they can be cut, bent and jointed, as desired. Solution or the jointsshallbeusedaspertherequirementofmanufacturer.

M-40.Particleboard:

Theparticleboardsusedforfacepanelsshallofbestqualityfreefromanydefects.Theparticleboardsshallbemadewithphenolamaldehydeadhesive. The particle boards shall conform to IS latest edition "Specifi-cation for wood particle board for general purpose" *The size and* thethickness shallbeasindicated.

M-41.Expandedpolystyreneortamedstyroperslabs

The expanded polystyrene ceiling boards and tiles shall be of approvedmakeandshallbeofsize,thicknessfinishandcolourasindicated.Itshall beofhighdensityandsuitableforuseasinsulationmaterial.Theinsulatingmaterialshallbelikeslabof ThermoColeetc.

M-42.Resignbondedfiberglass:

The resign bonded fiber glass tiles or rolls shall be of approved make andshallbefollowed.

FortestofMineralwool thermalinsulationBlankerIS.:latesteditionshallbeofsizes,thickness and finishasindicated.

Insulationwoodblanketshallbewiththefollowingcoveringsononeorbothsideas indicated.

(1) BituminisedhessainKraftpaperfor useinpositionwheremoisturehastobeexcluded.
(2) HessianclothorKraftpaper,forkeepingoutdust
(3) G.I.wirenetting,suitableforsurfacestobeplasteredover.

M-43.Fixturesandfastenings

General

The fixtures and fastenings, that is butt, hinges, tee and strap hingessliding door bolts tower bolts, door latch, bath-room latch, handless doorstoppers,casementwindowfasteners,casementstaysandventilators

catchshallbemadeofthemetalasspeckedintheitemoritsspecification.

They shall be of iron, brass, aluminum, chromium plated iron, chromiumplated brass, copper oxidized iron, copper oxidized brass or anodizedaluminum asspecified.

The fixtures shall be heavy, medium or light type. The fixtures andfastenings shall be smooth finished and shall be such as will ensure easeofoperations.

The sample of fixture and fastenings shall be got approved as regards,qualityandshapebeforeprovidingtheminposition.

Brass andanodizedaluminumfixturesandfastening shallbebrightfinished.

Holdfasts:
Holdfasts shall be made from mild steel flat 30 cm. length and one of theholdfasts shall be bent at right angle and two nos. of 6 mm-diameterholes, shall be made in it for fixing it to the frame with screws. At theotherend,theholdfastshallbeforkedandbentatrightanglesinoppositedirections

Butthinges:
Railwaystandardheavytypebutthingesshallbeusedwhensospecified.Teeand straphingesshallbemanufacturedfromM.S.Sheet

Sidingdoor-bolts(Aldrops):
The aldrops as specified in the item shallbe used and shall betotapproved.

Towerbolts(BarrelType):
Tower bolts as specified in the item shall be used and shall be gotapproved.

DoorLatch
Thesizeofdoorlatchshallbetakenasthelengthoflatch.

BathroomLatch
Bathroomlatchshallbesimilartotowerbolt.

Handle
The size of the handles shall be determined by the inside grip length ofthe handles. Handles shall have a base plate of length 50 mm. more thanthesizeofthehandle.

DoorStoppers
Door Stoppers shall be either floor door stopper type or door catch type.Floor stopper shall be of overall size as specified and shall have a rubbercushion.

DoorCatch

Door catch shall be fled at a height of about 900 mm. from the floor levelsuch that one part of the catch is fitted on the inside of the shutter andtheotherpartisfixedinthewallwithnecessarywoodenplugarrangements for appropriate fixity. The catch shall be fixed 20 mm.insidethefaceofthedoorforeasyoperationofcatch.

WoodenDoorStopwithhinges

Wooden door stop of size 100 mm X 60 mm.X 40 mm. shall be fixed onthe door frame with a hinge of 75 mm. size and at a height of 900 mm.from the floor level. The wooden door stop shall be provided with 3 coatsofapprovedoilpaint.

CasementwindowFastener

Casement window fastener for single leaf window shutter shall be left orrighthandedasdirected.

Casementstays(StraightPegStay):

The stays shall be made from a channel section having three holes atappropriate position so that the window can be opened either fully orpartially as directed. Size of the stay shall be 250 mm to 300mm asdirected.

VentilatorCatch

Thepatternand,shapeofthecatchshallbeasapproved.

Pivot

The base and socket plate shall be made from minimum 3 mm. thickplate, and projected pivot shall not be less than 12 mm. diameter and 12mm. length and shall be firmly riveted to the base plate in case of ironandinsinglepieceinthecaseofbrasspivot.

M-44.<u>Paints</u>:

Oilpaintsshallbeofthespecifiedcolouraridshade,andasapproved.Theready mixed paints shall only be used. However, if ready mixed paint ofspecified shade or tint is not available while ready mixed paint withapproved stained will be allowed. In such a case, the contractor shallensurethattheshadeofthepaintsoallowedshallbeuniform.

Allthepaintsshallmeetwiththefollowinggeneralrequirements

(i) Paint shall not show excessive setting in d freshly opened full can andshalleasilyberedispresed withapaddletoasmoothhomogeneousstate.The paint shall show no curdling, livering, caking or colour separation andshallbefreefromlumpsandskins.

(ii) Thepaintsasreceivedshallbrusheasily,Possessgoodlevelingpropertiesandsho wnorunningorsaggingtendencies.

(iii) The paint shall not skin within 48 hour in a three quatereds filled closedcontainer.

(iv) Thepaintshalldrytothesmoothuniformfinishfreefromroughness,grift,uneven nessandotherimperfections:

EnamelPaints:
Theenamelpaintshallsatisfyingeneralrequirementsinspecificationofoilpaints :EnamelpaintshallconformtoIS:latestedition.

M-45 FrenchPolish

TheFrenchpolishofrequiredtintandshadeshallbepreparedwiththebelowmenti onedingredientsandothernecessarymaterials
(i)Denaturedspiritofapprovedquality(ii)Chandras(iii)Pigment.

TheFrenchpolishsopreparedshallconformtoIS:Latestedition.

M-46 Marblechipsformarblemosaicterrazzo:

The marble chips shall be of approved quality and shades: It shall behard, sound, dense and homogeneous in texture with crystalline andcoarse grains. !t shall be uniform in colour and free from stains, cracks,decayand weathering.

The size of various colour of marble chips ranging from the smallest upto20 mm. shall be used where the thickness of top wearing layer is 6 mm.size.Themarblechipsofapprovedqualityandcoloursonlyaspergradingasd ecidedbytheEngineer-in-chargeshallbeusedformarblemosaictilesorworks.

The marble chips shall be machine crushed. They shall be free fromforeign matter, dust etc, except as above, the chips shall conform to ISlatestedition.

M-47.FlooringTiles:
(A).PlainCementtiles

Theplaincementtilesshallbeofgeneralpurposetype.Thesearethetilesin the manufacture of which no pigments are used. Cement used in themanufactureoftilesshallbeasperIndianStandards.

The tiles shall be manufactured from a mixture of cement and naturalaggregates by pressure process. During manufacture, the tiles shall besubjected to pressure of not less than 140 Kg/Sq. Cm. The proportion ofcement to aggregate in the backing of the tiles shall be-not less than 1:3by weight. the wearing face though the tiles are of plain cement, shall beprovided with stone chips of 1 to 2 mm. size. The proportions of cementto aggregate in the wearing layer of the tiles shall be three parts ofcement to one parts chips by weight. The minimum thickness of wearinglayer shall be 3 mm. The colour and texture of wearing layer shall beuniform throughout its face and thickness. On removal from mould, thetiles kept in moist condition continuously at least for seven days andsubsequently, if necessary, for such long periodswould ensure
theirconformitytorequirementsofIS.LatesteditionregardingstrengthresistancetowearandwaterabsorptIon.

Thewearingfaceofthetilesshallbeplane,freefrom projections,depressionsandcracksandshallbereasonablyparalleltothebackfaceofthe tile**.** All angles shall be right angle and all edges shall be sharp andtrue.

The size of tiles shall generally be square shape 24.85 Cm. x 24.85 Cm:or25Cm.x25Cm.Thethicknessoftilesshallbe20mm.

Tolerance of length and breadth shall be plus or minus one millimeter.Toleranceonthicknessplus5mm.

The tiles shall satisfy the tests as regards transverse strength, resistancetowearandwaterabsorptionasperI.S.:Latestedition.

(B) PlainColouredTiles:

These tiles shall have the same specification as for plain cement tiles asper(A)aboveexpectthattheyshallhaveaplainwearingsurfacewhereinpigmentsareused.TheyshallconformtoI.S.Latestedition.

The pigments used for colouring cement shall not exceed 10 percent byweight of cement used in the mix. The pigments, synthetic or otherwise,used for colouring tiles shall have permanent colour and shall not containmaterialsdetrimentaltoconcrete.

Thecolourofthetilesshallbespecifiedintheitemorasdirected.

(C) MarbleMosaicTiles:

Thetilessamespecificationasperplaincementtilesexcepttherequirementsasstatedbelow:

The marble mosaic tiles shall conform to I.S. latest edition. The wearingface of the tiles shall be mechanically ground and filled. The wearing faceoftilesshall befreefromprojections,depressionsandcracksandshallbereasonably parallel to the back face of the tiles. All angles shall be rightanglesand alledgesshallbesharpandtrue.

Chips used in the tiles be from smallest upto 20 mm. size. The minimumthickness of wearing layer of tiles shall be 6 mm. For pattern of chips tobe had on the wearing face, a few samples with or without their full sizephotographs as directed shall be presented to the Engineer-in-charge forapproval.

Any particularsamples,iffound suitable shallbeapprovedbytheEngineer-in-charge, or he may ask for a few more samples to bepresented. The samples shall have to be made by the contractor till asuitable sample is finally approved for use in the work. The Contractor,shall ensure that the tiles-supplied for the work shall be in conformitywith the approved sample only, in terms of its dimensions thickness ofbacking layer and wearing surface, materials, ingredients, colour. shadechips,distributionetc.required.

The tiles shall be prepared for cement conforming to Indian Standards orcoloured portland cement generally depending upon the colour of tiles tobeorasdirected.

(D) ChequeredTiles: `

Chequered tiles shall be plain cement tiles or marble mosaic tiles. Theformer shall have the same specification as per (A) above and the latteraspermarblemosaictilesasper(C)exceptasmentionedbelow
The tiles shall be of nominal size of 250 mm. X 250 mm. if specified. Thecentre to centre distance of chequer shall not be less than 25 mm. andnotmorethan50mm.Theoverallthicknessofthetilesshallbe22mm.

The grooves in the chequers shall be uniform and straight. The depth ofthe grooves shall not be less than 3 mm. The chequered tiles shall beplain, coloured or mosaic as specified. The thickness of the upper layermeasured form the top of the chequers shall not be less than 6 mm. Thetilesshallbegiventhefirstgrindingwithmachinebeforedeliverytosite.

TilesshallconformtorelevantIS:latestedition.

(E) ChequeredTilesForStairCases:

The requirements of these tiles shall be the same as chequered tiles asper(D)aboveexceptinfollowingrespects:

(1) The lengthofatile includingnoteshallbe 330mm:(2) Theminimum thickness shall be 28 mm: (3) The nosing shall have also thesamewearinglayerasatthetop:(4)Thenosingedgeshallberounded.
(5) Thefrontportionofthetilesforminimumlengthof75mm.fromandincluding thenosingshallhavegroovesrunningparalleltonosingandatcenters not exceeding 25 mm. Beyond that the tiles shall have normalchequerpattern.

M-48.<u>RoughKotahStone</u>:

The kotah stones shall be hard, even, sound and regular in shape andgenerally uniform in colour, The colour of the stone shall generally begreen. Brown coloured shall not be use. They shall be without any softveins,cranksorflaws.

The size of the stones to be used for flooring shall be of size 600 mm. X600 mm. abd / or size 600 mm. X 450mm as directed. However smallersizes will be allowed to be used to the extent of maintaining requiredpattern.Thicknessshallbeasspecified.

Tolerance of minus 30 mm. on accounts of chisel dressing of edges shallbepermittedforlengthaswellasbreadth.Toleranceinthicknessshallbe +3mm.

The edges of stones shall be truly chiselled and table rubbed with coarsesand before paving. All angles and edges of the stone of shall be true,squareandfreefromchippingandthesurfaceshallbetrueandplain.

When machine cut edges are specified, the exposed and the edges atjoints shall be machine cut. The thickness of the exposed machine cutedgesshallbeuniform.

M-49.PolishedKotahStones:

Polishedkot4hstoneshallhavethesamespecificationasperroughkotahstoneex ceptasmentionedbelow:

The stones shall have machine polished surface. When brought an site,the stones shall be single polished or double polished depending upon itsuse. The stones for paving shall generally be single polished. The stonesto be used for dedo, skiri thing sink, veneering, sills, steps, etc, wheremachine polishing after the stone are fixed in situ is not possible shall bedoublepolished.

M-50.DholpurStoneStab:

Dholpur stone slab shall be of best quality as approved by the Engineer-in-charge: The stone slab shall be without any veins, cracks, and flaws.The stone slab be even, sound and durable regular in shape and ofuniformcolour.

Thesizeof thestoneshallbeasspecifiedintheitemordetaileddrawingof as approved by the Engineer-in-charge. The thickness of the stoneshallbeasspecifiedintheitemofworkwiththepermissibletoleranceofplu sorminus2mm.theprovisionsinrespectofpolishingasforpolishedkotah stone shall apply to polished Dholpur stone also. All angles andedges of the face of the stone slab shall be fine chiselled or polished asspecified in the item of work and ai6 the four edges shall be machineout.Allanglesandedgesofthestoneslabshallbetrueandplane.

Thesampleofstoneshall begotapprovedby theEngineer-in-chargefora particular work. It shall be ensured that the stones to be used in aparticular work shall not differ much in shade or tint from the approvedsample.

M-51.MarbleSlab:

Marble slab shall be white or of other and of best quality as approved bytheEngineer-in-charge.
Slabs shall be hard close, uniform and homogeneous in texture. Theyshall have even crystalline grain and free from defects and cracks. thesurface shall be machine polished to an even and perfect plane surfaceand edges machine cut true and square. The rar face shall be rough toprovidekeyforthemortar.
Marbleslabswithnatureveins,ifselectedshallhavetobelaidasperthepattern given by the Engineer-in-charge. Size of the slab minimum 460mm. X 450 mm: and preferably 600 min. X 600 mm. However smallersizes will be allowed to be used to the extent of maintaining requiredpattern.

The slab shall not be thinner than the specified thickness at its thinnestpart. A few specimen of finished slab to be used shall be deposited bytheContractorintheofficefor reference.

Exceptasabove,themarbleslabsshallconformtoIS:Latestedition.

M-52.GraniteStoneslab:

Granite shall be of approved colour and quality. The stone shall be hard,evensoundandregularinshapeandgenerallyuniformincolour.Itshallbe withoutanysoftveins,cracksof flaws.

Thethicknessofthestoneshallbeasspecifiedinitem.
All exposed faces shall be double polished tender truly smooth and evenreflecting surface. The exposed edges and corners shall be rounded off asdirected. The exposed edges shall be machine cut and shall have uniformthickness.

M-53.PVCFlooring

PVC sheet for PVC, floor covering shall be of homogenous flexible type,conforming to I.S. Latest edition. The PVC covering shall neither developanytoxiceffectwhileputtouseforshallgiveoffanydisagreeableodour.

ThicknessofflexibletypecoveringAlesshallbe asspecifiedin thedescription oftheitem.
The flexible shall be backed with hessian or other woven fabric. Thefollowing tolerances shall be applicable on the nominal dimensions of thefollsortiles:
(a) Thickness±15mm.
(b) LenghofWidth:
1. 300rnm.squaretiles±0.20mm
2. 600mm.Squaretiles±0.40mm.
3.900mm,squaretiles±0.60mm,
4.Sheetsandroll±0.10percent.

Adhesive:

TheadhesiveforPVCflooringshallbeofthetypeandmake,recommendedbythema nufacturesof PVCsheets/tiles.

M-54FacingTiles

The facing tiles (burnt clay facing bricks) shall be free from cracks andnodules of free lime. They shall be thoroughly burnt and shall have planerectangularfaceswithparallelsidesandsharpsstraightrightangledfaces..T he texture of the finished surface that will be exposed when in place shallconform to an approved sample consisting not less than four stretch brickseachrepresentingthe texturedesired. Thefacingtilesshallhave apleasingappearancesufficientresistancetopenetrationbyrainandgreaterdura bilitythancommonbricks.ThetilesshallconformtoI.S.Latestedition.

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The standard size of facing brick tiles shall be 19 x 9 x 4 cms. The facingbrick tiles shall be provided with frog which shall conform to IS: Latestedition.

Thepermissibletoleranceindimensionsspecifiedaboveshallbeasfollows:

Size	Tolerancefor	
	1stclassbrick	2ndclassbrick
19	±6mm	±10mm
9	±3mm	±7mm
4	±1.5mm	±3mm
Thetolerancefordistortionorwarpageoffaceoredgesofindividual brickformaplanesurfaceandfromastraightlinerespectivelyshallbeasfollows :		
Ficingdimensions	**Permissibletolerance**	
Max.below19cms	Max2.5mm	
--do--above19mm	Max3.0mm	

Theaveragecompressivestrengthobtainedasasampleoffivetiles whentested in accordance with the) procedure laid as per IS: Latest editionshall be not less than 175 Kg/Sq. Cm. The average compressive strengthofanyindividualbricksshallbenotlessthan160Kg/Sq.Cm.

The average water absorption for five bricks tiles shall not exceed 12percentofaverage weight ofbrickbeforetesting.Theabsorptionforeachindividualbricksshallnotexceed25percent.

The brick tiles when tested in accordance with IS: Latest edition, the rateofefflorescenceshallnotbemorethan"Slightlyeffloresced'

M-55.<u>Whiteglazedtiles</u>

The tiles shall be of best quaky as approved by the Engineer- in-charge.They shall be foat and true to shape. They shall be free from cracks,crazing spots, chipped edges and corners. The glazing shall be of uniformshade.

Variation from the stated sizes, other than the thickness of tile shall beplus or minus 1.5 mm. The thickness of tile shall be 6 mm. Except asabovethetilesshallconformtoI.S.Latestedition.

M-56.<u>GalvanizedIronPipesandFittings</u>:

GalvanizedironpipeshallbeofthemediumtypeandofrequireddiameterandshallcomplywithIS:latest edition. The specifieddiameter of the pipes shall refer to the inside diameter of the bore.Clamps,screwandallgalvanizedironfittingsshallbeofthestandard'R'orequivalentmake.

M-57.<u>Bibcockandstopcock</u>:

A bib cock is adraw offtapwith ahorizontal inletand free outlet. Astopcockisavalvewithasuitablemeansofconnectionforinsertionina pipelineforcontrollingorstoppingtheflow.

They shall be of screw down type and or brass chromium plated and ofdiameterasspecifiedinthedescriptionoftheitem.TheyshallconformtoIS:latesteditionandtheyshallbeofbestIndianmake.Theyshallbepolishedbright.

Theminimumfinishedweightofbib cockandstop cock shall be asgivenbelow:

Diameter	Bib cock	Stopcock	Diameter	Bib cock	Stopcock
8mm	0.25kg	0.25kg	15 mm	0.40kg	0.40kg
10 mm	0.30kg	0.35kg	20 mm	0.75kg	0.75kg

M-58.<u>Gunmetalwheelvalve</u>:

The gun metal wheel valve shall be of approved quality. These shall beof gun metal fitted with wheel and shall be of gate valve opening fullway and of the size as specified. These shall conform to IS: latestedition.

M-59.<u>Whiteglazedporcelainwashbasin</u>:

WashbasinshallbeofwhiteporcelainfirstqualitybestIndianmakeand it shallconform toIS:latestedition. The size of the wash basinshall be as specified in the item. Wash basin shall be of one piececonstruction with continued over flow arrangements. All internal anglesshall be designed so as to facilitate cleaning. Wash basin shall havesingle tap hole or two holes as specified. Each basin shall have acircular waste hole which is either revated or beveled internally with 65mm diameter at top and 10 mm depth to suit the waste fitting. Thenecessarystudslottoreceivethebracketontheundersideofthebasin shall be provided. Basin shall have an internal soap holder recesswhichshallfullydrainintothebowl.

White glazed pedestal of the quality and color as that of the basin shallbeprovidedwherespecifiedintheitem.Itshallbecompletelyrecessedat the back for reception of supply and wash pipe. It shall be capable ofsupportingthe basin rigidlyand adequately and shall be so designed asto make the height from the floor to top of the rim of basin 750 mm to800mmasdirected.

M-60.<u>Europeantypewaterclosetwithlowlevelflushing</u>:

The European type water closet shall be white glazed porcelain firstqualityandshallbeofwashdowntypeconformingtoIS:latestedition.

'S' trap shall be provided as required with water seal not than 50 mm.The solid plastic seal and cover shall be of best Indian make conformingto IS: latest edition. They shall be made of moulded synthetic materialswhich shall be tough and hard with high resistance to solvents and shallbe free from blisters and surface defects and shall have chromiumplatedbrasshingesandrubberbufferofsuitablesize.

M-61.<u>Orissatypewatercloset</u>:

The specification of Orissa type white glazed water closet of first qualityshall conform to IS: latest edition and relevant specification of Indiantype water closet except that pan will be with the integral squatting panofsize580x440mmwithraisedfootrest.

M-62.Indiantypewatercloset:

The Indian type white glazed water closet of first quality shall be of sizeas specified in the item and conforming to IS: latest edition. Each panshallhaveintegralflushing.Itshallalsohaveaninletatbackorfrontforconnecting flushpipeasdirected.Theinsideofthebottomofthepan shall have sufficient slope from the front towards the outlet andsurface shallbeuniform and smooth.Panshallbeprovided with 100mm. diameter "P" or "S" trap with approximately 50 mm, Water seal and50mm.diameterventhorn.

M-62 AFootRests

Apairofwhiteglazedear-thenwarerectangularfootofminimumsize250mm.x130mmx20minshallbeprovidedwiththewatercloset.

M-63 GlazedEarthenWareSink

Theglazedearthenwaresinkshallbeofspecifiedsize,colourandquality.The sink shall conform to I. S. latest edition. The brackets for sinks shallconformtoIS:latestedition.

The pipes shall conform to I.S. latest edition for steel and lead pipesrespectively. 32 min. brass waste coupling of standard pattern with brasschainandrubberplugshallheprovidedwithsink.

M-64. Glazedearthen-wareLippedtypeflatbackurinal/cornertypeurinal.

The lipped type shall be flat. back or corner type as specified in the itemandshallconformtoIS:Latestedition.ItshallbeofbestIndianmakeandsizeasspecifiedaridapprovedbytheEngineer-in-charge.Theflatbackorcornertypeurinalmustbeof1stqualityfreefromanydefects,cracksetc.

M.65.Lowlevelenamelflushingtank

The low level enamel flushing tank shall be of 15 litres capacity. It shallconform to IS: latest edition. The flushing cistern shall be of best qualityand free from any defects. The flushing tank shall have outlet 32 mm.diameter. The outlet shall he connected with WC. Pan by lead pipe or PVCpipeasspecified.Theflushingcisternshallbeprovidedwithinletandoutletfor fixing G.I. inlet pipes and overflow pipes The flushing cistern shall beprovidedwithchromiumplatedhandleforflushing.Theflushingtankshallbe provided with bracket of cast iron so that it can be fixed on wall atspecifiedheight.The,bracketsshallconformtoI.S.latestedition.

M-66.Castironflushingcistern.

Thecastironflushingcisternshallbeof15litrescapacity.ItconformtoIS.latest edition, The flushing cistern shall be of best quality free from anydefects,Theflushingcisternshallhaveoutletof32mm.diameter.Theleadpipeshallconform IS:latestedition.ForfixingG.I.inletpipesandoverflowpipe20mm diainletandoutletshallhegotprovided.Theflushing,cisternshallbeprovidedwith galvanizedironchainandpullofsufficientlengthandshall be got approved from the engineer-in-charge. The cast iron flushingcisternshallbepaintedwithonecoatofanti-corrosivepaintandtwocoats

ofpaints.Theflushingcisternshallbefixed ontwoC.I.brackets.TheC.I.bracketshallconformtoIS:latestedition.

M-67 FlushCock

Halfturnflushcock(Heavyweight)shallbeofgunmetalchromiumplatedofdiameterasspecifiedinthedescriptionoftheitem.Theflushcockshallconformtorelevant IndianStandard.

M-68 Castironpipesandfittings.

Allsoil,water,ventandantisyphonagepipeandfittingshallconformtoIS:latest edition. The pipe shall have spigot and socket ends with head onspigotend.Thepipesandfittingsshallbetruetoshape,smooth,cylindricaltheir inner and outer surfaces being as nearly as practicable concentric.They shall be sound and nicely cast and shall be free from cracks, lapspinholes or other imperfection and shall be neatly dressed and carefullysettled.

Theendofpipesandfittingsshallbe,reasonablesquaretotheiraxis.
The sand cast iron pipes shall be of the diameter as specified in thedescription and shall be in lengths of 1.5 M, 1.8 M. and 2 M. includingsocket ends of the pipe unless shorter lengths are either specified orrequired at junctions etc. The pipes and fittings shall he supplied. withoutearsunlessspecifiedordirectedotherwise.

Tolerances

Thestandardweightsandthicknessofpipesshallbeasshowninthefollowingtable :

Sr No	Nominaldia .ofbore	Thickness	Overall	Weightof pipe	Excluding ears
1	75mm	5.0mm	1.5 m long 12.83kg	1.8 m long 16.52kg	2mlong 18.37kg
2	100mm	5.0mm	18.14kg	21.67kg	24.15kg

A tolerance upto minus 15 percent in thickness and 20 mm in length willbe allowed. For fittings tolerance in lengths shall be plus 25 mm andminus10mm.

The thickness of fittings and their socket and spigot dimensions shallconform to the thickness and dimensions specified for the correspondingsizesofstraightpipes.Thetoleranceinweightsandthicknessshall bethesameasforstraightpipes.

M-69.NahniTrap:

Nahni trap shall be of cast iron and shall be sound and free from porosityor other defects which affect serviceability. The thickness of the basemetalshallnotbelessthan6.5mm.Thesurfaceshallbesmoothandfreefrom craze,chipsandotherflawsoranyotherkindofdefectwhichaffect

serviceability. The size of nahni trap shall be as specified and shall be ofselfcleaningdesign.

Thenahnitrapshallbeofqualityapprovedby theengineer-in-chargeandshallgenerallyconformtotherelevantIndianStandard.

The nahni provided shall be with deep seal, minimum 50 mm except atplaces where trap with deep seal cannot be accommodated. The covershall be cast iron perforated cover shall be provided on the trap ofappropriatesize.

M-70.<u>GullyTrap</u>:

The gully trap shall conform to IS: latest edition. It shall be sound, freefromdefectssuchasfirecracksorhaircracks.Theglazeofthetrapsshallbe free from crazing. They shall give a sharp clear note when struck withlighthammer.Thereshallbenobrokenblisters.

Thesizeofthegullytrapshallbeasspecifiedintheitem.

EachgullytrapshallhaveoneC.I.gratingofsquaresizecorrespodningtothe dimensions, of inlet of gully trap. It will also have a water tight C.I.cover with frame inside dimension 300 mm x 300 mm. The cover withframe inside dimensions 300 mm x 300 mm the cover weighing not lessthan 4.53 kg and the frame not less than 2.72 kg. The grating cover andframe shall be of sound and good casting and shall have truly squaremachinedseatingfaces.

M-71.<u>Glazedstonewarepipeandfittings</u>:

The pipes and fittings shall be of best quality as approved by engineer-in-charge. The pipe shall be of best quality manufactured from stoneware offire clay, salt glazed thoroughly burnt through the whole thickness, of aclose even texture, free from air blows, fire blisters, cracks and otherimperfections,whichaffecttheserviceability.Theinnerandoutersurfaces shallbesmoothandpefectlyglazed.thepipeshallbecapabletowithstand presures of 1.5 m lead without showing sign of leakage. Thethickness of the wall shall not be less than 1/12th of the internal dia. thedepth of socket not be less than 38 mm. The socket shall be sufficientlylargetoallowajointof6mmaroundthepipe.

ThepipesshallgenerallyconformtorelevantISlatestedition.

M-72.<u>WallPegRail</u>:

The aluminum wall peg rail shall have three aluminum pegs of approvedqualityandsize.Itshallbefixedonteakwoodplankofsize450mmx20mm.Theteakwoodshallbefrenchpolishedoroilpaintedasspecified.

M-73.<u>G.I.WaterSpot</u>:

The G.I. pipes of 40 mm dia shall be of medium quality and specials shallbeof'R'brand orequivalentofthebestapprovedquality.

The pipe shall have length as required for the thickness of wall in which itisfixed,andatoutsideendteeandbendcutathalfthelengthshallbe

provided and at other end, coupling shall be provided to have betterfixing. The water spout shall be provided as per detailed drawing or asdirected.

M-74.AsbestosCementPipe(A.C.Pipe)

The asbestos cement pipe of diameter as specified in the description ofthe item shall conform to I.S. latest edition. Special like bends, shoes,cowlsetc.shallconformtorelevantIndianStandards.Theinteriorofpipes hallhaveasmoothfinish,regular,surfaceandregularinternaldiameter.Thetoler anceinalldimensionshallbeasperIS:latestedition.

M-75.CrydonBallvalve

Ball valve of screwed type including polythene float and necessary leveletc. shall be of the size as mentioned in the description of item and shallconformtoIS:latestedition.

M-76.BitumenFeltForWaterProofingAndDampProofing

Bitumen felt shall be on the fiber bases and shall be of type 2, selffinishedfeltgrade-2andshallconformtoIS:latestedition.

M-77.SelectedEarth

Theselectedearthshallbethatobtainedfromexcavatedmaterial orshallhavetobe brought fromoutside asindicated intheitem.Ifitemdoesnotindicateanythingtheselectedearthshallhavetobebro ughtfromoutside.

The selected earth shall be good yellow soil and shall begot approvedfromtheEngineer-in-charge.In no caseblack cotton soilorsimilarexpensiveandshrinkablesoilshallbeused.Itshallbecleanandfreefr omall rubbish and perishable materials, stones or brick bats. The clods shallbe broken to a size of 50 mm. or less. Contractor shall make his ownarrangement at his own cost for land for borrowing selected earth. ThestackingofmaterialshallbedoneasdirectedbytheEngineer-in-chargeinsuch a way as not to interfere with any constructional activities and inproperstacks.

When excavated material is to be used, only selected stuff got approvedfrom the Engineer-in-charge shall be used. It shall lie stacked separatelyand shall comply with all the requirements of selected earth mentionedabove.

M-78.BarbedWire.

Thebarbedwireshallbeofgalvanizedsteelanditshallgenerallyconformto IS: latest edition. The barbed wire shall be of type-I whose nominaldiameter for line wire shall be 2.5 mm and point wire 2.24 mm. Thenominal distance between two barbs shall be 75 mm, unless otherwisespecifiedintheitem.Thebarbedwireshallbeformedbytwistingtogeth ertwo line wires, one containing the barbs. The size of the line and pointwires and barb spacing shall be as specified above. The permissibledeviation from the nominal diameter of the line wire and point wire shallnot exceed0.08mm.

Thebarbsshallcarryfourpointsandshallbeformedbytwistingtwopointwires, each two turns, lightly round one line wire, making altogether fourcomplete turns. The barbs shall be so finished that the tour points are setand locked at right angles to each other. The barbs shall have a length ofnotlessthan13mm.and notmorethan18mm.Thepointshallbesharpand cut at an angle not greater than 35 degree of the axis of the wireformingthebarbs.

Thelineandpointwiresshallbecircularsection,freefromscaleandotherdefects andshallbeuniformlygalvanized.Thelinewire shallbe incontinuous length and shall not contain any welds other than those in therod before it is drawn. The distance between two successive splices shallnotbelessthan15meters.

Thelengthsper100Kg.ofbar- bedwireIS:typeIshallbeasunder:Nominal1000meters.Minimum934Met er.Maximum1066Meter.

M-79 Admixtureformassconcreteandmortar:

M-79A)JointSealant

The sealant shall be best quality and from manufacturer like CICO, Fosroc MC-BAUCHEMIE, PIDILITE, HMP or equivalent as approved by engineer- in-charge.Thepriorapprovalforthesourceshallbetakenfromtheengineer-in-charge.ItshallbeconformedtotherelevantI.S.Code.

It shall be two component polysulphide rubber joint sealant, based on a lowmolecular weight polymer. It should not contain chloride or other corrosivesubstances.

It shall be used for sealing joints in water retaining structure, roofs, externalwall, cladding, floors, partition, sealing, pavement surface etc. It shall haveexcellentpropertytoadheremostofbuildingmaterial like aluminum,stainless steel, glass, concrete, marble, stone, brick, masonry block, plaster,ceramic, quarry tiles, timber etc. The modulus of elasticity of the sealantshallbelessthan0.16MPa,±10%at100%elongation.Theshore"A"hardnesso fthesealantshallbe22±3@250C.

The operating temperature range for the sealant shall be 250C to 800C. Thepermanent dynamic movement capability of the sealant shall be ±25%. Thetensile strength of the sealant shall not be less than 0.4 MPa. The optimumwidth / depth ratio shall be 2:1. The specific gravity of the sealant shall be 1.6Kg/Lit. The sealant should be capable to resist to attack of water, sunlight,oxidation, corrosive fumes, oils, petrol, diluted acids and alkalies, salt spray,aliphaticandaromaticsolventandshallnotcontaintarorbituminousingredients .

It shall possess the properties like 550% elongation at break, non-toxicitywhen fully cured, no staining and shrinkage less than 1%. The trafficablestrength shall be achieved within 24 hours and full at 7 days (at 250C and250% RH). It shall posses excellent coverage capacity and more strength atlowdrytemperature.

M-79B)AbrasionResistantIndustrialFlooringAggregate:
The flooring aggregate shall be of best quality and from manufacturer likeCICO, Fosroc or equivalent, as approved by the engineer-in-charge. The priorapproval for the source shall be taken from the engineer-in- charge. It shall beconformedtotherelevantI.S.Code.

The flooring aggregate shall be factory processed and specially graded non-oxidized, non-magnetic and chemically inert metallic flooring aggregate, freefromoilandgrease.

It shall be used as a surface hardener to concrete floors. It is recommendedforfactoryfloors,warehouses,hangers,carparksandsuchotherareassubjectedtoheavyvehiculartraffic.Itshallalsobeusedonopenandcontinuouslywetsurfaces.Theflooringaggregateshallbuildinwearingresistance and shall produce high abrasion resistant floor surfaces. It shallimpart extreme surface density and shall offer resistance to oil and waterpenetration. Itshallprovideanon-rustingfloor surfacewhich is easy tomaintain.

It shall be used with cement in the ratio, as per manufacturer's instruction andspread evenly on the surface to be treated, at the rate depending on the typeof floor. Theflooring aggregate shall be spread when the surface oftheconcrete floor is still fresh, i.e. as soon as the surface water has evaporatedandthentrawled,instage,tobringaboutanuniformandsmoothfinish.

M-79CConcreteHardenerandDustProofer:
The concrete hardener and dust proofer, shall be of the best quality and frommanufacturer like CICO, Fosroc or equivalent, as approved by the engineer-in-charge. The prior approval for the source shall be taken from the engineer-in-charge.ItshallbeconformedtotherelevantI.S.Code.

It shall have a specific gravity of 1.18 and shall be applied on concrete floors,at the ate of at least 25 liter/100 m2/coat. A total of 3 coats shall be appliedfor permanently hardened concrete floor, with increased abrasion resistance,increased surfacedensity, increasedresistance to chemical attackand toeliminate dust accumulation. Drying time of 4 to 6 hours for each coat shall beallowed before the flooring is put to use or is applied with another coat ofthe product. Precautions shall be taken while using the product, to avoidcontact with eye and open wounds and to work in good ventilation. Afterapplication, the affected part shall be washed copiously. It shall not be storedfortheperiodofmorethantwomonths beforeuse.

M-79DWaterRepellentCoating:
The water repellent coating shall be of the best quality and from manufacturerlike CICO, Fosroc or equivalent, as approved by the engineer-in-charge. Theprior approval for the source shall be taken from the engineer-in-charge. ItshallbeconformedtotherelevantI.S.Code.

Water repellent coatings for exterior exposed surfaces shall be acrylic resinbased,havingaFlashpointofapprox.40°Candspecificgravityof0.95.

Itshallbesuitablyusedforconcrete,brick,stoneandplasteredsurfacespreventingmoisturepenetrationand thusany damagetotheinteriors.Itshallbequickacting,longlasting,invisiblei.e.colourlesssoastomaintaintheoriginalcolourofthesurfacetreated.Itshallimpartsealingcharacteristicssothat the treated surface becomes stain and dust free. The coating itself shallnotdarkenor turnyellowwithage.

M-79EAccelerating,WaterReducingAdmixtureandPlasticiser:
The Accelerating, Water reducing admixture and plasticiser, shall be of bestquality and from manufacturer like CICO, Fosroc or equivalent, as approved bytheEngineer.The priorapprovalfor the source shallbetaken fromtheEngineer.ItshallconformtotherelevantISCode.

It shall be in liquid state with a specific gravity of 1.30 and complying with-ASTM C-494 Type E, IS : 9103 & IS: 2645. It shall accelerate the setting andhardening of the concrete mix, thereby achieving higher early age strength. Itshallreducethewatercontentoftheconcretewithout affecting itsworkability. It is useful for pre-cast/pre-stressed works, structural concreteworks,floors,roads,runways,pavingetc.Itshallbeusedattherateinstructed by the manufacturer, with cement, depending on the amount ofaccelerationofhardeningrequired,itshouldbecompatible toalltypesofcement.

M-79FRetarding,WaterReducingAdmixtureandPlasticiser:
The Retarding, water reducing admixture and plasticiser, shall be of bestquality and from - manufacturer like CICO, Fosroc, Feb Roffe or equivalent, asapproved by the Engineer. The prior approval for the source shall be takenfromtheEngineer.ItshallconformtotherelevantISCode.

It shall be in liquid state with a specific gravity of 1.22 and complying withASTMC-494TypeB&D,IS9103,CRD-C87TypeB&D,BS5075Part1.It shall be added to the concrete mix during the mixing process, at the sametime as the water or the aggregates. No extension of normal mixing time isnecessary. It shall extend the period of time as to placing the concrete andcompacting, i.e. delay the initial and final setting time. It shall help to spreadthe heat of hydration over a longer period of time. It shall give a highlyworkableconcretewithalowW/Cratio.Itshall beusedattherateinstructedbythemanufacturer,withcement,dependingontheamountofaccelerationofhardeningrequired.Itshouldbecompatibletoalltypesofcement.

M-79GWater&WeatherProofCompound:
The water & weather proof integral cement admixture shall be of best qualityand from manufacturer like Feb Roffe's Roff Hyseal, Roff hyproof, Algiproof orequivalent, as approved by the Engineer. The prior approval for the sourceshallbetakenfromtheEngineer.ItshallconformtotherelevantISCode.

Itshallbeusedasanexcellentcementadmixtureinalltypesofconcrete/plastermortars,pointingmortars,masonryworks,gunitingworksandpressure grouting works. It shall improve resistance of concrete surfaces toweathering and chemical attack. It shall be non-toxic so as to use for waterproofingwatertanks,reservoirs,bio-gastank,leakingceiling,basements,

tunnels,liftwellsetc.

It shall be mixed to concrete or plaster mortar, while mixing. First, water isadded and then the admixture, at the rate instructed by the manufacturer. Foruse of the admixture, precaution shall be taken to use clean materials forpreparationofmortar.

M-79HPlasterAdmixture:
An admixture which gives the plaster workability, durability and quality ataneconomical rate shall be of best quality from manufacturer like Feb Roffe(productname -Roffplastermaster)orequivalent,as approvedbytheEngineer.ItshallcomplytotherelevantISCodes.

It shall keep the plastering mortar plastic for a longer time, giving higherstrength on prolonged curing. It shall provide cohesiveness, workability andeliminate efflorescence. It shall reduce shrinkage, cracking and crazing to theminimum.

M-80 FlyAsh:
Fly Ash of grade-I as per IS: 3812-1981 shall be from Sikka Thermal PowerStation Only. Contractor has to manage for required size containers at siteworkforstoringtheFlyash.

M-81 Anti-CorrosivePaints:M-81AFerroshield:
ItshallbefromSTPLimitedorequivalent,asapprovedbytheEngineer.

Itshallbeahighbuildbituminousemulsion,speciallyformulatedforprotectionagainst corrosion. It shall form a dry film, 2 mm. thick, which shall not crackat low temperatures nor crocodile at-very high temperatures. It shall also beused as waterproofing material on flat, sloped and steeped roofs. It shall beappliedbybrushandbyheavydutyairlesspraying...

M-81BTankmastic:
ItshallbefromSTPLimitedorequivalent,asapprovedbytheEngineer.Itshallconformt oIS:
158-9862.

It shall be special bituminous paint, which shall have no harmful reaction ondrinking water. It shall be used to protect the inside of water tanks and pipeconnections, against corrosion. It shall be applicable on steel, wood, concrete,ironetc.Itshallhaveacoveringcapacityof12m^2/lit..

M-81CPipekote:
ItshallfromSTPLimitedorequivalent,asapprovedbytheEngineer.ItshallconformtoI S:158.

It shall be a heavy duty bituminous paint, which shall not impart any odour ortaste to water, carried in the steel water pipelines, tanks and pen-stocks. Itshall be applied on the inside surface of the water pipe line, tanks and pen-stocks. Itshallberesistanttomildacids, alkalisandshallwithstandheatupto

150°C.Itshallrenderaheavybodyprotectivefilm.Ifzinc-rich,epoxyprimershallbeused,betterresultsofpipekoteshallbeobtained.

M-81DSilverShield:
ItshallbefromSTPLimitedorequivalent,asapprovedbytheEngineer.

Itshallbeabituminousaluminum-finishpaintformulatedforapplicationoveranti-corrosivepaints.Itshallhaveacovering capacityof10m^2/lit..

M-81EShalimasticHD:
ItshallbefromSTPLimitedorequivalent,asapprovedbytheEngineer.Itshallcomply with the US Dept. of interior bureau of reclamation specification CA-50.

Itshallbeaviscous,heavy-duty,anti-corrosivewaterproofcoaltarpaint.Itshallofferresistancetoacidsandalkalis.Itshallbeusedforprotectionofalltypesofironandsteelstructures.

M-82 GalvanizedIronPipe:
Galvanised iron pipe shall be of the medium type and of required diameter andshall comply with IS 1239-1975. The specified diameter of the pipes shall referto all inside diameter of the bore, clamps, screw and all galvanised iron fittingsshallbeofstandard'R'orequivalentmakeasapprovedbytheEngineer.

M-83 <u>AcousticalWall&Ceilingmaterial:-</u>M-83a<u>Glasswool:-</u>

I. Glasswoolshall beconformasperrelevantI.S.standard&specification.
II. Density,&thicknessshallbeusedasperspecifiedinitemspecification.
III. Itshallbepurewithoutdust&anyforeignmatterandshallbeuniformincolor,density&weight.

M-83b<u>Aluminumfoilorpercolatedsheet:-</u>

I. Aluminum alloy used in the manufacture of extruded & sheet orsectionshallconformtoI.S.designationHEA-WPofI.S.733-1975andalsotoI.S.designationWVG-WP of I.S.1285-1975.&itshallbespecifiedintheitemspecification.The fabricationshallbedoneasdirected.
II. AluminumshallbeconformtoI.S.733-1825,&relevantI.S.standard &specification.
III. Density, Grade & thickness shall be used as per specified in itemspecification.

