



DRAFT TENDER PAPERS

Name of Work :- Const. Of Various Dispansary Building in Sanand Taluka Dist. Ahmedabad (1) Zolapur (2) Changodar (2025-2026) Total -2

D.T.P. Cost. Rs. 2388801.61

Sr. No.	Name of Work	No.
1	Const. Of Various Dispansary Building in Sanand Taluka Dist. Ahmedabad (1) Zolapur (2) Changodar (2025-2026) Total -2	1

**GOVERNMENT OF GUJARAT
ROADS & BUILDING DEPARTMENT
SACHIVALAY, GANDHINAGAR**

ANNEXURE – II Notice Inviting On-Line Tender

Details about Tender :-Tender Notice No. 04 2026-2027

(Including as per Corrigendum)

Department Name	:-	(R&B) Dept. Gandhinagar
Circle	:-	Superintending Engineer Ahmedabad Panchayat (R & B) Circle L.D. Engineering Collage Compound, Navrangpura Ahmedabad
Division	:-	Executive Engineer, R & B Panchayat Division Laldarwaja, Bhadra Ahmedabad-380001
IFB No.	:-	Tender Notice No. 04 of 2026-2027
Name of Project	:-	Building
Name of Work	:-	Const. Of Various Dispansary Building in Sanand Taluka Dist. Ahmedabad (1) Zolapur (2) Changodar (2025-2026) Total -2 (Six time)
Estimated Contract Value (INR)	:-	Rs. 2388801.61
Period of Completion (in Months)	:-	9 (Nine) Months
Bidding Type	:-	Single bid system
Bid Call (Nos)	:-	1
Tender Currency Type	:-	Single
Tender Currency Settings	:-	Indian Rupee (INR)
Joint Venture	:-	Not Applicable
Rebate	:-	Applicable

Amount Details

Bid Document Fee	:-	Rs. 1500/-
Bid Document Fee Payable To	:-	Executive Engineer, R & B Panchayat Division Ahmedabad
Bid Security / EMD (INR)	:-	Rs. 23900.00/-
Bid Security / EMD in favour of	:-	Executive Engineer, R & B Panchayat Division Ahmedabad

Tender Dates

Bid Document Downloading Start Date	:-	22/06/2026 hrs 12.00
Bid Document Downloading End Date	:-	08/07/2026 hrs 18.00
Last Date & Time for Receipt (Submission) of Bids	:-	09/07/2026 hrs 18.00
Bid Validity Period	:-	120days from the Date of Price bid Opening
Submission of certain documents etc. in person in the office of the E.E. (R&B) Division, Ahmedabad		Submission of EMD. Tender fee and other Documents during office hours: Up to date 09/07/2026 to 14/07/2026 in the office of the Executive Engineer, (R&B) Panchayat Division, Laldarwaja Ahmedabad
Remarks	:-	Demand Draft for EMD & Tender fee shall be submitted in Electronic Format Only thorough Online(By Scanning) While Uploading the bid. This submission shall mean that EMD & tender fee are received Accordingly offer of those shall be opened whose EMD & tender fee is received electronically. However for the purpose of realization of D.D. bidder shall sand the D.D in original through RPAD so as to reach to Executive Engineer, R & B Panchayat Division, Jilla Panchayat Bhavan, Laldarwaja , Ahmedabad-380001 Within 7 days from

		the last date of uploading. Penaltative action for not submitting D.D. in original to E.E. by bidder shall be initiated. D.D. for Exemption Certificate is not necessary. However Exemption Certificate shall have to be submitted electronically through online. <u>Amount of Bank Solvency must be 20 % of Amount put to tender</u> All the documents in supporting of bid and prequalification documents shall be submitted in electronic format only through online (by scanning) & hard copy will not be accepted and considered.
Price Bid Opening Date	:-	Dt 09/07/2026 12.00 Hrs. Office of the Executive Engineer, R & B Panchayat Division Ahmedabad

Other Details

Officer Inviting Bids	:-	Executive Engineer, R & B Panchayat Division Ahmedabad
Bid Opening Authority	:-	Executive Engineer, R & B Panchayat Division Ahmedabad
Address	:-	Office of the Executive Engineer, R & B Panchayat Division Ahmedabad Ph. No. (079-25511608)

General Terms and Conditions

- (1) Bidders can download the tender document free of cost from the website.
- (2) Bidders have to submit Technical bid as well as Price bid in Electronic for only on nprocure website till the Last Date & time for submission.
- (3) Offers in physical form will not be accepted in any case.
- (4) Free vendor training camp will be organized every Saturday between 4.00 to 5.00 P.M. at (n)code solutions-A Division of GNFC Ltd., Bidders are requested to take benefit of the same.

Bidders who wish to participate in online tenders will have to procure / should have a legally valid Digital Certificate as per Information Technology Act-2000 using which they can sign their electronic bids. Bidders can procure the same from any of license certifying Authority of India or can contract (n)code solutions-A division GNFC Ltd, who are licensed Certifying Authority by Govt. of India.

All bids should be digitally signed, for details regarding digital signature certificate related training involved the below mentioned address should be contacted:

(n) Code Solutions

A division of GNFC

301, GNFC Infotower, Bodakdev,

Ahmedabad – 380 054 (India)

Tel: +91 26857316 / 17 / 18

Fax: +91 79 26857321

E-mail: nprocure@gnvfc.net

Web-site: www.rnb.nprocure.com

Toll Free: 1800-233-1010(Ext. 321)

For Website

માર્ગ અને મકાન (પંચાયત) વિભાગ, જિલ્લા પંચાયત અમદાવાદ.

જાહેર નિવિદા નં. ૦૪ સને ૨૦૨૬-૨૦૨૭ (માત્ર નોટીસ બોર્ડ પર પ્રસિધ્ધિ માટે)

કાર્યપાલક ઈજનેર, માર્ગ અને મકાન (પંચાયત) વિભાગ, જિલ્લા પંચાયત, લાલ દરવાજા, અમદાવાદ-૩૮૦૦૦૧ ફોન નં. ૦૭૯-૨૫૫૧૧૬૦૮ ની કચેરી મારફતે અત્રેના વિભાગ હસ્તકના નીચે જણાવેલ રસ્તાના કામો તથા બિલ્ડીંગ તથા બિલ્ડીંગ મરામતના કામો જેની અંદાજી રકમ રૂ.૧૨.૦૦ થી રૂ.૮૦૦.૦૦ લાખ ની છે. તે કામો માટે ઓનલાઈન ઈ-ટેન્ડરથી ગુજરાત રાજ્ય બાંધકામ ખાતામા યોગ્ય ક્લાસ અને કેટેગરી મા નોંધાયેલ ઈજારદારો પાસેથી ટેન્ડર માંગવામા આવે છે. ટેન્ડર ફીનો ડી.ડી./બાનાની રકમની એફ.ડી.આર. અથવા બાનામુકિત પ્રમાણપત્ર, /રજીસ્ટ્રેશન, / બેન્ક સોલવંશી/ વિગેરે સપોર્ટીંગ ડોક્યુમેન્ટસ બીડ સબમીશન સાથે ઓનલાઈન ઇલેક્ટ્રોનિક ફોરમેટમાં સ્કેનીંગ કરવાના રહેશે. આવા સ્કેન થયેલા જ ટેન્ડર ખોલવામાં આવશે. ટેન્ડરની વિગતો અત્રેની કચેરી ના નોટીસ બોર્ડ પર તથા માહિતી ખાતાની વેબસાઈટ પર જોવા મળશે તથા ઓનલાઈન ટેન્ડર વેબસાઈટ www.rnb.nprocure.com પર ટેન્ડર ડાઉનલોડ તથા સબમીશન થઈ શકશે. ટેન્ડરની વધુ વિગતો અત્રેની કચેરીનો સંપર્ક કરવાથી મળશે. આ જાહેરાત કરાવત્રનો એક ભાગ ગણાશે. એક યા બધા ટેન્ડર મંજૂર કે ના મંજૂર કરવાનો હકક સત્તાધિકારીશ્રીને અબાધિત રહેશે.

