RAJKOTMUNICIPALCORPORATION

e-TenderNo.RMC/ENGG/WZ/24-25/

BidDocumentsForConstruction of 2 Aanganvadi and compund wallnearIndiranagarAavasYojnainWardno 1. (Retender)

Milestonedatesfore-tenderingareasunder	
1.Downloadingofe-documents	15-06-2024 To 05-07-2024 upto 17:00 Hrs.
2.Pre-bidmeetingintheO/oCE	19-06-2024 at 11:00 hrs
3.Lastdateforonlinesubmissionofe- Tender	05-07-2024 upto 18:00 Hrs.
4.SubmissionofEMD,Tenderfeeandotherdocuments for verification by Regd.Post.A.D./SpeedPost	06-07-2024 upto 18:00 Hrs.
5.OpeningofTechnicalBid	08-07-2024 at 10:00 Hours onwards
6.Verificationofsubmitteddocuments(EMD,e-Tenderfee,etc.)	08-07-2024 at 10:30 Hours onwards
7.Agencytoremainpresentwithoriginaldocumentsforverification	08-07-2024 between 16:00 to 18:00 Hours
8.OpeningofPriceBid(ForTechnicallyqualifiedbiddersonly)	09-07-2024 at 10:00 Hours onwards (If possible)
9.BidValidity	180Days

2024-25

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

RAJKOTMUNICIPALCORPORATION

BIDDOCUMENTFOR

CONSTRUCTIONOFMORDENIZEDTOILETATGONDALCHOWKDI INWARDNO.12

PART-I

Section-1 InvitationtoBid,Instructionsto 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-TendersareinvitedwithtwobidsystembyeTenderingfromtheexperiencedcontractorsregisteredinGWSSB/StateGovernment / Central Government / SemiGovernmentinappropriateclassforbelowmentionedwork:

Sr No	Nameofwork	a) EstimatedcostinRs. b) EMD c) E-TENDERfee d) Time limit forcompletionofwork
1	Constructionof2Aanganvadiandcompundwall near Indira nagar Aavas Yojna in Ward no 1. **e-TENDERNo.RMC/ENGG/WZ/24-25/**	Rs.28,50,000/-(withGST) Rs.24,14,900/-(withoutGST) b) Rs.28,500/- c) Rs.1,875/- d) 8Months

Milestonedatesfore-tenderingareasunder	
1.Downloadingofe-documents	15-06-2024 To 05-07-2024 upto 17:00 Hrs.
2.Pre-bidmeetingintheO/oCE	19-06-2024 at 11:00 hrs
3.Lastdateforonlinesubmissionofe- Tender	05-07-2024 upto 18:00 Hrs.
4.SubmissionofEMD,Tenderfeeandotherdocumentsforverificationby Regd.Post.A.D./SpeedPost	06-07-2024 upto 18:00 Hrs.
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8.OpeningofPriceBid(ForTechnicallyqualifiedbiddersonly)	09-07-2024 at 10:00 Hours onwards (If possible)
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 besubmittedalong with physical submission of required documents shall havetobedoneatthebelowmentionedaddress:

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

2. Thee-tenderfeewillbeacceptedinformofDemandDraftonlyinfavor of"RajkotMunicipalCorporation"Rajkot,fromanyNationalizedorScheduled Bank(exceptCo-operativeBank)inIndiaandmustbedeliveredto 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%peryearwillbeapplicabletoarriveataverageannual 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 toquote their rateswithout 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, onlyfromthesupplierhavingregisteredGSTNumber.RMCwillnot 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, dulyselfattested,failingwhich,thetenderofsuchbidder(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.Thephysicalsubmissionof required documents received after the prescribed date and timewillbeoutrightlyrejected.

7. ThebiddershouldnothavebeenBlackListed,suspended,terminated,backedout,debarred&delistedbyanyMunicipalBody/UrbanLocalBody/DevelopmentAuthority in any State Government Body or undertaking / anydepartmentorundertakingofGovernmentofIndia,sinceinceptionofthefirm/Company .Suchacasewillberejectedoutrightly.ADeclarationinthisregardon Rs.300/- Stamp Paper duly Notarized shall have to be submitted as perAnnexure along with the tender documents.Submissionof the biddocumentwithoutsuchNotarizeddeclarationwillberejectedoutrightly.

8. The bidder should provide accurate information on any litigation history orarbitration resulting from contracts completed or under execution by him overthelasttenyears.ThisshouldalsoincludesuchcasesjwhichareinprocessJ /progress.Aconsistenthistoryofawardsagainstthebiddermayresult infailureofthebid.Incasethebidderhasnotprovidedsuchinformation andhascome to the noticeof theauthority,the tenderwillbe rejectedat whatso ever stageand in such case all the lossesthatwill arise out of this issuewill be recovered from the bidder and he will not have any defense for thesame.

9. AfteropeningofTechnicalBid,theprocedureforthepre-qualificationshall beadoptedand the Price Bid of onlysuccessful qualified bidder shall beopenedforfinalevaluationofthecontract.ThedecisionofMunicipalCommissionerregarding thepre-qualificationshallbefinalandbinding toallthebidders.

10. ConditionalTenderswillbeoutrightlyrejected.

11. IfnoagencyremainspresentandarenopointsforPrebidmeeting,"NIL"minutestobeconsidered and thesamewillnotbeuploaded.

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

CITYENGINEER(SPL)
RajkotMunicipalCorporation

ELIGIBILITYCRITERIA

1. ExperienceCriteria:

Thebiddershouldpossesfollowingminimumexperience:

1. Biddershouldhavecompletedsimilarnatureworkatleastoneamountingto**60%O R**two works each amounting to **50%**of tenderamount in last sevenyearseitherinorSemi-governmentasamaincontractor.
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(…*pricelevel)ofexistingcommitmentsandon- goingworks to be completed during that next **N** year (period ofcompletionoftheworksforwhichthetendersareinvited)

3. EnhancementFactor

Followingenhancefactorforrespectiveyearwillbeconsideredtoarriveatcurrentfinancialyear:

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.Aconsistenthistoryofawardsagainstthebidderoranypartnerofajointventuremayresultinfailureofthe bid. In case the bidderhasnotprovidedsuchinformationandhascometothenoticeoftheAuthority,thetenderwillberejectedatwhatsoeverstageandinsuchcaseallthelossesthatwillariseoutofthisissuewillberecoveredfromtheBidder/contractorandhewillnothaveanydefenseforthesame.

5. Eventhoughthebiddersmeettheabovecriteria,theyaresubjecttoberejected,iftheyhave:

Misleadingorfalserepresentationmadeintheform,statementsandattachmentsSubmittedAnd/Orhavingpoorperformancerecordsuchasabandoningthe work, improper completion of contract, inordinate delays incompletion,litigationhistory,financialfailures,etc.

6. Brandnames

Specificreferenceinthespecificationsanymaterialsbymanufacturer's name(as per the prevailing list of GWSSB), or catalogue shall be constructed asestablishingastandardorqualityandperformanceandnotaslimitingcompetition,andtheBidderinsuchcases,willnotathisoptionfreelyuseonlyotherproduct

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

TheRajkotMunicipalCorporationhereinafterreferredastheCorporationwill 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,andtheBidders hallhavenocauseofactionorclaimagainsttheCorporationor 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. TheBiddershallfurnishawrittenstatementoffinancialandtechnical 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 theessentialparts of the contract and a requirement occurringin 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 thecost 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**andcontractorshallhavetoquotehispriceon % 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 inthe e-Tender documents and the Biddershall nottakeoutoraddtooramendthetextofany ofthedocumentsexcept in sofar as may be necessary to comply with any addenda issued pursuant to ClauseIT.17hereof.

IT7.EARNESTMONEYDEPOSIT:

A. EachBiddermustsubmitareceiptofdepositasTenderguaranteetowards **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 Indiaacceptabletoownerpayableat Rajkot.TheTenderBond,shallbevalidfora periodof not less than 180 days from the date the e-Tenders are opened and shallcomplywiththerequirementsforBondasstipulatedintheGeneralconditionsof contract.TheTenderguaranteebondwillbeheldbytheownerasaguaranteethattheBidder,ifa wardedthecontract,willenterintothecontractagreementingoodfaith andfurnishtherequiredbonds.Anye-Tendernotaccompaniedbya 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 theassessment 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 requireddocumentsanddrawings.Allwitnessesandsuretiesshallbepersonsofstatusan dprobityandtheirfullnames,occupationsandaddressesshallbestatedbelowtheirsignat ure.

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.

Thetimelimitforreceiptofe-Tendershallstrictlyapplyinallcases.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 fromthe date of opening of the e-Tender and that the Bidder shall not be allowed towithdraw or modify the e-Tender offer on his own during the validity period. TheBidder will not be allowed to withdrawn the e-Tender or make any modifications oradditions in the terms and conditions on his own e-Tender. If this is done then theowner shall, without prejudice to any other right or remedy, be at liberty to rejectthee-Tenderand forfeittheearnestmoneydepositinfull.

IT12 GENERAL PERFORMANCE DATA

Biddershallpresentall theinformationwhichsoughtforinthee-Tenderdocumentinform of various schedules if given. e-TENDERs may not be considered if left blank ortheschedulesare notproperlyfilledin.

IT13 SIGNING OF e-TENDER DOCUMENTS

If the Tender is made by an individual it shall be signed with his full name above hiscurrentaddress.IftheTenderismadebyaproprietaryfirm,itshallbesignedbythepropriet orabovehisnameandthenameofhisfirmwithhiscurrentaddress.

Ifthee-Tenderismadebyafirminpartnership,itshallbesignedbyallthepartnersofthefirm above their full names and current address, or by a partner holding thepowerofattorneyforthefirm,inwhichcaseacertifiedcopyofthepowerofattorneyshall accompany the e-TENDER. A certified copy of the partnership deed, currentaddressesofallthepartnersofthefirmshallalsoaccompanythee-Tender.

If the e-Tender is made by a limited company or a limited corporation, it shall besigned by a duly authorized person holding the power of attorney, shall accompanythe e-Tender. Such limited company or corporation may be required to furnishsatisfactoryevidenceofitsexistencebeforethecontractisawarded.

If the e-TENDER is made by a group of firms, the sponsoring firm shall submitcomplete information pertaining to each firms in the group and state along withthebid as to which ofthe firms shall have theresponsibility fore-Tendering and forcompletion of the contract documents and furnish evidence admissible in law inrespectoftheauthoritytosuchfirmsonbehalfofthe group offirmsfore-Tenderingand for completion of contract documents. The full information and satisfactoryevidence pertaining to the participation of each member of the group of firms in thee-Tendershallbefurnishedalongwiththee-Tender.

Allwitnessesandsuretiesshallbepersonsofstatusandprobityandtheirfullnames,occupati ons and addresses shall be stared below their signatures. All the signaturesinthee-Tender documentshall bedated.

IT14 WITHDRAWAL OF TENDERS

If,duringthetender validityperiod,the BidderwithdrawshisTender,Tendersecurity(EarnestMoney)shall be forfeitedandBidderwillbedebarredfornextthreeyearstoquoteinR.M.C.

IT15 INTERPRETATIONS OF e-TENDER DOCUMENTS

Biddersshallcarefullyexaminethee-TENDERDocumentandfullyinformthemselvesastoall theconditionsandmatterswhichmayinanywayaffecttheworkorthecostthereof. If a Bidder finds discrepancies, or omission from thespecifications or otherdocuments or should be in doubt as to their meaning, he should at once addressquery to the CITY ENGINEER (SPL), R.M.C. The result of interpretation of the e-TENDERwillbeissuedasaddendum.

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

Whilecomparinge-Tenders,theRajkotMunicipalCorporationshallconsider 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-workingperiod 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. andtoincludeall extrato cover the cost. No claim for additional payment beyond the prices quotedwill beentertained and the Bidder will not be entitled subsequently to make anyclaim 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. Acorporation,partnershipfirmorotherconsortiumactingastheBidder 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) CompletionscheduleofferedisnotconsistentwiththecompletionscheduledefinedandspecifiedineTenderdocument.
(c) ThevalidityofeTenderbondislessthanthatmentionedinArticleIT.11i.e.eTendervalidityperiod.
(d) AnyofthepageorpagesofeTenderis/areremovedorreplaced.
(e) Anyconditionaltender.

IT27 PERFORMANCEGUARANTEE(SECURITYDEPOSIT)

Asa contract securitytheBidder to whom the award ismade shallfurnishaperformance 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 dischargeof allobligationsarisingfromtheexecutionofcontractintheformsmentionedbelow:

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

TheperformanceguaranteeshallbedeliveredtotheCorporationwithinten(10)daysofthenoticeofawardandatleastthree(3)daysbeforethecontractagreementissignedunlessotherwisespecifiedbytheEngineer-in-charge.Alternatively, the contractor mayathisoptiondepositanamountof**2.5%**ofthevalueofthecontractpricewithintendaysandthebalance**2.5%**toberecoveredininstallmentsthrough 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.**

IT28 STAMPDUTY

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.

IT29 BRANDNAMES

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.

IT30 NONTRANSFERABLE

e-TENDERdocumentsarenottransferable.

IT31 COSTOFe-Tendering

TheownerwillnotdefrayexpenseincurredbyBiddersine-Tendering.

IT32EFFECTOFe-Tender

Thee-Tenderfortheworkshallremainforaperiodof180daysfromthedate ofopeningofthee-Tendersforthisworkandthattheshallnotbeallowed towithdrawor modifytheofferinhisownduringtheperiod.IfanyBidderwithdrawsormakesanymodificatio noradditionsinthetermsandconditionsofhisowne-Tender,thentheCorporationshall, withoutprejudicetoany other right orremedy,beatlibertytorejectthee-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 madeto the successful Bidder onaccount of such withholding. The owner is not obliged to give reasons for any suchaction.

IT36ADDITIONALRIGHTSRESERVED

TheCommissioner,RajkotMunicipalCorporation,reservesrighttoreducethe 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

FORMATS

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 givean undertakingthatweare 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 MunicipalCorporationasaresultofourabandoning theworksentrusted tous.

I further undertake that if above declaration proves to bewrong/ 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._____

Weproduceherewiththecopiesofthechallansfortheprovidentfunddeductionandcontribution depositedasmentionedabove.

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) Separatesheetforeachpersontobefurnishedasabove.
(2) Thecontractor'sProjectTeamshouldconsistofpersonsinthefoll owing disciplines.

a) SeniorEngineerwithexperienceofBuildingwork
b) SeniormaterialEngineer.
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	2023-2024				
2	2022-2023				
3	2021-2022				
4	2020-2021				
5	2019-2020				
6	2018-2019				
7	2017-2018				

Note:-

1) Figures to be taken from audited balance sheets. Duly certifiedattestedtruecopy
2) Copiesofthebalancesheettobeattached..
3) Thebiddershallhavetoprovidethatforaperiodofatleast4Monthsthe bidder has ability to sustain negative cash balanceandhowheproposestomeetwiththesame.
4) CashPlan/CashflowStatement.

STATEMENTNO.–4/B

AVAILABLEBIDCAPACITY

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Value ofworksexecutedinRs. Crores.							

Theavailablebidcapacitywillbeworkedoutasfollows.

Availablebidcapacity=(AxNx2)–B,where

A =Maximumofupdatedtotalamountofworkexecutedinanyoneyearofthelastfivefinancialyears.

B=Theamountofthe existing commitmentsandongoingworkstobedischargeduringtimeintervalofNyearsfromthebidduedate.

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)	Tenderedamount Rs.(Lakhs)	Dateofawardofcontract	Targetdateofcompletion	Actualdateofcompletion	Reasonfordelay	Amount of work doneduringlastsevenyearspreceding this tender(Rs.Lakhs).							Amountofworkdoneafter March2021 (Rs. Lakhs	Remarks
									2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24		

***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/machinerieswhicharepropосedtobeprocuredshallhavetobe 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

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

Where the Applicant proposes to use named subcontractors for criticalcomponentsoftheworks,orforworkcontentsinexcessof10percentoftheval ueofthewholeworksthefollowinginformationshouldalso 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.**

ApplicationForm(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)whoareknowledgeableintheprocedures of customs,immigration,taxesandotherinformationnecessarytodothework.	
Forhowmanyyearshasyourorganizationbeeninbusinessofsimilar work under its present name?Whatwereyourfieldswhenyourorganizationwasestablished?Whethera nynewfieldswereaddedinyourorganization?Andifso,when?	

5.Wereyoueverrequiredtosuspendconstruction foraperiodofmorethansixmonthscontinuouslyafteryoustarted?Ifso,give the name ofprojectandgivereasonsthereof.	
6.Haveyoueverleftthework awardedto you incomplete? If so, give name ofproject and reasons for not completingwork.	
Inwhichfieldsofcivilengineeringconstruction do you claim specializationandinterest?	
Give details of your experience inmechanizedcementconcretelining andinmodernconcretetechnologyformanufactureandqualitycontrol.	
Givedetailsofyourexperienceinusingheavyearthmovingequipmentandqualitycontrolincompactionofsoils.	
GivedetailsofyourexperienceinUndergroundDrainageworkinrockyarea.	
Givedetailsofcivilworkfordrainagepumpingstation	
Givedetailsforconstructionofsewerage treatment plant	
Givedetailsforpumping machinery indrainagepumpingstation	

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:**

Inthecontract(ashereinafterdefined)thefollowingwordsandexpressionsshall, unlessrepugnanttothesubjectorcontextthereof,havethe followingmeansassignedtothem.

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

The"Contractor"shallmeanthepersonorthepersons,firmor Companywhosee-TenderhasbeenacceptedbytheOwnerandincludestheContractorslegalrepres entative,hissuccessorsandpermittedassigned.

DELETED

The "Engineer-In-Charge" shall mean the person designated as suchbythe 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.

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.

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

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

"Addenda"shallmeanthewrittenorgraphicnoticesissuedpriortosubmissionofe-Tenderwhichmodifyorinterpretthecontractdocuments.

"ContractTime"–thetimespecifiedforthecompletionofwork.

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

"Contract Document" shall mean collectively the e-Tender documents,designs,drawings,specifications, agreedvariations,ifanyand such otherdocumentsconstitutingthee-Tenderandacceptancethereof.

"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.

The"Specifications"shallmeanalldirections,thevariousTechnicalSpecifications, provisions and requirements attached to the contract whichpertainstothemethodandmannerofperformingthework,tothequantitiesa ndqualitiesoftheworkandthematerialstobe furnishedunder the contract for the work and any order(s) or instruction(s) thereunder.Itshallalso mean the latestIndianStandard Institute Specificationrelativetotheparticularworkorpartthereof,sofarastheyarenot

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

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.

The"Work"shallmeantheworkstobeexecutedinaccordancewith thecontractorthepartthereofasthecasemaybeandshallinclude extra,additional, altered or substituted works as required for the purpose ofthecontract.Itshallmeanthetotalityoftheworkbyexpressionorimplicationenvi sagedinthecontractandshallincludeallmaterials,equipmentandlabourrequire dfororrelativeorincidentaltoorinconnection with the commencement, performance and completion of anyworkand /orincorporationinthework.

The "Permanent Work" shall mean works which will be incorporated in andformpartoftheworktobehandedovertotheownerbytheContractoroncompl etionofthecontract.

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

"Site" shall mean the land andother places, on, under, in or throughwhich thepermanentworksaretobecarriedoutandanyotherlands orplacesprovidedbytheCorporationforthepurposeofthecontracttogetherwith any other places designated in the contract as forming partofthesite.

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 notincludematerials orotherthings intendedtoformorformingpart of thepermanentwork.

"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.

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

"FinalTestCertificate"shallmeanthefinaltestcertificateissuedbytheownerwithi ntheprovisionsofthecontract.

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

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

"DefectsLiabilityPeriod"shallmeanthespecifiedperiodbetweentheissueof CompletionCertificateandtheissueoffinalcertificateduringwhichtheContractor is responsible for rectifying all defects that may appear in theworks.

"Approved"shallmeanapprovedinwritingincludingsubsequentconfirmationin writing of previous verbal approval and "Approval" meansapprovedinwritingincludingasaforesaid.

"LetterofAcceptance"shallmeananintimationbyalettertoBidder thathise-Tenderhasbeenacceptedinaccordancewiththeprovisionscontainedtherein.

"Order"and"Instructions"shallrespectivelymeananywrittenorderorinstructiongivenbytheEngineer-In- Chargewithinthescopeofhispowersintermsof thecontract.

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

"SecurityDeposit"shallmeanthedeposittobeheldbytheowner assecurityforthedueperformanceofthecontractualobligations.

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,themasculinegendershallincludethefeminineand neuter genders andvice-versaand 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>:**

Thescopeofworkisdefinedbroadlyinthespecialconditionsof contractandspecifications.TheContractorshallprovideallnecessary materials,equipmentandlabouretc.fortheexecutionandmaintenanceof thework.Allmaterialthatgowiththeworkshallbeapprovedbythe Engineer-In-Chargepriortoprocurementanduse.

<u>PowerSupply</u>:

TheContractorshallmakehisownarrangementforpowersupply 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:**
Thelanguageaccordingtowhichthecontractshallbeconstruedandinterpreted 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. TheprovisionoftheGeneralConditionsofContractandSpecial ConditionsofContractshallprevailoverthoseofanyotherdocumentsofthecontr actunlessspecificallyprovidedotherwise,shouldhavetherebeanydiscrepancy, inconsistency,errororomissionintheseveraldocumentsformingthe contract, the matter may be referred to the Engineer-In-Chargeforhisinstructionsanddecision.TheEngineer-In-Charge'sdecisioninsuchcaseshallbefinaland bindingtotheContractor.

2. Worksshownuponthedrawingsbutnotdescribedinthespecificationsordescri bedinthespecificationswithoutshowingonthedrawingsshall 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 ofe-Tenderdocumentsaresolelyforthepurposeofgivingaconcise indicationandnotasummaryofcontentsthereof.Theyshallneverbedeemedtobe partthereoforbeusedintheinterpretationorconstructionof thecontract.

4. Unlessotherwisestatesspecifically,inthiscontractdocumentsthesingularshall include the plural and vice-versa wherever the context sorequires. Works impartingpersonsshallincluderelevantCorporations /Bodyofindividual/firmofpartnership.

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

6. WhereanyportionoftheGeneralConditionsofContractisrepugnanttooratvaria ncewithanyprovisionsoftheSpecialConditionsofContract,then,unlessadiffere ntintentionappears,theprovisionsofthespecialconditionsofcontractshallbe deemed to over ride the provisions ofGeneralConditionsofContracttotheextentofeachrepugnancyofvariance.

7. Thematerials,design,andworkmanshipshallsatisfytherelevantIS, andcodesreferredto.Ifadditionalrequirementsareshowninthespecifications, the same shall be satisfied over and above IS and othercodes.

8. IfthespecificationsmentionthattheContractorshallperformcertainworkor providecertainfacilities,itshallmeanthattheContractorshalldoso athisowncost.

9. ContractortoCollectHisOwnInformation-

Thedetailsgiveninthee-Tenderarearrangedmakingnecessaryinvestigationsfor framing an estimate. However, when the work is beingexecuted,changesinsoilconditionsarelikelytobemetwithinviewofthefor mationofsoil,stratainRajkotDistrict.Itis,therefore,desirable thattheContractormakeshisowninvestigations oradditionalinvestigationsasmayberequiredforcorrectlyassessingthe cost of different items of workandsubmithise-Tenderaccordingly.Anychangeindescriptionorquantity of an item shallnot vitiate the contract or release the Contractorfromexecutingtheworkcomprisedinthecontractaccordingtothedra wingsandspecificationsatthee-Tenderedrates.

Heisdeemedtohaveknowthescope,natureandmagnitudeofthe workandtherequirementsofmaterialsandlabourinvolvedandasto whateverworkhehastocompleteinaccordancewiththecontract.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,airorwaterandastopossibleinterruptionsthereto andtheaccessandgrossfromthesite,tohaveexaminedand satisfiedhimselfastothe sites forobtainingsand,stones,bricks andother materials,thesitefordisposalofsurplusmaterials,theavailable accommodationandmakesuchenquiriesasmaybenecessaryfor 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 befamiliarwithhisliabilityforpaymentofGovernmenttaxes,customs and excise duty and other charges etc. in contract with theexecutionofthiscontract.

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

TheContractorbye-Tenderingshallbedeemedtohavesatisfied 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 hisprices according to his own view onthesemattersandtohaveunderstoodthatnoadditionalallowances except asotherwiseexpresslyprovided,willafterwardsbemadebeyondthecontractpri ce.TheContractorshallberesponsibleforanymisunderstandingorincorrectinfo rmation,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.Thespecialdirectionsor dimensions given in the specifications shallsupercede allelse.Shouldanydiscrepancieshowever,appearorshouldanymisunderstandi ngariseastothemeaningandintentofthesaidspecifications or drawings, or as tothedimensionsorthequalityofthematerialsorthedueandproper execution of the works, or as to themeasurement or quality andvaluation of thework executed under thiscontract or as extra there upon, the same shall be explained by theEngineer-In-Chargeandhisexplanationshallbesubjecttothefinaldecisionofthemunicipal Corporationincasereferencebemadetoit,bebindinguponthe ContractorandtheContractorshallexecutetheworkaccordingtosuch explanation and without addition or to deduction fromthecontractpriceandshall alsodoallsuchworksandthingsnecessaryforthepropercompletionoftheworksa simpliedbythedrawingsandspecifications,eventhoughsuchworksand things are not specially shownand described in the said specifications.In caseswherenoparticularspecificationsaregivenforanyarticletobeused 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,completionandmain tenance of the works in accordance with the contract documents andtothe satisfaction of the Engineer-In-Charge and assuring the payment ofall obligations arising from the execution of the contract. This shall bedepositedinoneoftheformsmentionedbelow:

   a. ByaDemandDraftontheRajkotBranchofanyScheduledBank exceptco-operativebank.

   b. AFixedDepositReceiptofaScheduleBankdulyendorsedinfavourof the"**RAJKOTMUNICIPALCORPORATION**",Rajkot.

   c. TheContractormaypay2.5%ofthevalueofworksasinitial securitydeposit and the balance 2.5% shall be recovered in installmentsthroughdeductionsattherateof10(ten)percentofthevalueofeach 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 Contractormayathisoptiondepositthefullamountof5percentofsecuritydeposit within ten daysof receipt byhimof thenotificationacceptingthee-Tenderintheformasaforesaid.**PERFORMANCEGUARANTEE(SECURITYDEPOSIT)WILLBERELEASEDTOTHECONTRACTORWITHOUTANYINTEREST AFTERDEFECTLIABILITYPERIODISOVER.**

2. If the Contractor, sub-contractor or their employees shall break, defaceordestroyanypropertybelongingtotheownerorotheragencyduring theexecutionofthecontract,thesameshallbemadegoodbythe contractorathisownexpenseandindefaultthereof,theEngineer-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 nextR 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'srepresentativeshallbeconsideredtohavethesame force as if they had been given to the Contractor himself.Contractor shall givenotlessthanten(10)daysnoticeinwritingtotheEngineer-In- Chargebefore covering up or otherwise placingbeyond reachofinspection and measurement any work in order that the same may beinspected and measured. In the event of breach of the above, the sameshallbeuncoveredatContractor'sexpensesforcarryingoutsuchinspectio normeasurement.

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 guaranteetheworkfor aperiod 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 theequipmentor 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 anytime thereafter become due to Contractor or from his securitydepositortheproceedsofsalethereoforofasufficientportionthereof.

2. FromthecommencementtocompletionofworkContractorshalltake fullresponsibilityforthecareoftheworkincludingalltemporaryworks andincaseanydamages, occur from any causewhatsoeverheshall at his owncost,repairandmakegoodthesamesothatoncompletion,work shall beingoodorderandinconformity,ineveryrespect,withtherequirementsofcontr actandaspertheinstructionsoftheEngineer-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) IncaseContractorfailstodoso,ownermaytake,atthecostof theContractor, such stops as may in allcircumstances be responsible to makegoodsuchdefects.Theexpendituresoincurredbyownerwillberecovered from the amount due to Contractor. The decision of Engineer-In-ChargewithregardtotheamounttoberecoveredfromContractorwillbefinal andbindingontheContractor.

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

TheEngineer-In-Chargeshallhavethepowerandauthorityfromtime totimeandatalltimestogivefurtherinstructionsanddirectionsas 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, asfullyandeffectivelyasthoughthesamehadaccompaniedorhadbeenmentione dorreferredtointhespecifications.Noworkwhich radicallychangestheoriginalnatureofthecontractshallbeorderedbytheEngine er-In-Chargeandintheeventofanydeviationbeingordered,whichintheopinionoftheC ontractorchangestheoriginalnatureofthecontract,heshallneverthelesscarryit outandanydisagreementastothenatureoftheworkandtheratetobepaidtother eofshallberesolved.

Thetime ofcompletion ofworksshall,intheeventofanydeviationsbeingordered resulting inadditional 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:

Thetimeallowedforexecutionofworksshallbetheessenceof thecontract. The contract period shall commence from the date of notice ofintimationtoproceed.TheBidderatthetimeofsubmittinghise-Tendershallindicateintheconstructionschedulehisprogrammeof executionofworkcommencementwiththetotaltimespecified.The Contractor shallprovidetheEngineer-In-Chargeadetailedprogrammeoftimescheduleforexecutionoftheworksin accordancewiththespecificationsandthecompletiondate.Theentire programmetobefinalizedbytheContractor,hastoconformtothe executionperiodmentionedalongwiththeBillofQuantitiesinthee-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 theEngineer-In-Chargeshallhavereceivedofanysub-contractors,the Contractor shall be and shall remain solely responsible forthe quality and proper and expeditious execution of the works and theperformance of all theconditionsofcontractinallrespectsasifsuchsublettingor subcontracting had not taken place and as if such works hadbeendonedirectlybytheContractor.

GC-17 **TIMEFORCOMPLETION:**

1. Theworkcoveredunderthiscontractshallbecommencedfromthedatethe Contractor is served with a notice to proceed with the work andshallbe completed before the date as mentioned in the time scheduleof work.Thetimeistheessenceofthecontractandunlessthesameisextendedas mentionedinClauseGC-18"ExtensionofTime",theContractor shallpayliquidateddamagesforthedelay.
2. Thegeneraltimescheduleforconstructionisgiveninthee-Tenderdocument.Contractorshallprepareadetailedweeklyormonthlyconstru ctionprogrammeinconsultationwiththeEngineer-In-Chargesoonafter the agreement and the work shall be strictly executed accordingly.Thetimeforconstructionincludes,thetimerequiredfortesting,recti fications,ifany,retestingandcompletionoftheworkinallrespectstothe entire satisfaction of the Engineer-In-Charge except the items whicharenotcominginthewaytocommissiontheproject.
3. ~~Monsoon period from 1stJuly to 30th September shall beconsideredasnon workingperiodhenceexcludedintimelimit~~.

GC-18 **EXTENSIONOFTIME:**

Timeshallbeconsideredastheessenceofthecontract.If,however, thefailureoftheContractortocompletetheworkasperthestipulated datesreferredtoabovearisesfromdelaysonthepartofCorporationinsupplying thematerialsorequipment,it hasundertakentosupply underthecontract or from delays on the quantity of work to be done under thecontract, orforcemajeureanappropriateextensionoftimewillbegivenbythe Corporation.TheContractorshallrequestforsuchextensionwithinone monthofthecauseofsuchdelayandinanycasebeforeexpiryof thecontractperiod.

GC-19 **CONTRACTAGREEMENT:**

ThesuccessfulBiddershallenterintoandexecutethecontract agreementwithin 10 (ten) days of the notice of award, in the form shown ine-Tenderdocumentswithsuchmodifications as may be necessaryinthe opinion ofthe Corporation. It shall be incumbent on the Contractor to pay thestampdutyandthelegalchargesforthepreparationofthecontractagreement.

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

forperdayofdelaysubjecttomaximumof10%ofthecontractvalue 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.

Theamountofliquidateddamagesshall,however,besubjectedto 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(ofwhichrecessionnoticeinwritingtothecontractorunder the hand of the owner shall be conclusive evidence) inwhich casethesecuritydepositoftheContractorshallstandforfeitedandbe absolutelyatthedisposaloftheowner.

b) Toemploylabourandtosupplymaterialstocarryoutthebalance workdebitingContractorwiththecostoflabouremployedandthecost ofmaterialssuppliedforwhichacertificateoftheEngineer-In-Charge shallbe final and conclusive against the Contractor and 10%of costs onabovetocoveralldepartmentalchargesandcreditinghim withthevalueofworkdone at the same rates as if it has been carried out by the Contractorunderthetermsofhiscontract.ThecertificateofEngineer-In-Chargeastothevalueoftheworkdoneshallbefinalandconclusive 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 forthe 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.

InpurchasetheContractorshallnotbeentitledtorecoverorbepaid anysumforanyworkactuallyperformedunderthiscontractunlesstheEngineer-In-Charge will certify in writing the performance of such workandthevaluepayableinrespectthereofandheshall onlybeentitledtobepaidthevaluesocertified.

Intheeventoftheownerputting inforcethepowersasstated in a,b, c,abovevestedinhimundertheproceedingclause,hemay,ifhesodesires,take possessionofalloranytoolsandplant,materialsandstoresin oruponthworksorthesitethereofbelongingtotheContractor,orprocured by him and intended to be used for the execution of the work oranyparttthereofpayingorallowingforthesameinaccountatthecontractratesto be certified by the Engineer-In-Charge. The Engineer-In-Chargemaygivenoticeinwritingtothe Contractororhisrepresentativerequiring himtoremovesuchtools,plant,materialsorstoresfromthe premiseswithinthetimespecifiedinthenoticeandintheeventofthe Contractorfailingtocomplywithanysuchnotice,theEngineer-In-Chargemayremovethematthecontractor'sexpensesorsellthemby auctionorprivatesaleonaccountoftheContractorandhisrisksinall respectswithoutanyfurthernoticeastothedate,timeorplaceofthesale andthecertificateofEngineer-In-Chargeastotheexpenseofanysuch removalandtheamountoftheproceedsandtheexpensesofanysuch sale shallbefinal andconclusiveagainsttheContractor.

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

Ifatanytimefromthecommencementofthework,theownershall foranyreasonswhatsoevernotrequirethewholeworkorpartthereof asspecifiedinthee-Tendertobecarriedout,theEngineer-In-Charge shallgivenoticeinwritingofthefacttotheContractor,whoshallhavenoclaimtoany paymentorcompensationwhatsoeveronaccountofanyprofit oradvantage which he might have derived from the execution of the work infullbutwhichhedidnotderiveinconsequenceoffullamountofthe worknothavingbeencarriedout.Healsoshallnothaveanyclaimforcompensation by reasonsofanyalterationshavingbeenmadeinoriginalspecifications, 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 withother 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 allottedcontravention ofsublettingclause hereof and thesameactionmay 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:**
TheContractorshallnotbeentitledtoanyincreaseontheschedule ofratesoranyotherrightsorclaimswhatsoeverbyreasonofrepresentation,promiseorguaranteesgivenorallegedtohavebeengiventohimbyanyperson.

GC-27 **CONTRACTOR'SOFFICEATSITE:**
TheContractorshallprovideandmaintainanofficeatthesitefor theaccommodationofhisagentandstaffandsuchofficeshallremain 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 similarnature, whomequipments, materials, if any, shall be issued and instructions for workgiven. the Contractor shall also provide to the satisfactionofEngineer-In-Chargesufficientandqualifiedstaff,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,foremanorotheremployeesshall,intheopinionof theEngineer-In-Charge,beguiltyofanymisconductorbeincompetent orinsufficientlyqualifiedornegligentintheperformanceoftheirduties orthatintheopinionoftheownerorEngineer-In-Charge,itis undesirableforadministrativeoranyotherreasonforpersonorpersonstobeemployedintheworks,theContractorifsodirectedbytheEngineer-In- Charge, shall at once remove such person or persons from employmentthereon.Anypersonorpersonssoremovedshallnotagainbere-employedinconnectionwiththeworkswithoutthewrittenpermission ofthe Engineer-In-Charge. Any person, so removed from the works shall beimmediatelyreplacedattheexpenseof theContractorbyaqualified andcompetent substitute. Should the Contractor be required to repatriate anypersonremovedfromtheworksheshalldosoafterapprovalofEngineer-In-Chargeandshall bearallcostsinconnectiontherewith.

3. TheContractorshallberesponsiblefortheproperbehaviorofallthe staff,foreman, workmenand 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:**

Ifanysub-contractorengageduponthe worksatthesiteexecute anyworkwhichintheopinionofEngineer-In-Chargeisnotaccordance withthecontractdocuments,theownermaybywrittennoticetotheContractor request him to terminate such sub-contract and the Contractorupon thereceiptofsuchnoticeshallterminatesuchsub-contractsandthelatter 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 tocompletetheworksbyhisagents,otherContractororworkmen,torelate 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 belongingtoandtorecoupandretainthesaiddeficiencyorany partthereofoutoftheproceedsofthesale.

GC-31

CONTRACTOR'SRESPONSIBILITYWITHTHEOTHERCONTRACTORAND AGENCIES:

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 approvingthe joint scheme willcall the parties concerned and modify the scheme if required.No claimwill be entertained on account of the above. The Contractorshall conforminallrespectswiththeprovisionsofanystatutory 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 directto the official address of the Contractor. Proof of issue of anysuchnoticecouldbeconclusiveoftheContractorhavingbeendulyinformedof allcontents therein.

GC-34 **RIGHTSOFVARIOUSINTERESTS:**

Theownerreservestherighttodistributetheworkbetweenmore thanoneContractor.Contractorshallco-operateandaffordreasonableopportunitytootherContractor sforaccessto the works, for the carriageand storage of materials and execution of their works. Whenever the workbeing done by department of the owner or by otherContractoremployedbytheowner iscontingentupon workcovered bythiscontract,therespective rightsof thevariousinterests shall bedeterminedbytheEngineer-In-Charge to secure the completion of various portions of theworkingeneralharmony.

GC-35 **PRICEADJUSTMENTS:**
Noadjustmentinpriceshallbeallowedandnopriceescalationwillbeallowed.

GC-36 **TERMSOFPAYMENT:**
Thepaymentofbillsshallbemadeprogressivelyaccordingtothe rulesandpracticesfollowedbytheCorporation.Theprogressivepaymentunless otherwise provided in the contract agreement or subsequentlyagreedtobythepartiesshallbemadegenerallymonthlyonsubmis sionofa bill by the Contractor in prescribed form of an amount accordingto thevalue of the work performed less the price of materials supplied by owneraggregateofpreviousprogressivepaymentsandasrequiredby ClauseGC-37 (RetentionofMoney)herein.Allsuch progressivepayments 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 othercontractwiththeCorporationormayberecoveredbyactionatlawor 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 Contractortoestablish commercial or sellingagentforthepurposeofsecuringbusiness.