M-83c<u>Woodwoolboard:-</u>

I. Acoustical Insulation shall be conforming to I.S. 8225-1987, andequivalenttoISO:354&ASTM.423-90A.
II. ThermalinsulationshallbeconformtoB.S.:874–1965.
III. Board shall be fire resistant conform to B.S. 476- part-5 Class-P,part-6 I-4.11, Part-7 Class-1, & size, thickness and other specialrequirementshallbeasperspecifiedinitemspecification.

M-83d<u>AcousticalBoard&Gypsumboard</u>

Humidityresistant	99%RH.
Materialfireperformance	Class-0/Class-1(B.S.476)
SoundAbsorption(NRC.)	0.50
FrequencyHz	125–4000
Soundinsulation	40dB.
CAC.	90%
Lightreflection.	>85%
Thermalresistant.	$R=0.28m^2$ k/W
Weight/Piece(600mmX600mm. X15mm.thickboardwithoutGrid.)	2.35Kg.

Surfacefinish	Crispsubtlytexturedmattappearancewithvisible perforation finished with vinylemulsionpaint
Material	HydrosynthesizedBiosolublelongfiberwithpurifiedstarchasbinder.
Bendingstrength	$\geq$250N(JISA6301)
Saggingresistant	$\leq$5/1000.

TestingMethod

FirePropagationTest	Class–0	B.S.476PART-6
Flamespread	Class1(0-25)	ASTM–E84
	Class-A	U.S.FederalSpec.SS.-S-118-b
	20	Underwriters LaboratoriesInc.
	Class-1	BS.476Part-7
Thermalconductivity	0.045Kcal/mh^{0}C	JISA1412
Lightreflectance	LR-1(Over80%)	ASTM.C523
NRC	0.55-0.70	ASTM.C423
CAC	36	ASTM.E413

I. Size,thicknessandotherspecialrequirement shall bespecified in the item specification. The fabrication shall be doneasdirected.

SignatureofContractor

DETAILEDTECHNICALSPECIFICATIONS

ItemNo.1and43:ok ExcavationofFoundationinSoftMurrum,SoilorSandfrom0.0mtr.to 1.50 mtr depth including lifting and laying asinstructed andRemovalofExcavatedStuffwithinRMC limitasdirectedby Engineer-in-Charge

1.0 General:

1.1 Any soil which generally yields to the application of the pickaxesandshovels,phawarasrakesoranysuchordinaryexcavationimplement or organic soil, gravel, slit, sand turf lawn, clay, peat etc.fallunderthiscategory.

2.0 Cleaningthesite:

2.1 The site on which the structure is to be built shall be cleared, and allobstructions, loose stone, materials and rubbish of all kind, bush,wood and trees shall be removed as directed. The materials soobtain shall be property of the government and shall be conveyed andstacked as directed within RMC limit. The roots of the tree coming inthesidesshallbecutandcoatedwithaasphalt.

2.2 The rate of site clearance is deemed to be included in the rate ofearthworkforwhichnoextrawillbepaid.

3.0 Settingout:

After clearing the site, the center lines will be given by the engineer-in-charge.The contractor shall assume full responsibility foralignment, elevation and dimension and of each and all parts ofthe work.Contractorshall supplylabors, materials,etc required forsetting out the reference marks and bench marksandshall maintainthemaslongasrequiredanddirected.

4.0 Excavation:

The excavation in foundation shall be carried out in true line andlevel and shall have the width and depth as shown in the drawings orasdirected.Thecontractorshalldothenecessary shoring andstrutting or providing necessary slopes to a safe angle, at his owncost.Thebottomoftheexcavatedareashallbeleveledbothlongitudinally and transversely as directed by removing and wateringas required. No earth filling will be allowed for bringing it to level, ifby mistake or any other reason excavation is made deeper or widerthan that shown on the plan or directed. The extra depth or width shallbe made up with concrete of same proportionas specified for thefoundation concrete at the cost of the contractor. The excavationupto1.5mtdepthshallbemeasuredunderthisitem.

5.0 Disposaloftheexcavatedstuff:

The excavated stuff of the selected type shall be used in filling thetrenches and plinth or leveling the ground in layers including rammingandwateringetc.

Thebalanceoftheexcavatedquantityshallberemovedbythecontractor from the site of work to a place as directed within RMClimitandalllift.

After refilling, surplus earth shall have to carted by the contractorwithinspecifiedlimitincludingloading transporting unloadingspreadingwithoutanyextracost.

The surplus stuff shall be disposed off at the following sites asdirected within the prescribed limits of Notification as directed by theengineeringincharge.

1. Beside Kotharia Police Station near Stone Quarry11.AllQuarryareasofRaiyaSmartCity
12. TP Scheme No.10, FP-87, Dhebar Road (South), Atika Area, Nr.PGVCLOffice
13. TPSchemeNo.23,FP-23,Nr.IOCGodown,MorbiRoad
14. TPreservationplotatSamratindustrialArea,Bh.STWorkshop15.TP SchemeNo.9,FP-5,Nr.RaiyadharGarbageStation
16.TP Scheme No.20, FP-35, Bh. Pradhuman Green17.TPSchemeNo.28(Mavdi),FP-46/A,Nr.GETCOCircle
18.TPSchemeNo.12,FP-38/Aand39/B,Nr.LijjatPapad,KothariyaNationlaHighway

Ifthecontractorfailstodisposetheexcavatedstuffasspecified,penalty will be imposed by Rajkot Municipal Corporation as per theNotificationforC&Dwaste.

ModeofMeasurementandPayment:

The measurement of excavation in trenches for foundation shall bemade according to the sections of trenches shown on the drawing or asper sections given by the engineer-in-charge. No payment shall bemade for surplus excavation made in excess of above requirement or dueto stopping and sloping back as found necessary on account of conditionsofsoilandrequirementsofsafety.

Therateshallbefora unitofone cubicMeter.

ItemNo.2&18:ok
FoundationfillingwithCCworkinproportionof1:2:4using1.5cm to 2.0 cm aggregate including Ramming, Curing etc. andFoundationfillingwithCCworkin proportionof1:3:6using1.5 cmto2.0cmaggregateincludingRaming, Curingetc.

1.0. Materials
1.1 WatershallconformtoM-1.CementshallconformshallconformtoM-3.Sandshall conformtoM-6.Stonesaggregate20mm.nominalsizeshallconformtoM- 12.

2.0 Workmanship
2.1 General
2.1.1 Before starting concrete the bed of foundation trenches shall becleared ofall loosematerials,leveled, wateredandrammedasdirected.

2.2 ProportionofMix
2.2.1 The proportion of cement, sand and coarse aggregate shall be onepart of cement, 2 parts of sand and 4 parts of stone aggregate; andshallbemeasuredbyvolume.

2.3 Mixing

2.3.1 The concrete shall he mixed in a mechanical mixer at the site ofwork. Hand mixing may however be allowed for smaller quantity ofwork if approved by the Engineer-in-charge. When hand mixing ispermittedbytheEngineer-in-chargeincaseofbreak-downofmachineries and in the interest of the work, it shall be carried out ona water tight platform and care shall be taken to ensure that mixingiscontinueduntilthemassisuniformincolourandconsistency. However in such cases 10% more cement thanotherwise required shall have to be used without any extracost.Themixingin mechanical mixer shall be done for aperiod 1½ to 2 minutes. The quantity of water shall be justsufficient to produce a. dense concrete of required workabilityforthepurpose.

2.4 Transporting&placingtheconcrete.

2.4.1 The concrete shall, be handed from the place of mixing to the finalposition in not more than 15 minute by the method as directed andshall be placed into its final position, compacted and finished within30minutesofmixingwithwateri.e.beforethesettingcommences.

2.4.1 Theconcreteshallbelaidinlayersof15cmsto20cms.

2.5 Compacting:

2.5.1 The concrete shall be rammed with heavy iron rammers and rapidlyto get the required compaction and to allow all the interstices to befilledwithmortar.

2.6 Curing

2.6.1 After the final set, the concrete shall be kept continuously wet ifrequired by ponding for a period of not less then 7 days from thedateofplacement.

2.7 Modeofmeasurementsandpayment:

2.7.1 Theconcreteshallhemeasuredforitslength,breadth,anddepth,limitingdimensionstothosespecifiedonplanorasdirected.

2.7.2 Therateshallbeforaunitofonecubicmeter.

ItemNo.3and4:ok

Foundation filling with Rubble Cement Mortar in proportion of 1:6Cement:Mortar

And

Rubble Plinth masonry work in Cement:Mortar in proportion of 1:6with Brick Masonry Or Rubble Corner using old Rubble in proportionof1:2with CuringwithoutC.Pointing

Materials

Stones for the works shall be of the specified varieties which are hard,durable, fine grained and uniform in colour (for superstructure work) freefrom veins, flaws and other defects. Quality and work shall conform to therequirements specified in IS:1597 (Part-I) (Latest Edition). The percentageof water absorption shall not exceed 5 percent as per test conducted inaccordancewithIS:1124(LatestEdition).TheContractorshallsupplysample stones to the RMC for approval. Stones shall be laid with its grainshorizontalsothattheloadtransmittedisalwaysperpendiculartothenaturalb

ed.

Cement-
sandmortarforstonemasonryworksshallbeintheproportionof1:6.Materialsandpreparationofmortarshallbeasspecifiedbelow:

Workmanship

For All Works below ground level the masonry shall be random rubbleuncoursed with ordinary quarry dressed stones for the hearting and selectedquarrydressedstonesforthefacing.

For all works above ground level and in superstructure the masonry shall berandom rubble uncoursed, well bonded, faced with hammer dressed stoneswith squared quoins at corners. The bushings on the face shall not be morethan 40 mm on an exposed face and on the face to be plastered it shall notprojectbymorethan12mmnorshallithavedepressionsmorethan10mmfromtheaveragewallsurface.

Face stones shall extend back sufficiently and bond well with the masonry.The depth of stone from the face of the wall inwards shall not be less thanthe height or breadth at the face. The length of the stone shall not exceedthree times the height and the breadth on base shall not be greater thanthree-fourths the thickness of wall nor less than 150 mm. The height ofstone may be upto a maximum of 300 mm. Face stones or hearting stonesshallnotbelessthan150mminanydirection.

Chips and spalls shall be used wherever necessary to avoid thick mortarjoints and to ensure that no hollow spaces are left in the masonry. The useofchipsandspallsintheheartingshallnotexceed20percentofthequantityof stone masonry. Spalls and chips shall not be used on the face of the wallandbelowheartingstonestobringthemtotheleveloffacestones.

The maximum thickness of joints shall not exceed 20 mm. All joints shall becompletely filled with mortar. When plastering or pointing is not required tobe done, the joints shall be struck flush and finished as the work proceeds.Otherwise, the joints shall be raked to a minimum depth of 20 mm by arakingtoolduringtheprogressoftheworkwhilethemortarisstillgreen.

Through or bond stones shall be provided in walls upto 600 mm thick and incase of walls above 600 mm thickness, a set of two or more bond stonesoverlapping each other by at least 150 mm shall be provided in a line fromface to back. In case of highly absorbent types of stones (porous lime stoneand sand stone, etc.) the bond stone shall extend about two-thirds into thewallandasetoftwoormorebondstonesoverlappingeachotherbyatleast150 mm shall be provided. Each bond stone or a set of bond stones shall beprovidedforevery0.5sq.mofwallsurface.

All stones shall be sufficiently wetted before laying to prevent absorption ofwater from the mortar. All connected walls in a structure shall be normallyraised uniformly and regularly. However if any part of the masonry isrequired to be left behind, the wall shall be raked back (and not sawtoothed)atananglenotexceeding45deg.Masonryworkshallnotberaisedbymorethanonemeterperday.

Green work shall be protected from rain by suitable covering. Masonry workshallbekeptconstantlymoistonallthefacesforaminimumperiodofsevendaysforpropercuring ofthejoints.

Therateshallbeforaunitofonecubicmeter.

ItemNo.5&10:ok
CementConcreteWorkforCoppinginproportionof1:2:4includingFoam Work,finishing,curing etc.Completeand
CementConcreteWorkforCoppinginproportionof1:2:4includingFoam Work,finishing,curingetc.completewithGlass

AllM-15workistobecarriedoutthroughreadymixdesignasapprovedbyengineer-in-charge.

1.0 Materials:

Water shall conform to M-1, cement shall conform to M-2, Sand shallconform to M-4, Grit shall conform to M-8. Graded stone aggregate 20mm,nominalsizeshallconformtoM-12.

2.0 General:

2.1 The concrete mix is not required to be designed by preliminary tests. Theproportion of concrete mix shall be 1:2:4 (1 Cement: 2 coarse sand: 4gradedstoneaggregate)20mmnominalsize)byvolume.
Concrete work shall have exposed concrete surface or as specified in theitem.

2.2 ThedesignationordinaryM-100,M-150,M-200,M-250specifiedasperIScorrespond approximately to 1:3:6, 1:2:4, 1:1$^{1}/_{2}$:3 and 1:1:2 nominalmixofordinaryconcretebyvolumerespectively.

2.3 The ingredients required for ordinary concrete containing one bag ofcement of 50 Kg by weight (0.0342 Cu.M) for different proportions of mixshallbeasunder:

Grade ofconcrete	Totalquantityofdry aggregate byvolumeper 50kgs of cement tobetakenasthesum of individualvolumeof fineand coarse aggregates,max.	Proportionoffineaggregate to coarseaggregate	Quantityof water per 50 Kgsofcementmaximum
M-100(1:3:6) M-150 (1:2:4)M-200(1:1$^{1}/_{2}$:3) M-250(1:1:2)	300Litres 220Litres 160Litres 100Litres	Generally 1.2 forfine aggregate tocoarse aggregate byvolumebutsubject toanupperlimitof1:1.1/2andlowerlimit1:3	34Litres 32Litres 30Litres 27Litres

2.4 The water cement ratio shall not be more than specified in the abovetable. The cement concrete of the mix specified in the Table shall beincreased if the quantity of water in mix has to be increased to overcomethe difficulties of placements and compaction so that water cement ratiospecifiedonthetableisnotexceeded.

2.5 Workability of the concrete shall be controlled by maintaining a watercement ratio that is found to give a concrete mix which is just

sufficientwettobeplacedandcompactedwithoutdifficultywiththemeansavaila
ble.

2.6 Themaximumsizeofcoarseaggregateshallbeaslargeaspossiblewithinthe limits specified but in no case greater than one fourth of minimumthicknessofthemember, provided that the concrete canbe placedwithoutdifficultysoastosurroundallreinforcementthoroughlyandtofillt hecornersoftheform.

2.7. For reinforced concrete work, coarse aggregates having a nominal size of20mm,aregenerallyconsideredsatisfactory.

2.8 For heavily reinforced concrete members as in the case of ribs mainbeams, the nominal maximum size of coarse aggregate should usually berestrictedto5mm,lessthantheminimumthedistancebetweenthemainbars, or 5 mm less than the minimum cover to the reinform or whicheverissmaller.

2.9 Where the reinforcement is widely spaced as in solid slabs, limitations ofsizeoftheaggregatemaynotbesoimportant,andthenominalmaximumsizem aysometimesbeasgreaterasorgreaterthantheminimumcover.

2.10 Admixture may be used in concrete only with approval of engineer-in-chargebaseduponthe evidencethatwiththepassageoftime,neitherthecompre ssivestrengthofconcreteisreducednorare otherrequisitequalitiesofconcreteandsteelimpairedbytheuseofsuchad mixtures.

3.0 Workmanship:

3.1 Proportioning:

Proportioning shall be done by volume, except cement which shall bemeasured in terms of bags of 50 kg. weight the volume of one such bagbeing taken as 0.0342 cu.metre. Boxes of suitable size shall be used formeasuring sand aggregate. the size of boxes (internal) shall be 35 x 25cms,and40cmsdeepwhilemeasuringtheaggregateandsandtheboxesshall be filled without shaking ramming or hammering. The proportioningof sand shall be on the basis of its dry volume and in case of damp sand,allowancesforbulkageshallbemade.

3.2 Mixing:

3.2.1 For all work, concrete shall be mixed in a mechanical mixer which alongwith other accessories shall be kept in first class working condition and somaintained throughout the construction. Measured quantity of aggregate,sandandcementrequiredforeachbatchshallbepouredintothedrum ofthe mechanical mixer while it is continuously running. After about half aminute of dry mixing measured quantity of water required for each batchofconcretemixshallbeaddedgraduallyandmixingcontinuedforanothero neandahalfminute.Mixingshallbecontinuedtillmaterialsareuniformlydistribut edanduniformcolorofthe entiremassisobtained andeachindividualparticleofthecoarseaggregateshowscompletecoatingofmo rtar containing its proportionate amount of cement. In no case shallthemixingbedoneforlessthan2minutesafterallingredientshavebeenputi ntothemixer.

3.2.2 When hand mixing is permitted by the engineer-in-charge for small jobsor for certain other reasons, it shall be done on the smooth water tightplatform large enough to allow efficient turning over the ingredients

ofconcretebeforeandafteraddingwater.Mixingplatformshallbeso

arranged that no foreign material gets mixed with concrete nor does themixingwaterflowout.Cementinrequirednumberofbagsshallbeplacedin a uniform layer on top of the measured quantity of fine and coarseaggregate, which shall also be spread in a layer of uniform thickness onthemixingplatform.Drycoarseandfineaggregateandcementshallthenbe mixed thoroughly by turning over to get a mixture to uniform color.Specified quantity of water shall then be added gradually through a rosecanandthemassturnedovertillamixofrequiredconsistencyisobtained. In hand mixing quantity of cement shall be increased by 10percentabovethatspecified.

3.2.3 Mixers which have been out of use for more than 30 minutes shall bethorough cleaned before putting in a new batch. Unless otherwise agreedto by the engineer-in-charge the first batch of concrete form the mixtureshall contain only two thirds of normal quantity of coarse aggregate.Mixingplantshallbethoroughlycleanedbeforechangingfromonetyp eofcementtoanother.

3.3 Consistency:

3.3.1 Thedegreeofconsistencywhichshalldependuponthenatureoftheworkand the methods of vibration of concrete, shall be determined by regularslump tests in accordance with IS 1199 - Latest edition. The slump of 10mmto25mmshallbeadoptedwhenvibratorsareusedand80mmwhenvibrato rsarenot used.

3.4 Inspection:

3.4.1 Contractorshallgivetheengineer-in-chargeduenoticebeforeplacinganyconcrete in the forms to permit him to inspect and accept the false workand forms as to their strength, alignment, and general fineness but suchinspection shall not relieve the contractor of his responsibility for thesafetyofmen,machinery,materialsandforresultsobtained.Immediatelybe foreconcreting,allformsshallbethoroughlycleaned.

3.4.2 Centeringdesignanditserectionshallbegotapprovedfromtheengineer-in-charge.Onecarpenterwithhelpershallinvariablykeptpresentthroughoutthepe riodofconcreting.Movementoflaborandotherpersonsshall be totally prohibited for reinforcement laid in position. For access todifferent parts suitable mobile platforms shall be provided so that steelreinforcement in position is not disturbed. For ensuring proper cover,mortar blocks of suitable size shall be cast and tied to the reinforcement.Timber,kapachiormetalpiecesshallnotbeusedforthispurpose.

3.5. TransportingandLaying:

3.5.1 The method of transporting and placing concrete shall be as approved.Concreteshallbesotransportedandplacedthatnocontamination,seg regation or loss of its constituent material takes place. All form workshall be cleaned and made free from standing water dust, show or iceimmediatelybeforeplacingofconcrete.Noconcreteshallbeplacedinanypart ofthestructureuntiltheapprovaloftheengineer-in-chargehasbeenobtained.

3.5.2 Concretingshallproceedcontinuouslyoverthe areabetweenconstructionjoints

.Freshconcreteshallnotbeplacedagainstconcretewhichhasbeen

in position for more than 30 minutes unless a proper contraction joint isformed.Concreteshallbecompactedinitsfinalpositionwithin30minutesof its discharge from the mixer. Expert where otherwise agreed to by theengineer-in-charge concrete shall be deposited in horizontal layers to acompacteddepthofnotmorethan0.45meterwheninternalvibratorsareuseda ndnotexceeding0.30meterinallothercases.

3.5.3 Unless otherwise agreed to by the engineer-in-charge, concrete shall notbe dropped in to place from a height exceeding 2 meters. When trunkingor chutes are used they shall be kept close and used in such a way as toavoidsegregation.Whenconcretinghastoberesumedonasurfacewhichhas hardened it shall be roughened swept clean, thoroughly wetted andcoveredwitha13mmthicklayerofmortarcomposedofcementandsandinthe sameratioasintheconcretemixitself.This13mmlayerofmortarshall be freshly mixed and placed immediately before placing of newconcrete. Where concrete has not fully hardened all laitance shall beremoved by scrubbing the wet surface with wire of bristle brushescare being taken to avoid dislodgement of any particles of coarseaggregate. The surface shall then be thoroughly wetted all freewater removed and then coated with neat cement grout the firstlayer of concrete to be placedon this surface shall not exceed 150mminthicknessandshallbewellrammedagainstoldworkparticular attentionbeinggiventocornersandclosespots.

3.5.4 All concrete shall be compacted to produce a dense homogenous masswiththeassistanceofvibratorsunlessotherwisepermittedbytheengineer-in-charge for exceptional cases such as concreting under waterwherevibratorscannotbeused.Sufficientvibratorsinserviceableconditio n shall be kept at site so that spare equipment is always availablein the event of breakdowns. Concrete shall be judge to be compactedwhenthemortarfillsthespacesbetweenthecoarseaggregateandbe ginsto cream up to form an even surface mixture. During compaction, it shallbe observed that needle vibrators are not applied on reinforcement whichislikelytodestroythebondbetweenconcreteandreinforcement.

3.6 Curing:

Immediately after compaction, concrete shall be protected from weatherincluding rain running water shocks vibration traffic rapid temperaturechangesfrostanddryingoutprocess.Itshallbecoveredwithwetsac kinghassian or other similar absorbent material approved soon after the initialset and shall be kept continuously wet for a period of not less than 14daysfromthedateofplacement.Masonaryworkoverfoundationconcretemay be started after 48 hours of its laying but curing of concrete shall becontinuedforaminimumperiodof14days.

3.7 Samplingandtestingofconcrete:

3.7.1. Samples from fresh concrete shall be taken as per IS 1199 - Latestedition,andcubesshallbemadecuredandtestedat7daysof28daysasper requirements in accordance with IS 516 - Latest edition. A randomsampling procedure shall be adopted to ensure that each concrete batchshallhaveareasonablechanceofbeingtestedi.e.thesamplingshouldbesp readovertheentireperiodofconcretingandcoverallmixingunits.Theminimum frequency of sampling of concrete of each grade shall be inaccordancewithfollowing:

Quantity ofconcrete in the work	No.ofsamples	Quantity ofconcrete in the work.	No.ofsamples
1-5cmt	1	16-30cmt	3
6-15cmt	2	31-50cmt	4
51andabove	4±oneadditionalforeachadditional50morparthereof		

NOTE:- At least one sample shall be taken from each shift. Ten test specimensshall be made from each sample five for testing at 7 days and theremaining five at 28 days. The samples of concrete shall be taken oneach days of the concreting as per above frequency. The number ofspecimens may be suitably increased as deemed necessary by theengineer-in-charge when procedure of tests given above reveals a poorqualityofconcreteandinotherspecialcases.

3.7.2. The average strength of the group of cubes cast for each day shall not beless than the specified cube strength of 150 Kg/Cm^{2}at 28 days. 20% ofthe cubes cast for each day may have value less than the specifiedstrength.Suchconcreteshallbeclassifiedasbelongingtotheappropriatelowergrade.Concretemadeinaccordancewiththeproportiongivenforaparticular grade shall not, however, be placed in a higher grade on thegroundthattheteststrengtharehigherthantheminimumspecified.

3.8 Stripping:

3.8.1. The engineer-in-charge shall be informed in advance by the contractor ofhis intention to strike the form work. While fixing the time for removal ofform,dueconsiderationshallbegiventolocalconditions,characterofthestructure, the weather and other conditions that influence the setting ofconcrete and of the materials used in the mix. In normal circumstances(generallywheretemperaturesareabove20^{0}C)andwhereordinaryconcrete is used, forms may be struck after expiry of periods specifiedbelowforrespectiveitem of work.

StrippingTime:

Innormalcircumstancesandwhereordinarycementisusedformsmaybestruck afterexpiryoffollowingperiods:

a) Sideofwalls,columnsandverticalfacesofbeams-24to48hours.
b) Beamsoftish(props.leftunder) -7days
c) Removalofpropsslabs:
   i) Slabsspanningupto4.5m -7days
   ii) Spanningover4.5m -14days
d) Removalofpropsforbeamsandarches
   i) Spanningupto6m -14days
   ii) Spanningover6m -21days

3.8.2. All form work shall be removed without causing any shock or vibration aswould damage the concrete. Before the soffit and struts and struts areremoved,theconcretesurfaceshallbegraduallyexposed,wherenecessary in order to ascertain that concrete has sufficiently hardened.Centeringshallbegraduallyanduniformlyloweredinsuchamanneras topermit the concrete to take stresses due to its own weight uniformly andgradually.Whereinternalmetaltiesarepermitted,theyortheirremovable parts shall be extracted without causing any damage to theconcreteandremainingholesfilledwithmortar.Nopermanentlyembeddedmetalpartshallhaveless25mmcovertothefinished

concrete surface. Where it is intended to re-use the form work, it shall becleaned and made good to the satisfaction of the engineer-in-charge.After removal of work and shuttering, the City Engineer shall inspect thework and satisfy by random checks that concrete produced is of goodquality.

3.8.3. Immediately after the removal of forms, all exposed bolts etc. passingthrough the cement concrete member and used for shuttering or anyother purpose shall be cut inside the cement concrete member to a depthof at least 25 m below the surface of the concrete and the resulting holesbe filled by cement mortar. All fins cussed by form joints, allcavities produced by the removal of form ties and all other holesand depressions, honeycomb spots, broken edges or corners andother defects, shall be thoroughly cleaned, saturated with waterand carefullypointedand rendered true with mortar of cementand fine aggregate mixed in proportions used in the grade ofconcrete that is being finished and of as dry consistency as ispossible to use. Considerable pressure shall be applied in fillingand pointing to ensure through filling in all voids. Surfaces whicharepointedshallbekeptmoistforaperiodof24hours.Ifpockets / honeycombs in the opinion of the engineer-in-charge are of suchan extent or character as to affect the strength of the structurematerially or to endanger the life of the steel reinforcement, hemay declare the concrete defective and require the removal andreplacementof theportionsofstructureaffected.
(a)thebarsshallbekeptinpositionbythefollowingmethods:

(i) In case of beam and slab construction, sufficient number of precast coverblocksincementmortar1:2(1cement:2coarsesand)about4x4cms.sectionandof thicknessequalto the specified cover shall beplacebetween the bars and shuttering as to secure and maintain the requisitecover of concrete over the reinforcement.In case of cantilevered ordoublyreinforcebeamsorslabs,the- mainreinforcingbarsshallbeheldinposition by introducing chain spacers or supports bars at 1.0. to 1.2metrescenters.

(ii) In case of columns and walls, the vertical bars shall be kept in positionbemeansoftimbertemplatesslotesaccuratelyoutinthem,thetemplatesshallberemoved after concreting has been done below it.The bars Ray also suitably tied by means of annealed steel wires to theshutteringtomaintainpositionduringconcreting.

1.2. All bars,projecting formpillars,Columns beams, slabs etc, to whichother bars and concrete are to be attached or bounded to later on, shallbe protected with a coat of thin neat cement grout, if the bars are notlikely to be incorporated with succeeding mass of concrete within thefollowing 10 days, This coat of thin neat cement shall be removedbeforeconcreting.

4.0. Modeofmeasurements&payment.

4.1. The consolidated cubical contents of concrete, work as specified in itemshall be measured. The concrete laid in excess of sections shown ondrawing or as directed shall not be measured. No deduction shall bemadeforI

(a) Endsofdis-simmilarmaterialssuchasjoints,beams,posts,girders,

rafters, purlinetrusses,corbelsandsteps etc.upto500sq.cm. in section,

(b) Openingupto0.1Sq.M.

4.2. The rate includes cost of all materials labour, tools and plant requitedfor missing, placing in position, vibrating and compacting, finishing, asdirected.curingandallotherincidentalexpensesforproducingconcrete of specified strength. The rate excludes the cost offormwork.

4.3 Therateshallbefora unitofonecubic meter.

ItemNo.6,7,13,14,15&16:ok
ProvidingandlayingcementconcreteinM-20or1:1.5:3innominalmix(1cement:1.5coarsesand:3gradedstoneaggregate20m m.nominalsize)curingcompleteexcludingreinforcementforreinforcedworkin(A)Foundations,footingandmassconcrete.(C)Slabs,landingsshelves,balconies,lintels,chhajja,beams,girdersandcantilever.(D)Columns,pillars,posts,andstruts(E)Staircase(K)Verticaland horizontalfinsuptofloortwolevelincludingformwork

AllRCCworkistobecarriedoutthroughreadymixdesignasapprovedbyengineer-in-charge.

1.1 DesignSubmissions

Complete detailed design calculations of foundations and superstructuretogether with general arrangement drawings and explanatory sketchesshall be submitted to Addl. City Engineer. Separate calculations forfoundationsorsuperstructures submitted independent of each other shall be deemed to be incompleteandwillnotbeacceptedbyAddl.CityEngineer.

The design considerations described hereunder establish the minimumbasic requirements of plain and reinforced concrete structures, masonrystructures and structural steel works. However, any particular structureshall be designed for the satisfactory performance of the functions forwhichthesameisbeingconstructed.TheContractorshallalsotakecaretocheckthestabilityofpartlycompletedstructures.

1.2 DesignStandards

Alldesignsshallbebasedonthelatest IndianStandard(I.S.)Specifications or Codes of Practice. The design standards adoptedshall follow the best modern engineering practice in the field basedonanyotherinternationalstandardor specialist literature subject to such standard reference or extractofsuchliteratureintheEnglishlangaugebeingsuppliedtoandapproved byAddl.CityEngineer.IncaseofanyvariationorcontradictionbetweentheprovisionsoftheI.S.StandardsorCodesandthespecificationsgivenalongwiththesubmitted tender document, the provision given in this Specification shall befollowed.

All reinforced concrete structural design shall generally conform to thefollowing publicationsof theIndianStandardsInstitution :

I.S.456 Code ofPractice forplainand reinforcedconcrete

I.S.875 Code of Practice for design loads for buildings and

structures(Part1to5)

I.S.3370 CodeofPracticeforconcretestructuresforthestorageofliquids (PartItoIV)

I.S.1893 Criteria forearthquakeresistantdesignofstructures

I.S.2974 CodeofPracticefordesignandconstructionofmachinefoundations(Part1to4)

Allstructuralsteeldesignshallgenerallyconformtothefollowingpublicationsof theIndian StandardsInstitution:

I.S.800: CodeofPracticeforgeneralconstructioninsteel

I.S.806: Code of Practice for use of steel tubes in generalbuildingconstruction

1.3 DesignLife

Thedesignlifeofallstructuresandbuildingsshallbe60years.

1.4 DesignLoading

Allbuildingsandstructuresshallbedesignedtoresisttheworstcombination of the following loads / stresses under test and workingconditions; these include dead load, live load, wind load, seismic load,stresses due to temperature changes, shrinkage and creep in materials,dynamicloads,impactloadand otherspecificloads.

1.4.1 DeadLoad

This shall comprise all permanent construction including walls,floors, roofs, partitions, stairways, fixed service equipment and otheritemsofmachinery.

Thefollowingminimumloadsshallbeconsideredindesignofstructures:

Weightofwater		9.81kN/m^3
Weight of soil (irrespective of strataavailableatsiteandtypeofsoiluse dforfillingetc). However, forcheckingstabilityagainstuplift,actu al weight of soil as determinedbyfieldtestshallbeconsider ed.		20.00kN/m^3
Weightofplainconcrete		24.00kN/m^3
Weightofreinforcedconcrete		25.00kN/m^3
Weight ofbrickwork (exclusive ofplaster)		22.00 N/m^2 per mmthicknessof
Weightofplastertomasonrysurface		18.00N/m^2permmt hickness

Weightofgranolithicterrazzofinishorrenderingscreed,etc.		24.00 N/m^2 per mmthickness

1.4.2 LiveLoad

Liveloadsshallbeingeneralasper I.S.875.However,thefollowingminimumloadsshallbeconsideredinthedesignofstructures:

i)	Liveloadonroofs(accessible)	:	1.50kN/m^2
	(Non-accessible)	:	0.75kN/m^2
	Liveloadonfloorssupporting equipmentsuchaspumps,blowers, compressors,valves,etc.	:	10.00
iii)	Liveloadonallotherfloors walkways,stairwaysandplatforms.	:	5.00kN/m^2

In the absence of any suitable provisions for live loads in I.S.Codesorasgivenaboveforanyparticulartypeoffloororstructure, assumptions made must receive the approval of Addl.City Engineer prior to starting the design work. Apart from thespecified live loads or any other load due to material stored, anyother equipment load or possible overloading during maintenanceor erection / construction shall be considered and shall bepartialorfullwhichevercausesthemostcriticalcondition.

1.4.3 WindLoad

WindloadsshallbeasperI.S.875.

1.4.4 EarthquakeLoad

This shall be computed as per I.S. 1893 considering earthquake 2001.An importancefactorappropriatetothe type of structure shallbeconsidered fordesignofallthestructures.

1.4.5 DynamicLoad

Dynamicloadsduetoworkingofitemssuchaspumps,blowers,compressors, switch gears, travelling cranes, etc. shall be considered inthedesignofstructuresaspermanufacturer'sdata.

1.5 Joints

Movement joints such as expansion joints, complete contraction joints,partial contraction joints and sliding joints shall be designed to suit thestructure. However, contraction joints shall be provided at specifiedlocations spaced not more than 7.5 m in both right angle directions forallwallsandrafts.

Expansionjointsofsuitablegapatsuitableintervalsnotmorethan30m shall be provided in all walls, floors and roof slabs of water retainingstructures.

Construction joints shall be provided at right angles to the generaldirection of the member. The locations of construction joints shall bedecidedonconvenienceofconstruction.Toavoidsegregationofconcreteinwalls,horizontal construction jointsarenormallyto beprovided at every 2-m height. PVC water-stops of 150 mm width shallbe usedforwallsand230 mmwidthforbase slabs. AlternativelycontractorcanuseG.I.Sheetsof18gaugeand200mmwide.

Expansion joints for non-liquid retaining structures shall be providedasperIS3414.

1.6 Design Conditions for Underground or Partly Underground LiquidRetainingStructures

All underground or partly underground liquid containing structures shallbedesignedforthefollowingconditions:

(i) Liquid depth to be considered up to full height of wall and no reliefduetosoilpressurefromothersidetobeconsidered.
(ii) Structure empty condition (i.e., empty of liquid, any material,etc.)**:**full earth pressure with saturation and surchargepressurewhereverapplicable,tobeconsidered.
(iii) Partition wall between dry sump and wet sump **:** to be designedforfullliquiddepthuptofullheightofwall.
(iv) Partition wall between two compartments : to be designed as onecompartmentemptyandotherfullforboththedirections.
(v) Structures shall be designed for uplift in empty conditions with noliveload withtheappropriatewatertable.
(vi) Wallsshallbedesignedunderoperatingconditionstoresistearthquake forces from earth pressure mobilization and dynamicwaterloads.
(vii) Undergroundorpartiallyundergroundstructuresshallalsobechecked against stresses developed due to any combination of fullandemptycompartmentswithappropriateground/upliftpressuresfrom below to base slab. A minimum factor of 1.2 shall be ensuredagainstupliftorfloatation.
(viii) For tender evaluation, the Soil bearing capacity is to be consider10 MT/Sq.mt for sump and pump house foundation but on awardof thework, contractor shallhave to carry out detailed soilanalysis&basedonactualS.B.C.structure shallhavetobedesigned.

1.7 Foundations

(i) The minimum depth of foundations for all structures, equipment,buildings and frame foundations and load bearing walls shall be asperIS1904.
(ii) Maximum safe bearing capacity of soil strata shall be taken asindicatedingeo-technicalreports.

(iii) Careshallbetakentoavoidthe foundations of adjacentbuildings or structure foundations, either existing or not within thescope of this Contract. Suitable adjustments in depth, locationand sizes may have to be made depending on site conditions. Noextra claims for such adjustments shall be accepted by Addl. CityEngineer.

(iv) Specialattentionshalldrawntodangerofupliftbeingcaused by the ground water table.Localised water tableshall be consider up to existing ground level. Also Groundwater table of said plot shall be study in advance inclusiveofrainwater/otherwater deposition effect tofoundation.Thatshallbeconsiderindesignandimplementation of foundation and bottom slab of structureregardingabsoluteresistationagainstupliftpressure.

(v) Allgroundlevelstructuralslabwhereverapplicableshallbedesignedforupliftforcesduetogroundwaterpressure.

(vi) Where there is level difference between the natural ground level& the foundations of structure or floor slabs, this difference shallbefilledupinthefollowingways:

- In case of non-liquid retaining structures the natural topsoil shall be removed till a firm strata is reached (minimumdepth of soil removed shall be 500 mm.) and the leveldifference shall be made up by compacted backfill as perspecifications. However the thickness of each layer shallnot exceed 150 mm. The area of backfilling for floor slabsshall be confined to prevent soil from slipping out duringcompaction.Thesafebearingcapacityofthiswellcompactedbackfilledsoilshallnotexceed100kN/sq.m.
- In case of liquid retaining structures, the natural top soilshallberemovedasdescribedaboveandtheleveldifference shall be made up with Plain Cement Concrete(1:5:10)

1.8 DesignRequirements

Thefollowingarethedesignrequirementsforallreinforcedorplainconcretestructures:

a) All binding and leveling concrete shall be a minimum 100 mmthickinconcretegrade1:3:6.

b) **AllwaterretainedstructurearemakeM-30grademixconcrete**withamaximum20mmaggregatesizeforfootingsandbase slabs and all other structural members. The structures shallhavetobedesignedasperIS:3370(PartI-IV).

c) Thereinforcedconcreteforwaterretainingstructuresfor**M-30grademixconcrete**shallhaveaminimumcementcontentof**400kg/m^3**withamaximum20mmsize aggregateasperIS :3370(PartI-IV).

d) The minimum reinforcement for water retaining structuresin each direction should be 0.35% of cross section. The minimumclear cover to all reinforcement including stirrups and links shallbe50mmforallwaterretainingstructures.

e) All buildings shall have a minimum 1 metre wide, 100 mmthick plinth protection paving in M15 grade concrete or stoneslabs/tiles.Allplinthprotectionshallbesupportedonwellcompact edstrata.

f) Any structure or pipeline crossing below roads shall be designedmatching classification of road (anything from Class A to AA ofIRCloading)

g) The bridges & bridge supporting structures shall be designedtosafelywithstandtheloading.

h) All pipes & conduits laid below the structural plinth & road worksshallbeembeddedinreinforcedconcreteofgradeM15ofminimum thickness 150mm.

i) Approved quality water proofing compound (chloride free) shallbeaddedduringconcretingof allliquidcontainingstructureintheproportions specified bymanufactureror 2% byweight ofcementwhicheverishigher.

- Thewallandfloorpanelsshallbepouredinsequentialorderwitha minimumtimegapof4days.

Thefollowingminimumthicknessshallbeusedfordifferentreinforce dconcretemembers,irrespectiveofdesignthickness:

(i) Wallsforliquidretainingstructures	:250mm
(ii) Roofslabsforliquidretainingstructures otherthanflatslabs)	:150mm(
(iii) Bottomslabsforliquidretainingstructures	:200mm
(iv) Floorslabsincludingroofslabs,walkways, canopyslabs	:100mm
(v) Wallsofcables/pipetrenches, undergroundpitsetc.	:125mm
(vi) Columnfootings	:300mm
(vii) Parapets,chajja	:100mm
(viii) Precasttrenchcover	: 75mm

- In Mix design, the water cement ratio should not exceed 0.45. The exposer condition tobeconsidered severe aschlorinatedwateristobestored.

- The inside surface of the container of ESR and GSR shall beprovided 20 mm thick water proof cement mortar plaster in CM1:3whereasoutsidesurfaceoftheGSRshallbesandfaced

in both admixture for water proofing comply to BIS shall addinplasteringworksasperguidelinesofdesignandengineerin charge and that of all surfaces of ESR i.e. container, shaft,etc.shallbeexposedfinished.

1.9 MaterialsinGeneral

The term "materials" shall mean all materials, goods and articles ofevery kind whether RAW, processed or manufactured and equipmentandplantofeverykindtobesuppliedbytheContractorforincorporationintheWorks.

Except as may be otherwise specified for particular parts of the worksthe provision of clauses in "Materials and Workmanship" shall applytomaterialsandworkmanshipforanypartoftheworks.

All materials shall be new and of the kinds and qualitiesdescribedinthe Contractandshallbeatleastequaltoapprovedsamples.

As soon as practicable after receiving the order to commence theWorks, the Contractor shall inform Addl. City Engineer of the namesof the suppliers from whom he proposes to obtain any materials butheshallnotplaceanyorder withouttheapprovalofAddl.CityEngineer which may be withheld until samples have been submittedand satisfactorily tested. The Contractor shall thereafter keep Addl.CityEngineerinformedofordersforanddeliverydatesofallmaterials.

Materials shall be transported, handled and stored in such a manneras to prevent deterioration, damage or contamination failing whichsuch damaged materials will be rejected and shall not be used on anypartoftheWorksunderthiscontract.

1.10 SamplesandTestsofMaterials

The Contractor shall submit samples of such materials as may berequired by Addl. City Engineer and shall carry out the specified testsdirected by Addl. City Engineer at the Site, at the supplier's premisesoratalaboratoryapprovedbyAddl.CityEngineer.Addl.CityEngineer may appoint separate third party inspection for the materialtesting to ensure the quality of the work. The Contractor shall replacethedefectivematerialasanoutcomeofthesetests.

Samples shall be submitted and tests carried out sufficiently early toenablefurthersamplestobesubmittedandtestedifrequiredbyAddl.CityEngineer.

The Contractor shall give Addl. City Engineer seven days' notice inwriting of the date on which any of the materials will be ready fortesting or inspection at the supplier's premises or at a laboratoryapprovedbyAddl.CityEngineer.RepresentativeofAddl.CityEngineershallattendthetestattheappointedplacewithinseven

days of the said date on which the materials are expected to beready for testing or inspection according to the Contractor, failingwhich the test may proceed in his absence unless instructed by Addl.City Engineer to carry out such a test on a mutually agreeddate in his presence. The Contractor shall in any case submit toAddl. City Engineer's Representative within seven days of every testsuch number of certified copies (minimum six) of the test results asAddl.CityEngineermayrequire.

ApprovalbyAddl.CityEngineerastotheplacingofordersformaterials or as to samples or tests shall not prejudice any of Addl.CityEngineer'spowersundertheContract.

Theprovisionsofthisclauseshallalsoapplyfullytomaterialssuppliedundera nynominatedsub-contract.

1.11 Standards

Materials and workmanship shall comply with the relevant IndianStandards (with amendments) current on the date of submission ofthe tender. All the governing items, materials, goods and equipmentsshallbearISO-9001-2000certification.

Wheretherelevantstandardprovidesforthefurnishingofacertificateto Addl. City Engineer, at his request, stating that the materialssuppliedcomplyinallrespectswiththestandard,theContractorsh allobtainthecertificateandforwardittoAddl.CityEngineer.

Thespecifications,standardsandcodeslistedbelowareconsideredto be part of this Bid specification. All standards, specifications,codes of practices referredtoherein shall bethe latest editionsincludingallapplicableofficialamendmentsandrevisions.