ક્રમ	તાલુકો	રસ્તાનુ નામ/પેકેજ નંબર	અંદાજી રકમ રૂ. લાખ માં	બાનાની રકમ રૂ.	ટેન્ડર ફી રૂ.	ઈજારદાર ની કક્ષા
૧	૨	૩	૪	૫	૬	૭
૧	સાણંદ	સાણંદ તાલુકામાં ઝોલાપુર અને ચાંગોદર ગામે પ્રા.પ.સા.કેન્દ્ર રીપેરીંગની કામગીરી(છઠ્ઠો પ્રયત્ન)	૨૮.૦૦	૨૮૦૦૦/-	૧૫૦૦/-	ઈ-૧ અને તેથી ઉપરનો ક્લાસ
		<u>પેકેજ નં. એ.એચ.ડી./આંગણવાડી/૦૨ (૨૦૨૬-૨૦૨૭) (બીજો પ્રયત્ન)</u>				
૨	ધંધુકા	કન્સ્ટ્ર. વેરીયસ આંગણવાડી બિલ્ડીંગ ઈન ધંધુકા તાલુકા જિ. અમદાવાદ (કાદીપુર, કામાતળાવ) કુલ-૨	૨૪.૦૦	૨૪૦૦૦/-	૮૦૦/-	ઈ-૧ અને તેથી ઉપરનો ક્લાસ
		<u>પેકેજ નં. એ.એચ.ડી./આંગણવાડી/૦૩ (૨૦૨૬-૨૦૨૭) (બીજો પ્રયત્ન)</u>				
૩	ધંધુકા	કન્સ્ટ્ર. વેરીયસ આંગણવાડી બિલ્ડીંગ ઈન ધંધુકા તાલુકા જિ. અમદાવાદ (ધોલેરા-૨, મુંડી) કુલ-૨	૨૪.૦૦	૨૪૦૦૦/-	૮૦૦/-	ઈ-૧ અને તેથી ઉપરનો ક્લાસ
		<u>પેકેજ નં. એ.એચ.ડી./આંગણવાડી/૦૪ (૨૦૨૬-૨૦૨૭) (બીજો પ્રયત્ન)</u>				
૪	બાવળા	કન્સ્ટ્ર. વેરીયસ આંગણવાડી બિલ્ડીંગ ઈન બાવળા તાલુકા જિ. અમદાવાદ (ગુદાનાપરા, રાશમ-૧) કુલ-૨	૨૪.૦૦	૨૪૦૦૦/-	૮૦૦/-	ઈ-૧ અને તેથી ઉપરનો ક્લાસ
		<u>પેકેજ નં. એ.એચ.ડી./આંગણવાડી/૦૫ (૨૦૨૬-૨૦૨૭) (બીજો પ્રયત્ન)</u>				
૫	ધોળકા	કન્સ્ટ્ર. વેરીયસ આંગણવાડી બિલ્ડીંગ ઈન ધોળકા તાલુકા જિ. અમદાવાદ (ચલોડા-૭, કેલીયા વાસણા-૪, કોડલિયાપુરા, કરિયાણા-૧) કુલ-૪	૪૮.૦૦	૪૮૦૦૦/-	૧૫૦૦/-	ઈ-૧ અને તેથી ઉપરનો ક્લાસ
		<u>પેકેજ નં. એ.એચ.ડી./આંગણવાડી/૦૬ (૨૦૨૬-૨૦૨૭) (બીજો પ્રયત્ન)</u>				
૬	વિરમગામ	કન્સ્ટ્ર. વેરીયસ આંગણવાડી બિલ્ડીંગ ઈન વિરમગામ તાલુકા જિ. અમદાવાદ (ડુમાણા-૨, શીયાળ, વનથલ-૧) કુલ-૩	૩૬.૦૦	૩૬૦૦૦/-	૧૫૦૦/-	ઈ-૧ અને તેથી ઉપરનો ક્લાસ
		<u>પેકેજ નં. એ.એચ.ડી./આંગણવાડી/૦૭ (૨૦૨૬-૨૦૨૭) (બીજો પ્રયત્ન)</u>				
૭	માંડલ	કન્સ્ટ્ર. વેરીયસ આંગણવાડી બિલ્ડીંગ ઈન માંડલ તાલુકા જિ. અમદાવાદ (માંડલ-૩, માંડલ-૮) કુલ-૨	૨૪.૦૦	૨૪૦૦૦/-	૮૦૦/-	ઈ-૧ અને તેથી ઉપરનો ક્લાસ
		<u>પેકેજ નં. એ.એચ.ડી./આંગણવાડી/૦૮ (૨૦૨૬-૨૦૨૭) (બીજો પ્રયત્ન)</u>				
૮	માંડલ	કન્સ્ટ્ર. વેરીયસ આંગણવાડી બિલ્ડીંગ ઈન માંડલ તાલુકા જિ. અમદાવાદ (સીતાપુર-૬) કુલ-૧	૧૨.૦૦	૧૨૦૦૦/-	૮૦૦/-	ઈ-૨ અને તેથી ઉપરનો ક્લાસ

		<u>પેકેજ નં.એમ.એમ.જી.એસ.વાય. / એસ.સી.એસ.પી. /સ્ટ્રક્ચર/૦૩ (૨૦૨૫-૨૦૨૬)</u>				
૯	માંડલ	માંડલ રખીયાણા રોડ	૮૦૦.૦૦	૮૦૦૦૦૦/-	૧૨૦૦૦/-	એએ કલાસ અને ઉપર રોડ સ્પે. કેટેગરી-૧
		<u>પેકેજ નં.એ.એચ.ડી./ કિશાનપથ/૦૪ (૨૦૨૫-૨૦૨૬)</u>				
૧૦	બાવળા	છબાસર એ. રોડ	૭૦.૦૦	૭૦૦૦૦/-	૨૪૦૦/-	ડી કલાસ અને ઉપર
૧૧	દશક્રોઈ	મોજે. હાથીજણ જમીન સર્વે નં. ૩૧૧ માં ગુજરાત ગ્રામ ગૃહ નિર્માણ બોર્ડ હસ્તકની ખુલ્લી જમીન પર કંમ્પાઉન્ડ વોલની કામગીરી	૬૫.૦૦	૬૫૦૦૦/-	૨૪૦૦/-	ડી કલાસ અને ઉપર
૧૨	વિરમગામ	મોજે. વિરમગામ જમીન સર્વે નં. ૫૩૬ માં ગુજરાત ગ્રામ ગૃહ નિર્માણ બોર્ડ હસ્તકની ખુલ્લી જમીન પર કંમ્પાઉન્ડ વોલની કામગીરી	૧૪૦.૦૦	૧૪૦૦૦૦/-	૩૬૦૦/-	સી કલાસ અને ઉપર