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

GC-40 **BREACHOFCONTRACTBYCONTRACTOR:**
IftheContractorfailstoperformtheworkunderthecontractwith duediligenceorshallrefuseorneglecttocomplywithinstructionsgiventohimin writingbytheEngineer-In-Chargeinaccordancewith thecontract, orshall contravene the provisions of the contract, the Corporation may givenotice inwritingtotheContractortomakegoodsuchfailure,neglect,orcontravention.S houldtheContractorfail tocomplywithsuch 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.Int hisevent,theperformanceBondshallimmediatelybecomedueandpayableto the Corporation. The value of the work doneon the date of terminationand 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 toexpedite theworkwithin10daysofreceipt ofnotice,RajkotMunicipal Corporationmayterminate the contract and debar the Contractor for three years and theremaining work will be executed through other agency atthe risk and costoftheContractor.

GC-41 **DEFAULTOFCONTRACTOR:**

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

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

b) IfintheopinionoftheCorporation,theContractorfailstocomplywithanyoftheoth erprovisionsofthiscontract.

ii) In the event, the Corporation terminates the contract in wholeor inpartas provided in Article GC-50 (Termination of the Contract) the Corporationreserves the right to purchase upon such terms and in such manner as itmaybedeemappropriate,plantsimilartoonewhichisnotsuppliedbytheContra ctor 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 rightsprovidedin this clause, may require the Contractor to transfer title anddelivertotheCorporation.

a) Anycompletedworks
b) Such partially completed information and contract rights as the Contractorhasspecifically producedoracquiredfortheperformanceofthe 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 beliable tothe Corporation for liquidated damages for delay until the works arecompletedandaccepted.

GC-42 **BANKRUPTCY:**

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 anyofthem,theCorporationshallbeatlibertytoeither(a)terminate thecontractforthwithbygivingnoticeinwritingtotheContractororto thereceiverorliquidatororto anyperson orOrganization in whomthecontract maybecomevestedandtoactinthemannerprovidedinArticleGC-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 otherpersonsinwhomthecontractmaybecomevestedtheoptionof carrying out the contract subject to his providing a satisfactoryguarantee for the due and faithful,performance of the contract up to anamount tobe agreed.

Inthe 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 andconditionscontainedinthe contract,shallinnowayprejudice oraffect 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>:**

WheneveranyclaimforthepaymentofasumtotheCorporation arisesout of or under this contract against the Contractor, the same may bededucted bytheCorporationfrom anysumthendueor which at any timethereaftermaybecomeduetotheContractorunderthiscontract andfailing that under any other contract with the Corporation (which may beavailablewiththeCorporation),orfromhisretentionmoneyorhe shallpay theclaim ondemand. The Corporation reservestheright tocarry 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 anyworkdonebytheContractororallegedtohavebeendonebyhim underthecontract,itshallberecoveredbytheCorporationfromthe 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 finaland 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-Chargeandthecontractoruponorinrelationtoorinconnectionwiththiscontracteitherpartymayforthwithgivetothe other,noticeinwritingoftheexistenceofsuchquestion,disputeor difference as to any decision, opinion, instruction,direction,certificateorevaluationoftheEngineer-In-Charge.Thequestion,disputeordifferencesshallbesettledbytheMunicipalCommissioner,RajkotMunicipalCorporation,whoshallstatehisdecisionin writingandgivenoticeofsametotheEngineer-In-Chargeandto theContractor.Such decision shallbe finaland binding upon both parties.Thecontractandworkoncontractifnotalreadybreachedor abandonedshallproceednormallyunlessanduntilthesameshallberevised (oruphold)by any arbitrationproceedingsashereinafter provided.SuchdecisionsshallbefinalandbindingontheEngineer-In- Charge and theContractor unless the Contractor shall require the matterto 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 Arbitratorwhosedecisionswillbefinal andbindingtotheContractor.

Theword"Arbitration"or"ArbitrationClause"wherevermentionedin thistenderdocument, is tobetreated to be referred to GC-49. In this context, anOrder bearing No.RMC/Legal/1858 dated 18-02-2017 of Legal Department ofRajkotMunicipalCorporationisuploadedseparatelyalongwiththis 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 orbecomeunavoidableorifoperationscannotberesumedwithintwo (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 disposalexceptincaseswherethetotalamountofpaymentmadetotheContracto rexceedsthefinalamountduetohiminwhichcasetheContractorshallrefundthee xcessamountwithinthirty(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) OnterminationofthecontractforanycausetheContractorshallsee theorderly suspension and termination of operations, with due considerationtotheinterestsoftheCorporationwithrespecttocompletionsafeg uardingof storing materials procured for the performance of the contract and thesalvageandresalethereof.

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

Ifduringthecontract,thereshallbeanoutbreakofwar(whetherwar isdeclaredor not),major epidemic,earthquake or similaroccurrence in anypartoftheworldbeyondthecontrolofeitherpartytothecontract whichfinanciallyorotherwisemateriallyaffectstheexecutionofthecontract,the Contractorshallunlessanduntil,thecontractisterminatedunder theprovisionsofthisarticleusehisbestendeavorstocompletethe executionof thecontract,providedalwaysthattheCorporation shallbe entitled atany item after the onset of such special risks, to terminate the contractbygivingwrittennoticetothecontractoranduponsuchnotice beinggiventhiscontractshall terminatebutwithoutprejudicetotherights of eitherpartyinrespectof anyantecedentbreachthereof.

TheContractorshallnotbeliableforpaymentofcompensationfor delayorforfailuretoperformthecontractforreasonsofForce 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 writingoftheownershallbeobtainedbeforeanychangeismadeinthe constitutionof the firm. Where the Contractor is anindividual or undivided familybusinessconcernsuchapprovalasaforesaidshalllikewisebe obtainedbeforetheContractorentersintoanypartnershipagreement whereunderthepartnershipfirmwouldhavetherighttocarryoutthe works herebyundertakenbytheContractor.Ifpriorapprovalasaforesaidisnotobtained ,thecontractshallbedeemedtohavebeenassignedincontraventionofcontract.

GC-53 **SUB-CONTRACTUALRELATIONS:**

Allworksperformedforthecontractbyasub-contractorshallbe 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 fordelay orotherwisewithrespect tothesub-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.C ontractoragreestoanddoes hereby granttoownertogetherwiththeright 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 ownerwiththesamepatentprotectionthatcontractsisrequiredtoprovideunder theprovisions oftheclause.

3. TheContractorshallindemnify andsaveharmlesstheownerfromanylosson accountofclaimsagainstownerforthecontributoryinfringement ofpatentrightsarisingoutofandbasedupon theclaimthattheuseby theCorporationoftheprocessincludedinthedesignpreparedbytheContractor and used in the operation of the plant infringes on any patentrights.

GC-55 **LIEN:**

If,atanytime,thereshouldbeevidenceofanylienorclaimfor whichownermighthavebecomeliableandwhichischargeabletotheContractor, theownershallhavetherightto retainoutofanypaymentthen dueor thereaftertobecomedueanamountsufficienttocompletelyindemnify 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.Ifanylienorclaimsremainingunsettledafterallpaymentsare 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,specificationsandtheinstructionsoftheEngineer-In-Charge from time to time. The Contractorshall ensure that the wholeworkisexecutedinthemostsubstantial,andpropermannerwithbest workmanship using materials of best quality instrict accordance with the specifications to the entire satisfaction of theEngineer-In-Charge.

GC-57 **WORKINMONSOON:**

Whentheworkcontinuesinmonsoonifrequired,theContractorshallmaintainmi nimumlabourforcerequiredfortheworkandplanandexecutethe construction and erection work according to the prescribedschedule. Noextraratewillbeconsideredforsuchworkinmonsoon.During monsoon and entire construction period, the Contractor shall keepthe site free from water at his own cost. ~~However, monsoon periodfrom1stJulyto30thSeptemberwill beexcludedintimelimit~~.

GC-58 **WORKONSUNDAYSANDHOLIDAYS:**

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

GC-59 **GENERALCONDITIONSFORCONSTRUCTIONWORK:**

Workinghoursshallbeeighteveryday.Theovertimeworkintwoshiftscouldbecar riedoutwiththewrittenpermissionoftheEngineer-In- Chargebut no compensation shall be paid for the same. The rate quoted shallincludethis.TheContractorshallplanhisworkinsuchawaythat hislabourersdonotremainidle.Theownerwillnotberesponsiblefor idlelabouroftheContractor.TheContractorshallsubmittotheownerprogress reporteveryweek.Thedetailsandproformaofthereportwillbeaspermutualagre ement.

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 changesbecomingnecessaryinthose drawings duringthe executionofthe 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 AgreementNo……..

Signed…….

Contractor **Engineer-In-Charge**

Drawingswillbeapprovedwithinthree(3weeksofthereceiptofthesamebytheEngineer-In-Charge.

GC-62 **SETTINGOUTWORK:**

TheContractorshallsetouttheworkonthesitehandedoverby theEngineer-In-Chargeandshallberesponsibleforthecorrectnessof thesame.Theworkshallbecarriedouttotheentiresatisfactionof Engineer-In-Charge.TheapprovalthereoforpartakingbyEngineer-In-ChargeorsettingoutworkshallnotrelieveContractorofanyofhis responsibilities.The Contractor shall provide at his own cost all necessary level posts,pegs,bamboos,flags,rangingrods,stringsandothermaterialsandlabourersrequiredforpropersettingoutofthework.TheContractor shallprovidefixandberesponsibleforthemaintenanceofallstakes,templates, level markets, profiles and similar other things and shall takeallnecessaryprecautionstopreventtheirremovalordisturbanceandshallberesponsiblefortheconsequencesforsuchremovalordisturbance.

TheContractorshallalsoberesponsibleforthemaintenanceofall existingsurvey marks, boundary marks, and distance marks and centerlinemarkseitherexistingorfacelinesandcrosslinesshallbe marked by smallmasonry pillars. Each pillar shall have distance mark atthecenterforsettingupthetheodolite.Theworkshallnotbestarted unlessthesettingout is chokedandapprovedby Engineer-In-Charge in writingbutsuchapprovalshall notrelievetheContractorofhisresponsibilities 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:

TheContractorshallbeentirelyandexclusivelyresponsibleforthecorrectnessof everypartofthework andshall rectifycompletelyanyerrorsthereinathis own cost when so instructed by Engineer-In-Charge.Ifanyerrorhascreptintheworkduetonon-observanceofthisclause,

theContractorwillberesponsiblefortheerrorandbearthecostofcorrectivework.

1. **MaterialstobesuppliedbytheContractor:**
Contractorshallprocureandprovideallthematerialrequiredfor theexecutionandmaintenanceofworkincludingMSrods;alltools, tackles,constructionplantandequipmentexcept,thematerialstobe supplied bytheownerdetailedinthecontractdocuments.Owner,shallmakerecommenda tionsforprocurementofmaterialstotherespectiveauthoritiesifdesiredbythe Contractor but assumes no responsibility ofany nature.Owner shall insist forprocurementofmaterialswithISImarkssuppliedbyreputedfirmsof theDGS&Dlist.

2. Ifhowever,theEngineer-In-Chargefeelsthattheworkislikelyto bedelayedduetoContractor'sinabilitytoprocurematerials,theEngineer-In-Chargeshallhavetherighttoprocurematerials,fromthemarketand theContractorwillacceptthesematerialsattheratesdecidedbyEngineer-In-Charge.

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

1. Ifthecontractprovidedcertainmaterialsorstorestobesuppliedby theowner,suchmaterialsandstorestransportedbytheContractorathiscostfromo wner'sstoresorRailwayStation.ThecostfromContractorfor thevalueofmaterialssuppliedbytheownerwillberecoveredfrom theR.A.Billon thebasisof actualconsumption of materialsin theworkcovered andforwhichRABill hasbeenprepared.Aftercompletionofthework,the Contractor has to account for the full quantity of materialssuppliedtohim.

2. ThevalueofstorematerialssuppliedbyownertotheContractorshall bechargedatratesshowninthecontractdocumentandincaseany othermaterialnotlistedinthescheduleofmaterialsissuppliedbythe owner,thesameshallbechargedatcostpriceincludingcartingandotherexpenses incurredinprocuring the same. All materials sosuppliedshallremainthe propertyoftheownerandshallnotberemovedfromthesiteonany 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 foruseinworkandsurplusandunaccountedbalancethereofarenotreturnedtoth eowner,recoveryinrespectofsuchbalancewillbeeffectedatdoubletheapplicablei ssuerateofthematerialorthemarketrateswhichever 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.

Contractorshallbearallexpensesforstorageandsafecustodyatsiteofmaterialsi ssuedtohimbeforeuseinwork.

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.

Noneofthematerialsissuedtothecontractor,shallbeusedby theContractorformanufacturingitemswhichcanbeobtainedfromthemanufacturer's. The materials issued by the owner shall be used for theworkonlyandnoother purpose.

Contractor shall be required toexecute indemnity bond inthe prescribedformforthesafecustodyandaccountofmaterialsissuedbytheowner.

Contractorshallfurnishsufficientlyinadvanceastatementofhisrequirementsof 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 maintainedbythe 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>:**

Notwithstandinganythingcontainedtothecontraryinanyofthe clausesofthiscontract,whereanymaterialsfortheexecutionofthe contractareprocuredwiththeassistanceoftheownereitherbyissue from owner'sstockorpurchasemadeunderordersorpermitsorlicensesissuedmaterialsastrusteesforowner,andusesuchmaterialsnotdisposedthemoff withoutthe 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 shallnotexceedtheamountchargedtohimexcludingthestorageof breach of the aforesaidcondition, the Contractor shall in terms of licenseorpermitsand/orforcriminalbreachoftrustbeliabletocompensate owneratdoubletherateoranyhigherrates.Intheeventofthese 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 CONSTRUCTION:**
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 Contractorshallbeboundtocarryoutsuchaltered/extra /newitemsofworkinaccordancewithanyinstructionswhichmaybegiventohiminwritingsignedbyEngineer-In-Chargeandsuchalterationomissions,additions or substitutions, shall not invalidate contract and anyaltered,additionalorsubstitutedworkshallbecarriedoutbytheContractoronthesameconditionsofcontract.Thetimeofcompletionmaybe 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) Iftheratesforadditional,alteredorsubstitutedworkarenot specificallyprovided in the contract for the work, the rates will be derived fromtheratesofsimilaritemsofworkinthecontractwork.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) Iftheratesofaltered,additionalorsubstituteworkcannotbe determinedasspecifiedin(a)or(b)or(c)above,theContractorshallwithinseven

daysofthereceiptofordertocarryouttheworkinformtheArchitect /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 quantityoflabourinvolvedperunitofmeasurementwillbefinalandbindingonContractor.

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 orotherwise 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 todosowithina period tobe 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 workfor every worklimited to a maximum of ten (10%) percent of the value of work while hisfailuretodosocontinuesandinthecaseofanysuchfailure,theEngineer-In-Chargemayonexpiryofthenoticeperiodrectifyandremoveandre-executetheworkorremoveandreplacewithothers attheriskandcost ofthe Contractor. The decision of the Engineer-In-Charge as to anyquestionarisingunderthisclauseshall befinalandconclusive.

GC-76 **<u>SUSPENSIONWORK</u>:**

Contractorshall,iforderedinwritingbyEngineer-In-Chargeorhisrepresentativetemporarilysuspendedtheworkoranypart thereofforsuchtime(notexceedingonemonth)asorderedandshall notafterreceiving such written notice proceed with the work until he shall havereceived a written order to proceed therewith. The Contractor shallnot beentitledtoclaimcompensationforanylossordamagesustainedbyhimbyreason of temporary suspension of work as aforesaid.An extension oftimeforcompletionofworkwillbegrantedtotheContractorcorrespondingto thedelaycausedbysuchsuspensionofworkifheappliesforthesame provided the suspension was not consequent uponanydefaultorfailureonthepartoftheContractor.

GC-77 **<u>OWNERMAYDOPARTOFTHEWORK</u>:**

WhentheContractorfailstocomplywithanyinstructionsgiveninaccordancewith the provisionsofthiscontract, theownerhastherighttocarryout suchpartsofworkastheownermaydesignatewhetherbypurchasing materials and engaging labour or by the agency of anotherContractor. In such case the owner shall deduct from the amount whichotherwise might becomeduetoContractor,thecostofsuchworkandmaterialswiththen (10) percent added to cover all departmental chargesand should the total amount thereof exceed the amount due to contract,Contractorshallpaythedifferencetoowner.

GC-78 **<u>POSSESSIONPRIORTOCOMPLETION</u>:**

TheEngineer-In-Chargeshallhavetherighttotakepossessionofor touseanycompletedorpartlycompletedworkorpartofwork.Suchpossession or useshallnotbedeemedtobeanacceptanceofanyworkcompletedin accordance with the contact. If such prior possession or usebyEngineer-In-Chargedelaystheprocessofwork,equitableadjustmentinthetimeofcompletion willbemadeandthecontractshall bedeemedtobemodifiedaccordingly.

GC-79 **<u>COMPLETIONCERTIFICATE</u>:**

As soon as the work has beencompleted inaccordance with contact(exceptinminorrespectsthatdonoteffecttheiruseforthe purpose forwhichthey areintendedand exceptformaintenance thereof)as perGeneralConditionsofContracttheEngineer-In-Chargeshallissueacertificate(hereinaftercalledcompletioncertificate)in whichshallcertifythedateonwhichworkhasbeencompletedandhas passed the said testsandownershallbedeemedtohavetakenoverworkonthedateso

certified.Ifworkhasbeendividedinvariousgroupsincontract, 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.

InorderthatContractorcouldgetacompletioncertificate,heshall makegoodwillallspeedanydefectarisingfromthedefectivematerialssuppliedby Contractor of workmanship or anyactoromissionofContractorthatmayhavebeendiscoveredordevelopedafte rtheworkorgroupsofworkshasbeentakenover.The period allowed for carrying out such work willbe normally, one month. If any defect be not remediedwithinthe timespecified,ownermayproceedtodoworkatContractor's(Agency,orFirm)risk andexpensesanddeductfromthefinalbillsuchamountasmay bedecidedbyowner.Ifbyreasonofanydefaultonthepartofthe Contractor,acom pletioncertificatehasnotbeenissuedinrespectofeveryportionofworkwithin 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 shallbe 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 shownon drawingsordescribedspecificallyincontractdocuments.

2. The Scheduleof Rates shallbe deemed to include and cover the costof allconstructionalplant,temporarywork,materials,labourandallothermattersi nconnectionwitheachiteminScheduleofRatesandtheexecutionofworkoranyp ortionthereoffinishedcompleteineveryrespectandmaintainedasshownordesc ribedinthecontractdocumentorasmaybeorderedinwritingduringthecontinua nceofthecontract.

3. The Scheduleof Rates shallbe deemed to include and cover the costof allroyaltiesandfeesforthearticlesandprocesses,protectedby letterspatentorotherwiseincorporatedinorusedinconnectionwith work, alsoallroyalties,rentsandotherpaymentsinconnectionwithobtainingmaterialof whatsoeverkindforworkandshallincludeanindemnitytoownerwhichContracto rherebygivesagainstallaction,proceedings,claims,damages, costs and expenses arising from the incorporation in oruse on the worksof 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. Noexemptionorreductionofcustomduties,exciseduties,salestax oranyothertaxesorchargesoftheCentralorStateGovernmentorof anyLocalBodywhatsoeverwillbegrantedorobtainedandallsuch expensesshallbedeemedtohavebeenincludedinandcoveredby Schedule ofRates.Contractorshallalsoobtainandpayforallpermitsorotherprivilegesnec essarytocompletethework.

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 progresswillbe 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 hisauthorized agent fails to bepresentwheneverrequiredbytheEngineer-In-Chargefortakingmeasuresforevery reasonswhatsoever, themeasurement 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. Contractorwillsubmitabillinapprovedproformainquadruplicateto theEngineer-In-Chargeoftheworkgivingabstractanddetailedmeasurementsofvariousitemsexe cutedduringamonthasmutuallyagreed.The Engineer-In-Chargeshall verifythebill and the claim,as farasadmissible, 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 reconstructedor rejected or tobe consideredas an admission of thedueperformanceofcontractoranyparttthereof.

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

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

IftheContractorconsidersthatheisentitledtoextrapaymentorcompensationor anyclaimwhatsoeverinrespectofwork,heshallforthwithgivenoticeinwriting 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 doneandfortheperformanceofalltheobligationsundertakenbytheContractoru ndercontractshallbebasedonthecontractpriceandpayment to be made accordinglyfor the work actually executedandapprovedbytheEngineer-In-Charge.

2. NopaymentshallbemadeforworkcostinglessthanRs.28,500/-till theworkiscompletedandacertificateofcompletionforConstructionisgiven.Butin case of work estimated to cost more than Rs.28,500/-, Contractoronsubmittingthebillthereofwillbeentitledtoreceiveamonthlypaym entproportionate to the part thereof, approved and passed by Engineer-In-Charge,whosecertificateofsuchapprovalandpassingofthesum sopayable shallbe finaland conclusive against contractor.This paymentshall be made after necessary deductions as stipulatedelsewhere in thecontract documents formaterials, security deposit etc. The payment shallbe released to the Contractor within two (2) month of submission of thebilldulypre-occupiedonproperrevenuestamp.PaymentduetoContractor shallbemadebytheownerbyECS/RTGSmodeinIndiancurrency. 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 theCompanybyoneofitsprincipalofficersorbysomepersonhavingauthoritytogi veeffectualreceiptfortheCompany.

GC-87 **COMPLETIONCERTIFICATE:**

1. WhentheContractorfulfilshisobligationasperterms ofcontract,heshallbe eligibletoapplyforCompletionCertificate.Contractormayapplyforseparate Completion Certificatein respect of each such portion ofwork bysubmittingthe completiondocumentsalongwithsuchapplicationforCompletionCertificate.

   The Engineer-In-Charge shall normally issue to Contractor the CompletionCertificatewithinone(1)monthafterreceivinganapplicationthereof fromContractorafterverifying,fromthecompletiondocumentsand satisfyinghimselfthatworkhasbeencompletedinaccordancewithandassetouti ntheconstructionanderectiondrawingsandthecontractdocuments.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 rubbishis 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) Materialappropriationstatementforthematerialsissuedbyowner 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 Contractorduringthedefectliabilityperiodoffixedoriginallyorasextendedsubse quentlyandthatContractorhasinallrespectsmadeupanysubsidence 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 byowneroftheddueperformanceofcontractoranyparttthereofofoccupancyorvali dityoranyclaimbytheContractor.

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

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

respecttoorcoveredbythewages,salariesorothercompensationpaidtothepers onsemployedbyContractor.
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 shallbesuppliedby the owner, andtheContractorshall berequiredtopay fulltaxasapplicable.

2. Contractorshallberesponsibleforcompliancewithallobligations andrestrictionsimposedbythelabourlaworanyotherlawaffectingemployer-employeerelationship.

3. Contractorfurtheragreestocomplyandtosecurethecomplianceof allsubcontractorswithapplicableCentral,State,Municipalandlocallawsandreg ulationsandrequirement.Contractoralsoagreestodefend,indemnifythehold harmless the owner from any liability or penalty whichmay be imposedby Central, State or local authority by reasons of anyviolation by Contractor or sub Contractor of such laws, regulations orrequirements and also from allclaims,suitsorproceedingsthatmaybebroughtagainstownerarising under,growingoutoforbyreasonsorworkprovidedforbythisContractby 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. Contractoragreestoandusesherebyacceptfullandexclusiveliability forcompliancewithallobligationsimposedbytheEmployer'sStateInsuranceAct ,1948andContractorfurtheragreestodefend,indemnifyand holdownerhardness from anyliabilityorpenaltywhichmaybeimposedbytheCentral or State Government or local authority by reasons of any assortedviolationbyContractororSub-ContractorortheEmployeesStateInsuranceAct,1948andalsofromallclaims,su itsorproceedingsthatmaybebroughtagainstownerarising under, growing out of or by reasonsoftheworkprovidedforbythiscontractwhetherbroughtbyemployeesof Contractor by third parties or by Central or State Government authorityorany administrativeSub-divisionthereof.

ContractoragreestofillinwiththeEmployeesStateInsuranceCorporation, the declarationformandallformswhichmayberequiredinrespectof Contractor'sorsub-Contractor'semployeeswhoseaggregateremuneration is Rs.400/- p.m. or less and who are employed in workprovidedfororthosecoveredbyESIfromtimetotimeundertheagreement. TheContractorshalldeductandsecuretheagreementofthesub-Contractortodeducttheemployeescontributionasper thefirstschedule ofthe EmployeesStateInsuranceActfromwages.Contractorshallremitand secure the agreement of sub-contractor to remit to theStateBankofIndianEmployeesStateInsuranceAccounts,theemployee'sco ntribution as required by the Act.Contractor agrees to maintain allcardsandrecordsasrequiredundertheActinrespectofemployees andpaymentsandContractorshallsecuretheagreementsofthesubcontractorsto 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 theEmployees StateInsuranceAct,1948havebeenpaid.

2. **Workman'scompensationandemployeesliabilityinsurance:**Insurance shall beeffectedforall Contractorsemployeesengagedintheperformance 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 **<u>DAMAGETOPROPERTY</u>:**

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 ofwillful 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 **<u>CONTRACTORTOINDEMNIFYOWNER</u>:**

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,theEmployee'sProvidentFundsAct,1952and /orthecontractlabour(AbolitionandRegulations)Act,1970.

2. <u>PAYMENTSOFCLAIMSANDDAMAGES</u>: 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 CompensationAct,1923oranyotherAct,ownerbeobligedtopay compensation to workmen employed by Contractor the amount ofcompensationsopaid,andwithoutprejudicetotherightsofowner underSection-(12)Sub-section-(2)ofthesaidAct,ownershallbeat liberty torecover such amount from any surplus due to on to become due totheContractororfromthesecuritydeposit.Ownerwillnotbebound 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.

FirstAidandIndustrialInjuries:

Contractor shall maintain First-Aid facilities for its employees and thoseofhissub-contractors.

Contractorshallmakeoutsidearrangementsforambulanceserviceandforthetr eatmentofindustrialinjuries.Nameofthoseprovidingtheseservicesshallbefurn ishedtoEngineer-In-Chargepriortostartofconstruction,andtheirtelephone numbers shall be prominently posted inContractor'sfieldoffice.

AllinjuriesshallbereportedpromptlytoEngineer-In-ChargeandacopyofContractor'sreportcoveringeachpersonalinjuryrequiringt heattentionofaphysicianshallbe furnishedtoowner.

GeneralRules:

Carryingandstriking,matches,lightersinsidetheprojectareaandsmokingwithi nthejobsiteisstrictlyprohibited.Violatorsofsmoking rulesshall be discharged immediately. Within theoperation area,nohotworkshallbepermitted, without valid gas, safety, fire permits. The Contractorshallalsobeheldliableandresponsibleforalllapsesofhissub-Contractors/employeesinthisregard.

Contractor'sBarricades:

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.

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

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

Scaffolding:
Suitable scaffolding shall be provided for workman for all worksthatcannot 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).

Scaffoldingorstaging,morethan3.6M.(12')abovethegroundorfloor,swingorsuspendedfromanoverheadsupportorerectedwith stationarysupportshallhaveaguardrail properlyattached,bolted,braced andotherwisefixedatleast1.0M(3')highabovethefloororplatform orscaffoldingorstagingandextendingalongtheentirelengthofthe outsideendsthereofwithonlysuchopeningsasmaybenecessaryforthedelivery ofmaterials.Suchscaffolding or staging shallbe so fastened as topreventitfromswayingfromthe buildingorstructure.

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.

Everyopeninginthefloorofabuildingorinaworkingplatform beprovidedwithsuitable meanstopreventthefailofpersonsormaterialsbyprovidingsuitablefencing or railing whose minimum height shall be 1.0 M(3'.0").

Safemeansofaccessshallbeprovidedtoallworkingplatformsand otherworkingplaces.Everyladdershallbesecurelyfixed.Noportable singleladder shallbe over 9.0 M.(30') in length while the width between thesiderailsinrungladdershallinnocasebelessthan30cms(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.Uniformstepspacingshallnotexceed30 cms.(12").Adequateprecautionshallbetakentopreventdangerfrom electricalequipment. Nomaterials on any of the side of work shall be sostackedorplacedas tocausedangeror inconveniencetoanypersonor public.TheContractorshallalsoprovideall necessaryall necessaryfencing andlightstoprotecttheworkersandstafffromaccidents,andshallbe boundtobeartheexpensesofdefenceofeverysuitactionorotherproceedingsatlawthatmaybebroughtbyanypersonsforinjury 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 Contractorbe paid to compromiseanyclaimbyanysuchperson.

Excavation:
Alltrenches1.2M(4')ormoreindepth,shallatalltimebesupplied withatleastoneladder.

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 shallbestopped 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.

Demolition:
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.

Noelectriccableorapparatuswhichisliabletobea sourceofdangershallremainelectricitycharged.

All practical steps shall be taken to prevent danger to persons employedfromrisk offireorexplosionofflooding.Noflooror otherpartof thebuilding shall be so over loaded with debris or materials as to render itunsafe.

SafetyEquipment:
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.

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

RiskyPlace:
When the work is done near any place where there is a risk ofdrowning,all necessarysafetyequipmentshall beprovidedandkeptready 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.

HoistingEquipment:
Useofhoistingmachinesandtacklesincludingtheirattachments, andstorageandsupportsshallconformtothefollowingstandardsorconditions.
Theseshallbeofgoodmechanicalconstruction,soundmaterialandadequate strength and free from patent defect and shall be kept in goodconditionandingoodworkingorder.
Everyropeused in hoistingor loweringmaterialsor asa meansofsuspension shall be of durable quality and adequate strengthand freefrompatentdefects.
Everycranedriverorhoistingappliance operatorshallbeproperlyqualified and no person under the age of 21 Years should be in-charge ofanyhoistingmachineincludinganyscaffolding.

In case of every hoisting machine and of every chain ring hook, shackle,swivel and pulley blockused in hoistingor loweringor as meansofsuspension,thesafeworkingloadshallbeascertainedbyadequatemea ns. 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.
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.Whenworke rsareemployedonelectricalinstallationswhicharealreadyenergized,insulating mats, wearing apparel such as gloves, and booths as may be necessaryshall beprovided.The workers shall notwear any rings, watches andcarrykeysorothermaterialswhicharegoodconductorsofelectricity.

11.0 MaintenanceofSafetyDevices:
Allscaffolds,laddersandothersafetydevicesasmentionedor describedherein shall be maintained in sound condition and no scaffold,ladder orequipmentshallbealteredorremovedwhileitisinuse.Adequatewashingfacilit iesshouldbeprovidedatornearplaceofwork.

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:
Toensureeffectiveenforcementoftherulesandregulationsrelating tosafetyprecautions,thearrangementmadebytheContractorshallbeopentoin spectionbytheWelfareOfficer,Engineer-In-ChargeorSafetyEngineeroftheownerortheir representatives.

14.0 NoExemption:
Notwithstanding the above clause 1.0 to 13.0 there is nothing to exemptttheContractor fromtheoperationsofanyotherAct orRulesinforceintheRepublicofIndia.
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,statingclearly andin sufficient details the facts andcircumstances of the accidents and the action taken.
Inallcases,theContractorshallindemnitytheowneragainstalllossor damageresultingdirectlyorindirectlyfromtheContractor'sfailureto reportinthemanneraforesaid.Thisincludespenaltiesorfines,ifany, 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–3TECHNICAL

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 chambersetc.asperthetypedesignspecified entirelyofthe specificationofvariousworksstipulatedinthee-Tender.Thework includessupplyofsewerpipesi.e.stonewarepipesofISIMarkedandR.C.C.pre castmanholeframes&coverswhichshallhavetobe suppliedatsiteorMunicipalstorebythecontractoratspecifiedand shown in schedule "B". Other material like cement etcshallhavetosuppliedbythecontractorfromopenmarket.

2. e-TENDERPRICE:

The rates quoted in the bill of quantities shall cover everythingnecessaryforthe due andcomplete execution of the work accordingtothedrawingsandotherconditionandstipulationsofthe contractincludingspecificationsoftheevident,intendandmeaningofalloreit herofthemoraccordingtocustomaryusageandfor periodicaland final inspection andtest and proofof theworkinevery respectand formeasuring,numbering orweighing thesame,includingsettingoutandlayingorfixinginpositionandthe provisionofallmaterials,power,tools,rammers,labour,tackle, platforms

withimperviouslappedjointsforscaffolding,rangingroads,straightedg ed,canteringandboxing,wedges,moulds,templates, posts,straightrods,straightedged,canteringandboxing,wedges,moulds, templates, posts, straight rails, boning staves strutting,barriers,fencinglightingpumpingapparatus,temporaryarrangeme ntforpassageoftrafficaccesstopremisesandcontinuance to drainage water supply and lighting (if interruptedbycontractor'swork)temporarysheds,painting,varnishing,polis hingestablishmentforefficientsupervisionandstatingarrangementsforthe efficient protective of lifeand property and allrequisiteplantandmachineryofeverykind.

Thecontractorshallkeepeveryportionoftheworkclearofaccumulationfromti metotimeandshallleaveeveryportionoftheworkclean,clear,perfectandatth econclusionofwhole,providingattheirown cost all such material implement, appliances and labourastheEngineerinchargemayrequiretoproveifittobeso.

3. COMPLETIONSCHEDULE:

Thecontractperiodshallbeasprescribedintenderdocument,from the date ofnoticetoproceed. TheContractor shall submithis completion scheduleandtheprogramofworkstogetherwiththise-Tender in conformity with completion schedule giveninthedocuments.

4. GENERALTECHNICALGUIDELINE:

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

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

ThecontractorshallengageaqualifiedEngineerfortheExecution of work whowillremain present for all the timeonsiteandwillreceiveinstructionsandordersfromtheEngineerin chargeorhisauthorizedrepresentative.Theinstruction and orders given to the contractor representativeonsiteshallbeconsideredasitgiventothecontractorhi mself.

Theworkorderbookasprescribedshallbemaintainedonthe site ofthe work by thecontactorandthecontractorshall sign the orders given by the inspecting offers andshallcarryoutthemproperly.

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

Unexcavatedlengthsshallbeleftwhereverrequiredand sodirectedbytheEngineerinchargeduringthecurrencyofthecontra ctandshallbetackled.Ifrequired,beforecompletionofwork.

Diversionofroad,ifnecessary,shallbeprovidedandmaintainedduringt hecurrencyofthecontractbythecontractorathiscost.

FiguredDimensionsofdrawing shall supersedemeasurements byscale,special dimensions or directions inthespecificationsshall supersedeallotherdimensions.

Alllevelsaregivenondrawingsandthecontractorshall be responsible to take regular level on the approvedalignment beforeactuallystartingthework.Thelevelsshallbe commence to the G.T.S. levels and shall be got approvedfromtheEngineerincharge

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

5. CLASSIFICATIONOFSTRATA:

Allmaterialsencounteredinexcavationwillbeclassified inthefollowinggroupsirrespectiveofmodeof excavatingthe materials and the decision of the Engineer in chargeinthisregardshallbefinalandbindingtothecontractor.

Soils:

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

HardMurrum:

Hard Materials comprising of all kinds of disintegrated rockorshaleorinduratedconglomerateinterspersedwithboulders ,weatheredanddecomposedrockwhichcouldbe removed with pick, bar, shove, wedges and hammers,thoughnotwithoutsomedifficulties.

Soft–Rock:

Thisshall include all materialswhichis rock butwhichdoes not need blasting and can be removed with apickbar,wedges,pavementbreakers,pneumatictoolsetc.

HardRock:

This shall include rock accusing in mass or boulderswhichneedblasting,thiswillalsoincluderocktoberemoved 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 forthesamehas to bebornebythecontractor.

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:

Water:

Watershallnotbesaltyorbrackishandshallbeclean,reasonably clearandfreefromobjectionablequantitiesofsiltandtracesofoilandinjuriousalkalis, salts,organicmatterandotherdeleteriousmaterialwhichwilleither weaken the mortar of concrete or cause efflorescence or attack thesteel inRCCcontainerfortransport,storageandhandlingofwatershallbeclean. Watershallconformto thestandardsspecifiedinI.S.456-Latestedition.

If required by the engineer-in-charge, it shall be tested by comparisonwithdistilledwater.Comparisonshallbemadebymeansofstandardce menttestsforsoundness,changeintimeofsettingandmortarstrengthas specified in I.S. 269 (Latest edition). Any indication of unsoundness,changeintimeofsettingby30minutesormoreordecreaseofmorethan 10per cintinstrengthofmortarpreparedwithwater sample whencompared with the results obtained with mortar prepared with distilledwatershallbesufficientcauseforrejectionofwaterundertest.

Waterforcuringmortar,concreteormasonryshouldnotbetooacidic 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.

Lime:

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

Thefollowingfieldtestsforlimesaretobecarriedout:

i) Averyroughideacanbeformedaboutthetypeoflimebyitsvisualexaminationi .e.fatlimebearspurewhitecolour,limeinformofporous lumps of dirty white colour indicates quick lime and solidlumpsaretheunburntlimestone.

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

StorageshallcomplywithIS712-LatestEdition.Theslakedlime, itstored, shallbe kept in aweatherproofanddamp-proof shedwithimperviousfloorandsidestoprotectitagainstrain,moisture,andweatheran dextraneousmaterialsmixingwithit.Alllimethathas 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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Cement:
Cement shall be ordinary portland cement as per IS:269 or IS:8112 andIS:12669(AllLatestedition).

WhiteCement:
ThewhitecementshallconformtoIS8042-ELatestedition.

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

Thepigmentsusedforcoloredcementshallbeofapprovedquality 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.

Sand:
Sandshallbenaturalsandorsilica,cleanwellgraded,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 approvedfromtheengineer-in-charge.Thesandshallnotcontainmore than8percentofsiltasdeterminedbyfieldtest.Ifnecessary,thesand shall bewashedtomakeitclean.

CoarseSand:
Thefinenessmodulesofcoarsesandshallnotbelessthan2.5and 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:
Thefinenessmodulesshallnotexceed1.0Thesieveanalysisoffine 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

StoneDust:

Thisshallbeobtainedfromcrushinghardblacktraporequivalent.Itshallnotconta inmorethan8%ofsiltasdeterminedbyfieldtestwithmeasuringcylinder.Themet hodofdeterminingsiltcontentsbyfieldstestisgivenasunder:
Asampleofstonedusttobetestedshallbeplacedwithoutdryingin 200mmmeasuringcylinder.Thequantityifthesampleshallbesuchthat itfillsthecylinderupto100mmmark,thecleanwatershallbeaddedupto150mmmark. 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

StoneGrit:

Gritshallconsistofcrushedorbrokenstoneandbehard,strong densedurablecleanofpropergradationandfreefromskinorcoating likelytopreventproperadhesionofmortar.Gritshallgenerallybecubicalinshapeanda s faraspossible flaky elongated pieces shallbe avoided. It shallgenerally complywiththeprovisionsofIS383(LatestEdition).Unlessspecialstone ofparticularquarriesismentioned,gritshallbeobtainedfromthebest blacktraporequivalenthardstoneasapprovedbytheengineer-in-charge.Thegritshallhavenodeleteriousreactionwithcement.