IncaseofdiscrepancybetweentheBidSpecificationandtheStandardsreferr edtoherein,theBidSpecificationshallgovern.

a) Materials

IS:269	
IS:383	Specificationforcoarseandfineaggregatesfromnatu ralsourcesforconcrete
IS:428	Specification for distemper, oil emulsion, colourasrequired
IS:432	Specificationformildsteelandmediumtensilesteelbarsa ndharddrawnsteelwirefor concretereinforcement(Parts1&2)Speci
IS:455	ficationforPortlandslagcement
IS:458	Specificationforprecastconcretepipes(withandwith outreinforcement)
IS:650	Specificationforstandardsandfortestingofcement

IS:651	Specificationforsaltglazedstonewarepipesandfittings
IS:777	Specificationforglazedearthenwaretiles
IS:808	Specificationfordimensionsforhotrolledsteelcolumn,channelandanglesections
IS:814	Specificationforcoveredelectrodesformanualmetalarcweldingof CarbonandCarbonManganesesteel
IS:1003	Specificationfortimberpaneledandglazedshutters(Parts1&2)
IS:1038	Specificationforsteeldoors,windowsandventilators
IS:1077	SpecificationforcommonburntclaybuildingbricksSpec
IS:1398	ification for packing paper, waterproof,bitumenlaminated
IS:1489	SpecificationforPortlandpozzolanacement(Parts1&2)
IS:1566	Specificationforharddrawnsteelwirefabricforconcretereinforcement
IS:1580	Specificationforbituminouscompoundsforwaterproofing andcaulkingpurposes
IS:1786	Specificationforhighstrengthdeformedsteelbarsandwiresforconcretereinforcement
IS:1852	Specificationforrollingandcuttingtolerancesforhotrolled
IS:1948	steelproducts Specificationforaluminiumdoors,windowsandventilators
IS:1977	Specificationforstructuralsteel(ordinaryquality)
IS:2062	SpecificationforsteelforgeneralstructuralpurposesSpecif
IS:2185	ication for concrete masonry units (Parts 1 &2)
IS:2202	Specification for wooden flush doorshutters(Parts1&2)
IS:2645	Specification for integral cement waterproofingcompounds
IS:2750	Specification for steel
IS:2835	scaffoldingsSpecification for flat transparent
IS:3384	sheet glassSpecificationforbitumenprimerforuseinw
IS:3502	aterproofing anddamproofing Specificationforsteelchequerredplates
IS:4021	
IS:4350	Specificationfortimberdoor,windowandventilatorframes Specificationforconcreteporouspipesforunderdrainage
IS:4351	Specificationforsteeldoorframes
IS:4990	Specification for plywood for concrete shuttering
IS:8112	workSpecification for 43 grade ordinary Portland
IS:9862	cementReadymixedpaint,brushing,bituminous,black,le

adfree,acid,alkali,waterandchlorineresisting

IS:10262 Recommendedguidelinesforconcretemixdesign
IS:12269 Specificationfor53gradeordinaryPortland
IS:12330 cementSpecification for sulphate resisting Portland
IS:12709 cementGlassfibrereinforcedplastics(GRP)pipes,jointsandfittings

b) Tests foruseforpotablewatersupply

IS:516 Methodoftestforstrengthofconcrete
IS:1182 Recommendedpracticeforradiographicexaminationoffusion weldedbuttjointsinsteelplates
IS:1199 Methodsofsamplingandanalysisofconcrete
IS:2386 Methodsoftestforaggregatesforconcrete(Parts1to8)
IS:2720 Methodsoftestforsoils(Parts1to39)
IS:3025 Methodsforsamplingandtest(physicalandchemical)for waterandwastewater(Parts1to44)
IS:3495 Methodoftestforburntclaybuildingbricks(Parts1to4)
IS:3613 Acceptancetestsforwire fluxcombinationforsubmerged arcwelding
IS:4020 Methods of tests for wooden flush doors Type testsMethodsofphysicaltestsforhydrauliccement(Parts1to15)
IS:4031 Method of test for clear finishes for wooden furniture(Parts 1to6)
IS:5807 Approvaltestsforwelderswhenweldingprocedureapprovalisnotrequired(Parts1and2)

c) Codesof Practice

IS:456 Codeofpracticeforplainandreinforcedconcrete
IS:783 Codeofpracticeforlayingofconcretepipes
IS :800 Codeofpracticeforgeneralconstructioninsteel
IS:806 Codeofpracticeforuseofsteeltubesingeneralbuildingconstruction
IS:816 Codeofpracticeforuseofmetalarcweldingforgeneral constructioninmildsteel
IS :817 Codeofpracticefortrainingandtestingofmetalarcwelders
IS:875 Codeofpracticefordesignloads(otherthanearthquake) forbuildingstructures(Parts1to5)
IS:1081 Codeofpracticeforfixingandglazingofmetal(steelandaluminum)doors,windowsandventilators
IS:1172 Codeofpracticeforbasicrequirementsfor water supply,drainageandsanitation

IS:1477
Codeofpracticeforpaintingofferrousmetalsinbuildin
gs
(Parts1&2)
IS:1597 Code of practice for construction of stone
masonry(Parts1
&2)
IS:1742 Codeofpracticeforbuildingdrainage
IS:1893
CriteriaforearthquakeresistantdesignofstructuresIS:2
065 Codeofpracticeforwatersupplyinbuildings
IS:2212 Codeofpracticeforbrickwork
IS:2338
Codeofpracticeforfinishingofwoodandwoodbased
materials(Parts1&2)
IS:2394 Code of practice for application of lime plaster
finishIS:2395 Codeofpracticeforpainting,concrete,masonryand
plastersurfaces(Parts1&2)
IS:2470 Codeofpracticeforinstallationofseptictanks(Parts1&2)
IS:2502
Codeofpracticeforbendingandfixingofbarsforcon
cretereinforcement
IS:2571
Codeofpracticeforlayinginsitucementconcretefloori
ng
IS:2595 Codeofpracticeforradiographictesting
IS:2751
Recommendedpracticeforweldingofmildsteelplainan
ddeformedbarsforreinforcedconstruction
IS:2974 Codeofpractice fordesign andconstruction
ofmachine
foundations(Parts1to4)
IS:3114 CodeofpracticeforlayingofCastIronpipes
IS:3370
Codeofpracticeforconcretestructuresforthesto
rageofliquids(Parts1to4)
IS:3414 Code of practice for design and installation
ofjointsinbuildings
IS:3558 Code of practice for use of immersion vibrators
forconsolidatingconcrete
IS:3658
CodeofpracticeforliquidpenetrantflawdetectionIS:39
35 Codeofpracticeforcompositeconstruction
IS:4000
CodeofpracticeforHighstrengthboltsinsteelstruc
tures
IS:4014
Codeofpracticeforsteeltubularscaffolding(Parts1&2)IS:411
1 Code of practice for ancillary structures in
seweragesystem
(Parts1to4)
IS:13920 Codeofpracticeforlayingofglazedstonewarepipes

IS:4326
CodeofpracticeforEarthquakeResistantDesi
gnand

	ConstructionofBuildings
IS:4353	Recommendationsforsubmergedarcweldingofmild steelandlowalloysteels
IS:5329	Codeofpracticeforsanitarypipeworkabovegroundforbuildings

IS:5334 Codeofpracticeformagneticparticleflawdetectionof welds

IS:5822 Codeofpracticeforlayingofweldedsteelpipesforwatersupply

IS:7215 TolerancesforfabricationofsteelstructuresIS: 9595 Recommendationsformetalarcweldingof carbonandcarbonmanganesesteels

IS:10005 SIunitsandrecommendationsfortheuseoftheirmultiplesandofcertainotherunits

d) ConstructionSafety

IS:3696 Safetycodeforscaffoldsandladder(Parts1&2)IS:3764 SafetycodeforExcavationwork

IS:7205 Safetycodeforerectionofstructuralsteelwork

1.12 Orientation

The works shall be laid out within the confines of the Site in order tointerface to the existing infrastructure of roadways and inlet andoutletpipework

Undergroundservicesrequiringtoberelocatedinordertoaccommodatethe proposed site layout shall, with the approval ofAddl. City Engineer,berelocatedbytheContractor.

1.13 ValveChambers

a)Allvalvechambersaretobeofanadequatesizeto facilitatemaintenance and operation. The base slab of valve chambers shallslope towards a sump pit from which water can be pumped tokeep the chamber dry. All valve chambers shall be constructed inM15 grade reinforced concrete. Chambers shall have removable castiron / reinforced concrete covers, as appropriate, approach laddersandvalvesupports.

1.14 Landscaping

The pump house plot site shall be landscaped once the Works aresubstantially complete. The landscaping scheme shall be submittedand got approved from Addl. City Engineer prior to start of actualwork.

Landscapingshallincludeplantingof suitable trees anddevelopment of grassed areas. Landscaping in general shallmeetecologicalandenvironmentalconditionsofthesite. Roadwidths shall determine the size of the tree height and spread to beselectedforplanting.TreessuitableforlocalconditionsshallbeselectedMedicinalandfruittreesshallbeavoided.

ReadyMixConcrete:

FormWork

The form work shall conform to the shape lines and dimension as shown onthe plans and be so constructed as to remain sufficiently rigid duringthe placing and compacting of the concrete. Adequate arrangements shallbe made by the contractor to safe-guard against any settlement of the formwork during the course of concreting and after concreting. The form work ofshuttering,centering,scaffoldingbracingetc.shallbeasperdesign.

Cleaning & Treatment of forms :- All rubbish, particularly chippings shavingand saw dust shall be removed from the interior of the Form before theconcrete is placed and theform work in contact with concrete shallbecleaned and thoroughly Welted or treated. The surface shall be then coatedwith soap solution applied before concreting is done. Soap solution for thepurposeshallbepreparedbydissolvingyellowsoapinwatertogetconsistency of Paint. Alternatively a coat of raw linseed oil or form oil ofapproved manufacture may be applied in' case steel Shuttering is used. Soapsolution or raw linseed oil shall be applied after thoroughly cleaning thesurface. Care shall be taken that the coating does not get on constructionjointsurfaceandreinforcementbars.
Stripping time:- 1 In normal circumstances and where ordinary cement isusedformsmaybestruckafterexpiryoffollowingperiods.:

Innormalcircumstances andwhere ordinary cement is used forms maybestruckafterexpiryoffollowingperiods.:

(a) Sidesofwallscolumnsandverticalfacesofbeam-24to48hours.
(b) Beamsofties;(Propsleftunder)-7days.
(c) Removalofpropsslabs.
    (i) Slabsspanningupto4.5m---------- 7days.
    (ii) Spanningover4.5mm---------- 14days.
(d) RemovalofpropstobeamsandArches
    (i) Spanningupto6..... 14days,
    (ii) Spanningover6m..... 21days

Procedure when removing the form work:- All form work shall be removedwithout such shock or vibrations as would damage the reinforced concretesurface. Before the softiesform work and struts are removed, the Softiesand the concrete surface shall be exposed' where necessary in order toascertainthattheconcretehassufficientlyhardened.

Centering:
The centering to be provided shall be got approved. It shall be sufficientlystrong to ensure absolute safely of the form work and concrete work before,during and after pouring concrete. Watch should be kept to see that behaviorof centering and form work is satisfactory during concreting. Erection shouldalso be such that it would allow removal of forms in proper sequence withoutdamagingeithertheconcreteortheformstoteremoved.
The props of centering shall be provided on firm foundation or base ofsufficient
strength to carry the loads without any settlement. The centering and formwork shall be inspected andapproved bytheEngineer-in-chargebeforeConcreting.Butthiswill

not relieve the contractor of his responsibility for strength, adequacy andsafetyof
Form work and centering. If there is a failure of form work or centering,contractor shall be responsible for the Damages to the work, injury tolifeanddamageto
propert
y.
Scaffolding: AH scaffolding, hoisting arrangements and ladders etc. requiredforthefacilitatingofconcretingshall beprovidedandremoved oncompletionworkbycontractorathisownexpense.Thescaffolding,hoistingArrangements and ladders etc. shall be strong enough to withstand all live,deadandimpactloadsexpected.

3.7 Concrete

3.7.1 General

In concrete grade M15, M20, M25, M30 etc. the number represents thespecified characteristic compressive strength of 150 mm cube at 28 days,expressed in N/sq. mm as per IS: 456. Concrete in the works shall be"DESIGNMIXCONCRETE"or"NOMINALMIXCONCRETE".Allconcreteworks
of grade M5, M7.5 and M10 shall be NOMINAL MIX CONCRETE whereas allothergrades,M15andabove,shallbeDESIGNMIXCONCRETE.

3.7.2 DesignMixConcrete

(a) MixDesign&Testing

For design mix concrete, the mix shall be designed according to IS: 10262andSP:23toprovidethegradeof concrete having the requiredworkability and characteristic strength not less than appropriate valuesgiven in IS: 456. The design mix shall in addition to such that it iscohesive and does not segregate and should result in dense and durableconcreteandalsocapableofgivingthefinishasspecified.Forwaterretainingstructure, the mix shall also result in water tight concrete. The Contractorshall exercise great care while designing the concrete mix and executingtheworkerstoachievethedesiredresult.

Unless otherwise specially mentioned, the minimum cement contentandmaximumwatercementratioforDesignMixConcreteshallbeas givenbelow:

Gradeof Concrete	**Minimum cementContentinKg/Cumof**	**Maximum**
M20	360	0.55
M25	380	0.50
M30	400	0.45

Theminimumcementcontentstipulatedaboveshallbe adoptedirrespective of whether the Contractor achieves the desired strength withless quantity of cement. The CONTRACTOR's quoted rates for concreteshall provide for the above eventuality and nothing extra shallbecome payable to the CONTRACTOR in this account. Even in the casewhere the quality of cement required is higher than that specified above toachieve desired strength based on an approved mix design, nothing extrashallbecomepayabletotheCONTRACTOR.

It shall be the Contractor's sole responsible to carry out the mix designs athis own cost. He shall furnish to the Engineer-in-charge at least 30 daysbefore concreting operations, a statement of proportions proposed to beused for the various concrete mixes ascertained on 150 mm cubes as perIS:516shallcomplywiththerequirementsofIS:456.

GradeofConcrete	**Minimumcompressivestrength N/Sq. mm**	**Specified characteristiccompressive**
M15	10.0	15.0
M20	13.5	20.0
M25	17.0	25.0
M30	20.0	30.0
M35	23.5	35.0
M40	27.0	40.0

A range of slump which shall generally be used for various types ofconstruction unless otherwise instructed by the Engineer-in-charge isgivenbelow:

Structure/Member	**Slumpin**	
	Maximu	**Minimu**
Reinforcedfoundationwallsandfootings	75	25
Plainfootings,caissonsandsubstructurewalls	100	25
Slabs,BeamsandreinforcedwallsPump& miscellaneous	75	25
Foundations	100	25
BuildingColumn	50	25
Pavements	50	25
Heavymassconstruction	50	25

(b) Batching & Mixing ofConcrete

Proportions of aggregates and cement, as decided by the concrete mixdesign, shall be by weight. There proportions shall be maintained duringsubsequentconcretebatchingbymeansofweighbatcherscapableofcontrol lingtheweightswithinone
percent of the desired value. Amount of water added shall be such as toproduce dense concrete of required consistency, specified strength andsatisfactory workability and shall be so adjusted to account for moisturecontentintheaggregates.Water-cementratiospecified
for use by the Engineer-in-charge shall be maintained. Each time the workstops, the mixer shall be cleaned out, and while recommencing, the firstbatchshallhave10%additionalcommenttoallowforstickinginthedrum.

Arrangement should be made by the Contractor to have the cubes tested inan approved laboratory or in field with prior consent of the Engineer-in-charge. Sampling and testing of strength and workability of concrete shall beasperIS:1199,IS:516andIS:3370.

(c) ReadyMixConcrete

Minimumcementconsumptionshallbeasspecifiedintenderdocument.However,necessarycomputerprintoutforconsumptionofallmaterials

an admixtures if permitted shall be made available as and whenrequiredinanyfrequenciesasdirectedbyEngineer–in-charge.

Necessaryslumprequirementsatthepouringplacesshallbemadeavailablewithr eadymixconcrete.

Concrete mix shall be design for 33% higher strength than thegrade of concrete specified. The proportions for ingredients chosen shallbe such that concrete has adequate workability for condition prevailing onthe work in question and can be properly compacted with the meansavailable. Use of cementacious material like Fly ash etc. shall not bepermissible.

Except where it can be shown to the satisfaction of the Engineer-in-charge that a supply of properly graded aggregate of uniform quality canbe maintained till the completion of work, grading of aggregateshouldbestrictlycontrolled.Thedifferentsizesshallbestockedinsepar ate stock piles. Required quality ofmaterial shall be stock-piledseveral hours, preferably a day, before use. Grading of coarse and fineaggregate shall be checked as frequently as possible, frequency for agiven job being determined by the Engineer-in-charge to ensure that thesuppliers are maintaining the uniform grading as approved for samplesusedinthedesignmix.

The quantity of both cement and aggregate shallbe determined byweight. Water shall either be measured by volume in calibrated tanks orweighed. All measuring equipment shall be maintained in a clean andserviceablecondition.Theiraccuracyshallbeperiodicallychecked.

If is most important to keep the specified water – cement ration constantsand its correct value. To this end, the moisture content in both fine andcoarseaggregatesshallbedeterminedbytheEngineer-in-chargeaccording to the weather conditions. The amount of mixing water shallthen be adjusted to compensate for variations in the moisture content.For the determination of moisture content in the aggregates, IS: 2386(Part-III) shall be referred to. Suitable adjustments shall also be made intheweightsofaggregatestoallowforthevariationinweightsofaggregatesdueto variationintheirmoisturecontent.

ThespecialConditions/Specificationregarding**ReadyMixConcrete**areasfollow s. The details like locations, capacity, experience, delivery scheduleetc.ofthe**ReadyMixConcrete**agencyshallbesubmittedbythesuccess fullytendererforpriorapprovaloftheundersigned.

The **Ready Mix Concrete** shall be conforming to IS :4926 with its latestamendments.

Alltheresponsibilityof**ReadyMixConcrete**i.e.procurementforallmaterials,oper ationofplantandmachinery,transitmixers,pumpingmachineriesrelevantpipinge tc.shallbeontheaccountofthecontractor.

The Rajkot Municipal Corporation shall not be held responsible for anydelay / damage / loss due to deployment of **Ready Mix Concrete** forthisproject.

The octroi or any other type of tax / cess for the **Ready Mix Concrete**shall have to be borne by the contractor as per prevailing rates. **Ready MixConcrete**processshallbefullyautomaticandcomputerized.

When a transit mixer is used for transportation of concrete, no extra watershould be added to the concrete from else where after initial introduction ofmixing water from the batch, except when on arrival at the site of the work,the slump of the concrete is less than that specified : such additionalwater to bring the mixer under such pressure and direction of flow thatrequirementsforuniformityaremet.

Records andcertificates:
Thecontractorshallkeepfromthemanufacturebatchrecordsofthequantities by mass of all mixing and of the results of all tests. If requiredby the Rajkot Municipal Corporation, the contractor shall furnish certificates,atagreedintervals,givingthisinformation.

The contractor shall supply the following information for guidanceofthemanufacturer:

- Thetypeofcementtobeused
- DetailsSpecificationofaggregatestobeused.
- Typeofadmixturetobeused.Ifspecified.
- Min.acceptablestrength
- Slumpofconcreteorcompactionfactor
- Agesatwhichthetestcubesorbeamsareto betestedandthefrequencyandnumberoftesttobemade.
- Anyotherrequirement.

Tolerance: Unless otherwise agreedto between theRajkotMunicipalCorporation (RMC) and the contractor, the concrete shall be deemed tocomplywith therequirementsofthis, iftheseresultsof testeswhereapplicableliewithinthetolerancespecifiedbelow.

Consistency of workability : The slump average of two tests shall notdiffer from the specified value by + 10 mm for a specified slump of 75 mm.The compacting factor average of two tests shall be within + 0.03 ofthe value specified. If any other method of determining consistency to beused a suitable tolerance shall be agreed to be between the purchaser andthemanufacture.Thetestsforconsistencyor workability shall becomplete within 15 minutesof the time of receipt of the ready mixconcreteatthesite.

Aggregate : When tested in accordance with IS 2386 (Part-I) 1963, thequantity of aggregate larger than the max size specified by the purchasershall not exceed 5% of the qty. of coarse aggregate and all such pass sieve ofnexthighersize.

3.7.3 NominalMixconcrete.(DELETED)

(a) Mixdesignandtesting

Mix design and preliminary test are not necessary for Nominal Mix concrete.However works test shall be carried out as per IS : 456. Proportions forNominalMixConcreteandw/cratiomaybeadoptedasperTable3ofIS: 456.HoweveritwillbetheContractor'sroleresponsibilityto adoptappropriatenominalmixproportionstoyieldthespecifiedstrength.

(b) Batching&MixingofConcrete

Based on the adopted nominal mixes, aggregates shall be measured byvolume.Howevercementshallbe byweightonly.

3.8 Formwork

formwork shall be all inclusive and shall consist of but not be limited toshores, bracing's sides of footing , walls, beams and columns, bottom ofslabsetc.includingties,anchors, hangers,inserts,falsework,wedgesetc.

The design and engineering of the formwork as well its constructionshall be the responsibility of the Contractor. However, if so desired by theEngineer-in-charge the DRAWING and calculating forthedesign oftheformworkshallbesubmittedtotheEngineer-in-chargeforapproval.

Formworkshallbedesignedtofulfillthefollowingrequirements:

(a) Sufficiently rigid and tight to prevent loss of grout or mortar from theconcrete at all stages and appropriate to the method of placing andcompacting.

(b) Madeofsuitablematerials.

(c) Capable of providing concrete of the correct shape and surface finishwithinthespecifiedtolerancelimits.

(d) Capable of withstanding without deflection the worst combinationofselfweight,reinforcementandconcreteweight,allloadsanddynamics effect arising from construction and compacting activities,windand weatherforces.

(e) Capableofeasystriking out without shocks, disturbance ordamagestotheconcrete.

(f) Soffitformscapableofimpartingacamberifrequired.

(g) Soffitformsandsupportscapableofbeingleftinpositionifrequired.

(h) Capable of being cleaner and/or coated if necessary immediatelypriortocastingtheconcrete;designtemporaryopeningswherenecessaryforthesepurposesandtofacilitatethepreparationofconstructionjoints.

Theformworkmaybeoftimber,plywood,steel,plasticorconcretedependingupontheapprovaloftheEngineer-in-charge.Timber offormwork shall be well seasoned, free sap, shakes, loose knots, wormholes,warpsandothersurfacedefects.Jointsbetweenformworkandformwork and between formwork and structures shall be sufficiently tight topreventlossofslurryfromconcrete,usingsealsifnecessary.

The faces of formwork coming in contact with concrete shall be cleaned andtwo coats of approved mould oil applied before fixing reinforcement. Allrubbish, particularly chippings, sailings, sawdust, wire pieces dut etc. shall beremoved from the interior of the forms before the concrete is placed. Wheredirected, cleaning of forms shall be done by blasting with a jet of compressedairat noextracost.

Formsintendedforreuseshallbetreatedwithcare.Formsthathavedeteriorated shall not be used. Before reuse, all forms shall be thoroughlyscraped, cleaned, nails removed, holes suitably plugged, joints repaired andwarped lumber replaced to the satisfaction of the Engineer-in-charge. TheContractor shall equip himself with enough shuttering to allow for wastage soastocompletethejobintime.

Permanent formwork shall be checked for its durability and compatibility withadjoining concrete before it is used in the structure. It shall be propertyanchoredtotheconcrete.

Wire ties passing through beams, columns and walls shall not be allowed.In their place bolts passing through sleeves shallbe used. Formworkspacers left in situ shall not impair the desired appearance or durability ofthe structure by causing spelling, rust staining or allowing the passage ofmoisture.

For liquid retaining structures, sleeves shall not be provided for throughbolts nor shall through bolts be removed if provided. The bolts, in the lattercase,shallbecut at
25 mm depth from the surface and the hole made good by cementmortarofthesameproportionastheconcretejustafterstrikingtheformwork.

Where specified all corners and angles exposed in the finished structureshallhavechamfersorfilletsof20mmX20mmsize.

Form for substructure may be omitted when, in the opinion of the Engineer-in- charge, the open excavation is firm enough (in hardnon- porous soils) toact as a form, suchexcavationshallbelarger,as approved by theEngineer-in-chargethatrequiredasperDRAWINGtocompensateforirregularitiesinexcavation.

The Contractor shall provide adequate props carried down to a firm bearingwithoutoverloadinganyofthestructure.

Theshutteringforbeamsandslabsshallbesoerectedthatthesideshutteringofbeams canberemovedwithoutdisturbingthebottomshuttering
.If the shuttering for a column is erected for the full height of the column,one side shall be build up in sections as placing of concrete proceeds orwindows left for placing concrete from the side to limit the drop of concreteto 1.0 m or as approved by the Engineer-in-charge. The Contractor shalltemporarily and securely fix items to be cast (embodiment's/inserts) in amannerthatwillnothinderthestrikingofformsorpermitlossofgrout.

Formwork showing excessive distortion, during any stage of construction,shall be repositioned and strengthened. Placed concrete affected by faultyformwork,shallbeentirelyremovedandformworkcorrectedpriortoplacement ofnewconcreteatContractor'scost.

Thestrikingtimeforformworkshallbedeterminedbasedonthefollowingrequire ment:

a) Developmentofadequateconcretestrength;
b) Permissibledeflectionattimeofstrikingformwork;
c) Curingprocedure employed-itsefficiencyandeffectiveness;
d) Subsequentsurfacetreatmenttobedone;
e) Preventionofthermalcrackingatre-entrantangles;
f) Ambienttemperatures;
g) Aggressivenessoftheenvironment(unlessimmediateadequatestepsa retakentopreventdamagetotheconcrete).

Under normal circumstances (generally where temperatures are above $20^{O}C$) forms may be struck after expiry of the time period given in IS:456 unlessapprovedotherwisebyEngineer-in-charge,itisthe
Contractor'sresponsibility to ensure that forms are not struck until the concrete hasdeveloped sufficient strength to support itself, does not undergo excessivedeformation and resist surface damage and any stresses arising during theconstructionperiod.

3.9 Reinforcement

Workmanship

Reinforcementbarssuppliedbentorincoilsshallbestraightenedcoldwithout damage. No bending shall be done when ambient temperature is below $5^{O}C$. Localwarmingmaybepermittedifsteeliskeptbelow $5^{O}C$.

Allbarsshallbeaccuratelybentgraduallyandaccordingtothesizeandshapesshown ontheDRAWINGschedulesoradirectedbyEngineer-in-charge.
Re-
bendingorstraighteningincorrectlybentbarsshallnotbedonewithouttheapproval oftheEngineer-In-Charge.

Reinforcement shall be accurately fixed and maintained firmly in the correctposition by the use of blocks, spacers, chairs, binding wire etc. to preventdisplacement during placing and compaction of concrete. The tied in placereinforcementshallbeapprovedbytheEngineer-in-chargeprior toconcreteplacement.Spacersshallbeofsuchmaterialsanddesignaswill

be durable, not lead to corrosion of the reinforcement and not causespellingoftheconcretecover.

Binding wire shall be 16 gauges soft annealed wire. End of the binding wireshall be bent away from the concrete surface and in no case encroachintotheconcretecover.

Substitution of reinforcement; laps/splices not shown on DrawingshallbesubjecttoEngineer-in-charge'sapproval.

3.10 Tolerances

Tolerance for formwork and concrete dimensions shall be as per IS: 456unlessspecifiedotherwise.

Tolerances specified for horizontal or vertical building lines or footings shallnotbeconstruedtopermitencroachmentbeyondthe legalboundaries.

The formwork shall be designed and constructed to the shapes,lines and dimensions shown on the Drawings within the tolerances givenbelow:

(a)	Deviationfrom specifieddimensionsofcrosssectionofcolumnsandbeams	-6mm
(b)	Deviationsfromdimensionsof footings(tolerances apply to concrete dimensionsonly,nottopositioningofverticalreinforcingsteelordowels)	+12mm
1.	Dimensioninplan	-12 +50mm
2.	Eccentricity	0.02 times the width ofthefootinginthedirectionofdeviationbutnotmorethan
3.	Thickness	+0.05 times thespecifiedthickness

3.11 PreparationPriortoConcretePlacem

ent

Before concrete is actually placed in position, the inside of the formworkshall be cleaned and mould oil applied, insert and reinforcement shall becorrectly positioned and securely held, necessary openings, pockets, etc.provide.

All arrangements formwork, equipment and proposed procedure, shall beapproved by the Engineer-in-charge, Contractor shall maintain separatePourcardforeachpourasperthe formatenclosed.

3.12 Transporting,PlacingandCompactingConcrete

Concrete shall be transported from the mixing plant to the formwork withminimumtimelapsebymethodsthatshallmaintainthe requiredworkabilityandwillpreventsegregation,lossofanyingredientsoringresso fforeignmatterorwater.

In all cases concrete shall be deposited as nearly as practicable directly inits final position. To avoid segregation, concrete shall not be rehandled orcause to flow. For locations where direct placement is not possible and innarrow forms the Contractor shall provide suitable drops and "ElephantTrunks".Concreteshallnot bedroppedfromaheightofmorethan1.0m

Concrete shall not be placed in flowing water. Under water, concrete shallbe placed in position by termites or by pipeline from the mixer and shallneverbeallowedtofallfreelythroughthewater.

Concretingunderwater:

Whenitisnecessarytodepositconcreteunderwater,themethods,equipments, and materials of the mix to be used shall be gotapproved from the Engineer-in-charge before any work is started. Suchconcretingbeconsideredascontrolledconcretei.e.designmix.

Concreteshallnotbeplacedundertemperaturebelow 50 degreecentigrade.The temperatureofconcrete, when deposited, shall behowevernotless than50centigradenormorethan40degreecentigrade.

Concrete to be placed under water shall contain ten percent more cementthanthatrequiredforthesamemixplacedinthedry.

The slump shall not be less than 100 mm nor more than 180 mm. The slumpshallbetestedasperI.S.516.

Coffer-dams or forms shall be water tight to ensure still waterconditions if practicable and in any case to reduce the flow of water toless than 3 meters per minute through the space into which concrete is tobe deposited. The forms in still water shall be sufficiently tight to preventloss of mortar through the joints in the walls. Pumping shall not be donewhileconcreteisbeingplaced,oruntil24hoursthereafter.

Concrete shall continue to be deposited until it has been brought to therequired height. The top surface shall always be kept as wet as far aspossibleandformationofseemsavoided.Forconcreteanyoneofthefollowingmeth odsmaybeused.

(a) Tremie:

When concrete is to be deposited under water by means of tremie, the topsection of the tremie shall be a hopper large enough to hold one full batchmix or the entire contents of the transporting bucket. The tremie pipe shallnot be less than 200 mm dia. and also shall be large enough to allow a freeflow of concrete and strong enough to with stand the external pressure ofwaterinwhichitissuspended,evenifapartialvacuumdevelopsinside

the pipe. Preferably, flanged steel pipe of adequate strength for the jobshall be used. A separate lifting device shall be provided for each tremie pipewith its hopper at the upper end. Unless the lower end of the pipe isequipped with an approved automatic check valve, the upper end of the pipeshall be plugged with a wedging by use of gunny sacks or other approvedmaterial before delivering the concrete to the tremie pipe through thehopper, so that when the concrete is forced down from the hopper to thepipe, it will force the plug (and along with it any water in the pipe) downthe pipe and out of the bottom end. Thus establishing a continuous stream ofconcrete. It will be necessary, to raise slowly the tremie in the order to allowa uniform flow of concrete, but it shall not be emptied so that water entersabovetheconcreteinthepipe.

Atalltimesaftertheplacingofconcreteisstartedanduntilall therequirement quantity has been placed, the lower end of the tremie pipe shallbe kept below the top surface of the plastic instead of flowing out over thesurface, and thus avoid formation of layers of laitance. If the charge in thetremie is lost while depositing, the tremie shall be raised above the concretesurface, and unless sealed by a check valve it shall be re-plugged at the topend,asatthebeginningbeforerefillingfordepositingfurtherconcrete.

(b) DropBottomBucket:

The top of the bucket shall be closed. The bottom doors shall move freelydownward and outward when tripped. The bucket shall be filled completelyand lowered slowly to avoid backwash. It shall not be dumped until it
restsonthesurfaceuponwhichtheconcreteistobedepositedandwhendischargedsh allbewithdrawnslowlyuntilwellabovetheconcrete.

To minimize the formation of laitance, great care shall be exercised todisturbtheconcreteasfaraspossiblewhileitisbeingdeposited.

While placing concrete the Contractor shall proceeds as specifiedbelowandalsoensurethefollowing.

a) Continuously between construction joints and pre-determinedabutments.b)Withoutdisturbancetoformsorreinforceme nt.

c) Without disturbance to pies, ducts, fixing and the like to be castin: ensure that such items are securely fixed. Ensure that concretecannotenteropenendsofpipesandconduitsetc.

d) Withoutdroppinginamannerthatcouldcausesegregationorshock.

e) In deep pours only when the concrete and formwork designedforthispurposeandbyusingsuitablechutesorpipes.

f) Do not place if the workability is such that full compaction cannot beachieved.

g) Withoutdisturbingtheunsupportedsidesofexcavations;prevent contamination of concrete with earth. Provide sheetingifnecessary.In
supported excavations, withdraw the lining progressively as concrete isplaced.

h) If placed directly on to hardcore or any other porous material,dampenthesurfacetoreducelossofwaterfromtheconcrete.;

i) Ensure that there is no damage or displacement to sheetmembranes.j)Recordthetimeandlocationofplacingstructu ralconcrete.

Concrete shallnormally becompacted in its finalposition within thirtyminutes of leaving the mixer. Concrete shall be compacted duringplacing with approved vibrating equipment without causing segregationuntil itformsasolidmassfreefrom voidsthoroughlyworkedaroundreinforcementandembeddedfixturesandinto all corners of theformwork. Immersion vibrators shall be inserted vertically at points notmore than 450 mm apart and withdrawn slowly till air bubbles cease tocome to the surface, leaving no voids. When placing concrete in layersadvancing horizontally, care shall be taken to ensure adequate vibrationblending and melting of the concrete between successive layers. Vibratorsshall not be allowed to come in contact with reinforcement, formwork andfinishedsurfacesafterstartofinitialset. Over-vibrationshallbeavoided.

Concrete may be conveyed and placed by mechanically operated equipmentafter getting the complete procedure approved by the Engineer-in-charge.The slump shall be held to the minimum necessary for conveying concreteby this method. When concrete is to be pumped, the concrete mix shall bespeciallydesignedtosuitpumping.Careshallbetakentoavoidstoppagesinwork oncepumpinghasstarted.

Exceptwhen placingwith slip forms,each placement of concrete inmultiple lift work shall be allowed to set for at least 24 hours after the finalset of concrete before the start of subsequent placement. Placing shallstop when concrete reaches the top of the opening in walls or bottomsurface of slab, in slab and beam construction, and it shall be resumedbefore concrete takes initial set but not until ithas had to settle asapproved by the Engineer-in-charge. Concrete shall be protected againstdamageuntilfinalacceptance.

3.13 MassConcreteWorks

Sequence of pouring for mass concrete works shall be as approved by theEngineer- in- charge. The Contractor shall exercise great care to preventshrinkagecracksandshallmonitorthetemperatureoftheplacedconcreteif directed.

3.14 Curing

Curing and protection shall start immediately after the compaction of theconcretetoprotectitfrom:

a) Prematuredryingout,particularlybysolarradiationandwind;
b) Leachingoutbyrainandflowingwater;
c) Rapidcoolingduringthefirstfewdaysafterplacing;
d) Highinternalthermalgradients;
e) Lowtemperatureorfrost;
f) Vibrationandimpactwhichmaydisruptthe concreteandinterferewithitsbondtothereinforcement.

Allconcrete,unlessapprovedotherwisebytheEngineer-in-chargeshallbecuredbyuseofcontinuousspraysorpoundedwaterorcontinuously

saturated coverings of sacking, canvas, hessian or other absorbent materialfor the period of complete hydration with a minimum of 7 days. The qualityofcuringwatershallbethesameasthat usedformixing.

Where a curing membrane is approved to be used by the Engineer-in-charge, the same shallbe of a non-wax bas and shallnot impair theconcrete finish in any matter. The curing component to be used andshallbeappliedwithsprayingequipmentcapableofasmooth,eventexturedcoat.

Curing may also be done by covering the surface with an impermeablematerialsuchaspolyethylene,whichshallbesealedandfastened.

3.15 ConstructionJointsandKeys

Construction joints will be shown on the DRAWING or as approved by theEngineer- in- charge. Concrete shall be placed without interruption untilcompletion of work between construction joints. If stopping of concretingbecomes unavoidable anywhere, a properly formed, construction joints shallbemadewiththeapprovaloftheEngineer-in-charge.

Dowels for concrete work, not likely to be taken to be taken up in thenearfuture,shallbecoatedwithcementslurryandencasedin leanconcrete as indicated on the DRAWINGS or as approved by the Engineer-in-charge.

Before resuming concreting on a surface which has not fully hardened, alllaitanceandloosestoneshallbethoroughlyremovedbywirebrushing/hacking and surface washed with high pressure water jet andtreated with thin layer of cement slurry for vertical joints and horizontallayers.

Whenconcretingistoberesumedonasurfacewhichhas not fullyhardened, all laitance shall be removed by wire brushing the surfacewetted, free water removed and a coat of cement slurry applied. On this, alayer of concrete not exceeding 150 mm thickness shall be placed and wellrammed against the old work. Thereafter work shall proceed in the normalway.

3.16 FoundationBedding

All earth surfaces upon which or against which concrete is to be placed, shallbe well compacted and free from standing water, mud or debris. Soft orspongy areas shall be cleaned out and back filled with either soil-cementmixture,leanconcreteorcleansandcompactedasapprovedbytheEngineer-in-charge.Thesurfacesofabsorptivesoilsshallbemoistened.

Concrete shall not be deposited on large sloping rock surfaces. The rockshall be cut to form rough steps or benches by picking, barring or wedging.The rocksurfaceshallbekeptwetfor2to4hoursbeforeconcreting.

3.17 Finishes

3.17.1 General

The formwork for concrete works shall be such as to give the finish asspecified.TheContractorshallmakegoodanyunavoidabledefectsasapproved consistent with the type of concrete and finish specified. Defectsdue to bad workmanship (e.g. damaged or misaligned forms, defectives orpoorlycompactedconcrete)willnotbeaccepted.TheContractorshallconstructthe formworkusingthecorrectmaterialsandmeettherequirements of the design and to produce finished concrete to requireddimension,plumbs,planesandfinishes.

3.17.2 SurfaceFinishTypeF1

Themainrequirementisthatofdense,wellcompactedconcrete.Notreatment is required except repair of defective areas filling all form tie holesand cleaning up of loose or adhering debris. For surface below grade whichwill receive waterproofing treatment the concrete shall be free of surfaceirregularities which would interfere with proper and effective application ofwaterproofingmaterialspecifiedforuse.

3.17.3 SurfaceFinishTypeF2

The appearance shall be that of a smooth dense, well-compacted concreteshowing the slight marks of well fitted shuttering joints. The Contractor shallmakegoodanyblemishes.

3.17.4 SurfaceFinishTypeF3

Thisfinishshallgiveanappearanceofsmooth,dense,well-compactedconcretewithnoshuttermarks,stainfreeandwithnodiscoloration,blemishes, arises, air holes etc. only lined or coated plywood with verytight joints shall be used to achieve this finish. The panel size shall beuniform and as large as practicable. Any minor blemishes that might occurshallbemadegoodbytheContractor.

3.17.5 IntegralCementFinishonConcreteFloor

Inallcaseswhere integral cementfinishona concretefloorhasbeenspecified, the top layer of concrete shall be screeded off to proper level andtamped with tamper having conical projections so that the aggregate shallbe forced below the surface. The surface shall be finished with a woodenfloat and a trowel with pressure. The finish shall be continued till theconcretereachesitsinitialset.Nocementorcement mortar finish shall beprovided on the surface. Where specified, a floorhardener as approved by the Engineer-in-charge shall be supplied and usedasrecommendedbythemanufacturer.

3.18 RepairandReplacementofUnsatisfactoryConcrete

Immediately after the shuttering is removed, all the defective areassuch as honeycombed surfaces, rough patches and holes left by formbolts etc. shall be inspected by the Engineer-in-charge who may permitpatchingofthedefectiveareasorrejecttheconcretework.

All through holes for shuttering shallbefilled for full depth andneatlypluggedflushwithsurface.

Rejected concrete shall be removed and replaced by the Contactor at noadditionalcostoftheOwner.

For patching of defective areas all loose materials shall be removed and thesurfaceshallbepreparedasapprovedbytheEngineer-in-charge.

Bondingbetweenhardenedandfreshconcreteshallbe doneeitherbyplacingcement mortar or by applying epoxy. The decision of the Engineer-in-chargeas to the method of repair to be adopted shall be final and binding on theContractor. The surface shall be saturated with water for 24 hours beforepatching is donewith 1:1 cementsandmortar.Theuseofepoxy forrebinding fresh concrete shall be carried out as approved by the Engineer-in-charge.

3.19 VacuumdewateringofSlabs

Where specified floor slabs, either grade or suspended, shall be finished byvacuum dewatering including all operations such as poker vibration,surfacevibration,vacuumprocessing,flattingandtrowellingasperequip mentmanufacturersrecommendation.

TheequipmenttobeusedshallbesubjecttotheEngineer-in-charge.

3.20 HotWeatherRequirements

Concreteduringhotweathershallbecarriedoutasper IS:7861(PartI).

Adequate provisions shall be madelower concretetemperatureswhichshallnotexceed 40^{O}C atthetimeofplacementoffreshconcrete.

WheredirectedbytheEngineer-in-charge,theContractorshallspraynon-waxbasedcuringcompoundonunformedconcretesurfacesatnoextracosts.

3.21 ColdweatherRequirement

Concretingduring coldweathershallbecarriedoutasperIS:7861(PartII).

The ambient temperature during placement and up to final set shall not fallbelow5deg.C.Approvedantifreeze/acceleratingadditivesshallbeusedwheredir ected.

For major and large scale concreting works the temperature of concrete attimes of mixing and placing, the thermal conductivity of the formwork anditsinsulationandstrippedperiodshallbecloselymonitored.

3.22 LiquidRetainingStructures

The Contractor shall take special care for concrete for liquidretaining structures, underground structures and those othersspecificallycalledfortoguarantee thefinishandwatertightness.

Theminimum levelofsurfacefinish for liquid retaining structures shallbeTypeF2.Allsuchstructuresshallbehydro-tested.

The Contractor shall make all arrangement for hydro-testing of structure, allarrangements for testing such as temporary bulk heads, pressure gauges,pumps,pipelinesetc.

The Contractor shall also make all temporary arrangements that mayhavetobemadetoensurestabilityofthestructuresduring construction.

Any leakage that may occur during the hydro-test or subsequently during thedefects liability period or the period for which the structure is guaranteedshallbeeffectivelystoppedeitherbycement/epoxypressuregrouting,guniting or such other methods as may be approved by the Engineer-in-charge. All such rectification shall be done by the CONTRACTOR to theentiresatisfactionoftheEngineer-in-chargeatnoextracosttotheOWNER.

3.23 TestingConcreteStructuresforLeakage

Hydro-static test for water tightness shall be done at fullstorage level orsoffitofcoverslab,asmaybedirectedbytheEngineer-in-chargeasdescribedbelow:

In case of structures whose external faces are exposed, such as elevatedtanks, the requirements of the test shall be deemed to satisfied iftheexternal forces show no sign off leakage or sweating and remain completelydry during the period of observation of seven days after allowing a seven dayperiodforabsorptionafterfillingwithwater.