બીડ ડોક્યુમેન્ટ ડાઉનલોડીંગ શરુ થવાની તારીખ	તા. ૨૨/૦૬/૨૦૨૬ ૧૧.૦૦ કલાક થી
બીડ ડોક્યુમેન્ટ ડાઉનલોડીંગ અને સબમીશનની છેલ્લી તારીખ/ સમય	તા. ૦૮/૦૭/૨૦૨૬ ૧૮.૦૦ કલાક સુધી
ટેકનીકલ બીડ /ફાયનાન્સીયલ બીડ ઓપનીંગ તારીખ/ સ્થળ	તા. ૦૮/૦૭/૨૦૨૬ ૧૧.૦૦ કલાકથી, અધિક્ષક ઈજનેરશ્રી, મા.મ. પંચાયત વર્તુળ, સી-૬, બહુમાળી ભવન, વસ્ત્રાપુર, અમદાવાદ.
ટેન્ડર ફી/બાનાની રકમ તથા ડોક્યુમેન્ટસ રજી.પોસ્ટ દ્વારા પહોંચાડવાની તારીખ/ સ્થળ	તા. ૦૮/૦૭/૨૦૨૬ થી તા.૧૪/૦૭/૨૦૨૬ સુધી, કાર્યપાલક ઈજનેરશ્રી, મા.મ. પંચાયત વિભાગ, જિલ્લા પંચાયત ભવન, લાલદરવાજા, અમદાવાદ.
ટેન્ડર વેલીડિટી પીરીયડ	૧૨૦ દિવસ
બીડ ઇનવાઈટીંગ ઓફીસર	કાર્યપાલક ઈજનેરશ્રી, મા.મ. પંચાયત વિભાગ, જિલ્લા પંચાયત ભવન, લાલદરવાજા, અમદાવાદ.
બીડ ઓપનીંગ ઓથોરિટી	અધિક્ષક ઈજનેરશ્રી, મા.મ. પંચાયત વર્તુળ, સી-૬, બહુમાળી ભવન, વસ્ત્રાપુર, અમદાવાદ.

જનરલ ટર્મ્સ એન્ડ કંન્ડીસન્સ

- (૧) બીડર્સ ટેન્ડર ડોક્યુમેન્ટસ વેબ સાઈટ www.nprocure.com પરથી વિના મુલ્યે ડાઉનલોડ કરી શકશે.
- (૨) બીડર્સે તેમનું બીડ ઇલેક્ટ્રોનિક ફોર્મસમાં વેબસાઈટ www.rnb.nprocure.com પર છેલ્લી તારીખ અને સમય સુધીમાં સબમીટ કરવાની રહેશે.
- (૩) ફીજીક્લ્સ ફોર્મ્સમાં રજુ થયેલ ઓફર સ્વીકારવામાં આવશે નહીં.

કાર્યપાલક ઈજનેર
મા. મ. પંચાયત વિભાગ
અમદાવાદ

જાહેર નિવિદા નં. ૦૪/૨૦૨૬-૨૦૨૭
કાર્યપાલક ઇજનેર પંચાયત (માર્ગ અને મકાન) વિભાગ જિલ્લા પંચાયત, લાલ દરવાજા,
અમદાવાદ-૩૮૦૦૦૧ ફોન નં. ૦૭૯-૨૫૫૧૧૬૦૮ ની કચેરી મારફતે રસ્તાના કામો,
તથા આંગણવાડી બિલ્ડીંગ તથા બિલ્ડીંગ મરામતના કામો માટે ઓન લાઇન ઇ- ટેન્ડર
થી જાહેર બાંધકામ ખાતાના યોગ્ય શ્રેણીમાં નોંધાયેલ ઇજારદારો પાસેથી ટેન્ડર માંગવામાં
આવે છે. ઇ-ટેન્ડરની વિગતો અત્રેની કચેરીએ થી તથા વેબસાઇટ
www.statetenders.gujarat.gov.in પર ટેન્ડર તા.૦૮/૦૭/૨૦૨૬ સુધી
જોવા મળશે તથા ઓનલાઇન ટેન્ડર www.rnb.nprocure.com પર ડાઉનલોડ
તથા સબમીશન થઈ શકશે.

અહીંથી છાપવું નહીં.

કાર્યપાલક ઇજનેર
મા. મ પંચાયત વિભાગ
અમદાવાદ

**SPECIAL
CONDITIONS
&
GENERAL
RESOLUTION**

GENERAL INSTRUCTIONS:-

1. The fees for on line tender document will not be refunded under any circumstances.
2. EMD in the form specified in tender document only shall be accepted.
3. Tender without Tender document fees, Earnest Money Deposit (EMD) and which do not fulfill all or any of the condition of submitted incomplete in any shall not be accepted.
4. Condition tender shall not be accepted.
5. The tender notice shall form a part of tender documents.
6. The tenders are advised to read carefully the Instruction for Tenderer and Eligibility Criteria contained in the tender documents.
7. The internet site address for E-Tender is <https://rnb.nprocure.com> and that to corporate web site is www.nprocure.com
8. Free training camp for bidders will be organized on every saturday between 1.00 to 5.00 PM at (n) code solutions. A division of GNFC, 301, GNFC Infotower, Bodakdev, Ahmedabad-380054 (Indian) Bidders are requested to take benefit of the same.
9. The R & B reserves the right to reject any or all tenders without assigning and reason there of.
10. Detailed working drawings for the work can be viewed only by Autocad version while on line tender down loading.

સેમ્પલની ગુણવત્તા માટેના પશ્ચિક્ષણ ૯૦ ટકા
પરીક્ષણ સ્થળ પર તથા ૧૦ ટકા પરીક્ષણ
માન્ય લેબોરેટરી / ગેરી ધ્વારા કરાવવા બાબત.

ગુજરાત સરકાર
માર્ગ અને મકાન વિભાગ
પરિપત્ર ક્રમાંક પરચ/૧૦૨૦૦૭-૨૮/સ
સચિવાલય ગાંધીનગર
તારીખ ૧૬/૨/૨૦૦૮

પરિપત્ર:-

બાંધકામના મટીરીયલ્સ તેમજ કોપેનેન્ટીના સેમ્પલની ગુણવત્તા માટેના પરીક્ષણ હાલ ગેરી કે માન્ય સંસ્થા (લેબોરેટરી) મારફતે કરવામાં આવે છે. કામોની પ્રગતિની સમીક્ષા દરમિયાન ક્ષેત્રીય અધિકારીઓ તરફથી જાણવા મળેલ છે કે ઉક્ત હયાત પ્રક્રિયામાં ટેસ્ટીંગ પરિણામો વિલંબથી મળે છે. જેમાં સમય પણ ખુબ વ્યતિત થાય છે. ઈજારદાર એસોસીયેશન તરફથી આવી રજુઆતો મળે છે. આથી આ મુશ્કેલી ધ્યાને લેતા ઈજારદાર ધ્વારા જે તે માટે સ્થાપવામાં આવતી લેબોરેટરીમાં સ્થળ પર જ પરીક્ષણ કરવામાં આવે તો વિલંબ નિવારી શકાય તે બાબત વિચારણા હેઠળ હતી પુખ્ત વિચારણાના અંતે નીચે મુજબની નીતી હાલના તબક્કે અનુસરવા નક્કી કરવામાં આવ્યું.

પ્રવર્તમાન પધ્ધતિમાં ફેરફાર કરી ફીક્વન્સી અનુસાર જરૂરી પરીક્ષણો પૈકી ૧૦ ટકા માન્ય લેબોરેટરી ધ્વારા અને ૯૦ ટકા ફીલ્ડ લેબોરેટરી ધ્વારા કરાવવાના રહેશે. જેમા નીચે દર્શાવેલ પરીક્ષણો સ્થળ પર કરવાના રહેશે છે.