Thegritshallconformtothefollowinggradationaspersieveanalysis:

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

Thecrushingstrengthwillbesuchastoallowtheconcreteinwhich itusedtobuildupthespecifiedstrengthofconcrete.

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

Cinder:

Cinderiswellburntfurnaceresiduewhichhasbeenfusedorsintered intolumpsofvaryingsizes.

Cinderaggregatesshallbewellburntfurnacesresidueobtained fromfurnace using coal fuel only. It shall be sound clean and free from clay,dirt,ashorotherdeleteriousmatter.

Theaveragegradingforcinderaggregateshallbeasmentionedbelow:

I.S.SieveDesignation	Percentagepassing	IS SieveDesignation	percentagepass-ing
20mm	100%	4.75mm	70
10mm	86	2.36mm	52

LimeMortar:

Lime: LimeshallconformtospecificationM-2.**Water:**Watershallconform to specificationM-1.**Sand:**SandshallconformtospecificationM-6.

ProportionofMix:
Mortarshallconsistofsuchproportionsofslakedlimeandsandasmaybespecifiedinitem.theslakedlimeandsandshallbemeasuredbyvolume.

PreparationofMortar:
LimemortarshallbepreparedbyprocessasperIS1625Latest edition.Powerdrivemillshallbeusedforpreparationoflimemortar.The slakedlimeshallbeplacedinthemillinanevenlayerandgroundfor 180revolutions with a sufficient water. Water shall be added as requiredduringgriding(carebeingtakennottoaddmorewater)thatwillbringthemixedmaterialtoaconsistencyofstiffpaste.Thoroughlywetted sandshallthenbeaddedevenlyandthemixturegroundforanother 180revolutions.

Storage:
Mortarshallalwaysbekeptdamp,protectedfromsunandraintillusedup,coveringitby tarpaulinoropensheds.

Allmortarshallbeusedassoonaspossibleaftergrinding.Itshould beusedonthedayonwhichitprepared.Butinnocase,mortarmadeearlierthan36hoursshallbepermittedforuse.

CementMortar:
Water shall conform to specification M-1. Cement: Cement shall conformtospecificationsM-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:

Inhandmixedmortar,cementandsandinthespecificationsshall bethoroughlymixeddryonacleanimperviousplatformbyturningover atleast3timesormoretillahomogeneousmixtureofuniformcolor isobtained.mixingplatformshallbesoarrangedthatnodeleteriousextraneousmaterial shall get mixed with mortar or mortar shall flow out.Whilemixing,thewatershallbegraduallyaddedandthoroughlymixedtoformastillplasticmassofuniformcolorsothateachparticleofsandshallbecompletelycovered withafilmofwetcement.thewatercement ratioshallbeadoptedasdirected.

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

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.Unlessspecialstonesofparticularquarriesarementioned,aggregatesshallbemachinecrushedfromthe bestblacktraporequivalenthardtoneasapproved.Aggregateshallhave nodeleteriousreactionwithcement.Thesizeofthecoarseaggregatefor plain cement concreteandordinaryreinforced cementconcreteshallgenerallybeasperthetablegivenbelow,however,incaseof reinforced cement concrete themaximumlimitmayberestrictedto6mm,lessthantheminimum lateral clear distance between bars of 6 mmlessthanthecoverwhicheverissmaller.

IS Sievede signa-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.ThenecessarytestsindicatedinIS383Latesteditionand IS456Latesteditionshallhavetobecarriedouttoensure theacceptability. The aggregates shall be stored separately and handled insuchamannerastopreventtheintermixingofdifferentaggregates. Ifthe aggregates are covered with dust, they shall be washed with water tomakethemclean.

**BlackTraporEquivalentHardStoneCoarse:Aggregateforde
signMixconcrete:**

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

Theaggregatesshallgenerallybecubicalinshape.Unlessspecial stonesofparticularquarriesarementioned,aggregatesshallbemachinecrushedfromthebest,black traporequivalenthardstonesasapproved.Aggregateshallhavenodeleteriousreactionwithcement.

ThenecessarytestsindicatedinIS383LatesteditionandIS456 Latesteditionshallhavetocarriedouttoensuretheacceptabilityofthematerial.

Ifaggregateiscoveredwithdust,itshallbewashedwithwatertomakeitclean.

BrickBatsAggregate:

Brickbataggregate shallbe broken fromwellburntorslightlyover burntanddensebricks.Itshallbehomogeneousintexture,roughly cubicalinshape,cleanandfreefromdirtofanyotherforeignmaterial. Thebrickbatsshallbeof40mmto50mmsizeunlessotherwisespecified intheitem.Theunderburntofoverbruntbrickbatsshallnotbeallowed.

Thebrickbatsshallbemeasuredbysuitableboxesasdirected.

Bricks:

Thebricksshallbehardormachinemouldedandmadefromsuitablesoilsandburnt.Th eyshallbefreefromcracksandflawsandnodulesoffreelime. They shall have smooth rectangular faces with sharp corners andshallbeofuniformcolors.

Thebricksshallbemouldedwithafrogof100mmx40mmand10 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

Onlybricksofonestandardsizeshallbeusedinonework.The followingtolerancesshallbepermittedintheconventionalsizeadoptedinaparticular work.
Length±1/8"(3mm)width:±1/16"(1.5mm)Height:±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.

Stone:

Thestoneshallbeofthespecifiedvarietysuchasgranite/trapstone /quarziteoranyothertypeofgoodhardstones.Thestonesshall beobtainedonlyfromtheapprovedquarryandshallbehard,sound,durableandfreefr omdefectslikecavitiescracks,sandholesflaws,injuriousreins, patches of loose or soft materials etc. and weathered portion andotherstructuraldefectsorimperfectiontendingtoaffectedtheirsoundnessand strength. The stone with round surface shall not be used.Thepercentageofwaterabsorptionshallnotbemorethan5%dryorwet.When tested in accordance with I.S.1124 - Latest edition. The minimumcrushingstrengthofthestonebe200kg/sq.cmunlessotherwisespecified.

Thesamplesofthestonetobeusedshallbegotapprovedbefore theworkisstarted.

Thekhankifacingstoneshallbedressedbychiselasspecifiedinthe itemforkhankifacinginrequiredshapeandsize.Thefaceofthestoneshallbesodresse dthatthebushingontheexposedfaceshallnotprojectbymorethan40mm fromthegeneralwallsurfaceandonfacetobeplastereditshallnot project by more than 19 mm nor shall it have depressions morethan10mmfromtheaveragewallsurface.

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.'

Thestoneshallbedressedintoregularrectangularblockssothatallfacesarefreefromwavinessandun evenness,andtheedgestrueandsquare.

Thosetypesofstoneinwhichwhiteclyoccursshouldnotbeused.Specialcornerstonesshallbeprovide

dwheresodirected.

MildSteelBars:

MildsteelbarsreinforcementforRCCworkshallconfirmtoIS432(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

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.

HighTensileSteelWires:

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

Thetensilestrengthofthehightensilesteelbarsshallbeasspecified 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 havingdiameternotlessthan350timesthediameterofwireitself,so that wirespringsbackstraightonbeinguncoiled.

M-20(A)PlainCarbonDrawnSteelWires:

Theplaincarbondrawnsteelwiresforuseinprecastconcretework shallbeconformtoIS1785(Part-II)Latestedition.

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

ThePCsteelbarsshallbefreefromloosemillscale,rust,oilgrease, oranyotherharmfulmatter.Cleaningofsteelbarsmaybecarried outimmersioninsolventsolution,wirebrushingorpassingthroughapressureboxcontainingcarborandum.

MildSteelBindingWire:

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

Theuseofblackwirewillbepermittedtobindingreinforcementbars. Itshallbefreerust,oilpaint,grease,loosemillscaleoranyotherundesirablecoatingwhichmaypreventadhesionofcementmortar.

StructuralSteel:

AllstructuralsteelshallconfirmtoIS226Latestedition.Thesteelshallbefreefr omthedefectsmentionedinIS226Latesteditionandshallhave asmoothfinish.thematerialshallbefreefromloosemillscale,rustpits orotherdefectsaffectingthestrengthanddurability.Riverbarsshallconformt oIS1148Latestedition.

Whenthesteelissuppliedbythecontractor,testcertificateofthemanufacturer shall be obtained according to IS 226 Latest edition andotherrelevantIndianStandards.

GalvanizedIronSheets:

Thegalvanizedironsheetsshallbeplainorcorrugatedsheetsof guagesas specified in item. The G.I. Sheets shall conform to I.S.latest edition.Thesheetsshallbeundamagedincarriageandhandlingeitherbyrubbingoff 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-3ofthethicknessasspecifiedinitem.Theseshallbe600mminandwidthandproperly bentup toshapewithoutdamage tothesheetsaninprocessofbending.

Valleysguttersandflashingsshallalsobeofgalvanizedsheetsofthickness as specifiedinitem.Valleysshallbe900mm.wideoverallandflashingshall be380mm. wideoverall.Theyshallbebenttotherequiredshapewithoutdamagetothesheetinth eprocessofbending.

M-24.AsbestosCementSheets:

Asbestoscementsheetsplain,corrugatedorsemi-corrugatedshall-conformshallconformtoI.S.latestedition.Thethicknessofthe sheetsshall be as specified in The item. the sheets shall be free from all defectssuchascracks,holes,deformities,edgesorotherwisedamaged.

Ridge&Hips:

Ridgeandhipsshall,beofsamethicknessasthatofA.C.sheets.
Thetypesofridgesshallbesuitableforthetypeofsheetsandlocation.
Otheraccessoriestobeusedinroofsuchasflashingpieceseavesfillerpieces,valleyg utters,northlightandventilatorcurves,bargeboardsetc.shallbeofstandardmanufa ctureandshallbesuitableforthe type ofsheetsandlocation.

M-25.ManglorePatternRoofTiles:

The mangalore patterntiles shallconform to I.S. latestedition for ClassAA or class A typeas specified in item. Sample ofthe 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 minimumthicknesswithorwithoutsheetliningorofsteelplatesstiffened 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 thatitassumescorrectshapeafterdepositionoftheconcreteandshallbeabletore sistforcescausedbyvibrationofliveload ofmenworkingoveritandother incidental load associated with it. The shuttering shall have smoothandevensurface.Itsjointsshallnotpermitleakageofcementgrout.

Ifatanystageofworkduringorafterplacingconcreteinthe structure,the form work sags or bulges out beyond the required shape of thestructure, the concrete and adequately rigid form work. Thecompleteform work shall be got inspected by and got approved from the engineer-in-chargebeforethereinforcementbarsareplacedinposition.

Thepropsshallconsistofbullieshaving100mmminimumdia.measurementatmi dlengthand80mmatthinendandshallbeplacedasperdesignrequirement.Thesesh allrestsquarelyonwoodensoleplates40mmthickand minimumbearingareaof0-10sq.m laidonsufficientlyhardbase.

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

Thetimberusedinshutteringshallnotbesodryastooabsorbed 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.

Thesurfaceoftimbershutteringthatwouldcomeincontactwithconcreteshallbewell wettedandcoatedwithsoapsolutionbeforetheconcretingisdone.Alternatively,coat ofrawlinseedoiloroilofapprovedmanufacturermaybeappliedinplaceofsoapsolutio n.Incaseofsteelshutteringeithersoapsolution or raw linseed oil shall be applied after thoroughly cleaningthesurface.Undernocircumstances,blackorbruntoilshallbepermitted .

Theshutteringforbeamsandslabsshallhavecamberof4mmper meter(1 in 250) or as directed by the engineer-in-charge, so as to offset thesubsequentdeflectionforcantilevers,thecamberoffreeendshallbe1/50ofth eprojectedorasdirectedbytheengineer-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.

Premouldedbituminousjointfiller,i.e.performedstripofexpansionjointfillersha llnotgotdeformedorbrokenbytwisting, bendingorotherhandlingwhenexposedtoatmosphericcondition. Pieces of jointfillerthathavebeendamagedshallberejected.

Thicknessofthepre-mouldedjointfillershallbe25mm.unlessotherwisespecified.

PremouldedbituminousjointfillershallconformtoI.S.Latestedition.

M-28.ExpansionjointsCopperstrips&holdfasts:

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

Coppersheetshallbeof1.25mmthickandof1.25mmwidthandthe"U"shapeinthemid dle.
Copperstrip shall have holdfast of3mmdiametercopperrodfixedtotheplate soldered on strip at intervals ofabout 30 cmor as shown in thedrawingor asdirected.Thewidthofeachflange(horizontalside)ofthecopperplate to be emvidded in the concrete work shall be 25 mm. depthof"U"tobeprovidedintheexpansionjoint,inthecopperplateshallbeof25mm.

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,durabilityoritsusefulnessforthepurposeforwhichitis required. The colour shall be uniform as far aspossible . Any effort like paining,usinganyadhesiveresinousmaterialsmadetohidethedefects shallrenderthepiecesliabletorejectionbytheEngineer-in-Charge.

Allscantlings,planksetc.shallbesawninstraightlinesandplanesinthedirectionofgrai nsand ofuniformthickness.

The tolerancesinthedimensionsshallbeallowedattherateof 1.5mm,perfacetobeplaned.

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:

Noindividualhardandsoundknotsshallbemorethan15sq.cm.in sizeand aggregates area of such - knots shall not exceed 2 % of the area ofpiece.

M-29A.Non-teakwood:

Thenon-teakwoodshallbechemicallytreated,seasonedasperI.S.Specificationandofgoodquality.Thetypeof,woodshallbegotapprovedbeforecollectingthesameansite.Fabrication of wooden members shallbestartedonlyafterapproval.

For this purpose woodof Bio, Kalai, Sires, Saded, Behda, Jamun, Sisoowill beusedfordoorwhereasonlyKalai,Halda,Sires,Kalametc.will bepermitted far shutters after proper seasoning and chemical treatment,Thenon-teakwoodshallbefreefromlarge,loosedeadof cluster knots,flows, shakes, warps, bends or any otherdefects. Itshallbe uniforminsubstanceandofstraightfibresasfaraspossible.Itshallbe freefromrots,decay,harmfulfungiandotherdefectsofnaturewhichwilleffectthestraightdurabilityorits- usefulnessforthepurposeforwhichitisrequired.Thecolourofwoodshall-beuniformasfaraspossible.Thescantalingsplanks etc.shallbesawinstraightlinesandplanesinthedirectionofgrainand ofuniformthickness.ThedepartmentwillusetheAgencytoproduce certificatefromForestDepartmentineventofDisputeandthedecisionof the Department shall be final and binding to the contractor:Thetoleranceinthedimensionshallbeallowedat1.5mm.perfacetobeplaned.

M-30.Woodenflushdoorshutters(solidcore):

Thesolidcoretypeflushdoorshuttersshallbeofdecorativeornon-decorativetypeasspecifiedinthedrawing.Thesizeandthicknessoftheshuttershall beasspecifiedindrawingsorasdirected.Thetimberspeciesfor core shall be used as per I.S. Latest edition. The timber shallbefreefromdecayandinsectattack.Knotsandknotholeslessthanhalfthewidth ofcross-sectionofthemembersinwhichtheyoccurmay bepermitted.Pitchpockets,pitchstreaksandharmlesspinholesshallbepermissible exceptintheexposededgesofthecaremembers. Thecommercialplywood,cross-bandsshallconformtoI.S:latestedition.

Thefacepanelofthesheetsshallbeformedbygluingbythehotpressprocesson both faces of the care with either, plywood or cross-bandsandfaceveneers.Thelipping,rebating,openingofglazing;venetianetc.s hallbeprovidedifspecifiedinthedrawing.

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

Theshuttersshallbetestedfor

(1) **Endimmersiontest:**Thetestshallbecarriedoutasper I.S.latestedition.Thereshallbenodelaminatianattheendofthetest.
(2) **Knifetest:**Thefacepanelwhentestedinaccordancewith I.S.latesteditionshallpassthetest.
(3) **Glueadhesiontest:** Theflushdoorshallbetestedfor glueadhesivetestinaccordancewithI.S.:latestedition.The shuttersshallbeconsideredtohavepassedthetestifnodelaminationoccurs inthegluelinesintheplywoodandifnosingledelaminationmorethan80mmi nlengthandmorethan3mm indepthhasoccuredintheassemblygluelinesbetweentheplywoodfaceand the style and rail. Delamination at the corner shall bemeasuredcontinouslyaroundthecorner.Delaminationat theknots,knotholesandotherpermissiblewooddefectsshallnot beconsideredinassessingthesample.

Thetoleranceinsizeofsolidcaretypeflushdoorshallbeasunder:InNominalthicknes s ±1.2mminNominalheight±3mm.

Thethicknessoftheshuttershallbeuniformthroughoutwithapermissiblevariati onofnotmore than0:8mm:whenmeasuredatanytwopoints.

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. DesignationWVG-.WPofI.S.latestedition.Thesectionshallbe asspecified in the drawing and design. The fabrication shall be done asdirected.

Thehinges shallbecastorextrudedaluminumhingesofsametypeasinwindowbutoflargersi ze.

Thehingesshallnormallybeof50mm.projectingtype.Non- projectingtype of hinges may also be used if directed. The handles of door shallbeof specifieddesign. A suitable lock for thedoor operable from outsideorinsideshallbeprovided.Indouble,shutterdoor,thefirst closingshuttershallhaveconcealedaluminumalloyboltattopandbottom,

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

The rolling shutters shall conform to I.S. latest edition. Rolling shuttersshallbesuppliedofspecifiedtypewithaccessories.Thesizeof therollingshuttersshillbespecifiedinthedrawings.Theshuttersshallbe con- structedwithinterlockinglathsectionsformedfromcoldrolledsteelstripsnotlessthan 0.9aim. thickand 80mm.wideforshuttersupto3.5mm,width notlessthan1.25mm,thickand80mm.wideforshutter3.5 mminwidthandaboveunlessotherwisespecified,

Hoodcoversshallbeofmildsteeldeepchannelsectionandof rolledpressed or build up (fabricated) jointless construction. The thickness ofsheetusedshallnotbelessthan3.5mm.

HoodcoversshallbemadeofMSSheetsnotlessthan0.90mm. 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 testedhightensilespringsteelwireorstripofadequatestrengthto 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 fixedonorunderthelintelasspecifiedwithrawlplugsandscrewsboltsetc.

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

Theshutterscompletedwithdoorsuspensionshafts,lookingarrangements,pullinghookshandlesan dotheraccessories.

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

Thecollapsiblesteelgateshallbeinoneortwoleavesandsizeas perapproveddrawingsorasspecified.Thegateshallbefabricatedfrom bestqualitymildsteelchannels,flatesetc.Eithersteelpulleysorball-bearingsshall be provided in every doubly channel, Unless otherwisespecifiedtheparticularsofcollapsiblegateshallbeasunder:

(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,lockingcleatsbrasshandlesandcastir onrollersshallbeofapproveddesignandsize.

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

Weldedsteelwirefabricforgeneralpurposeshallbemanufactured fromcolddrawnsteelwire"asdrawn"orgalvanizedsteelconformingto LS.Latesteditionwithlongitudinaland transverse wire securely connected ateveryintersectionbyaprocessofelectricalresistanceweldingandconformingtoI.S .latestedition.Itshallbefabricatedandfinishedinworkmanlike mannerandshallbefreefrominjuriousdefectsandshallberustproof. Thetypeofmeshshallbeoblongorsquareasdirected.Themeshsizesandsizeofwiref orsquareaswellasoblongweldedsteelwirefabricshallbeasdirected. 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 shallconformtoI.S. latestedition,exceptthatblanksheetsheednotbe with guaranteed mechanical properties. The seze of the sizeofthediamoddmeshofexpandedmetalanddimensionsofstrands(widthand thickness) shall be as specified. The tolerance on nominal weight ofexpandedmetalsheetsshallbeof10percent.

Expandedmetalinpanelsshallbeinonewholepieceineachpanelas faras stocks sizes permit. the expanded metal sheets shall be coated withsuitableprotectivecoatingtopreventcorrosion,

M-36.MildSteelWire(WireGauzeJali):

Mildsteelwiremaybegalvanized,asindicated.A11finishedsteel wireshallbewellcleanlydrawntothedimensions,andsizeofwireasspecifiedinitem.

The wire shall be sound, free from splits, surface flaws, roughjagged-andimperfectedgesandotherharmfulsurfacedefectand 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 anodd 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.

Thechiefadvantagesofplywoodoverasingleboardofthesamethicknessisthemore uniform strength of the plywood, along the lengthandwidthoftheplywoodandgreater,resistance,tocrackingandsplittingwithc hangeinmoisturecontent.

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.

Whenwatergleareusedthewoodabsorbssomuchwaterthat thefinished plywood must be dried carefully When synthetic resigs areusedas adhesive the finished plywood must be exposed to an atmosphere ofcontrolledhumidityuntiltheproperamountofmoisturehasbeenabsorbed.

AccordingtoI.S.Latestedition,theplywoodfargeneralpurposeshall beofthegradesnamelyBWR;WWRandCWR,dependinguponthеadhesivesusedforb ondingtheveneers,anditwillbefurtherclassifiedintosixtype namelyAA,AB,AC,BB,BCandCC,basedonthequalityofthetwo 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-38Glass:

Allglassshallbeofthebetquality,fromspecks,bubbles,smokes, veins,air,holesblisters,andotherdefects.Thekindofglasstobeused shallbeasmentionedintheitemorspecificationorinthespecial provisions or asshown indetailed drawings. Thickness of glass panes shallbe 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.

Forpanes larger than 600mm.x600mm. and upto 800mm.x800mm.the glassweighingnotlessthan8.75KgSq.m.shallbeused.For biggerpanesupto900mm:x900mm.glassweighing notlessthan8.75Kg/Sq.m.shallbeused.Forbiggerpanesupto900mm.x900mm.glassweighingnotlessthan11.25Kg/Sq.M.shallbeused

Sheetglassshallbepatentflattenedglassofbestqualityandof glazingandframingpurposesshallconformtoI.S.latestedition.Sheetglassofthespeckedcolourused,ifsoshownondetaileddrawingsorsospecified.Forimportant buildings and for panes with any dimension over 900 mm.plateglassofspecifiedthickness shallbeused.

PlateGlass:-

Whenplateglassisspecked,itshallbe"Polishedpatentplateglass" ofbestquality.Itshallhaveboththesurfacegroundlateandparallel andpolishedtoobtainclearundisturbedvisionandreflection.Theplateglassshallbeofthethicknessmentionedintheitemorasshowninthedetaileddrawingorasspecified.Inabsenceofany specifiedthickness,the,thicknessofplateglasstobesuppliedshallbe6mm.andatolerance of 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.Thethicknessandtypeofglassshallbeasperdetailsondrawingsorasspecifiedorasdirected.

WiredGlass:

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

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

M-39AcrylicSheets:

Acrylicsheetshallbeofthicknessasspecifiedinthe itemandof 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 sheetshallbe as transparent as thefinest optical glass. Its light transmission rate shall be about 95%.Transparencyshallnotbeaffectedforthesheetsthicknessofit shallbeextremelyresistanttosunlight,weatherandtemperatures. Itshallnotshowanysignificantyellowingorchangeinphysicalpropertiesorloss of light transmission over a longer period of use. Thesheet shall be impactresistantalso. Sheetsshouldbeofsuchqualitythattheycanbe cut, bent and jointed, as desired. Solution or the jointsshallbeusedaspertherequirementofmanufacturer.

M-40.Particleboard:

Theparticleboardsusedforfacepanelsshallofbestqualityfreefromanydefects.Thep articleboardsshallbemadewithphenolamaldehydeadhesive. The particleboardsshallconformtoISlatestedition"Specifi-cationforwoodparticle boardforgeneralpurpose"*Thesizeand*thethicknessshallbeasindicated.

M-41.Expandedpolystyreneortamedstyroperslabs

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

M-42.Resignbondedfiberglass:

Theresignbondedfiberglasstilesorrollsshallbeofapprovedmake andshallbefollowed.

FortestofMineralwool thermalinsulationBlankerIS.:latesteditionshallbeofsizes,thickness and finishasindicated.

Insulationwoodblanketshallbewiththefollowingcoveringsononeorbothsideasindic ated.

(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 hingesslidingdoor boltstower bolts,doorlatch,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 shallbe heavy, medium or light type. The fixturesandfastenings 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.

Brassandanodizedaluminumfixturesandfasteningshallbebrightfinished.

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.Teeandstrap hingesshallbemanufacturedfromM.S.Sheet

Sidingdoor-bolts(Aldrops):
Thealdropsasspecifiedintheitemshallbeusedandshallbetotapproved.

Towerbolts(BarrelType):
Towerboltsasspecifiedintheitemshallbeusedandshallbe 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 catchtype.Floor stopper shall be of overall size as specified and shall have a rubbercushion.

DoorCatch

Doorcatchshallbefledataheightofabout900mm.fromthefloor levelsuchthatonepartofthecatchisfittedontheinsideoftheshutter andtheotherpartisfixedinthewallwithnecessarywoodenplugarrangementsfor appropriate fixity. The catch shall be fixed 20 mm.insidethefaceofthedoorforeasyoperationofcatch.

WoodenDoorStopwithhinges

Woodendoorstopofsize100mmX60mm.X40mm.shallbefixed 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

Casementwindowfastenerforsingleleafwindowshuttershallbeleft 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.Thereadymixed paints shallonly beused. However, if readymixed paintofspecified shadeortintisnotavailablewhilereadymixedpaintwithapproved 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,unevennes sandotherimperfections:

EnamelPaints:
Theenamelpaintshallsatisfyingeneralrequirementsinspecificationofoilpaints :EnamelpaintshallconformtoIS:latestedition.

M-45FrenchPolish

TheFrenchpolishofrequiredtintandshadeshallbepreparedwiththebelowmentionedingredientsan dothernecessarymaterials (i)Denaturedspiritofapprovedquality(ii)Chandras(iii)Pigment.

TheFrenchpolishsopreparedshallconformtoIS:Latestedition.

M-46Marblechipsformarblemosaicterrazzo:

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

Thesizeofvariouscolourofmarblechipsrangingfromthesmallest upto20 mm. shall be used where the thickness of top wearing layer is 6 mm.size.Themarblechipsofapprovedqualityandcoloursonlyaspergradingasd ecidedbytheEngineer-in-chargeshallbeusedformarblemosaictilesorworks.

Themarblechipsshallbemachinecrushed.Theyshallbefree 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 naturalaggregatesbypressureprocess.Duringmanufacture,thetiles shallbesubjectedtopressureofnotlessthan140Kg/Sq.Cm.The proportionofcementtoaggregateinthebackingofthetilesshallbe-not lessthan1:3byweight.thewearingfacethoughthetilesareofplain cement,shallbeprovidedwithstonechipsof1to2mm.size.The proportionsofcementtoaggregateinthewearinglayerofthetilesshall bethreepartsofcementtoonepartschipsbyweight.Theminimum thicknessofwearinglayershallbe3mm.Thecolourandtextureof wearinglayershallbeuniformthroughoutitsfaceandthickness.Onremovalfrommo uld, thetileskeptinmoistconditioncontinuouslyatleast forsevendaysandsubsequently,ifnecessary,forsuchlongperiodswould ensure theirconformitytorequirementsofIS.LatesteditionregardingstrengthresistancetO wearandwaterabsorption.

Thewearingfaceofthetilesshallbeplane,freefromprojections,depressionsandcracksandshallbereasonablyparalleltothebackfaceofthetile**.**Allanglesshallberightangleandalledgesshallbesharp andtrue.

Thesizeoftilesshallgenerallybesquareshape24.85Cm.x24.85 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:

Thesetilesshallhavethesamespecificationasforplaincementtiles asper(A)aboveexpectthattheyshallhaveaplainwearingsurfacewhereinpigmentsareused.Theyshallconformto I.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,usedforcolouringtilesshallhavepermanentcolourandshall not containmaterialsdetrimentaltoconcrete.

Thecolourofthetilesshallbespecifiedintheitemorasdirected.

(C) MarbleMosaicTiles:

Thetilessamespecificationasperplaincementtilesexceptthe requirementsasstatedbelow:

Themarblemosaictilesshallconformto I.S.latestedition.The wearingfaceofthetilesshallbemechanicallygroundandfilled.The wearing faceoftilesshall befreefromprojections,depressionsandcracksandshallbereasonablyparallelto 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 chipstobehadonthewearingface,afewsampleswithorwithouttheir full sizephotographs as directed shall be presented to the Engineer-in-charge forapproval.

Anyparticularsamples,iffoundsuitableshallbeapprovedbytheEngineer-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-suppliedfortheworkshallbeinconformitywiththeapproved 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.

Thegroovesinthechequersshallbeuniformandstraight.Thedepth ofthegroovesshallnotbelessthan3mm.Thechequered tilesshall 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 exceeding25mm.Beyondthatthetilesshallhave 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.

Thesizeofthestonestobeusedforflooringshallbeofsize600mm. 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.

Toleranceofminus30mm.onaccountsofchiseldressingofedges shallbepermittedforlengthaswellasbreadth.Toleranceinthicknessshallbe +3mm.

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

Whenmachinecutedgesarespecified,theexposedandtheedges atjoints shall be machine cut. The thickness of the exposed machine cutedgesshallbeuniform.

M-49.PolishedKotahStones:

Polishedkot4hstoneshallhavethesamespecificationasperroughkotahstoneexceptasmentionedbelow:

Thestonesshallhavemachinepolishedsurface.Whenbroughtan site,the stones shall be single polished or double polished depending upon itsuse.Thestonesforpaving shallgenerallybesinglepolished.The stonesto be used for dedo, skiri thing sink, veneering, sills, steps, etc, wheremachinepolishingafterthestonearefixedinsituisnotpossible shall bedoublepolished.

M-50.DholpurStoneStab:

Dholpur stone slabshallbeofbestqualityasapprovedby the Engineer- in-charge:Thestoneslabshallbewithoutanyveins,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 stoneshallbeasspecifiedintheitemofworkwiththepermissibletoleranceofplusorminus2mm.theprovisionsinrespectofpolishingasforpolishedkotahstoneshallapplytopolishedDholpurstonealso.Allanglesandedgesofthe face of the stone slab shall be fine chiselled orpolished asspecified in theitemof work and ai6 the four edges shall be machineout.Allanglesandedgesofthestoneslabshallbetrueandplane.

Thesampleofstoneshall begotapprovedby theEngineer-in-chargefora particularwork. Itshallbe ensured that the stones tobe 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.

Slabsshallbehardclose,uniformandhomogeneousintexture. Theyshall have even crystalline grain and free from defects and cracks. thesurface shall be machine polished to an even and perfect plane surfaceandedgesmachinecuttrueandsquare.Therarfaceshallbe rough toprovidekeyforthemortar.

Marbleslabswithnatureveins,ifselectedshallhavetobelaidasperthepatterngiven bytheEngineer-in-charge.Sizeoftheslabminimum460mm.X 450mm:andpreferably600min.X600mm.Howeversmallersizeswill beallowedtobe used totheextentofmaintaining requiredpattern.

The slab shall not be thinner than the specified thickness at itsthinnestpart.Afewspecimenoffinishedslabtobeusedshallbe deposited bytheContractorintheofficefor reference.

Exceptasabove,themarbleslabsshallconformtoIS:Latestedition.

M-52.GraniteStoneslab:

Graniteshallbeofapprovedcolourandquality.Thestoneshallbe hard,evensoundandregularinshapeandgenerallyuniformincolour.Itshallbewithoutanysoftveins ,cracksof flaws.

Thethicknessofthestoneshallbeasspecifiedinitem.
All exposed faces shall be double polished tender truly smooth and evenreflectingsurface.Theexposededgesandcornersshallberounded 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.
Theflexibleshallbebackedwithhessianorotherwovenfabric. 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′recommendedb ythemanufacturesof PVCsheets/tiles.

M-54FacingTiles

Thefacingtiles(burntclayfacingbricks)shallbefreefromcracks andnodulesoffreelime.Theyshallbethoroughlyburntandshallhave planerectangularfaceswithparallelsidesandsharpsstraightrightangledfaces..Thete xtureofthefinishedsurfacethatwillbeexposedwheninplace shallconformtoanapprovedsampleconsistingnotlessthanfourstretch brickseachrepresentingthe texturedesired. Thefacingtilesshallhave apleasingappearancesufficientresistancetopenetrationbyrainandgreaterdurability thancommonbricks.ThetilesshallconformtoI.S.Latestedition.

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The standard size of facing brick tiles shall be 19 x 9 x 4 cms. Thefacingbrick 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

Thetolerancefordistortionorwarpageoffaceoredgesofindividualbrickformaplane surfaceandfromastraightlinerespectivelyshallbeasfollows :

Ficingdimensions	**Permissibletolerance**
Max.below19cms	Max2.5mm
--do--above19mm	Max3.0mm

Theaveragecompressivestrengthobtainedasasampleoffivetileswhentestedinac cordancewiththe)procedurelaidasperIS:Latesteditionshallbe not less than 175 Kg/Sq. Cm. The average compressive strengthofanyindividualbricksshallbenotlessthan160Kg/Sq.Cm.

Theaveragewaterabsorptionforfivebrickstilesshallnotexceed 12percentofaverage weight ofbrickbeforetesting.Theabsorptionforeachindividualbricksshallnotexceed25per cent.

ThebricktileswhentestedinaccordancewithIS:Latestedition,the rateofefflorescenceshallnotbemorethan"Slightlyeffloresced'

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

The tiles shall be of bestquaky 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.

Variationfromthestatedsizes,otherthanthethicknessoftileshall beplus or minus 1.5 mm. The thickness of tile shall be 6 mm. Except asabovethetilesshallconformtoI.S.Latestedition.

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

Galvanizedironpipeshallbeofthemediumtypeandofrequireddiameterandshallcom plywithIS:latestedition.Thespecifieddiameterofthepipesshallrefer to the inside diameter of the bore.Clamps,screwandallgalvanizedironfittingsshallbeofthestandard'R'orequival entmake.

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

Abibcockisadrawofftapwithahorizontalinletand free outlet. Astopcockisavalvewithasuitablemeansofconnectionforinsertioninapipelineforcon trollingorstoppingtheflow.

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

Theminimumfinishedweightofbibcockandstopcockshallbeasgivenbelow:

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

M-58.Gunmetalwheelvalve:

The gun metalwheel valve shall be of approved quality. These shallbeof gunmetalfittedwithwheelandshallbeofgatevalveopeningfullway andofthesizeasspecified.TheseshallconformtoIS:latestedition.

M-59.Whiteglazedporcelainwashbasin:

WashbasinshallbeofwhiteporcelainfirstqualitybestIndianmakeand it shallconform toIS:latestedition. The sizeof the wash basinshall be as specifiedintheitem.Washbasinshallbeofonepiececonstructionwith continuedoverflowarrangements.Allinternalanglesshallbedesignedso as tofacilitate cleaning.Washbasinshallhavesingletap holeor twoholes asspecified.Eachbasinshallhaveacircularwasteholewhichiseither revatedorbeveledinternallywith65mmdiameterattopand10mm 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 thatof the basin shallbeprovidedwherespecifiedintheitem.Itshallbecompletelyrecessedat the back for reception of supply and wash pipe. It shall be capable ofsupportingthebasinrigidlyandadequatelyandshallbesodesigned asto make the height from the floor to top of the rim of basin 750 mm to800mmasdirected.

M-60.Europeantypewaterclosetwithlowlevelflushing:

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: latestedition.Theyshallbemadeofmouldedsyntheticmaterialswhich shall be tough and hard with high resistance to solvents and shallbe free from blisters and surface defects and shall have chromiumplatedbrasshingesandrubberbufferofsuitablesize.

M-61.Orissatypewatercloset:

ThespecificationofOrissatypewhiteglazedwaterclosetoffirst qualityshall conform to IS: latest edition and relevantspecification 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.Itshallalsohaveaninletatbackorfrontforconnec tingflushpipeasdirected.Theinsideofthebottomofthepanshallhavesufficientslop efromthefronttowardstheoutletandsurface shallbeuniformandsmooth.Panshallbeprovidedwith100mm.diameter"P" or "S" trap with approximately 50 mm, Water seal and50mm.diameterventhorn.

M-62AFootRests

Apairofwhiteglazedear- thenwarerectangularfootofminimumsize250mm.x130mmx20minshallbeprovidedwiththewater closet.

M-63

GlazedEarthenWareSinkTheglazedearthenwaresinkshallbeofspecifiedsize,c olourandquality.Thesinkshall conformto I. S. latest edition. The bracketsfor 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.

Thelippedtypeshallbeflat.backorcornertypeasspecifiedinthe itemandshallconformtoIS:Latestedition.ItshallbeofbestIndianmakeandsizeassp ecifiedaridapprovedbytheEngineer-in- charge.Theflatbackorcornertypeurinalmustbeof1stqualityfreefromanydefects,cr acksetc.

M.65.Lowlevelenamelflushingtank

Thelowlevelenamelflushingtankshallbeof15litrescapacity.It shall conformtoIS:latestedition.Theflushingcisternshallbeofbest qualityandfreefromanydefects.Theflushingtankshallhaveoutlet32 mm.diameter. Theoutletshallheconnectedwith WC.Panbyleadpipeor PVCpipeasspecified.Theflushingcisternshallbeprovidedwithinletandoutletforfixin gG.I.inletpipesandoverflowpipesTheflushingcisternshall beprovidedwithchromiumplatedhandleforflushing.Theflushingtankshallbeprovid edwithbracketofcastironsothatitcanbefixedonwall atspecifiedheight.The,bracketsshallconformtoI.S.latestedition.

M-66.Castironflushingcistern.

Thecastironflushingcisternshallbeof15litrescapacity.ItconformtoIS.latestedition, The flushing cistern shall be of best quality free from anydefects,Theflushingcisternshallhaveoutletof32mm.diameter.Theleadpipesha llconformIS:latestedition.ForfixingG.I.inletpipesandoverflowpipe20mmdiainleta ndoutletshallhegotprovided.Theflushing,cisternshallbeprovidedwithgalvanizedir onchainandpullofsufficientlengthandshall be got approved fromthe engineer-in-charge. The cast iron flushingcisternshallbepaintedwithonecoatofanti-corrosivepaintandtwocoats

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

M-67FlushCock

Halfturnflushcock(Heavyweight)shallbeofgunmetalchromiumplatedofdiameteras specifiedinthedescriptionoftheitem.Theflushcockshallconformtorelevant Indian Standard.

M-68Castironpipesandfittings.