Inthecaseofstructureswhoseexternalfacesareburiedandarenotaccessible for inspection, such as underground tanks, the structures shall befilled with water and after the expiry of seven days after the filling; the levelof the surface of the water shall be recorded. The level of water shall berecorded again at subsequent intervals of 24 hrs. over a period of sevendays. Backfilling shall be withheld till the tanks are tested .The total drop insurface level over a period for seven days shall be taken as an indication ofthe water tightness of the structure. The Engineer-in-charge shall decideon the actual permissible nature of this drop in the surface level, taking intoaccount whether the structures are open or closed and the correspondingeffect it has on evaporation looses. Unless specified otherwise, a structurewhose top is covered shall be deemed to be water tight if the total drop inthesurfaceleveloveraperiodofsevendaysdoesnotexceed40mm.

Each compartment/segment of the structure shall be tested individuallyandthenalltogether.

For structures such as pipes, tunnels etc. the hydrostatic test shall becarried out by filling with water , after curing as specified ,and subjecting tothe specified test pressure for specified period .If during this period thelossofwater does not exceed the equivalent of the specifiedrate, thestructureshallbeconsideredtohavesuccessfullypassedthetest.

3.24 OptionalTests

If the Engineer-in-charge feels that the materials i.e. cement, sand,coarse aggregates, reinforcement and water are not in accordance with theSpecificationsorifspecifiedconcretestrengthsarenotobtained,hemay

order teststo be carriedout on these materialsin laboratory, to beapproved by the Engineer-in-charge as per relevant IS Codes. Contractorshallhavetopayforthesetests.

In the event of any work being suspected of faulty material or workmanshiprequiringisremovaloriftheworkscubesdonotgivethestipulatedstrengths, the Engineer-in- charge reserves the right to order the Contractorto take out cores and conduct tests on them or do ultrasonic testing or loadtesting of structure ,etc. The Engineer-in- charge also reserves the right toask the Contractor to dismantle and re-do such unacceptable work, at nocost to the Owner. Alternately Engineer-in-charge also reserves the rightto asktheCOTRACTOR todismantle and re-do such unacceptable work atthecostofCONTRACTOR.

3.25 Grouting

3.25.1 StandardGrout

Grout shall be provided as specified on theDRAWINGS.

The proportion of Standard grout shall be such as to produce a flowablemixture consistent with minimum water content and shrinkage. Surfaces tobe grouted shall be thoroughly roughened and cleaned. All structural steelelements to be grouted shall be cleaned of oil, grease, dirt etc. The use ofhot,strongcausticsolutionforthispurposewillbepermitted.Priortogrouting, the hardened concrete shall be saturated with water and justbefore grouting, water in all pockets shall be removed. Grouting once startedshallbedonequicklyandcontinuously.Variationingroutmixesandprocedures shall be permitted if approved by the Engineer-in-charge. Thegroutproportionsshallbelimitedasfollows:

Sr no	Use	GroutThickness	MixProportions	W/C Ratio
a)	Fluidmix	Under25mm	OnepartPortlandCementtoonepartsand	0.44
b)	Generalmix	25mmandoverbutlesthan50mm	OnepartPortlandCementtotwopartsand	0.53
c)	Stiffmix	50mmandover	OnepartPortlandCementto	0.53

3.25.2 Non-ShrinkGrout

Non-shrink grout where required shall be provided in strict accordancewiththemanufacturer'sinstructions/specificationsonthe DRAWINGS.

General

Inspection

All materials, workmanship and finished construction shall be subject tocontinuousinspectionandapprovalofEngineer-in-charge. Materialrejected by Engineer-in- charge, shall be expressly removed from site andshallbereplacedbyContractorimmediately.

Clean-up

Uponthecompletionofconcretework,allforms, equipment,construction tools, protective coverings and any debris, scraps of wood,etc.resultingfromtheworkshallberemovedandthepremisesleftclean.

AcceptanceCriteria

Anyconcreteworkshallsatisfytherequirementsgivenbelowindividuallyandcollectiv elyforittobeacceptable.

a) Propertiesofconstituentmaterial;
b) Characteristiccompressivestrength;
c) Specifiedmixproportions;
d) Minimumcementcontent;
e) Maximumfree-water/cementratio;
f) Workability;
g) Temperatureoffreshconcrete;
h) Densityoffullycompactedconcrete;
i) Covertoembeddedsteel;
j) Curing;
k) Tolerancesindimension;l)Toleranceinlevels;m)Durability;
n) Surfacefinishes;
o) Specialrequirementssuchas;
   i) Watertightness
   ii) Resistancetoaggressivechemicals
   iii) Resistancetofreezingandthawing
   iv) Veryhighstrength
   v) Improvedfireresistance
   vi) Wearresistance
   vii) Resistancetoearlythermalcracking

The Engineer-in-charge decision as to the acceptability or otherwiseofanyconcreteworkshallbefinalandbindingontheContractor.

Forworknotaccepted,theEngineer-in-chargemayreviewanddecidewhether remedial measures are feasible so as to render the work acceptable.TheEngineer-in-chargeshallinthatcasedirect the Contractor toundertakeandexecutetheremedialmeasures.

These shall be expeditiously and effectively implemented by the Contractor.Nothing extra shall become payable to the contractor by the Owner forexecutingtheremedialmeasures.

3.26 Waterstops

3.26.1 Material

The material for the PVC water stops shall be a plastic compound with thebasic resin of polyvinyl chloride and additional resins, plasticizers, inhibitors,which satisfies the performance characteristics specified below as per IS:12200.TestingshallbeinaccordancewithIS:8543.

a)	Tensilestrength	3.6N/mm^{2}minimum
b)	Ultimateelongation	300%minimum
c)	Tearresistance	4.9N/mm^{2}minimum
d)	Stiffnessinflexure	2.46N/mm^{2}minimum

e)	Acceleratedextraction I) Tensilestrength II) Ultimateelongation	 10.50%N/mm^{2}minimum 250%minimum
f)	EffectofAlkali i)Weightincreaseii) Weight decrease	7days 0.10%maximum 0.10%maximum ±5points
g)	EffectofAlkali i)Weightincreaseii) Weight decrease	28days 0.40%maximum 0.30%maximum ±1%

PVC water stops shall be either of the bar type, serrated with centre bulband grips for use within the concrete elements or of the surface (Kicker) typeforexternaluse.

PVC water stops shall be of approved manufacture. Samples and the testcertificateshallbegotapprovedbytheEngineer-in-chargebeforeprocurementforincorporationintheworks.

3.26.2 Workmanship

Water stops shall be cleaned before placing them in position. Oil or greaseshallberemovedthoroughlyusing waterandsuitabledetergents.

Water stops shall be procured in long lengths as manufactured to avoidjoints as far as possible. Standard L or T type of intersection pieces shallbe procuredforusedependingon theirrequirement.Anynon-standardjunctions shall be made by cutting the pieces to profile for jointing. Lappingof water stops shall not be permitted. All jointing shall be of fusion weldedtypeaspermanufacturer'sinstructions.

Waterstopsshallbeplacedatthecorrectlocation/levelandsuitablysupported at intervals with the reinforcement to ensure that it does notdeviate from its intended position during concreting and vibrating. Care shallalsobetaken toensurethatnohoney-combingoccursbecauseoftheserrations/end grips, by placing concrete with smaller size aggregates inthis region. Projecting portions of the water stops embedded inconcrete shall be thoroughly cleaned of all mortar/concrete coating beforeresuming further concreting operations. The projecting water stops shall alsobe suitably supported at intervals with the reinforcement to maintain itsintended position during concreting so as to ensure that it does not bendleading to formation of pockets. In addition, smaller size aggregates shall beusedforconcretinginthisregionalso.

3.27 PreformedFillersandJointSealingCompound

3.27.1 Materials

Preformed filler for expansion/isolation joints shall be non-extruding andresilienttypeofbitumenimpregnatedfibersconformingtoIS:1838(PartI)

Bitumencoattoconcrete/masonrysurfacesforfixing the preformedbitumen filler strip shall conform to IS: 702. Bitumen primer shall conform tois:3384

Sealing compound for filling the joints above the preformed bitumen fillershallconformtoGrade"A"asperIS:1834

3.27.2 Workmanship

The thickness of the preformed bitumen filler shall be 25 mm for expansionjoints and 50 mm for isolation joints around foundation supporting rotatoryequipments. Contractor shall procure the strips of the desired thicknessandwidthinlengthasmanufactured.
Assembly of small pieces/thickness of strips to make up the specified sizeshallnotbepermitted.

The concrete /masonry surface shall be cleaned free from dust andany loose particles. When the surface is dry, one coat of industrial blowntype bitumen of grade 85/25 conforming to IS: 702 shall be applied bybrushingattherateof 1.20Kg/sq.m.

When the bitumen is still hot the performed bitumen filler shall be pressed atheld in position till completely adheres. The surface of the filler against whichfurther concreting/masonry work is to be done shall similarly be applied withonecoatofhotbitumenattherateof1.20Kg/sq.m.

Sealing compound shall be heated to a pouring consistency for enabling itto run molten in a uniform manner into the joint. Before pouring the sealingcompound, the vertical faces of the concrete joint shall be applied hot with acoat of bitumen primer conforming to IS: 3384 in order to improve theadhesivequalityofthesealingcompound.

Expansionjointsbetweenbeams/slabsshallbeprovidedwith100mmwidex 4 mm thick mild steelplateat thesoffitof RCC beams/slabs to supportand prevent the performed joint filler dislodging. This plate shall be weldedto an edge angle of IS A 50x50x6 mm/slabs, by intermittent fillet welding.Steel surfaces shall be provided with 2 coats of red oxide zinc chromeprimerand3coatsofsyntheticenamelpaintfinish.

CONCRETEPOURCARD

POURNO: DATE:
DRGNO: STRUCTURE:
CONCRETEGRADEQUALITY:
MAX.
AGGREGATESIZE:

Sr no.	**Item**			**Remarks if any**
1.	BEFOREC ONCRETIN	Centerlineschecked	Yes/No.	
2.		FormworkandStaging checkedforaccuracy,	Yes/No.	

		strength&finish		
3.		Reinforcementchecked	Yes/No.	
4.		Covertoreinforcementchecked	Yes/No.	
5.		Verifiedtest certificate forcement/st eel	Yes/No.	
6.		Adequacyof materials/equipmentfor pour	Yes/No.	
7.		Embeddedparts(location&pl umb)	Yes/No.	
8.	SOFFIT(S) & POUR TOP (T) LEVELSCHECKEDBEFORE(B)&AFTER(A)FOR MREMOVAL (ONLY OFBEAMSOFOVER10MSPAN& IMPORTANT		S(B) T(B) S(B) T(B)	
9.	CONSTRUCTION JOINTS LOCATION &TIME(IFNOTASPERDRAWING)			
10.	CEMENTCONSUMPTIONINKGS.			
11.	NUMBEROFCUBESANDIDENTIFICATION			
12.	TESTCUBERESULTS(7DAYS/28DAYS)			
13.	CONCRETECONDITIONONFORMREMOVAL		Verygoo d/good/f air /poor	

Notes: - Each pour to have separate cards, in triplicate oneeachforOwner/client,Contractor&siteoffice.

Underremarksindicatedeviationsfromdrawings&specifications,congestion in reinforcement if any, unusual occurrences such as failure ofequipment's, sinking of supports/Props, heavy rains affecting concreting,poorcompaction,impropercuring,otherdeficiencies,observationetc.

3.28 MODEOFMEASUREMENTANDPAYMENT

The unit rate for concrete work under various categories shall be allinclusive and no claims for extra payment on account of such items asleaving holes, embedding inserts, etc. shall be entertained unless separatelyprovided for in the schedule of quantities. No extra claim shall also beentertained due to change in the number, position and / or dimensions ofholes, slots or openings, sleeves, inserts or on account of any increased lift,leadofscaffoldingetc.All these factors should be taken intoconsiderationwhilequotingtheunitrates.UnlessprovidedforintheSchedule of Quantities the rates shall also include fixing insets in allconcretework,wheneverrequired.

Payments for concrete will be made on the basis of unit ratesquoted for the respective items in the Schedule of Quantities. No deductionin the concrete quantity will be made for reinforcements, inserts etc. andopening less than 0.100 of a sq.m in areas where concrete is measuredin sq.m and 0.010 cu.m where concrete is measured in cu.m. Where nosuchdeductionforconcreteismade,paymentforshutteringworkprovided

for such holes, pockets, etc. will not be made. Similarly the unit rates forconcrete work shall be inclusive or exclusive of shuttering as provided for intheScheduleofQuantities.

Payment for beams will be made for the quantity based on the depth beingreckoned from the underside of the slabs and length measured as the cleardistance between supports. Payment for columns shall be made for thequantitybasedonheightreckonedupto the undersideofslab/beams.

Theunitrateforprecastconcretemembersshallincludeformwork,mouldings,finishing,hoistingandsettinginpositionincludingsettingmortar,provision of lifting arrangement etc. complete. Reinforcement and insertsshallbemeasuredandpaidforseparatelyunderrespectiveitemrates.

Only the actual quantity of steel embedded in concrete including laps asshown on drawings or as approved by Engineer shall be measured and paidfor, irrespective of the level or height at which the work is done. The unitratesforreinforcementshallincludelap chairs,spacerbarsetc.

ItemNo.08:ok
BrickMasonryworkinCement:Mortar1:6

Materials:
WatershallconformtoM-1.

Cement:
CementshallconformtoM-3.

Brick:
The bricks shall be hard or machine moulded and made from suitable soils andburnt. They shall be free from cracks and flaws and nodules of free lime. Theyshall have smooth rectangular faces with sharp corners and shall be of uniformcolors.

The bricks shall be moulded with a frog of 100 mm x 40 mm and 10 mm to 20mm deep on one of its flat sides. The bricks shall not break when thrown on thegroundfroma heightof600mm.
Thesizeofmodularbricksshallbe190mmx90mm.

Thesizeoftheconventionalbricksshallbeasunder:
(9"x4.3/8"x2,3/4")225x110x75mm

Only bricks of one standard size shall be used in one work. The followingtolerances shall be permitted in the conventional size adopted in a particularwork.

Length±1/8"(3mm)width:±1/16"(1.5mm)Heig
ht:±1/16"(1.5mm)

Thecrushingstrengthofthebricksshallnotbelessthan35kg/sq.cm.Theaveragewaterabsorptionshallnotbemorethan20percentbyweight.

Necessarytestsforcrushingstrengthandwaterabsorptionetc.,shallbecarriedoutaspe rIS:3495(PartI toIV)-latestedition.

Workmanship:
i)Proportion:
Theproportionofthecementmortarshallbe1:6(1-Cement,6-Finesand)byvolume.

Wettingofbricks:
The bricks required for masonry shall be thoroughly wetted with clean water forabout two hours before use or as directed. The cessation of bubbles, when thebricksarewettedwithwaterisanindicationofthoroughwettingofbricks.

Laying:
Bricks shall be laid in English bond unless directed otherwise. Half or cut bricksshall not be used except when necessary to complete the bond; closer in suchcaseshallbecuttorequiredsizeandusedneartheendsofwalls.

A layer of mortar shall be spread on full width for suitable length of the lowercoarse.Eachbrickshallfirstbeproperlybeddedandsetframebygentlytappingwit h handle of trowel or wooden mallet. It's inside face shall be flushed withmortar before the next brick is laid and pressed against it. On completion ofcoarsetheverticaljointsshallbefullyfilledfromthetopwithmortar.

The work shall be taken up truly in plumb. All coarses shall be laid trulyhorizontal and all vertical joint shall be truly vertical. Vertical joints in alternatecoarse shall generally be directly one over the other. the thickness of brickcoarseshallbekept uniform.

The brick shall be laid with frog upwards. A set of tools comprising of woodenstraight edges, mason's spirit level, square half meter rub, and pins, string andplumb shall be kept on site of work for frequent checking during the progress ofwork.

Both the faces of walls of thickness greater than 23 cms shall be kept in properplace. All the connected brick work shall be kept not more than one meter overthe rest of the work. Where this is not possible, the work shall be raked backaccording to bond (and not left toothed) at an angle not steeper than 45degrees.

All fixtures, pipes, outlets of water, hold fasts of doors and windows etc. whicharerequiredtobebuiltinwallshallbeembeddedincementmortar.

Joints:
Bricks shall be so laid that all joints are quite flush with mortar. Thickness ofjoints shall not expose 12 mm. The face joints shall be raked out as directed byraking tools daily during the progress of work when the mortar is still green soastoprovidekeyforplasterorpointingtodone.

The face of brick shall be cleaned the very day on which the work is laid and allmortardroppingremoved.

Curing:
Green work shall be protected from rain suitably. Masonry work shall be keptmoist on all the faces for a period of seven days. The top of masonry work shallbekeptwellwettedat thecloseoftheday.

Proportionoffoundationbed:
If the foundation is to be laid directly on the excavated bed, the bed shall beleveled,clearedofallloosematerials,cleanedandwettedbeforestringmasonryis to be laid on concrete footing, the top of concrete shall be cleaned andmoistened.Thecontractorshallobtaintheengineer'sapprovalforthefoundationbe d beforefoundationmasonryisstarted.When precastflooringis to beprovided flush with the top of plinth, the inside plinth offset shall be kept lowerthantheoutsideplinthtopbythethickness ofthefollowing.

Modeofmeasurement&Payment:
Themeasurementofthisitemshallbetakenforthebrickmasonryfullycompleted in foundation upto plinth. The limiting dimensions not exceedingthose shown on the plains or as directed shall be final. Battered tapered andcurvedpositionshallbemeasurednet.

ItemNo.09:ok
Halfbrickmasonryincommonburntclaybuildingbrickhavingcrushingstrength notlessthan35kg/sq.cm.incementmortar1:4(1cement:4coarsesand)forsuper-structureaboveplinthleveluptofloortwolevelwithconventionalbricks

1. Materials
BricksshallconformtoM-15.Watershall conformtoM-1.CementshallconformtoM-3.SandshallconformtoM-6.CementmortarshallconformtoM-11.

2. Workmanship
Therelevantspecificationsbefollowedforbricks,wetting,layingofbricks,joints,curing, shall conform to Item No.16 expect that the bricks to be used shall beconventionalbricksinsteadofmodularbricks.

Cement mortar used in masonry work shall be in proportion of 1 part of cementand4partsofsandbyvolume.

All bricks shall be laid streacher wise, breaking joints with those in the upperand lower courses. The wall shall be taken truly plumb. All courses shall be laidtruly horizontal and all vertical joints shall be truly vertical. The bricks shall belaid with frogs upwards. A set of masons tools shall be maintained on work asrequiredforfrequentchecking.

3. Modeofmeasurementsandpayment
Thelimitingdimensionsshallnotexceed
thoseshownintheplanorasdirected.Anyworkdoneextraoverspecifieddimensionsshall beignored.

Therateshallbeforaunitofonesquaremeter.

ItemNo.11:ok 20mm.thicksandfacecementplasteronwallsandRCCstructureuptoheightof 10mt.andabovegroundlevelconsistingof12mmthickbackingcoatingofC.M. 1:3(1cement:3sand)and8mmthickfinishingcoatinC.M.1:2(1cement:2san d)etc.complete

Material:
WatershallconformtoM-1.
CementMortarshallconformtoM-11

Workmanship:
The workshallbecarried outinthecoats.Thebackingcoat(basecoat)shallbe12mmthickinC.M.1:3.Therelevant specificationisbelow:

Scaffolding:
Wooden bullies, bamboos, planks, treatles and other scaffolding shall be sound.These shall be proper examined before erection and use. Stage scaffolding shallbeprovidedforceilingplasterwhichshallbeindependentofthewalls.

Preparationofbackground:

Thesurfaceshallbecleanedofalldust,loosemortar,droppings,tracesofalgar,effloresc ence and other foreign matter by water or by brushing if it is not hardand by hacking if it is hard. In case of concrete surface, if a chemical retarderhasbeenappliedtotheformwork,theshallberoughedbywirebrushingandallth eresultingdustandlooseparticleclearedoffandcareshallbetakenthatnoneof the retarders is left on the surface. Trimming of projections on brick /concrete surfaces where necessary shall be carried out to get on even surface.Raking of joints in case of masonry where necessary shall be allowed to dry outforsufficientperiodbeforecarryingouttheplasterwork.
The work shall not be soaked but only damped evenly before applying theplaster.Ifthesurfacebecomesdry,suchareshallbemoistenedagain.

For external plaster, the plastering operation shall be started from top floor andcarried downwards for internal plaster, the plastering operations may be startedwhenever the building frame and cladding work are ready and the temporarysupports of the ceilings on the wall of the floor have been removed. Ceilingplastershallbecompletedbeforestartingplastertowalls.

Theplasterabout15x15cmsshall befirstappliedhorizontallyandverticallyatnot more than 2 meters intervals over the entire surface to serve as gauge. Thesurfacesofthesegaugesshallbetrulyinplaneofthefinishedplasteredsurface.the mortar shall than be applied in uniform surface slightly more than thespecifiedthickness,thenbroughttoatruesurfacebymarkingawoodenstraightedge reachingacrossthegaugeswithsmallupwardandsidewaysmovementsata time finally the surface shall be finished off true with a trowel or wooden floataccordingasa smoothora sandy granular texture is required.Excessivetroweling or over working the float shall be avoided. All corners, arises anglesandjunctionsshallbetrulyverticalorhorizontalasthecasemaybeandshallbecar efully finished. Rounding or chamfering corners, arises junctions etc. shall becarriedoutwithpropertemplatestothesizerequired.

Cement plaster shall be used half an hour after addition of water, and mortar orplaster which is partially set shall be rejected and removed forthwith from thesite.

Insuspendingtheworkat theendof theday,theplastershallbeleftout clean

to the line both horizontally and vertically. When recommencing the plaster, theedges of the old work shall be scrapped clean and wetted with cement puttybefore plaster is applied to the adjacent areas to enable the two to properly jointogether. Plastering work shall be closed at the end of the day on the body offeaturessuch asplaster bonds and cornices nor at the cornersor arises.Horizontaljointsinplasterworkshallnotalsooccuronparapettopsandcopingsas these invariably lead to leakage. No portion of the surface shall be left outinitiallybepackeduplaterontheoutsideoftheplasterandkeepingthemwet.

Thethicknessofbackcoatshallbe12mmaverage.Beforethefirstcoathardensits surface shall be beaten up by edges of wooden tapers and close dents shallbemadeonthesurface.Thesubsequentcoatshallbeappliedafterthiscoathasbeen allowed to set for 3 to 5 days depending upon the weather conditions. Thesurfaceshallnotbeallowedtodryduringthisperiod.

the second coat be started over right after finishing of plaster. The plaster shallbe kept wet for a period of 7 days. During this period, it shall be protected fromalldamages.

Modeofmeasurements&Payments:

Therateshallincludethecostofallmaterialslabourandscaffoldingetc.involvedintheop erationsdescribedunderworkmanship.

All plaster shallbemeasuredinsquaremeterunless otherwisespecifiedlength,breadthorheightshallbemeasuredcorrecttoacentimeter.

Thickness of the plaster shall be exclusive of the thickness of the key i.e.grooves or open joints in brick work, stone work etc. or space between laths.Thickness of plaster shall be average thickness with minimum 10 mm at anypointonthissurface.

Thisitemincludesplasteringuptofloortwolevel.

Themeasurementofwallplasteringshallbetakenbetweenthewallsorpartition(dimens ions before plastering being taken) for length and from the top of flooror skirting to ceiling for height, depth of cover of cornices, if any, shall bededucted.

Soffitsofstairsshallbemeasuredasplasteringonceilings.Elowignssoffitsshallbemeas uredseparately.

Forjambs,soffits,sides,etc.foropeningsnotexceeding0.5sq.mt.eachinareafor ends of joints, beams, posts girders, steps etc. not exceeding 0.5 sq.mt.each in area and for openings exceeding 0.5 sq.mt. and not exceeding 3.00sq.mt. in each area deductions and additions shall be made in the followingmanner:

a) No deductions shall be made for ends of joints, beams, posts etc. andopenings notexceeding0.5sq.mt.eachandnoadditionshallbemadeforreverse, jambs, soffits, side etc. of these openings, for finish to plasteraroundendsofjoints,beams,postsetc.

b) Deductions for openings exceeding 0.5 sq.mt. but not exceeding 3.00sq.mt. each shall be made as following and no addition shall be made forreverse,joints,soffits,sides,etc.oftheseopenings.

i) Whenbothfacesofallwallsareplasteredwithsameplaster.Deductionsshallbem adeforonefaceonly.

ii)

- For openings having door squares equal to or projecting beyond thethickness of wall. Full deduction for opening shall be made from eachplasteredfaceofthewall.
- In case of openings of area above 3 dq.mt. each deduction shall bemadeforopeningbutJambs,soffitsandslitsshallbemeasured.
- Therateshallbeforaunitofsquaremeter.

ItemNo.12:ok
CementPlasterWithNeeru+CementFinish

Material:
WatershallconfirmtoM-1.
CementMortarshallconfirmtoM-11

Workmanship:
12mmthickcementplasterinsinglecoatinCM1:3(1-cement:3-sand)withafloatingcoat ofneat cementslurry.

Scaffolding:
Wooden bullies, bamboos, planks, treatles and other scaffolding shall be sound.These shall be proper examined before erection and use. Stage scaffolding shallbeprovidedforceilingplasterwhichshallbeindependentofthewalls.
This kind of Plaster is normally for interior side or as specified location byConsultant to be applied as above. NORMAL CEMENT PLASTER and thesurface shall be rubbed smooth after coating it with a thick coat of purePortland cement slurry while the base coat is still fresh. If Neeru plus cementfinishisspecifiedfloatingwithneatcementwillnotberequired.

ModeofMeasurement&Payment:
The rate shall include the cost of all materials labour and scaffolding etc.involvedintheoperationsdescribedunderworkmanship.

All plaster shall be measured in square meter unless otherwise specified length,breadthorheightshallbemeasuredcorrecttoacentimeter.

Thickness of the plaster shall be exclusive of the thickness of the key i.e.grooves or open joints in brick work, stone work etc. or space between laths.Thickness of plaster shall be average thickness with minimum 10 mm at anypointonthissurface.

Thisitemincludesplasteringuptofloortwolevel.
Themeasurementofwall
plasteringshallbetakenbetweenthewallsorpartition(dimensions before plastering being taken) for length and from the top offloor or skirting to ceiling for height, depth of cover of cornices, if any, shall bededucted.

Soffitsofstairsshallbemeasuredasplasteringonceilings.Elowignssoffitsshallbemeas uredseparately.

For jambs, soffits, sides, etc. for openings not exceeding 0.5 sq.mt. each inareaforendsofjoints,beams,postsgirders,stepsetc.notexceeding0.5

sq.mt.eachinareaandforopeningsexceeding0.5sq.mt.andnotexceeding 3.00sq.mt.ineachareadeductionsandadditionsshallbemadeinthefollowingmanner:

a) No deductions shall be made for ends of joints, beams, posts etc.and openings not exceeding 0.5 sq.mt.each and no addition shallbe made for reverse, jambs, soffits, side etc. of these openings,forfinishtoplasteraroundendsofjoints,beams,postsetc.

b) Deductionsforopeningsexceeding0.5sq.mt.butnotexceeding 3.00sq.mt.eachshallbemadeasfollowingandnoadditionshallbemade forreverse,joints,soffits,sides,etc.oftheseopenings.

i) When both faces of all walls are plastered with sameplaster.Deductionsshallbemadeforonefaceonly.

ii)

- ✓ Foropeningshavingdoorsquaresequaltoor projectingbeyond the thickness of wall. Full deduction for opening shallbemadefromeachplasteredfaceofthewall.
- ✓ In case of openings of area above 3 dq.mt. each deductionshall be made for opening but Jambs, soffits and slits shall bemeasured.

Therateshallbeforaunitofsquaremeter.

ItemNo.17:ok
Fillinginplinthwithhardmurrumorselectedsoilinlayersof 0.23 cm. thickness including watering, ramming andconsolidatingetc.complete.

1.0 Materials:

1.1 Murrum shall be clean of good binding quality, and of approvedquality obtained from approved pots/quarries of disintegratedrocks which contain silicons materials and natural mixture ofclay of calcarions origin. The size of murrum shall not be morethan20mm.

2.0 Workmanship:

2.1 Themurrumorselectedsoilshallbefilledinfoundationandplinthin20cms.layersincludingconsolidating,ramming,watering,dressingetc.complete.

3.0 Modeofmeasurementandpayment:

3.1 Therelevantspecificationsoftheitemshallbefollowed.

3.2 The rate includescostofcollecting andcarting murrum/orselected earth of approved quality with all lead and labourrequired forfillingintrenches andplinth.

3.3 Therateshallbeforaunitofonecubicmetre.

ItemNo.19:OK
ApexColorworkon Outer sideofWall(Twocoats) (withBaseCoat)FINISHES

EXTENTANDINTENT
TheContractorshallsupplyallmaterials,labour,tools,ladders,scaffolding and other equipment necessary for the completion andprotection of all painting / finishing work. Painting & finishing, asherein specified shall be applied to all surfaces requiring painting /finishing throughout the interiorand exterior ofthe buildings asgivenintheschedule offinishesorelsewhere.Thepainting /finishing shall be carried out by a specialist workers, approved by theEngineer-in-chargeofRMCforthiswork.

STORAGE
Storage of materials to be used on the job shall be, only in a singleplace approved by the Engineer-in-charge of RMC for this work. Suchstorage place shall not be located within any of the buildings includedinthecontract.

MATERIALS
Materials used in the work shall be of manufacture approved by theEngineer-in-chargeofRMCforthiswork,Readymixedpaints,varnishes, enamels, lacquers, stains, paste fillers, distempers andother materialsmust bedeliveredtothejob siteintheoriginalcontainers, with the sealsunbroken and labels intact. Each containershall give the manufacturer's name, type of paint, color of paint andinstructions of reducing. Thinning shall be done only in accordancewithdirections&manufacturer'sspecification.Removerejecte dmaterialsimmediatelyfromthepremises.

SHADES
All shades, as provided in the shade schedule, shall be approved bythe Engineer- in-charge of RMC for this work. The Contractor shall asfaraspossibleusepre-mixedmanufacturer'sshadesandshallprepare sample of the shades selected and submit same for approvalby the Engineer-in-chargeof RMC for this work. No work is to proceeduntil the Engineer-in-chargeofRMCforthisworkhasgivenhisapproval,preferablyinwriting,ofth eshadesamples.

COMMENCEMENTOFWORK
Painting /finishing shall notbestarteduntilthe surfaces to bepainted / finished are in a condition fit to receive painting / finishingandsocertifiedbytheEngineer-in-chargeofRMCforthiswork.

Painting / finishing work shall be taken in hand only after all othercivilworkiscompleted.

Buildingswherepainting/finishingworkistocommencedshallbethoroughlys weptandcleanedupbeforecommencementofpainting /finishing.

SCAFFOLDING
Onlydoublescaffoldinghavingtwosetsofverticalsupportsshallbe

providedfor all, painting / finishing work. The supports shall be tiedtogetherwithhorizontalpiecesoverwhichthescaffoldingplanksshallb efixed.

All the vertical and horizontal members of the scaffolding shall beplaced sufficiently away from the surfaces to be painted to ensureproper and uniteruptedapplication.

WORKMANSHIP

The workmanship shall be of the very best; all materials evenlyspread and smoothly flowed as without running sags, using goodqualitytools,brushes,
etc.,asrequired.Onlyskilledpainters/applicators shall be employed. A properly qualified foreman shall beconstantly on the job whilst the work is proceeding. All surfaces to bepainted / finished shall be cleaned free of all loose dirt and dustbeforepainting/finishingisstarted.AIIworkwhereacoatofmaterial has been applied must be inspected and approved beforeapplication of the succeeding specified coat. Each undercoat shall bedistinctshadeoftheapprovedcolor.

Before painting / finishing, remove hardware, accessories, plates andsimilaritems or provide portion to all such items. Upon completion ofeachspace,replaceallfixturesremoved. Remove doors ifnecessary to paint bottom edge. Use only skilled mechanics for theremoval andreplacementofaboveitems.

CONCEALEDSURFACES

All interior and exterior trim, door frames, doors, shelving, cabinetworkshallbethoroughlyandcarefullybackpaintedasallsurfacesan dedges which willbe concealed when installed. Such surfaces shall beclean, dry, sanded and properly prepared to receive the paint. Tops,bottom and edges of doors shall be finished same as the rest of thedoor.

PROTECTANDCLEAN

The agency shall protect not only his own work at all times, but shallalso protect all adjacent work and materials by suitable coveringduring progress of his work. Upon completion of his work, he shallremove
allpaintandvarnishspotsfromfloors,glassandothersurfaces. Anydefaced surfacesshall becleaned and the originalfinish restored. He shall remove from the premises all rubbish andaccumulated material and shall leave the work in clean, orderly andacceptableconditions.

PREPARATIONOFSURFACES

PLASTER WORK: Fill all holes, cracks and abrasions with plaster ofparish / cement slurry as directed, properly prepared and applied andsmoothed off to match adjoining surfaces. Do not use sand paper onplastersurfaces.Plastershallbeallowedtodryforatleast12(twelve)wee ksbeforetheapplicationofpaint/finishes.
STEEL AND IRON: All surfaces shall be washed with mineral spirits toremoveanydirtorgreasebeforeapplyingpaint.Whererustorscaleis present, it shall be wire brushed and sand papered clean. Allcleanedsurfacesshallbegivenonecoatofapprovedphosphatebeforepri me coatin accordance with the manufacturers, Instructions. Shopcoatsofpaintthathavebecomemarredshallbecleanedoff,wire

brushed,andspotprimedovertheaffectedareas.

APPLICATION

The paint shall be continuously stirred in the container so that itsconsistencyiskeptuniformthroughout.

The painting / finishing shall be laid on evenly and smoothly bymeans of crossing and laying off, the latter in the direction of thegrainofthe wood.Thecrossingandlayingoffconsistsofcoveringthearea with paint, brushing the surface hard for the first time and thenbrushing alternatively in opposite directions, two or three times andthen finally brushing lightly in a direction at right angles to the same.In this process no brush marks shall be left after the laying off isfinished. The full process of crossing and laying off will constitute onecoat.

Where so stipulated, the painting / finishing shall be carried out usingspray machines suited for the nature and location of the work to becarried out. Only skilled and experienced workmen shall be employedfor this class of work. Paints used shall be brought to the requisiteconsistencyby addinga suitable thinner.Spraying shall be carriedout only in dry conditions. No exterior painting / finishing shall bedoneindampfoggyorrainyweather.

Surface to be painted shall be clean, dry, smooth and adequatelyprotected from dampness. Each coat shall be applied in sufficientquantity to obtain complete coverage, shall be well brushed andevenly worked out over the entire surface and into all corners, anglesand crevicesallowedto thoroughly dry.Secondcoatshallbeofsuitable shade to match final color, and shall be approved by theEngineer-in-charge of RMC for this work before final coat is started.Allow at least 48 hours drying time between coats for interior and 7days for exterior work, and if in the judgment of the Engineer-in-charge ofRMC for thiswork more time is requested it shall beallowed. Finishedsurfaces shallbeprotected from dampness anddust until completely dry. Finished work shall be uniform of approvedcolor,smoothandfreefromruns,sags,defectivebrushingandclogging. Make edgesofpaints adjoining materials of colors sharpandclean,withoutoverlapping.

Inorder toachievea superior finished surface,puttypaste fillersshall be used on, all surfaces to be painted. To fill pores, dents, etc.The putty / paste fillers shall be approved quality and manufactureand shall be applied to the surface with a knife or other sharp edgedtools after the priming coat as well as after each undercoat. Thesurface, after filling with putty / paste tiller, shall be rubbed downwith fine sand paper and dusted off before the application of thesubsequentcoat.

Paste wood filler when set shall be wiped across the grains of thewood and thenwith the grain to secure a clean surface. Surface tobe stained shall be covered with uniform coat of stain wiped off ifrequired.

FINISH: The painted surfaces shall be finished to require texture.Matt finish shall be achieved by use of sponge rollers or stipplingbrushesascalledfor.

Therateshallbepaidforaunitofonesquaremeterbasis.

ItemNo.20:OK PlasticEmulsionpaint(twocoats)(AsianPaint,ICI,Dulux,Nerolac,Berger,etc.of approvedtype(withprimecoat):

Materials:
The enamel paint shall satisfy in general requirements inspecificationsofoilpaints.EnamelpaintshallconfirmtoIS Latestedition.

Workmanship:
The materials required for work of painting work shall be obtaineddirectly from approved manufacturer or approved dealer and broughttothesite inmaker'sdrum, bagsetc.withsealunbroken.

All materials not in actual use shall be kept properly protected, lids ofcontainersshallbekeptclosedand surfaceofpaintinopenorpartially open containers covered with a thin layer of turpentine toprevent formation of skin. The materials which have become state orflat due to improper and long storage shall not be used. The paintshall be stirred thoroughly in its container before pouring into smallcontainers. While applying also, the paintshall be continuously stirredinsmallercontainer.Noleftoverpaintshallbe

putbackinto store tins. Whennot in use, the containers shall bekeptproperlyclosed.

Ifforanyreasons,thinningisnecessary,thebrandofthinnerrecommended bythemanufacturer shallbeused.

The surface to be painted shall be thoroughly cleaned and dusted. Allrust, dirt and grease shall be thoroughly removed before painting isstarted. No painting on exterior or other exposed parts of the work shallbe carried out in wet, damp or otherwise unfavourable weather andallthesurfacesshallbethoroughlydrybeforepaintingworkisstarted.

Applicationofpaint:
Brushing operations are to be adjusted to the spreading capacityadvised by the manufacturer of particular paint. The paint shall beapplied evenly and smoothly by means of crossing and laying off. thecrossing and laying of consists of covering the area over with paint,brushing the surface hard for the first time over and then brushingalternately in opposite directions two or three times and then finallybrushing lightly in a direction at right angels to the same. In thisprocess, no brush marks shall be left after the laying off is finished.Thefullprocessofcrossingandlayingofwillconstituteonecoat.

Each coat shall be allowed to dry completely and lightly rubbed withvery fine grade of san paper and loose particles brushed off beforenext coatis applied. Each coat shall vary slightlyin shade and shallbe got approved from the engineer-in-charge before next coat isstarted.

Each coat except the last coat shall be lightly rubbed down with sandpaper of fine pumice stone and cleared of dust before the next coatis applied. No hair marks from the brush or clogging of paint puddlesin the corners of panels, angles of moulding etc. shall be left on thework.

Special care shall be taken while painting over bolts, nuts, rivets,overlapsetc.Approvedbestqualitybrushesshall beused.

Modeofmeasurementandpayment:
Thenewsteelandothermetalsurfaceshallbemeasuredunderthisitem.Allthew orkshallbemeasurednetin thedecimalsystemasexecutedsubject to the following limits unless otherwise statedhereinafter.

a) Dimensionsshallbemeasuredtothenearest0.01meter.
b) Areasshallbeworkedouttothenearest0.01meter.

No deductions shall be made for openings not exceeding 0.5 sq.m.eachand noadditionshallbemadeforpaintingtobeddings,moulding,edges,jambs,s offits,sillsetcofsuchopening.

In case of fabricated structural steel and iron work, priming coat ofpaintshallbeincludedwithfabrication.Incaseoftrusses,ifmeasured is sq.m compound griders, stanchions, lattices, girder andsimilar work, actual are shall be measured and no extra shall be paidfor painting on bolts heads, nuts, washers etc. No addition shall bemadetotheweightcalculatedforthe

purposeofmeasurementsofsteelandironworksforpaintappliedonshopor atsite.

The different surfaces shall be grouped into one general item, areasof uneven surfaces being converted into equivalent plain areas inaccordance withthetablegivenasperAnnexure-IIforpayment.

Therateisincludingprimingcoat.

Therateshallbeforaunitofonesquaremeter.

ItemNo.21:ok
Providing&layingVitrifiedTilesforflooringworkin1stQuality

Materials
Approvedqualityvitrifiedtilesasapprovedbyengineer-in-charge/architect.

BEDDING
The sub-grade shall be cleaned, wetted and mopped. The beddingshall then be laid evenly over the surface tamped and corrected todesired leveland allowed to harden enough to offer a rigid cushionto tiles and to enablethe mason to place wooden planks across andequalonit.

The Color vitrified tiles shall be laid on cement mortar bedding of10 mm thick in C.M. 1:3. The mortar shall have sufficient plasticityfor laying and there shall be no hard lumps that would interferewiththeevennessofbedding.Thebaseshallbeclearedandwell

wetted. The mortar shall then be spread in thickness not less than10mmat anyplaceandaverage12mmthickness.Theproportionofthecementmortarshallbeasspecifiedintheitem.

FIXINGTILES

The tiles before laying shall be soaked in water for at least twohours. Neat grey cement grout at 3.3 Kg. Cement / Sq. Mt. ofhoney like consistency shall be spread over the mortar bedding asdirected. The edges of the tiles are smeared with neat cementslurry. The tiles shall be well pressed and gently tapped with awooden mallet till they are properly bedded and in level with theadjoining tiles. There shall be no hollows in bed or joints. The jointsbetween the tiles shall be as thin as possible in straight line or asper pattern.

The tiles shall not have staggered joints. The joints shall be true tocentreline both ways. The Nahni trap coming in the flooring shall beso positioned that its grating shall replace only one tile as far aspossible. Where full size tiles cannot be fixed, they shall be cut(Swan)totherequiredsizeandtheedgesrubbedsmoothtoensurestraight and true joints. The joints shall bee filled with grey cementgrout with wire brush of trowel to a depth of5mm and loosematerial removed. White cement shall be used for pointing thejoints. After fixing the tile finally in an even plane the flooring shallbekeptwetandallowedtonatureundisturbedfor7days.

CLEANING

The surplus cement grout that may have come out of the jointsshall be cleared off before it sets. Once the floor has set, it shall becarefullywashed,clearedbydiluteacidanddried.Properprecaution and measuresshall be taken to ensure that the tiles arenotdamagedmanywaystillthecompletionoftheconstruction.

ModeofMeasurement:

Therateforthisitemwillbepaidononesquaremeterbasis.

ItemNo.22:ok
Providingandlayingglazedtilesof6mmthickofapproved quality(1st quality) of requiredsizejointed withcement pasteon 10mmthickcementplaster1:3(1-cement3-Coarsesand)pointing whitecement andjointedwithwhitecementslurry

MATERIALS

GlazedTiles

The tiles shall be of best quality as approved by the Engineer- in-charge.They shall be float and true to shape. They shall be free from cracks,crazingspots,chippededgesandcorners.Theglazingshallbe ofuniformshade.

Variationfromthestatedsizes,otherthanthethicknessoftileshallbe plusor

minus 1.5 mm. The thickness of tile shall be 6 mmexceptasabovethetilesshallconfirmtoI.S.Latestedition.

BEDDING

The sub-grade shall be cleaned, wetted and mopped. The bedding shallthen be laid evenly over the surface tamped and corrected to desiredlevelandallowedtohardenenoughtoofferarigidcushiontotilesandtoen able the masontoplacewoodenplanksacrossandequalonit.

The Colorglazedtilesshallbelaid oncement mortarbeddingof10mmthickin C.M. 1:3. The mortar shall have sufficient plasticity for laying and thereshallbenohardlumpsthatwouldinterferewiththeevennessofbedding.Th e base shall be cleared and well wetted. The mortar shall then bespread in thickness not less than 10mmat any place and average12mmthickness.The proportion ofthe cement mortar shall be asspecifiedintheitem.

FIXINGTILES

The tiles before laying shall be soaked in water for at least two hours.Neat grey cement grout at 3.3 Kg. / Cement / Sq.Mt. of honey likeconsistency shall be spread over the mortar bedding as directed. Theedges of the tiles are smearedwith neat cement slurry. The tiles shall bewellpressedandgentlytappedwitha woodenmallettilltheyareproperly bedded and in level with the adjoining tiles. There shall be nohollows in bed or joints. The joints between the tiles shall be as thin aspossibleinstraightlineorasperpattern.