એ	એગ્રીગેટ	(૧) ગ્રેડેશન (૨) ફલેકીનેશ અને ઇલોગેશન વેલ્યુ (૩) ઇમ્પેક્ટ વેલ્યુ
બી	માટી	(૧) ફિલ્ડ એફડીડી અને એફએમસી (૨) સીવ એનાલીસીસ
સી	રેતી	(૧) ગ્રેડેશન
ડી	ઈટો	(૧) ડાયમેનશન અને ટોલરન્સ ટેસ્ટ
ઈ	કોકીટ	(૧) નોન ડીસ્ટ્રીક્ટીવ ટેસ્ટ (એલ્ટ્રા સોનીક ટેસ્ટીંગ પધ્ધતિથી)
એફ	બીટયુમીનસ મીક્સ	(૧) ડામરની ટકાવારી

શરતો :-

૧. ઈજારદારે કામની ગુણવત્તા માટે ધારા ધોરણ પ્રમાણેની અને ઉપર જણાવેલ પરિક્ષણો માટે પ્રમાણિત થયેલ જરૂરી તમામ સાધનો સહિતની ફિલ્ડ ટેસ્ટીંગ લેબોરેટરી સ્વ ખર્ચે કામના સ્થળ યોગ્ય જગ્યા ઉપર સ્થાપવાની રહેશે. રસ્તાના કામ માટે લાગુ પડતા પ્લાન્ટના સ્થળને કામનું સ્થળ ગણી શકાય.
૨. ધારા ધોરણ પ્રમાણેના પરિક્ષણોની સંખ્યા પૈકી ૮૦ ટકા પરિક્ષણ ફિલ્ડ લેબોરેટરીમાં ઈજારદારના અધિકૃત ક્વોલીફાઈડ ઈજનેર જેઓને સંબંધિત કાર્યપાલક ઈજનેરશ્રીએ આઈ કાર્ડ આપેલ હોય તેમના ધ્વારા ખાતાના ના.કા.ઈ./ મ.ઈ./અ.મ.ઈ./ ની હાજરીમાં જ કરવાના રહેશે અને પરિક્ષણોમાં સંયુક્ત સહીઓ કરવાની રહેશે જ્યારે ૧૦ ટકા પરિક્ષણ ગેરી/ સરકાર ધ્વારા માન્ય લેબોરેટરી મારફતે કરાવવાના રહેશે.
૩. કુલ પરિક્ષણોના ૮૦ ટકા પરિક્ષણ એક જ સ્થળે એકજ સમયે એકજ તબક્કામાં નહીં કરતા કામની પ્રગતિ મુજબ જે તબક્કાએ જે તે કામગીરીને અનુરૂપ જે મટીરીયલ્સ વાપરવાનું થતું હોય તદઅનુસાર શરૂઆતના તબક્કામાં રાખવું વચ્ચેના તબક્કામાં તેમજ આખરી તબક્કામાં કરાવવાનું રહેશે. આમ છતાં આ બાબતે સ્થાનિક કક્ષાએથી ના.કા.ઈ.શ્રીએ જરૂરીયાત મુજબ તબક્કાવાર પરીક્ષણો નક્કી કરવાના રહેશે.
૪. ગુણવત્તા નિયમન ધારા ધોરણ પ્રમાણેના બધાજ રજીસ્ટર નિયમિત રીતે નિભાવવાના રહેશે. અને તે જે તે સ્થળે લેબોરેટરીમાં ઉપલબ્ધ રહે તેમ રાખવાના રહેશે.
૫. જો કોઈ કારણસર ટેસ્ટીંગના સાધન અપ્રાપ્ય હોય અથવા વસાવવામાં સમય જાય તેમ હોય કે વ્યવહાર ન હોય (જેમ કે ઇલેક્ટ્રોમેટ્રિક બેરીંગ) તો આવા પરીક્ષણો સરકાર માન્ય સંસ્થાઓમા કરાવી શકાશે. અને આ બાબતનો નિર્ણય સંબંધિત કા.ઈ.શ્રી/ ના.કા.ઈ.શ્રી એ કરવાનો રહેશે.
૬. વિભાગના ક્ષેત્રિય તાંત્રિક સ્ટાફે ના.કા.ઈ./ મ.ઈ./અ.મ.ઈ એ તેમજ ઈજારદારના તાંત્રિક સ્ટાફ ધ્વારા ગેરીમાં પરિક્ષણ જાતે કરવાનો સંતોષકારક અનુભવ મેળવી આ બાબતનું ગેરીનું પ્રમાણપત્ર પણ મેળવવાનું રહેશે. જે તે જિલ્લા પ્રાદેશિક સ્તરે ગેરીની લેબોરેટરીમાં કોર્ષ કન્ટક્ટ કરવા માટે જરૂરી ફી જે તે વિભાગના કા.ઈ.શ્રીએ ચુકવવાની રહેશે અને આ કાર્યવાહી સમયબદ્ધ પુર્ણ થાય તે માટે સંબંધિત અ.ઈ.શ્રીએ આ કામગીરીની વખતોવખત સમીક્ષા કરવાની રહેશે.
૭. આ પરિપત્રથી ૮૦ ટકા પરિક્ષણો લેબોરેટરીમાં કરવાનો અમલ તા.૧/૧/૦૮ થી કરવાનો રહેશે.

(આર.કે. ચૌહાણ)

ખાસ ફરજ પરના અધિકારી (વિ.યો)

માર્ગ અને મકાન વિભાગ

પ્રતિ,

૧. માન. મંત્રીશ્રી (મા.મ) વિભાગના અંગત સચિવશ્રીની જાણ સારુ.
૨. મુ.ઈ.શ્રી (મા.મ.) અને અ.સ.શ્રી માર્ગ અને મકાન વિભાગ સચિવાલય ગાંધીનગર
૩. મુ.ઈ.શ્રી (પંચા) અને અ.સ.શ્રી માર્ગ અને મકાન વિભાગ સચિવાલય ગાંધીનગર
૪. મુ.ઈ.શ્રી(ને.હા.) અને અ.સ.શ્રી માર્ગ અને મકાન વિભાગ સચિવાલય ગાંધીનગર
૫. મુ.ઈ.શ્રી(પા.યો) અને અ.સ.શ્રી માર્ગ અને મકાન વિભાગ સચિવાલય ગાંધીનગર
૬. મુ.ઈ.શ્રી(ગુનિ.) અને અ.સ.શ્રી માર્ગ અને મકાન વિભાગ સચિવાલય ગાંધીનગર
૭. નિયામકશ્રી(એસટીસી) સ્ટાફ ટ્રેનીંગ કોલેજ ગાંધીનગર
૮. મુ.ઈ.શ્રી (પીએપી) માર્ગ અને મકાન વિભાગ સચિવાલય ગાંધીનગર
૯. નાણાકીય સલાહકાર શ્રી (મા.મ. વિ.) નાણા વિભાગ સચિવાલય ગાંધીનગર
૧૦. સર્વે અ.ઈ.શ્રીઓ મા.મ. વર્તુળ પેટા/ મા.મ. વર્તુળ /ને.હા. વર્તુળ એક્સપ્રેસ-વે-વર્તુળ/પાટનગર યોજના વર્તુળ
૧૧. સર્વે કા.ઈ.શ્રીઓ ઉપર્યુકત વર્તુળો હસ્તકના સર્વે વિભાગો
૧૨. સર્વે તાંત્રિક અધિકારીશ્રીઓ (ના.કા.ઈ.શ્રીઓ સહિત)
૧૩. સર્વે પ્રોજેક્ટ શાખાઓ (રસ્તાને લગતી) માર્ગ અને મકાન વિભાગ સચિવાલય ગાંધીનગર
૧૪. સીલેક્ટ ફાઈલ.

ટેન્ડરીંગમાં ટેન્ડર ફી અંગેનો ડ્રાફ્ટ ચેકસ્કેન
કરી ઈ ટેન્ડરીંગના અન્ય ડોક્યુમેન્ટ સાથે રજુ કરવા
અને ટેન્ડર મોકલવા બાબત.