Allsoil,water,ventandantisyphonagepipeandfittingshallconformtoIS:latesteditio n. The pipe shall have spigot and socket ends with head onspigotend.Thepipesandfittingsshallbetruetoshape,smooth,cylindricaltheirinne randoutersurfacesbeingasnearlyaspracticableconcentric.Theyshallbesoundand nicelycastandshallbefreefromcracks,lapspinholes orotherimperfectionandshallbeneatlydressedandcarefullysettled.

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. includingsocketendsofthepipeunlessshorterlengthsareeither specifiedorrequiredatjunctionsetc.Thepipesandfittingsshallhe 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

Atoleranceuptominus15percentinthicknessand20mminlength willbe allowed. For fittings tolerance in lengths shall be plus 25 mm andminus10mm.

The thicknessoffittingsand their socketandspigotdimensions shallconform to the thickness and dimensions specified for the correspondingsizesofstraightpipes.Thetoleranceinweightsandthicknessshall bethesameasforstraightpipes.

M-69.NahniTrap:

Nahnitrapshallbeofcastironandshallbesoundandfreefrom 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 nahniprovided shall be with deep seal, minimum 50mm except atplaceswheretrapwithdeepsealcannotbeaccommodated.The covershall be cast iron perforated cover shall be provided on the trap ofappropriatesize.

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

ThegullytrapshallconformtoIS:latestedition.Itshallbesound, freefromdefectssuchasfirecracksorhaircracks.Theglazeofthetrapsshallbefreefro mcrazing.Theyshallgiveasharpclearnotewhenstruck withlighthammer.Thereshallbenobrokenblisters.

Thesizeofthegullytrapshallbeasspecifiedintheitem.

EachgullytrapshallhaveoneC.I.gratingofsquaresizecorrespodningtothedimensio ns,ofinletofgullytrap.ItwillalsohaveawatertightC.I.cover withframeinsidedimension300mmx300mm.Thecoverwithframe insidedimensions300mmx300mmthecoverweighingnotlessthan 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>:

Thepipesandfittingsshallbeofbestqualityasapprovedbyengineer-in-charge.Thepipeshallbeofbestqualitymanufacturedfromstoneware offireclay,saltglazedthoroughlyburntthroughthewholethickness,of acloseeventexture,freefromairblows,fireblisters,cracksand otherimperfections,whichaffecttheserviceability.Theinnerandoutersurfacesshall besmoothandpefectlyglazed.thepipeshallbecapabletowithstandpresuresof1.5ml eadwithoutshowingsignofleakage.Thethicknessof thewallshallnotbelessthan1/12thoftheinternaldia.thedepthof 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.Itshallbefixedonteakwoodplankofsize450mmx20m m.Theteakwoodshallbefrenchpolishedoroilpaintedasspecified.

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

TheG.I.pipesof40mmdiashallbeofmediumqualityandspecials shallbeof'R'brand orequivalentofthebestapprovedquality.

Thepipeshallhavelengthasrequiredforthethicknessofwallinwhich itisfixed,andatoutsideendteeandbendcutathalfthelengthshallbe

provided and at other end, couplingshall beprovided to have betterfixing. Thewaterspoutshallbeprovidedasperdetaileddrawingorasdirected.

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

The asbestos cementpipe ofdiameter as specified in the description ofthe item shall conform to I.S. latest edition. Special like bends, shoes,cowlsetc.shallconformtorelevantIndianStandards.Theinteriorofpipeshallhaveasmoothfinish,regular,surfaceandregularinternaldiameter.Thetoleranceinall dimensionshallbeasperIS:latestedition.

M-75.CrydonBallvalve

Ballvalveofscrewedtypeincludingpolythenefloatandnecessary leveletc. shall be of the size as mentioned in the description of item and shallconformtoIS:latestedition.

M-76.BitumenFeltForWaterProofingAndDampProofing

Bitumenfeltshallbeonthefiberbasesandshallbeoftype2, selffinishedfeltgrade-2andshallconformtoIS:latestedition.

M-

77.SelectedEarth Theselectedearthshallbethatobtainedfromexcavatedmaterial orshallhavetobe brought fromoutside asindicated intheitem.Ifitemdoesnotindicateanythingtheselectedearthshallhavetobebrought fromoutside.

The selected earth shall be good -yellow soil and shall begot approvedfromtheEngineer-in-charge.In no caseblack cotton soilorsimilarexpensiveandshrinkablesoilshallbeused.Itshallbecleanandfreefroma llrubbishandperishablematerials,stonesorbrickbats.Theclods shallbebrokentoasizeof50mm.orless.Contractorshallmakehis ownarrangementathisowncostforlandforborrowingselectedearth.Thestackingof materialshallbedoneasdirectedbytheEngineer-in-chargeinsuchawayasnottointerferewithanyconstructionalactivities and inproperstacks.

Whenexcavatedmaterialistobe used,only selected stuffgot 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: latestedition.Thebarbedwireshallbeoftype-Iwhosenominaldiameter forlinewireshallbe2.5mmandpointwire2.24mm.Thenominal distance between two barbs shall be 75 mm, unless otherwisespecifiedintheitem.Thebarbedwireshallbeformedbytwistingtogethertw olinewires,onecontainingthebarbs.Thesizeofthelineand pointwires and barb spacingshall be as specified above. The permissibledeviationfromthenominaldiameterofthelinewireandpoint wire shallnot exceed0.08mm.

Thebarbsshallcarryfourpointsandshallbeformedbytwistingtwopointwires,each two turns, lightly round one line wire, making altogether fourcomplete turns. Thebarbsshallbeso finished that the tourpointsare setand lockedatrightanglesto eachother.Thebarbsshallhavealength ofnotlessthan13mm.andnotmorethan18mm.Thepointshallbesharpandcutatan angle not greater than 35 degree of the axis of the wireformingthebarbs.

Thelineandpointwiresshallbecircularsection,freefromscaleandotherdefectsandsh allbeuniformlygalvanized.Thelinewire shallbe incontinuous length andshallnotcontainanyweldsotherthanthoseintherodbeforeitis drawn. The distance between two successive splices shallnotbelessthan15meters.

Thelengthsper100Kg.ofbar- bedwireIS:typeIshallbeasunder:Nominal1000meters.Minimum934Meter.Maximum1066Meter .

Admixtureformassconcreteandmortar:

M-79A)JointSealant

Thesealantshallbebestqualityandfrommanufacturerlike CICO,FosrocMC-BAUCHEMIE,PIDILITE,HMPorequivalentasapprovedbyengineer-in-charge.Thepriorapprovalforthesourceshallbetakenfromtheengineer-in-charge.Itshallbeconformedtotherelevant I.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.

Itshallbeusedforsealingjointsinwaterretainingstructure,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/depthratioshallbe2:1.Thespecificgravityofthesealant 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 fullycured,nostainingandshrinkagelessthan1%.Thetrafficablestrength shall be achieved within 24 hours and full at 7 days (at 250C and250% RH). It shallpossesexcellentcoveragecapacityandmorestrength 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 priorapprovalfor 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,carparksandsuchotherareass ubjectedtoheavyvehiculartraffic.Itshallalsobeusedonopenandcontinuouslywetsur faces.Theflooringaggregateshallbuildinwearingresistance and shall produce high abrasionresistantfloorsurfaces.Itshallimpartextremesurfacedensityand shallofferresistancetooilandwaterpenetration.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 surfaceoftheconcrete 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 frommanufacturerlikeCICO,Fosrocorequivalent,asapprovedbythe 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 abrasionresistance,increased surfacedensity, increasedresistance to chemical attackand toeliminate dust accumulation. Drying time of 4 to 6 hours for each coat shall beallowedbeforetheflooringisputtouseorisappliedwithanothercoat oftheproduct.Precautionsshallbetakenwhileusingtheproduct,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:
Thewaterrepellentcoatingshallbeofthebestqualityandfrom 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,stoneandplasteredsurfacespreventingmoisture penetrationand thusany damagetotheinteriors.Itshallbequickacting,longlasting,invisiblei.e.colourlesssoastoma intaintheoriginalcolourofthesurfacetreated.Itshallimpartsealingcharacteristicssothat the treated surface becomes stain and dust free. The coating itselfshallnotdarkenor turnyellowwithage.

M-79EAccelerating,WaterReducingAdmixtureandPlasticiser:
TheAccelerating,Waterreducingadmixtureandplasticiser,shallbeof bestqualityandfrommanufacturerlikeCICO,Fosrocorequivalent,as approved bytheEngineer.The priorapprovalfor the source shallbetaken fromtheEngineer.ItshallconformtotherelevantISCode.

Itshallbeinliquidstatewithaspecificgravityof1.30andcomplyingwith- ASTMC-494TypeE,IS:9103&IS:2645.Itshallacceleratethesetting andhardeningof theconcretemix, therebyachieving higher earlyage strength. Itshallreducethewatercontentoftheconcretewithoutaffectingitsworkability.Itis useful forpre-cast/pre-stressed works, structural concreteworks,floors,roads,runways,pavingetc.Itshallbeusedattherateinstructedby 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 andfrom-manufacturerlikeCICO,Fosroc,FebRoffeorequivalent, asapproved by the Engineer. The prior approval for the source shall be takenfromtheEngineer.ItshallconformtotherelevantISCode.

Itshallbeinliquidstatewithaspecificgravityof1.22and complying withASTMC-494TypeB&D,IS9103,CRD-C87TypeB&D,BS5075Part1.It shallbeadded to theconcretemixduring themixingprocess, atthe sametime asthewaterortheaggregates.Noextensionofnormalmixingtime isnecessary.Itshallextendtheperiodoftimeastoplacingtheconcrete andcompacting,i.e.delaytheinitialandfinalsettingtime.Itshallhelpto spreadtheheatofhydrationoveralongerperiodoftime.Itshallgivea highlyworkableconcretewithalowW/Cratio.Itshallbeusedattherateinstructedbytheman ufacturer,withcement,dependingontheamountofaccelerationofhardeningrequired.Itsh ouldbecompatibletoalltypesofcement.

M-79GWater&WeatherProofCompound:
Thewater&weatherproofintegralcementadmixtureshallbeofbest qualityandfrommanufacturerlikeFebRoffe'sRoffHyseal,Roffhyproof, Algiproof orequivalent, as approved by the Engineer. The prior approval for the sourceshallbetakenfromtheEngineer.ItshallconformtotherelevantISCode.

Itshallbeusedasanexcellentcementadmixtureinalltypesofconcrete/plastermortars ,pointingmortars,masonryworks,gunitingworksandpressuregroutingworks. It shallimproveresistanceofconcretesurfacestoweatheringandchemicalattack. It shall be non-toxic so as to use for waterproofingwatertanks,reservoirs,bio-gastank,leakingceiling,basements,

tunnels,liftwellsetc.

Itshallbemixedtoconcreteorplastermortar,whilemixing.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.

Itshallkeeptheplasteringmortarplasticforalongertime,giving higherstrength on prolonged curing. It shall provide cohesiveness, workability andeliminate efflorescence. It shall reduce shrinkage, cracking and crazing to theminimum.

FlyAsh:
Fly Ashof grade-I as per IS: 3812-1981 shallbe from Sikka Thermal PowerStation Only. Contractor has to manage for required size containers at siteworkforstoringtheFlyash.

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

Itshallbeahighbuildbituminousemulsion,speciallyformulatedforprotectionagainstcorrosion. It shall forma dry film, 2mm. thick, which shall not crackat low temperaturesnorcrocodileat-veryhightemperatures.Itshallalsobeusedas waterproofing material on flat, sloped and steeped roofs. It shall beappliedbybrushandbyheavydutyairlessspraying...

M-81BTankmastic:
ItshallbefromSTPLimitedorequivalent,asapprovedbytheEngineer.Itshallconformto IS:
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.ItshallconformtoIS:158.

It shall be a heavy duty bituminous paint, which shall not impart any odourortastetowater,carriedinthesteelwaterpipelines,tanksandpen-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.Itshallhaveacoveringcapacityof10m^2/lit..

M-81EShalimasticHD:
ItshallbefromSTPLimitedorequivalent,asapprovedbytheEngineer.Itshallcomplywit htheUSDept.ofinteriorbureauofreclamationspecificationCA-50.

Itshallbeaviscous,heavy-duty,anti-corrosivewaterproofcoaltarpaint.Itshallofferresistancetoacidsandalkalis.Itshallbeusedforprotectionof alltypesofironandsteelstructures.

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.

AcousticalWall&Ceilingmaterial:-M-83aGlasswool:-

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

M-83bAluminumfoilorpercolatedsheet:-

I. Aluminumalloyusedinthemanufactureofextruded&sheet orsectionshallconformtoI.S.designationHEA-WPofI.S.733-1975andalsotoI.S.designationWVG-WP of I.S.1285-1975.&itshallbespecifiedintheitemspecification.Thefabricationshallbedo neasdirected.
II. AluminumshallbeconformtoI.S.733-1825,&relevantI.S.standard&specification.
III. Density,Grade&thicknessshallbeusedasperspecifiedinitemspecification.

M-83cWoodwoolboard:-

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-83dAcousticalBoard&Gypsumboard

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^2k/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,thicknessandotherspecialrequirementshallbespecifiedinthe itemspecification. Thefabricationshall bedoneasdirected.

SignatureofContractor

DETAILEDTECHNICALSPECIFICATIONS

ItemNo.1and43:okExcavationofFoundationinSoftMurrum,SoilorSandfrom0.0mtr.to 1.50 mtr depth including lifting and laying asinstructed andRemovalofExcavatedStuffwithinRMClimitasdirectedby Engineer-in-Charge

General:

Anysoil which generally yields tothe application ofthe pickaxesandshovels,phawarasrakesoranysuchordinaryexcavationimplement or organic soil, gravel, slit, sand turf lawn, clay, peat etc.fallunderthiscategory.

Cleaningthesite:

The site on which the structure is to be built shall be cleared, and allobstructions,loosestone,materialsandrubbishofallkind, bush,woodandtreesshallberemovedasdirected.Thematerials soobtain shall be property of the government and shall be conveyed andstacked as directedwithin RMC limit. The roots of the tree coming inthesidesshallbecutandcoatedwithaasphalt.

The rate of site clearanceis deemedto be includedin 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 responsibilityforalignment, elevationand dimension and of each and all parts ofthe work.Contractorshallsupplylabors, materials,etcrequiredforsettingout the reference marks and bench marksandshall maintainthemaslongasrequiredanddirected.

4.0 Excavation:

The excavation in foundation shall be carriedoutin true line andlevel andshallhavethewidthanddepthasshowninthedrawings orasdirected.Thecontractorshalldothenecessaryshoringandstruttingor providing necessary slopes to a safe angle, at his owncost.Thebottomoftheexcavatedareashallbeleveledbothlongitudinallyandtransverselyasdirectedbyremovingandwateringasrequired.No earthfillingwillbeallowedforbringingittolevel,ifbymistakeorany other reasonexcavationis made deeper or widerthan thatshownon the planordirected.Theextradepthorwidthshallbemadeupwithconcreteofsameproportionasspecifiedforthefoundationconcreteatthe cost of the contractor. The excavationupto1.5mtdepthshallbemeasuredunderthisitem.

5.0 Disposaloftheexcavatedstuff:

Theexcavatedstuffoftheselectedtypeshallbeused infilling thetrenches and plinth or leveling the ground in layers including rammingandwateringetc.

ThebalanceoftheexcavatedquantityshallberemovedbythecontractorfromthesiteofworktoaplaceasdirectedwithinRMClimitandalllift.

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.TPSchemeNo.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:

Themeasurementofexcavationintrenchesforfoundationshallbemade accordingtothesectionsoftrenchesshownonthedrawingorasper sections givenbytheengineer-in-charge.Nopaymentshallbemadefor surplusexcavationmadeinexcessofaboverequirementorduetostopping and sloping back as found necessary on account of conditionsofsoilandrequirementsofsafety.

TherateshallbeforaunitofonecubicMeter.

ItemNo.2&18:okFoundationfillingwithCCworkinproportionof1:2:4using1.5cmto2.0cm aggregate including Ramming, Curing etc. andFoundationfillingwithCCworkin proportionof1:3:6using1.5cmto2.0cmaggregateincludingRaming, Curingetc.

1.0. Materials

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

Workmanship

General

Before starting concrete the bed of foundation trenches shall becleared ofall loosematerials,leveled, wateredandrammedasdirected.

ProportionofMix

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

Mixing

Theconcreteshallhemixedinamechanicalmixeratthesite ofwork. Hand mixing may however be allowed for smaller quantityofworkifapprovedbytheEngineer-in-charge.Whenhandmixing ispermittedbytheEngineer-in-chargeincaseofbreak-downofmachineriesandintheinterestofthework,itshallbecarried 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 beusedwithout any extracost.Themixingin mechanical mixer shall be done foraperiod 1½ to 2 minutes. The quantity of water shall be justsufficientto produce a. dense concrete of required workabilityforthepurpose.

Transporting&placingtheconcrete.

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.

Theconcreteshallbelaidinlayersof15cmsto20cms.

Compacting:

The concrete shall be rammed with heavy iron rammers and rapidlyto get the requiredcompaction and to allow allthe interstices to befilledwithmortar.

Curing

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.

Modeofmeasurementsandpayment:

Theconcreteshallhemeasuredforitslength,breadth,anddepth,limitingdimensionstothosespecifiedonplanorasdirected.

Therateshallbeforaunitofonecubicmeter.

ItemNo.3and4:ok

FoundationfillingwithRubbleCementMortarinproportionof1:6Cement:Mortar And

Rubble Plinth masonry work in Cement:Mortar in proportion of1:6with Brick Masonry Or Rubble Corner using old Rubble inproportionof1:2with CuringwithoutC.Pointing

Materials

Stones fortheworks shall be of the specifiedvarieties 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 percentageofwaterabsorptionshallnotexceed5percentaspertest conducted

inaccordancewithIS:1124(LatestEdition).TheContractorshallsupplysample stones to the RMC for approval. Stones shall be laid with its grainshorizontalsothattheloadtransmittedisalwaysperpendiculartothenaturale.

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.

Forallworksabovegroundlevelandinsuperstructurethemasonryshall berandomrubbleuncoursed,wellbonded,facedwithhammerdressed stoneswithsquared quoins atcorners.The bushings on the face shallnot be morethan40 mmonan exposedface andonthefacetobeplastereditshall 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 mortarjointsand to ensurethatnohollowspacesareleftinthemasonry. Theuseofchipsandspallsintheheartingshallnotexceed20percentofthequantityofstonemasonry.Spallsandchipsshallnotbeusedonthefaceofthe 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,thejointsshallberakedtoaminimumdepth of20mm by arakingtoolduringtheprogressoftheworkwhilethemortarisstillgreen.

Throughorbond stones shallbeprovided in walls upto 600mm thickand incaseofwallsabove600mmthickness,asetoftwoormorebond stonesoverlappingeach other by at least 150mm shall be provided in a line fromface to back. In case of highly absorbent types of stones (porous lime stoneandsandstone,etc.)thebondstoneshallextendabouttwo-thirds intothewallandasetoftwoormorebondstonesoverlappingeachotherbyatleast150mmshallbeprovided.Eachbondstoneorasetofbondstonesshall 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.

Greenworkshallbeprotectedfromrainbysuitablecovering.Masonryworkshallbekeptconstantlymoistonallthefacesforaminimumperiodofsevenday sforpropercuring ofthejoints.

Therateshallbeforaunitofonecubicmeter.

ItemNo.5&10:okCementConcreteWorkforCoppinginproportionof1:2:4includingFoamWork,finishing,curing etc.CompleteandCementConcreteWorkforCoppinginproportionof1:2:4includingFoamWork,finishing,curingetc.completewithGlass

AllM-15workistobecarriedoutthroughreadymixdesignasapprovedbyengineer-in-charge.

1.0 Materials:

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

2.0 General:

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 intheitem.

ThedesignationordinaryM-100,M-150,M-200,M-250specifiedasperIScorrespondapproximatelyto1:3:6,1:2:4,1:$1^1/_2$:3 and1:1:2nominalmixofordinaryconcretebyvolumerespectively.

Theingredientsrequiredfororordinaryconcretecontainingonebag ofcement of 50 Kg by weight (0.0342 Cu.M) for different proportions of mixshallbeasunder:

Grade ofconcrete	Totalquantityofdry aggregate byvolumeper50kgs ofcement 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

Thewatercementratioshallnotbemorethanspecifiedinthe 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 overcomethedifficultiesofplacementsandcompactionsothatwater cement ratiospecifiedonthetableisnotexceeded.

Workabilityoftheconcreteshallbecontrolledbymaintainingа watercementratiothatisfoundtogiveaconcretemixwhichisjust

sufficientwettobeplacedandcompactedwithoutdifficultywiththemeansavaila ble.

Themaximumsizeofcoarseaggregateshallbeaslargeaspossiblewithinthelimits specified but in no case greater than one fourth of minimumthicknessofthemember, provided that the concrete canbe placedwithoutdifficultysoastosurroundallreinforcementthoroughlyandtofil lthecornersoftheform.

2.7.Forreinforcedconcretework,coarseaggregateshavinganominalsize of20mm,aregenerallyconsideredsatisfactory.

For heavily reinforced concrete members as in the case of ribs mainbeams,thenominalmaximumsizeofcoarseaggregateshould usually berestrictedto5mm,lessthantheminimumthedistancebetweenthemainbars,or 5 mm less than the minimum cover to the reinform or whicheverissmaller.

Wherethereinforcementiswidelyspacedasinsolidslabs,limitations ofsizeoftheaggregatemaynotbesoimportant,andthenominalmaximumsizemayso metimesbeasgreaterasorgreaterthantheminimumcover.

Admixturemaybeusedinconcreteonlywithapprovalofengineer-in-chargebaseduponteevidencethatwiththepassageoftime,neitherthecompressiv estrengthofconcreteisreducednorare otherrequisitequalitiesofconcreteandsteelimpairedbytheuseofsuchadmix tures.

3.0 Workmanship:

Proportioning:

Proportioningshallbedonebyvolume,exceptcementwhichshall bemeasuredintermsofbagsof50kg.weightthevolumeofonesuch bagbeingtakenas0.0342cu.metre.Boxesofsuitablesizeshallbeused formeasuringsandaggregate.thesizeofboxes(internal)shallbe35x 25cms,and40cmsdeepwhilemeasuringtheaggregateandsandtheboxesshallbefill edwithoutshakingrammingorhammering.Theproportioningof sandshallbeonthebasisofitsdryvolumeandincaseofdamp sand,allowancesforbulkageshallbemade.

Mixing:

Forallwork,concreteshallbemixedinamechanicalmixerwhich alongwithotheraccessoriesshallbekeptinfirstclassworkingcondition andsomaintainedthroughouttheconstruction.Measuredquantityofaggreg ate,sandandcementrequiredforeachbatchshallbepouredintothedrumofth emechanicalmixerwhileitiscontinuouslyrunning.Afterabouthalf aminuteofdrymixingmeasuredquantityofwaterrequiredforeach batchofconcretemixshallbeaddedgraduallyandmixingcontinuedforanothe roneandahalfminute.Mixingshallbecontinuedtillmaterialsareuniformlydist ributedanduniformcolorofthe entiremassisobtained andeachindividualparticleofthecoarseaggregateshowscompletecoatingof mortar containing its proportionate amount of cement. In no case shallthemixingbedoneforlessthan2minutesafterallingredientshavebeenp utintothemixer.

When hand mixing is permitted by the engineer-in-charge for small

jobsorforcertainotherreasons,itshallbedoneonthesmoothwater tightplatformlargeenoughtoallowefficientturningovertheingredients

ofconcretebeforeandafteraddingwater.Mixingplatformshallbeso arrangedthatnoforeignmaterialgetsmixedwithconcretenordoes themixingwaterflowout.Cementinrequirednumberofbagsshallbeplacedin a uniform layer on top of the measured quantity of fine and coarseaggregate,whichshallalsobespreadinalayerofuniform thickness onthemixingplatform.Drycoarseandfineaggregateandcementshallthenbemixed thoroughly by turning over to get a mixture to uniform color.Specifiedquantityofwatershallthenbeaddedgraduallythrougha rosecanandthemassturnedovertillamixofrequiredconsistencyisobtained.Inhan d mixing quantity of cement shall be increased by 10percentabovethatspecified.

Mixers which have been out of use for more than 30 minutes shall bethorough cleaned before putting in a new batch. Unless otherwiseagreedto by the engineer-in-charge the first batch of concrete form the mixtureshall contain only two thirds of normal quantity of coarse aggregate.Mixingplantshallbethoroughlycleanedbeforechangingfromonet yp eofcementtoanother.

Consistency:

Thedegreeofconsistencywhichshalldependuponthenatureoftheworkand the methodsofvibrationofconcrete,shallbedeterminedbyregularslump tests in accordance with IS 1199 - Latest edition. The slump of 10mmto25mmshallbeadoptedwhenvibratorsareusedand80mmwhenvibr ato rsarenot used.

Inspection:

Contractorshallgivetheengineer-in-chargeduenoticebeforeplacinganyconcreteintheformstopermithimtoins pectandacceptthefalseworkandformsastotheirstrength, alignment,andgeneralfinenessbutsuchinspectionshallnotrelievethe contractor of his responsibility for thesafetyofmen,machinery,materialsandforresultsobtained.Immediately beforeconcreting,allformsshallbethoroughlycleaned.

Centeringdesignanditserectionshallbegotapprovedfromtheengineer-in-charge.Onecarpenterwithhelpershallinvariablykeptpresentthroughoutthe periodofconcreting.Movementoflaborandotherpersonsshall be totally prohibitedforreinforcementlaidinposition.Foraccesstodifferentparts suitablemobileplatformsshallbeprovidedsothatsteelreinforcementin positionisnotdisturbed.Forensuringpropercover,mortarblocksof suitable size shall be cast and tied to the reinforcement.Timber,kapachiormetalpiecesshallnotbeusedforthispurpos e.

TransportingandLaying:

The method of transporting and placing concrete shall be as approved.Concreteshallbesotransportedandplacedthatnocontamination, segregationorlossofitsconstituentmaterialtakesplace.Allformworkshall be cleaned and made free from standing water dust, show or

iceimmediatelybeforeplacingofconcrete.Noconcreteshallbeplacedinanypa rtofthestructureuntiltheapprovaloftheengineer-in-chargehasbeenobtained.

Concretingshallproceedcontinuouslyoverthe areabetweenconstructionjoints

.Freshconcreteshallnotbeplacedagainstconcretewhichhasbeen

inpositionformorethan30minutesunlessapropercontractionjoint isformed.Concreteshallbecompactedinitsfinalpositionwithin30minutesofitsdisc harge from the mixer.Expert where otherwise agreed to by theengineer-in-chargeconcreteshallbedepositedinhorizontallayersto acompacteddepthofnotmorethan0.45meterwheninternalvibratorsareusedandno texceeding0.30meterinallothercases.

Unlessotherwiseagreedtobytheengineer-in-charge,concreteshall notbe dropped in to place from a height exceeding 2 meters. When trunkingorchutesareusedtheyshallbekeptcloseandusedinsucha way as toavoidsegregation.Whenconcretinghastoberesumedonasurfacewhichhasharde ned it shall be roughened swept clean, thoroughly wetted andcoveredwitha13mmthicklayerofmortarcomposedofcementandsandinthesam eratioasintheconcretemixitself.This13mmlayerofmortarshallbefreshlymixedan dplacedimmediatelybeforeplacingofnewconcrete.Where concretehasnotfullyhardenedalllaitanceshallberemoved by scrubbingthewetsurfacewithwireofbristlebrushescarebeing takentoavoiddislodgementofanyparticlesofcoarseaggregate.Thesurface shallthenbethoroughlywettedallfreewaterremoved andthencoatedwithneatcementgroutthefirstlayerofconcrete to be placedon this surface shall not exceed 150mminthicknessandshallbewellrammedagainstoldworkparticularatten tionbeinggiventocornersandclosespots.

Allconcreteshallbecompactedtoproduceadensehomogenous masswiththeassistanceofvibratorsunlessotherwisepermittedbytheengine er-in-charge for exceptional cases such as concreting under waterwherevibratorscannotbeused.Sufficientvibratorsinserviceablecondi tionshallbekeptatsitesothatspareequipmentisalwaysavailableinthe event of breakdowns. Concrete shall be judge to be compactedwhenthemortarfillsthespacesbetweenthecoarseaggregateand beginstocreamuptoformanevensurfacemixture.Duringcompaction,it shallbeobservedthatneedlevibratorsarenotappliedonreinforcement whichislikelytodestroythebondbetweenconcreteandreinforcement.

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.Masonaryworkoverfoundationconcretemaybe started after 48 hours of its laying but curing of concrete shall becontinuedforaminimumperiodof14days.

Samplingandtestingofconcrete:

Samples from fresh concrete shall be taken as per IS 1199 -

Latestedition,andcubesshallbemadecuredandtestedat7daysof28daysasperrequirements in accordance withIS 516 - Latest edition. A randomsamplingprocedureshallbeadopted toensurethateachconcrete batchshallhaveareasonablechanceofbeingtestedi.e.thesamplingshouldbespreadovertheentireperiodofconcretingandcoverallmixingunits.Theminimumfrequency of sampling of concreteof 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±oneadditionalforeachadditional50morpartthereof		

NOTE:-At leastonesample shallbe takenfromeachshift. 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.

The average strength of the groupof cubes castfor eachday shall not belessthanthespecified cube strengthof150Kg/Cm^2at28days.20% ofthe cubes cast for each day may have value less than the specifiedstrength.Suchconcreteshallbeclassifiedasbelongingtotheappropriat elowergrade.Concretemadeinaccordancewiththeproportiongivenforaparticular grade shall not, however, be placed in a higher grade on thegroundthattheteststrengtharehigherthantheminimumspecified.

Stripping:

Theengineer-in-chargeshallbeinformedinadvancebythecontractor ofhisintentiontostriketheformwork.Whilefixingthetimeforremoval ofform,dueconsiderationshallbegiventolocalconditions,characterofthestructure, the weather and other conditions that influence the setting ofconcrete and of the materials used inthe mix. In normal circumstances(generallywheretemperaturesareabove20^0C)andwhereordinaryconcreteisused,forms may bestruckafterexpiryofperiods specifiedbelowforrespectiveitem of work.

StrippingTime:

Innormalcircumstancesandwhereordinarycementisusedformsmaybestruckafter expiryoffollowingperiods:

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

Allformworkshallberemovedwithoutcausinganyshockorvibrationaswoulddamage theconcrete.Beforethesoffitandstrutsandstruts areremoved,theconcretesurfaceshallbegraduallyexposed,wherenecessary in order to ascertain that concrete has sufficiently hardened.Centeringshallbegraduallyanduniformlyloweredinsuchamanner astopermittheconcretetotakestressesduetoitsownweightuniformlyandgradually.Whereinternalmetaltiesarepermitted,theyortheirremovableparts shall be extracted without causing any damage to theconcreteandremainingholesfilledwithmortar.Nopermanentlyembeddedmetalpartshallhaveless25mmcovertothefinished concrete surface. Where it is intended to re-use the form work, it shall becleanedand made good to the satisfactionof the engineer-in-charge.Afterremovalofworkandshuttering,theCityEngineershall inspecttheworkandsatisfybyrandomchecksthatconcreteproducedis of goodquality.

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 otherholesand depressions, honeycomb spots, broken edges or corners andother defects, shall be thoroughly cleaned, saturated with waterand carefullypointedand rendered true withmortarof cementand fine aggregate mixed in proportions used in the grade ofconcrete that is being finished and of as dry consistency as ispossibletouse.Considerablepressureshallbeappliedin fillingand pointing to ensure through filling in all voids. Surfaces whicharepointedshallbekeptmoistforaperiodof24hours.Ifpockets /honeycombsintheopinionoftheengineer-in-chargeareofsuchanextentorcharacterastoaffectthestrengthofthe structurematerially or to endanger the life of the steel reinforcement,hemaydeclaretheconcretedefectiveandrequirethe removal andreplacementof theportionsofstructureaffected.

(a)thebarsshallbekeptinpositionbythefollowingmethods:

(i) Incaseofbeamandslabconstruction,sufficientnumberofprecast coverblocksincementmortar1:2(1cement:2coarsesand)about4x4cms.sectionandofthicknessequaltothespecifiedcovershallbeplacebetweenthe barsandshutteringastosecureandmaintaintherequisitecoverof concrete over the reinforcement.In case of cantilevered ordoublyreinforcebeamsorslabs,the mainreinforcingbarsshallbeheldinpositionbyintroducingchainspacersorsupports bars at 1.0. to 1.2metrescenters.

(ii) Incaseofcolumnsandwalls,theverticalbarsshall bekeptin positionbemeansoftimbertemplatesslotesaccuratelyoutinthem,thetemplatesshallberemovedafterconcretinghasbeendonebelowit.ThebarsRay also suitably tied by means of annealed steel wires to theshutteringtomaintainpositionduringconcreting.

1.2.Allbars,projectingformpillars,Columnsbeams,slabsetc,towhichother bars and concrete are to be attached or bounded to later on, shallbe protectedwithacoatofthinneatcementgrout,ifthebarsarenotlikely tobeincorporatedwithsucceedingmassofconcretewithinthefollowing 10days,Thiscoatofthinneatcementshallberemovedbeforeconcreting.

4.0 Modeofmeasurements&payment.

Theconsolidatedcubicalcontentsofconcrete,workasspecifiedin 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,corbelsandstepsetc.upto500sq.cm. in section,

(b) Openingupto0.1Sq.M.

Therateincludescostof allmaterialslabour,toolsandplant requitedformissing,placinginposition,vibratingandcompacting,finishing, asdirected.curingandallotherincidentalexpensesforproducingconcrete ofspecifiedstrength.Therateexcludesthecostofformwork.

4.3 Therateshallbeforaunitofonecubicmeter.

<u>ItemNo.6,7,13,14,15&16</u>:ok

<u>ProvidingandlayingcementconcreteinM-20or1:1.5:3innominalmix(1cement:1.5coarsesand:3gradedstoneaggregate20mm.nominalsize)curingcompleteexcludingreinforcementforreinforcedworkin(A)Foundations,footingandmassconcrete,(C)Slabs,landingsshelves,balconies,lintels,chhajja,beams,girdersandcantilever,(D)Columns,pillars,posts,andstruts(E)Staircase(K)Verticaland horizontalfinsuptofloortwolevelincludingformwork</u>

AllRCCworkistobecarriedoutthroughreadymixdesignasapprovedbyengineer-in-charge.

DesignSubmissions

Complete detailed design calculations of foundations and superstructuretogether with general arrangement drawings andexplanatory 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 minimumbasicrequirementsofplainandreinforcedconcretestructures, masonrystructuresandstructuralsteelworks.However,anyparticular structureshallbedesignedforthesatisfactoryperformanceofthe functions forwhichthesameisbeingconstructed.TheContractorshallalsotakecaretocheckthestabilityofpartlycompletedstructures.

DesignStandards

Alldesignsshallbebasedonthelatest IndianStandard(I.S.)Specifications or CodesofPractice.Thedesignstandardsadoptedshallfollowthebest modernengineering practice in the field basedonanyotherinternationalstandardor specialist literature subject to such standard reference or

extractofsuchliteratureintheEnglishlangaugebeingsuppliedtoandapprovedbyAddl.CityEngineer.Incaseofanyvariationorcontradiction between the provisions of the I.S. Standards or Codesandthespecificationsgivenalongwiththesubmitted tenderdocument,theprovisiongiveninthisSpecificationshall befollowed.

Allreinforcedconcretestructuraldesignshallgenerallyconformtothefollowingpublicationsof theIndianStandardsInstitution :

I.S.456 CodeofPracticeforplainandreinforcedconcrete

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)

AllstructuralsteeldesignshallgenerallyconformtothefollowingpublicationsoftheIndian StandardsInstitution:

I.S.800: CodeofPracticeforgeneralconstructioninsteelI.S.806: Code of Practice for use of steel tubes in generalbuildingconstruction

DesignLife

Thedesignlifeofallstructuresandbuildingsshallbe60years.

DesignLoading

Allbuildingsandstructuresshallbedesignedtoresisttheworstcombination ofthe 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.

DeadLoad

Thisshallcompriseallpermanentconstructionincludingwalls,floors, roofs, partitions, stairways, fixed service equipment and otheritemsofmachinery.

Thefollowingminimumloadsshallbeconsideredindesignofstructures:

Weightofwater		9.81kN/m^3
Weight of soil (irrespective of strataavailableatsiteandtypeofsoiluseddforfillingetc). However, forcheckingstabilityagainstuplift,actual weight of soil as determinedbyfieldtestshallbeconsidered.		20.00kN/m^3

Weightofplainconcrete		24.00kN/m^3
Weightofreinforcedconcrete		25.00kN/m^3
Weightofbrickwork(exclusive ofplaster)		22.00N/m^2 per mmthicknessof
Weightofplastertomasonrysurface		18.00N/m^2permmt hickness

Weightofgranolithicterrazzofinishorre nderingscreed,etc.		24.00N/m^2 per mmthickness

LiveLoad

Liveloadsshallbeingeneralasper I.S.875. However, thefollowingminimumloadsshallbeconsidere dinthedesignofstructures:

i) Liveloadonroofs(accessible) : 1.50kN/m^2

(Non-accessible) : 0.75kN/m^2

Liveloadonfloorssupporting equipmentsuchaspumps,blowers,

compressors,valves,etc. : 10.00

iii) Liveloadonallotherfloorswalkways,stairwaysandplatforms. : 5.00kN/m^2

Intheabsenceofanysuitableprovisionsforliveloadsin I.S.Codesorasgivenaboveforanyparticulartypeoffloororstructure,assumptions made must receive the approval of Addl.City Engineer prior to starting the design work. Apart from thespecifiedliveloadsoranyotherloadduetomaterialstored,anyother equipmentloadorpossibleoverloadingduringmaintenanceorerection / construction shall be considered and shall bepartialorfullwhichevercausesthemostcriticalcondition.

WindLoad

WindloadsshallbeasperI.S.875.

EarthquakeLoad

This shall be computed as per I.S. 1893 considering earthquake 2001.An importancefactorappropriatetothe type of structure shallbeconsidered fordesignofallthestructures.

DynamicLoad

Dynamicloadsduetoworkingofitemssuchaspumps,blowers,compressors,switch gears, travelling cranes, etc. shall be considered inthedesignofstructuresaspermanufacturer'sdata.

Joints

Movement joints such as expansion joints, complete contraction joints,partialcontractionjointsandslidingjointsshallbedesignedto suit thestructure. However, contraction joints shall be provided at specifiedlocations spaced not more than 7.5 m in both right angledirections forallwallsandrafts.

Expansionjointsofsuitablegapatsuitableintervalsnotmorethan30m shall be provided inallwalls,floorsand roofslabsofwaterretainingstructures.