The tiles shall not have staggered joints. The joints shall be true tocentre line both ways. The Nahni trap coming in the flooring shall be sopositioned that its grating shall replace only one tile as far as possible.Where full size tiles cannot be fixed, they shall be cut (Swan) to therequired size and the edges rubbed smooth to ensure straight and truejoints. The joints shall bee filled with grey cement grout with wire brushof trowel to a depth of 5mm and loose material removed. White cementshall be used for pointing the joints. After fixing the tilefinally in an evenplane the flooring shall be kept wet and allowed to nature undisturbedfor7days.

CLEANING

Thesurpluscementgroutthatmayhavecomeoutofthejointsshallbe cleared off before it sets. Once the floor has set, it shall be carefullywashed,clearedbydiluteacidanddried.Properprecautionandmeasur es shall be taken to ensure that the tiles are not damaged manywaystillthecompletionoftheconstruction.

Therateforthisitemwillbepaidononesquaremeterbasis.

ItemNo.23:ok

Supply & Fixing of Polished of Kota Stone of required size &thicknessasinstructedtofixedinPlatform/CupBoard etc

1.0 Materials

1.1. Water shall confirm to M-1. Lime mortar shall confirmtoM-10,CementmortarshallconfirmtoM-11,GraniteStoneshallconfirmto M-52.

2.0. Workmanship

2.1 Each slab shall be cut to the required size and shape and finechisel dressed at all the edges. The sides thus dressed shallhave a full contact if a straight edge is laid along. The sidesshall be table rubbedwith coarse sand before paving. All anglesand edges of the slabs shall be true square and free fromchippings and giving a plane surface. The thickness shallbe25 mm. (Average) as specified in this item but notlessthan20mmatanyplace.

2.2 Beddingforthekotastoneslabsshallbeoflimemortar1:2(1lime : 2 coarse sand) of average thickness 20 mm. Sub grade shallbe cleaned, wetted and mopped. Mortar of the specified mixand thickness shall be spread on an area sufficient to receiveone stone slab. The slab shall then be washed clean beforelaying. It shall be laidon top pressed, tapped gently to bring itin level with the other slabs. It shall then be lifted and laidaside. Top surface of the mortar shall then be corrected byadding fresh mortar at hollows or depressions. The mortarshall then be allowed to harden bit. Over this Surface, cementslurry of honey like consistency shall be applied. The slab shallthen be gently placed in position and tapped with wooden Imallet till it is properly bedded in level. with and close to theadjoining slab. Thejoint shall be as fine as possible. The slabsfixedintheflooradjoiningthewallsshallenternotlessthan 10mm.undertheplaster,skirtingordedo.Thejunctionbetween wall and floor shall be finished neatly. The finishedsurfaceshallbetruetolevelsandslopesasdirected.

2.3 The floor shall be kept wet for a minimum period of 7 days sothatbeddingandjointssetproperly.

2.4 Polishing shall be normally commenced after 14 days of layingthe stone slab. First polishing shall be done with carborundumstones of 120 grade grit fitted in the heavy machine and thensecond polishing shall be done with carborundum stone of 220to 350gradegritfittedinheavymachine. Water shall beproperlyusedduringpolishing.Thestoneshall then bewashed clean with water. When directed by the Engineer-in-charge; wax polish of approved quality shall be applied on thesurface with the help of soft cloth over a clean and dry surface.Thenthepolishingmachinefittedwithbobsshallberunoverit .

2.5 The holesrequired forNahnitraps, pipesand other fittingsshallbemadewithoutanyextracost.

3.0. Modeofmeasurements&payment

3.1 The rate shall include the cost of all materials and labourinvolved in all the operations described above. The kota stoneshall be measured in square meters correct to two places ofdecimal, length and breadth shall be measured correct to a:centimeter and between the finished face of skirting dedo orwall plaster and no deduction shallbe made nor extra paid foranyopening

infloorofareasupto0.1sq.mt.

ItemNo.24:ok
Supply,Fixing&PolishingforGraniteFlooringwork18mmthick&200 mmBaseofLime:Mortar inproportionof1:2

1.0 Materials

1.1. Water shall confirm to M-1. Lime mortar shall confirmtoM-10,CementmortarshallconfirmtoM-11,GraniteStoneshallconfirmto M-52.

2.0. Workmanship

2.6 Each slab shall be cut to the required size and shape and finechisel dressed at all the edges. The sides thus dressed shallhave a full contact if a straight edge is laid along. The sidesshall be table rubbedwith coarse sand before paving. All anglesand edges of the slabs shall be true square and free fromchippings and giving a plane surface. The thickness shallbe25 mm. (Average) as specified in this item but notlessthan20mmatanyplace.

2.7 BeddingfortheGranitestoneslabsshallbe oflime mortar1:2(1lime : 2 coarse sand) of average thickness 20 mm. Sub grade shallbe cleaned, wetted and mopped. Mortar of the specified mixand thickness shall be spread on an area sufficient to receiveone stone slab. The slab shall then be washed clean beforelaying. It shall be laidon top pressed, tapped gently to bring itin level with the other slabs. It shall then be lifted and laidaside. Top surface of the mortar shall then be corrected byadding fresh mortar at hollows or depressions. The mortarshall then be allowed to harden bit. Over this Surface, cementslurry of honey like consistency shall be applied. The slab shallthen be gently placed in position and tapped with wooden Imallet till it is properly bedded in level. with and close to theadjoining slab. Thejoint shall be as fine as possible. The slabsfixedintheflooradjoiningthewallsshallenternotlessthan 10mm.undertheplaster,skirtingordedo.Thejunctionbetween wall and floor shall be finished neatly. The finishedsurfaceshallbetruetolevelsandslopesasdirected.

2.8 The floor shall be kept wet for a minimum period of 7 days sothatbeddingandjointssetproperly.

2.9 Polishing shall be normally commenced after 14 days of layingthe stone slab. First polishing shall be done with carborundumstones of 120 grade grit fitted in the heavy machine and thensecond polishing shall be done with carborundum stone of 220to 350gradegritfittedinheavymachine. Water shall beproperlyusedduringpolishing.Thestoneshall then bewashed clean with water. When directed by the Engineer-in-charge; wax polish of approved quality shall be applied on thesurface with the help of soft cloth over a clean and dry surface.Thenthepolishingmachinefittedwithbobsshallberunoverit .

2.10 The holesrequired forNahnitraps, pipesand other

fittingsshallbemadewithoutanyextracost.

3.0. Modeofmeasurements&payment

3.1 The rate shall include the cost of all materials and labourinvolved inall the operations described above. The granitestone flooring shall be measured in square meters correct totwo places of decimal, length and breadth shall be measuredcorrecttoa:centimeterandbetweenthe finished faceofskirting dedo or wall plaster and no deduction shallbe made norextrapaidfor anyopeninginfloorofareasupto0.1sq.mt.

ItemNo.25:ok
FlushDoor25mmthickwithIronframeforDoor&windowwith polishing/oilpaintingusingcompanyviz.Kitply/Century/Dura/Everest

Providing, supplying and fixing of Flush Door 25mm thick with Ironframe for Door & window with polishing / oil painting of approved qualityusing company viz. Kitply / Century / Dura /Everest and make includingnecessaryfittings,fixingasdirectedbytheengineer-in-chargeetccomplete.

The rate forthisworkwillbepaidsquare meterbasis.

ItemNo.26:ok
Supply & Fixing of Laminates 1mm of Approved Quality of ISImarked

Providing, supplying and fixing Laminates 1mm of Approved Quality ofISI marked of approved quality and make including necessary fittings,fixingasdirected bytheengineer-in-chargeetccomplete.

The rate forthisworkwillbepaidsquare meterbasis.

ItemNo.27:OK
Paintingtwocoats(includingprimingcoat)onnewsteelandother metal surfaces with enamel paint, brushing, interior to giveanevenshadeincludingcleaningthesurfaceofalldirt,dustandother foreignmatter.

1.0. Materials:

1.1. Thereadymixedpaint,brushing,woodprimerpinkshallconfirmto I.S.3536-1966(Latest edition).

2.0. Workmanship:

2.1. PreparationofSurfaces:

2.2.1. All wood work shall be dry and free from any foreign matterincidental to building operations. Nails shall be punched well belowthe surface to provide a firm key for stopping. Mouldingsshallbecarefully smoothened with abrasive paper and projecting fibresshallberemoved.Flatportionshallbesmoothenedoffwithabrasive paper used across the grain prior to staining and with thegrain prior to staining or if the wood is to be left in its naturalcolour, wood work which is to be stained may be smoothened toscrapinginsteadofbyglasspaperingifsorequired.

2.2.2. Any knots, resinous or stricaks or blueish sap wood that are notlarge enough to justify cutting out shall be treated with two coatsof pure shellac knotting applied thinly and extended about 25 mm.beyondtheactualarearequiringtreatment.

2.2.3. Applicationofprimer:

2.1.1. The relevant specifications of item No. 19.12 (A) shall be followedforapplicationofprimer.

1.0.Materials: TheenamelpaintshallconfirmtoM-44B.

2.0Workmanship:

2.1. General:

2.1.1. The materials required for work of painting work shall be obtaineddirectly fromapprovedmanufacturersorapproveddealerandbroughttothesitei nmaker'sdrums,kegsetc.withsealunbroken.

2 1.2. All materials not in actual use, shall be kept properly protected,lids of containers shall be kept closed and surface of paint in openor partially open containers covered with a thin layer of turpentineto prevent formation of skin. The materials which have becomestale or flat due to improper and long storage shall not be used.Thepaintshallbestirredthoroughlyinitscontainer beforepouring into small containers. While applying also the paint shallbe continuouslystirred in smaller container. No left over paintshall beputbackintostocktins. When not in use, thecontainersshallbekeptproperlyclosed.

2.1.3. If for any seasons, thinning is necessary, the brand of thinnerrecommendedbythemanufacturershallbeused.

2.1.4. Thesurfacetobepaintedshallbethoroughlycleaned am.'dusted. All rust, dirt and grease shall be thoroughlyremovedbefore painting isstarted. No painting on exterior or other exposedparts of the work shall be carried out in wet, damp orotherwiseunfavorableweather and all the surfaces shall bethoroughlydrybeforepainting workisstarted.

2.2. Application:

2.2.1. Brushing operations arc to be adjusted to the spreading capacityadvised by the manufacture of particular paint. The paint shallbeapplied evenly and smoothly by means of crossing and layingoff. The crossing and laying off consists of covering the area overwith paint, brushing the surface hard for the first lime over andthen brushing alternately in opposite directions two or three

timesandthenfinallybrushinglightlyindirectionatrightanglestothe

same. In this process, no brush marks shall be left after the layingoff is finished. The fullprocess of crossing and laying off willconstituteonecoat.

2.2.2. Each coat shall be allowed todry completely andlightly rubbedwith very fine grade of sand paper and loose particles brushedoff before next coat is applied.Each coat shall vary slightly inshade and shall be got approved from Engineer-incharge beforenextcoatisstarted.

2.2.3. Each coat except the last cost shall be lightly rubbed down withsand paper of fine pumice stone and cleaned of dust before thenext coat is applied. No hair marks from the brush or clogging ofpaint puddles in the corners of panels angles of mouldings etc.shallbeleftonthework.

2.2.4. Specialcare shallbetakenwhilepainting overbolts,nuts,rivets,overlapsetc.Approvedbestqualitybrushesshallbeused.

3.0. Modeofmeasurements&payment:

3.1. The relevant specifications of item shall be followed for mode of measurementsandpayment.Therateisexcludingprimingcoat.

3.2. Therateshallbeforaunitofonesq.meter.

ItemNo.28:OK
IronWorkasperdrawingandInstructionsallcomplete:

All structural steel shall confirm to IS 266 - Latest edition. The steelshall be free from the defects mentioned in IS 226 (Latest edition)and shall have a smooth finish. The material shall be free from loosemill scale,rust, pitsorotherdefectsaffectingthestrengthanddurability.River barsshall confirmtoIS1148Latest edition.

When the steel is supplied by the contractor, test certificate of themanufacturer shall be obtained according to IS 226 Latest editionandotherrelevantIndianStandards.

The design should be made as per the instructions of engineer-in-charge.Therateincludessupplyingandwelding(along withlabours),transportationandfixing inpositionofthesteelwork.

TherateshallbeforaunitofoneKilogram.

ItemNo.29:ok
Providing Steel workforRCCwork supplying, bending,binding &hookingbybindingwirewithThermoMechanicallyTreated(TMT)bars confirmingto IS1786,Fe-500

1:0. Materials

1.11.TMTbarsofFe-500shouldbeconfirmingtoIS:1786.

2.0. Workmanship

2.1. Theworkshallconsistoffurnishingandplacingreinforcementto

theshapeanddimensionsshownasonthedrawingsor asdirected.

2.2. Steel shallbe clean and free from rust and loose mill scale atthetimeoffixinginpositionandsubsequentconcreting.

2.3. Reinforcing steel shall conform accurate to the dimensions givenin the bar bending schedules shown an relevant drawings. Barsshall be bent coldtospecifiedshapeanddimensionsorasdirected, using a properbar bender, operated by hand or powerto attain proper radiusof bends. Bars shall not be bent orstraightened in a manner that will the material. Bars bent duringtransport or, handing shall be straightened before being used onthe work. They shall not be heated to facilitate bending. Unlessotherwise specified, a 'U' type hook at the end of each bar shallinvariably be provided to main reinforcement. The radiusof thebend shall not be less then twice the diameter of circle having anequivalent effective area. The hooks shall be suitably encased topreventanysplittingoftheconcrete.

2.4. All the reinforcement bars shall be accurately placed in exactposition shown on the drawings, and shall be securely held inposition during placingofconcreteby annealed binding wirenotlessthan1 mm insize and by using stay blocks or metalchairspacers,metalhangers,supportingwiresor otherapproved. devices at sufficiently close intervals, Bars shall not beallowed to sag between supports nor displaced during concretingoranyotheroperationsofthework.Alldevicesusedforpositioning shall be ofnon-corrodible material. Wooden andmetal supports shall not extend tothesurface of concrete,except where shown on drawings. Placing bars on, layers offreshly laid concrete as the work progresses fro adjusting barspacing shallnotbe allowed. Pieces of broken stone or brickandwooden blocks shall not be used. Layers of bars shall beseparatedbyspacerbars,precastmortarbricks.ortheirapproved devices. Reinforcement after being placed in positionshallbemaintainedinacleanconditionuntilcompletelyembedded in concrete. Special care shall be exercised to preventany displacement of reinforcement in concrete already placed:To prevent reinforcement form corrosion, concrete cover shallbe provided as indicatedon drawings. Allthe bars producingfrom concrete and to which other bars are to be spliced andwhich are, likely to be exposed for a period exceeding 10 daysshallbeprotected byathickcoat ofneatcement grout.

2.5. Barscrossing eachotherwhererequired shallbe secured bybinding wire (annealed) of size not less than 1 mm in such amanner that they do not slip; over each other at the time of fixingand concreting:

2.6. As far possible, bars of full length shall be used. In case this is notpossible. Overlapping of bars shall be done as directed,Whenpracticable, overlapping bars shall not touch each other, but bekept apart by 25 mm. or 1.25 times the maximum size of thecoarse aggregate whichever is greater by concrete between them.Wherenotfeasible,overlappingbarsshallbebound withannealedwiresnot lessthan 1mm.thicktwistedtight.Theoverlapsshallbestaggeredfordifferentbar

sandlocatedat

points,alongthespanwhereneithershearnotbendingmomentismaximum.

2.7. Whenever indicated on the drawings or desired by the Engineer-in-charge, bars shall be joined by couplings which shall have a cross-section sufficient to transit the full stresses of barso he ends of thebars that are joined by coupling shall be upset for sufficient lengthso that the effective cross section at the base of threads is not lessthanthenormalcross-sectionofthebar.Threadsshallbestandardthreads:Steelforcouplingshallconformto I:S.226(Latestedition)

2.8. Whenpermittedorspecifiedonthedrawing'sjointsofreinforcement bars shall butt-welded so as to transit their fullstresses. Welded joints shall preferably be located at points whensteel will not be subject to more than 75 percent of the maximumpermissiblestressesandweldsso staggeredthatatanyonesection not more than 20 percent of the rods are welded. Onlyelectric are welding using a process which excludes air from themolten metal and conforms to any or all otherspecial provisionsfor the work shall be accepted. Suitable means shall be providedfor holding bars securely in position during welding. It shall beensuredthatno voidsare leftin welding and when welding isdone in two or, three stages, previous surface shall be cleaned.properly. Ends ofthe bars shall be cleaned of all loose scale, rust,grease,paintandotherforeignmatterbeforewelding.Onlycompetent welders shallbe employed on the work. The M.S.electrodes used for welding shall conformtoI.S.814(Latestedition).Weldedpiecesofreinforcement shallbe tested:Specimen shall be taken from the actual site and their numberand frequencyof testshallbeasdirected.

3.0. Modeofmeasurements&payment

3.1. Reinforcement shall be measured in length including overlaps,separately for different diameters as actually used in the work.Where welding or coupling is resorted to, in place of lap joints,shall be measured far payment asequivalent length of overlap asper design requirement. From the length so measured, the weightof reinforcement shall be calculated in Kgs. Length shall includehooks at the ends. Wastage and annealed steel wire for bindingshallnotbemeasuredandthecostoftheseitemsshall bedeemed tobeincludedintherateforreinforcement.

3.2. The rate for reinforcement includes cost of steel binding wires, itscarting to work site, cutting,bending;placing, binding and fixingin position as shown on thedrawingsand as directed, It shallalsoincludealldevices for keeping reinforcement in approvedposition, cost of joining as per approved method and all wastageand spacerbars.

3.3. Therateshallbeforaunitof OneKg.

ItemNo.30:ok
NumberingonBuilding/ Quarters
(Paintingwork)

PaintingandNumberingworkofvariouscharactersofapprovedqualitypaintsasdirectedbytheengineer-in-chargeetccomplete.

Therateshallbepaidforaunitpercharacterbasis.

ItemNo.31:ok
Supply&FixingofRCCPrecastFramedoor-window

Providing, supplying and fixing of RCC Precast Frame door - window ofapprovedquality including necessary fittings, fixing as directed by theengineer-in-chargeetccomplete.

Therateforthisworkwillbepaidpersquaremeterbasis.

ItemNo.32:AOK
Supply & Fixing of Orrisa Pan whiteporselinstandardsize

MATERIALS

Orissatypewatercloset:
The specification of Orissa type white glazed water closet of first qualityshall conform to IS: latest edition and relevant specification ofIndiantype watercloset exceptthatpanwillbewiththeintegralsquattingpanofsize 580x440mmwithraisedfootrest.

WORKMANSHIP
Thepanshallbesunkintothefloorandembeddedinacushionofaverage 15cmcement1:5:10(1Cement:5FineSand:10Gradedstoneaggregate 40 mm. nominal size) or as specified. This concrete shall be left 115mm below the top level of the pan so as to allow for flooring and its bedconcrete. The floor should be suitablystopped so that the waste wateris drained into the pan. The pan shall be provided with 100 mm 'P'or 'S' traps as specified in with approximately 50 mm seal. The jointsin thepanand the trap shall be made leak-proof with cement mortar1:1(1Cement:1FineSand).

Therateshallbepaidforaunitofnumberbasis.

ItemNo.32B:OK
Providing&fixingPVCNahnitrapof7.6cmcomplete

ProvidingandfixingU-PVC 3.5"thick of prince/supreme/jain makenanhi trap at all floor levels, of the following nominal diameter ofselfcleaning designwith C.I. screwed down or hinged grating includingcostof cuttingand making good the walls and floors 100 mm. inlet and 50mmoutlet etc. complete.

1.0 MATERIALS

1.1 TheUPVCnahnitrapshallconformtoM-68-A.

2.0 WORKMANSHIP

2.1 The nahni trap with 100 mm.dia. inlet and 50 mm.dia. outlet shallbefixedasperdrawingsorasdirected.

2.2 The nahni trap shall be jointed with PVC pipe, 75 mm.dia. withjointingmaterialsaspermanufacturer'sinstruction.

3.0 MODEOFMEASUREMENTS&PAYMENTS

3.1 The rate includes cost of all labour, materials, tools and plants etc.requiredforsatisfactorycompletionofthisitemincludingleadjointinga ndtesting.

3.2 Therateshallbeforaunitofonenumber.

1.0MATERIAL

1.0Nahnitrap

1.1. Nahni Trap shall be of PVC material and shall be sound and freefromporosityoranydefectswhichaffectserviceability.Thethickness of the base shall not be less then 6.5 mm. The surfaceshall be smooth and free from sraze, chips and other flaws or anyother kind of defect which affect serviceability. The size of Nahnitrapshallbespecified andshallbeofselfcleaningdesign.

1.2 The Nahni trap shall be of quality approved by Engineer in chargeand shallgenerallyconfirmtotherelevantIndianstandard

1.3 The Nahni trap provided shall be with deep seal minimum 50 mmexpectatplaceswheretrapwithdeepsealcannotbeaccommodated. The cover shall be PVC perforated cover shall beprovided on the trap of appropriate size as approved by Engineer incharge.

1.4 The Nahni trap supplied on site shall be in good condition withoutanydamages in it and the surface shall be bright and smoothwithout anyscratchetc.

2.0. WORKMANSHIPFITTING&FIXING

2.1. When the Nahni trap aretobe Fitted,the endsshallbe carefullyfiled outso that no obstructionto bore in offered. The Nahni trapshall be fitted with pipes carefully in such a manner as will notresultinslacknessof jointswhenthetwopiecesarescrewedtogether

2.2 In jointing theNahnitrap theinsideof thesocket. The end shallthen be tightly fixed in the socket, when Nahni trap is feted with apipewrenchCare

shall be taken that all items are free from dust, dirt and rust duringfixing Burrfromthejointsshallbe removedafterfixing.Afterfixing,the open ends of the Nahni trap shall be temporarily plugged topreventexcessofwatersoiloranyotherforeignmatter.

TESTINGOFJOINTS

After fitting, the Nahni traps shall be inspected under workingconditions of pressure and flow. Any joints found liken shall beredone,andallleakingNahnitrapsshallbe removed andreplacedwithoutextracost.

The Nahni traps shall be tested in sections as the work layingproceeds,veepingthejointsexposedforinspectionduringth etesting.

3.0MODEOFMEASUREMENT&PAYMENT:

3.1. The unit rate of Nahni trap shall include the cost of all materials,tools and plant required for fitting, the same to specified position asperdrawings,andasdirectedbyEngineerinchargefinishingstructure, etc, and all other incidental expenses for producing itemof Nahni trap work to complete the structure or its components asshown on the drawings, and as directed by Engineer in charge andaccording to these specifications. They shall also include the cost ofmaking, fixing and removing of all scaffolding and formsrequired forthework.

The rate of Nahni traps shall include the cost of all labour,materials,GIfittingsasrequired,toolsandplantscaffoldingandalli ncidentalexpensesasdescribedhereinabove.

3.2. TheNahnitrapshallbemeasuredforits**Number**,limitingdimensions to those specified on plan or as directed. The rate shallbefora unitof oneNumber.

3.3. Thepaymentwillbemadeonnumberbasisofthefinishedwork.

ItemNo.32C&D:OK
White porselin Kitchen Sink size 60/450/200 mm with supplyand fitting. AND
WhiteporcelainwashbasinS60/410mmindianmakeC.I.bracket withfittingchromiumplattedtopes25cmplasticwaste pipe and12mmpillarcockwithcomp.

1.0: Materials:

1.1. The white glazed earthenware Kitchen sink of 60 mm x 450mm x 200 mm and wash basin shall be 560 mm. x 410 mm. of1st quality and make as approved by the Engineer-in-charge.ThewashbasinshallconformtoM-59.

2.0 Workmanship:

2.1 Thewashbasinshallbefixedonthewallasandwheredirected. The wash basin shall be supported on a pair of R.S.or C.I. brackets fixed in C.M.1:3. (1 cement : 3 sand). Thebracket shall conform to I.S. : latest edition. The wall plasteron the rear shall be cut to rest the top edge of the wash basin.After fixing the basin, plaster shall be made good and surfacefinished tomatchwiththeexistingone.:

2.2 The bracketshallbepaintedwhite withready-mixedpaint.

2.3. The C.I. brass trap and union shall be connected to 32 mm.dia.waste pipewhich shall be suitably bent towards the wall andwhichshall

dischargeintoanopendrainleadingtoagullytrap.

or direct in to the gully-trapon the ground floor and shall beconnected to a waste pipe through a floor trap on the upperfloors. C.P. brass trap and union may not be provided wherethe surface drainora floor trap is placed directly under thebasinandthewaste isdischargedintovertically.

2.4. The height of the front edgeof the wash basin from the floorlevelshallbe80cms.

2.5. The necessary inlet, outlet connections and fittings such aspillar cocks; CP Grass waste trap waste pipe, stop cock, chainwishrubberplugetc. shallbefixed.

2.6. Thepaymentoffittingsshallbemadeseparatelyunderseparateitems.

3.0: Modeofmeasurements&payment

3.1. The rate includes cost of all labour, materials, tools and plantetc.requiredforsatisfactorycompletionofthisitemasspecified inworkmanship.

3.2. Therateshallbefora unitofOnenumber.

ItemNo.32E:OK
Flushing Valve CastIronCromiumPlattedpush cockor handletype withflushingsupplyandfixing

MATERIALS

Providing,supplyingandfixingofFlushingValveCastIronCromiumPlatted pushcockorhandletype

withflushingofapprovedqualityincludingnecessaryfittings,fixingasdirected bytheengineer-in-chargeetccomplete.

The rate forthisworkwillpaidperNumberbasis.

ItemNo.32F:OK
ProvidingandfixingBrassWheelvalveof25mm/50mmdiaandfixingetccompleteofI.S.I.marketccomplete.

MATERIALS

The brass check or non return valve shall be fully cleared of allforeign matter before fixing. The fixing of valve shallbe done bymeans ofbolts nuts and 3 mm. rubber insertions with flanges of spigotand socketed till pieces, drilled to the same specification as in case ofsocket and spigotand withflangesincaseofflanged pipes. Thejointingsmallbedoneleakproof.

TheISIMarked Brass full way wheel valve of 25 mm / 50 mm diashallhavetofittedasperinstructionsof engineer-in-charge.

TherateforthisworkwillpaidperNumberbasis.

ItemNo.32G&H:OK
Rigid P.V.C. Pipe ISI Marked of 6 kg/sq.cm. Pressure, requiredwithcoupler,onlysuppliesworkandfixingforpipeof110m.m .outer dia.(A) 110 mm(B)50mm:

1.0. Material

1.1. Thelowdensitypolythenepipeofspecifieddiameterwith 6Kg/Sq. cm. working pressure shall conform to IS. latest edition.Thespecialsandfittingsrequiredshallbeofbestquality.

2.0. Workmanship

2.1. The PVC. pipes of specified diameter shall be fixed as directed:Due to thermal expansion of rigid PVC pipes, due allowance shallbe made particularly in over ground pipe lines for any change inlengthofpipelinewhichmay occurduringinstallationorwhenpipelineisinservice:

2.2. Above ground installation of rigid PVC; pipe should be undertakenafter preparations are observed for their protection against directsunraysandmechanicaldamage.

2.3. TherigidPVC.pipelinesshouldnotbekeptexposed aboveground when it passes through public places, railway lines, roadsideandfootpaths.

2.4. PVC.pipesshallbesupportedatthefollowingintervals:
-20mm.dia.500mm. -25mm.dia.750mm. -32mm.dia900mm:

2.5. Close support spacing shall be provided if recommended by themanufacture.

2.6. The guide lines indicated by the manufacturer regarding handling,transportation, storing, laying and jointing of pipes shall be keptinviewduringexecution.

2.7. PVC pipes shall be fixed on wall with wooden plugs and suitableplasticclamps.

2.8. Jointingthepipes:

2.8.1. The pipes and sockets shall be accurately cut. The ends of thepipes and fittings should be absolutely free from dirt and dust.The outside surface of the pipes and the inside of the fittings shallthen be roughened with emery paper, and then solvent cementjoint. Since solvent, cement is aggressive to PVC care must betaken to avoid applyingexcessive cement to the inside of pipesockets as any surplus cement cannot be wiped off after jointing.Empty solvent cement tins, brushes, rags, or paper unpregnatedwith cement should not be buried in the trenches. They should begatherednotleftscatteredabout,astheycanprove to be ahazardtoanimals,whichmaychewthem.

2.8.2. If any manufacturer recommends its own methods of jointing thesameshallbeadoptedafternecessaryapprovalfromtheEngineer-in-charge.

2.9. LayingpipesinTrenches:

2.9.1. The pipes shallbe laid over uniform relatively soft fine grainedsoil found to be free of presence of hard objects such as largeflints, rocky projections; large tree roots etc. The width of thetrenchesshall beminimumwidthrequiredforworking.

2.9.2. Thepipeslaidundergroundshallnotbelessthanonemeterfrom

the ground level. The pipe shall be positioned in thetrenches soastoavoidanyinduced stressed due to deflection. Any deviationrequired shall be obtained by using proper type of rubber ringjoints.

3.0. Modeofmeasurementsandpayment

3.1. The description of each item shall,unless otherwise stated, beheldtoincludewherenecessary,conveyance,anddelivery,handling, unloading, storing, fabrication, hoisting, all labour forfinishing to required shape and size, setting, fitting in position,straight,cutting and waste,returnofpackingsetc.

3.2. The length shall be measured on running meter basis of finishedwork. The length shall be taken along the centre line of the ,pipeand fittings. The pipes fixed to walls, ceiling; floors etc. shall bemeasured and paidunderthisitem.

3.3. Alltheworkshallbe measuredindecimalsystemasfixed initsplace,subject totolerancegivenbelowunlessotherwisestated.

(i) Dimensionshallbemeasuredtothenearest0.01metre.

(ii) Areashallbeworkedouttothenearest0.01sq.meter

3.4 All measurements of cutting shall unless otherwise stated be heldtoincludetheconsequent waste.

3.5. Incaseoffittingofunequalbore,thelargestboreshallbemeasured forthetest.

3.6. Testing of pipelines, fittings, and joints include for providingallplantandappliancesnecessaryforobtainingaccesstothewo rktobetestedand carryingoutthetests.

3.7. The rate includes galvanized steel tubingwith screwed socketjoints, together with all fittings (such as bends, sockets, springs,elbows, tees, crosses, short pieces, clamps and plugs unions etc.)and fixing complete with clamping wall- hooks, wooden plugs etc.and also cutting, screwing and waste and for making forged (orhandmade)bendsonpipingasrequired.Connectorshallbeinserted, whererequiredordirected.Therateals o includescuttingthroughwalls,floorsetc.andtheirmakinggood andpainting exposed threads with anticorrosive paint as above andtesting. Where tubes are to be fixed to wail, ceiling and flooring,the rate shall not include painting of pipes, providing sleeves andsandfillingunderfloorforwhichseparatepaymentshallbemade.

3.8. TherateshallbeforaunitofOnerunningmeter.

ItemNo.32I&J:OK
uPVC pipes of Shedule-40 of any standard approved brand &qualityOfDia(A)25mm(B) 15mm:

1.2. Material

1.3. Theupvcpipeofspecifieddiameterwithschedule-40 shallconform to IS. latest edition. The specials and fittings requiredshallbeofbestquality.

2.10. Jointingthepipes:

2.10.1. The pipes and sockets shall be accurately cut. The ends of thepipes and fittings should be absolutely free from dirt and dust.The outside surface of the pipes and the inside of the fittings shallthen be roughened with emery paper, and then solvent cementjoint. Since solvent, cement is aggressive to PVC care must betaken to avoid applyingexcessive cement to the inside of pipesockets as any surplus cement cannot be wiped off after jointing.Empty solvent cement tins, brushes, rags, or paper unpregnatedwith cement should not be buried in the trenches. They should begatherednotleftscatteredabout,astheycanprove to be ahazardtoanimals,whichmaychewthem.

2.10.2. If any manufacturer recommends its own methods of jointing thesameshallbeadoptedafternecessaryapprovalfromtheEngineer-in-charge.

2.11. LayingpipesinTrenches:

2.11.1. The pipes shallbe laid over uniformrelatively soft fine grainedsoil found to be free of presence of hard objects such as largeflints, rocky projections; large tree roots etc. The width of thetrenchesshall beminimumwidthrequiredforworking.

2.11.2. The pipes laid underground shall not be less than onemeter from the ground level. The pipe shall be positioned in thetrenchessoastoavoidany induced stressed due to deflection.Any deviation required shall be obtained by using proper type ofrubberringjoints.

3.4. Modeofmeasurementsandpayment

3.5. The description of each item shall, unless otherwise stated, beheldtoincludewherenecessary,conveyance,anddelivery,handling, unloading, storing, fabrication, hoisting, all labour forfinishing to required shape and size, setting, fitting in position,straight,cutting and waste,returnofpackingsetc.

3.6. The length shall be measured on running meter basis of finishedwork. The length shall be taken along the centre line of the ,pipeand fittings. The pipes fixed to walls, ceiling; floors etc. shall bemeasured and paidunderthisitem.

3.7. Alltheworkshallbe measuredindecimalsystemasfixed initsplace,subject totolerancegivenbelowunlessotherwisestated.

(i) Dimensionshallbemeasuredtothenearest0.01metre.

(ii) Areashallbeworkedouttothenearest0.01sq.meter

3.4 Allmeasurementsofcuttingshallunlessotherwisestatedbeheld

toincludetheconsequent waste.

3.9. Incaseoffittingofunequalbore,thelargestboreshallbemeasured forthetest.

3.10. Testing of pipelines, fittings, and joints include for providingall plant and appliancesnecessary for obtaining access to theworktobetestedand carryingoutthetests.

3.11. The rate includes galvanized steel tubingwith screwed socketjoints, together with all fittings (such as bends, sockets, springs,elbows, tees, crosses, short pieces, clamps and plugs unions etc.)and fixing complete with clamping wall- hooks, wooden plugs etc.and also cutting, screwing and waste and for making forged (orhandmade)bendsonpipingasrequired.Connectorshallbeinserted, whererequiredordirected.Therateals o includescuttingthroughwalls,floorsetc.andtheirmakinggood andpainting exposed threads with anticorrosive paint as above andtesting. Where tubes are to be fixed to wail, ceiling and flooring,the rate shall not include painting of pipes, providing sleeves andsandfillingunderfloorforwhichseparatepaymentshallbemade.

3.12. TherateshallbeforaunitofOnerunningmeter.

ItemNo.32K:OK
Trustedbrasscock,stopcocketc.15mmdiaScrewdownbolttypefittingwithfixing.

The Brass Cock Screw down bolt type of 15 mm dia is to be providedand all the necessary fitting and fixing with required material as perthe instructions of engineer in charge is to be carried out and completeaccordingly.

Therateshallbe foraunitofonenumber.

ItemNo.32L:OK
ProvidingandfixingOverheadWaterTanks"Sintex"orequivalent of1000Literscapacitywithallnecessaryplumbingfittingsetc.comp.asdirectedbyEngineer-in-charge.

MATERIALSANDWORKMANSHIP:
Overhead water tanks "Sintex" or equivalent of cylindrical verticaltanks with closed top with of self-supported type havingapprovedgradeof polyethylene,molded to seamless and suitablefor potable water tank of capacity as mentioned in Schedule-B as percompany's dimensions providedwith G.I. fittings of size 25mm Dia forinlet, outlet, overflow and scour connections and float valves etc.complete placed with all fittings fixing as directed by engineer incharge.

Therateforthisworkwillbepaidpernumberbasis.

ItemNo.33:OK
Supply&LayingofBhogavoSand

MATERIALSANDWORKMANSHIP:
TheBhogavoSandissupplied andlayedasperdirectedbyEngineerinchargeintothePlayGroundAreaUniformly.

Therateforthisworkwillbepaidpercubicmeterbasis.

ItemNo.34:OK
Excavation for Road work including bituminous surface upto 30cm depth*Note: For addl. depth @ every 5 cm rate will beincreased Rs. 0.50 per sq. mtr. upto addl. depth of 35 cm Fordepth above 35 cm, the rate for the excavation will be given onCuMbasis

The land with required for the road way shall be cleared of all treeshaving a girth of 30 cms and less, loose stones, vegetation,bushes, stumps and all other objectionable materials. The roots oftrees and stumps shall be removed to a depth of 30 cms below thegrade of formation and slope of excavation filled up with excavatedmaterialsandcompacted.Allthematerials cleared will be thepropertyofRajkotMunicipalCorporation.

After clearingthe site, the alignmentof the road shall be properlysetout true tolines, curves, gradesand sectionsas shown on plan ordirectedby the engineer-in-charge.The contractorshallprovidealllabourand materials such as lime, strings, pegs, nails, bamboos,stonemortal,concreteetc. requiredfor settingout alignmentestablishing bench marks and giving profiles. The contractor will beresponsibleformaintainingBMalignments,andotherstakes andmarks.

The excavation shallbe finished neatly smooth and evenly tocorrect lines,curves, gradesif looseshallbe scarifiedwateredandcompacted. The contractor shall on no account excavate beyond theslope or below the specified level or outside the section. It shall not bepaid forandthe contractor shall be required to fill up at hisowncostwithgoodandapprovedmaterialbyengineerincharge.

All necessarytraffic arrangement is to be done by contractor. Noextra willbepaidforthis.

The balance of the excavatedquantityshall be removedby thecontractor from the site of work to a place as directed within RMC limitandalllift.

After refilling, surplus earth shall have to carted by the contractorwithin specified limit including loading transporting unloading spreadingwithout anyextracost.

Thesurplusstuffshallbedisposedoffat the following sitesas

directedwithintheprescribedlimitsofNotificationasdirectedbytheengineering incharge.

1. BesideKothariaPoliceStationnearStoneQuarry
2. AllQuarryareasofRaiyaSmartCity
3. TPSchemeNo.10,FP-87,DhebarRoad(South),AtikaArea,Nr.PGVCLOffice
4. TPSchemeNo.23,FP-23,Nr.IOCGodown,MorbiRoad
5. TPreservationplotatSamratindustrialArea,Bh.STWorkshop
6. TPSchemeNo.9,FP-5,Nr.RaiyadharGarbageStation
7. TPSchemeNo.20,FP-35,Bh.PradhumanGreen
8. TPSchemeNo.28(Mavdi),FP-46/A,Nr.GETCOCircle
9. TPSchemeNo.12,FP-38/Aand39/B,Nr.LijjatPapad,KothariyaNationlaHighway

If the contractor fails to dispose the excavated stuff as specified,penalty will be imposed by Rajkot Municipal Corporation as per theNotificationforC&Dwaste.

Thepaymentshallbemadeatper squaremeterbasis for forexcavation up to 30 cm depth. Beyond 30 cm depth, the paymentshallbemadeatRs.0-50persquaremeterperevery5cmadditionaldepthforadditionalexcavatio nupto35cm.

ItemNo.35:ok

Supply ofgradedFieldmetaloffollowingsize:

HandbrokenFieldmetal4cmto10cm/10cmto15cmsize(15cmlayereach).

TheFieldmetalshallbeobtainedfrom quarriesapprovedbythe**CITYENGINEER** prior to collection. The Field metal shall be of approved qualitywith all leads and lift. The Field metal shall be obtained from hard tough,sound,durable,Fieldmetalofclosetextureasislocallyavailableandreasonabl y free from decay and weathering pieces of the Field metalshall be angular and roughly cubical in shape and round. Elongated orflaky material shall be rejected. The size of Field metal shall be 4 cm to 10cmand10cmto15cmandshallbehandbroken.

The payment shall be in cubic meter basis without deduction for voids.The rate also includes labour cost of level, Surveying and soft and hard copyof cross section and longitudinal section for measuring quantity supplied bycontractor.

The rate includes cost of collection, conveyance to the site with all lead andlift and filling the boxes including all labours, tools, equipment and otherincidental expenses. The rate quote are inclusive of all such tools, duties,fees,royalties,taxesetc.

ii) Field Metal shall not be spread without permission of the engineer-in-charge.FieldMetalshouldbespreadundercarefulsupervisionbytrained collies. The required quantity of material stacks at the site.The Field metal shall be screened and rubbish, dust, grass shall beremoved and spread evenly on the prepared surface in gradeandcamber by using camber boards so as to ensure that the surface istruetocambersandgrade.Atleasttwocamberboardshallbeinuse

at site.The surfaceshallbebroughttorequiredcambershallbechecked at every 50 ft. (15 m) by means of templates of while thenecessary of the camber in between shall be tested by strings andcorrected as required to ensure that the material is spread torequired thickness. At the time of rolling all surfacesirregularities,hollows,depression,humpsetcshallbesetright.The

rate for this item shall be paid on cubic meter basis includes all theaboveoperationswithallleadandlifts.

Therate shallbeforaunitofone cubicmetre.

ItemNo36:ok
Supplyingofsoft-murrumbindingmaterial.
Spreading bindageorroad crustfilling thegapsin metaland levelingtocamberandgradientanddirectedmurrum.

A) Material for the purpose shall be approved quality. Any material whichisfoundinferiorshallberejectedandcontractorshallremovesuchrejected materialfrom thesiteathisowncost.

Thematerialshallbegotapprovedbythe CITYENGINEERprior tocollection on the site. It shall be free from all rubbish, dust and anyorganicmaterialsaswellascloudsofblackcottonsoils.

For road work, complete stocking of materials as per requirementsshall be carried out 200 m length or as per condition of site or as perinstructions of site incharge before spreading. The stacks of materialsshallbegotcrosscheckedbyDy.Ex.Engineerasperrulesbeforespreadi ng.

Whereanydoubt existsaswhetherquantityof stackingofmurrumcorrectedbycontractor,noextrapaymentshallbe claimed bycontractor.Ifthequantityofmurruminanystackfoundlessthanstandard measurement viz; 1.5 cmt. The entire shall be paid on thebasisof thequantitysofound.

The payment shall be on cubic meter basis without deduction forvoids. The contractor shall maintain all stacks in regular and propersize till whole material shall not measure and finally accepted by thedepartment.

The rates includes cost of collection, conveyance to the site with allleadand liftandfillingthe boxes including all labours, tools,equipment and other expenses. The rates quoted are inclusive of allsuchtools,duties,royalties,taxesetc.

B) Spreading of material shall be started after the full supply in particularlength is collected, measured and recorded. Permission of Engineer in-charge shall be obtained before spreading. It shall be seen that formationis dressed to required camber and grade. If the murrum is to bespread over the metaled surface then the spreading shallbe uniform andas it has to act as bindingsurface.It shall be usedfor fillingtheintersticesof metaland forminga smoothrunningsurface as far aspossible. Murrum bindage shall be spread evenlywith a twisting motionofthebaskets.Nomoremurrum shallbeusedthan

specifiedasbindage.Thecontractorshalldogoodallunevenness,depression, projection etc. during consolidation work. Rate of theseitems includes all these operation except consolidation. **Also, thework is to be carried out with Mini Roll / Road Roller /HandRollasmayberequiredfortheworkas per therequirementandinstructions of engineer in charge.** Thepaymentshallbemadeoncubicmeterbasis.

The testingofmaterialistobe carriedout bytheAgencyathisowncost.

ItemNo.37:
Rollingandconsolidationwaterboundmacadam(exceptlatriteandkankar)including watering, not exceeding 150 mm thickness main layer includingbindingmaterialincludingfillingindepressionwhichoccurduringtheprocess(B)withroller8tonneandnotexceeding12ton

Immediately following the spreading of the coarse aggregates rolling shall bestarted with three wheeled roller of 8 to 10 ton capacity. The rolling and withwatering includesofworkfortwoseparatelayerofmtalling.

Except on super elevated portions where the rolling shall proceed from inneredge to outer, rolling shall from the edges gradually progressing towards thecenter. First the edges shall be compacted with roller running forward andbackward. The roller shall then more inwards parallel to center line of theroad in successive passes uniformly lapping preceding tracks by at leastone half the width. The total work includes four times of rolling in twolayersofmetalling.

Rolling shall continue until the aggregate is thoroughly keyed and creepingoftheaggregateaheadoftherollerisnolongervisible.