ગુજરાત સરકાર
માર્ગ અને મકાન વિભાગ
પરિપત્ર ક્રમાંક પરચ-૧૦૨૦૦૮-૫-સ
સચિવાલય ગાંધીનગર
તા. ૧૮-૧-૨૦૦૮

પરિપત્ર

માર્ગ અને મકાન વિભાગમાં હાલ રૂા. ૫૦ લાખથી વધુ રકમના ટેન્ડરો ઈ-ટેન્ડર પદ્ધતિથી મેળવવામાં આવે છે. પ્રવર્તતી પદ્ધતિ મુજબ ટેન્ડર ફી તથા અર્નેસ્ટ ડીપોઝીટ વિભાગીય કચેરીએ રુબરુ ચોક્કસ સમયમર્યાદા માં મેળવ્યા બાદ એજન્સીના ટેન્ડર ખોલવામાં આવે છે. આ પદ્ધતિમાં મળેલ ફરીયાદ ધ્યાનમાં લેતા ઈ ટેન્ડર પદ્ધતિમાં નીચે મુજબ ફેરફાર કરવા નિર્ણય લેવામાં આવે છે. આ શરતનો સમાવેશ દરેક ટેન્ડર નોટીસ - ટેન્ડરનાં મુસદ્દામાં કરવાનો રહેશે.

Demand Draft for E.M.D. & Tender fee shall be submitted in electronic format only through online (by scanning) while uploading the bid. This submission shall mean that E.M.D. & tender fee are received for purpose of opening the bid. Accordingly offer of those shall be opened whose E.M.D. & tender fee is received electronically. However for the purpose of realization of D.D. bidder shall send the D.D. in original through R.P.A.D. so as to reach to Executive Engineer Division within 7 days from the last date of uploading penaltative action for not submitting D.D. in Original to E.E. by bidder shall be initiated. D.D. for Exemption Certificate is not necessary. However Exemption Certificate shall have to be submitted Electronically through online.

Any documents in supporting of tender bid shall be submitted in electronic format only through online (by scanning etc) & hard copy will not accepted separately.

ટેન્ડર માટે બાનાની રકમ (ઈ.એમ.ડી.)તથા ટેન્ડર ફી ના ડીમાન્ડ ડ્રાફ્ટ ઓન લાઈન સ્કેન કરી ઈલેક્ટ્રોનિક ફોરમેટમાં ટેન્ડર અપલોડ કરવાનો રહેશે. આ પ્રકારે જુ થયેલ વિગતે બાનાની રકમ અને ટેન્ડર ફી મળેલ ગણવાની રહેશે અને તદ્દનુસાર ટેન્ડર ખોવામાં આવશે તે અનુસાર ઈલેક્ટ્રોનિક ફોરમેટમાં બાનાની રકમ અને ટેન્ડર ફી મળેલ હોય તેની જ ઓફર ખોલવામાં આવશે. ખરેખર ચુકવણા માટે ટેન્ડર ભરનારે ડીમાન્ડ ડ્રાફ્ટ અસલમાં રજીસ્ટર્ડ પોસ્ટ એ.ડી. ને કાર્યપાલક ઈજનેરશ્રી,વિભાગ ને અપલોડીંગની છેલ્લી તારીખથી દિન-૭ માં મળે તે અનુસાર રજુ કરવાના રહેશે. અસલમાં ડીમાન્ડ ડ્રાફ્ટ નહી મોકલનાર સામે શિક્ષાત્મક પગલા શરુ કરવામાં આવશે. બાના મુકિત માટે ડીમાન્ડ ડ્રાફ્ટ જરુરી બનશે નહી. પરંતુ મુકિતના પ્રમાણપત્ર ઈલેક્ટ્રોનિક ઓન લાઈન રજુ કરવાનું રહેશે.

ટેન્ડર બીડના માટે જરુરી આધાર માટેના કોઈ પણ ડોક્યુમેન્ટ ઓન લાઈન ઈલેક્ટ્રોનિક ફોરમેટમાં સ્કેન કરી મોકલવાના રહેશે. અને હાર્ડ કોપી અલાયદી રીતે સ્વીકારવામાં આવશે નહી.

ગુજરાત રાજ્યપાલશ્રીના હુકમથી અને તેમના નામે,

ઉપસચિવ
માર્ગ અને મકાન વિભાગ

પ્રતિ

સર્વ અધિક્ષક ઈજનેરશ્રીઓ
રાજ્ય વિભાગ - પંચાયત મા.મ. વર્તુળ- ને.હા. વર્તુળ- પા.યો.વર્તુળ
રા.મા.યો. વર્તુળ ગાંધીનગર સહીત
સર્વ શાખાઓ મા.મ. વિભાગ સચિવાલય ગાંધીનગર

ગુજરાત સરકાર
માર્ગ અને મકાન વિભાગ
પરિપત્રકમાંક એસટીઆર ૧૦૨૦૦૧ મં. ૩૪ - ૨૯ હ
૧૪લ સરદાર ભવન, સચિવાલય ગાંધીનગર
તા.૨/૨/૨૦૦૭

અનુસંધાન

- (૧) આવિભાગના (૧)પરિપત્ર ક્રમાંક એસટીઆર ૧૦૮૭-૮૨- હ તા. ૨૭/૧૧/૮૭
(૨) પરિપત્રકમાંક એસટીઆર ૧૦૮૭ મં. ૮૨- હ તા. ૨૧/૧૧/૮૮
(૩) પરિપત્ર ક્રમાંક એસટીઆર-૧૦-૨૦૦૧-મં.-૩૪-૨૯-હ તા. ૪/૧૦૨૦૦૫

પરિપત્ર

માર્ગ અને મકાન વિભાગ ધ્વારા હાથ ધરવામાં આવતા કામોમાં સીમેન્ટ સ્ટીલ હને ડામર ઈજારદાર ધ્વારા પુરા પાડવામા આવે છે. જેમાં ઈજારદારને ભાવ તફાવત ચુકવવા/ વસુ કરવાની જોગવાઈ છે.

સીમેન્ટ અને સ્ટીલના ભાવ તફાવત ચુકવવા/વસુલ કરવાની જોગવાઈ કામ શરૂ કર્યાથી પુરૂ કરવાની મુળ સમય મર્યાદા અને વધારેલી સમય મર્યાદા સુધી લાગુ પડે છે. જ્યારે ડામરના કિસ્સામાં કામ પુરૂ કરવાની વધારેલ સમય મર્યાદામાં ભાવ તફાવતની રકમ આપવા અંગે વિસંગતતા હોઈ ગુજરાત કોન્ટ્રાક્ટર્સ એસોસિયેશન અમદાવાદની રજુઆત થયેલ છે. જે ધ્યાને લઈ પુખ્ત વિચારણાના અંતે ઉપરોક્ત અનુસંધાન ૨ માં દર્શાવેલ તા.૨૧/૧૧/૮૮ ના પરિપત્રની સુચના ક્રમાંક ૨ ૨૬ ગણી તેની જગ્યાએ નીચે મુજબ સુધારો કરવામાં આવે.

૨ રીઝર્વ બેન્કના બુલેટીનમાં ડામરના કોઈ ઈન્ડેક્સ ન હોવાથી ઈજારદાર વર્ક ઓર્ડર આપ્યા બાદ જે ડામર ખરીદે તેના રીફાઈનરીના અસલ બીલો રજુ કરે અને ખરીદેલ ડામરનો જથ્થો વર્ક ઓર્ડર મુજબના કામમાં ટેન્ડર મુજબની મુળ સમય મર્યાદા અને સરકારી કારણોના લીધે વધારેલી સમય મર્યાદા દરમિયાન વાપરે તેના બીલના ખરીદ ભાવ અને ટેન્ડરમાં દર્શાવેલ સ્ટાર રેટ વચ્ચેના તફાવતની રકમનું ચુકવણું / વસુલાત (રીકવરી) કરવાની રહેશે.