Constructionjointsshallbeprovidedatrightanglestothe 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 jointsfornon-liquid retaining structures shallbe providedasperIS3414.

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, anymaterial,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) Wallsshallbedesignedunderoperatingconditionstoresistearthquakefor ces fromearthpressuremobilizationanddynamicwaterloads.

(vii) Undergroundorpartiallyundergroundstructuresshallalsobecheckedagains t stresses developed due to any combination of fullandemptycompartmentswithappropriateground/upliftpressuresfrom belowtobaseslab.Aminimumfactorof1.2shallbe 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.structureshallhavetobedesigned.

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 indepth,locationand sizesmay have to be made depending on site conditions. Noextra claims for suchadjustments shallbe accepted by Addl. CityEngineer.

(iv) Specialattentionshalldrawntodangerofupliftbeingcaused by the ground water table.Localised water tableshall be consideruptoexistinggroundlevel.AlsoGroundwater table ofsaid plot shall be study in advance inclusiveofrainwater/otherwater deposition effect tofoundation.Thatshallbeconsiderindesignandimplementation of foundation and bottom slab of structureregardingabsoluteresistationagainstupliftpressure .

(v) Allgroundlevelstructuralslabwhereverapplicableshallbedesignedforu pliftforcesduetogroundwaterpressure.

(vi) Where there isleveldifference between the natural ground level& the foundations of structure or floor slabs, this difference shallbefilledupinthefollowingways:

- In case of non-liquid retaining structures the natural topsoilshall be removed till a firm strata is reached (minimumdepthof soilremoved shallbe 500mm.) and the leveldifferenceshallbemadeupbycompactedbackfillas perspecifications.Howeverthethicknessofeachlayer shallnotexceed150mm.Theareaofbackfillingforfloor slabsshallbeconfinedtopreventsoilfromslippingout

duringcompaction.Thesafebearingcapacityofthiswellcompactedbackfilledsoilshallnotexceed100kN/sq.m.

- Incaseofliquidretainingstructures,thenaturaltop soilshallberemovedasdescribedaboveandtheleveldifferenceshall be made upwithPlain CementConcrete(1:5:10)

DesignRequirements

Thefollowingarethedesignrequirementsforallreinforcedorplainconcretestructures:

a) Allbindingandlevelingconcreteshallbeaminimum100 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**withamaximum20mmsizeaggregateasperIS :3370(PartI-IV).

d) Theminimumreinforcementforwaterretainingstructuresin eachdirectionshouldbe0.35%ofcrosssection.The minimumclearcovertoallreinforcementincludingstirrupsand links shallbe50mmforallwaterretainingstructures.

e) All buildings shall have a minimum1metrewide,100mmthick plinth protection paving in M15 grade concrete or stoneslabs/tiles.Allplinthprotectionshallbesupportedonwellcompactedstrata.

f) Any structure or pipeline crossing below roads shall be designedmatching classificationofroad (anything fromClassA to AA ofIRCloading)

g) Thebridges & bridge supportingstructuresshall 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%byweightofcementwhicheverishigher.

- Thewallandfloorpanelsshallbepouredinsequentialorderwithaminimumtimegapof4days.

Thefollowingminimumthicknessshallbeusedfordifferentreinforcedconcretemembers,irrespectiveofdesignthickness:

(i) Wallsforliquidretainingstructures :250mm
(ii) Roofslabsforliquidretainingstructures

:150mm(
otherthanflatslabs)
(iii) Bottomslabsforliquidretainingstructures :200mm
(iv) Floorslabsincludingroofslabs,walkways,
canopyslabs :100mm
(v) Wallsofcables/pipetrench
es,
undergroundpitsetc. :125mm
(vi) Columnfootings :300mm
(vii) Parapets,chajja :100mm
(viii) Precasttrenchcover : 75mm

- InMixdesign,thewatercementratioshouldnotexceed 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 inboth admixturefor waterproofingcomplytoBISshall addinplasteringworksasperguidelinesofdesignandengineerincharge and that of all surfaces of ESR i.e. container, shaft,etc.shallbeexposedfinished.

MaterialsinGeneral

The term"materials"shallmeanallmaterials,goodsandarticles ofevery kind whether RAW, processed or manufactured and equipmentandplantofeverykindtobesuppliedbytheContractorforincorporationintheWorks.

Exceptas may be otherwise specified for particular parts of theworksthe provision of clauses in"Materials and Workmanship" shall applytomaterialsandworkmanshipforanypartoftheworks.

All materials shall be new and of the kinds and qualitiesdescribedinthe Contractandshallbeatleastequaltoapprovedsamples.

Assoonaspracticableafterreceivingtheordertocommence theWorks, theContractor shall inform Addl. City Engineerof the namesofthesuppliersfromwhomheproposestoobtainany materials butheshallnotplaceanyorder withouttheapprovalofAddl.CityEngineer which may be withheld until samples have been submittedand satisfactorily tested. The Contractor shall thereafter keep Addl.CityEngineerinformedofordersforanddeliverydatesofallmaterials.

Materials shallbe transported, handled and stored insuchamanneras to prevent deterioration, damage or contamination failing whichsuch damaged materials will be rejected and shall not be used on anypartoftheWorksunderthiscontract.

SamplesandTestsofMaterials

The Contractor shall submit samples of such materials as mayberequired 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.CityEngineerm

ayappointseparatethirdpartyinspectionforthematerialtesting to ensure the quality of the work. The Contractor shall replacethedefectivematerialasanoutcomeofthesetests.

Samplesshallbesubmittedandtestscarriedoutsufficientlyearly toenablefurthersamplestobesubmittedandtestedifrequiredbyAddl.CityEngineer.

TheContractor shallgiveAddl.City Engineer sevendays' 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

daysofthesaiddateonwhichthematerialsareexpected tobeready for testingor inspection according to theContractor, failingwhich the testmayproceedinhisabsenceunlessinstructedbyAddl.City Engineertocarryoutsuchatestonamutuallyagreeddatein his presence. The Contractor shall in any case submit toAddl. City Engineer'sRepresentativewithinsevendaysofeverytestsuchnumber of certified copies (minimum six) of the test results asAddl.CityEngineermayrequire.

ApprovalbyAddl.CityEngineerastotheplacingofordersformaterialsorasto samples or tests shall not prejudice any of Addl.CityEngineer'spowersundertheContract.

Theprovisionsofthisclauseshallalsoapplyfullytomaterialssuppliedunderanynominatedsub-contract.

Standards

Materials and workmanship shall comply with the relevant IndianStandards(withamendments)currentonthedateof submissionofthetender.Allthegoverningitems,materials,goods and equipmentsshallbearISO-9001-2000certification.

WheretherelevantstandardprovidesforthefurnishingofacertificatetoAddl. City Engineer, at his request, stating that the materialssuppliedcomplyinallrespectswiththestandard,theContractorshallobtainthecertificateandforwardittoAddl.CityEngineer.

Thespecifications,standardsandcodeslistedbelowareconsideredtobepart of this Bid specification.All standards, specifications,codes of practices referredtoherein shall bethe latest editionsincludingallapplicableofficialamendmentsandrevisions.

IncaseofdiscrepancybetweentheBidSpecificationandtheStandardsreferredtoherein,theBidSpecificationshallgovern.

a) Materials

IS:269 IS:383
IS:428 IS:432

IS:455 IS:458

IS:650

Specificationforcoarseandfineaggregatesfromnatu ralsourcesforconcrete
Specification for distemper, oil emulsion, colourasrequired
Specificationformildsteelandmediumtensilesteelbarsa ndharddrawnsteelwirefor concretereinforcement(Parts1&2)Speci ficationforPortlandslagcement

Specificationforprecastconcretepipes(withandwith outreinforcement)
Specificationforstandardsandfortestingofcement

IS:651 Specificationforsaltglazedstonewarepipesandfittin gs
IS:777 Specificationforglazedearthenwaretiles
IS:808 Specificationfordimensionsforhotrolledsteel column,channelandanglesections
IS:814 SpecificationforcoveredelectrodesformanualmetalarcweldingofCarbona ndCarbonManganesesteel

IS:1003 Specificationfortimberpaneledandglaze dshutters(Parts1&2)

Specificationforsteeldoors,windowsandventilators
IS:1038
IS:1077 SpecificationforcommonburntclaybuildingbricksSpec
IS:1398 ification for packing paper, water proof,bitumenlaminated
IS:1489 SpecificationforPortlandpozzolanacement(Parts1&2)
Specificationforharddrawnsteelwirefabricforconcrete
IS:1566 reinforcement
Specificationforbituminouscompoundsforwaterproofin
IS:1580 g andcaulkingpurposes
Specificationforhighstrengthdeformedsteelbarsandwir
IS:1786 esforconcretereinforcement
Specificationforrollingandcuttingtolerances
IS:1852 forhotrolled steelproducts
IS:1948 Specificationforaluminiumdoors,windowsandvent ilators
IS:1977 Specificationforstructuralsteel(ordinaryquality)
IS:2062 IS:3384
IS:2185
IS:2202 IS:3502

IS:2645

IS:2750 IS:4350
IS:2835

Specification for steel for general structural purposes

	Specification for concrete masonry units (Parts 1 &2)
	Specification for wooden flush door shutters (Parts 1&2)
	Specification for integral cement water proofing compounds
	Specification for steel scaffoldings
	Specification for flat transparent sheet glass
	Specification for bitumen primer for use in water proofing and damproofing
	Specification for steel chequerred plates
IS:4021	Specification for timber door, window and ventilator frames
	Specification for concrete porous pipes for underdrainage
IS:4351	Specification for steel door frames

IS:4990 IS:8112 IS:9862Specification for plywood for concrete shuttering workSpecification for 43 grade ordinary Portland cementReadymixedpaint,brushing,bituminous,black,le

adfre
e,aci
d,alk
ali,w
atera
ndchl
orine
resist
ing

IS:10262 RecommendedguidelinesforconcretemixdesignSpecificati
IS:12269 onfor53gradeordinaryPortlandcementSpecification for
IS:12330 sulphate resisting Portland
IS:12709 cementGlassfibrereinforcedplastics(GRP)pipes,jointsandf
ittings

b) Tests foruseforpotablewatersupply

IS:516 Methodoftestforstrengthofconcrete
IS:1182 Recommendedpracticeforradiographicexaminationoffu
sion weldedbuttjointsinsteelplates
IS:1199 Methodsofsamplingandanalysisofconcrete
IS:2386 Methodsoftestforaggregatesforconcrete(Parts1to8)Methodso
IS:2720 ftestforsoils(Parts1to39)
IS:3025 Methodsforsamplingandtest(physicalandchemical)forwaterand
wastewater(Parts1to44)
Methodoftestforburntclaybuildingbricks(Parts1to4)Acceptan
IS:3495 cetestsforwirefluxcombinationforsubmerged
IS:3613 arcwelding
MethodsoftestsforwoodenflushdoorsType
testsMethodsofphysicaltestsforhydrauliccement(Parts1to
IS:4020 15)
IS:4031 Method of test for clear finishes for wooden
furniture(Parts

IS:5807

1to6)
IS:7318 Approvaltestsforwelderswhenweldingprocedureapproval
isnotrequired(Parts1and2)

c) Codesof Practice

IS:456
CodeofpracticeforplainandreinforcedconcreteIS:78
3 Codeofpracticeforlayingofconcretepipes
IS :800 Codeofpracticeforgeneralconstructioninsteel
IS:806
Codeofpracticeforuseofsteeltubesingeneralbuild
ingconstruction
IS:816
Codeofpracticeforuseofmetalarcweldingforgeneralco
nstructioninmildsteel
IS :817 Codeofpracticefortrainingandtestingofmetalarcwelders

IS:875

uake) IS:1081

Codeofpracticefordesignloads(otherthanearthqforbuildingstructures(Parts1to5)

Codeofpracticeforfixingandglazingofmetal(steelandaluminum)doors,windowsandventilators IS:1172 Codeofpracticeforbasicrequirementsfor water supply,drainageandsanitation

IS:1477 Codeofpracticeforpaintingofferrousmetalsinbuildin(Parts1&2 gs)
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 Codeofpracticeforfinishingofwoodandwoodbasedmaterial s(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 Codeofpracticeforbendingandfixingofbarsforconcreterein forcement
IS:2571 Codeofpracticeforlayinginsitucementconcretefloori ng
IS:2595 Codeofpracticeforradiographictesting
IS:2751 Recommendedpracticeforweldingofmildsteelplainanddeformedbarsforre inforcedconstruction
IS:2974 Codeofpractice fordesign andconstruction ofmachine foundations(Parts1to4)
IS:3114 CodeofpracticeforlayingofCastIronpipes
IS:3370 Codeofpracticeforconcretestructuresforthestorageofliquid s(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

tures IS:4014

CodeofpracticeforHighstrengthboltsinsteelstruc

Codeofpracticeforsteeltubularscaffolding(Parts1&2)IS:411 1 Code of practice for ancillary structures in seweragesystem (Parts1to4)

IS:13920 Codeofpracticeforlayingofglazedstonewarepipes

IS:4326

gnand

CodeofpracticeforEarthquakeResistantDesi

IS:4353

IS:5329ConstructionofBuildings

Recommendationsforsubmergedarcweldingofmildsteelandlowalloysteels

Codeofpracticeforsanitarypipeworkabovegroundforbuildings

IS:5334 Codeofpracticeformagneticparticleflawdetectiono f welds

IS:5822 Codeofpracticeforlayingofweldedsteelpipesforwatersuppl y

IS:7215 TolerancesforfabricationofsteelstructuresIS: 9595 Recommendationsformetalarcweldingof carbonandcarbonmanganesesteels

IS:10005 SIunitsandrecommendationsfortheuseoftheirmultipl esandofcertainotherunits

d) ConstructionSafety

IS:3696 Safetycodeforscaffoldsandladder(Parts1&2
)IS:3764 SafetycodeforExcavationwork
IS:7205 Safetycodeforerectionofstructuralsteelwork

Orientation

Theworksshallbelaidoutwithintheconfinesoftheexistinginfrastructureofroadwaysandinlet andoutletpipework

Undergroundservicesrequiringtoberelocatedinordertoaccommodatetheproposed site layout shall, with the approval ofAddl. City Engineer,berelocatedbytheContractor.

ValveChambers

a)Allvalvechambersaretobeofanadequatesizeto facilitatemaintenance and operation. The base slab of valve chambers shallslope towards a sump pit from whichwatercanbepumpedtokeep the chamber dry. All valve chambers shall be constructed inM15 grade reinforced concrete. Chambersshallhaveremovablecastiron/ reinforced concretecovers, as appropriate, approach laddersandvalvesupports.

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.Treessuitableforlocalconditionsshallbeselected.Medicinalandfruittreesshallbeavoided.

ReadyMixConcrete:

FormWork

Theformworkshallconformtotheshapelinesanddimensionasshown ontheplansandbesoconstructedastoremainsufficientlyrigid duringthe placingand compacting of the concrete. Adequate arrangements shallbe made by the contractor to safe-guard against any settlement of the formworkduringthecourseofconcretingandafterconcreting.Theform workofshuttering,centering,scaffoldingbracingetc.shallbeasperdesign.

Cleaning&Treatmentofforms:-Allrubbish,particularlychippings shavingand saw dust shall be removed from the interior of the Form before theconcreteisplacedandtheformworkincontactwithconcrete 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.Alternativelyacoatofrawlinseedoilorformoilofapproved manufacture may be applied in' case steel Shuttering is used. Soapsolution or

rawlinseedoilshallbeappliedafterthoroughlycleaningthesurface.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 softiesformwork and struts are removed, the Softiesand the concrete surface shall be exposed' where necessary in order toascertainthattheconcretehassufficientlyhardened.

Centering:
Thecenteringtobeprovidedshallbegotapproved.Itshallbe sufficientlystrongtoensureabsolutesafelyoftheformworkandconcrete workbefore,duringandafterpouringconcrete.Watchshouldbekepttosee that behaviorof centering and form work is satisfactory during concreting. Erection shouldalso be such that it would allow removal of forms in proper sequencewithoutdamagingeithertheconcreteortheformstoteremoved.
Thepropsofcenteringshallbeprovidedonfirmfoundationorbase ofsufficient strengthtocarrytheloadswithoutanysettlement.Thecenteringand formwork shall be inspected andapproved bytheEngineer-in- chargebeforeConcreting.Butthiswill

notrelieve the contractorof his responsibilityforstrength,adequacy andsafetyof Form work and centering. If there is a failure of form work or centering,contractorshallberesponsiblefortheDamagestothework, injurytolifeanddamageto propert y.
Scaffolding: AH scaffolding, hoisting arrangements and ladders etc. requiredforthefacilitatingofconcretingshall beprovidedandremoved oncompletionworkbycontractorathisownexpense.Thescaffolding,hoistingArrang ements and ladders etc. shall be strong enough to withstand all live,deadandimpactloadsexpected.

Concrete
General

InconcretegradeM15,M20,M25,M30etc.thenumberrepresents 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.

DesignMixConcrete
(a) MixDesign&Testing

For design mix concrete, the mix shall be designed according to IS: 10262andSP:23toprovidethegradeofconcretehavingtherequiredworkability andcharacteristicstrengthnotlessthanappropriatevaluesgiveninIS: 456. The design mix shall in addition to such that it iscohesive and does notsegregate and should result in dense and durableconcreteandalsocapableofgivingthefinishasspecified.Forwaterretainings tructure, the mix shall also result in water tight concrete. The Contractorshall exercise great care whiledesigning the concrete mixand executingtheworkerstoachievethedesiredresult.

Unlessotherwisespeciallymentioned, theminimumcement 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 extrashallbecome payable to the CONTRACTOR in this account. Even in the casewhere the quality of cement requiredishigherthanthatspecifiedabovetoachievedesiredstrength based on an approved mix design, nothing extrashallbecomepayabletotheCONTRACTOR.

ItshallbetheContractor'ssoleresponsibletocarryoutthemixdesigns 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&MixingofConcrete

Proportionsofaggregatesandcement,asdecidedbytheconcrete mixdesign, shall be by weight. There proportions shall be maintained duringsubsequentconcretebatchingbymeansofweighbatcherscapableofcontrol lingtheweightswithinone
percent of the desired value. Amount of water added shall be such astoproduce dense concrete of required consistency, specified strength andsatisfactory workability and shall be so adjusted to account for moisturecontentintheaggregates.Water-cementratiospecified forusebytheEngineer-in-chargeshallbemaintained.Eachtimethe 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,nece ssarycomputerprintoutforconsumptionofallmaterials

an admixtures if permitted shall be made available as and whenrequiredinanyfrequenciesasdirectedbyEngineer–in-charge.

Necessaryslumprequirementsatthepouringplacesshallbemadeavailablewithready mixconcrete.

Concretemixshallbedesignfor33%higherstrengththanthegrade of concrete specified. The proportions for ingredients chosen shallbe suchthatconcretehasadequateworkabilityforconditionprevailingonthework inquestionandcanbeproperlycompactedwiththemeansavailable.Use ofcementaciousmaterial likeFlyashetc.shallnotbepermissible.

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 maintainedtillthecompletionofwork,grading of aggregateshouldbestrictlycontrolled.Thedifferentsizesshallbestockedinseparates tockpiles.Requiredqualityofmaterialshallbestock-piledseveral hours, preferably a day, before use. Grading of coarse and fineaggregateshall be checked as frequently as possible, frequency for agiven job being determined by the Engineer-in-charge to ensure that thesuppliers are maintainingtheuniformgradingasapprovedfor samplesusedinthedesignmix.

The quantity of both cement and aggregate shallbe determined byweight. Watershalleitherbemeasuredbyvolumeincalibratedtanksorweighed. All measuring equipment shall be maintained in a clean andserviceablecondition.Theiraccuracyshallbeperiodicallychecked.

Ifismostimportanttokeepthespecifiedwater–cementration constantsanditscorrectvalue.Tothisend,themoisturecontentinboth fine andcoarseaggregatesshallbedeterminedbytheEngineer-in-chargeaccordingtotheweatherconditions.Theamountofmixingwater shallthenbeadjustedtocompensateforvariationsinthe moisture content.Forthedeterminationofmoisturecontentintheaggregates,IS: 2386(Part-

III)shallbereferredto.Suitableadjustmentsshallalsobe made intheweightsofaggregatestoallowforthevariationinweightsofaggregatesduetovariationintheirmoisturecontent.

ThespecialConditions/Specificationregarding**ReadyMixConcrete**areasfollows. The details like locations, capacity, experience, delivery scheduleetc.of**the ReadyMixConcrete**agencyshallbesubmittedbythesuccessfullytendererforpriorapprovaloftheundersigned.

The **Ready Mix Concrete** shall be conforming to IS :4926 with its latestamendments.

Alltheresponsibilityof**ReadyMixConcrete**i.e.procurementforallmaterials,operationofplantandmachinery,transitmixers,pumpingmachineriesrelevantpipingetc.shallbeontheaccountofthecontractor.The Rajkot Municipal Corporation shall not be held responsible for anydelay / damage/lossduetodeploymentof**ReadyMixConcrete**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 watershouldbeaddedtotheconcretefromelsewhereafterinitial introductionofmixingwaterfromthebatch,exceptwhenonarrivalatthe 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 massofallmixingandoftheresultsofalltests.IfrequiredbytheRajkot 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)andthecontractor,theconcreteshall be deemed tocomplywith therequirementsofthis, iftheseresultsof testeswhereapplicableliewithinthetolerancespecifiedbelow.

Consistencyofworkability: Theslumpaverageoftwotestsshall notdiffer from the specified value by + 10 mm for a specified slump of 75 mm.The compacting factoraverageoftwotestsshallbewithin +0.03 ofthe value specified. If any othermethodofdetermining consistency to beused a suitable tolerance shall be agreed to be between the purchaser andthemanufacture.Thetestsforconsistencyor workability shall becomplete

within15minutesofthe timeofreceiptofthereadymixconcreteatthesite.

Aggregate : When tested in accordance with IS 2386 (Part-I) 1963, thequantityofaggregatelargerthanthemaxsizespecifiedbythe purchasershallnotexceed5%oftheqty.ofcoarseaggregateandallsuch pass sieve ofnexthighersize.

NominalMixconcrete.(DELETED)

(a) Mixdesignandtesting

Mix design and preliminary test are not necessary for Nominal Mix concrete.HoweverworkstestshallbecarriedoutasperIS:456.Proportions forNominalMixConcreteandw/cratiomaybeadoptedasperTable3ofIS:456.Howeveritwil lbetheContractor'sroleresponsibilitytoadoptappropriatenominalmixproportionstoyield thespecifiedstrength.

(b) Batching&MixingofConcrete

Based on the adopted nominal mixes, aggregates shall be measured byvolume.Howevercementshallbe byweightonly.

Formwork

formworkshallbeallinclusiveandshallconsistofbutnotbelimited toshores, bracing's sides of footing , walls, beams and columns, bottom ofslabsetc.includingties,anchors, hangers,inserts,falsework,wedgesetc.

Thedesignandengineeringoftheformworkaswellitsconstructionshall betheresponsibilityoftheContractor.However,ifsodesiredby 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,allloadsanddynam ics 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;designtemporaryopeningswhereneces saryforthesepurposesandtofacilitatethepreparationofconstructionjoints.

Theformworkmaybeoftimber,plywood,steel,plasticorconcretedependinguponthe approvaloftheEngineer-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.

Thefacesofformworkcomingincontactwithconcreteshallbecleaned 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.Formsthathavedeterioratedshall not be used. Before reuse, all forms shall be thoroughlyscraped, cleaned,nailsremoved,holessuitablyplugged,jointsrepairedandwarpedlumber replacedtothesatisfactionoftheEngineer-in-charge.TheContractorshall 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 shallnotbeallowed.In theirplaceboltspassingthroughsleevesshallbeused.Formworkspacersleft insitushallnotimpairthedesiredappearanceordurabilityofthestructure bycausing spelling,ruststainingorallowing thepassageofmoisture.

Forliquidretainingstructures,sleevesshallnotbeprovidedforthroughbolts 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.

Formforsubstructuremaybeomittedwhen,intheopinionoftheEngineer- in-charge,theopenexcavationisfirmenough(inhardnon-poroussoils) toact as a form, suchexcavationshallbelarger,as approved by theEngineer-in-chargethatrequiredasperDRAWINGtocompensateforirregularitiesinexcavation.

TheContractorshallprovideadequatepropscarrieddowntoafirm bearingwithoutoverloadinganyofthestructure.

Theshutteringforbeamsandslabsshallbesoerectedthatthesideshutteringofbeamscanberemovedwithoutdisturbingthebottomshuttering
.If the shuttering for a column iserected for the full height of the column,one sideshallbebuildupinsectionsasplacingofconcreteproceedsorwindows leftfor placing concrete from the side to limitthedropofconcreteto 1.0mor 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 ofconstruction,shallbe repositioned and strengthened. Placed concrete affected by faultyformwork,shallbeentirelyremovedandformworkcorrectedpriortoplacement ofnewconcreteatContractor'scost.

Thestrikingtimeforformworkshallbedeterminedbasedonthefollowingrequirement:

a) Developmentofadequateconcretestrength;
b) Permissibledeflectionattimeofstrikingformwork;
c) Curingprocedureemployed-itsefficiencyandeffectiveness;
d) Subsequentsurfacetreatmenttobedone;
e) Preventionofthermalcrackingatre-entrantangles;
f) Ambienttemperatures;
g) Aggressivenessoftheenvironment(unlessimmediateadequatestepsaretakentopreventdamagetotheconcrete).

Under normalcircumstances (generallywhere temperatures are above20^{O}C) formsmaybestruckafterexpiryofthetimeperiodgiveninIS:456 unlessapprovedotherwisebyEngineer-in-charge,itistheContractor'sresponsibilitytoensurethatformsarenotstruckuntilthe concretehasdevelopedsufficientstrengthtosupportitself,doesnotundergo excessivedeformationandresistsurfacedamageandanystressesarising during theconstructionperiod.

Reinforcement

Workmanship

Reinforcementbarssuppliedbentorincoilsshallbestraightenedcoldwithoutdamage. No bending shall be done when ambient temperature isbelow5^{O}C.Localwarmingmaybepermittedifsteeliskeptbelow5^{O}C.

AllbarsshallbeaccuratelybentgraduallyandaccordingtothesizeandshapesshownontheDRAWINGschedulesoradirectedbyEngineer-in-charge.
Re-bendingorstraighteningincorrectlybentbarsshallnotbedonewithouttheapprovaloftheEngineer-In-Charge.

Reinforcementshallbeaccuratelyfixedandmaintainedfirmlyinthe correctpositionbytheuseofblocks,spacers,chairs,bindingwireetc.topreventdisplacementduringplacingandcompactionofconcrete.Thetiedin placereinforcementshallbeapprovedbytheEngineer-in-chargepriortoconcreteplacement.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 bindingwireshall be bent away from the concrete surface andinnocase encroachintotheconcretecover.

Substitution of reinforcement; laps/splices not shown on DrawingshallbesubjecttoEngineer-in-charge'sapproval.

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.

Theformworkshallbedesignedandconstructedtotheshapes,lines anddimensionsshownontheDrawingswithinthetolerancesgivenbelow:

(a)	Deviationfrom specifieddimensionsofcrosssectionofcol umnsandbeams	-6mm
(b)	Deviationsfromdimensionsof footings(tolerances apply to concrete dimensionsonly,nottopositioningofverticalr einforcingsteelordowels)	+12mm
1.	Dimensioninplan	-12 +50mm
2.	Eccentricity	0.02 times the width ofthefootinginthedirectio nofdeviationbutnotmoret han
3.	Thickness	+0.05 times thespecifiedthickness

PreparationPriortoConcretePlacem ent

Before concrete is actually placed in position, the inside of the formworkshallbe cleaned and mould oil applied, insert and reinforcement shall becorrectly positionedandsecurelyheld,necessaryopenings,pockets,etc.provide.

All arrangements formwork, equipment and proposed procedure, shall beapproved by the Engineer-in-charge, Contractor shall maintain separatePourcardforeachpourasperthe formatenclosed.

Transporting,PlacingandCompactingConcrete

Concreteshallbetransportedfromthemixingplanttotheformwork withminimumtimelapsebymethodsthatshallmaintaintherequiredworkabilityandwillpreventsegregation,lossofanyingredientsoringressofforeignmatterorwater.

In all cases concrete shall be deposited as nearly as practicable directly inits finalposition.Toavoidsegregation,concreteshallnotberehandledorcause to flow. For locations where direct placement is not possible and innarrowforms the Contractor shall provide suitable drops and "ElephantTrunks".Concreteshallnotbedroppedfromaheightofmorethan1.0m

Concrete shall notbeplaced inflowing water. Under water, concrete shallbe placed in position by termites or by pipeline from the mixer and shallneverbeallowedtofallfreelythroughthewater.

Concretingunderwater:

Whenitisnecessarytodepositconcreteunderwater,themethods,equipments,andmaterialsofthemixtobeusedshallbegotapprovedfromtheEngineer-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 stillwaterconditions if practicableandinanycasetoreducetheflowofwatertolessthan3 meterperminutethroughthespaceintowhichconcreteistobedeposited. The forms in still water shall besufficiently tight to preventloss of mortar through the joints in the walls. Pumping shallnot be donewhileconcreteisbeingplaced,oruntil24hoursthereafter.

Concreteshallcontinuetobedepositeduntilithasbeenbroughtto 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, thetopsectionof thetremie shallbea hopperlargeenough to holdonefull 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

thepipe.Preferably, flangedsteelpipeofadequate strengthfor thejobshall beused.Aseparateliftingdeviceshallbeprovidedforeachtremiepipewith itshopperattheupperend.Unlessthelowerendofthepipeisequippedwith anapprovedautomaticcheckvalve,theupperendofthepipeshallbe pluggedwithawedgingbyuseofgunnysacksorotherapprovedmaterial 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 itanywater inthe 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 formationoflayersoflaitance.Ifthechargeinthetremieislostwhile 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:
Thetopofthebucketshallbeclosed.Thebottomdoorsshallmove freelydownwardandoutwardwhentripped.Thebucketshallbefilled completelyandloweredslowlytoavoidbackwash.Itshallnotbedumpeduntil itrestsonthesurfaceuponwhichtheconcreteistobedepositedandwhendischargedshallb ewithdrawnslowlyuntilwellabovetheconcrete.

Tominimizetheformationoflaitance,greatcareshallbeexercised 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 becastin: 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;preventconta mination 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.

Concreteshallnormallybecompactedinitsfinalpositionwithinthirtyminutes ofleavingthemixer.Concreteshallbecompactedduringplacingwith approved vibrating equipment without causing segregationuntil itformsasolidmassfreefrom voidsthoroughlyworkedaroundreinforcementandembeddedfixturesandintoallcorn ersoftheformwork.Immersionvibratorsshallbeinsertedverticallyat pointsnotmorethan450mmapartandwithdrawnslowlytillairbubbles ceasetocometothesurface,leavingnovoids.Whenplacingconcretein layersadvancinghorizontally,careshallbetakentoensureadequate vibrationblendingandmeltingoftheconcretebetweensuccessivelayers. Vibratorsshallnotbeallowedtocomeincontactwithreinforcement, formwork andfinishedsurfacesafterstartofinitialset. Over-vibrationshallbeavoided.

Concrete may be conveyed and placed by mechanically operated equipmentaftergettingthecompleteprocedureapprovedbytheEngineer- in-charge.Theslumpshallbeheldtotheminimumnecessaryforconveying concretebythismethod.Whenconcreteistobepumped,theconcretemix shallbespeciallydesignedtosuitpumping.Careshallbetakentoavoidstoppagesinwork oncepumpinghasstarted.

Exceptwhen placingwith slip forms,each placement of concrete inmultiple lift workshallbeallowedtosetforatleast24hoursafterthefinalsetof concrete before the start of subsequentplacement.Placingshallstop when concrete reaches the top of the opening in walls or bottomsurface of slab, in slaband beam construction,and it shall beresumedbefore concrete takes initial set but not until ithas had to settle asapproved by the Engineer-in-charge.Concreteshallbeprotectedagainstdamageuntilfinalacceptance.

MassConcreteWorks

Sequenceofpouringformassconcreteworksshallbeasapprovedby theEngineer-in-charge.TheContractorshallexercisegreatcareto preventshrinkagecracksandshallmonitorthetemperatureoftheplacedconcreteifdirec ted.

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

saturatedcoveringsofsacking,canvas,hessianorotherabsorbent materialfor the period of complete hydration with a minimum of 7 days. The qualityofcuringwatershallbethesameasthat usedformixing.

Whereacuringmembraneisapprovedtobeusedbytheengineer-in-charge,thesameshallbeofanon-waxbasandshallnotimpairtheconcrete 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.

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 jointsshallbemadewiththeapprovaloftheEngineer-in-charge.

Dowels for concrete work, not likely to be taken tobetaken upin thenearfuture,shallbecoatedwithcementslurryandencasedin leanconcrete as indicatedontheDRAWINGSorasapprovedbytheEngineer-in-charge.

Beforeresumingconcretingonasurfacewhichhasnotfullyhardened, alllaitanceandloosestoneshallbethoroughlyremovedbywirebrushing/hackingandsurfacewashedwithhighpressurewaterjetandtreatedwiththinlayer of cementslurry for verticaljoints and horizontallayers.

Whenconcretingistoberesumedonasurfacewhichhasnotfullyhardened,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. Thereafterwork shallproceed in the normalway.

FoundationBedding

Allearthsurfacesuponwhichoragainstwhichconcreteistobeplaced, 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 shallnotbedepositedon large slopingrocksurfaces.Therockshall be cut to form rough steps or benches by picking, barring or wedging.The rocksurfaceshallbekeptwetfor2to4hoursbeforeconcreting.

Finishes

General

Theformworkforconcreteworksshallbesuchastogivethefinish asspecified.TheContractorshallmakegoodanyunavoidabledefectsasapprovedconsist entwiththetypeofconcreteandfinishspecified.Defectsduetobad workmanship (e.g. damaged or misaligned forms, defectives orpoorlycompactedconcrete)willnotbeaccepted.TheContractorshallconstructtheform workusingthecorrectmaterialsandmeettherequirementsofthedesignandtoproducefi nishedconcretetorequireddimension,plumbs,planesandfinishes.

SurfaceFinishTypeF1
Themainrequirementisthatofdense,wellcompactedconcrete.Notreatment is requiredexceptrepairofdefectiveareasfillingallformtieholesandcleaning upoflooseoradheringdebris.Forsurfacebelowgradewhichwillreceive waterproofingtreatmenttheconcreteshallbefreeofsurfaceirregularities which would interfere with proper and effective application ofwaterproofingmaterialspecifiedforuse.

SurfaceFinishTypeF2
The appearance shall be that of a smooth dense, well-compacted concreteshowingtheslightmarksofwellfittedshutteringjoints.The Contractor shallmakegoodanyblemishes.

SurfaceFinishTypeF3 Thisfinishshallgiveanappearanceofsmooth,dense,well-compactedconcretewithnoshuttermarks,stainfreeandwithnodiscoloration,blemishes ,arises,airholesetc.onlylinedor coated plywood with verytight jointsshallbeusedtoachievethisfinish.Thepanelsizeshallbeuniformand as large as practicable. Any minor blemishes that might occurshallbemadegoodbytheContractor.

IntegralCementFinishonConcreteFloor
Inallcaseswhereintegralcementfinishonaconcretefloorhasbeenspecified,the top layer of concrete shall be screeded off to proper level andtamped withtamper having conical projections so thattheaggregate shallbe forced below thesurface.Thesurfaceshallbefinishedwithawoodenfloatandatrowel with pressure. The finish shall be continued till theconcretereachesitsinitialset.Nocementorcement mortarfinishshallbeprovidedonthesurface.Wherespecified,a floorhardener as approved by the Engineer-in-charge shall be supplied and usedasrecommendedbythemanufacturer.

RepairandReplacementofUnsatisfactoryConcrete
Immediatelyaftertheshutteringisremoved,allthedefectiveareassuch ashoneycombedsurfaces,roughpatchesandholesleftbyformboltsetc. 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 methodofrepairtobeadoptedshallbefinalandbindingontheContractor. The surface shall be saturated with water for 24 hours beforepatching isdonewith 1:1 cementsandmortar.Theuseofepoxy forrebinding fresh concreteshallbe carriedoutasapprovedby theEngineer-in-charge.

VacuumdewateringofSlabs

Wherespecifiedfloorslabs,eithergradeorsuspended,shallbefinished byvacuum dewatering including all operations such as poker vibration,surfacevibration,vacuumprocessing,flattingandtrowellingasperequipment manufacturersrecommendation.

Theequipmenttobeusedshallbesubjecttotheengineer-in-charge.

HotWeatherRequirements

Concreteduringhotweathershallbecarriedoutasper IS:7861(PartI).

Adequate provisions shall be madelower concretetemperatureswhichshallnotexceed 40^{O}C atthetimeofplacementoffreshconcrete.

WheredirectedbytheEngineer-in-charge,theContractorshallspraynon-waxbasedcuringcompoundonunformedconcretesurfacesatnoextracosts.

ColdweatherRequirement

Concretingduringcoldweathershallbecarriedoutasper IS:7861(PartII).

Theambienttemperatureduringplacementanduptofinalsetshallnot fallbelow5deg.C.Approvedantifreeze/acceleratingadditivesshallbeusedwheredirected.

Formajorandlargescaleconcretingworksthetemperatureofconcrete attimes of mixing and placing, the thermal conductivity oftheformwork anditsinsulationandstrippedperiodshallbecloselymonitored.

LiquidRetainingStructures

The Contractor shall take specialcareforconcreteforliquidretaining structures, underground structures and those othersspecificallycalledfortoguaranteethefinishandwatertightness.

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.

Anyleakagethatmayoccurduringthehydro-testorsubsequentlyduring thedefects liability period or the period for which the structure is guaranteedshallbeeffectivelystoppedeitherbycement/epoxypressuregrouting,guniti ngorsuchothermethodsasmaybeapprovedbytheEngineer-in- charge.All such rectification shall be done by the CONTRACTOR to theentiresatisfactionoftheEngineer-in-chargeatnoextracosttotheOWNER.

TestingConcreteStructuresforLeakage

Hydro-statictestforwatertightnessshallbedoneatfullstoragelevel orsoffitofcoverslab,asmaybedirectedbytheEngineer-in-chargeasdescribedbelow:

Incaseofstructureswhoseexternalfacesareexposed,suchas 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 andaftertheexpiryofsevendaysafterthefilling;thelevelofthesurfaceof the water shall be recorded. The level of water shall berecorded again at subsequentintervalsof24hrs.overaperiodofsevendays.Backfillingshall bewithheldtillthetanksaretested.Thetotaldropinsurfacelevelovera period for sevendays shallbe taken as an indicationofthe watertightness of thestructure. TheEngineer-in-charge shall decideon the actual permissible nature of this drop in the surface level, taking intoaccount whether thestructuresareopenorclosedandthecorrespondingeffectithason evaporationlooses.Unlessspecifiedotherwise,astructurewhosetopis covered shall be deemed to be water tight if the total drop inthesurfaceleveloveraperiodofsevendaysdoesnotexceed40mm.