Therolledsurfaceshallbecheckedtransverselyandlongitudinallywithtemplates and any irregularities corrected by loosening the surface, addingor removing necessary amount of aggregate and rolling until the entiresurfaceconformstodesiredcamberand grade.

The bondage material where it is to be used shall be applied successively intwoormorethanlayersofaslowanduniformrateaftereachapplication,the surface shall be copiously sprinkledwith water, which water shall beapplied to the wheels of rollers if necessary to wash down the binding materialsticking to them. These operations shall continue until the resulting slurryafterfillingofvoidsformsawaveaheadofthemoving roller.

After the final compaction of water bound macadam course, the load shallbe allowed to any overnight. Next morning hungry spots shall be filled withscreeningsof bindingmaterialsasdirectedlightlysprinkledwith water ifnecessaryandrolled.

Payment willbemadeatRs.7.00persquare meterbasis ofthefinished

workfor single layer and shall includewater, rentof machinery,cost of fuel,wages ofdriversandcleanersandmurrumbundetc.forboth.

ItemNo.38:ok
Supply & Fixing of 60mm M-30 Grade cement concrete rubbermoldpavinginterlockingpavingblock(Greycolour)afterbeding of BhogavosandinlineandCC ontheedgeinproportionof 1:2:4withcuringetc. Complete

5.1 PaverBlockManufacturingfacilities

RAJKOTMUNCIPALCORPORATION,atitsdiscretionshallnominateitsrepresentativefor inspection of thefactory.Partyshallco-ordinateandco-operate with representative of RAJKOT MUNCIPAL CORPORATION. The party shallinform the address, telephone numbers and other details of theworkshop andthecontactpersontoenableRAJKOTMUNCIPALCORPORATIONdeputeitsrepresentative. The party shall allow entry to RAJKOT MUNCIPAL CORPORATIONrepresentativeduringallworking daysand time.

ThePaverBlockshallbemadeinfactorywithfollowing minimumfacilities:

5.1.1 DesignMixConcrete:

(a) All paversdesignatedbystrengthshallbetreatedasdesignmix concrete. The aggregate and cement shall be measured byweightin an approved weigh batching equipment. Mixing watershall be measured in graduated litre cans. One or more completebags ofcementshall beused foreachbatchofconcrete.

(b) Thecontractorshallberesponsiblefordesigningmixesofthespecifiedperformancetosuitthedegreeofworkabilityandcharacteristic strength. The mix design shall be finalized beforemanufacturingofthepaverconsideringasetofsuppliersforcement, sand and aggregates. In caseof any changeof suppliersof cement, sandoraggregates, party should have design mixreadyforalternatesuppliers.

(c) The minimum cement content for compacted concrete of paversshallnotbelessthan300/350/400Kg /sqmtrasperdesign.

(d) The maximum water cement ratio for pavers concrete shall not bemore than0.40

(e) The design mix proportions for each set of raw material suppliersshallbefinalizedandapprovedbytheauthorizedlabfortherequiredcompressivestrengthandthelabreportwithproportionsshouldbe availablewiththe vendoratalltimesforscrutinyandverificationpurpose.

5.1.2 PaverBlockMakingMachine:

The machineshould be capable of producing high quality Paver Blocksbyobtaininghighlevelofcompactionbyapplicationofhydrauliccompaction and also by high intensity vibration to the moulds. Themachineshouldhaveautomaticcontrolpanelandshallapplyaminimum pressure of 3000 psi and then there shall be automatic cut offofhydrauliccircuitwithoutanymanualinterference.Innocase,pavers mould by manual forceor by machinewithoutautocut offshallbeaccepted.All paversshall have uniformityinstrength.

5.1.3 WeighBatching&MixingEquipment:

(a) The proportioning of ingredients of concrete per batch of concreteshall be performed by an approved weigh batching machine. Watershall be fed into the mixer from a tank provided with means foradjusting the flow of water so as to supply the quantity determinedfor concrete as per mix design .Due allowanceshallbe made forthe weight of water carried by aggregates so that actual amountadded at the mixer can be reduced as necessary. For this purposethemoisturecontentofcoarseandfineaggregatesshallbeascertainedasandwhenrequiredandatothertimeswhenalteration of the moisture content may be expected due to newdeliveranceofaggregates,inclementweatherorotherreasons.

(b) Volumetricbatching of concrete may be allowed after the designmix is approved by lab after testing, by converting the proportion ofconcretefromweighttovolumetricmeasurementsubjecttofacilities being made available by the contractor for verifying andmonitoring this.

(c) Allnecessaryequipmentsuchasmeasuringboxes,devicesfordeterminati on of moisture and bulking in sand, slump cone, etc.shallbe provided by the contractor. Concrete shall be machinemixed until there is a uniform distribution of materials and uniformcolour and consistency is achieved and under no circumstances forlessthantwominutes.

TheconcreteMixDesignshouldbefollowedforeachbatchofmaterials.

5.1.4 Curing:

Thefactoryshouldhavewelldesignedcuringareatoensureadequate(minimum14days)curingofpaverblocks.

5.1.5 Laboratory

Thefactoryshouldhave thefollowing:

(i) Compressiontestingmachineofcapacity minimum 200MT
(ii) Othertoolsandequipmentfortestingraw materials andpaverblocks.
(iii) (1)Systematicrecordoftestresultsofvariouspaverblocksmanufacturedinthefactory.

(2)ConcreteMixDesignfordesiredgradeofconcreteusedformaking ofpaverblocks.

5.2. <u>RawMaterials.</u>

5.2.1 CEMENT

The cement used in the manufacture of high quality precast concrete pavingblocks shall be conforming to IS 12269 (53 grade ordinaryPortland cement) orIS 8112 (43 grade ordinary Portland cement) or IS 1489 (Part 1) (Portand-pozzolana cement – fly ash based). The minimum cement content in concreteused formakingpaver blocks shouldbe380kg/Cum.

5.2.2 AGGREGATES

The fine and coarse aggregates shall consist of naturally occurring crushed oruncrushedmaterials, which apartfrom the grading requirementscomply withIS 383-1970. The fine aggregates used shallcontainaminimumof 25%naturalsiliconsand.Limestoneaggregatesshallnotbeused.

Aggregates shall contain no more than 3% by weight of clay & shall be free fromdeleterious salts and contaminants. Zone iv sand shall not be acceptable.Courseaggregateshallbe10mmand below.

5.2.3 WATER

The water shall be clean and free from any deleterious matter. It shall meet therequirementsstipulatedinIS:456-2000.

5.2.4 OTHERMATERIALS

Any other materials / ingredients used in the concrete shall conform to I.S.Specifications.

PIGMENT: The pigment shallbe used only on wearing and top surface andthroughout the paver block. The pigment used shall not be more than 10% ofweight of cement used in the wearing courselayer. However, use of pigmentshallinnowayaltertherequiredstrengthofthepaverblock.

Pigment used for coloring paver blocks shall have durable color. It shall notcontain matters detrimental to concrete. The pigment shall not contain Zinccompound.Lead pigmentshallnotbe used.

5.3. PaversBlockCharacteristics

5.3.0 TheinterlockingconcretepavertilesshouldconformtoIS-15658(LATEST). They shall be tested as per the code and have to qualify limitsspecifiedbyusdownbelow.

5.3.1 ThepavertilesshouldbemadeofM-30(80mm)designmixconcretein approved size and shape. For acceptance the average of compressivestrengths of8 pavers shallbeminimum 30 N/mm^2(MPa).Anypaverinthetestedlotshallnothavecompressivestrengthless than30.1MPa.If needed, pavers shall be designed and manufactured on higher side toconcretegradeM-30 to meetthisrequirement withoutextra costtoRAJKOT MUNCIPAL CORPORATION. Testing shall be done as per relevantclausesofIS-15658(LATEST).

5.3.2 The concretepaversshould have perpendicularities after releasefromthemouldandthesameshouldbe retaineduntilthelaying.

5.3.3 Thesurfaceshouldbeofantiskidandantiglaretype.

5.3.4 The paver should have uniform chamfers to facilitate easy drainage ofsurfacerunoff.

5.3.5 The concrete mix design should be followed of each batch of materialsseparately and weigh batching plant is to be usedto achieveuniformityinstrengthandquality.

5.3.6 The pavers shallbe manufactured in single layer or moreto ensuresmoothsurfaceontopandtoremoveallvoids.

5.3.7 The pavers shallbe of cement Grey colour without anypigmentorcoloredwithpigmentorwithchemicallytreatedtopsurfaceasspecified.

5.3.8 All paver blocks shall be sound and free ofcracksorothervisualdefects, which will interfere with theproperpavingoftheunitorimpair the strength or performance of the pavement constructed with thepaverblocks.

5.3.9 The compressive strength requirement of concrete paver block shall beminimum 30 MPa (N/sqmm) for28days(Testingasper IS-15658)after applying the correction factor as per IS-15658 (LATEST). (Pleasereferclause3.1also).

5.4. PaverBlockDimensions

Thickness	60/80mm
Shape	Regular(UniformshapewithnoHolloworCracks)
Chamfer	5mmto7mmalongtopedges
Thickness of WearingLayer	Minimum 6 mm (The thickness of the wearingsurfaceshallbemeasuredatseveralpoints alongtheperipheryofpaverblocks.Thearithmetic mean of the lowest two values shallbetheminimumthicknessofthewearinglayer)
PlanAreaA$_{sp}$(Ref.Cl.B-3.3 Annex B, IS-15658(LATEST))	Maximum0.03m^2
Colour	NaturalcementGreycolourwithoutuseofanypigment ORcolourasspecified
DimensionalTolerance	TolerancesasperIS-15658(LATEST)

Note: All other visual/physical & dimensional acceptance on parameterslikeaspectratio,squarenessetctobeasperIS-15658(LATEST)

5.5. TestingofPaverBlocks

1FOR60/80MMPAVER TILES

TEST	SPECIFICATIONAverageValues
28 day CompressiveStrength	Minimum30MPa(N/Sqmm)
AbrasionResistance	Maximum 2 mm [i.e. 10 units of 1000 mm^3 per5000 mm^2 reported as per E-5 of Annex E of IS-15658(LATEST)]
WaterAbsorption	Avg. of 3 units - Maximum 6% by mass(restrictedto7%inindividualtestunits)

Sampling and Testing Procedure strictly As Per IS-15658(LATEST).

5.6. LayingofPaverBlocks

5.6.1 PRIMING

The contractor is required to verify the existing WBM driveway surface andascertain the CBR value. Accordingly the total subgrade thickness required forachievingthedesiredCBRvalueshallbeadvisedtoRAJKOTMUNCIPALCORPORATION Nwithinsevendaysofreceiptofcall-up.RAJKOTMUNCIPALCORPORATION shall, through regular vendors arrange to carryout such WBM,wherever required. Before taking over the site, the Paver block laying party isrequired to verify the stabilization of the surface with CBR values. In case,contractor does not advise the CBR value within seven days, RAJKOT MUNCIPALCORPORATIONshallcarry out WBMasperowndesign,andcontractor shallhavenoclaimlaterparticularlytothequalityofWBMorsub-grade.

ItwillbetheresponsibilityofthePaver blockpartytoensurethattheManholes/Pipeline/Cabletrenches/circulardrainagesystemetc.is

raised to driveway level using the requisite materials as per instruction of EIC.The areas of potholes / deep depressions at the isolated locations shall be filledup and properly compacted before layingthe paverblocks. No extra paymentwill be made for this purpose. The area of raised manholes shall be included inthemeasurement ofoverallareaofpaverblocksforthepurpose ofpayment.

5.6.2 BEDDINGSANDCOURSE

The bedding sand shall consist of naturally occurring, clean, well graded sandpassingthrough4.75mmsieveandsuitabletoconcretemanufacture.Thebedding should be from either a single source or blended to achieve the followinggrading.

ISSIEVESIZE	%PASSING
9.52mm	100
4.75mm	95-100
2.36mm	80-100
1.18mm	50-100
600microns	25-60
300microns	10-60
150microns	5-15
75microns	0-10

Contractorshallberesponsibletoensurethatsingle-sized,gap-gradedsandsor sands containing an excessive amount of fines or plastic fines are not used.The sand particles should preferably be sharp, not rounded. The sand used forbedding shall be free of any deleterious solublesaltsor other contaminantslikelytocauseefflorescence.

The sand shall be of uniform moisturecontent, which shall be within 4%- 8%,at the time of spreading andshallbe protected against rain when stockpiledpriortospreading.Saturatedsandshallnot beused.

The bedding sand shall be spread loose in a uniform layer as per drawing. Thecompacteduniformthicknessshallbe50mmandwithin < 5mm.Thickness variation shall not be used tocorrectirregularitiesinthebasecoursesurface.

The spread sand shall be carefully maintained in a loose dry condition andprotected against pre-compaction both prior to and following spreading. Any pre-compacted sand left overnight shall be loosened before further laying of paverblocks takesplace.

Sand shall be slightly spread in a loose condition tothe predetermined depthonlyslightlyaheadofthelayingofthepaverblock.

Any depressions in thespread sandexceeding 5mm shall be loosened, rakedandrespreadbeforelayingofpaverblock.

5.6.3 LAYINGOFINTERLOCKINGPAVERBLOCK:

Paver block shall be laid in pattern as specified under cl. 7 throughout thepavement.Oncethelayingpatternhasbeen established,itshallcontinuewithout interruptionover theentirepavement surface. Cutting of blocks, theuse of infill concrete or discontinuitiesinlayingpatternis not to be permittedinotherthanapprovedlocations.

Pavingunitsshallbeplacedontheuncompactedsandbedtothenominated

laying pattern; care shall be taken to maintain the specified bond throughout thejob.Thefirstrowshallbelocatednexttoanedgerestraint.Speciallymanufacturededg epavingunitsarepermittedoredgeunitsmaybecutusinga power saw, a mechanical or hydraulic guillotine, bolster or other approvedcuttingmachine.Nohaphazardlybrokenpaversshallbeused.

Paverblockshallbeplacedwiththehelpofspacerstoachievegapsnominally 2 to 3mm wide between adjacent paving joints. No joint shall be lessthan 2mm nor more than 4 mm. **However it is mandatory to use 3.0mmwide spacerwhilelayingpaver tiles so as to ensureuniform 3.0mmgap between adjacent pavers**. Frequent use of string lines shall be used tocheck alignment. In this regard, the"laying face" shall bechecked atleasteverytwometreasthefaceproceeds.Shouldthefacebecomeoutofalignment, it must be corrected prior to initial compaction and before furtherlayingjobisproceededwith.

In each row, all full units shall be laid first. Closure units shall be cut and fittedsubsequently. Suchclosureunitsshall consistofnotlessthan25%ofafullunit.

To fill spaces between 25mm and 50mm wide, concrete having minimum 1:1:2cement : sand : coarse aggregate mix and a strength of 40 N/Sqmm shall beused. Within such mix the nominal aggregate size shall not exceed one third thesmallest dimension of the infill space. For smallerspacesdry packed mortarshall beused.

Except whereit is necessary to correct any minor variation occurring in thelayingbond,thepaverblockshallnotbehammeredintoposition.Whereadjustment of position is necessary careshall be taken to avoid prematurecompactionofthesand bedding.

5.6.4 INITIALCOMPACTION

After laying the paver block, they shall be compacted to achieve consolidation ofthesandbeddingandbroughttodesignlevelsandprofilesbynotlessthantwo (2)passesofasuitableplatecompactor.

The compactor shall be a high-frequency, low amplitude mechanical flat platevibrator having plate area sufficient to coveraminimumoftwelve pavingunits.

Prior to compaction all debris shall be removed from the surface. Compactionshall proceed as closely as possible following laying and prior to any traffic.Compaction shall not, however, be attempted withinone meter of the layingface.Compactionshallcontinueuntillippinghasbeeneliminatedbetweenadjoinin g units. Joints shall then be filled and recompacted as described inClause6.5

Allworkfurtherthanonemeterfromthelayingfaceshallbeleftfullycompactedatthecom pletionofeachday'slaying.

Any blocks that are structurally damagedpriortoor duringcompaction shallbeimmediatelyremovedandreplaced.

Sufficientplatecompactorsshallbe availableatthepavingsiteforbothbeddingcompaction and joint filling.

5.6.5 JOINTFILLINGANDFINALCOMPACTION

Assoonaspracticalaftercompactionandinanycasepriortothetermination of work on that day andpriortotheacceptanceof any traffic,sandforjointfillingshallbespreadoverthepavement.

Joint sand shall pass a 2.36mm(No.8) sieve and shallbe free of soluble saltsor contaminants likely to cause efflorescence. The same shall comply with thefollowinggradinglimits:

ISSIEVESIZE	%PASSING
2.36mm	100
1.8mm	90-100
600mm	60-90
300microns	30-60
150microns	15-30
75microns	10-20

The Contractor shall supply a sample of the jointing sand to be used in thecontract prior to delivering any such material to site for incorporation into theworks.Certificatesoftestresults issuedby a recognised testing laboratoryconfirmingthatthesandsampleconformstotherequirementsofthisspecifica tionshallbesubmittedpriortosupplyoftotalvolumerequired.

The jointing sand shall be broomed to fill the joints. Excess sand shall then beremoved from the pavement surface and the jointing sand shall be compactedwith not lessthanone (1) passof theplate vibrator and joints refilled withsandtofulldepth.Thisprocedureshallberepeateduntilalljointsarecompletely filled with sand. No traffic shallbe permitted to use the pavementuntilalljointshavebeencompletelyfilledwithsandandcompacted.

Both thesandandpaver blockshallbedrywhensandisspreadandbroomedintothejointstopreventprematurese ttingofthesand.

The difference in level (lipping) between adjacent units shall not exceed 3mmwith notmorethan 1% in any3mX 3marea exceeding2mm.Pavementportions whicharedeformedbeyondabovelimitsafterfinal compaction,shall betakenoutandrelaidtothesatisfactionoftheEngineerincharge.

5.6.6 UNIFORMINTERLOCKINGSPACES

The pavers should have uniforminterlockingspaceof2mmto3mmtoensurecompactedsandfilling aftervibrationon thepaversurface.

5.6.7 SKILLEDLABOUR

Skilled labour shouldbe employedfor layingblockstoensurelineand levelof pavers, desired shape of the surface and adequate compaction of the sand inthe joints.

The rubber mold C C Precast interlocking paving block of approved quality 80 mmthickness, Grey Color and of M-40 And/Or M-30 Grade with concreting 1:2:4 and designshall be supplied by RMC. The bedding of black stonesand of interlocking block shall bedone and the interlocking block shall be fixed hard on it in line and level. The contractorshall have to purchase the block of ISI Mark from the market and same shall have to begotapprovedfromRajkotMunicipalCorporation.

Therateforthisworkshallbepaidononesquaremeterbasis.

ItemNo.39:
Supplying the material Dr Fixit/Forsroc new coat and Dr Fixit /Forsrocprimesealaspertherequiredquantitywithapplyingandprimer coat with Dr Fixit / Forsroc primeseal and applying threecoats ofDrFixit/Forsrocnewcoat.

ProvidingandsupplyingthematerialDrFixit/Forsroc newcoatandDrFixit/Forsrocprimesealaspertherequiredquantitywithapplyingand primercoatwithDrFixit/Forsrocprimesealandapplyingthree

coatsofDrFixit/Forsrocnewcoatasdirectedbytheengineer-in-chargeetccomplete.

Therateforthisworkwillbepaidpersquaremeterbasis.

ItemNo.40:
Supplying and fixing alluminium frame 62.50 x 25 mm. size and37.50 x 18mm size shutter with sliding frame 2-track of standardcompenyetc.complete.

Providing,andfixingalluminiumframe62.50x25mm.sizeand 37.50x18mmsizeshutterwithslidingframe2-trackofstandardcompenyasdirectedbytheengineer-in-chargeetccomplete.

Therateforthisworkwillbepaidpersquaremeterbasis.

ItemNo.41:
Providingonvinailpainting asperinstractionanddesignetc.complete.

Providing , and fixing vinail painting as per instraction and design as directed bytheengineer-in-chargeetccomplete.

Therateforthisworkwillbepaidpersquaremeterbasis.

ItemNo.42:
makingof wallpicturesindifferentwards
makingofwallpicturesindifferentwardsbystandardColorsasmentiononaboveotheritemsan dasdirectedbytheengineer-in-chargeetccomplete.

Therateforthisworkwillbepaidpersquaremeterbasis.

Addl/Asst.Engineer R.M.C.	**Dy.Ex.Engineer R.M.C.**	**CITYENGINEER(SPL) R.M.C.**

SignatureofContractorwithSeal

LISTOFAPPROVEDMAKE(CivilWork)					
NO.	SPACE	PARTICULAR	COMP		
1	ReadymixedConcrete		Lafarge/Bhanu/ultratech/RJ/Krishna		
2	OrdinaryPortlandCement(Minimum53Grade)		UltraTech/Birla/ACC/Ambuja/Hathi/Sanghi		
3	Flush doors		BISapprovedbrand(ISIMark)		
4	FRPDoors		Fibrevent, TechnoskillsorEquivalent(orasapprovedbyEngineerIncharge)		
5	PVCDoorswithFrame		ISIandapprovedbyEngineerIncharge		
6	HydraulicfloorSpring/Door		Everite,Garnish,Hardwyn		
7	WhiteCement		JKWhite	Birlawhite	Nihon White
8	Reinforcement/StructuralSteel(EachLOTshall accompanymanufacturer's TestCertificate)		(TMTBARSFe-500)Gallent/ET/ASR/FriendorBISapprovedmanufacturers		
9	Dining,Drawing,BedRoom,Kitchen,Toilet/Bath/Washetc,	Vitrified/ Ceramic /GlazeTiles/ WallTiles/ParkingFloor Tiles	Somani/Nitco/Kajaria/RAK/Jhonson/Simpolo/Bell/Asian/Euro/Vermora		
10	Toilet/Bath/Wash	PVC/UPVC pipes& Fittings	Astral/Supreme/Prince/finolex /Simco/PlumberWithClampopentypeofoutersideofBuilding		
11		Sanitary ware	Jaquar/cera/Hindware/Jhonsonandanyotherstandardbrandhasapprovedbyengineer-in-charge		
12	TeakWood		Bulsar	C.P.Teak	
13	InterlockingPaverblocks		ISIMark–Balaji,Regency,Supreme		
14	PlywoodProducts Commercial BlockBoardCommercial PlyTeakPly		ISIMarkasapprovedbyengineer-in-charge		
15	Glass/Float/Sheet		SaintGobain	Modi/HNG	Asahi
16		Laminates	Neolux/Formica/Sunmica/MerinoorasperIS		
17	Aluminumsections		Jindal	Indal	Banco

A) The contractor shall produce samples of the materials for approval of the RMC/PMC.The materials of the makes out of the above as approved by the RMC/PMC shall beused on the work. RMC/PMC member has not bide to give any reason for rejection ofanybrandfromtheabovelistanditsdecisionwillbeconsiderasfinal.

B) In respect of materials for which approved makes are not specified above, these willbe ofmakestobe decidedbytheRMC/PMC.
C) Contractorcanuseforanymaterialofequivalentmakeoftheabovespecifiedcompanyafterta kingpriorpermissionofRMC/PMC.

Theagencyhastouseitem/materialmentionedinthelistabove.Innocaseotheritem/material shall be allowed except those mentioned in the list unless and until theunavailabilityoftheabovesaiditem/materialnoticedthattoo,priorapprovedofRMC/PMC

D. ADDITIONALCONDITIONS

D. ADDITIONALCONDITIONS:

1. The contractor shall have to provide his own level instrument forthiswork.

2. The safety of the traffic and surrounding properties is the primeimportant factor. As it is the renovation work in existing residentialandcommercialareathefencing,lighting,coveringetc.,requir estobe provided as per clause 1.1.15. and as per the site requirement.Sign Board shall have to be provided at required locations, so thattherewillnot beanyfatalaccident.

3. Incaseofanyambiguityfoundininspections/drawings,specifications, etc, the decision of engineer-in-charge shall be finalandbindingtothecontractor.

4. Rates quoted in Bill of Quantities to cover everything necessary forcompleteExecutionofwork:

   The rates quoted will be held to cover everything necessary of thedue and complete execution of the work according to the drawingsand the several conditions and the stipulations of the contract,including specification, or the evident intent and meaning of all oreitherofthemoraccordingtocustomaryusageandfortheperiodical and final inspection and test and proof of the work inevery respect and for measuring, numbering or weighing the sameincludingsettingoutandlayingorfixinginpositionandtheprovision of allmaterials,

   Power,toolrammers,beaters,labour,tackleplatformswithimperviousla ppedjointsforscaffoldingrangingrods,straightedges,centeringandbox es,wedges,moulds,templates,poststraightrails,boning-staves,measuringrods,pageboards,shores,barriers,fencing,lighting, pumpingapparatus,temporaryarrangementsofpassageoftraffic,acces stopremisesandcontinuance of drainage, water supply and lighting (if interrupted bythe work) lard temporary sheds and buildings nahanis roofed in orotherwise haulage, painting, varnishing, polishing, establishmentsforefficientsupervisionandwatchingarrangementsfort heefficientprotection of life and property and all requisite plant, implementsandappliancseverykind,exceptonlysuchmatterandthing sasitmaybedistinctlystatedhereinaretobesuppliedbythecontractors. A rate for anyone description of work is to be held toinclude such items of other classes of and for these on separatespecific charge will be admitted. The contractors shall keep everyportion of the work clear of accumulation from time to time andshallleaveeveryportionoftheworkclean,clear,perfectandatthe

conclusion of whole, providing at their own cost all such materialimplement appliances and labour as the Engineer may require toproveifitis tobeso.

5. ThecontractorsareparticularlydirectedtoobservefromtheArticlesof Agreement and the specifications, what is to be included in theirrates for the several portions of the work and also under whatconditionspaymentsaretobemade.

6. The contractor shall have to avail P F Code as per the prevailingCircularofGovernmentfortheemployeesonwork.Theprocess forpreparation of bill will be taken up only after submission of theChallan for the amount of P.F. deposited every month for theemployeeson work,whichwillbindingtothe contractor.Therequireddocumentsshallhavetobesubmittedeverymon thbythecontractortothecompetentauthority.

7. The contractor shall have to get registered under ESI (Employer'sState Insurance) Act and obtain ESI Registration number if thenumberofworkersare10Nos.ormore.Also,theagencyshallhaveto give all the benefits to the workers as available under the ESIAct. The agency should follow all the rules and regulations of ESIActas perprevailingnorms.

8. This office Circular bearing No.RMC/C/329 dated 22-12-2012 andOrderNo.RMC/C/132dated10-06-2013areuploadedseparatelyasa part of tender document. The Contractors/Consultants quotingtheirratesshallhavetoread,implement,andsubmitthesamedul ysigned along with the documents to be submitted during physicalsubmission.

9. In reference to the above Circular and Order cited para above, theContractors/Consultant who have quoted their rates for this workwill be called in person for verification of original documents. Thedate and time for verification of original documents will be asprescribedinthetenderdocument.

10. After issuance of work order for this tender, if the work falls underany kind of dispute then Rajkot Municipal Corporation reserves therighttoterminatethecontractforthisworkawardedtothecontractor or execute part work. The decision of Rajkot MunicipalCorporationinthisregardwillbefinalandbindingtothecontractor.

11. TilltheCompletionCertificateisissuedbyRajkotMunicipalCorporation, the agency will be the sole responsible for security ofmaterialandstructureatsite.

12. The quantities given in the Schedules are provisional. The RajkotMunicipalCorporationreservestherighttoincreaseordecreaseth equantity of work or totally omit any item work and the contractorshall not be entitled to claim any extras or damages on thesegrounds&heisboundtoexecutetheworkaspertheinstructionofthe Engineer-in-charge.RajkotMunicipalCorporationwillnotentertainanydisputeinthisregard.

13. It is further clarified that Performance Guarantee (SD) for extrawork will also be recovered @ 10% from the bill of extra work i.e.works beyondtenderamount.

14. The bidder must understand clearly that the prices quoted are forthe totally works or the part of the total works quoted for andinclude all costs due to materials, labour, equipments, supervision,otherservices,royalties,taxes,duties,etc.,andtoincludeall extratocoverthecost.Noclaimforadditionalpaymentbeyondthepricesquoted willbe entertained and thebidder will notbeentitledsubsequentlytomakeanyclaimonanyground.

15. Qualified engineer must be deployed on site and at Plant. Thedetails of qualified engineers are to be given to RMC at the time ofbiddingofthistender.

16. If any irregularities found during the work then penalty will beimposedbyEngineer-in-chargeoranyhigherofficer.Ifanydisputesarisesregardingpenaltyimposedby Engineer-in-chargethendecision of Municipal Commissioner will be final and binding toagency.

17. Thetimelimitwillremainsameasmentionedinthetenderdocumentandtheworkistobecompletedaccordingly.

18. Tender of such Contractor not having registration in appropriateClass and Category, will be treated as non-responsive. In case ofanyconflictingprovisionsbetweenregistrationofappropriatecategory and Pre-qualification criteria, the later shall govern theprocessof bidevaluation.

19. Theagencyshallhavetoquotetheirratesonlyaftervisitingthesiteandlookingtothesiteconditions.

20. DEFECTS: Date of completion for start of defect liability period fortheentireworkwillbeconsideredasthelastdatementionedinthecompletion of work recorded in Measurement Book. The contractorshall be required to make good all the damages/ defects identifiedandconveyedtohim,duringtheentiredefectliabilityperiod.The

methodandtimelimitofrectificationwillbedecidedbytheEngineer in charge. If the contractor fails to carry out rectificationas per the instructions, the same will be carried out at his cost andthecostwillberecoveredfromtheamountretained.

21. Jointventureshallnotbeallowedunderthistender.

22. Afterthecompletionofwork,attheintervalofeverythreemonths,jointins pectionmustbedonebytheagencyandRMCstaffandthenagency has to submit the report stating the condition of work toRajkot Municipal Corporation. The final checking report stating thecondition of work is also to be submitted by the agency before onemonth of the expiry of defect liability period to the competentauthority.

23. TheRoyaltyofeachandeverymaterial,requiredtobepaidistobebornebyt hecontractor.

24. Testing of each material as and when required by Rajkot MunicipalCorporation,istobecarriedoutinGovernmentapprovedlabora toryby the contractor at his own cost. Schedule of testing of materialwillbeasperR&B,StateGovernmentManualand ISCodeprovision.

25. Necessary tests for material quality, soil tests etc. shall be carriedout as per the instructions of engineer-in-charge by contractor athisowncostandreportstobesubmittedtotheengineer-in-charge.

26. As this work is to be done in existing structure and also keeping inmindsurroundingproperties,allddueprecautionsshouldbetakensothat nodamageoccurstoanyoftheserviceslike;waterconnection, drainage connection, water pipeline, drainage line orany other services. However, if any damage occurs to any of suchservice(s) then the contractor shall have to carry out necessaryrepairsimmediatelyandsatisfactorily,athisowncost.

27. Whereevertherollingwiththeroadrollerisnotpossibleonmetallingwork and murrum work, the compaction with hand roller or by anyother means at such places shall have to be carried out by thecontractorsatisfactorilyasperinstructionsofengineer-in-charge.

28. The Contractor shall carry out modifications in the procedure ofwork,iffoundnecessary,asdirectedbytheEngineerduringinspection. Works falling short of quality shall be rectified / redoneby the Contractor at his own cost, and defective work shall also beremovedfromthesiteofworksbytheContractorathisowncost.

29. DefectiveMaterials:AllmaterialswhichtheEngineer/hisrepresentative hasdeterminedasnotconfirmingtotherequirements of the Contract shall be rejected whether in place ornot; they shall be removed immediately from the site as directed.Materials, which have been subsequently corrected, shall not beused in the work unless approval is accorded in writing by theEngineer.UponfailureoftheContractortocomplywithanyorderofthe Engineer / his representative given under thisclause, theEngineer-in-charge shall have authority to cause the removal ofrejected material and to deduct the removal cost thereof from anypayments dueto thecontractor.

30. TheDefectLiabilityperiodforthisworkis24Months.Aftercompletion of work, a report at the interval of every six months bywayofjointinspectionshallhavetobesubmittedtothecompetentauth ority. The portion which is observed defective / damaged bynormalcauseduringthejointinspectionshallhavetoberepaired/rectifi ed and necessary evidence along with photographsshallalsohavetobesubmittedtothecompetentauthority.

31. The agency shall have to get interior done from the approvedArchitect / Engineer and also to get approved from engineer-in-charge. The agency shall have to get the approval within a periodof7(Seevn)days.

32. The Plans got prepared by the agency shall have to be get thedesign done from the Structural Engineer, the cost of which also istobebornebytheagency.

33. The work order will be given only after getting the preliminaryapprovalfromTownPlanning Department.

34. ProvidingandfixingofprecastRCCslabandcolumnshallhavetobecarried outinlineandlevel.

35. For excavation of trench, use of JCB machine will not be permitteddirectly on the top surface of the road. After excavation up tominimum1.00mt.depthfromroadsurfaceorexistinggroundlevel,sam eshallhavetobecarriedoutmanuallyorbyusingBreakerandafter locating underground services like; water supply pipeline,water connection lines, pipe gutters, telephone cables, electriccables etc., and thereafter upon taking the prior approval of theEngineer-In-Charge,theexcavationcanbecarriedoutbyusingJCBmachine.

36. Rajkot Municipal Corporation shall recommend to the competentauthoritytogiveControlledBlastingLicensetothecontractorf or

carryingoutexcavationinhardrock.Incaseofblastinglicensenotpermissible from the competent authority in some places thenexcavation is to be done by using wedges and hammers, chiseling,breakers,pneumatictools,etc.Alsoincasewhereblastinglicenseispermittedbuteventhenifthereisnopossibilityofcarryingouttheblasting for whatsoever reason, the excavation is to be done byusing Wedges and hammers, chiseling, breakers, pneumatic toolsetc. No extra payment shall be made for excavation to be carriedoutinanyoftheabovementionedboththesituations.

37. Excavation in soft rock and hard rock shall have to be carried outonlybyChiseling,Breaker(pneumatictools)etc.,asfaraspossible.If excavation is not possible in terms of above and if excavation isrequired to be carried out with the help of blasting then the sameshall have to be carried out only after taking prior approval andnecessarylicenseforblastingfromthecompetentauthority.

38. In case of excavation not possible manually or by chiseling incertain place(s) as well as if blasting is also not possible due tovariousreasonsi.e.toavoiddamagetonearbywaterpipeline,pipegutter, telephone cables / Duct, Raw houses / week buildings /narrow street etc., then the excavation by blasting will not bepermitted. Under these circumstances, excavation shall have to becarriedoutonlybyBreaker(pneumatictools)aspertheinstructions of the Engineer-In-Charge. No extra payment will bemade for such type of excavation done by using Breaker. The rateforexcavationshallbepaidaspertherateofrelateditemmentionedin Schedule-B.

39. Regarding the width of excavation, as (a) it is difficult to carry outtheverticaltrenchexcavation,(b)possibilityofslidingthesoil,and **(c)** uneven excavation trench width in case of blasting. In thisconnection, for every 1.5 mt lift if there is less width up to 5 cm atthe bottom then the top width of excavated trench, it shall beconsidered as per the specified trench width or actual trench widthcarried out at the ground level by the contractor whichever is less.If excavation is carried out more than the specified width then thepaymentwillbemadeonlyforthespecifiedwidthofexcavation.

40. After entering into an agreement, the agency shall have to finalizethe agency for supply of the material like Precast RCC slab andcolumnandthenameofmanufacturer/suppliershouldimmediately be informed to Rajkot Municipal Corporation so thatRajkot Municipal Corporation can also expedite the manufacturer /supplierforthematerial.Ifnecessary,RajkotMunicipalCorporationwill visit and inspect the factory. During the inspection, if RajkotMunicipalCorporationisnotsatisfiedthenthecontractorshallhave

toprocurethematerialfromothermanufacturer(s).

41. During construction activity, proper care must be taken for laborsafety and all the provisions of the labor laws must be followed bythecontractor.

42. The G.A. Drawings and other Drawings as provided at present withthe tender document are indicative, however, there is possibility ofany change or modification in the said drawing and as such thecontractor shall have to carry out the work accordingly at theapprovedrateswithoutanyextracost.

43. The contracting Agency then has to prepare bar bending scheduleas per Structural Drawings and submit it to RMC after then RMCshall permit to work to start. Structure design is in the scope ofworkofcontractoranditscostistobebornebythecontractor.Thestructuredesignershouldbe RMClicenseholder.Theproofcheckofthestructured esignshouldbedonebyoneofthestructuredesigners,as suggested by RMC. (Ifthe structure designerissuggestedbyRMC,thentheproof checkisnotneeded.) BarBending Schedule, register shall be maintained on site with thedetailsofcutlengthofbar.Thecertificateforsameshallbedenotedin PourCard.

44. Contract Agency has to provide a Site Office Room, a separateLaboratory included with necessary lab instruments for slump test,sieve analysis, etc. whatever suggested by Site Engineer in chargeon site premises. There shall be provision of minimum 24 cubemouldof15x15x15cmsizeand12mouldof 7.5x7.5x7.5cm.There shall be a provision of necessary stationary & Furniture.
Theperiodicalcalibrationofinstrumentslikeweighbatch Plant,Electronic Balance etc. shall be carried out as per instruction ofEngineer in Charge. Without satisfactory report for the same theworkmaynot becontinued.

45. TheMixDesignofCementConcreteshallberevisedsubmittedwithrespect tochangesinMaterialslikeCement,Sand,Aggregate

46. TheFinalCompletionDrawingsshallbesubmittedinhardcopyandas Auto Cad format by Agency. If the same is not submitted, thepermanent deposit 0.25 % of Final Bill amount will be deductedfromFinal bill.

47. After the drawings for the proposed work are finalized by RMC, theagencyhastosubmitthesametoqualified&experiencedstructureeng ineer.

48. Theagencyhastosubmittheapproved&signedcopiesofstructure

design3setstoRajkotMunicipalCorporation

49. Additional alternation changes during the work shall has to beincorporated in the structure drawing & shall be re submitted toRajkotMunicipalCorporationaccordingly.

50. The contracting Agency then has to prepare bar bending schedule,submit it to Rajkot Municipal Corporation. & After checking the barbendingschedule,thenRajkotMunicipalCorporationshallpermittow orktostart.

51. ApprovaltothesamplesofvariousmaterialsgivenbytheEngineer-in-chargeshallnotabsolvethecontractorfromtheresponsibilityofreplacing defectivematerialbroughtonsiteofmaterialsusedinthework found defective at a later date. The contractor shall have noclaim to any payment of compensation whatsoever on account ofanysuchmaterialsbeingrejectedbytheEngineer-in-charge.

52. The agency has to facilitate the Town Planning department in allrespective terms and has to provide all the required items asinstructed by a surveyor of Town planning Dept. The items which arerequiredfordemarcationarecolors,Tags,Nails,laborsandagencywill also be responsible for cleaning of the plot without any extracost.

53. The agency has to create the passage/access to the plot where thework is supposed to start. If in case the access to plot is restrictedbyanyfarmingland,thentheagencyhastotakeaproperarrang ement for passage and whatever the cost occurred in theconstruction of the passage, the agency has to pay the cost of itsown.

54. ThecompoundwallhastobeconstructedwiththeproperguidancebytheE ngineer-in-charge,suchasifthelandhasdifferenceinthelevel (irregular topography), then the agency has to construct thecompoundwallinthesteppatternform.

55. ThetopoftheprecastwallwillbeeitherinSemi-circularortriangular whichever instructed by theEngineer-in-charge.TheMeasurement of the Semi-circular or triangular item of the precastwallwillbetakenfromthemiddleofthesectionoftheitem.

56. IfincasetheSemi-circularortriangularitemoftheprecastwallwillnotbefixed,thentheagenc yhastokeepthetopsectionofprecastpole empty, without any curtailment in the height of the pole. Butthemeasurementwillbecountedonlyfortheconstructedslabs.

57. In the precast wall, either the cement mortar in the ratio of 1:1 orStandard chemicalmortartobe filled in Groovei.e. theareabetweentwoprecastslabsandtheareabetweentheslabsandpole ,whicheverinstructedbytheEngineer-in-charge.

58. Therestorationworkfortheexcavationdoneistobecarriedoutimmed iately as per the instructions of engineer in charge. Theexcess material shall have to be disposed with no extra cost atthesitespecifiedbyengineer-in-charge.

Theword"Arbitration"or"ArbitrationClause"wherevermentionedinthistender document, is now to be treated as "Deleted". In this context, anOrderbearing No.RMC/Legal/1858 dated 18-02-2017 of Legal Departmentof Rajkot Municipal Corporation is uploaded separately along with thistender,whichOrder,willhereafterbereferredandtakenintoconsideration for Arbitration related purpose for the tenders of RajkotMunicipalCorporation.

CITYENGINEER(SPL)
RajkotMunicipalCorporation

SignatureofContractorwithSeal

RajkotMunicipalCorporation

::SPECIALCONDITIONS ::

1. The Royalty of each and every material, required to be paid is tobebornebythecontractor.

2. Testingofeachmaterialasandwhenrequiredby RajkotMunicipal Corporation, is to be carried out by the contractor athis own cost. Schedule of testing of material will be as per R&B,StateGovernmentManualandISCodeprovision.

3. The whole work shall be executed by qualified Site Engineer.The required L- Section and Cross section is to be prepared bycontractor at his own cost. The work should be done by levellinginstrument.TheDrawingsshallbesubmittedaccordinglyinadv ance before starting the work. No extra payment will bemade for the above work. Contractor has to submit Bill formwith hard copy and soft copy of cross section and L-section ofworkcompleted.Nobillwillbeacceptedwithoutabovedrawings.

4. Necessary tests for material quality, Paving Blocks, soil tests etc.shallbe carried outasper the instructions of engineer-in-chargebycontractorathisowncostandreports to besubmittedtotheengineer-in-charge.

5. Thecontractorshallhavetogetregistered under ESI(Employer'sStateInsurance)ActandobtainESIRegistrationnumbe r if the number of workers are 10 Nos. or more. Also,the agency shall have to give all the benefits to the workers asavailable under the ESI Act. The agency should follow all the rulesandregulationsofESIActasperprevailingnorms.

6. The testing of metal and the design as per IRC shall have tobecarriedoutbythecontractorathisowncost.

7. Structuredesignistobepreparedbycontractorandafterapprovalofengi neer-in-chargetheworkcanbestarted.

8. Agency intending to carry out excavation will be able to carry outexcavation/diggingonlyafterpriorintimationthrough"CallbeforeU Dig" mobileapplication.

CITYENGINEER(SPL)
RajkotMunicipalCorporation

SignatureofContractorwithSeal

PART-III
BILLOFQUANTITIES
(AttachedinSeparateFolder)

BIDFORM(WITHPRICE)

CONTRACTNo: RMC/ENGG/WZ/23-24/131

BiddersarerequiredtofillupallblankspacesinthisBidFormTheCom

missioner
RajkotMunicipalCorporation
Dr.AmbedkarBhavanD
hebarRoad
RajkotDea

rSir,

SUB: qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq-
qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq.

1. HavingvisitedthesiteandexaminedtheBidDocuments,Drawings,ConditionsofContract,Specifications,Schedules,Annexures,PreambletoPriceSchedules,PriceSchedulesetc.includingAddenda/Amendmentstothe above,fortheexecutionoftheaboveContract,wetheundersignedofferto carryoutasgiveninConditionsofContractandinconformitywiththeDrawings,ConditionsofContract,Specifications,PreambletoPriceSchedules, PriceSchedules,Annexures,BiddingDocuments,includingAddendaNos ._____(insertnumbers)for_____ %age(in figure) _____ (inwords)below/abovethantheratesgiveninPriceSchedule.