જે કિસ્સામાં કામ પુર્ણ કરવામાં ઈજારદારના કારણોના લીધે જે વિલબ થયેલ હોય તે સમય ગાળાની સમય મર્યાદા વધારવામાં આવે તે દરમિયાનનો ભાવ તફાવત મળવા પાત્ર થશે.

કામની મુદત વધારવા અંગેની દરખાસ્તમાં પુરતી ચકાસણી કરી વિલંબના કારણો ખાતાની ભુલના કારણે કે ઈજારદારની ભુલના કારણે હોય તે અલગ દર્શાવવાના રહેશે.

આમ સીમેન્ટ અને સ્ટીલના ભાવફેર આપવાની જે જોગવાઈ છે તે મુજબ ન ડામર માટે પણ ઉપર જણાવ્યા અનુસાર મુળ સમય મર્યાદા અને વધારેલ સમય મર્યાદામાં ભાવ તફાવત ચુકવણું /વસુલાત (રીકવરી) કામના ચુકવણાના ચાલુ બીલોમાં કરવાની રહેશે.

અનુસંધાનમાં દર્શાવેલ પરિપત્રોઅન્ય સુચનાઓ યથાવત રહેશે. આ સુધારો વિભાગના નાણાંકીય સલાહકાર શ્રીની તા.૨૨/૧/૨૦૦૭ ની નોંધથી મળેલ સંમતિ અને બહાર પાડવામાં આવે છે. આ પરિપત્રનો અમલ પરિપત્રની તારીખથી નવા ડ્રાફ્ટ ટેન્ડરમાં કરવાના રહેશે.

ગુજરાત રાજ્ય પાલશ્રીના હુકમથી અને તેમના નામે.

સહી/-
(પી.બી. શાહ)
ઉપસચિવશ્રી (યં અને મ)
માર્ગ અને મકાન વિભાગ

તિ,

સર્વે અધિક્ષક ઈજનેરશ્રીઓ

માર્ગ અને મકાન વિભાગ હેઠળના તમામ (પંચાયત મા.મ. વર્તુળ/રા.ધો.મા./રા. રસ્તા વર્તુળ)

નકલ રવાના :-

- (૧) સર્વે કાર્યપાલક ઈજનેરશ્રીઓ (પંચાયત મા.મ. વિભાગ સહિત)
(૨) વિભાગના દરેક તાંત્રિક અધિકારીઓ
(૩) વિભાગની દરેક તાંત્રિક શાખાઓ
(૪)નાણા શાખા મા.મ. વિભાગ સચિવાલય ગાંધીનગર
(૫) સિલેક્ટ ફાઈલ ૨૦૦૭
(૬) ના.સ.અ.શ્રી સિલેક્ટફાઈલ ૨૦૦૭
(૭) ગુજરાત કોન્ટ્રાક્ટર્સ એસોસિયેશન અમદાવાદ

ગુજરાત સરકાર
ઉધોગ અને ખાણવિભાગ
ઠરાવ ક્રમાંક: એમએમઆર/૧૧૨૦૦૦/૨૦૧૩/છ.
સચિવાલય, ગાંધીનગર
તારીખ : ૧/૮/૨૦૦૪

વંચાણે લીધા ::-

- (૧)ઉધોગ , ખાણ અને ઉર્જા વિભાગનો ઠરાવ ક્રમાંક: એમસીઆર-૨૧૬૮-૭૩૮૦-છ. તા.૧૨/૧૨/૧૯૬૯
- (૨)ઉધોગ, ખાણ અને ઉર્જા વિભાગન ઠરાવ ક્રમાંક:એમસીઆર-૨૧૬૮-૮-૬૬૮૫-છ, તા. ૧/૧/૧૯૮૭
- (૩)ઉધોગ, ખાણ અને ઉર્જા વિભાગનો ઠરાવ ક્રમાંક: એમસીઆર-૨૧૮૮-(૮)૬૫-છ તા.૨૫/૧/૧૯૮૧
- (૪)ઉધોગ અને ખાણ વિભાગનો ઠરાવ ક્રમાંક: એમસીઆર-૧૦૮૭-૨૮૫૬-છ. તા. ૬/૧૧/૧૯૮૭
- (૫)માન.મુખ્યમંત્રીશ્રીના અધ્યક્ષપણા હેઠળ યોજાયેલ એમ્પાવર્ડ કમીટીની તા. ૧૮/૬/૨૦૦૪ ની બેઠકની કાર્યવાહીનોંધ

ઠ રા વ :-

ઉધોગ, ખાણ અને ઉર્જા વિભાગના સંદર્ભ-(૩) હેઠળના ઠરાવથી એવી જોગવાઈ કરવામાં આવેલ કે રાજ્ય સરકારના, પંચાયતોના અને સરદાર સરોવર નર્મદા નિગમના બાંધવામાં આવતાં રસ્તાઓનાં કે સિંચાઈ વગેરેના કામો માટે જ્યારે સાદી માટી (ઓર્ડીનરી કલે-અર્થ) અને (સોફ્ટ) મુરમ વાપરવામાં આવે ત્યારે ગુજરાત ગૌણ ખનિજ નિયમ, ૧૯૬૬ મુજબ રોયલ્ટી લેવાના નિયમો લાગુ પડશે નહીં. એટલે કે આ કામો માટે કોન્ટ્રાક્ટરો પાસે સાદી માટી (ઓર્ડીનરી કલે-અર્થ) અને (સોફ્ટ) મુરમ માટે રોયલ્ટી લેવાની થશે નહીં તથા સંદર્ભ-(૪) હેઠળના વિભાગના તા.૬/૧૧/૮૭ ના ઠરાવથી ગુજરાત વિધુતબોર્ડ ધ્વારા હાથ ધરવામાં આવતાં કામો માટે પણ ઉપર મુજબ રોયલ્ટી મુકિતનો લાભ આપવામાં આવેલ. ઉપર્યુક્ત જોગવાઈના કારણે રાજ્યમાં ગેરકાયદેસર રીતે આ ખનિજોનો વપરાશ થતો હોવાનું.

જણાયેલ છે. જેના પરિણામે રાજ્ય સરકારે રોયલ્ટીની આવક ગુમાવવી પડે છે માટે ઉપરોક્ત હુકમોની જોગવાઈની સમીક્ષા કરી તે દૂર કરવાની બાબત સરકારશ્રીની વિચારણા હેઠળ હતી. તા. ૧૮/૬/૨૦૦૪ ના રોજ માન.મુખ્યમંત્રીશ્રીના અધ્યક્ષપણા હેઠળ યોજાયેલ એમ્પાવર્ડ કમીટીની બેઠકમાં નક્કી થયા મુજબ સંદર્ભ-૩ તથા સંદર્ભ-૪ હેઠળના વિભાગના તા. ૨૫/૧/૮૧ તથા તા. ૬/૧૧/૮૭ ના ઠરાવો આથી રદ કરવામાં આવે છે.

ગુજરાતના રાજ્યપાલશ્રીના હુકમથી અને તેમના નામે .