Eachcompartment/segmentofthestructureshallbetested individuallyandthenalltogether.

Forstructuressuchaspipes,tunnelsetc.thehydrostatictestshallbecarried outbyfillingwithwater,aftercuringasspecified,andsubjectingtothe specifiedtestpressureforspecifiedperiod.Ifduringthisperiod thelossofwater does not exceed the equivalent of the specifiedrate, thestructureshallbeconsideredtohavesuccessfullypassedthetest.

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 bythe Engineer-in-charge as per relevant IS Codes. Contractorshallhavetopayforthesetests.

In the event of any work being suspected of faulty material or workmanshiprequiringisremovaloriftheworkscubesdonotgivethestipulatedstrengths, theEngineer-in-chargereservestherighttoordertheContractorto takeoutcoresandconducttestsonthemordoultrasonictestingor loadtestingofstructure,etc.TheEngineer-in-chargealsoreservestheright toasktheContractortodismantleandre-dosuchunacceptablework,at nocost to the Owner. AlternatelyEngineer-in-chargealsoreservesthe righttoasktheCOTRACTORtodismantleandre-dosuch unacceptablework atthecostofCONTRACTOR.

Grouting

StandardGrout

Grout shall be provided as specified on theDRAWINGS.

TheproportionofStandardgroutshallbesuchastoproduceaflow ablemixture 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 hardenedconcreteshallbesaturatedwithwaterandjustbeforegrouting, 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	OnepartPortlandCementto onepartsand	0.44
b)	Genera lmix	25mmandoverbutlesst han50mm	OnepartPortlandCementto twopartsand	0.53
c)	Stiffmix	50mmandover	OnepartPortlandCementto	0.53

Non-ShrinkGrout

Non-shrink grout where required shall be provided in strict accordancewiththemanufacturer'sinstructions/specificationsontheDRAWINGS.

General

Inspection

All materials, workmanship and finished construction shall be subject tocontinuousinspectionandapprovalofEngineer-in-charge.Materialrejectedby Engineer-in- charge, shall be expressly removed from site andshallbereplacedbyContractorimmediately.

Clean-up

Uponthecompletionofconcretework,allforms,equipment,constructiontools, protective coverings and any debris, scraps of wood,etc.resultingfromtheworkshallberemovedandthepremisesleftclean.

AcceptanceCriteria

Anyconcreteworkshallsatisfytherequirementsgivenbelowindividuallyandcollectivelyforittobeacceptable.

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

TheEngineer-in-chargedecisionas to the acceptabilityor otherwiseofanyconcreteworkshallbefinalandbindingontheContractor.

Forworknotaccepted,theEngineer-in-chargemayreviewanddecidewhetherremedial 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.Nothingextrashallbecomepayabletothecontractorbythe Owner forexecutingtheremedialmeasures.

Waterstops
Material

ThematerialforthePVCwaterstopsshallbeaplasticcompoundwith thebasic resin of polyvinyl chloride and additional resins, plasticizers, inhibitors,whichsatisfiestheperformancecharacteristicsspecifiedbelowas 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 withcentre bulband grips for use within the concrete elements or of the surface (Kicker) typeforexternaluse.

PVCwaterstopsshallbeofapprovedmanufacture.Samplesandthe testcertificateshallbegotapprovedbytheEngineer-in-chargebeforeprocurementforincorporationintheworks.

Workmanship

Waterstopsshallbecleanedbeforeplacingtheminposition.Oilor greaseshallberemovedthoroughlyusing waterandsuitabledetergents.

Waterstopsshallbeprocuredinlonglengthsasmanufacturedtoavoidjoints as far as possible. Standard L orTtypeofintersection pieces shallbe procuredforusedependingontheirrequirement.Anynon-standardjunctionsshallbemadebycuttingthepiecestoprofileforjointing.Lappingofwaterstops 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 placingconcretewithsmallersizeaggregatesinthisregion.Projecting portionsofthewaterstopsembeddedinconcreteshallbethoroughly 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 concretingsoastoensurethatitdoesnotbendleadingtoformationof pockets. In addition, smaller size aggregates shall beusedforconcretinginthisregionalso.

PreformedFillersandJointSealingCompound

Materials

Preformed filler for expansion/isolation joints shall be non-extrudingandresilienttypeofbitumenimpregnatedfibersconformingtoIS:1838(PartI)

Bitumencoattoconcrete/masonrysurfacesforfixing the preformedbitumen filler stripshallconformto IS: 702.Bitumenprimershallconformtois:3384

Sealing compound for filling the joints above the preformed bitumen fillershallconformtoGrade"A"asperIS:1834

Workmanship

The thicknessof thepreformedbitumenfillershallbe25mmfor expansionjoints and 50 mm for isolation joints around foundation supporting rotatoryequipments. Contractor shall procure the stripsofthedesired thicknessandwidthinlengthasmanufactured.
Assembly of small pieces/thickness of strips to make up the specified sizeshallnotbepermitted.

Theconcrete/masonrysurfaceshallbe cleanedfreefromdustandany loose particles. When the surface is dry, one coat of industrial blowntypebitumen 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 bepressed 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 toapouring consistency forenabling itto run molten in a uniform manner into the joint. Before pouring the sealingcompound, the vertical faces of the concrete joint shall be applied hotwith acoat of bitumen primer conforming to IS: 3384 in order to improve theadhesivequalityofthesealingcompound.

Expansionjointsbetweenbeams/slabsshallbeprovidedwith100mmwidex 4 mmthickmildsteelplateatthesoffitofRCCbeams/slabstosupportandprevent theperformedjointfillerdislodging.Thisplateshallbeweldedtoanedge 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 ifany**
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.	CONSTRUCTIONJOINTSLOCATION &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.

MODEOFMEASUREMENTANDPAYMENT

The unitrate forconcreteworkundervariouscategoriesshallbe allinclusive and no claims for extra payment on account of such items asleaving holes, embedding inserts,etc.shallbeentertainedunlessseparatelyprovidedfor in the schedule of quantities. No extra claim shall also beentertained due tochangeinthenumber,positionand/ordimensionsofholes,slotsor 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.

Paymentsforconcretewillbemadeonthebasisofunitratesquoted for the respective items in the Schedule of Quantities. No deductionin the concretequantitywillbemadeforreinforcements,insertsetc.andopening lessthan0.100ofasq.minareaswhereconcreteismeasuredinsq.m and 0.010 cu.mwhere 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.

Onlytheactualquantityofsteelembeddedinconcreteincludinglaps 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:okBrickMasonryworkinCement:Mortar 1:6

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.

Thebricksshallbemouldedwithafrogof100mmx40mmand10mmto 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")225x1
10x75mm

Onlybricksofonestandardsizeshallbeusedinonework.The followingtolerances shall be permitted in the conventional size adopted in a particularwork.

Length±1/8"(3mm)width:±1/16"(1.5mm)Height:±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:
BricksshallbelaidinEnglishbondunlessdirectedotherwise.Halforcut bricksshall not be used except when necessary to complete the bond; closer in suchcaseshallbecuttorequiredsizeandusedneartheendsofwalls.

Alayerofmortarshallbespreadonfullwidthforsuitablelengthofthe lowercoarse.Eachbrickshallfirstbeproperlybeddedandsetframebygentlytappingwithhan dleoftrowelorwoodenmallet.It'sinsidefaceshallbeflushedwithmortar beforethe next brick is laid and pressed against it. On completion ofcoarsetheverticaljointsshallbefullyfilledfromthetopwithmortar.

Theworkshallbetakenuptrulyinplumb.Allcoarsesshallbelaid 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 woodenstraightedges,mason'sspiritlevel,squarehalfmeterrub,andpins, 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.

Allfixtures,pipes,outletsofwater,holdfastsofdoorsandwindowsetc. whicharerequiredtobebuiltinwallshallbeembeddedincementmortar.

Joints:
Bricksshallbesolaidthatalljointsarequiteflushwithmortar.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.

Thefaceofbrickshallbecleanedtheverydayonwhichtheworkislaidand allmortardroppingremoved.

Curing:
Greenworkshallbeprotectedfromrainsuitably.Masonryworkshallbe keptmoist on all the faces for a period of seven days. The top of masonry work shallbekeptwellwettedat thecloseoftheday.

Proportionoffoundationbed:
Ifthefoundationistobelaiddirectlyontheexcavatedbed,thebedshall beleveled,clearedofallloosematerials,cleanedandwettedbeforestringmasonryis tobe laid on concrete footing, the top of concrete shall be cleaned andmoistened.Thecontractorshallobtaintheengineer'sapprovalforthefoundationbedbef orefoundationmasonryisstarted.Whenprecastflooringistobeprovidedflush with the top of plinth, the inside plinth offset shall be kept lowerthantheoutsideplinthtopbythethickness ofthefollowing.

Modeofmeasurement&Payment:
Themeasurementofthisitemshallbetakenforthebrickmasonryfullycompleted in foundationuptoplinth.Thelimitingdimensionsnotexceedingthoseshownon the plains or as directed shall be final. Battered tapered andcurvedpositionshallbemeasurednet.

ItemNo.09:okHalfbrickmasonryincommonburntclaybuildingbrickhavingcrushingstrengthnotlessthan35kg/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, shallconformtoItemNo.16expectthatthebrickstobeusedshall 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 horizontalandallverticaljointsshallbetrulyvertical.Thebricksshallbelaid with frogs upwards. A set of masons tools shall be maintained on work asrequiredforfrequentchecking.

3. Modeofmeasurementsandpayment
Thelimitingdimensionsshallnotexceed thoseshownintheplanorasdirected.Anyworkdoneextraoverspecifieddimensionsshallbei gnored.

Therateshallbeforaunitofonesquaremeter.

ItemNo.11:ok20mm.thicksandfacecementplasteronwallsandRCCstructureuptoheightof10mt.andabovegroundlevelconsistingof12mmthickbackingcoatingofC.M.1:3(1cement:3sand)and8mmthickfinishingcoatinC.M.1:2(1cement:2sand)etc.complete

Material:
WatershallconformtoM-1.
CementMortarshallconformtoM-11

Workmanship:
The workshallbecarried outinthecoats.Thebackingcoat(basecoat)shallbe12mmthickinC.M.1:3.Therelevantspecificationisbelow:

Scaffolding:
Wooden bullies, bamboos, planks, treatles and other scaffolding shall be sound.Theseshallbeproperexaminedbeforeerectionanduse.Stage scaffoldingshallbeprovidedforceilingplasterwhichshallbeindependentofthewalls.

Preparationofbackground:

Thesurfaceshallbecleanedofalldust,loosemortar,droppings,tracesofalgar,efflorescence andotherforeignmatterbywaterorbybrushingifitisnothardandby hacking if it is hard. In case of concrete surface, if a chemical retarderhasbeenappliedtotheformwork,theshallberoughedbywirebrushingandalltheresultingdustandlooseparticleclearedoffandcareshallbetakenthatnoneof the retardersisleftonthesurface.Trimmingofprojectionsonbrick/concrete surfaceswherenecessaryshallbecarriedouttogetonevensurface.Rakingof jointsin case of masonry where necessary shall be allowed to dry outforsufficientperiodbeforecarryingouttheplasterwork.
Theworkshallnotbesoakedbutonlydampedevenlybeforeapplying 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.

Theplasterabout15x15cmsshallbefirstappliedhorizontallyandverticallyatnotmorethan 2 meters intervals over the entire surface to serve as gauge. Thesurfacesofthesegaugesshallbetrulyinplaneofthefinishedplasteredsurface.themortar shall than be applied in uniform surface slightly more than thespecifiedthickness,thenbroughttoatruesurfacebymarkingawoodenstraightedgereaching acrossthegaugeswithsmallupwardandsidewaysmovementsata time finallythesurfaceshallbefinishedoff truewithatrowelorwoodenfloataccordingasa smoothora sandy granular texture is required.Excessivetrowelingoroverworkingthefloatshallbeavoided.Allcorners, arises anglesandjunctionsshallbetrulyverticalorhorizontalasthecasemaybeandshallbecarefully finished.Roundingorchamferingcorners,arisesjunctionsetc.shall becarriedoutwithpropertemplatestothesizerequired.

Cement plaster shall be used half an hour after addition of water, and mortar orplasterwhich is partially set shall be rejected and removed forthwith fromthesite.

Insuspendingtheworkattheendoftheday,theplastershallbeleftoutclean

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.Beforethefirstcoathardensitssurfaceshal lbebeatenupbyedgesofwoodentapersandclosedents shallbemadeonthesurface.Thesubsequentcoatshallbeappliedafterthiscoathasbeenallow edtosetfor3to5daysdependinguponthe weatherconditions. Thesurfaceshallnotbeallowedtodryduringthisperiod.

thesecondcoatbestartedoverrightafterfinishingofplaster.Theplaster shallbe kept wet for a period of 7 days. During this period, it shall be protected fromalldamages.

Modeofmeasurements&Payments:

Therateshallincludethecostofallmaterialslabourandscaffoldingetc.involvedintheoperationsdescribedu nderworkmanship.

All plaster shallbemeasuredinsquaremeterunless otherwisespecifiedlength,breadthorheightshallbemeasuredcorrecttoacentimeter.

Thicknessoftheplastershallbeexclusiveof thethicknessof thekey i.e.grooves or open joints in brick work, stone work etc. or space between laths.Thickness of plastershallbeaveragethicknesswithminimum10mmat anypointonthissurface.

Thisitemincludesplasteringuptofloortwolevel.

Themeasurementofwallplasteringshallbetakenbetweenthewallsorpartition(dimensions beforeplasteringbeingtaken)forlengthandfromthetopoffloororskirting toceiling forheight,depthofcoverofcornices, ifany,shallbededucted.

Soffitsofstairsshallbemeasuredasplasteringonceilings.Elowignssoffitsshallbemeasureds eparately.

Forjambs,soffits,sides,etc.foropeningsnotexceeding0.5sq.mt.eachinareaforends ofjoints, beams, postsgirders, stepsetc. notexceeding 0.5sq.mt.each inarea andforopeningsexceeding0.5sq.mt.andnotexceeding3.00sq.mt.ineach areadeductionsandadditionsshallbemade inthe followingmanner:

a) Nodeductionsshallbemadeforendsofjoints,beams,postsetc. andopeningsnotexceeding0.5sq.mt.eachandnoadditionshallbemadeforreverse, jambs, soffits, side etc. of these openings, for finish to plasteraroundendsofjoints,beams,postsetc.

b) Deductionsforopeningsexceeding0.5sq.mt.butnotexceeding 3.00sq.mt. each shall be made as following and no addition shall be made forreverse,joints,soffits,sides,etc.oftheseopenings.

i) Whenbothfacesofallwallsareplasteredwithsameplaster.Deductionsshallbemade foronefaceonly.

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:okCementPlasterWithNeeru+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.Theseshallbeproperexaminedbeforeerectionanduse.Stage scaffoldingshallbeprovidedforceilingplasterwhichshallbeindependentofthewalls.
This kindofPlaster is normallyfor interior sideoras 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:
Therateshallincludethecost of allmaterialslabour and scaffolding etc.involvedintheoperationsdescribedunderworkmanship.

All plaster shall be measured in square meter unless otherwise specified length,breadthorheightshallbemeasuredcorrecttoacentimeter.

Thicknessofthe plastershallbeexclusiveofthe thicknessofthe key i.e.grooves or open joints in brick work, stone work etc. or space between laths.Thickness of plastershallbeaveragethicknesswithminimum10mmat anypointonthissurface.

Thisitemincludesplasteringuptofloortwolevel.
Themeasurementofwall plasteringshallbetakenbetweenthewallsorpartition(dimensionsbeforeplasteringbeingtaken)for length andfrom the topoffloororskirtingtoceilingfor height, depthofcoverofcornices, ifany, shallbededucted.

Soffitsofstairsshallbemeasuredasplasteringonceilings.Elowignssoffitsshallbemeasuredseparately.

For jambs, soffits, sides, etc. for openings notexceeding 0.5 sq.mt. each inareaforendsofjoints,beams,postsgirders,stepsetc.notexceeding0.5

sq.mt.eachinareaandforopeningsexceeding0.5sq.mt.andnotexceeding3.00sq.mt.ineachareaded uctionsandadditionsshallbemadeinthefollowingmanner:

a) Nodeductionsshallbemadeforendsofjoints,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.butnotexceeding3.00sq.mt .eachshallbemadeasfollowingandnoadditionshallbemadeforreverse,joi nts,soffits,sides,etc.oftheseopenings.

i) When both faces of all walls are plastered with sameplaster.Deductionsshallbemadeforonefaceonly.

ii)

- ✓ Foropeningshavingdoorsquaresequaltoorprojectingbeyond the thickness of wall. Full deduction for opening shallbemadefromeachplasteredfaceofthewall.
- ✓ Incaseofopeningsofareaabove3dq.mt.each deductionshall be made for opening but Jambs, soffits and slits shall bemeasured.

Therateshallbeforaunitofsquaremeter.

ItemNo.17:okFillinginplinthwithhardmurrumorselectedsoi linlayersof

0.23 cm. thickness including watering, ramming andconsolidatingetc.complete.

Materials:

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 shallnot be morethan20mm.

Workmanship:

Themurrumorselectedsoilshallbefilledinfoundationandplinthin20cms.la yersincludingconsolidating,ramming,watering,dressingetc.complete.

Modeofmeasurementandpayment:

Therelevantspecificationsoftheitemshallbefollowed.

Therateincludescostofcollectingandcartingmurrum/orselected earth of approved quality with all lead and labourrequired forfillingintrenches andplinth.

Therateshallbeforaunitofonecubicmetre.

ItemNo.19:OK
ApexColorworkonOutersideofWall(Twocoats)(withBaseCoat)FINISHES

EXTENTANDINTENT
TheContractorshallsupplyallmaterials,labour,tools,ladders,scaffolding and other equipment necessary for the completionandprotection of all painting / finishing work. Painting& finishing, asherein specifiedshall 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 singleplaceapproved bytheEngineer-in-charge ofRMCforthiswork. 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
Allshades,asprovidedintheshadeschedule,shallbeapproved bythe Engineer- in-charge of RMC for this work. The Contractor shall asfaraspossibleusepre-mixedmanufacturer'sshadesandshallprepare sampleof the shades selected and submit same for approvalby theEngineer-in-chargeof RMC for this work. No work is to proceeduntilthe 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

providedforall,painting/finishingwork.Thesupportsshallbe 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 evenlyspreadandsmoothlyflowedaswithoutrunningsags,using goodqualitytools,brushes, etc.,asrequired.Onlyskilledpainters/applicatorsshallbeemployed.A properlyqualifiedforemanshallbeconstantlyonthejobwhilstthe workisproceeding.Allsurfacestobepainted/finishedshallbe cleaned free of all loose dirt and dustbeforepainting/finishingisstarted.AIIworkwhereacoatofmaterialhas 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 orprovideportion toallsuchitems.Uponcompletion 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 dedgeswhichwillbeconcealedwheninstalled.Suchsurfacesshall beclean,dry,sandedandproperlypreparedtoreceivethepaint. Tops,bottom and edges of doors shall be finished same as the rest of thedoor.

PROTECTANDCLEAN

Theagencyshallprotectnotonlyhisownworkatalltimes,but shallalso protect all adjacent work and materials by suitable coveringduringprogress ofhis work.Uponcompletion ofhis work,he shallremoveallpaintandvarnishspotsfromfloors,glassandothersurfaces. Anydefaced surfacesshallbecleanedandthe originalfinishrestored.Heshall remove from the premises all rubbish andaccumulated material and shall leave the work in clean, orderly andacceptableconditions.

PREPARATIONOFSURFACES

PLASTERWORK:Fillallholes,cracksandabrasionswithplasterofparish / cement slurry as directed, properly prepared and appliedandsmoothed off to match adjoiningsurfaces. Do not use sand paper onplastersurfaces.Plastershallbeallowedtodryforatleast12(twelve)wee ksbeforetheapplicationofpaint/finishes.

STEELANDIRON:Allsurfacesshallbewashedwithmineralspirits 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

Thepaintshallbecontinuouslystirredinthecontainersothat itsconsistencyiskeptuniformthroughout.

Thepainting/finishingshallbelaidonevenlyandsmoothlybymeansofcrossingandlayingoff,thelatterinthedirectionof thegrainofthewood.Thecrossingandlayingoffconsistsofcoveringthearea with paint, brushingthesurfacehardforthefirsttimeandthenbrushing alternativelyinoppositedirections,twoorthree timesandthenfinally brushinglightlyinadirectionatrightanglestothesame.Inthis processnobrushmarksshallbeleftafterthelayingoffisfinished. The full process of crossing and laying off will constitute onecoat.

Where so stipulated, the painting / finishing shall be carried out usingspraymachinessuitedforthe natureandlocationoftheworkto 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 shallbe carriedout only in dry conditions.Noexteriorpainting/ finishingshall bedoneindampfoggyorrainyweather.

Surface to be painted shall be clean, dry, smooth and adequatelyprotectedfromdampness.Eachcoatshallbeappliedin sufficientquantity to obtain complete coverage, shall be well brushed andevenlyworkedoutovertheentiresurfaceandintoallcorners, anglesand crevicesallowedto thoroughly dry.Secondcoatshallbeofsuitable shade to match final color, and shall beapprovedbytheEngineer-in-chargeofRMCforthisworkbefore finalcoatisstarted.Allowatleast48hoursdryingtimebetween 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 anddustuntilcompletelydry.Finishedworkshallbeuniformof approvedcolor,smoothandfreefromruns,sags,defectivebrushingandclogging. Make edgesofpaints adjoining materials of colors sharpandclean,withoutoverlapping.

Inorder toachievea superior finished surface,puttypastefillersshallbe 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 aclean surface. Surface tobe stained shall be covered with uniform coat of stain wiped off ifrequired.

FINISH: The painted surfaces shall be finished to requiretexture.Matt finish shall be achieved by use of sponge rollers or stipplingbrushesascalledfor.

Therateshallbepaidforaunitofonesquaremeterbasis.

ItemNo.20:OKPlasticEmulsionpaint(twocoats)(AsianPaint,ICI,Dulux,Nerolac,Berger,etc.ofapprovedtype(withprimecoat):

Materials:
Theenamel paintshallsatisfyin general requirements inspecificationsofoilpaints.EnamelpaintshallconfirmtoIS Latestedition.

Workmanship:
The materials required for work of painting work shall be obtaineddirectlyfrom approved manufacturer or approveddealerand 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. Whennotin 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 brushingalternatelyinoppositedirectionstwoorthreetimesandthen 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 sandpaperof 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.

Nodeductionsshallbemadeforopeningsnotexceeding0.5 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 paintingon 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:okProviding&layingVitrifiedTilesforflooringwor kin1stQuality

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 tilesshall belaidoncementmortar 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.Themortarshallthenbespreadinthicknessnotless than10mmat anyplaceandaverage12mmthickness.Theproportionofthecementmor tarshallbeasspecifiedintheitem.

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 tappedwith awooden mallet till they are properly bedded and in level with theadjoining tiles. There shall be no hollows in bed or joints. The jointsbetweenthetilesshallbeasthin aspossibleinstraightlineor asper pattern.

Thetilesshallnothavestaggeredjoints.Thejointsshallbetrue tocentreline both ways. The Nahni trap coming in the flooring shall besopositionedthatitsgratingshallreplaceonlyonetileasfar aspossible.Wherefullsizetilescannotbefixed,theyshallbe cut(Swan)totherequiredsizeandtheedgesrubbedsmoothtoensurestra ight and true joints. The joints shall bee filled with grey cementgroutwithwirebrushoftroweltoadepthof5mmand loosematerialremoved.Whitecementshallbeusedforpointing thejoints. Afterfixing thetilefinallyinanevenplanetheflooring shallbekeptwetandallowedtonatureundisturbedfor7days.

CLEANING

Thesurpluscementgroutthatmayhavecomeoutofthe jointsshallbeclearedoffbeforeitsets.Oncethefloorhasset,it shall becarefullywashed,clearedbydiluteacidanddried.Properprecautionand measuresshall be taken to ensure that the tiles arenotdamagedmanywaystillthecompletionoftheconstruction.

ModeofMeasurement:

Therateforthisitemwillbepaidononesquaremeterbasis.

ItemNo.22:ok
Providingandlayingglazedtilesof6mmthickofapproved quality(1st quality) of requiredsizejointed withcement pasteon10mmthickcementplaster1:3(1-cement3-Coarsesand)pointing whitecement andjointedwithwhitecementslurry

MATERIALS

GlazedTiles

Thetilesshallbeofbestqualityasapprovedbytheengineer-in-charge.Theyshallbefloatandtruetoshape.Theyshallbefreefromcracks,crazings pots,chippededgesandcorners.Theglazingshallbeofuniformshade.

Variationfromthestatedsizes,otherthanthethicknessoftileshallbe plusor

minus 1.5 mm. The thickness of tile shall be 6 mmexceptasabovethetilesshallconfirmtoI.S.Latestedition.

BEDDING

Thesub-gradeshallbecleaned,wettedandmopped.Thebedding shallthen be laid evenly over the surface tamped and corrected to desiredlevelandallowedtohardenenoughtoofferarigidcushiontotilesandtoenable the masontoplacewoodenplanksacrossandequalonit.

TheColorglazedtilesshallbelaidoncementmortarbeddingof10mmthickin C.M.1:3.Themortarshallhavesufficientplasticityforlayingand thereshallbenohardlumpsthatwouldinterferewiththeevennessofbedding.Thebas eshallbeclearedandwellwetted.Themortarshallthenbespread in thickness not less than 10mmat any place and average12mmthickness.Theproportionofthecementmortarshallbe asspecifiedintheitem.

FIXINGTILES

Thetilesbeforelayingshallbesoakedinwaterforatleasttwo 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 woodenmallettilltheyareproperlybeddedandinlevelwiththeadjoiningtiles.There shallbenohollowsin 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 linebothways.TheNahnitrapcominginthefloorings hallbe 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 cementshallbeusedforpointingthejoints.Afterfixingthetilefinallyin an evenplane the flooring shall be kept wet and allowed to nature undisturbedfor7days.

CLEANING

Thesurpluscementgroutthatmayhavecomeoutofthejointsshallbeclearedoff before it sets. Once the floor has set, it shall be carefullywashed,clearedbydiluteacidanddried.Properprecautionandmeasures shall be taken to ensure that the tiles are not damaged manywaystillthecompletionoftheconstruction.

Therateforthisitemwillbepaidononesquaremeterbasis.

ItemNo.23:ok
Supply&FixingofPolishedofKotaStoneofrequiredsize&thicknessasinstructedtofixedin Platform/CupBoard etc

1.0Materials

1.1.WatershallconfirmtoM-1.LimemortarshallconfirmtoM-10,CementmortarshallconfirmtoM-11,GraniteStoneshallconfirmto M-52.

2.0. Workmanship

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 shallbe true square and free fromchippings and giving aplanesurface.Thethickness shallbe25 mm. (Average) as specified in this item but notlessthan20mmatanyplace.

Beddingforthekotastoneslabsshallbeoflimemortar1:2(1lime :2coarsesand)ofaveragethickness20mm.Subgrade shallbecleaned,wettedandmopped.Mortarofthespecified mixandthicknessshallbespreadonanareasufficientto receiveonestoneslab.Theslabshallthenbewashedclean beforelaying. Itshallbelaidontoppressed, tappedgentlyto bring itin level with the other slabs. It shall then be lifted and laidaside.Topsurfaceofthemortarshallthenbecorrected byadding fresh mortar at hollows or depressions. The mortarshall then be allowed to harden bit. Over thisSurface,cementslurryofhoneylikeconsistencyshallbeapplied. The slabshallthenbegentlyplacedinpositionandtappedwith woodenImallettillit is properly beddedin level.with andclose to theadjoining slab. Thejoint shall be as fine as possible. The slabsfixedintheflooradjoiningthewallsshallenternotlessthan 10mm.undertheplaster,skirtingordedo.Thejunctionbetweenwall and floor shall be finished neatly. The finishedsurfaceshallbetruetolevelsandslopesasdirected.

The floor shall be kept wet for a minimum period of 7 days sothatbeddingandjointssetproperly.

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.Thenthepolishingmachinefittedwithbobsshallberunover it

.

TheholesrequiredforNahnitraps,pipesand other fittingsshallbemadewithoutanyextracost.

Modeofmeasurements&payment

Therateshallincludethecost of allmaterialsandlabourinvolved 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

andnodeductionshallbemadenorextrapaidforanyopening

infloorofareasupto0.1sq.mt.

ItemNo.24:okSupply,Fixing&PolishingforGraniteFlooringwork18mmthick&200mmBaseofLime:Mortar inproportionof1:2

1.0Materials

1.1.WatershallconfirmtoM-1.LimemortarshallconfirmtoM-10,CementmortarshallconfirmtoM-11,GraniteStoneshallconfirmto M-52.

Workmanship

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 shallbe true square and free fromchippings and giving aplane surface.The thickness shallbe25 mm. (Average) as specified in this item but notlessthan20mmatanyplace.

BeddingfortheGranitestoneslabsshallbeoflimemortar1:2(1lime :2coarsesand)ofaveragethickness20mm.Subgrade shallbecleaned,wettedandmopped.Mortarofthespecified mixandthicknessshallbespreadonanareasufficientto receiveonestoneslab.Theslabshallthenbewashedclean beforelaying.Itshallbelaidontoppressed, tappedgentlyto bring itin level with the other slabs. It shall then be lifted and laidaside.Topsurfaceofthemortarshallthenbecorrected byadding fresh mortar at hollows or depressions. The mortarshall thenbe allowed to harden bit. Over thisSurface, cementslurryofhoneylikeconsistencyshallbeapplied.The slabshallthenbegentlyplacedinpositionandtappedwith wooden Imallet tillit is properly beddedin level.with andclose to theadjoining slab. Thejoint shall be as fine as possible. The slabsfixedintheflooradjoiningthewallsshallenternotlessthan 10mm.undertheplaster,skirtingordedo.Thejunctionbetweenwall and floor shall be finished neatly. The finishedsurfaceshallbetruetolevelsandslopesasdirected.

The floor shall be kept wet for a minimum period of 7 days sothatbeddingandjointssetproperly.

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.Thenthepolishingmachinefittedwithbobsshallberunover it

.

TheholesrequiredforNahnitraps,pipesand other fittingsshallbemadewithoutanyextracost.

Modeofmeasurements&payment

3.1Therateshallincludethecost of allmaterialsandlabourinvolved 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:okFlushDoor25mmthickwithIronframeforDoor&windowwithpolishing/oilpaintingusingcompanyviz.Kitply/Century/Dura/Everest

Providing, supplying and fixing ofFlushDoor 25mm thickwith Ironframe forDoor&windowwithpolishing/oilpaintingofapprovedqualityusing company viz. Kitply / Century / Dura /Everest and make includingnecessaryfittings,fixingasdirectedbytheengineer-in-chargeetccomplete.

Therateforthisworkwillbepaidsquaremeterbasis.

ItemNo.26:ok Supply&FixingofLaminates1mmofApprovedQualityofISImarked

Providing, supplying and fixing Laminates 1mm of Approved Quality ofISI marked of approved quality and make including necessary fittings,fixingasdirectedbytheengineer-in-chargeetccomplete.

Therateforthisworkwillbepaidsquaremeterbasis.

ItemNo.27:OKPaintingtwocoats(includingprimingcoat)onnewsteelandothermetal surfaces with enamel paint, brushing, interior togiveanevenshadeincludingcleaningthesurfaceofalldirt,dustandother foreignmatter.

Materials:

Thereadymixedpaint,brushing,woodprimerpinkshallconfirmtoI.S .3536-1966(Latest edition).

Workmanship:

PreparationofSurfaces:

All wood work shall be dry and free from any foreign matterincidental to building operations. Nails shall be punched wellbelowthe surface to provide a firm key for stopping. Mouldingsshallbecarefullysmoothenedwithabrasivepaperandprojecting fibresshallberemoved.Flatportionshallbesmoothenedoffwithabrasivepaperusedacrossthegrainpriortostainingandwiththegrain priortostainingorifthewoodistobeleftinitsnaturalcolour, wood work which is to be stained may be smoothened toscrapinginsteadofbyglasspaperingifsorequired.

Anyknots,resinousorstricaksorblueishsapwoodthatare notlarge enough to justify cutting out shall be treated with two coatsof pure shellac knotting applied thinly and extended about 25 mm.beyondtheactualarearequiringtreatment.

Applicationofprimer:

The relevant specifications of item No. 19.12 (A) shall be followedforapplicationofprimer.

Materials: TheenamelpaintshallconfirmtoM-44B.**2.0Workmanship:**

General:

The materialsrequiredfor work of painting work shall be obtaineddirectly fromapprovedmanufacturersorapproveddealerandbroughttothesiteinmaker'sdrums,kegsetc.withsealunbroken.

2 1.2. Allmaterialsnotinactualuse, shallbekeptproperly protected,lids of containers shall be kept closed and surface of paint in openor partially open containers covered with a thin layer of turpentineto preventformationofskin.Thematerialswhichhavebecomestale 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.

If for any seasons, thinning is necessary, the brand of thinnerrecommendedbythemanufacturershallbeused.

Thesurfacetobepaintedshallbethoroughlycleanedam.'dusted. Allrust, dirt and grease shall be thoroughlyremovedbefore painting isstarted.Nopaintingonexteriororotherexposedpartsofthe work shall be carried out in wet, damp orotherwiseunfavorableweather and all the surfaces shall bethoroughlydrybeforepainting workisstarted.

Application:

Brushing operations arc to be adjusted to the spreading capacityadvised by the manufacture of particular paint. Thepaint 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 andthenbrushingalternatelyinoppositedirectionstwoorthree

timesandthenfinallybrushinglightlyindirectionatrightanglestothe same.Inthisprocess,nobrushmarksshallbeleftafterthe layingoff is

finished. The fullprocess of crossing and laying off willconstituteonecoat.

Each coat shall be allowed todry completely andlightly rubbedwith veryfinegradeofsandpaperandlooseparticlesbrushedoff beforenextcoatisapplied.Eachcoatshallvaryslightlyinshade and shall be got approved from Engineer-incharge beforenextcoatisstarted.

Eachcoatexceptthelastcostshallbelightlyrubbeddown 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.

Specialcare shallbetakenwhilepainting overbolts,nuts,rivets,overlapsetc.Approvedbestqualitybrushesshallb eused.

Modeofmeasurements&payment:

Therelevantspecificationsofitemshall be followed for mode of measurementsandpayment.Therateisexcludingprimingcoat. Therateshallbeforaunitofonesq.meter.

ItemNo.28:OKIronWorkasperdrawingandInstructionsallc omplete:

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 beobtained according to IS 226 Latest editionandotherrelevantIndianStandards.

Thedesignshouldbemadeaspertheinstructionsofengineer-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.

Workmanship

Theworkshallconsistoffurnishingandplacingreinforcementto

theshapeanddimensionsshownasonthedrawingsorasdirected.

Steel shallbe clean andfree from rustand loose mill scale atthetimeoffixinginpositionandsubsequentconcreting.

Reinforcingsteelshallconformaccuratetothedimensionsgivenin 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 thatwill the material. Bars bentduringtransportor, 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.Theradiusof thebendshallnotbelessthen twice thediameterofcirclehavinganequivalenteffectivearea.The hooks shall be suitably encased topreventanysplittingoftheconcrete.

All the reinforcement bars shall be accurately placed in exactpositionshownonthedrawings,andshallbesecurelyheld inposition during placingofconcreteby annealed binding wirenotlessthan1 mminsizeandbyusingstayblocksor metalchairspacers,metalhangers,supportingwiresorotherapproved devicesatsufficientlycloseintervals,Barsshallnotbeallowedtosagbet weensupportsnordisplacedduring concretingoranyotheroperationsofthework.Alldevicesusedforpositio ningshallbe ofnon-corrodiblematerial.Woodenandmetalsupportsshallnotextendtothes urfaceofconcrete,exceptwhere shown on drawings. Placing bars on, layers offreshly laid concreteastheworkprogressesfroadjustingbarspacingshallnotbe allowed.Piecesofbrokenstoneorbrickandwoodenblocksshall not be used. Layers of bars shall beseparatedbyspacerbars,precastmortarbricks.ortheirapproveddevi ces. Reinforcement after being placed in positionshallbemaintainedinacleanconditionuntilcompletelyembedd edinconcrete.Specialcareshallbeexercisedtopreventany displacement ofreinforcementinconcretealreadyplaced:To preventreinforcementformcorrosion,concrete covershallbe providedasindicatedondrawings.Allthebars producingfrom concreteandtowhichotherbarsaretobesplicedandwhichare, likely to beexposedforaperiodexceeding10 daysshallbeprotected byathickcoat ofneatcement grout.

Barscrossingeachotherwhererequiredshallbesecuredbybinding wire (annealed) of size not less than 1 mm in such amanner thattheydonotslip;overeachotheratthetimeoffixingand concreting:

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,butbekeptapartby25mm.or1.25timesthemaximum size of thecoarse aggregate whichever is greater by concretebetween them.Wherenotfeasible,overlappingbarsshallbebound

withannealedwiresnot lessthan 1mm.thicktwistedtight.Theoverlapsshallbestaggeredfordifferentbar

sandlocatedat

points,alongthespanwhereneithershearnotbendingmomentismaximum.

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 lengthsothattheeffectivecrosssectionatthebaseofthreadsis not lessthanthenormalcross-sectionofthebar.Threadsshallbestandardthreads:SteelforcouplingshallconformtoI:S.226(Latestedition)

Whenpermittedorspecifiedonthedrawing'sjointsofreinforcementbarsshallbutt-weldedsoastotransittheirfullstresses.Welded jointsshallpreferablybelocatedatpointswhensteelwillnotbe subject to more than 75 percentof the maximumpermissiblestressesandweldsso staggeredthatatanyonesectionnotmorethan20percentofthe rodsarewelded.Onlyelectricareweldingusingaprocesswhich excludesairfromthemoltenmetalandconformstoanyorall otherspecialprovisionsfortheworkshallbeaccepted.Suitable means shall be providedfor holding bars securely in position duringwelding.Itshallbeensuredthatnovoidsareleftinwelding and when welding isdone in two or, three stages, previous surface shallbecleaned.properly.Endsofthebarsshallbecleanedofallloose scale, rust,grease,paintandotherforeignmatterbeforewelding.Onlycompetentweldersshallbeemployedonthework.TheM.S.electrodes used for welding shall conformtoI.S.814(Latestedition).Weldedpiecesofreinforcementshallbe tested:Specimenshallbetakenfromtheactualsiteand theirnumberand frequencyof testshallbeasdirected.