2. I/Weagreethat

   (a) ifwe failtoprovide required facilitiesto the Employer'srepresentativeoranyotherperson/agencybytheemployertoperform on his behalf for carrying out the inspection andtestingof materialsandworkmanship

   OR

   (b) if we incorporate into the Works, materials before they aretestedandapprovedbytheEngineer’srepresentative

   OR

   (c) ifwefailtodeliverrawwaterofrequiredquantityaccordingtothe conditions/stipulations of the Contract, the Engineer willbeatliberty to takeanyactionincluding terminationofContract and impose at his absolute discretion any penalties,and/orrejectthework.

3. We undertake, if our Bid is accepted, to complete and deliver theWorksinaccordancewiththeContractwithin**4Months**ofconstructionperiodfromthedateofWorkOrderissuedtousbyyou.
4. We agreetoabidebythisBidforaperiodof180daysfromthedatefixed for receiving the same and it shall remain binding upon us andmaybeacceptedatanytimebeforetheexpiryofthatperiod.
5. In the event of our Bid being accepted, we agree to enter into aformal Contract Agreement with you incorporating the conditions ofContract thereto annexed but until such agreement is prepared thisBid together with your written acceptance thereof shall constitute abindingContractbetweenus.
6. Weagree,ifourBidisaccepted,tofurnishPerformanceBond/Security in the forms and of value specified in the Conditionsof Contract of a sum equivalent to 5% of the Contract price for dueperformanceoftheContract.
7. Wehaveindependentlyconsideredtheamountsofliquidateddamages shown in Appendix to Bid and agree that they represent afairestimateofthedamageslikelytobesufferedbyyouintheeventoftheWorknot beingcompletedbyusintime.
8. We understand that you are not bound to accept the lowest or anyBidyoumayreceive.

Dated_____this_____dayof_____20____.

_____
(Signature)

CompanySeal

_____
(Nameoftheperson)

_____ _____
(Nameoffirm) (Inthecapacityof)
DulyauthorisedtosignBidforan
donbehalfof
(Fillinblockcapitals)

_____
_____
_____

Witness
Signature

_____
Name

_____
Address_____

_____

PREAMBLE TOPRICESCHEDULES

Note onSchedule:

Thebid is percentagerate bidfor qqqqq qq qq qqq qqqqqqq qqq qqqqqqqqqqqqqq-qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq.

1. Thebidispercentageratebid.

2. The rates and prices shall be submitted in the formats given inthe online Price Schedules. Rates and prices received in anyotherformatswillberejectedandtheBidswillbedisqualified.

3. It will be entirely at the discretion of the Employer to accept orrejectthebidder'sproposal,withoutgivinganyreasonswhatsoever.

4. InPriceSchedule,biddershallquotehispercentageEqual/Above/Below for items listed in the schedule. Prices quotedinScheduleonlywillbeconsideredforpriceevaluation&shallform apartoftheContractAgreement.

5. TheOnlyPriceSchedulewillbeconsideredforfinancialevaluationofthebid withthesuccessful bidder.

6. Thebiddershallbedeemedtohaveallowedinhispriceforprovision, maintenance and final removal of all temporaryworks ofwhatsoever nature required for construction includingtemporarybunds,divertingwater,pumping,dewateringetc.fo rtheproper execution of works. The rates shall also be deemed toinclude any works and setting out that may be required to becarriedoutforlayingoutofalltheworksinvolved.

7. Where thereisadiscrepancybetweentheunit ratesand theamountentered,thelattershallgovern.

8. ThePriceSchedulesaretobereadinconjunctionwiththeConditions of Contract, the Specifications and other sections ofthese bid documents and these documents are to be taken asmutuallyexplanatory ofoneanother.

9. Prices quoted by the bidder shall be firm for the entire period ofContractwithoutanyescalation.

10. The bidder shall interpret the data furnished and carry out anyadditional survey work, or investigative work required at his owncost.

11. Thepricesquotedshallalsoincludethecostofmaterialsutilizedfortesting.

12. Thebiddershouldacquainthimselfwiththesiteconditionsincludingthe access to Worksite. The successful bidder shall have to makesuitable access to worksites at his own cost. These accesses will beusedbytheothercontractorsworkingforRMC.

13. ThematerialshallbeinspectedDepartmentally,thecostofwhich,ifany,is tobebornebycontractor.

14. **The contractor has to quote their rates without GST**andincludingothertaxes.Theinvoiceshouldbesubmittedbycontractorshowingthebreakupof GSTinthebill.GSTwillbepaidextraattheprevailingrateatthetimeofexecution.

    The contractor shall have to purchase the material required for thistenderwork,onlyfromthesupplierhavingregisteredGSTNumber.RMC will not be responsible to pay any amount towards GST if thematerialispurchasedfromtheunregisteredsuppliernothavingGSTNumber.

15. In case of extra item work if quoted and approved tenderprice is above Percentage Rate then no above percentage rate willbe given, only the rates as per S.O.R. will be paid for such extraitem.But,ifthequotedandapprovedtenderpriceisbelowpercentage rate then that below percentage rate will be consideredforpayingofanyextraitem.

16. ThewholeworkistobedoneunderthesupervisionofRMC.

17. The rates and prices shall be submitted in the formats given in theenclosed Price Schedules. Rates and prices received in any otherformatswillberejectedandtheBidswillbedisqualified.

18. It will be entirely at the discretion of the Employer to accept orrejectthebidder'sproposal,withoutgivinganyreasonswhatsoever.

19. InPriceSchedule,biddershallquotehispercentageEqual/Above/Belowforitemslistedintheschedule.PricesquotedinSchedule only will be considered for price evaluation & shall form apartoftheContractAgreement.

20. OnlyPriceSchedulewillbeconsideredforfinancialevaluationofthebidwithsuccessful bidder.

21. ThePriceSchedulesaretobereadinconjunctionwiththeConditionsofContract,theSpecificationsandothersectionsof

thesebiddocumentsandthesedocumentsaretobetakenasmutuallyexplanatory ofoneanother.

22. Prices quoted by the bidder shall be firm for the entire period ofContractwithoutanyescalation.

23. The bidder shall interpret the data furnished and carry out anyadditional survey work, or investigation work required at his owncost.

24. ThepricesquotedshallalsoincludethecostofmaterialsutilizedfortestingS.

25. Thebiddershouldacquainthimselfwiththesiteconditionsincludingthe access to Worksite. The successful bidder shall have to makesuitable access to worksites at his own cost. These accesses will beusedbytheothercontractorsworkingforRMC.

26. FromeachRunningAccountBill,labourcesswillbedeductedaspernorms.

27. In Every running bill 0.25% amount shall be retained as extrasecurity deposit if Drawings of work done are not submitted byagency.

28. Thequotedratesshouldbeinclusiveofalltaxesandduties.

29. The prices shall have to be quoted firm & fix including all the taxes& duties without any statutory variation. RMC will not consider anystatutoryvariationaswellasthepriceriseinthemarketandifany,thoseshallbeonaccount ofcontractor.

30. Theworkcontracttaxwillbebornebytheagency.

31. Whileconsideringexperienceofongoingsewer/stormwaterpipelineworks, part work completed in all respect will be considered forevaluation of bid. In this regard contractor shall be required tosubmit part completion certificate along with bid document fromcompetent authority.

32. Use of ready mix concrete may be permitted if it fulfils tenderspecifications.

33. No extra item or extra width will be paid due to excavating methodortypeofmachinery.

34. Foranytypeoflicenseregardinglabour,etc.hastobeachievedbyagency.

35. This office Circular bearing No. RMC/C/329 dated 22-12-2012 andOrder No. RMC/C/132 dated 10-06-2013 are uploaded in tenderdocument.

36. In reference to the above Circular and Order cited at above, theContractor firm who have quoted their rates for this work will becalledinpersonforverificationoforiginaldocuments.Thedateandtime for verification of original documents will be intimated to theContractors.

37. If the progress of work is found slow then Extra security Depositmay be recovered from any running bill as decided by Engineer inchargeuptomaximum5%amountofconcernedR.A.Billamount.

38. In case of Extra Item, No "**On**" %age i.e. +ve % age Rate will begiven but if there is Down %age i.e, -ve % age Rate that will beappliedtothatrateofthatExtraItem.

CITYENGINEER(SPL)
RajkotMunicipalCorporation

SignatureofContractorwithSeal

CheckListforsubmissionofDocuments	
TenderFeesubmittedasperTender	Yes /No
Tender Earnest Money DepositsubmittedasperTender	Yes /No
Registrationdocumentssubmittedaspertenderrequirement	Yes /No
FinancialDetails:	
Turnoverdetailssubmittedasperrequirement	Yes /No
WorkingCapitalasperrequirementoftenderissubmitted	Yes /No
ValidBankSolvencysubmitted	Yes /No
ValidityofBankSolvency	Date:
ExperienceDetails:	
DetailsofTechnicalStaffanddetailsofmachineriessubmitted	Yes /No
Addressproofsubmitted	Yes /No
Identityproofsubmitted	Yes /No
FreshDeclarationonregardingnotblackDebarred,issubmitted Non-Judicialliste d Stamp Paper or Terminated or	Yes /No
ProfessionalTaxReceiptofcurrentyear	Yes /No

Note:
Overandabove,theagencyshallalsohavetosubmitallothernecessarydocumentsas maybe requiredfor pre-qualification,failingwhich,theagencywill betreatedasNon-responsiveandwillbeDISQUALIFIEDandalsotheonlinepricebidofsuchagencywillnotbeopened.

SignatureofContractorwithseal

PRICESCHEDULE

RajkotMunicipalCorporationPrice Schedule–B

Nameofwork:

qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq-qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq.

Sr.No.	Qty.	Items	Units.	Rate	Amount
1	101.00	ExcavationofFoundationinSoftMurrum,SoilorSandfrom0.0 mtr. to 1.50 mtr depth including liftingandlayingin90mtr. lead areaasinstructed	Cu.MT	133.00	13433.00
2	12.00	Foundation filling with CC work inproportionof1:2:4using1.5 cm to 2.0 cm aggregate includingRaming,Curingetc.	Cu.MT	4626.00	55512.00
3	31.00	Foundation filling with Rubble CementMortarinproportionof 1:6Cement:Mortar	Cu.MT	1667.00	51677.00
4	10.00	Rubble Plinth massonary work inCement:Mortarinproportionof 1:6 with Brick Massonary Or RubbleCorner using old Rubble inpropoproportion of 1:2 with CurringwithoutC.Pointing	Cu.MT	1610.00	16100.00
5	5.00	Cement Concrete Work for Copping inproportion of 1:2:4 including FoamWork,finishing,curingetc.Complete	Cu.MT	5087.00	25435.00
6	16.00	CC work 1:1.5:3 for RCC footing usingaggregateofsize10-20 mm,centring,curing,finishingetc.complete(without reinforcement)	Cu.MT	5500.00	88000.00
7	19.00	CC work 1:1.5:3 for Beam usingaggregate of size 10-20 mm,centring, curing, finishing etc.complete(withoutreinforcement)	Cu.MT	6100.00	115900.00
8	100.00	Brick Masonry work inCement:Mortar1:6	Cu.MT	5761.00	576100.00
9	29.00	Brick Masonry Partition Wall inCement:Mortar1:4(3.5to4.5inchthick)	Sq.Mt.	564.00	16356.00

10	2.00	Cement Concrete Work for Copping inproportion of 1:2:4 including FoamWork, finishing, curing etc. completewithGlass	Cu.MT	5168.00	10336.00

11	427.00	20mm thick Sand Face Cement PlasterWorkinwhich1pasterin proportionof1:3and2nd plasterintehproportion of1:2usingCement:Mortar with spong finishingetc.complete(Note:Before carringout Plaster work on RCC,required tipping work should becarriedoutasinstructed)	Sq.Mt.	263.00	112301.00
12	382.00	CementPlaster12mmthickusingCement:Mortar in proportion 1:3withNiruFinishingcuring,etc. Complete	Sq.Mt.	223.00	85186.00
13	5.00	CC work 1:1.5:3 for Column usingaggregate of size 10-20 mm,centring, curing, finishing etc.complete(withoutreinforcement)	Cu.MT	6400.00	32000.00
14	12.00	CC work 1:1.5:3 for RCC slab usingaggregate of size 10-20 mm,centring, curing, finishing etc.complete(withoutreinforcement)	Cu.MT	6000.00	72000.00
15	1.00	CC work 1:1.5:3 for Lintel usingaggregate of size 10-20 mm,centring, curing, finishing etc.complete(withoutreinforcement)	Cu.MT	5850.00	5850.00
16	1.00	CC work 1:1.5:3 for Chhaja usingaggregate of size 10-20 mm,centring, curing, finishing etc.complete(withoutreinforcement)	Cu.MT	5800.00	5800.00
17	35.00	FillingofPlinthinlayersof0.23mthickincluding murrum andsprinkling ofwater,compactionetc.Complete	Cu.MT	347.00	12145.00
18	11.00	Foundation filling with CC work inproportionof1:3:6using1.5 cm to 2.0 cm aggregate includingRaming,Curingetc.	Cu.MT	3965.00	43615.00
19	427.00	ApexColorworkonOutersideofWall(Twocoats)(withBase Coat)	Sq.Mt.	115.00	49105.00
20	382.00	PlasticImulsionPaint(Twocoats)(AsianPaint,ICI,Dulux, Nerolac,Bergeretc.ofapprovedtype)(withPrimeCoat)	Sq.Mt.	145.00	55390.00
21	71.00	Supply & fixing of Vitrified flooringwork(1stquality)	Sq.Mt.	650.00	46150.00

22	20.00	Supply & Fixing of Glazed tiles (1stQuality)ofrequiredsizein Cement Roga and joints to be filledwith white cement after 12mmroughplasterinproportionof1 :3	Sq.Mt.	493.00	9860.00
23	25.00	Supply & Fixing of Polished of KotaStoneofrequiredsize& thicknessasinstructed tofixedinPlatform/CupBoardetc	Sq.Mt.	858.00	21450.00
24	8.00	Supply, Fixing & Polishing for GraniteFlooringwork18mmthick &200 mmBaseofLime:Mortarinproporti onof1:2	Sq.Mt.	2970.00	23760.00
25	9.00	FlushDoor25mmthickwithIronframeforD oor&windowwith polishing/oilpaintingusingcompanyviz .Kitply/Century/Dura/Everest	Sq.Mt.	1930.00	17370.00
26	9.00	Supply & Fixing of Laminates 1mmofApprovedQuality	Sq.Mt.	1250.00	11250.00
27	27.00	Enemal painting on door/window, irondoor,irongrill orwoodwork twocoat	Sq.Mt.	125.00	3375.00
28	570.00	Iron work as per drawing andinstructionincludingall	Kg.	109.00	62130.00
29	4400.00	Supplying, Cutting, Beding, Binding andHookingandbindingwith wireforRCCworkTorsteelTMTroundbari ncludingall cost	Kg.	65.00	286000.00
30	200.00	Numbering on Building / Quarters(Paintingwork)	Charactor	11.00	2200.00
31	7.00	Supply & Fixing of RCC PrecastDoorFrame	Sq.Mt.	477.00	3339.00
32		**Plumbingwork**			
A	2.00	Supply&FixingofOrrisaPanwhitepo rselinstandardsize	Nos.	1157.00	2314.00
B	2.00	Nahnitrape7.6cmofPVCfittingan dfixing	Nos.	258.00	516.00
C	2.00	White porselin Kitchen Sink size600/450/200mmwithsupplya ndfitting.	Nos.	2803.00	5606.00
D	2.00	White porselin wash bassin560/410mm indian make c.i. bracketwith fitting cromium platted topes25cmplasticwastepipeand 12mmpillarcockwithcomp.	Nos.	1434.00	2868.00

E	2.00	Flushing Valve Cast Iron CromiumPlattedpushcockorhandletypewithflushingsupplyandfixing	Nos.	634.00	1268.00
F	2.00	Brass wheel valve 25mm dia.fittingwithfixxing.	Nos.	599.00	1198.00
G	40.00	Rigid P.V.C. Pipe ISI Marked of 6kg/sq.cm.Pressure,required with coupler, only supplies workandfixingforpipeof110m.m.outerdia.	Rmt.	305.00	12200.00
H	30.00	Rigid P.V.C. Pipe ISI Marked of 6kg/sq.cm.Pressure,required with coupler, only supplies workandfixingforpipeof50m.m.outerdia.	Rmt.	61.00	1830.00
I	30.00	uPVCpipesofShedule-40ofanystandardapprovedbrand& quality.For25mmØ.(3.38mmmin.wall thickness)withfitting	Rmt.	77.25	2317.50
J	30.00	uPVCpipesofShedule-40ofanystandardapprovedbrand& quality.For15mmØ.(3.38mmmin.wall thickness)withfitting	Rmt.	43.62	1308.60
K	4.00	Brasscockscrewdownbolttype15 mmdia.fittingwithfixing.	Nos.	242.00	968.00
L	1.00	Water stoarge Tank of HDPE materialcyndricalverticalblackwithclosedtop"SINTEX"brand.	Nos.	13396.00	13396.00
33	6.00	Supply&LayingofBhogavoSand	Cu.MT	813.00	4878.00
34	200.00	Excavation for Road work includingbituminoussurfaceupto30 cmdepth*Note:Foraddl.depth@every5cmratewill be increasedRs.0.50persq.mtr.uptoaddl.depthof35 cmFor depthabove35 cm,therateftortheexcavationwill begivenon CuMbasis	Sq.Mt.	15.00	3000.00
35	40.00	Supply&LayingofFIeldMetal(4-10cm)Size	Cu.MT	558.00	22320.00
36	15.00	Supply&LayingofSoftMurrum	Cu.MT	266.00	3990.00
37	200.00	Rolling work with Roller 8-10 Toncapacity over metalling murrum forsoling or single layer arriving propercompaction(withwatering)	Sq.Mt.	8.00	1600.00

38	200.00	Supply&Fixingof60mmM-30Gradecementconcreterubber moldpavinginterlockingpavingblock(Greycolour)afterbeding ofBhogavosandinlineandCC ontheedgeinproportionof 1:2:4withcuringetc.Complete	Sq.Mt.	500.00	100000.00
39	109.00	Supplying the material Dr Fixit/ForsrocnewcoatandDrFixit/ Forsroc primeseal as per the requiredquantitywithapplyingand primercoatwithDrFixit/Forsrocprimesealandapplyingthree coatsofDrFixit/Forsrocnewcoat.	Sq.Mt.	550.00	59950.00
40	15.00	Supplyingandfixingalluminiumframe 62.50x25mm.sizeand 37.50 x 18mm size shutter with slidingframe2-trackofstandard compenyetc.complete.	Sq.Mt.	4088.00	61320.00
41	78.00	Providing on vinail painting as perinstractionanddesignetc.complete.	Sq.Mt.	581.00	45318.00
42	195.00	making of wall pictures in differentwards	Sq.Mt.	594.00	115830.00
43	127.00	RemovalofExcavatedStuffwithinRMClimitasdirectedby Engineer-in-Charge	Cu.MT	171.00	21717.00
				Total	24,14,838.00
		Add18.00%GST			4,34,671.00
					28,49,509.00
				Say	**28,50,000.00**

Addl/Asst.Engineer
R.M.C.

Dy.Ex.Engineer
R.M.C.

CITYENGINEER(SPL)
R.M.C.

I/We agree to carry out the above said work at _(to be quotedonline)%Equal /above/ below onthe tenderedrates shown inSchedule.

SignatureofContractorwithSeal

રાજકોટ મહાનગરપાલિકા

ડો. આંબેડકર ભવન, ઢેબરભાઈ રોડ, રાજકોટ - ૩૬૦ ૦૦૧.
વેબસાઈટ : www.rmc.gov.in

આર.એમ.સી./સી./વીજ.(ટેક.)/જા.નં.- ૨૩૧ તા. ૧૧/૦૩/૨૦૨૨

પરીપત્ર-:

રાજકોટ મહાનગરપાલિકા અને RSCDL ખાતે ટેન્ડરથી થતા કામમાં સિમેન્ટ કોન્કીટની કામગીરી કરવામાં આવે છે. આ કામોમાં ક્વોલીટી કન્ટ્રોલ જળવાઈ રહે તે માટે નીચે દર્શાવેલ દર્શાવ્યા મુજબ જુદા જુદા સિમેન્ટ કોન્કીટ ગ્રેડ વાઈઝ મીનીમમ સિમેન્ટ કન્ટેન્ટના ધોરણો અનુસરવા અને તેનો સમાવેશ ટેન્ડર ડોક્યુમેન્ટમાં કરવા આથી હુકમ કરવામાં આવે છે.

(અ)	NABL માન્ય લેબ દ્વારા IS, IRC કે MORTH મુજબ તૈયાર કરાયેલ સિમેન્ટ કોન્કીટ મીક્સ ડીઝાઈન રીપોર્ટ મુજબ કિગ્રા સિમેન્ટ કન્ટેન્ટ પ્રતિ ઘનમીટર
(બ)	નીચે દશાવેલ ટેબલ મુજબ મીનીમમ કિગ્રા સિમેન્ટ કન્ટેન્ટ પ્રતિ ઘનમીટર

Sr. No.	Cement Concrete Grade	28 Days Strength in N/mm²	Minimum Cement in Kg
1	M-7.5 for PCC Work	7.5 N/mm²	160 Kg
2	M-10 for PCC Work	10 N/mm²	220 Kg
3	M-15 for PCC Work	15 N/mm²	290 Kg
4	M-20 for RCC Work	20 N/mm²	360 Kg
5	M-25 for RCC Work	25 N/mm²	380 Kg
6	M-30 for RCC Work	30 N/mm²	410 Kg
7	M-35 for RCC Work	35 N/mm²	425 Kg
8	M-40 for RCC Work	40 N/mm²	440 Kg
9	M-45 for RCC Work	45 N/mm²	450 Kg

ઉપરોક્ત (અ) અને (બ) પૈકી જે વધુ હોય, તે સિમેન્ટ કન્ટેન્ટ ને ફાઈનલ મીનીમમ સિમેન્ટ કન્ટેન્ટ પ્રતિ ઘનમીટર ગણવા હુકમ કરવામાં આવે છે.

ઉપરોક્ત બાબતની અમલવારી તાત્કાલિક અસરથી ચુસ્તપણે કરવાની રહેશે.

કમિશ્નર
રાજકોટ મહાનગરપાલિકા

નકલ રવાના (જાણ તથા અમલવારી અર્થે)

- નાયબ કમિશનરશ્રી (ઝોન-વેસ્ટ ,સેન્ટ્રલ ,ઇસ્ટ)

નકલ રવાના -(અમલવારી અર્થે)

- તમામ સીટી એન્જીનીયરશ્રી, એડી. સીટી એન્જીનીયરશ્રી, એક્ઝીક્યુટીવ એન્જીનીયરશ્રી, એન્વાયરમેન્ટ એન્જીનીયરશ્રી (S.W.M.)

R.M.C./C./ 832

કમિશ્નર વિભાગ,
રાજકોટ મહાનગર સેવાસદન
તા. 20/6/2013

હુકમ :–

વિષયઃ– ઈ–ટેન્ડર / ઓપન ટેન્ડર પધ્ધતિથી મંગાવવામાં આવતી તમામ પ્રકારની ઓફરો સાથે બિનઅધિકૃત રજુ થતાં ડોકયુમેન્ટસ સામે કડક કાર્યવાહી હાથ ધરવા બાબત.

સંદર્ભ :– આ સ્થળાંતરનાં પરીપત્ર નં. આર.એમ.સી./સી./૩૨૯, તા.૨૨/૧૨/૨૦૧૨.

રાજકોટ મહાનગર સેવાસદનના ત્રણ ઝોનનાં તમામ વોર્ડમાં શહેરનાં વિકાસ તથા જાળવણી માટે વિવિધ કામગીરી કરાવવા ઈ–ટેન્ડર / ઓપન ટેન્ડર પધ્ધતિથી અલગ અલગ એજન્સીઓ પાસેથી સ્પર્ધાત્મક ધોરણે અખબારી પ્રસિધ્ધિથી ભાવો ટુ બીડ સીસ્ટમ (૧) ટેકનીકલ બીડ (૨) પ્રાઈઝ બીડ થી મંગાવવામાં આવે છે.

સંદર્ભના પ્રસિધ્ધ કરેલ પરીપત્ર મુજબ તમામ ઈ–ટેન્ડર / ઓપન ટેન્ડરથી મંગાવવામાં આવતાં ભાવો સાથે ભાવ ભરનાર એજન્સીઓ / બીડરો દ્વારા ટેન્ડર બીડ માટે રજુ કરવાનાં થતાં તમામ ડોકયુમેન્ટસ ફરજીયાતપણે ખરી નકલમાં અથવા સેલ્ફ એટેસ્ટેડ રજુ કરવા આદેશ કરવામાં આવેલ છે. જે સંબંધે નીચે મુજબનાં હુકમની અમલવારી તાત્કાલીક અસરથી કરવા આદેશ કરવામાં આવે છે.

(૧) તમામ ટેન્ડરકામોના ટેકનીકલ બીડ ઓપન કરતી વખતે જે ટેન્ડર બીડ ભરનાર એજન્સીઓ દ્વારા તમામ ડોકયુમેન્ટસ કે તે પૈકી કોઈપણ એક ડોકયુમેન્ટસ ખરી નકલમાં અથવા સેલ્ફ એટેસ્ટેડ રજુ કરેલ ન હોય તો રજુ થયેલ ટેકનીકલ બીડ ઓપન કરવાની કાર્યવાહી દરમ્યાન ટેકનીકલ બીડ ઓપન કરનાર સંબંધીત અધિકારીશ્રી / કર્મચારીશ્રીએ Disqualify પ્રકારનો રબ્બર સ્ટેમ્પ બિનઅધિકૃત રજુ થયેલ ટેન્ડરનાં તમામ પાને લગાવી ટેકનીકલ બીડમાં ટેન્ડર Disqualify ફરજીયાતપણે કરવાનું રહેશે.

જે ટેન્ડર ખરી નકલ કે સેલ્ફ એટેસ્ટેડ સાથે રજુ થયેલ નથી, તેવું ટેકનીકલ બીડમાં ધ્યાને આવ્યેથી રજુ થયેલ ટેન્ડરને Disqualify ન કરી, તે બીડરનું જો પ્રાઈઝ બીડ ખોલવામાં આવશે તો આવા પ્રાઈઝ બીડ ખોલનાર તમામ સંબંધીત અધિકારીશ્રી / કર્મચારીશ્રી સામે સખત શિક્ષાત્મક પગલાં લેવાની ફરજ પડશે.

(૨) તમામ ટેન્ડરોનાં કિસ્સાઓમાં સંબંધીત ખરી નકલમાં રજુ થયેલ તમામ ડોકયુમેન્ટસની મુળ (ઓરીજીનલ)નકલ મંગાવી તેની ખરી નકલની ચકાસણી ફરજીયાતપણે સંબંધીત ડી.ઈ.ઈ.શ્રી તથા મ.ઈ.શ્રી / અ.મ.ઈ.શ્રીએ કરવાની રહેશે. **જે મુળ નકલ સાથે વેરીફાય કર્યાની સહી ફરજીયાતપણે દરેક ખરી નકલમાં સંબંધીત ડી.ઈ.ઈ.શ્રી / મ.ઈ.શ્રી / અ.મ.ઈ.શ્રીએ કરવાની રહેશે. તે પહેલાં તે ટેન્ડરની પ્રાઈઝ બીડ ઓપન કરી શકાશે નહી.** જેમા ફરજચુક થયેથી સંબંધીત જવાબદાર ડી.ઈ.ઈ.શ્રી / મ.ઈ.શ્રી / અ.મ.ઈ.શ્રી ની સામે કડક ખાતાકીય પગલાં લેવાની ફરજ પડશે.

(૩) ક્રમ નં.(૧) તથા (૨) મુજબની ચકાસણી કરવા છતાં જે કિસ્સામાં ટેકનીકલ બીડ ઓપન કરતાં બીડર દ્વારા કોઈપણ પ્રકારનાં ક્રોડ ડોકયુમેન્ટસ રજુ કરી કામ મેળવવા માટે પ્રયાસ કર્યાનું સાબિત થશે, તેવા કિસ્સામાં બીડર / એજન્સીને બ્લેકલીસ્ટ કરી, આવા બીડર સામે ફરજીયાતપણે ફોજદારી કાર્યવાહી સંબંધીત શાખાના વડા તથા વીજીલન્સ અધિકારીશ્રી (પ્રોટેકશન) દ્વારા જોઈન્ટલી દિન–૭ માં કરવા આદેશ કરવામાં આવે છે. જેની લેખિતમાં

જાણ તાત્કાલીક અત્રે કરવાની રહેશે. જેમા ચુક થયેથી સંબંધીત તમામ અધિકારીશ્રી / કર્મચારીશ્રી સામે કડક પગલાં લેવા ફરજ પડશે.

(૪) સંદર્ભનો પરીપત્ર તથા આ હુકમ તમામ પ્રકારનાં ટેકનીકલ કામના દરેક ટેન્ડર પ્રસિધ્ધ કરતી વખતે ટેન્ડરનો હિસ્સો ગણી ટેન્ડરના ભાગ તરીકે પ્રસિધ્ધ કરવાનું ફરજીયાત રહેશે, તથા બીડર દ્વારા ટેન્ડરમા પ્રસિધ્ધ થતા સંદર્ભનાં પરીપત્ર તથા આ હુકમનાં દરેક પાને સહી સિક્કા સાથે ભરેલ ટેન્ડરની ટેકનીકલ બીડ ફરજીયાત રજુ કરવાની રહેશે.

ઉપરોકત હુકમનો તાત્કાલીક અસરથી ચુસ્તપણે અમલ કરવા આદેશ કરવામાં આવે છે.

કમિશ્નર.
રાજકોટ મહાનગર સેવાસદન

<u>નકલ રવાના (જાણ અર્થે):-</u>
નાયબ કમિશ્નરશ્રીઓ (તમામ)

<u>નકલ જાણ તથા અમલવારી અર્થે</u> :-
(૧) સહાયક કમિશ્નરશ્રીઓ (તમામ)
(૨) શાખાધિકારીશ્રીઓ (તમામ)

આર.એમ.સી./સી. ૩૨૮

રાજકોટ મહાનગરપાલિકા
કમિશનર વિભાગ
તા.૨૨/૧૨/૨૦૧૨

પરિપત્ર:-

ઇ-ટેન્ડર પદ્ધતિ / ઓપન ટેન્ડર પદ્ધતિથી માંગવામાં આવતી ઓફરોમાં એજન્સીઓ દ્વારા ટેકનીકલ બીડમાં રજુ કરવામાં આવતા ડોક્યુમેન્ટ્સ જેવા કે ટર્નઓવર, અનુભવના પ્રમાણપત્રો વિગેરે ખરી નકલમાં રજૂ કરવામાં આવતા નથી. આથી હવે પછીથી એજન્સીઓ દ્વારા રજૂ થતાં ટેકનીકલ બીડમાં રજુ કરવામાં આવતા ડોક્યુમેન્ટ્સ ખરી નકલમાં અથવા સેલ્ફ એટેસ્ટેડ હોવા જરૂરી છે તેમજ જે એજન્સીનું ટેન્ડર ટેકનીકલ બીડમાં ક્વોલીફાય થાય અને ખરી નકલ ગેઝેટેડ ઓફીસર મારફત પ્રમાણિત કરાવેલ ન હોય તેવા કેસમાં તેના ઓરીજીનલ ડોક્યુમેન્ટ્સ પ્રાઇસબીડ ખોલતા પહેલા ચકાસી અને ખરી નકલ રજૂ કરાવીને જ ખોલવાના રહેશે તથા આ બાબતનું શાખાધિકારીશ્રીઓએ ચુસ્તપણે પાલન કરાવવાનું રહેશે. આમ ન થયેથી પુરતી ચકાસણીને અભાવે જો કોઇ એજન્સીને ખોટા કે અધુરા આધારો સાથે કામ આપવાની ક્ષતિજનક બાબત જાણમાં આવ્યે તે ટેન્ડર ડોક્યુમેન્ટ્સની ચકાસણી કરનાર કર્મચારીશ્રીઓ તેમજ શાખાધિકારીશ્રીની જવાબદારી નક્કી કરવામાં આવશે, જેની સર્વે શાખાધિકારીશ્રીઓએ નોંધ લેવી.

ઉપરોક્ત બાબતનો અમલ તાત્કાલિક અસરથી કરવો.

૨૨/૧૨

કમિશનર
રાજકોટ મહાનગરપાલિકા

નકલ રવાના :- (જાણ અર્થે)
- નાયબ કમિશનરશ્રીઓ (તમામ)

નકલ જાણ તથા અમલવારી અર્થે :-
- સહાયક કમિશનરશ્રીઓ (તમામ)
- શાખાધિકારીશ્રીઓ (તમામ)

જાહેરનામું

ફોજદારી કાર્યરીતી અધિનીયમ ૧૯૭૩ (૧૯૭૪ના નં.૨) ની કલમ ૧૪૪ અન્વયે કાઢેલ હુકમ

ક્રમાંક: એસ.બી./મજુર/જાહેરનામુ/૫૬૩૪/૨૦૧૪.
પોલીસ કમિશ્નરશ્રીની કચેરી,
રાજકોટ શહેર,રાજકોટ.
તા.૨૬/૦૪/૨૦૧૪

હાલમાં રાજકોટ શહેરમાં ઘરફોડ ચોરીના બનાવો વધતા પામેલ છે ભુતકાળમાં રાજકોટ શહેરમાં બનેલ ઘરફોડ ચોરીના બનાવોની તપાસ કરતા તપાસમાં આવા ગુન્હો કરનાર (દાહોદીયા) પકડાયેલ છે. ત્યારે તપાસમાં આવા ગુન્હા વાળા આરોપીઓ ગુન્હાના બનાવના દિવસો અગાઉ રાજકોટ શહેરમાં નવા બંધાતા મકાનોમા જુદી જુદી ઔદ્યોગીક કંપનીઓમાં, કોર્પોરેશનમાં મજુરી કામ અને ટેલીફોન કંપનીઓ દ્વારા તથા ગેસ પાઇપ લાઇન માટે ખોદાતા ખાડાઓની મજુરી કામ મેળવી અથવા તેના બહાના હેઠળ આવી રેકી કરી આજુબાજુની સ્થાનિક પરીસ્થિતીનુ સર્વે કરી માહીતગાર થઇ મિલ્કત વિરૂધ્ધના ગુન્હાઓ આચરતા હોય છે. મજુરી કામના બહાના હેઠળ આતંકવાદીઓ પણ આશરો મેળવી લેતા હોય છે જેથી જાહેર જનતાની જાન-માલ (મિલ્કત)ની સલામતી તથા સુરક્ષા સારૂ થોડા નિયંત્રણો મુકવા જરૂરી જણાય છે.

જેથી હું મોહન ઝા (I.P.S.), પોલીસ કમિશ્નર, રાજકોટ શહેર ફોજદારી કાર્યરીતી અધિનીયમ (સી.આર.પી.સી.) ૧૯૭૩ (૧૯૭૪ ના નં.૨) ની કલમ ૧૪૪ અન્વયે અમોને મળેલ સત્તાની રૂએ આથી હું હુકમ કરૂ છુ કે, રાજકોટ શહેરના પોલીસ કમિશ્નર વિસ્તારમા લેબર કોન્ટ્રાકટર/મુકાદમનાઓએ પોતાની પાસે જે મજુર કામે રાખેલ હોય અને મજુરી કામકાજ માટે સપ્લાય કરતા હોય તેઓએ નીચે જણાવેલ ફોર્મ મુજબ દરેક મજુરોના અલગ-અલગ ફોર્મ ભરી ફરજીયાત પણે સ્થાનીક પોલીસ સ્ટેશનને જાણ કરવાની રહેશે તથા મજુરો જ્યારે મજુરી કામ તથા રાજકોટ શહેર છોડી જતા રહે ત્યારે લેબર કોન્ટ્રાકટર/મુકાદમે તે અંગેની જાણ નામ/સરનામા સહિતની વિગત સાથે સ્થાનીક પો.સ્ટે.મા કરવાની રહેશે

૧	લેબર કોન્ટ્રાકટર / મુકાદમ (સપ્લાયર) નુ પુરૂ નામ સરનામુ મો.નં., નંબર સહિત	:-	
૨	મજુરનુ નામ તથા ઉ.વ.	:-	
૩	મજુરનું હાલનુ સરનામુ ટેલીફોન નંબર	:-	
૪	મજુરનુ મુળ વતનનું સરનામું ગામ, તાલુકો, જીલ્લો	:-	
૫	હાલની મજુરીનુ સ્થળ / કંપનીનુ નામ	:-	
૬	મજુરનુ વતનનું સ્થાનીક પો.સ્ટે.નું નામ તથા ટેલીફોન નંબર	:-	
૭	મજુરના વતનના આગેવાનનું નામ, સરનામુ, ટેલીફોન નંબર	:-	
૮	મજુર અગાઉ કોઇ પોલીસ ગુન્હામાં પકડાયેલ હોય તો તેની વિગત	:-	
૯	ક્યારથી મુકાદમ / કોન્ટ્રાકટરે મજુરી કામ માટે રાખેલ છે	:-	
૧૦	મજુરનુ ઓળખ માટેનુ આઇ.ડી.પ્રુફ (ફોટા સાથે નું)	:-	
૧૧	રાજકોટ શહેરમાં કઇ તારીખથી મજુરી કામ કરે છે ? અને કઇ તારીખે જવાનો છે ?	:-	
૧૨	રાજકોટ શહેરમાં નજીકના સંબંધી કોઇ હોયતો તેનુ નામ, સરનામુ	:-	

મજુરનો તાજેતરનો ફોટો

615
All ACP
DCP

મજુરના અંગુઠાનુ નિશાન..
મુકાદમ/સપ્લાયર/કોન્ટ્રાકટરની સહિ..
નામ..

આ હુકમ તા. ૦૧/૦૫/૨૦૧૪ થી તા.૩૦/૦૬/૨૦૧૪ સુધી અમલમા રહેશે.

આ હુકમનો ભંગ કરનાર વ્યક્તિ ભારતીય દંડ સંહિતાની કલમ ૧૮૮ મુજબ શિક્ષાને પાત્ર થશે.

સહી/-
(મોહન ઝા)
પોલીસ કમિશ્નર
રાજકોટ શહેર

તમામને વ્યક્તિગત રીતે નોટીસની બજવણી કરવી શક્ય ન હોય આથી એકતરફી હુકમ કરૂ છુ. જાહેર જનતાની જાણ સારૂ સ્થાનીક વર્તમાન પત્ર આકાશવાણી અને દુરદર્શન કેન્દ્ર મારફતે પ્રસિધ્ધી દ્વારા તથા પોલીસ સ્ટેશનના પોલીસ ઇન્સ્પેકટર, મદદનીશ પોલીસ કમિશ્નર, નાયબ પોલીસ કમિશ્નર તથા પોલીસ કમિશ્નર કચેરીના નોટીસ બોર્ડ ઉપર હુકમની નકલ ચોંટાડી પ્રસિધ્ધી કરવામાં આવશે તેમજ સહેલાઇથી જોઇ શકાય તેવી જાહેર જગ્યાઓ ઉપર હુકમની નકલ ચોંટાડી પ્રસિધ્ધી કરવામા આવશે ગુજરાત પોલીસ એક્ટ કલમ ૧૬૩ મુજબ પોલીસ અધિકારીઓ પણ આ હુકમની જાહેરાત કરવા અધિકૃત ગણાશે.

આજ તારીખ [illegible] એપ્રીલ-૨૦૧૪ ના રોજ મારી સહી અને સિક્કો કરી આપેલ છે.

(મોહન ઝા)
પોલીસ કમિશ્નર
રાજકોટ શહેર, રાજકોટ

નકલ રવાના:

(૧) અગ્ર સચિવશ્રી, ગૃહ વિભાગ, ગાંધીનગર.
(૨) પોલીસ મહાનિર્દેશક અને મુખ્ય પોલીસ અધિકારીશ્રી, ગુ. રા. ગાંધીનગર
(૩) અધિક પોલીસ મહા નિર્દેશકશ્રી (ઇન્ટે.) ગુ.રા.ગાંધીનગર.
(૪) પોલીસ કમિશ્નરશ્રી, અમદાવાદ શહેર, વડોદરા શહેર, સુરત શહેર.
(૫) ખાસ મુખ્ય પોલીસ અધિકારીશ્રી, રાજકોટ રેન્જ, રાજકોટ.
(૬) જીલ્લા પોલીસ અધિક્ષકશ્રી, રાજકોટ ગ્રામ્ય, રાજકોટ.
(૭) કલેકટરશ્રી, રાજકોટ શહેર
(૮) મ્યુનિસિપલ કમિશ્નરશ્રી, રાજકોટ શહેર.
(૯) નિયામકશ્રી, માહીતી ખાતું ડો.જીવરાજ મહેતા ભવન જુના સચિવાલય બ્લોક નં.૭, બીજા માળે,ગુ.રા., ગાંધીનગર.
(૧૦) જીલ્લા સરકારી વકિલશ્રી, સેસન્સ કોર્ટ, રાજકોટ.
(૧૧) મેનેજરશ્રી, ગર્વમેન્ટ પ્રેસ, રાજકોટ. (ગેઝેટ ભાગ-૧ માં પ્રસિધ્ધ કરવા સારૂ).
(૧૨) મદદનીશ પોલીસ કમિશ્નરશ્રી, પુર્વ/ પશ્ચિમ વિભાગ, રાજકોટ શહેર.
(૧૩) આર્ટી.કમિશ્નરશ્રી, (ઇન્ટે.), રાજકોટ રીજીયન, રાજકોટ.
(૧૪) નાયબ પોલીસ અધિક્ષકશ્રી,/પો.ઇન્સ.શ્રી. રાજકોટ રેલ્વે જંકશન પો.સ્ટે.
(૧૫) તમામ પો.સ્ટે.ઇન્ચાર્જશ્રીઓ,રાજકોટ શહેર(નકલો ચોંટાડી લાઉડ સ્પીકર વાહન દ્વારા જાહેરાત [illegible] સારૂ)
(૧૬) તમામ શાખા તથા શાખા ઇન્ચાર્જશ્રીઓ, રાજકોટ શહેર.
(૧૭) કન્ટ્રોલ ઇન્ચાર્જશ્રી, રાજકોટ શહેર (૧૦ નકલ) વર્તમાનપત્રોને આપવી.
(૧૮) લેબર કમિશ્નરશ્રી, ... તમામ ખાનગી સંસ્થાઓને અવગત કરવા સારૂ

નકલ સવિનય રવાના:-

(૧) રજીસ્ટ્રારશ્રી, હાઇકોર્ટ, ગુ.રા.સોલારોડ અમદાવાદ.
(૨) રજીસ્ટ્રારશ્રી, ડીસ્ટ્રીકટ એન્ડ સેશન્સ કોર્ટ, રાજકોટ.
(૩) રજીસ્ટ્રારશ્રી, ચીફ જ્યુડીશ્યલ મેજી.શ્રી કોર્ટ, રાજકોટ.
(૪) રજીસ્ટ્રારશ્રી, એડીશનલ સેશન્સ જજ કોર્ટ, રાજકોટ.
(૫) એક્ઝીક્યુટીવ મેજી.શ્રી, રાજકોટ શહેર
(૬) એક્ઝીક્યુટીવ મેજી.શ્રી, રાજકોટ તાલુકા
(૭) સયુંકત માહીતી નિયામકશ્રી, રાજકોટ.

(સ્થાનીક વર્તમાનપત્રો, આકાશવાણી તથા દુરદર્શન કેન્દ્રમાં પ્રસિધ્ધ કરવા અને વર્તમાનપત્રોની કાપલીઓ મોકલવા સારૂ)

રાજકોટ મહાનગરપાલિકા

હિસાબી શાખા

ડૉ.આંબેડકર ભવન, ઢેબરભાઇ રોડ, રાજકોટ – ૩૬૦ ૦૦૧.