સહી/-
(આર. બી. વ્યાસ)
નાયબ સચિવઉધોગ અને ખાણ વિભાગ

ગુજરાત સરકાર
માર્ગ અને મકાન વિભાગ
પરિપત્ર ક્રમાંક: ટીએનસી-૧૦-૨૦૦૨-(૧૪)-સ.
સચિવાલય, ગાંધીનગર
તારીખ : ૨૭/૪/૨૦૦૫

વિષય :- રાજ્ય સરકારના બાંધકામ માટે વપરાતા ગૌણ ખનિજની રોયલ્ટી ભરવા બાબત.
સંદર્ભ : ઉધોગ અને ખાણ વિભાગનો ઠરાવ ક્રમાંક: એમએમઆર-૧૧ ૨૦૦૦-૨૦૧૩-છ.
તા. ૧/૮/૨૦૦૪

પ રિ પ ત્ર :-

ઉધોગ, ખાણ અને ઉર્જા વિભાગના તા. ૨૫/૧/૮૧ ના ઠરાવ ક્રમાંક: એમસીઆર-૨૧૮૮-(૮)-૬૫-છ અન્વયે રાજ્ય સરકારના, પંચાયતના અને સરદાર સરોવર નર્મદા નિગમના બાંધવામાં આવતાં રસ્તાઓના કે સિંચાઈ વગેરેના કામો માટે જ્યારે સાદી માટી (ઓર્ડીનરી કલે-અર્થ) અને (સોફ્ટ)મુરમ વાપરવામાં આવે ત્યારે ગુજરાત ગૌણ ખનિજ નિયમ-૧૯૬૬ મુજબ રોયલ્ટી લેવાનો નિયમ લાગુ પડશે નહીં. એટલે કે આ કામો માટે કોન્ટ્રાક્ટરો પાસે સાદી માટી (ઓર્ડીનરી કલે-અર્થ) અને (સોફ્ટ) મુરમ માટે રોયલ્ટી લેવાની થશે નહીં તેવી જોગવાઈ કરવામાં આવેલ. હવે ઉપર સંદર્ભમાં દર્શાવેલ ઉધોગ અને ખાણ વિભાગના તા.૧/૮/૨૦૦૪ ના ઠરાવથી તા.૨૫/૧/૮૧ ના ઠરાવ રદ કરવામાં આવેલ છે.

આથી હવે બી-૧ ટેન્ડર ફોર્મ માં ખંડ-૩૬ અને બી-૨ ટેન્ડર ફોર્મમાં ખંડ-૩૫ માં નીચે મુજબ સુધારો કરવામાં આવે છે. રાજ્ય સરકારના બાંધકામ માટે વપરાતા ગૌણ ખનિજની રોયલ્ટી બાબત.

(૧)તા. ૧-૩-૮૧ ના ઠરાવ મુજબ મુરમ સિવાયના

અન્ય સુધીના શબ્દો રદ કરી ફક્ત નીચે મુજબ જોગવાઈ અમલમાં રહેશે.

ગૌણ ખનિજ બાબતમાં રા. ગૌ. ખ. નિ. ૧૯૬૬ અને તેના અનુસંધાનમાં વખતોવખત બહાર પાડવામાં આવેલ ઠરાવો લાગુ પડશે, અને તે મુજબ લીઝ કે પરમીટ લેવાનું અને રોયલ્ટી ભરવાની રહેશે(ઉધોગ અને ખાણ વિભાગ ઠરાવ ક્રમાંક: એમએમઆર-૧૧-૨૦૦૦-૨૦૧૩-છ તા. ૧/૮/૦૪)

(અશોક પંડ્યા)
ઉપસચિવશ્રી
માર્ગ અને મકાન વિભાગ

પ્રતિ,

સર્વે અધિક્ષક ઇજનેરશ્રી,

(મા.મ.વર્તુળો, પંચાયત (મા.મ)વર્તુળો/એક્સપ્રેસ વે વર્તુળ/રાજ્ય માર્ગ યોજના વર્તુળ

રાષ્ટ્રીય ધોરી માર્ગ વર્તુળો/પાટનગર યોજના વર્તુળ સહિત/

સર્વે કાર્યપાલક ઇજનેરશ્રીઓ(ઉપરોક્ત વર્તુળો હેઠળના તમામ વિભાગો સહિત)

નકલ રવાના :-

-- ઉધોગ અને ખાણ વિભાગ, સચિવાલય ગાંધીનગર

-- નર્મદા, જળસંપત્તિ, પાણી પુરવઠા અને કલ્પસર વિભાગ, સચિવાલય, ગાંધીનગર

-- નિયામકશ્રી, ઇજનેરી સંશોધન સંસ્થા, વડોદરા -- નિયામકશ્રી, એન્જનીયરીંગ સ્ટાફ કોલેજ, ગાંધીનગર

-- મેનેજિંગ ડીરેક્ટરશ્રી, ગુજરાત રાજ્ય બાંધકામ નિગમ લી., ગાંધીનગર --મેનેજિંગ ડીરેક્ટરશ્રી, ગુજરાત રાજ્ય માર્ગ વિકાસ નિગમ લી., ગાંધીનગર--સર્વે તાંત્રિક અધિકારીશ્રીઓ(ના.કા.ઈ. સહિત) મા.મ.વિભાગ, સચિવાલય
--સર્વે પ્રોજેક્ટ શાખાઓ, મા.મ.વિ.સચિવાલય, --સીલેક્ટ ફાઈલ.

રાજ્ય સરકારના બાંધકામ માટે વપરાતા ગૌણ ખનિજની રોયલ્ટી ભરવા બાબત.

ગુજરાત સરકાર

ઉદ્યોગ અને ખાણ વિભાગ

ઠરાવ ક્રમાંક : એમએમઆર/૧૧૨૦૦૦/૨૦૧૩/૬૭

સચિવાલય, ગાંધીનગર

તારીખ : 1-SEP-2004

વંચાણે લીધા :-

- (૧)ઉદ્યોગ, ખાણ અને ઉર્જા વિભાગનો ઠરાવ ક્રમાંક:એમસીઆર-૨૧૬૮-૭૩૮૦-છ તા. ૧૨/૧૨/૧૯૬૯.
- (૨)ઉદ્યોગ, ખાણ અને ઉર્જા વિભાગનો ઠરાવ ક્રમાંક:એમસીઆર-૨૧૬૮-૮- ૬૬૮૫-છ, તા. ૧/૧/૧૯૮૭
- (૩) ઉદ્યોગ, ખાણ અને ઉર્જા વિભાગનો ઠરાવ ક્રમાંક:એમસીઆર-૨૧૮૮-(૮)૬૫-છ તા. ૨૫/૧/૧૯૯૧.
- (૪) ઉદ્યોગ અને ખાણ વિભાગનો ઠરાવ ક્રમાંક:એમસીઆર-૧૦૯૭-૨૮૫૬-છ, તા. ૬/૧૧/૧૯૯૭.
- (૫) માન. મુખ્યમંત્રીશ્રીના અધ્યક્ષપણા હેઠળ યોજાયેલ એમ્પાવર્ડ કમીટીની તા. ૧૮/૬/૨૦૦૪ ની બેઠકની કાર્યવાહી નોંધ.