Modeofmeasurements&payment

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,shallbemeasuredfarpaymentasequivalentlengthof overlapasperdesignrequirement.Fromthelengthsomeasured, the weightof reinforcement shall be calculated in Kgs. Length shall includehooks at the ends. Wastage and annealed steel wire for bindingshallnotbemeasuredandthecostoftheseitemsshall bedeemedtobeincludedintherateforreinforcement.

The rate for reinforcement includes cost of steel binding wires, itscartingtoworksite,cutting,bending;placing,bindingandfixingin position as shown on thedrawingsand asdirected,It shallalsoincludealldevices for keeping reinforcement in approvedposition, cost of joining as per approved method and all wastageand spacerbars.
TherateshallbeforaunitofOneKg.

ItemNo.30:okNumberingonBuilding /Quarters(Paintingwork)

PaintingandNumberingworkofvariouscharactersofapprovedqualitypaintsasdirected bytheengineer-in-chargeetccomplete.

Therateshallbepaidforaunitpercharacterbasis.

ItemNo.31:okSupply&FixingofRCCPrecastFramed oor-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 Panwhiteporselinstandards ize

MATERIALS

Orissatypewatercloset:
The specificationof Orissa type white glazed water closet of firstqualityshall conform to IS: latest edition and relevant specification ofIndiantype watercloset exceptthatpanwillbewiththeintegralsquattingpanofsize580x440mmw ithraisedfootrest.

WORKMANSHIP
Thepanshallbesunkintothefloorandembeddedinacushionofaverage15cmcement1:5:10(1Cement: 5FineSand:10Gradedstoneaggregate 40mm.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 itsbedconcrete.Thefloorshouldbesuitablystoppedsothatthewaste wateris drainedinto the pan. The pan shall be providedwith100 mm 'P'or'S'trapsasspecifiedinwithapproximately50mmseal.The jointsin thepanand the trapshall be made leak-proof with cement mortar1:1(1Cement:1FineSand).

Therateshallbepaidforaunitofnumberbasis.

ItemNo.32B:OKProviding&fixingPVCNahnitrapof7.6cmcompl ete

ProvidingandfixingU-PVC3.5"thickofprince/supreme/jainmakenanhi trap at all floor levels, of the following nominal diameter ofselfcleaning designwithC.I.screweddownorhingedgratingincludingcostof cuttingand making good the walls and floors 100 mm. inlet and 50mmoutlet etc. complete.

MATERIALS

TheUPVCnahnitrapshallconformtoM-68-A.

WORKMANSHIP
Thenahnitrapwith100mm.dia.inletand50mm.dia.outletshallbefixedasper drawingsorasdirected.
ThenahnitrapshallbejointedwithPVCpipe,75mm.dia. withjointingmaterialsaspermanufacturer'sinstruction.

MODEOFMEASUREMENTS&PAYMENTS
Therateincludescostofalllabour,materials,toolsandplants etc.requiredforsatisfactorycompletionofthisitemincludingleadjointingandte sting.
Therateshallbeforaunitofonenumber.

1.0MATERIAL
1.0Nahnitrap

NahniTrapshallbeofPVCmaterialandshallbesoundandfreefromporosityor anydefectswhichaffectserviceability.Thethicknessofthebaseshallnotbeless then6.5mm.Thesurfaceshallbe smoothandfreefromsraze,chipsandotherflawsoranyotherkind of defect which affect serviceability. The size of Nahnitrapshallbespecified andshallbeofselfcleaningdesign.

TheNahnitrapshallbeofqualityapprovedbyEngineerin chargeand shallgenerallyconfirmtotherelevantIndianstandard

TheNahnitrapprovidedshallbewithdeepsealminimum50 mmexpectatplaceswheretrapwithdeepsealcannotbeaccommodated.The cover shallbePVCperforatedcover shallbeprovidedonthe trap ofappropriate size as approved by Engineer incharge.

The Nahni trap supplied on site shall be in good condition withoutanydamages in it and the surface shall be bright and smoothwithout anyscratchetc.

WORKMANSHIPFITTING&FIXING

WhentheNahnitraparetobeFitted,theendsshallbecarefullyfiled outso that no obstructionto bore in offered. The Nahni trapshall be fitted with pipes carefully in such a manner as will notresultinslacknessofjointswhenthetwopiecesarescrewedtogether

2.2 In jointing theNahnitrap theinsideof thesocket. Theend 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,theopenendsoftheNahnitrapshall 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:

The unit rate of Nahni trap shall include the cost of all materials,toolsandplantrequiredforfitting,thesametospecified position asperdrawings,andasdirectedbyEngineerinchargefinishingstructure,etc,an dallotherincidentalexpensesforproducingitemofNahni trapworktocompletethestructureoritscomponentsasshownon the drawings, andas directed by Engineer in charge andaccording tothese specifications. They shallalso include the costofmaking, fixing andremovingofallscaffoldingand formsrequiredforthework.

The rate of Nahni traps shall include the cost of all labour,materials,GIfittingsasrequired,toolsandplantscaffoldingandallincidentalexpensesasd escribedhereinabove.

TheNahnitrapshallbemeasuredforits**Number**,limitingdimensions to those specified on plan or as directed. The rate shallbefora unitof oneNumber.
Thepaymentwillbemadeonnumberbasisofthefinishedwork.

ItemNo.32C&D:OK
White porselin Kitchen Sink size 60/450/200 mm withsupplyand fitting.AND
WhiteporcelainwashbasinS60/410mmindianmakeC.I.bracketwithfittingchromiumplattedtopes25cmplasticwaste pipe and12mmpillarcockwithcomp.

1.0: Materials:

1.1. ThewhiteglazedearthenwareKitchensinkof60mmx 450mmx200mmandwashbasinshallbe560mm.x410 mm.of1st qualityandmakeasapprovedbytheEngineer-in-charge.ThewashbasinshallconformtoM-59.

Workmanship:

Thewashbasinshallbefixedonthewallasandwheredirected. The washbasinshallbesupportedona pairofR.S.orC.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.:

Thebracketshallbepaintedwhitewithready-mixedpaint.

The C.I. brass trap and union shall be connected to 32 mm.dia.waste pipewhich shall be suitably bent towards thewall 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.

The height of the front edgeof the wash basin from the floorlevelshallbe80cms.

The necessary inlet, outlet connections and fittings such aspillar cocks; CP Grass waste trap waste pipe, stop cock, chainwishrubberplugetc. shallbefixed.
Thepaymentoffittingsshallbemadeseparatelyunderseparateitem s.

3.0: Modeofmeasurements&payment

Therateincludescostofalllabour,materials,toolsand plantetc.requiredforsatisfactorycompletionofthisitemasspecified inworkmanship.

TherateshallbeforaunitofOnenumber.

ItemNo.32E:OK
Flushing Valve CastIronCromiumPlattedpush cockor handletypewithflushingsupplyandfixing

MATERIALS

Providing,supplyingandfixingofFlushingValveCastIronCromiumPlattedpushcockorhandletype

withflushingofapprovedqualityincludingnecessaryfittings,fixingasdirectedbytheengineer-in-chargeetccomplete.

TherateforthisworkwillpaidperNumberbasis.

ItemNo.32F:OKProvidingandfixingBrassWheelvalveof25mm/50mmdiaandfixingetccompleteofI.S.I.marketccomplete.

MATERIALS

The brass check or non return valve shall be fully cleared of allforeign matterbeforefixing.Thefixingofvalveshallbedonebymeansofbolts nuts and 3 mm. rubber insertions with flanges of spigotand socketed till pieces,drilledtothesamespecificationasincaseofsocketand spigotand withflangesincaseofflanged pipes.
Thejointingsmallbedoneleakproof.

TheISIMarked Brassfullwaywheel valve of 25 mm / 50 mm diashallhavetofittedasperinstructionsofengineer-in-charge.

TherateforthisworkwillpaidperNumberbasis.

ItemNo.32G&H:OK
Rigid P.V.C. Pipe ISI Marked of 6 kg/sq.cm. Pressure, requiredwithcoupler,onlysuppliesworkandfixingforpipeof110m.m .outerdia.(A)110mm(B)50mm:

Material

Thelowdensitypolythenepipeofspecifieddiameterwith6Kg/Sq. cm. working pressure shall conform to IS. latest edition.Thespecialsandfittingsrequiredshallbeofbestquality.

Workmanship

ThePVC. pipesofspecifieddiametershallbefixedasdirected:Due tothermalexpansionofrigidPVCpipes,dueallowanceshallbe madeparticularlyinovergroundpipelinesforanychange inlengthofpipelinewhichmay occurduringinstallationorwhenpipelineisinservice:

Above ground installation of rigid PVC; pipe should be undertakenafter preparations are observed for their protection against directsunraysandmechanicaldamage.

TherigidPVC.pipelinesshouldnotbekeptexposedabovegroundwhenitpas sesthroughpublicplaces,railwaylines,roadsideandfootpaths.

PVC.pipesshallbesupportedatthefollowingintervals:

-20mm.dia.500mm.-25mm.dia.750mm.-32mm.dia900mm:

Close support spacing shall be provided if recommended by themanufacture.

The guide lines indicated by the manufacturer regarding handling,transportation,storing,layingandjointingofpipesshall be keptinviewduringexecution.

PVC pipes shall be fixed on wall with wooden plugs and suitableplasticclamps.

Jointingthepipes:

The pipes and sockets shall be accurately cut. The ends of thepipes andfittingsshouldbeabsolutelyfreefromdirtanddust.The outsidesurfaceofthepipesandtheinsideofthefittingsshallthen beroughenedwithemerypaper,andthensolventcementjoint. 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 cementtins,brushes,rags,orpaperunpregnatedwithcement should not be buried in the trenches. They should begatherednotleftscatteredabout,astheycanprove to be ahazardtoanimals,whichmaychewthem.

If any manufacturer recommends its own methods of jointing thesameshallbeadoptedafternecessaryapprovalfromtheEngineer-in-charge.

LayingpipesinTrenches:

The pipes shallbe laid over uniformrelatively soft fine grainedsoil foundto be freeofpresenceofhardobjects suchaslargeflints, rockyprojections;largetreerootsetc.Thewidthof thetrenchesshall beminimumwidthrequiredforworking.

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.

Modeofmeasurementsandpayment

Thedescriptionofeachitemshall,unless otherwisestated, beheldtoincludewherenecessary,conveyance,anddelivery,handling,unloading,storing,fabrication,hoisting,alllabourforfinishingtorequired shapeandsize,setting,fittinginposition,straight,cutting and waste,returnofpackingsetc.

The length shall be measured on running meter basis of finishedwork.Thelengthshallbetakenalongthecentrelineofthe ,pipeand fittings. The pipes fixed to walls, ceiling; floors etc. shall bemeasured and paidunderthisitem.

Alltheworkshallbe measuredindecimalsystemasfixed initsplace,subjecttotolerancegivenbelowunlessotherwisestated.

(i) Dimensionshallbemeasuredtothenearest0.01metre.

(ii) Areashallbeworkedouttothenearest0.01sq.meter

3.4 Allmeasurementsofcuttingshallunlessotherwisestatedbe heldtoincludetheconsequent waste.

Incaseoffittingofunequalbore,thelargestboreshallbemeasuredfort hetest.

Testing of pipelines, fittings, and joints include for providingallplantandappliancesnecessaryforobtainingaccesstothewo rktobetestedand carryingoutthetests.

The rate includes galvanized steel tubingwith screwed socketjoints,togetherwithallfittings(suchasbends,sockets,springs,elbows, tees,crosses,shortpieces,clampsandplugsunionsetc.)and fixingcompletewithclampingwall-hooks,woodenplugsetc.and also cutting, screwing and waste and for making forged (orhandmade)bendsonpipingasrequired.Connectorshallbeinserted,whererequiredordirected.Therateals o includescuttingthroughwalls,floorsetc.andtheirmakinggoodandpaintingexposedthreadswithanticorrosivepaintasabove andtesting.Wheretubesaretobefixedtowail,ceilingandflooring,therateshallnotincludepaintingofpipes,providingsleevesandsandfillingunderfloorforwhichseparatepaymentshallbemade.

TherateshallbeforaunitofOnerunningmeter.

ItemNo.32I&J:OK
uPVC pipes of Shedule-40 of any standard approved brand &qualityOfDia(A)25mm(B) 15mm:

Material

Theupvcpipeofspecifieddiameterwithschedule-40shallconformtoIS. latest edition. The specials and fittings requiredshallbeofbestquality.

Jointingthepipes:

Thepipesandsocketsshallbeaccuratelycut.Theendsof thepipes andfittings should be absolutely free from dirt anddust.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 unpregnatedwithcementshouldnotbeburiedinthetrenches. Theyshouldbegatherednotleftscatteredabout,astheycanprovetobe ahazardtoanimals,whichmaychewthem.

If any manufacturer recommends its own methods of jointing thesameshallbeadoptedafternecessaryapprovalfromtheEngineer-in-charge.

LayingpipesinTrenches:

The pipes shallbe laid over uniformrelatively soft fine grainedsoil foundtobe freeofpresenceofhardobjectssuchaslargeflints, rockyprojections;largetreerootsetc.Thewidthof thetrenchesshall beminimumwidthrequiredforworking.

Thepipeslaidundergroundshallnotbelessthan onemeter from the ground level. The pipe shall be positioned in thetrenchessoastoavoidanyinduced stressed due to deflection.Any deviation required shall be obtained by using proper type ofrubberringjoints.

Modeofmeasurementsandpayment

Thedescriptionofeachitemshall,unlessotherwisestated, beheldtoincludewherenecessary,conveyance,anddelivery,handling,unloading,storing,fabrication,hoisting,alllabourforfinishingtorequired shapeandsize,setting,fittinginposition,straight,cutting and waste,returnofpackingsetc.

The length shall be measured on running meter basis of finishedwork.Thelengthshallbetakenalongthecentrelineofthe ,pipeandfittings.Thepipesfixedtowalls,ceiling;floorsetc.shall bemeasured and paidunderthisitem.

Alltheworkshallbe measuredindecimalsystemasfixed initsplace,subjecttotolerancegivenbelowunlessotherwisestated.

(i) Dimensionshallbemeasuredtothenearest0.01metre.

(ii) Areashallbeworkedouttothenearest0.01sq.meter

3.4 Allmeasurementsofcuttingshallunlessotherwisestatedbeheld

toincludetheconsequentwaste.

Incaseoffittingofunequalbore,thelargestboreshallbemeasuredfort hetest.

Testing of pipelines,fittings,andjointsincludeforprovidingallplant and appliancesnecessaryfor obtaining access to theworktobetestedand carryingoutthetests.

The rate includes galvanized steel tubingwith screwed socketjoints,togetherwithallfittings(suchasbends,sockets,springs,el bows, tees,crosses,shortpieces,clampsandplugsunionsetc.)and fixingcompletewithclampingwall-hooks,woodenplugsetc.and also cutting, screwing and waste and for making forged (orhandmade)bendsonpipingasrequired.Connectorshallbeinserted,w hererequiredordirected.Therateals o includescuttingthroughwalls,floorsetc.andtheirmakinggoodandpainti ngexposedthreadswithanticorrosivepaintasabove andtesting.Wheretubesaretobefixedtowail,ceilingandflooring,therat eshallnotincludepaintingofpipes,providingsleevesandsandfillingunde rfloorforwhichseparatepaymentshallbemade.

TherateshallbeforaunitofOnerunningmeter.

ItemNo.32K:OKTrustedbrasscock,stopcocketc.15mmdiaScrewdownboltt ypefittingwithfixing.

The BrassCock Screwdownbolt typeof 15mmdia is to beprovidedand all the necessary fittingand fixing with requiredmaterialas perthe instructions of engineer in charge is to be carried out and completeaccordingly.

Therateshallbeforaunitofonenumber.

ItemNo.32L:OKProvidingandfixingOverheadWaterTanks"Sinte x"orequivalentof1000Literscapacitywithallnecessaryplumbingfittin gsetc.comp.asdirectedbyEngineer-in-charge.

MATERIALSANDWORKMANSHIP:
Overhead water tanks"Sintex" or equivalent of cylindrical verticaltankswith closed top with of self-supported type havingapprovedgradeof polyethylene,molded to seamlessand 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:OKSupply&LayingofBhogavoSan d

MATERIALSANDWORKMANSHIP:
TheBhogavoSandissupplied andlayedasperdirectedbyEngineerinchargeintothePlayGroundAreaUnif ormly.

Therateforthisworkwillbepaidpercubicmeterbasis.

ItemNo.34:OK
Excavation for Road work including bituminous surface upto30cm 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 givenonCuMbasis

Thelandwithrequiredfortheroadwayshallbeclearedofall treeshavingagirthof30cmsandless,loose stones, vegetation,bushes,stumpsandallotherobjectionablematerials.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.

Afterclearingthesite, thealignmentofthe road shallbeproperlysetout truetolines,curves,gradesandsectionsasshownonplanordirectedby 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,andotherstakesandmarks.

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 necessarytrafficarrangementis to be done by contractor.Noextra willbepaidforthis.

The balance of the excavatedquantityshall be removedby thecontractor fromthe siteofwork toaplaceasdirectedwithinRMClimitandalllift.

After refilling, surplusearth shall have to carted by the contractorwithin specified limit including loading transporting unloading spreadingwithout anyextracost.

Thesurplusstuffshallbedisposedoffatthefollowingsitesas

directedwithintheprescribedlimitsofNotificationasdirectedbytheengineeringincharge.

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,penaltywill be imposed by Rajkot Municipal Corporation as per theNotificationforC&Dwaste.

Thepaymentshallbemadeatper squaremeterbasis forforexcavationup to30 cm depth.Beyond30 cm depth,the paymentshallbemadeatRs.0-50persquaremeterperevery5cmadditionaldepthforadditionalexcavationupto35cm.

ItemNo.35:ok

Supply ofgradedFieldmetaloffollowingsize:HandbrokenFieldmetal4cmto10cm/10cmto15cmsize(15cmlayereach).

TheFieldmetalshallbeobtainedfrom quarriesapprovedbythe**CITYENGINEER** priortocollection.TheFieldmetalshallbeofapprovedqualitywithallleads and lift.

The Field metal shall be obtained from hard tough,sound,durable,Fieldmetalofclosetextureasislocallyavailableandreasonablyfree from decay and weathering pieces of the Fieldmetalshallbe angular and roughly cubicalinshapeandround.Elongatedorflaky material shall be rejected. The size of Field metal shall be 4 cm to 10cmand10cmto15cmandshallbehandbroken.

The paymentshall be in cubicmeterbasiswithoutdeductionfor voids.The ratealsoincludeslabourcostoflevel,Surveyingandsoftandhardcopyof cross section and longitudinal section for measuring quantity supplied bycontractor.

The rate includes cost of collection, conveyance to the site withall lead andlift andfillingtheboxesincludingalllabours,tools,equipmentand otherincidental expenses. The rate quote are inclusive of all such tools, duties,fees,royalties,taxesetc.

ii) FieldMetalshallnotbespreadwithoutpermissionoftheengineer-in-charge.FieldMetalshouldbespreadundercarefulsupervisionbytrainedcollies.The requiredquantityofmaterialstacksatthesite.TheField metalshallbescreenedandrubbish,dust,grassshallberemovedand spreadevenlyonthepreparedsurfaceingradeandcamberbyusing camber boards so as to ensure that the surface istruetocambersandgrade.Atleasttwocamberboardshallbeinuse

atsite.Thesurfaceshallbebroughttorequiredcambershallbecheckedat every 50 ft. (15 m) by means of templates of while thenecessary of the camberinbetweenshallbetestedbystringsandcorrectedasrequired to ensure that the material is spread torequired thickness. At the time of rolling all surfacesirregularities,hollows,depression,humpsetcshallbesetright.The

rateforthisitemshallbepaidoncubicmeterbasisincludesall theaboveoperationswithallleadandlifts.

Therateshallbeforaunitofonecubicmetre.

ItemNo36:ok
Supplyingofsoft-murrumbindingmaterial.
Spreading bindageorroad crustfilling thegapsin metaland levelingtocamberandgradientanddirectedmurrum.

A) Material forthepurposeshallbeapproved quality. Anymaterial whichisfoundinferiorshallberejectedandcontractorshallremovesuchrejectedmaterialfrom thesiteathisowncost.

ThematerialshallbegotapprovedbytheCITYENGINEERpriortocollectiononthe site. It shall be free from all rubbish, dust and anyorganicmaterialsaswellascloudsofblackcottonsoils.

Forroadwork,completestockingofmaterialsasperrequirementsshall becarriedout200mlengthorasperconditionofsiteoras perinstructions of site incharge before spreading. The stacks of materialsshallbegotcrosscheckedbyDy.Ex.Engineerasperrulesbeforespreading.

Whereanydoubt existsaswhetherquantityof stackingofmurrumcorrectedbycontractor,noextrapaymentshallbe claimed bycontractor.Ifthequantityofmurruminanystackfoundlessthanstandardmeasurementviz;1.5cmt.Theentireshallbepaidonthebasisof thequantitysofound.

Thepaymentshallbeoncubicmeterbasiswithoutdeductionforvoids. Thecontractorshallmaintainallstacksinregularandpropersizetill wholematerialshallnotmeasureand finallyacceptedby thedepartment.

The ratesincludescost of collection,conveyanceto 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) Spreadingofmaterialshallbestartedafterthefullsupplyin particularlengthiscollected,measuredandrecorded.Permissionof Engineerin-chargeshallbeobtainedbeforespreading.Itshallbeseen thatformationisdressedtorequiredcamberandgrade. Ifthemurrumis to bespread over the metaled surface then the spreading shallbe uniform andasithastoactasbindingsurface.Itshallbeusedfor fillingtheintersticesof metaland forminga smoothrunningsurface as far aspossible. Murrum bindage shall be spread evenlywitha twisting motionofthebaskets.Nomoremurrum shallbeusedthan

specifiedasbindage.Thecontractorshalldogoodallunevenness,depression,projecti onetc.duringconsolidationwork.Rateoftheseitemsincludesall these operation except consolidation. **Also, theworkistobecarried out with Mini Roll / Road Roller /HandRollasmayberequiredfortheworkas per therequirementandinstructions of engineer in charge.** Thepaymentshallbemadeoncubicmeterbasis.

ThetestingofmaterialistobecarriedoutbytheAgencyathisowncost.

ItemNo.37:Rollingandconsolidationwaterboundmacadam(exceptlatriteandkankar)including watering, not exceeding 150 mm thickness main layerincludingbindingmaterialincludingfillingindepressionwhichoccurduringtheprocess(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.

Exceptonsuperelevatedportionswheretherollingshallproceedfrom 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 thenmore inwardsparallelto center line of theroadinsuccessivepassesuniformlylappingprecedingtracksbyat leastone half the width. The totalwork includes fourtimesof rolling in twolayersofmetalling.

Rolling shall continueuntil the aggregateis thoroughlykeyedand creepingoftheaggregateaheadoftherollerisnolongervisible.

Therolledsurfaceshallbecheckedtransverselyandlongitudinallywithtemplates andany irregularitiescorrectedby looseningthe 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 surfaceshallbecopiouslysprinkledwithwater,whichwatershallbeappliedtothe wheelsofrollersifnecessarytowashdownthebindingmaterialstickingto them. These operations shall continue until the resulting slurryafterfillingofvoidsformsawaveaheadofthemoving roller.

After thefinalcompaction ofwaterbound macadam course, theload shallbe allowed to any overnight. Next morning hungry spots shall be filled withscreeningsof bindingmaterialsasdirectedlightlysprinkledwith water ifnecessaryandrolled.

PaymentwillbemadeatRs.7.00persquaremeterbasisofthefinished

workfor single layerand shall includewater, rentof machinery,cost of fuel,wagesofdriversandcleanersandmurrumbundetc.forboth.

ItemNo.38:ok
Supply & Fixing of 60mm M-30 Grade cement concrete rubbermoldpavinginterlockingpavingblock(Greycolour)afterbeding of BhogavosandinlineandCC ontheedgeinproportionof1:2:4withcuringetc. Complete

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.

ThePaverBlockshallbemadeinfactorywithfollowingminimumfacilities:

DesignMixConcrete:

(a) All paversdesignatedbystrengthshallbetreatedasdesignmix concrete. The aggregate and cement shall be measured byweightin an approved weigh batching equipment. Mixing watershall bemeasured in graduated litre cans. One or more completebags ofcementshall beused foreachbatchofconcrete.

(b) Thecontractorshallberesponsiblefordesigningmixesofthespecifiedperformancetosuitthedegreeofworkabilityandcharacteristicstrength.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) Themaximumwatercementratioforpaversconcreteshallnot bemore than0.40

(e) The design mix proportions for eachset of raw material suppliersshallbefinalizedandapprovedbytheauthorizedlabfortherequiredcompressivestrengthandthelabreportwithproportionsshouldbe availablewiththe vendoratalltimesforscrutinyandverificationpurpose.

PaverBlockMakingMachine:

ThemachineshouldbecapableofproducinghighqualityPaver Blocksbyobtaininghighlevelofcompactionbyapplicationofhydrauliccompaction and also by high intensity vibration to the moulds. Themachineshouldhaveautomaticcontrolpanelandshallapplyaminimum pressure of 3000psi and thenthereshall be automatic cut offofhydrauliccircuitwithoutanymanualinterference.Innocase,paversmould by manual forceor by machinewithoutautocut offshallbeaccepted.All paversshall have uniformityinstrength.

WeighBatching&MixingEquipment:

(a) The proportioning of ingredients of concrete per batch of concreteshallbeperformedbyanapprovedweighbatching machine.Watershallbefedintothemixerfromatankprovided withmeansforadjustingtheflowofwatersoastosupplythe quantity determinedfor concrete as per mix design .Due allowanceshallbemadefortheweightofwatercarriedbyaggregates sothatactualamountaddedatthemixercanbereducedas necessary. For this purposethemoisturecontentofcoarseandfineaggregatesshallbeascert ainedasandwhenrequiredandatothertimeswhenalteration of the moisture content may be expected due to newdeliveranceofaggregates,inclementweatherorotherreasons.

(b) Volumetricbatching of concrete may be allowed after the designmix isapprovedbylabaftertesting,byconvertingtheproportion 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.

Curing:

Thefactoryshouldhavewelldesignedcuringareatoensureadequate(minimu m14days)curingofpaverblocks.

Laboratory

Thefactoryshouldhavethefollowing:

(i) Compressiontestingmachineofcapacityminimum200MT
(ii) Othertoolsandequipmentfortestingraw materials andpaverblocks.
(iii) (1)Systematicrecordoftestresultsofvariouspaverblocksmanufa cturedinthefactory.

(2)ConcreteMixDesignfordesiredgradeofconcreteusedformaking ofpaverblocks.

RawMaterials.

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.

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.

WATER
The water shall be clean and free from any deleterious matter. It shall meet therequirementsstipulatedinIS:456-2000.

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.

PaversBlockCharacteristics

Theinterlockingconcretepavertilesshouldconformto IS-15658(LATEST).They shall be tested as per the code and have to qualify limitsspecifiedbyusdownbelow.

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).

The concretepaversshould have perpendicularities after releasefromthemouldandthesameshouldbe retaineduntilthelaying.

Thesurfaceshouldbeofantiskidandantiglaretype.

The paver should have uniform chamfers to facilitate easy drainage ofsurfacerunoff.

The concrete mix design should be followed of each batch of materialsseparately and weigh batching plant is to be usedto achieveuniformityinstrengthandquality.

The pavers shallbe manufactured in single layer or moreto ensuresmoothsurfaceontopandtoremoveallvoids.

The pavers shallbe of cement Grey colour without anypigmentorcoloredwithpigmentorwithchemicallytreatedtopsurfaceasspecified.

All paver blocks shall be sound and free ofcracksorothervisualdefects, which will interfere with theproperpavingoftheunitorimpair the strength or performance of the pavement constructed with thepaverblocks.

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).

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 onparameterslikeaspectratio,squarenessetctobeasperIS-15658(LATEST)

TestingofPaverBlocks1FOR6

0/80MMPAVERTILES

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).

LayingofPaverBlocks

PRIMING

ThecontractorisrequiredtoverifytheexistingWBMdrivewaysurface andascertain the CBR value. Accordingly the totalsubgrade thickness requiredforachievingthedesiredCBRvalueshallbeadvisedtoRAJKOTMUNCIPALCORPORATIO Nwithinsevendaysofreceiptofcall-up.RAJKOTMUNCIPALCORPORATION shall, throughregularvendorsarrangetocarryoutsuchWBM,whereverrequired. 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 advisetheCBRvaluewithinsevendays, RAJKOTMUNCIPALCORPORATIONshallcarryout WBMasperowndesign,andcontractor shallhavenoclaimlaterparticularlytothequalityofWBMorsub-grade.

ItwillbetheresponsibilityofthePaver

blockpartytoensurethattheManholes/Pipeline/Cabletrenches/circulardrainagesyste metc.is

raised to driveway level using the requisite materials as per instruction ofEIC.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 includedinthemeasurement ofoverallareaofpaverblocksforthepurpose ofpayment.

BEDDINGSANDCOURSE

Thebeddingsandshallconsistofnaturallyoccurring,clean,wellgraded sandpassingthrough4.75mmsieveandsuitabletoconcretemanufacture.Thebedding should be fromeither asingle source orblendedtoachievethe 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 forbeddingshall 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.

Sandshallbeslightlyspreadinalooseconditiontothepredetermined depthonlyslightlyaheadofthelayingofthepaverblock.

Any depressions in thespread sandexceeding 5mm shall be loosened, rakedandrespreadbeforelayingofpaverblock.

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 mechanicalor 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 3.0mmwidespacerwhilelayingpaver tiles so as to ensureuniform 3.0mmgap betweenadjacent 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.

Exceptwhereitisnecessarytocorrectanyminorvariationoccurringinthelayingbond,the paverblockshallnotbehammeredintoposition.Whereadjustmentof position is necessary careshall be taken to avoid prematurecompactionofthesand bedding.

INITIALCOMPACTION

Afterlayingthepaverblock,theyshallbecompactedtoachieveconsolidation ofthesandbeddingandbroughttodesignlevelsandprofilesbynotlessthantwo (2)passesofasuitableplatecompactor.

Thecompactorshallbeahigh-frequency,lowamplitudemechanicalflat platevibratorhaving plate areasufficient 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.Compactionshallcontinueuntillippinghasbeeneliminatedbetweenadjoining units.Joints shall then be filled and recompacted as described inClause6.5

Allworkfurtherthanonemeterfromthelayingfaceshallbeleftfullycompactedatthecom pletionofeachday'slaying.

Any blocks that are structurally damagedpriortoor duringcompaction shallbeimmediatelyremovedandreplaced.

Sufficientplatecompactorsshallbe availableatthepavingsiteforbothbeddingcompactionandjointfilling.

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.

Thejointingsandshallbebroomedtofillthejoints.Excesssandshallthen beremovedfromthepavementsurfaceandthejointingsandshallbe compactedwithnotlessthanone(1)passoftheplatevibratorandjointsrefilled withsandtofulldepth.Thisprocedureshallberepeateduntilalljointsarecompletelyfilled with sand. No traffic shallbe permitted to use the pavementuntilalljointshavebeencompletelyfilledwithsandandcompacted.

Both thesandandpaver blockshallbedrywhensandisspreadandbroomedintothejointstopreventprematurese ttingofthesand.

The difference in level (lipping) between adjacent units shall not exceed3mmwith notmorethan 1% in any3mX 3marea exceeding2mm.Pavementportions whicharedeformedbeyondabovelimitsafterfinal compaction,shall betakenoutandrelaidtothesatisfactionoftheEngineerincharge.

UNIFORMINTERLOCKINGSPACES

The pavers should have uniforminterlockingspaceof2mmto3mmtoensurecompactedsandfilling aftervibrationon thepaversurface.

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:
SupplyingthematerialDrFixit/ForsrocnewcoatandDrFixit /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:
Providingonvinailpaintingasperinstractionanddesignetc.complete.

Providing , and fixing vinail painting as per instraction and designas directed bytheengineer-in-chargeetccomplete.

Therateforthisworkwillbepaidpersquaremeterbasis.

ItemNo.42:
makingof wallpicturesindifferentwardsmakingofwallpicturesindifferentwardsbystandardColorsas mentiononaboveotheritemsandasdirectedbytheengineer-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	Flushdoors		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) Thecontractorshallproducesamplesofthematerialsforapprovalofthe RMC/PMC.The materials of the makes out of the above as approved by the RMC/PMCshallbeusedonthework.RMC/PMCmemberhasnotbideto giveanyreasonfor rejectionofanybrandfromtheabovelistanditsdecisionwillbeconsiderasfinal.

B) In respect ofmaterialsforwhich approvedmakesarenot specifiedabove,thesewillbe ofmakestobe decidedbytheRMC/PMC.

C) Contractorcanuseforanymaterialofequivalentmakeoftheabovespecifiedcompanyaftertaking priorpermissionofRMC/PMC.

Theagencyhastouseitem/materialmentionedinthelistabove.Innocaseotheritem/materialshall be allowed except those mentioned in the list unless and until theunavailabilityoftheabovesaiditem/materialnoticedthattoo,priorapprovedofRMC/PMC

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. RatesquotedinBillofQuantitiestocovereverythingnecessary forcompleteExecutionofwork:

   Theratesquotedwillbeheldtocovereverythingnecessaryof thedue and complete execution of the work according to the drawingsand the several conditions and the stipulations of the contract,includingspecification,ortheevidentintentandmeaning of all oreitherofthemoraccordingtocustomaryusageandfortheperiodicalandfina linspectionandtestandproofoftheworkineveryrespect and for measuring, numbering or weighing the sameincludingsettingoutandlayingorfixinginpositionandtheprovisionof allmaterials,

   Power,toolrammers,beaters,labour,tackleplatformswithimperviouslappe djointsforscaffoldingrangingrods,straightedges,centeringandboxes,wed ges,moulds,templates,poststraightrails,boning-staves,measuringrods,pageboards,shores,barriers,fencing,lighting,pum pingapparatus,temporaryarrangementsofpassageoftraffic,accesstoprem isesandcontinuance of drainage, water supply and lighting (if interrupted bythe work) lard temporary sheds and buildings nahanis roofedin orotherwisehaulage,painting,varnishing,polishing, establishmentsforefficientsupervisionandwatchingarrangementsfortheef ficientprotectionoflifeandpropertyandallrequisiteplant, implementsandappliancseverykind,exceptonlysuchmatterandthingsasit maybedistinctlystatedhereinaretobesuppliedbythecontractors.

A rate for anyone description of work is to be held toinclude such itemsofotherclassesofandfortheseonseparatespecificcharge willbeadmitted.Thecontractorsshallkeepeveryportionofthe 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 mayrequire toproveifitis tobeso.

5. ThecontractorsareparticularlydirectedtoobservefromtheArticlesofAgreementandthespecifications,whatistobeincludedin theirratesfortheseveralportionsoftheworkandalsounder 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.Therequireddocumentsshallhavetobesubmittedeverymonthbythecontractortothecompetentauthority.

7. The contractor shall have to get registered under ESI (Employer'sStateInsurance)ActandobtainESIRegistration number if thenumberofworkersare10Nos.ormore.Also,theagencyshallhavetogiveallthebenefitstotheworkersasavailableundertheESIAct. TheagencyshouldfollowalltherulesandregulationsofESIActas perprevailingnorms.

8. This office Circular bearing No.RMC/C/329 dated 22-12-2012 andOrderNo.RMC/C/132dated10-06-2013areuploadedseparatelyasapart of tender document. The Contractors/Consultants quotingtheirratesshallhavetoread,implement,andsubmitthesamedulysigned alongwith 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. Afterissuanceofworkorderforthistender,iftheworkfallsunderany kind of dispute then Rajkot Municipal Corporation reserves therighttoterminatethecontractforthisworkawardedtothecontractoror 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 RajkotMunicipalCorporationreservestherighttoincreaseordecreasethequantityof work or totally omit any item work and the contractorshallnotbeentitledtoclaimanyextrasordamageson thesegrounds&heisboundtoexecutetheworkaspertheinstructionoftheEngineer-in-charge.RajkotMunicipalCorporationwillnotentertainanydisputeinthisregard.

13. ItisfurtherclarifiedthatPerformanceGuarantee(SD)for extrawork will also be recovered @ 10% from the bill of extra work i.e.works beyondtenderamount.

14. Thebiddermustunderstandclearlythatthepricesquotedare forthetotallyworksorthepartofthetotalworksquotedfor andinclude all costs due to materials, labour, equipments, supervision,otherservices,royalties,taxes,duties,etc.,andtoincludeallextratocoverthecost.Noclaimforadditionalpaymentbeyondthepricesquoted willbe entertained and thebidder will notbeentitledsubsequentlytomakeanyclaimonanyground.

15. QualifiedengineermustbedeployedonsiteandatPlant. Thedetails of qualified engineers are to be given to RMC at the time ofbiddingofthistender.

16. Ifanyirregularitiesfoundduringtheworkthenpenaltywill beimposedbyEngineer-in-chargeoranyhigherofficer.Ifanydisputesarisesregardingpenaltyimposedbyengineer-in-chargethendecision of Municipal Commissioner willbe final and binding toagency.

17. Thetimelimitwillremainsameasmentionedinthetenderdocumentandthe workistobecompletedaccordingly.

18. TenderofsuchContractornothavingregistrationin appropriateClassandCategory,willbetreatedasnon-responsive. In case ofanyconflictingprovisionsbetweenregistrationofappropriatecategory and Pre-qualification criteria, the later shall govern theprocessof bidevaluation.

19. Theagencyshallhavetoquotetheirratesonlyaftervisitingthesiteandlookingtothesiteconditions.

20. DEFECTS:Dateofcompletionforstartofdefectliabilityperiod fortheentireworkwillbeconsideredasthelastdatementionedinthecompletionofworkrecordedinMeasurementBook.Thecontractorshall 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.Thefinalcheckingreportstatingtheconditionofwork isalsotobesubmittedbytheagencybeforeonemonthofthe expiry ofdefect liability periodtothecompetentauthority.

23. TheRoyaltyofeachandeverymaterial,requiredtobepaidistobebornebyt hecontractor.

24. Testing of each material as and when required by Rajkot MunicipalCorporation,istobecarriedoutinGovernmentapprovedlaboratory bythecontractorathisowncost.Scheduleoftestingof materialwillbeasperR&B,StateGovernmentManualandISCodeprovision.

25. Necessarytestsformaterialquality,soiltestsetc.shallbe carriedoutaspertheinstructionsofengineer-in-chargeby contractor athisowncostandreportstobesubmittedtotheengineer-in- charge.