રા.મ.ન.પા./હિસાબી/જા.નં. ૮૨૧૧ તા. ૧૬/૬/૨૦૧૭

નોંધ -

વિષય – Vendor Regi. માં GST No. Update કરવા બાબત

ઉપરોકત વિષયે જણાવવાનું કે રાજકોટ મહાનગરપાલીકા નાં તમામ વેન્ડર / કોન્ટ્રાકટરો ના Vendor Registration માં GST No. ની જરૂરીયાત હોય તાત્કાલીક અપડેટ કરવા વિનંતિ. Temporary Vendor નાં Regi. આપની શાખામાં જ થઇ જશે જ્યારે Permanent Vendor નાં GST No. અપડેટ કરવા શાખા અધિકારીશ્રી નાં જરૂરી સહી સીક્કા સાથે નીચે મુજબ વિગત નું પત્રક બનાવી દિવસ – ૭ માં હિસાબી શાખામાં માહિતી મોકલાવી આપવા વિનંતી.

Vendor Name	Exiting Vendor Regi. No.	PAN	GST NO.

ચીફ એકાઉન્ટન્ટ
રાજકોટ મહાનગરપાલીકા

નોંધ - તમામ વિગતો ચકાસીને અપડેટ કરવી / ચકાસીને મોકલવી અન્યથા સપ્લાયર્સ ને TDS ની કેડીટ મળશે નહી જેની નોંધ લેવા વિનંતી.

રાજકોટ મહાનગરપાલિકા
સે. ઝોન બાંધકામ શાખા
ઈનવર્ડ નંબર ૧૭૭
તારીખ ૨૬/૬/૧૭

નકલ અમલવારી અર્થે

1. તમામ શાખા અધિકારીશ્રી ઓ

નકલ સવિનય જાણ અર્થે

1. માન. કમિશ્નર સાહેબશ્રી
2. માન. નાયબ કમિશ્નર સાહેબશ્રી

રા.મ.ન.પા./મ.ઓ./સો.વે.મે./જા.નં. ૬૪૩૭ /૨૨ ૦૩/૦૬

જાહેરનામું

આથી હું અમિત અરોરા (IAS), મ્યુનિસીપલ કમિશનર, રાજકોટ મહાનગરપાલિકા, રાજકોટ ગુજરાત પ્રોવિન્સીયલ મ્યુનિસીપલ કોર્પોરેશન એકટ-૧૯૪૯ની જોગવાઇ અનુસંધાને મળેલ સત્તા મુજબ, જાહેર હિતને ધ્યાને લઇ, રાજકોટ મહાનગરપાલિકા વિસ્તારમાં ઇમારત તોડવા, સમારકામ અથવા તો નવા બાંધકામ દરમ્યાન ઉપસ્થિત થતા બાંધકામએ લગત કચરા (Construction and Demolition Waste) નો રાજકોટ મહાનગરપાલિકા દ્વારા નિયત કરાયેલ જગ્યા સિવાય નિકાલ કરવા પ્રતિબંધ ફરમાવું છું.

એવું ધ્યાનમાં આવેલ છે જે, રાજકોટ મહાનગરપાલિકા વિસ્તારમાં ઇમારત, ઇમારતોના બાંધકામ દરમ્યાન નળીયા, પથરા, ઇંટો, ઇમારત બાંધવાના માલ સામાન અને એવા માલ સામાનનો કાટમાળ ગમે તે જગ્યાએ નિકાલ / એકઠો કરવામાં આવે છે. જેનાથી એવી જગ્યાએ ઉંદરો અથવા અન્ય જીવ જંતુઓનું આશ્રય સ્થાન અથવા ઉત્પતિ સ્થાન બને છે. તેમજ સદરહું જગ્યાનો ભોગવટો કરનારાઓને અથવા પડોશમાં રહેતી વ્યક્તિઓના ભય અને ઉપદ્રવનું કારણ બને છે. તેના કારણે રોગચાળો ફેલાવવાનો ભય અને લોકોના આરોગ્ય તથા જાનમાલને નુકસાન થાય તેવી સ્થિતી ઉત્પન્ન થાય છે. તેમજ તે કચરો (Construction and Demolition Waste) દુર કરવા રાજકોટ મહાનગરપાલિકાને ખુબજ મોટો ખર્ચ થાય છે, તેમજ માનવ સમય બગડે છે. આમ, લોકોના જાનમાલના અને આરોગ્યના નુકસાનના ભોગે આવી ગેરકાયદેસર પ્રવૃતિ ચાલી રહેલ છે, આવી કોઇપણ પ્રવૃતિ જન આરોગ્ય માટે બિન સલામતી નોતરે તેમ હોય, ગુજરાત પ્રોવિન્સીયલ મ્યુનિસીપલ કોર્પોરેશન એકટ અનુસુચી-ક ના પ્રકરણ-૧૪ ની જોગવાઇઓ અનુસંધાને આવી તમામ પ્રવૃતિ કરવાનો અગાઉના જાહેરનામા નં.રા.મ.ન.પા./મ.ઓ./સો.વે.મે./જા.નં.૧૯૪૧, તા.૦૬/૦૮/૨૦૧૯ થી પ્રતિષેધ ફરમાવવામાં આવેલ અને આવા કચરા (Construction and Demolition Waste)ના નિકાલ માટે રાજકોટ મહાનગરપાલિકાએ નીચે દર્શાવેલ સ્થળો નિયત કરવામાં આવેલ.

૧. કોઠારીયા પોલીસ ચોકીની બાજુમાં પથ્થરની ખાણ પાસે,
૨. રૈયા સ્માર્ટ સીટીના તમામ ખાણ વિસ્તાર,
૩. ટી.પી.સ્કીમ નં.૧૦, એફ.પી.-૮૭, ઢેબર રોડ, સાઉથ અટીકા વિસ્તાર, પી.જી.વી.સી.એલ. ઓફિસ પાસે,
૪. ટી.પી.સ્કીમ નં.૨૩, એફ.પી.-૨૩, મોરબી રોડ,પોપટપરા આઇ.ઓ.સી. ગોડાઉન પાસે,
૫. સમ્રાટ ઇન્ડ. એરિયા, એસ.ટી. વર્કશોપ પાછળ, અનામત પ્લોટ,
૬. ટી.પી.સ્કીમ નં.૯, એફ.પી.-૫, રૈયાધાર ગાર્બેજ ટ્રાન્સફર સ્ટેશન પાસે,
૭. ટી.પી.સ્કીમ નં.૨૦, એફ.પી.-૩૫, પ્રધ્યુમન ગ્રીન પાછળ

ઉપરોકત સ્થળો ઉપરાંત નીચે મુજબના સ્થળો Construction and Demolition Waste ના નિકાલ માટે નિયત કરવામાં આવે છે.

૧. જેટકો ચોકડી, ટી.પી.સ્કીમ નં.૨૮, મવડી, એફ.પી.-૪૬/એ,
૨. ટી.પી.સ્કીમ નં.૧૨, કોઠારીયા નેશનલ હાઇવે, લીજ્જત પાપડ પાસે, એફ.પી.-૩૮/એ, ૩૯/બી.

ઉપરોકત નિયત કરેલ સ્થળો સિવાય અન્ય કોઇપણ જગ્યાએ કોઇપણ ઇસમ/ઇસમો છકડો, ટ્રેકટર અથવા ડમ્પર દ્વારા (Construction and Demolition Waste) નો નિકાલ કરતાં પકડાશે તો પ્રથમ વખત છકડો/ટ્રેકટર દીઠ રૂા.૭,૫૦૦/- તથા ડમ્પર દીઠ રૂા.૧૫,૦૦૦/-, બીજી વખત છકડો/ટ્રેકટર દીઠ રૂા.૧૫,૦૦૦/- તથા ડમ્પર દીઠ

રૂ|.૩૦,૦૦૦/- અને ત્રીજી વખત છકડો/ટ્રેકટર દીઠ રૂ|.૫૦,૦૦૦/- તથા ડમ્પર દીઠ રૂ|.૧,૦૦,૦૦૦/-લેખે વહીવટી ચાર્જ વસુલ કરવામાં આવશે. તેમજ વાહન જપ્ત કરવા સુધીની કાર્યવાહી કરવામાં આવશે.

શહેરમાં વસતાં નાગરીકો દ્વારા ઉપરોકત Construction and Demolition Waste ના નિકાલ માટે રાજકોટ મહાનગરપાલિકા દ્વારા ઝોન વાઇઝ કામગીરી માટે Construction and Demolition Waste સેલની રચના કરવામાં આવેલ છે. શહેરના નાગરિકો રાજકોટ મહાનગરપાલિકાના કોલ સેન્ટર – ૦૨૮૧-૨૪૫૦૦૭૭ પર ફોન કરી તેમની મિલ્કતનાં રીપેરીંગ કે કાટમાળનો નિકાલ નીચે મુજબનાં નિયત થયેલ ચાર્જીસ ભરપાઇ કરી નિકાલ કરવાની વ્યવસ્થાનો લાભ મેળવી શકશે.

- રીક્ષા કે ૧/૨ ટ્રેકટર રૂ|.૩૦૦/-
- ટ્રેકટર જેટલો જથ્થો રૂ|.૫૦૦/-
- ટ્રક / ડમ્પર જેટલો જથ્થો રૂ|.૧,૦૦૦/-

ઉપરોકત નિયત કરાયેલ સ્થળોએથી ખાનગી માલિકો, જુનો એકત્રિત થયેલ બાંધકામનો કાટમાળ પોતાના ઉપયોગ માટે સ્વખર્ચે ઉપાડી લઇ જઇ શકશે.

ઉકત જાહેરનામાનો ચુસ્તપણે અમલ કરવો.

રાજકોટ.
તા.4/6/૨૦૨૨

કમિશનર
રાજકોટ મહાનગરપાલિકા

[illegible], અહાન/ ૨૯૯ ૨૦૦૮/ ૪૯૨૮

મુખ્ય નિયંત્રક સ્ટેમ્પની કચેરી,
સ્ટેમ્પ અને નોંધણી ભવન,
સેક્ટર - ૧૩ - સી "ઘ" રોડ,
ગાંધીનગર,
તા. [illegible]

પ્રતિ,
કાર્યપાલક ઇજનેરશ્રીની કચેરી,
[illegible] માર્ગ અને મકાન વિભાગ
જુનાગઢ

વિષય:- કરારપત્ર પર સ્ટેમ્પ ડ્યુટી વસુલાત બાબત.

સંદર્ભ:- આપની કચેરીનો તા. ૩૦/૭/૨૦૦૮નો પત્ર

ઉપરોક્ત વિષય અને સંદર્ભ પત્ર દ્વારા આપની કચેરી દ્વારા "કરાર પત્ર" પર [illegible] સ્ટેમ્પ ડ્યુટીના માર્ગદર્શન બાબતે જણાવવાનું કે, અત્રેની કચેરીના પરિપત્ર નં. સ્ટેમ્પ/ [illegible] ૨૦૦૭/૯૯૯ તા. ૫/૨/૨૦૦૭ના પરિપત્ર ની નકલ મોકલવામાં આવે છે. જેના પેરા નં. [illegible] (૬)માં જણાવેલ સ્ટેમ્પ ડ્યુટી વાપરવાની થાય છે.

વિશેષમાં જણાવવાનું કે, આપના દ્વારા અત્રે રજૂ થયેલ વિગત અન્વયે અત્રેના તા. [illegible]ના પરિપત્ર ના મુદ્દા નં.૨ મુજબ એગ્રીમેન્ટ માટે રૂ. ૧૦૦/- તથા ડિપોઝીટ તરીકે [illegible] [illegible] નેશનલાઇઝડ બેંકની ફીક્સ ડીપોઝીટ તથા નાની બચત પત્રોની ૨.૫ % (અઢી ટકા) રકમ રૂ. [illegible] ૪૦૦/- ઉપર આર્ટીકલ -૩૬ (ક) સાથે આર્ટીકલ - ૨૦(ક)માં પ્રસ્થાપિત દર તથા [illegible] મુજબ [illegible] ૧૦૦ એ ૪.૯% મુજબ સ્ટેમ્પ ડ્યુટી ભરપાઈ કરાવવાની [illegible] [illegible] થાય છે. જે વિદિત થાય.

[illegible] - પરિપત્રની નકલ.

Off. of the E. E. P.W. R&B Div. [illegible], Junagadh
[illegible]
2 AUG 2008

સહી/-
[illegible]
માટે
અધિક મુખ્ય [illegible] સ્ટેમ્પ
ગુજરાત રાજ્ય, ગાંધીનગર.

[illegible]

ન.સ્ટેમ્પ-અધાન-૧૪-૨૦૦૭-૯૩૯

સુપ્રિ.ઓફ સ્ટેમ્પસની કચેરી,
સ્ટેમ્પ અને નોંધણી ભવન,
સેકટર-૧૩-સી, ખ રોડ,
ગાંધીનગર.
તા.૧-૨-૦૭

પરિપત્ર:-

અત્રેની કચેરીનાં ધ્યાન ઉપર આવેલ વિગત મુજબ ગુજરાત રાજયમાં આવેલ જીલ્લા પંચાયત, નગર પાલિકાઓ તરફથી કરવાના થતા બાંધકામ તથા અન્ય કામો માટે ટેન્ડર બહાર પાડી, કોન્ટ્રાકટરો પાસે કામગીરી કરાવવામાં આવે છે. આવી કામગીરી માટે જે કોન્ટ્રાકટરનું ટેન્ડર મંજુર કરવામાં આવે છે. તે ટેન્ડરની અંદાજીત રકમ પૈકી નિયમોનુસાર અનામતની (સીકયુરીટી – ડીપોઝીટની) રકમ લેવામાં આવે છે. તે અંગે જીલ્લા પંચાયત / નગરપાલિકા / મહાનગરપાલિકા અને કોન્ટ્રાકટર વચ્ચે કરાર કરવામાં આવે છે. આવા કરારો સ્ટેમ્પ ડ્યુટીના અભિપ્રાય માટે અત્રે રજુ કરવામાં આવે છે. તેમાં જે ડિપોઝીટની રકમ અનામત મુકવાની થાય છે. તે રોકડ, ચેક, ડીમાન્ડ ડ્રાફ્ટ બેંક ગેરંટી ફિકસ ડીપોઝીટ રીસીપ્ટ એન.એસ.સી. બચતપત્ર વિગેરે પૈકીના એક યા વધુ માધ્યમથી આપવામાં આવે છે. તેમાં ટેન્ડર અન્વયે કેટલી રકમ સીકયુરીટી ડીપોઝીટ પેટે મુકવાની છે અને કયા માધ્યમથી મુકવામાં આવે છે. તેની પુરેપુરી વિગત રજુ કરેલ ન હોય તો આવા કેસોમાં પુરેપુરી વિગત રજુ કરવામાં ન આવે ત્યાં સુધી અભિપ્રાય આપી શકાતો નથી અથવા વિલંબ થાય છે. આવી પરિસ્થિતિ નિવારવા અને ટેન્ડરની રકમ અન્વયે જે કરાર કરવામાં આવે છે. તેમાં નીચેની વિગતે સ્ટેમ્પ ડ્યુટી લેવાની થાય છે.

(૧) અનામતની જે રકમ રોકડ, ચેક યા ડ્રાફ્ટથી લેવામાં આવે અથવા તો બેંક ગેરંટીથી આપવામાં આવે તો કરારનાં લેખ ઉપર મુંબઈ સ્ટેમ્પ અધિનિયમ -૧૯૫૮ની અનુસુચિ-૧ ના આર્ટીકલ -૫ (ઝ) મુજબ કરાર ઉપર રૂ. ૧૦૦/- સ્ટેમ્પ ડ્યુટી વાપરવાની થાય છે.

(૨) ટેન્ડર અન્વયે જે અનામતની રકમ ફિકસ ડીપોઝીટ રીસીપ્ટ, એન.એસ.સી. યા અન્ય કોઈ બચતપત્રના માધ્યમ થી અનામત મુકવામાં આવે તો તેટલી અનામતની રકમ ઉપર મુંબઈ સ્ટેમ્પ અધિનિયમ- ૧૯૫૮ની અનુસુચિ-૧ ના આર્ટીકલ -૩૬ (ક) સાથે આર્ટીકલ ૨૦ (ક) મુજબ આ રીતે આપવામાં આવેલ અનામતની રકમના પ્રત્યેક રૂ. ૧૦૦/- અથવા તેના ભાગ માટે ૪.૨૫% પ્રમાણે સ્ટેમ્પ ડ્યુટીને પાત્ર બને છે.

આપના તરફથી જે કામો માટે ટેન્ડર બહાર પાડવામાં આવે અને તેમાં ટેન્ડરની રકમ અન્વયે જે રકમ ડિપોઝીટ (અનામત) મુકવામાં આવે છે. તેમાં ઉપર દર્શાવ્યા મુજબ સ્ટેમ્પ ડ્યુટીને પાત્ર બને છે. તે મુજબ અમલ કરવા વિનંતી છે. સાથોસાથ આપના [illegible]

ASHX

ઇનવર્ડ
નગરપાલિકા ઇનવર્ડ
નં. ૭૪૬
તા. ૨૨/૨/૦૭

કોન્ટ્રાકટરને વર્ક ઓર્ડર આપવામાં આવે તે સમયે કરારનામા ઉપર ઉકત વિગતે યોગ્ય સ્ટેમ્પ ડયુટી ભરપાઈ કરેલ છે. કેમ ? તેની ખાત્રી કરવા પણ જણાવવામા આવે છે.

પ્રતિ,
(૧) મુખ્ય અધિકારશ્રી,
(૨) જીલ્લા વિકાસ અધિકારી,
જીલ્લા વિકાસ અધિકારીની કચેરી
.....
(૩) મ્યુનીસીપલ કમિશ્નરશ્રી,
મ્યુ. કમિશ્નરશ્રીની કચેરી
.....
(૪) ચીફ ઓફિસરશ્રી તમામ
નગરપાલિકા કચેરી,
.....

RAJKOT MUNICIPAL CORPORATION
ACCOUNTS DEPARTMENT
Room No. 4, 2nd Floor
Dr. Ambedkar Bhavan,
Debar Road,
Rajkot - 360001

PARTY/VENDOR REGISTRATION FORM

VENDOR CODE	:	
Party Name	:	
Authorized Person	:	
PAN Card No.	:	
GST No.	:	
Address	:	
City	:	
Phone No.	:	
Mobile No.	:	
eMail ID	:	
Website	:	
Area Of Work	:	
Bank Details (attach copy of cancelled cheque)		
Bank Name	:	
Branch Name	:	
MICR Code	:	IFSC Code :
Account Type	:	
Account No.	:	

(1) Any vendor while filling a tender shall quote registration details; if he is not registred he will give fresh details along with tender.
(2) Acounts branch will designate a person who will keep the forms and also authorize new registrations or edit existing registrations.

TO,
CHIF ACCOUNTANT,
ACCOUNT DEPARTMENT,
RAJKOT MUNICIPAL CORPORATION

THE ABOVE MENTIONED DETAILS FOR VENDOR REGISTRATION HAS BEEN VERIFIED BY US & FOUND CORRECT. KINDLY REGISTER ABOVE VENDOR.

SIGN
NAME
DESIGNATION
DEPARTMENT NAME

રાજકોટ મહાનગરપાલિકા
હિસાબી શાખા
તા૨૦/૦૯/૨૦૧૮

જા.નં. ૧૬૧૭

પરિપત્ર :-

વિષય :- તા. ૦૧/૧૦/૨૦૧૮ થી જી.એસ.ટી. ટી.ડી.એસ. ની કપાત બાબત

સંદર્ભ :- (૧) GoI, MoF (Department of Revenue) Central Board Indirect Taxes and Customs Notification No. 50/2018-Central Tax

(૨) GoG, Finance Department Notification No. 50/2018-State Tax

ઉપરોક્ત વિષય અને સંદર્ભે ગુજરાત ગુડ્સ એન્ડ સર્વિસ ટેક્ષ એક્ટ, ૨૦૧૭ તથા સેન્ટ્રલ ગુડ્સ એન્ડ સર્વિસ ટેક્ષ એક્ટ, ૨૦૧૭ ની કલમ ૫૧ અનુસાર ₹ ૨,૪૦,૦૦૦ થી વધુ રકમના વેરાપાત્ર વસ્તુઓ ખરીદે કે વેરાપાત્ર સેવાઓ કોન્ટ્રાક્ટથી મેળવે તો કુલ ૨% (બે ટકા) ટેક્ષ ડીડક્શન એટ સોર્સ (જી.એસ.ટી. ટી.ડી.એસ) કાપવાનો થાય છે.

આમ ઉપરોક્ત બાબતો ધ્યાને લઇ વધારાની ૨% ની વધારાની નિયમો અનુસાર બિલમાંથી તા. ૦૧/૧૦/૨૦૧૮ થી જી.એસ.ટી. ટી.ડી.એસ. ની કપાત કરવાની થાય છે.

નાયબ કમિશ્નર
રાજકોટ મહાનગરપાલિકા

બિડાણ :- GST FAQ's

નકલ સવિનય જાણ અર્થે:-

(૧) માન. કમિશ્નર સાહેબશ્રી

(૨) માન. નાયબ કમિશ્નર સાહેબશ્રી (વે.ઝોન, ઈ.ઝોન)

નકલ અમલવારી અર્થે:-

(૧) તમામ શાખા અધિકારીશ્રી

[illegible] ૨૧/૧૨/૧૮

રા.મ.ન.પા./લીગલ/જા.નં./૧૫૭૧

રાજકોટ મહાનગરપાલિકા
લીગલ શાખા
તા. ૨૦/૧૨/૨૦૧૮

પરિપત્ર :

વિષય : ઇ.પી.એફ. યોજના અંતર્ગત આપવાની થતી માહિતી

રાજકોટ મહાનગરપાલિકાની જુદી-જુદી શાખાઓમાં ફરજ બજાવતા કર્મચારી કે જેઓને ઇ.પી.એફ. યોજના લાગુ પડે છે. અથવા તો જેઓને એક વખત આ યોજના લાગુ પડી ગયેલ હોય, તેઓના ઇ.પી.એફ. એકાઉન્ટમાં કે.વાય.સી. (K.Y.C) ફોર્મમાં આધાર કાર્ડ, પાનકાર્ડ, બેંક એકાઉન્ટની વિગતો તથા મોબાઇલ નંબર અપડેટ કરવાના બાકી હોય તેનું લીસ્ટ ઇ.પી.એફ. કચેરીમાં જે કર્મચારી/એકાઉન્ટ હોલ્ડરની જરૂરી વિગતો પુરી પાડવામાં આવેલ ન હોય તે સત્વરે પુરી પાડવાની થાય છે. તથા અત્રેથી આ કામગીરીના સંકલન અર્થે નિયુક્ત કરવામાં આવેલ પેનલ એડવોકેટ તરફથી ઇ-મેઇલ મારફતે યાદી પુરી પાડેલ છે, જે આ સાથે સામેલ છે. સદરહુ લીસ્ટના કર્મચારીઓની વિગત સબંધિત શાખાએ દિન-૨ માં પેનલ એડવોકેટ "[illegible] કન્સલ્ટન્ટ" ને અચુકપણે પહોંચતી કરવાની થાય છે.

આ ઉપરાંત રાજકોટ મહાનગરપાલિકાની જુદી-જુદી શાખાઓ દ્વારા સને ૨૦૧[illegible] થી આજદિન સુધી કોન્ટ્રાક્ટરો મારફતે કાર્ય કરાવેલ હોય જેમાં માનવશ્રમનો ઉપયોગ થયો હોય, તે સબંધિત કોન્ટ્રાક્ટરો ઇ.પી.એફ. એક્ટ તથા ઇ.એસ.આઇ. એક્ટ હેઠળ રજીસ્ટ્રેશન કરાવેલ છે કે કેમ? તેની ખરાઇ બાદ જ સબંધિત કોન્ટ્રાક્ટરશ્રીઓના બીલ પાસ કરવા અગાઉ સુચના આપવામાં આવેલ હતી. જેનો ફરીથી કડક અમલીકરણ સુચના આપવામાં આવે છે. સબંધિત કોન્ટ્રાક્ટરોની તથા તેઓ હસ્તકના શ્રમિકોની ઇ.પી.એફ. કચેરી તરફથી આવેલ પત્રમાં દર્શાવેલ વિગતો તાત્કાલિક અસરથી પેનલ એડવોકેટશ્રીને દિન-૫ માં પહોંચતી કરવા દરેક શાખાધિકારીને સુચિત કરવામાં આવે છે.

રાજકોટ મહાનગરપાલિકા
હિસાબી શાખા
ઇનવર્ડ નં. : ૩૫૪૨
તારીખ : ૨૧/૧૨/૧૮

સદરહું વિગત નિયત સમયમર્યાદામાં ન પહોંચવાના સંજોગોમાં અથવા તે અધૂરી અને ખોટી વિગતો મોકલવા બાબતે સંબંધિત શાખાધિકારીની વ્યક્તિગત જવાબદારી નક્કી કરવામાં આવશે. જેથી લીસ્ટમાં દર્શાવ્યા મુજબના રાજકોટ મહાનગરપાલિકાના કર્મચારીઓની વિગતો તથા જરૂરી કચેરી હસ્તકના કોન્ટ્રાક્ટર તથા તેઓ હસ્તકના શ્રમિકોની વિગતો યોગ્ય ચકાસણી કરી નિયત કરેલ સમયમર્યાદામાં પેનલ એડવોકેટને પહોંચતી કરવી. તથા તેની જાણ લીગલ શાખાને કરવી.

ઉપરોક્ત પરિપત્રનો ચુસ્તપણે તાત્કાલિક અસરથી અમલ કરવો.

મ્યુનિ. કમિશનર
રાજકોટ મહાનગરપાલિકા

નકલ સવિનય રવાના :-
- માન. કમિશનર સાહેબ
- નાયબ કમિશનર (ઈ.ઝો./વે.ઝો.)

નકલ રવાના :-
તમામ શાખાધિકારી (અમલાર્થે)

પેનલ એડવોકેટનું સરનામું : શ્રધ્ધા કન્સલ્ટન્ટ
૫૦૨ એમ્પાયર સ્ક્વેર
શાસ્ત્રી રોડ, સાયકલ ઝોન ઉપર
રાજકોટ, ફોન નં. ૨૪૬૩૩૮૦

નોંધ : સંબંધિત કોન્ટ્રાક્ટરો ઇ.પી.એફ. એક્ટ તથા ઇ.એસ.આઇ. એક્ટ હેઠળ રજીસ્ટ્રેશન ન કરાવેલા હોય તેવા તમામ કોન્ટ્રાક્ટરોના બીલો ઓડીટ તથા હિસાબી શાખાએ મંજુર કરવા નહીં.

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રા.મ.ન.પા./લીગલ/જા.નં. ૧૮૧૬

રાજકોટ મહાનગરપાલિકા
લીગલ શાખા
તા.૧૮/૨/૨૦૧૭

હુકમ:

તમામે : લીગલ ફાઇલ નં.૩૩૧/૨૦૧૬-૧૭

રાજકોટ મહાનગરપાલિકાની કામગીરી માટે જુદી-જુદી શાખાઓ દ્વારા કામગીરીના પ્રકારને ધ્યાને લઇ નિયમ અનુસારની પ્રક્રિયા અનુસરીને એજન્સી/સપ્લાયર/કોન્ટ્રાકટર સાથે જોગવાઇઓ સ્વનંત્યે કરાર કરવામાં આવે છે. મહાનગરપાલિકાની કામગીરી સંદર્ભે તૈયાર કરવામાં આવતા ટેન્ડર/કરારનામામાં વખતો વખતની જરૂરીયાતને ધ્યાને લઇ આર્બીટ્રેશન (Arbitration) ની જોગવાઇઓનો સમાવેશ કરવામાં આવેલ છે.

રાજકોટ મહાનગરપાલિકાની કામગીરી માટે કરવામાં આવેલ કરારનામાની શરતો અનુસંધાને અમુક એજન્સી/સપ્લાયર/કોન્ટ્રાકટર દ્વારા છેલ્લા કેટલાક વર્ષોથી નામદાર હાઇકોર્ટ સમક્ષ આર્બીટ્રેટરશ્રીની નિયુક્તિ અંગે પીટીશનો કરવામાં આવે છે, જેના કારણે મહાનગરપાલિકાની કામગીરીના ભારણમાં વધારો થયેલ છે, અને સબંધિત અધિકારીશ્રીઓને વારંવાર અમદાવાદ ખાતે હાજર રહેવુ પડતુ હોય તેના કારણે અગત્યના પ્રોજેકટો સહીત કચેરીની કામગીરી તેમજ પ્રજાકીય કામો ઉપર વિપરીત અસર થવા પામેલ છે, તેમજ અરજદારોને હેરાન થવું પડે છે. આ અંગે કાયદાકીય, શાખાના અભિપ્રાય અને પ્રકરણની વિગતો જોતા આ કામે વૈકલ્પિક ઉપાય (alternate remedy) ઉપલબ્ધ હોય મહાનગરપાલિકાના ટેન્ડર/કરારનામામાં આર્બીટ્રેશનની જોગવાઇઓને સામેલ કરવાનું ઉચીત જણાતું નથી.

આથી " રાજકોટ મહાનગરપાલિકાના કામે કરવામાં આવતા ટેન્ડર ડોક્યુમેન્ટ અને કરારનામામાં આર્બીટ્રેશન (Arbitration) ને લગત જોગવાઇઓ દુર કરવાનો," અને તેના બદલે "ટેન્ડરની શરત/કરારનામાની શરતના અર્થઘટન સંદર્ભે મહાનગરપાલિકાના કમિશનરશ્રીનો નિર્ણય આખરી અને બંધનકર્તા રહેશે," અને "ટેન્ડરની/કરારનામાની શરતો અંગે કોઇ પણ બાબતે વિવાદ ઉપસ્થિત થયે રાજકોટની દિવાની અદાલતની હકુમત રહેશે," તેવી શરતોનો મહાનગરપાલિકાના કામ અર્થે તૈયાર કરવામાં આવતા તમામ કામગીરીના પરિપત્રો/ટેન્ડર ડોક્યુમેન્ટ તેમજ કરારનામામાં સમાવેશ કરવાનો આથી હુકમ કરવામાં આવે છે.

આ હુકમનો અમલ તાત્કાલિક અસરથી યુસ્તપણે કરવો.

કમિશનર
રાજકોટ મહાનગરપાલિકા

નકલ રવાના જાણ અર્થે : નાયબ કમિશનરશ્રી (તમામ)

નકલ રવાના જરૂરી કાર્યવાહી અર્થે : તમામ શાખાધિકારીશ્રીઓ

રા.મ.ન.પા./ લીગલ/ જા.નં. 1221

રાજકોટ મહાનગરપાલિકા
લીગલ શાખા,
રાજકોટ.
તા. 25/08/2023

પરિપત્ર:

વિષય: ઇ.પી.એફ. તથા ઇ.એસ.આઇ.સી. બાબતેનો અભિપ્રાય.

સંદર્ભ: ૧) રા.મ.ન.પા./હિસાબી/જા.નં. ૧૨૦૯ તા. ૧૦/૮/૨૦૨૩
૨) રા.મ.ન.પા. ઇન્વર્ડ ન. ૮૧૨ તા. ૨૧/૦૮/૨૦૨૩

ઉપરોકત વિષય તથા સંદર્ભે અન્વયે જણાવવાનું કે, સંદર્ભ - ૧ અન્વયેના પત્રથી હિસાબી શાખા દ્વારા ઇ.પી.એફ. તથા ઇ.એસ.આઇ.સી. લાગુ પાડવા બાબતેનો અભિપ્રાય માંગવામાં આવેલ હતો જે અનુસંધાને પેનલના એડવોકેટશ્રી તરફથી સંદર્ભ - ૨થી અભિપ્રાય આવેલ છે. સદરહું અભિપ્રાય રાજકોટ મહાનગરપાલિકાની તમામ શાખાને તથા શાખા હસ્તકના કોન્ટ્રાકટરોને લાગુ પડતો હોય જેથી સંબંધિત તમામ શાખાને સદરહું અભિપ્રાય વંચાણે લેવા સુચિત કરવામાં આવે છે.

આ ઉપરાંત આપની શાખાના કર્મચારી તથા કોન્ટ્રાકટરશ્રીઓની ઇ.એસ.આઇ.સી. અન્વયેની માહિતી આપવાની બાકી હોય તે તમામે દિન - ૦૨માં પેનલના એડવોકેટશ્રીને માહિતી પહોચતી કરે અને તેની જાણ લીગલ શાખાને કરે અન્યથા તેમાંથી ઉત્પન્ન થતી તમામ જવાબદારી માટે વ્યકિતગત રીતે જવાબદાર ઠેરવવામાં આવશે.

સદરહું પરિપત્રનો તાત્કાલિક અસરથી ચુસ્તપણે પાલન કરવું.

નાયબ કમિશનરશ્રી
રાજકોટ મહાનગરપાલિકા

બિડાણ: સંદર્ભ અન્વયેના પત્રો

નકલ સવિનય રવાના:

- નાયબ કમિશનરશ્રી (વે. ઝોન, ઇ. ઝોન)
- તમામ શાખાશિકારીશ્રીઓ (અમલ સારૂ)

રાજકોટ મહાનગરપાલિકા
જનરલ બ્રાંચ
ઈનવર્ડ નં. 2916
તારીખ 28/8/23

c-57

Shraddha Associates

LABOUR LAW CONSULTANT

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Address : 2-Nalanda Bunglow
6-Pragati Society, Raiya Road, Rajkot-7

Ref.

Date : -૦૮-૨૦૨૩.

પ્રતિ,
લેબર ઓફીસરશ્રી,
રાજકોટ મહાનગરપાલીકા,
રા જ કો ટ.

વિષય :- ઈપીએફ તથા ઈએસઆઈસી લાગુ પડવા રામનપા/હીસાબી/જા.ન.૧૨૦૯ આબતે અભિપ્રાય.
રેફ. :- રા.મ.ન.પા./લીગલ/જા.નં. ૧૦૯૦, તારીખ ૧૦/૦૮/૨૦૨૩.

મે. સાહેબશ્રી,

સવિનય સાથ જણાવવાનું કે, ઉપરોકત વિષય અને રેફરન્સથી આપના તરફથી અભિપ્રાય માંગવામાં આવેલ. જેની સાથે મોકલેલ ફોર્મેટ મુજબ વિગતવાર રીમાર્કસ આપેલ છે.
રાજકોટ મહાનગરપાલીકાનાં શાખા અધિકારીએ બીલ બનાવતી વખતે બીલ બનાવતી વખતે નીચે મુજબનાં ડોકયુમેન્ટસ ચેક કરી બીલ સાથે સામેલ કરવા જરૂરી છે.

દર મહીને લેવાનાં ડોકયુમેન્ટ.

૧. પગારપત્રક (જેમાં દરેક કર્મચારી તથા કોન્ટ્રાકટરની સહી/સિકકો અને જે તે શાખા અધિકારીની સહી/સિકકો)
૨. હાજરી પત્રક.
૩. પી. એફ. ચલણ.
૪. પી.એફ. ઈ.સી.આર.
૫. ઈ.એસ.આઈ.સી. પેઈડ ચલણ.
૬. ઈ.એસ.આઈ.સી. લાગુ ન પડતો હોય તેવા કર્મચારી (રૂા.૨૧૦૦૦/- થી વધુ પગારવાળા) ની WC પોલીસી.
૭. પી.ટી. નાં ચલણ. (જે કર્મચારીનો પગાર રૂા.૧૨૦૦૦/- કે તેથી વધુ થતો હોય તેનાં.)

વાર્ષિક લેવાનાં ડોકયુમેન્ટ.

૧. જો ૫૦ કે તેથી વધુ માણસો કોન્ટ્રાકટરમાં કામ કરતા હોય તો લેબર લાઈસન્સ.
૨. લેબર વાર્ષિક પત્રક.
૩. બોનસ પત્રક.
૪. જે તે ડીપાર્ટમેન્ટને લાગુ પડતા સરકારશ્રીનાં લાયસન્સની નકલ (ફુડ , ઈલેકટ્રીસીટી વગેરે)

દરેક શાખા હસ્તકનાં કોન્ટ્રાકટર / એજન્સી ઉપરોકત સંદર્ભ અન્વયે પાલન કરાવવાની જવાબદારી મુખ્ય માલીક તરીકે જે તે શાખાનાં શાખા અધિકારીની ઠરાવી શકાય.

સહકારની અપેક્ષા સહ.

આપનો વિશ્વાસુ,
SHRADDHA ASSOCIATES
PROPRIETOR

બિડાણ :- ઉપર મુજબ.

લીગલ ઈન્વર્ડ નં. 812
સરકારી ઈન્વર્ડ નં. -
25/08/23

EPF તથા ESI લાગુ પડે છે કે કેમ ?

ક્રમ	વારંવાર ઉદભવતા પ્રશ્નો.	લાગુ પડે છે કે કેમ ?	
		EPF	ESI
1	કોમ્પ્યુટર ખરીદી કરી અને રાજકોટ મહાનગરપાલીકાની જગ્યામાં ઈન્સ્ટોલેશન કરવાનું થાય તો લાગુ પડે કે કેમ ?	ના	હા
2	રાજકોટ મહાનગરપાલીકાની જગ્યાનું સંચાલન કરતા કોન્ટ્રાકટર, વેન્ડર , ટ્રસ્ટ ને લાગુ પડે કે કેમ ? (જેમ કે સ્પોર્ટ સંકુલ, ગાર્ડન, પાર્કીંગ વગેરેનું સંચાલન કોન્ટ્રકટર, ટ્રસ્ટ સંસ્થા વગેરે ધ્વારા કરવામાં આવે)	હા	હા
3	રસ્તા કામ, ડ્રેનેજ કામ, પાણી વિતરણની કામગીરી સાથે સંકળાયેલા કોન્ટ્રાકટરોને લાગુ પડે કે કેમ ?	હા	હા
4	જનરલ બોર્ડનાં માઈક સંચાલનનાં કોન્ટ્રાકટમાં લાગુ પડે કે કેમ ?	હા	હા
5	રાજકોટ મહાનગરપાલીકાનાં ગાઉન્ડ સંચાલન કરતા કોન્ટ્રાકટરોને લાગુ પડે કે કેમ ?	હા	હા
6	આઉટ સોર્સીંગ સ્ટાફનાં કીસ્સામાં વેન્ડરને લાગુ પડે કે કેમ ?	હા	હા
7	રાજકોટ મહાનગરપાલીકાનાં રેનબસેરાનું સંચાલન કરતા કોન્ટ્રાકટરોને લાગુ પડે કે કેમ ?	હા	હા
8	રાજકોટ મહાનગરપાલીકાની જગ્યામાં ઈવેન્ટમેનેજમેન્ટ કરવામાં આવે ત્યારે ઈવેન્ટમેનેજમેન્ટ કંપનીને તથા ગાયક / આર્ટીસ્ટ / મ્યુઝીશીયનને લાગુ પડે છે કે કેમ ?	ના	ના
9	મશીન / વાહન ફકત પાર્ટસ ખરીદીનાં કિસ્સામાં લાગુ પડે છે કે કેમ ?	ના	ના
10	મશીન / વાહન ફકત પાર્ટસ ખરીદી અને ફીટીંગ / રીપેરીંગ રાજકોટ મહાનગરપાલીકાની જગ્યામાં કરવામાં આવતુ હોય તેવા કિસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા
11	મશીન / વાહન ફકત પાર્ટસ ખરીદી અને ફીટીંગ / રીપેરીંગ રાજકોટ મહાનગરપાલીકાની જગ્યામાં કરવામાં આવતુ હોય તેવા કિસ્સામાં લાગુ પડે છે કે કેમ ?	ના	ના
12	કોઈપણ ઈલેકટ્રીક વસ્તુની ખરીદી તથા તેનુ ઈસ્ટોલેશન જેમ કે કેમેરા લાઈટ ફીટીંગ, કોમ્પ્યુટર, પ્રીન્ટર વગેરે કીસ્સામાં લાગુપડે છે કે કેમ ?	ના	હા
13	મિત્ર મંડળ તથા સખી મંડળનાં કિસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા
14	ઓપરેશન અને મેઈન્ટેનન્સ સર્વિસીઝ કોન્ટ્રાકટનાં કીસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા
15	ટુર્સ / ટ્રાવેલ્સ ભાડે રાખવામાં આવેલ ડાઈવર સહીત તેવા કીસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા
16	ઈલેકટ્રીક પોલ ફીટ કરવા શિફટ કરવા અથવા નવા ઈન્સ્ટોલ કરવા વગેરે કીસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા

EPF તથા ESI લાગુ પડે છે કે કેમ ?			
17	એર કુલર, એ.સી. , વોટર કુલર રીપેરીંગ વગેરે કીસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા
18	રાજકોટ મહાનગરપાલીકાનાં કરાર આધારીત કર્મચારીનાં કીસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા
19	રજીસ્ટેશન સમયે કુલ પગાર ઈ.પી.એફ. / ઈ.એસ.આઈ.સી. નાં નિયમ મુજબનાં પગારમર્યાદા કરતા ઓછી હોય પરંતુ ત્યારબાદ પગાર ઈપીએફ, ઈએસઆઈસી નાં નિયમ મુજબ પગાર મર્યાદા કરતા વધે તો કયાં સુધી કપાત કરવી. (ફીકસમાંથી કાયમીનાં કીસ્સામાં / ફીકસ પગાર વધી જાય તેવા કીસ્સામાં)	હા	ના
20	ફીકસ / કાયમી થાય તેવા કીસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા
21	વાલ્વ ઓપરેટર તથા પમ્પ ઓપરેટરનાં કીસ્સામાં લાગુ પડે છે કે કેમ?	હા	હા
22	લીગલ, પ્રોફેશનલ સર્વિસ રાજકોટ મહાનગરપાલીકાની જગ્યા પર આપવામાં આવે તેવા કીસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા
23	રાજકોટ મહાનગરપાલીકા ધ્વારા વિડીયોગ્રાફી / ફોટોગ્રાફી કરાવવામાં આવે તેવા કીસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા
24	રાજકોટ મહાનગરપાલીકાની જગ્યામાં ઝેરોક્ષ મશીન ચલાવે તેવા કીસ્સામાં લાગુ પડે છે કે કેમ ?	ના	ના
25	ન્યુઝ પેપર અથવા કોઈપણ વસ્તુ કે જેની ખરીદી કરી હોય અને જે રાજકોટ મહાનગરપાલીકાના પ્રીમાઈસીસ સુધી પહોંચાડવાની જવાબદારી વેન્ડરની હોય તેવા કીસ્સામાં લાગુ પડે છે કે કેમ ?	ના	ના
26	રાજકોટ શહેરમાં મોબાઈલ ડિસ્પેન્સરી ચલાવવા આપવામાં આવે તેવા કીસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા
27	ફકત એક વખત કામગીરી કરવાની હોય તેવા કીસ્સામાં લાગુ પડે છે કે કેમ ?	ના	ના
28	હોર્ડીંગ બોર્ડ ચડાવવા તથા ઉતારવાની કામગીરીનો એજન્સીને કોન્ટ્રાકટ આપેલ હોય તેવા કીસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા
29	રાજકોટ મહાનગરપાલીકાની જગ્યામાં કાર્ટીઝ રીપેરીંગ તથા રીફીલીંગ તેવા કીસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા
30	કેટરીંગ સર્વિસ અથવા હોટલમાંથી ફુડ પાર્સલ તેમજ કુરીયર સર્વિસ રાજકોટ મહાનગરપાલીકાને ડીલીવરી કરવામાં આવે તેવા કીસ્સામાં લાગુ પડે છે કે કેમ ?	ના	ના
31	સોલાર પેનલ તથા રૂફ ટોપ સોલાર પેનલનાં રાજકોટ મહાનગરપાલીકાની જગ્યામાં ઈન્સ્ટોલેશન તથા મેઈન્ટેનન્સનાં કીસ્સામાં લાગુ પડે છે કે કેમ ?	હા	હા