26. As this work is to be done in existing structure and also keeping inmindsurroundingproperties,allduеprecautionsshouldbetakensothat 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. Whereverthe rollingwiththeroadrollerisnotpossibleonmetallingworkandm urrumwork,thecompactionwithhandrollerorbyanyother means at such places shall have to be carried out by thecontractorsatisfactorilyasperinstructionsofengineer-in-charge.

28. TheContractorshallcarryoutmodificationsintheprocedure ofwork,iffoundnecessary,asdirectedbytheEngineerduringinspection.Wor ksfallingshortofqualityshallberectified/redonebythe Contractor at his own cost, and defective work shall also beremovedfromthesiteofworksbytheContractorathisowncost.

29. DefectiveMaterials:AllmaterialswhichtheEngineer/hisrepresentativehasdeterminedasnotconfirmingtotherequirementsoftheContract shallberejectedwhetherinplaceornot;theyshallberemoved immediatelyfromthesiteasdirected.Materials,whichhavebeen subsequentlycorrected,shallnotbeused in theworkunless approval is accorded in writing by theEngineer.UponfailureoftheContractortocomplywithanyorderoftheEngineer/hisrepresentativegivenunderthisclause,theEngineer- in-chargeshallhaveauthoritytocausetheremovalofrejected materialand todeduct theremovalcostthereoffromanypayments dueto thecontractor.

30. TheDefectLiabilityperiodforthisworkis24Months.Aftercompletion of work, a report at the interval of every six months bywayofjointinspectionshallhavetobesubmittedtothecompetentauthority. The portion which is observed defective / damaged bynormalcauseduringthejointinspectionshallhavetoberepaired/rectified and necessary evidence along with photographsshallalsohavetobesubmittedtothecompetentauthority.

31. The agency shall have to get interior done from theapprovedArchitect / Engineer and also to get approved fromengineer-in-charge.Theagencyshallhavetogettheapproval within a periodof7(Seevn)days.

32. ThePlansgotpreparedbytheagencyshallhavetobeget 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 permitteddirectlyonthetopsurfaceoftheroad.Afterexcavation uptominimum1.00mt.depthfromroadsurfaceorexistinggroundlevel,same shallhavetobecarriedoutmanuallyorbyusingBreakerandafterlocatingundergroundserviceslike;watersupplypipeline,waterconnection lines, pipe gutters, telephone cables, electriccables etc.,andthereafterupontakingthepriorapprovaloftheEngineer-In-Charge,theexcavationcanbecarriedoutbyusingJCBmachine.

36. Rajkot Municipal Corporation shall recommend to the competentauthoritytogiveControlledBlastingLicensetothecontractorfor

carryingoutexcavationinhardrock.Incaseofblastinglicensenotpermissible fromthecompetentauthorityinsomeplaces thenexcavationis to be done by using wedges and hammers, chiseling,breakers,pneumatictools,etc.Alsoincasewhereblastinglicenseis permittedbuteventhenifthereisnopossibilityofcarryingouttheblastingforw hatsoeverreason,theexcavationistobedonebyusing Wedgesandhammers,chiseling,breakers,pneumatictoolsetc.No extra payment shall be made for excavation to be carriedoutinanyoftheabovementionedboththesituations.

37. Excavationinsoftrockandhardrockshallhavetobecarried outonlybyChiseling,Breaker(pneumatictools)etc.,asfaraspossible.Ifexca vationisnotpossibleintermsofaboveandifexcavation isrequiredtobecarriedoutwiththehelpofblastingthenthe sameshallhavetobecarriedoutonlyaftertakingpriorapproval andnecessarylicenseforblastingfromthecompetentauthority.

38. In caseof excavation not possiblemanuallyorbychiselingincertainplace(s)aswellasifblastingis alsonotpossibledue tovariousreasonsi.e.toavoiddamagetonearbywaterpipeline,pipegutter,te lephonecables/Duct,Rawhouses/weekbuildings/narrow streetetc.,thentheexcavationbyblastingwillnotbepermitted.Under these circumstances, excavation shall have to becarriedoutonlybyBreaker(pneumatictools)aspertheinstructions of theEngineer-In-Charge.Noextrapaymentwillbemadeforsuch type of excavation done by using Breaker. The rateforexcavationshallbepaidaspertherateofrelateditemmentionedinSch edule-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 intoan agreement, theagencyshallhaveto finalizetheagencyforsupplyofthemateriallikePrecastRCCslab andcolumnandthenameofmanufacturer/suppliershouldimmediatelybe informed to Rajkot Municipal Corporation so thatRajkot Municipal Corporation can also expedite the manufacturer /supplierforthematerial.Ifnecessary,RajkotMunicipalCorporationwillvisit and inspect the factory. During the inspection, if RajkotMunicipalCorporationisnotsatisfiedthenthecontractorshallhave

toprocurethematerialfromothermanufacturer(s).

41. During construction activity, proper care must be taken forlaborsafetyandalltheprovisionsofthelaborlawsmustbe followed bythecontractor.

42. The G.A.Drawings andotherDrawings asprovided at present withthetenderdocumentareindicative,however,thereis possibility ofany change or modification in the said drawing and as such thecontractor shall have to carry out the work accordingly at theapprovedrateswithoutanyextracost.

43. ThecontractingAgencythenhastopreparebarbending scheduleas per Structural Drawings and submit it to RMC after then RMCshall permit to work to start. Structure design is in the scope ofworkofcontractoranditscostistobebornebythecontractor.Thestructu redesignershouldbeRMClicenseholder.Theproofcheckofthestructured esignshouldbedonebyoneofthestructuredesigners,as suggested by RMC. (Ifthe structure designerissuggestedbyRMC,thentheproof checkisnotneeded.) BarBending Schedule, register shall bemaintained on site with thedetailsofcutlengthofbar.Thecertificateforsameshallbedenotedin PourCard.

44. Contract Agency has to provide a Site Office Room, a separateLaboratoryincludedwithnecessarylabinstrumentsforslump test,sieve analysis, etc. whatever suggested by Site Engineerinchargeonsitepremises.Thereshallbeprovisionof minimum 24 cubemouldof15x15x15cmsizeand12mouldof 7.5x7.5x7.5cm.There shall be a provision of necessary stationary &Furniture.
Theperiodicalcalibrationofinstrumentslikeweighbatch Plant,ElectronicBal anceetc.shallbecarriedoutasperinstructionofEngineerinCharge.Without satisfactoryreportforthesametheworkmaynot becontinued.

45. TheMixDesignofCementConcreteshallberevisedsubmittedwithrespecttoc hangesinMaterialslikeCement,Sand,Aggregate

46. TheFinalCompletionDrawingsshallbesubmittedinhardcopyandasAuto Cad formatbyAgency.If thesameis notsubmitted, 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,submititoRajkotMunicipalCorporation.&Afterchecking the barbendingschedule,thenRajkotMunicipalCorporationshallpermittoworkt ostart.

51. ApprovaltothesamplesofvariousmaterialsgivenbytheEngineer-in-chargeshallnotabsolvethecontractorfromtheresponsibilityofreplacingdef ectivematerialbroughtonsiteofmaterialsusedinthework found defectiveatalaterdate.Thecontractorshallhavenoclaimtoany 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 alsoberesponsibleforcleaningoftheplotwithoutanyextracost.

53. Theagencyhastocreatethepassage/accesstotheplotwhere theworkissupposedtostart.Ifincasetheaccesstoplotis restrictedbyanyfarmingland,thentheagencyhastotakeaproperarrangeme nt for passage and whatever the cost occurred in theconstructionofthepassage,theagencyhastopaythecostof itsown.

54. ThecompoundwallhastobeconstructedwiththeproperguidancebytheEngin eer-in-
charge,suchasifthelandhasdifferenceinthelevel(irregulartopography), then the agency has to construct thecompoundwallinthesteppatternform.

55. ThetopoftheprecastwallwillbeeitherinSemi-circularortriangularwhicheverinstructedbytheEngineer-in-charge.TheMeasurementof the Semi-circular or triangular item of the precastwallwillbetakenfromthemiddleofthesectionoftheitem.

56. IfincasetheSemi-circularortriangularitemoftheprecastwallwillnotbefixed,thentheagencyha stokeepthetopsectionofprecastpole 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"wherevermentionedinthistenderdoc ument, is now to be treated as "Deleted". In this context, anOrderbearing No.RMC/Legal/1858 dated 18-02-2017 of Legal DepartmentofRajkotMunicipalCorporationisuploadedseparatelyalong withthistender,whichOrder,willhereafterbereferredandtakenintoconsiderationfo r 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 contractorathis own cost. Schedule of testing of material will be as per R&B,StateGovernmentManualandISCodeprovision.

3. Thewholeworkshall beexecutedbyqualifiedSiteEngineer.The required L- Section and Cross section is to be prepared bycontractorathisowncost.Theworkshouldbedoneby levellinginstrument.TheDrawingsshallbesubmittedaccordinglyinadvanc ebeforestartingthework.Noextrapaymentwillbemadefor theabovework.Contractor hastosubmit Billformwithhard 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)ActandobtainESIRegistrationnumber 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. Thetesting ofmetal and thedesign asperIRCshall have tobecarriedoutbythecontractorathisowncost.

7. Structuredesignistobepreparedbycontractorandafterapprovalofenginee r-in-chargetheworkcanbestarted.

8. Agencyintendingtocarryoutexcavationwillbeabletocarry outexcavation/diggingonlyafterpriorintimationthrough"CallbeforeUDig" mobileapplication.

CITYENGINEER(SPL)
RajkotMunicipalCorporation

SignatureofContractorwithSeal

PART-III
BILLOFQUANTITIES
(AttachedinSeparateFolder)

BIDFORM(WITHPRICE)

CONTRACTNo: RMC/ENGG/WZ/23-24/131

BiddersarerequiredtofillupallblankspacesinthisBidFormTheCommis

sioner
RajkotMunicipalCorporation
Dr.AmbedkarBhavanD
hebarRoad
RajkotDea

rSir,

SUB:

aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa

aaaaa-

aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa

aa.

1. HavingvisitedthesiteandexaminedtheBidDocuments,Drawings,Condition sofContract,Specifications,Schedules,Annexures,PreambletoPriceSched ules,PriceSchedulesetc.includingAddenda/Amendmentstotheabove,fort heexecutionoftheaboveContract,wetheundersignedoffertocarryoutasgiv eninConditionsofContractandinconformitywiththeDrawings,Conditionsof Contract,Specifications,PreambletoPriceSchedules,PriceSchedules,Anne xures,BiddingDocuments,includingAddendaNos ._____(insertnumbers)for_____ %age(in figure) _____ (inwords)below/abovethantheratesgiveninPriceSchedule.

2. I/Weagreethat

   (a) ifwe failtoprovide required facilitiesto the Employer'srepresentativeoranyotherperson/agencybytheemploye rtoperformonhisbehalfforcarryingouttheinspectionandtestingof materialsandworkmanship
   OR
   (b) ifweincorporateintotheWorks,materialsbeforethey aretestedandapprovedbytheEngineer’srepresentative
   OR
   (c) ifwefailtodeliverrawwaterofrequiredquantityaccordingtotheconditi ons/stipulations of the Contract, the Engineer willbeatliberty to takeanyactionincluding terminationofContractandimposeathisabsolutediscretion any penalties,and/orrejectthework.

3. We undertake, if our Bid is accepted, to complete and deliver theWorksinaccordancewiththeContractwithin**4Months**ofconstructionp eriodfromthedateofWorkOrderissuedtousbyyou.
4. We agreetoabidebythisBidforaperiodof180daysfromthedatefixed for receiving the same and it shall remain binding upon us andmaybeacceptedatanytimebeforetheexpiryofthatperiod.
5. IntheeventofourBidbeingaccepted,weagreetoenterinto aformal Contract Agreement with you incorporating the conditions ofContract thereto annexed but until such agreement is prepared thisBidtogetherwithyourwrittenacceptancethereofshallconstitute abindingContractbetweenus.
6. Weagree,ifourBidisaccepted,tofurnishPerformanceBond/Securityinthefor msandofvaluespecifiedintheConditionsofContractofa sum equivalent to 5% of the Contract price for dueperformanceoftheContract.
7. Wehaveindependentlyconsideredtheamountsofliquidateddamagesshown in Appendix to Bid and agree that they represent afairestimateofthedamageslikelytobesufferedbyyouintheeventoftheWork not beingcompletedbyusintime.
8. Weunderstandthatyouarenotboundtoacceptthelowestor anyBidyoumayreceive.

Dated_____this_____dayof_____20____.

_____
(Signature)

CompanySeal

_____
(Nameoftheperson)

_____ _____
(Nameoffirm) (Inthecapacityof)
DulyauthorisedtosignBidforan
donbehalfof
(Fillinblockcapitals)

_____
_____
_____

Witness
Signature

_____
Name

_____
Address_____
_____

PREAMBLE TOPRICESCHEDULES

NoteonSchedule:

Thebid is percentagerate bidfor

1. Thebidispercentageratebid.

2. The rates and prices shall be submittedin the formatsgiven 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/Belowfor items listed in the schedule. Prices quotedinScheduleonlywillbeconsideredforpriceevaluation&shallformapartoftheContractAgreement.

5. TheOnlyPriceSchedulewillbeconsideredforfinancialevaluationofthebidwithsuccessful bidder.

6. Thebiddershallbedeemedtohaveallowedinhispriceforprovision,maintenance and final removal of all temporaryworks ofwhatsoever nature required for construction includingtemporarybunds,divertingwater,pumping,dewateringetc.fortheproperexecutionofworks.Theratesshallalsobedeemed toincludeanyworksandsettingoutthatmayberequiredto becarriedoutforlayingoutofalltheworksinvolved.

7. Where thereisadiscrepancybetweentheunit ratesand theamountentered,thelattershallgovern.

8. ThePriceSchedulesaretobereadinconjunctionwiththeConditions of Contract,theSpecificationsandothersectionsofthesebid documents and these documents are to be taken asmutuallyexplanatory ofoneanother.

9. Pricesquotedbythebiddershallbefirmfortheentireperiod 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. Thebiddershouldacquainthimselfwiththesiteconditionsincludingtheaccess to Worksite. The successful bidder shall have to makesuitableaccesstoworksitesathisowncost.Theseaccesses will beusedbytheothercontractorsworkingforRMC.

13. ThematerialshallbeinspectedDepartmentally,thecostofwhich,ifany,istob ebornebycontractor.

14. **The contractor has to quote their rates without GST**andincludingothertaxes.Theinvoiceshouldbesubmittedbycontractors howingthebreakupofGSTinthebill.GSTwillbepaidextraattheprevailingrate atthetimeofexecution.

    Thecontractorshallhavetopurchasethematerialrequiredfor thistenderwork,onlyfromthesupplierhavingregisteredGSTNumber.RMC willnotberesponsibletopayanyamounttowardsGSTif thematerialispurchasedfromtheunregisteredsuppliernothavingGSTNum ber.

15. Incaseofextraitemworkifquotedandapprovedtenderprice isabovePercentageRatethennoabovepercentageratewillbe 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/Belowforite mslistedintheschedule.PricesquotedinSchedule only will be considered for price evaluation & shall form apartoftheContractAgreement.

20. OnlyPriceSchedulewillbeconsideredforfinancialevaluationofthebidwit hthesuccessful bidder.

21. ThePriceSchedulesaretobereadinconjunctionwiththeConditionsofCon tract,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. Thepricesquotedshallalsoincludethecostofmaterialsutilizedfortesting.

25. Thebiddershouldacquainthimselfwiththesiteconditionsincludingtheaccess to Worksite. The successful bidder shall have to makesuitableaccesstoworksitesathisowncost.Theseaccesses will beusedbytheothercontractorsworkingforRMC.

26. FromeachRunningAccountBill,labourcesswillbedeductedaspernorms.

27. InEveryrunningbill0.25%amountshallberetainedas extrasecurity deposit if Drawings of work done are not submitted byagency.

28. Thequotedratesshouldbeinclusiveofalltaxesandduties.

29. Thepricesshallhavetobequotedfirm&fixincludingallthe taxes& duties without any statutory variation. RMC will not consideranystatutoryvariationaswellasthepriceriseinthemarketandifany, thoseshallbeonaccount ofcontractor.

30. Theworkcontracttaxwillbebornebytheagency.

31. Whileconsideringexperienceofongoingsewer/stormwaterpipelineworks, part work completed in all respect will be considered forevaluationofbid.Inthisregardcontractorshallberequired tosubmit part completion certificatealong withbid document fromcompetent authority.

32. Use of ready mix concrete may be permitted if it fulfils tenderspecifications.

33. Noextraitemorextrawidthwillbepaidduetoexcavating 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.Thedateandtimefor verification of original documents will be intimated to theContractors.

37. If the progress of work is found slow then Extra security DepositmayberecoveredfromanyrunningbillasdecidedbyEngineerinchar geuptomaximum5%amountofconcernedR.A.Billamount.

38. In case of Extra Item, No "**On**" %age i.e. +ve % age Rate willbegiven 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 or Stamp Paper Terminated or	Yes /No
ProfessionalTaxReceiptofcurrentyear	Yes /No

Note:**Overandabove,theagencyshallalsohavetosubmitallothernecessarydocumentsas maybe requiredfor pre-qualification,failingwhich,theagencywill betreatedasNon-responsiveandwillbeDISQUALIFIEDandalsotheonlinepricebidofsuchagencywillnotbeopened.**

SignatureofContractorwithseal

PRICESCHEDULE

RajkotMunicipalCorporationPrice Schedule–B

Nameofwork:

Sr.No.	Qty.	Items	Units.	Rate	Amount
1	101.00	ExcavationofFoundationinSoftMurrum,SoilorSandfrom0.0 mtr.to1.50mtrdepthincluding liftingandlayingin90mtr.lead areaasinstructed	Cu.MT	133.00	13433.00
2	12.00	FoundationfillingwithCCwork inproportionof1:2:4using1.5cm to 2.0 cm aggregate includingRaming,Curingetc.	Cu.MT	4626.00	55512.00
3	31.00	FoundationfillingwithRubble 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.Comple te	Cu.MT	5087.00	25435.00
6	16.00	CC work 1:1.5:3 for RCC footing usingaggregateofsize10-20 mm,centring,curing,finishingetc.comple te(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(withoutreinforceme nt)	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(3.5to4.5incht hick)	Sq.Mt.	564.00	16356.00

10	2.00	CementConcreteWorkforCopping 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:Mortarwithspong 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	FoundationfillingwithCCwork inproportionof1:3:6using1.5cm 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&fixingofVitrified flooringwork(1stquality)	Sq.Mt.	650.00	46150.00
22	20.00	Supply & Fixing of Glazed tiles (1stQuality)ofrequiredsizeinCement 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:Mortarinproportionof1:2	Sq.Mt.	2970.00	23760.00
25	9.00	FlushDoor25mmthickwithIronframeforDoor&windowwith polishing/oilpaintingusingcompanyviz .Kitply/Century/Dura/Everest	Sq.Mt.	1930.00	17370.00
26	9.00	Supply&FixingofLaminates 1mmofApprovedQuality	Sq.Mt.	1250.00	11250.00
27	27.00	Enemalpaintingondoor/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 wireforRCCworkTorsteelTMTroundbarincludingall cost	Kg.	65.00	286000.00
30	200.00	NumberingonBuilding/ Quarters(Paintingwork)	Charactor	11.00	2200.00
31	7.00	Supply&FixingofRCC 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. bracketwithfittingcromiumplatted topes25cmplasticwastepipeand 12mmpillarcockwithcomp.	Nos.	1434.00	2868.00
E	2.00	Flushing Valve Cast Iron CromiumPlattedpushcockorhandlety pewithflushingsupplyandfixing	Nos.	634.00	1268.00
F	2.00	Brasswheelvalve25mm dia.fittingwithfixxing.	Nos.	599.00	1198.00
G	40.00	RigidP.V.C.PipeISIMarkedof 6kg/sq.cm.Pressure,required with coupler, only supplies workandfixingforpipeof110m.m.out erdia.	Rmt.	305.00	12200.00
H	30.00	RigidP.V.C.PipeISIMarkedof 6kg/sq.cm.Pressure,required with coupler, only supplies workandfixingforpipeof50m.m.oute rdia.	Rmt.	61.00	1830.00
I	30.00	uPVCpipesofShedule-40ofanystandardapprovedbran d& quality.For25mmØ.(3.38mmmin.wall thickness)withfitting	Rmt.	77.25	2317.50
J	30.00	uPVCpipesofShedule-40ofanystandardapprovedbran d& quality.For15mmØ.(3.38mmmin.wal l 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 materialcyndricalverticalblackwithclose dtop"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@ev ery5cmratewill be increasedRs.0.50persq.mtr.uptoad dl.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 Toncapacityovermetallingmurrum 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 37.50x18mmsizeshutter 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	makingofwallpicturesin 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 bequotedonline)%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./ ૬૩૨

કમિશ્નર વિભાગ,
રાજકોટ મહાનગર સેવાસદન
તા. ૧૦/૬/૨૦૧૩

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 કચેરીનાં પરીપત્ર નં. આર.એમ.સી./સી./૩૨૯, તા.૨૨/૧૨/૨૦૧૨.

રાજકોટ મહાનગર સેવાસદનના તદ્દા 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 દુ 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 નકલમા 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 ધ્યાને આવશે, 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.

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કમિશનર
રાજકોટ મહાનગરપાલિકા

નકલ રવાના :- (જાણ અર્થે)
- નાયબ કમિશનરશ્રીઓ (તમામ)

નકલ જાણ તથા અમલવારી અર્થે :-
- સહાયક કમિશનરશ્રીઓ (તમામ)
- શાખાધિકારીશ્રીઓ (તમામ)

જાહેરનામું

ફોજદારી કાર્યરીતી અધિનિયમ ૧૯૭૩ (૧૯૭૪ ના ક.૨) ની કલમ ૧૪૪ અન્વયે કાઢેલ હુકમ

ક્રમાંક: એસ.બી./મજુર/જાહેરનામું/૧૬૩૯૨૦૧૪,
પોલીસ કમિશ્નરશ્રીની કચેરી,
રાજકોટ શહેર,રાજકોટ.
તા.૨૬/૦૪/૨૦૧૪

તાજેતરમાં રાજકોટ શહેરમાં ઘરફોડ ચોરીના બનાવો વધતા પ્રમાણમાં છે ભુતકાળમાં રાજકોટ શહેરમાં બનેલ ઘરફોડ ચોરીના બનાવોની તપાસ કરતા તપાસમાં આવ્યુ ગુનો કરનાર (ઘરફોડીયા) પકડાયેલ છે. ત્યારે તપાસમાં આવ્યુ ગુન્હા વાળા આરોપીએ ગુન્હાના બનાવના દિવસો અગાઉ રાજકોટ શહેરમાં નવા બંધાતા મકાનોમાં જુદી જુદી ઔધોગીક કંપનીઓમાં, કોર્પોરેશનમાં મજુરી કામ અને ટેલીફોન કંપનીઓ દ્વારા તથા ગેસ પાઇપ લાઇન માટે ખોદતા ખાડાઓની મજુરી કામ મેળવી અથવા તેના બહાના હેઠળ આવી રેકી કરી આજુબાજુની સ્થાનિક પરીસ્થિતીનુ સર્વે કરી માહીતગાર થઇ મિલ્કત વિરુધ્ધના 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 કાજે મોડા નિયંત્રણો મુકવા જરૂરી જણાય છે.

જેથી હું મોહન ઝા (I.P.S.), પોલીસ કમિશ્નર, રાજકોટ શહેર ફોજદારી કાર્યરીતી અધિનિયમ (સી.આર.પી.સી.) ૧૯૭૩ (૧૯૭૪ ના ક્રે.૨) ની કલમ ૧૪૪ અન્વયે મળેલ સત્તાની રૂએ આથી હું હુકમ કરૂ છુ કે, રાજકોટ શહેરના પોલીસ કમિશ્નર વિસ્તારમા લેબર કોન્ટ્રાકટર/મુકાદમનાઓએ પોતાની પાસે જે મજુર લોકો રાખેલ હોય અને મજુરી કામકાજ માટે રવાના કરતા હોય તેઓએ નીચે જણાવેલ ફોર્મ મુજબ દરેક મજુરોના અલગ-અલગ ફોર્મ ભરી ફરજીયાત પણે સ્થાનીક પોલીસ સ્ટેશનને જાણ કરવાની રહેશે તથા મજુરી 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.ન., બેલ્ટ સહિત	:-
૨	મજુરનુ નામ તથા ઉ.વ.	:-
૩	મજુરનુ હાલનુ સરનામુ ટેલીફોન નંબર	:-
૪	મજુરનુ મુળ વતનનુ સરનામુ 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	કયારથી મુકાદમો / કોન્ટ્રાકટરે મજુરી કામ માટે રાખેલ છે	:-
૧૦	મજુરનુ ઓળખ માટેનુ આધાર.ડી.પુરૂ (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 ફોટોગ્રાફ

મજુરના અંગુઠાનુ નિશાન.....
મુકાદમ/સપ્લાયર/કોન્ટ્રાકટરની સહિ.....
નામ.....

આ હુકમ તા. ૦૧/૦૫/૨૦૧૪ થી તા.30/06/૨૦૧૪ સુધી અમલમા રહેશે.

આ હુકમની ભંગ કરનાર વ્યક્તિ ઇપરનીય દંડ સંહિતાની કલમ ૧૮૮ મુજબ શિક્ષાને પાત્ર થશે.

તમામને વ્યક્તિગત રીતે નોટીસની બજવણી કરવી શકય ન હોય આથી એકતરફી હુકમ કરૂ છુ. જાહેર જનતાની જાણ સારૂ સ્થાનીક વર્તમાન પત્ર આકાશવાણી અને દુરદર્શન કેન્દ્ર મારફતે પ્રસિધ્ધી ધ્વારા 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 અધિનિયમ કલમ ૧૪૩ મુજબ પોલીસ અધિકારીઓ પણ આ હુકમની જાહેરાત કરવા અધિકૃત ગણાશે.

આજ તારીખ૫મી 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 ડેપ્યુટેશન મહાત્મા મંદિર જુના સચિવાલય બ્લોક નં.૭, બીજા માળે,ગુ.રા., ગાંધીનગર.
(૧૦) જીલ્લા સરકારી વકિલશ્રી, સેસન્સ કોર્ટ, રાજકોટ.
(૧૧) મેનેજરશ્રી, ગવર્નમેન્ટ 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 ધ્વારા જાહેરાત કરાવવા સારૂ)
(૧૬) તમામ શાખાઓ તથા શાખા ઇન્ચાર્જશ્રીઓ, રાજકોટ શહેર.
(૧૭) કન્ટ્રોલ ઇન્ચાર્જશ્રી, રાજકોટ શહેર (૨૦ 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. ૪૨૧૧ 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 ૧૩૭
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.ઝો./સો.વે.મે./જા.નં.૧૯૪૯/૦૬/૦૫/૨૨

જાહેરનામું

આથી હું અમિત અરોરા (IAS), મ્યુનિસીપલ કમિશનર, રાજકોટ મહાનગરપાલિકા, રાજકોટ ગુજરાત પ્રોવિન્સીયલ મ્યુનિસીપલ કોર્પોરેશન એકટ-૧૯૪૯ની જોગવાઇ અનુસંધાને મળેલ સતા 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.ઝો./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, લીજજત 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 રૂ।.૭,૫૦૦/- તથા ડમ્પર દીઠ રૂ।.૧૫,૦૦૦/-, બીજી વખત છકડો/ટ્રેકટર દીઠ રૂ।.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 યુસ્તપણે અમલ કરવો.

રાજકોટ.
તા.4/6/૨૦૨૨

કમિશનર
રાજકોટ મહાનગરપાલિકા

[illegible] અશાન/ ૨૯૯/૨૦૦૮/ ૪૮૪૮

મુખ્ય અંકુશ અધિકારીની કચેરી,
સ્ટેમ્પ અને નોંધણી ભવન,
સેક્ટર - ૧૩ [illegible] રોડ,
ગાંધીનગર,
તા. [illegible]

પ્રતિ,
[illegible] કાર્યપાલક ઇજનેરશ્રીની કચેરી,
પંચાયત માર્ગ અને મકાન વિભાગ
જુનાગઢ

વિષય:- કરારખત પર સ્ટેમ્પ ડ્યુટી વસુલાત બાબત.

સંદર્ભ:- આપની કચેરીનો તા. ૩૦/૭/૨૦૦૮નો પત્ર

ઉપરોક્ત વિષય અને સંદર્ભ પત્ર દ્વારા આપની કચેરી દ્વારા "કરાર ખત" પર વસુલવાની સ્ટેમ્પ ડ્યુટીના માર્ગદર્શન બાબતે જણાવવાનું કે, અત્રેની કચેરીના પરિપત્ર નં. સ્ટેમ્પ/ [illegible] /૨૦૦૭/૯૯૯ તા. ૫/૨/૨૦૦૭ ના પરિપત્ર ની નકલ મોકલવામાં આવે છે. જેના પેરા નં. [illegible] (ક)માં જણાવેલ સ્ટેમ્પ ડ્યુટી વાપરવાની થાય છે.

વિશેષમાં જણાવવાનું કે, આપના દ્વારા અત્રે રજુ થયેલ વિગત અન્વયે અત્રેના તા. [illegible]૨૦૦૭ ના પરિપત્ર ના મુદ્દા નં.૨ મુજબ એગ્રીમેન્ટ માટે રૂા. ૧૦૦/- તથા ડિપોઝીટ તરીકે લેવામાં આવતી નેશનલાઈઝ્ડ બેંકની ફીક્સ ડીપોઝીટ તથા નાની બચત પત્રોની ૨.૫ % (અઢી ટકા) રકમ રૂા. [illegible] ૪૦૦/- ઉપર આર્ટીકલ -૩૬ (ક) સાથે આર્ટીકલ - ૨૦(ક)માં [illegible] તથા [illegible] મુજબ [illegible] ૧૦૦ ને ૪.૯% મુજબ સ્ટેમ્પ ડ્યુટી [illegible] કરવાની [illegible] થાય છે. જે વિદિત થાય.

બિડાણ:- પરિપત્રની નકલ.

Off. of the E. E. PAN.
R&B Dn., Junagadh
2 AUG 2008

[signature]
અધિક્ષક
અધિક મુખ્ય અંકુશ અધિકારી,
ગુજરાત રાજ્ય, ગાંધીનગર.

ન.સ્ટેમ્પ–આમાન–૧૪–૨૦૦૭–૯૩૯

સુપ્રિ.ઓફ સ્ટેમ્પસની કચેરી,
સ્ટેમ્પ અને નોંધણી ભવન,
સેકટર–૧૩–સી, ખ રોડ,
ગાંધીનગર.
તા.૫–૨–૦૭

પરિપત્ર:–

આ કચેરીનાં ધ્યાન ઉપર આવેલ વિગત મુજબ ગુજરાત રાજ્યમાં આવેલ
અત્રેની કચેરીનાં ધ્યાન ઉપર આવેલ વિગત મુજબ ગુજરાત રાજ્યમાં આવેલ જીલ્લા પંચાયત, નગર પાલિકાઓ તરફથી કરવાના થતા બાંધકામ તથા અન્ય કામો માટે જીલ્લા પંચાયત, નગર પાલિકાઓ તરફથી કરવાના થતા કામગીરી કરાવવામાં આવે છે. આવી કામગીરી માટે જે ટેન્ડર બહાર પાડી. કોન્ટ્રાકટરો પાસે કામગીરી કરાવવામાં આવે છે. તે ટેન્ડરની અંદાજીત રકમ પૈકી નિયમોનુસાર કોન્ટ્રાકટરનું ટેન્ડર મંજુર કરવામાં આવે છે. તે અંગે જીલ્લા પંચાયત / અનામતની (સીકયુરીટી – ડીપોઝીટની) રકમ લેવામાં આવે છે. તે અંગે જીલ્લા પંચાયત / નગરપાલિકા / મહાનગરપાલિકા અને કોન્ટ્રાકટર વચ્ચે કરાર કરવામાં આવે છે. આવા કરારો સ્ટેમ્પ ડયુટીના અભિપ્રાય માટે અત્રે રજુ કરવામાં આવે છે. તેમાં જે ડિપોઝીટની રકમ અનામત મુકવાની થાય છે. તે રોકડ, ચેક, ડીમાન્ડ ડ્રાફટ 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 ડયુટી લેવાની થાય છે.

(૧) અનામતની જે રકમ રોકડ, ચેક યા ડ્રાફટથી લેવામાં આવે અથવા તો બેંક ગેરંટીથી આપવામાં આવે તો કરારનાં લેખ ઉપર મુંબઈ સ્ટેમ્પ અધિનિયમ –૧૯૫૮ની અનુસુચિ–૧ ના આર્ટીકલ –૫ (એ) મુજબ કરાર ઉપર રૂા. ૧૦૦/– સ્ટેમ્પ ડયુટી 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 રૂા. ૧૦૦/– અથવા તેના ભાગ માટે ૪.૨૫% પ્રમાણે સ્ટેમ્પ ડયુટીને 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 ડયુટીને પાત્ર બને છે. તે મુજબ અમલ કરવા વિનંતી છે. સાથોસાથ આપના દ્વારા

ASHN

જુનાગઢ
નગરપાલિકા જુનાગઢ
ઈ. નં. [illegible]
તા. [illegible]

કોન્ટ્રાક્ટરને વર્ક ઓર્ડર આપવામાં આવે તે સમયે કરારનામા ઉપર ઉકત વિગતે યોગ્ય સ્ટેમ્પ ડયુટી ભરપાઈ કરેલ છે. કેમ ? તેની ખાત્રી કરવા પણ જણાવવામા આવે છે.

અધિક મુખ્ય અધિકારી
ગુજરાત રાજ્ય

પ્રતિ,
(૧) જીલ્લા વિકાસ અધિકારી,
જીલ્લા વિકાસ અધિકારીની કચેરી
.....
(૨) મ્યુનીસીપલ કમિશ્નરશ્રી,
મ્યુ. કમિશ્નરશ્રીની કચેરી,
.....
(૩) 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 ચીજવસ્તુઓ 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

શ્રી [illegible]
૨૧|૨|૨૪

રા.મ.ન.પા./લીગલ/જા.નં.૧૫૭૧

રાજકોટ મહાનગરપાલિકા
લીગલ શાખા
તા. [illegible]

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 [illegible] 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. સદરહું 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 ૨૦૧૧ થી આજદિન સુધી કોન્ટ્રાક્ટરો મારફતે કાર્ય કરાવેલ હોય જેમાં માનવશ્રમનો ઉપયોગ કર્યો હોય, તે સબંધિત કોન્ટ્રાક્ટરો ઇ.પી.એફ. એક્ટ તથા ઇ.એસ.આઇ. એક્ટ હેઠળ રજીસ્ટ્રેશન કરાવેલ છે કે કેમ? તેની [illegible] જ સબંધિત કોન્ટ્રાક્ટરશ્રીઓના બીલ પાસ કરવા અગાઉ સુચના આપવામાં આવેલ હતી. જેની ફરીથી [illegible] સુચના આપવામાં આવે છે. સબંધિત કોન્ટ્રાક્ટરોની તથા તેઓ હસ્તકના શ્રમિકોની ઇ.પી.એફ. કચેરી તરફથી આવેલ પત્રમાં દર્શાવેલ વિગતો તાત્કાલિક અસરથી પેનલ એડવોકેટશ્રીને દિન-૨ માં પહોંચતી કરવા દરેક શાખાધિકારીને સુચિત કરવામાં આવે છે.

રાજકોટ મહાનગરપાલિકા
હિસાબી શાખા
ઇનવર્ડ નં. ૩૫૪૨
તારીખ ૨૧|૨|૨૪

સદરહુ વિગત નિયત સમયમર્યાદામાં ન મોકલવાના સંજોગોમાં ભવિષ્યમાં ઉપસ્થિત થનારી કોઈ પણ વિગતો મોકલવા બાબતે સંબંધિત શાખાધિકારીની વ્યક્તિગત જવાબદારી નક્કી કરવામાં આવશે. જેથી લીગલમાં ચાલતા કેસોના રાજકોટ મહાનગરપાલિકાના કર્મચારીઓની વિગત તથા ... કોર્ટ કેસના કોન્ટ્રાક્ટર તથા તેઓ કેસના ... વિગતો યોગ્ય ચકાસણી કરી નિયત કરેલ સમયમર્યાદામાં પેનલ એડવોકેટને મોકલવી કરવી. તથા તેની જાણ લીગલ શાખાને કરવી.

ઉપરોક્ત પરિપત્રની સૂચનાઓ તાત્કાલિક અસરથી અમલ કરવો.

નાયબ કમિશનર
રાજકોટ મહાનગરપાલિકા

નકલ સવિનય રવાના :-
- માન. કમિશનર સાહેબ
- નાયબ કમિશનર (ઇ.ઝો./વે.ઝો.)

નકલ રવાના :-
તમામ શાખાધિકારી (અમલ અર્થે)

પેનલ એડવોકેટનું સરનામું : ધારા કન્સલ્ટન્ટ
૫૦૨ એમ્પાયર સ્ટેટ
શાસ્ત્રી રોડ, સાયકલ ઝોન ઉપર
રાજકોટ. ફોન નં. ૨૪૬૩૩૮૦

નોંધ : સંબંધિત કોન્ટ્રાક્ટરો ઇ.પી.એફ. એક્ટ તથા ઇ.એસ.આઇ. એક્ટ હેઠળ રજીસ્ટ્રેશન ન કરાવેલ હોય તેવા તમામ કોન્ટ્રાક્ટરોના બીલો ઓડિટ તથા હિસાબી શાખાએ મંજુર કરવા નહિ.

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રા.મ.ન.પા./લીગલ/જા.નં. ૬૮૧૮

રાજકોટ મહાનગરપાલિકા
લીગલ શાખા
તા.૨૮/૨/૨૦૧૭

હુકમ:

તમાણે : લીગલ ફાઇલ નં.૩૭૧/૨૦૧૬-૧૭

રાજકોટ મહાનગરપાલિકાની કામગીરી માટે જુદી-જુદી શાખાઓ દ્વારા કામગીરીના પ્રકારને ધ્યાને લઇ નિયમ અનુસારની પ્રક્રિયા અનુસરીને એજન્સી/સપ્લાયર/કોન્ટ્રાક્ટર સાથે જોગવાઇઓ સાથેનો 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/કોન્ટ્રાક્ટર 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 વારવાંર 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 લાગેલ 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 નં. 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 પહોંચતી 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
એસ્ટેટ વિભાગ
ઈનવર્ડ નં. 2916
તારીખ 28/8/23

c-57

Shraddha Associates

LABOUR LAW CONSULTANT

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Prop. : Parag J. Dodi
(Advocate & Labour Law Advisor)
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 બાબતે 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 ગ્રાઉન્ડ 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 ડ્રાઈવર 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

SIRADDHA ASSOCIATES RAJKOT

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