ઠ રા વ :-ઉદ્યોગ, ખાણ અને ઉર્જા વિભાગના સંદર્ભ-(૩) હેઠળના ઠરાવથી એવી જોગવાઈ કરવામાં આવેલ કે રાજ્ય સરકારના, પંચાયતોના અને સરદાર સરોવર નર્મદા નિગમના બાંધવામાં આવતાં રસ્તાઓનાં કે સિંચાઈ વગેરેના કામો માટે જ્યારે સાદી માટ્ટ (ઓર્ડીનરી કલે-અર્થ) અને (સોફ્ટ) મુરમ વાપરવામાં આવે ત્યારે ગુજરાત ગૌણ ખનિજ નિયમ, ૧૯૬૬ મુજબ રોયલ્ટી લેવાના નિયમો લાગુ પડશે નહીં. એટલે કે આ કામો માટે કોન્ટ્રાક્ટરો પાસે સાદી માટી (ઓર્ડીનરી કલે-અર્થ) અને (સોફ્ટ) મુરમ માટે રોટલ્ટી લેવાની થશે નહીં તથા સંદર્ભ-(૪) હેઠળના વિભાગના તા. ૬/૧૧/૯૭ ના ઠરાવથી ગુજરાત વિદ્યુતબોર્ડ ધ્વારા હાથ ધરવામાં આવતાં કામો માટે પણ ઉપર મુજબ રોટલ્ટી મુકિતનો લાભ આપવામાં આવેલ. ઉપર્યુક્ત જોગવાઈના કારણે રાજ્યમાં ગેરકાયદેસર રીતે આ ખનિજોનો વપરાશ થતો હોવાનું જણાયેલ છે. જેના પરિણામે રાજ્ય સરકારે રોટલ્ટીની આવક ગુમાવવી પડે છે માટે ઉપરોક્ત હુકમોની જોગવાઈની સમીક્ષા કરી તે દૂર કરવાની બાબત સરકારશ્રીની વિચારણા હેઠળ હતી. તા. ૧૮/૬/૨૦૦૪ ના રોજ માન. મુખ્યમંત્રીશ્રીના અધ્યક્ષપણા હેઠળ યોજાયેલ એમ્પાવર્ડ કમીટીની બેઠકમાં નક્કી થયા મુજબ સંદર્ભ-૩ તથા સંદર્ભ-૪ હેઠળના વિભાગના તા. ૨૫/૧/૯૧ તથા તા. ૬/૧૧/૯૭ ના ઠરાવો આથી રદ કરવામાં આવે છે.ગુજરાતના રાજ્યપાલશ્રીના હુકમથી અને તેમના નામે.

સહી/-

(આર. બી. વ્યાસ)

ગુજરાત સરકારમાર્ગ અને મકાન વિભાગપીશ્રપત્ર ક્રમાંક:ટીએનસી/૧૦૮૯-(૪)-સસચિવાલય, ગાંધીનગર
તારીખ : ૨૧.૧૦.૨૦૦૫

પરિપત્ર:-

વિષય: કોન્ટ્રાક્ટરો ને સરકારી કામના ટેન્ડરોમાં શેડ્યુલ-એ હેઠળ સરકારી વિભાગો દ્વારા સિમેન્ટ તથા લોખંડ પુરાપાડવાની પ્રથા રદ કરવાને કારણે પ્રાઇસ એસ્કેલેશનના હુકમોમાં સંબંધિત સુધારો કરવા બાબત (ક્લોઝ પૅ-પૅ-એ-(બી-૨)અને ક્લોઝ ૬૦-૬૦એ(બી-૧)

સંદર્ભ: (૧) સરકારી ઠરાવક્રમાંક:સીસીએ-૧૫૭૪-સી-૧૭૪૧-(૩૬)-સ,તા:૩૧-૮-૮૧

(૨) સરકારી ઠરાવક્રમાંક:સીસીએ-૧૫૭૪-સી-૧૭૪૧-(૩૬)-સ,તા:૭-૪-૮૩

(૩) સરકારી ઠરાવક્રમાંક:ટીએનસી-૧૦૮૯- (૪)-સ,તા:૩૧-૮-૮૧

(૪) સરકારી ઠરાવક્રમાંક:ટીએનસી-૧૦૮૯- (૪)-સ,તા:૫-૧૦-૯૧

(૫) સરકારી ઠરાવક્રમાંક:ટીએનસી-૧૦૮૯- (૪)-સ,તા:૭-૪-

(૬) સરકારી ઠરાવક્રમાંક:ટીએનસી-૧૦૮૯-આઇબી-૨૨૦- (૧૮)-સ,તા:૩૧-૩-૦૫

સરકારશ્રીના ઉપર સંદર્ભ(૩) માં દર્શાવેલ તા.૩૧-૮-૯૧ના ઠરાવથી ટેન્ડર ફોર્મના ક્લોઝ ૫૯-૫૯-એ-(બી-૨)અને ક્લોઝ ૬૦-૬૦એ(બી-૧) માં સુધારો કરવામાં આવેલ. ઉપર સંદર્ભ(૬)મા દર્શાવેલ તા.૩૧-૩-૦૫ ના પરિપત્રથી સરકારી કામ ના ટેન્ડરોમાં શેડ્યુલ-એ હેઠળ સરકારી વિભાગો દ્વારા કોન્ટ્રાક્ટરો ને સિમેન્ટ તથા લોખંડ પુરા પાડવાની જોગવાઈ રદ કરવામાં આવેલ છે. ઉપરોક્ત સંદર્ભ(૩) માં દર્શાવેલ તા.૩૧-૮-૯૧ના ઠરાવથી કરેલ ફેરફાર ફક્ત રૂ.૧૫.૦૦ લાખ થી વધુ રકમન કામો માટે હતા.પ્રસ્તુત બાબતમા પુખ્ત વિચારણાને અંતે હવે રૂ.૧૫.૦૦ લાખ થી નીચે ની કોઇપણ રકમના કામોમા પણ સ્ટારરેટની જોગવાઈ રાખવાનો નિર્ણય થયેલ છે. આ પરિપત્રનો અમલ તે રવાના થયાની તારીખથી કરવાનો રહેશેઆ હુકમો આ વિભાગના ફાઇઅલ ક્રમાંક ટીએનસી -૧૦૮૮-આઇબી-૨૨૦- (૧૮)-સ, પર સરકારી શ્રીની તા.૧૨-૭-૨૦૦૪ ના રોજ મળેલ સંમતિથી બહાર પાડવામાં આવે છેગુજરાતના રાજ્યપાલશ્રીના હુકમથી અને તેમના નામે, (અશોક પંડ્યા)ઉપસચિવ માર્ગ અને મકાન વિભાગ

પ્રતિ,નર્મદા જળસંપત્તિ,પાણી પુરવઠા અને કલ્પસર વિભાગ, સચિવાલય, ગાંધીનગરસર્વે અધિક્ષક ઈજનેરશ્રીઓ.(મા.મ.વર્તુળ ,પંચાયત, મા.મ.વર્તુળ,/રા.ધો.મા./રાજ્ય માર્ગ યો.વર્તુળ/ એક્સપ્રેસ વે વર્તુળ / પાટનગર યોજના વર્તુળ સહિત)સર્વે કાર્યપાલક ઈજનેરશ્રીઓ(ઉપરોક્ત વર્તુળ હેઠળના તમામ વિભાગો)સર્વે તાંત્રિક અધિકારીઓ,માર્ગ અને મકાન વિભાગ, સચિવાલય ગાંધીનગર સર્વે પ્રોજેક્ટ શાખાઓ,માર્ગ અને મકાન વિભાગ, સચિવાલય ગાંધીનગર સિલેક્ટ ફાઇલ

ગુજરાત સરકાર માર્ગ અને મકાન વિભાગ પરિપત્રક્રમાંક એસએસઆર-૧૦૨૦૦૪-આઇબી-૪૧(૨૪)-સ

સચિવાલય ગાંધીનગર તા.૨/૧૨/૨૦૦૬

વિષય : મકાનો અને અન્ય બાંધકામના કામદારો ના કલ્યાણ સેસ.એક્ટ ૧૯૮૬ હેઠળ ૧% સેસ “ગુજરાત બિલ્ડીંગ એન્ડઅધર કન્સ્ટ્રક્શન વર્ક્સ વેલફેર બોર્ડ”માં જમા કરાવવા અંગે.

સંદર્ભ: (૧) શ્રમ અને રોજગાર વિભાગ, સચિવાલય ગાંધીનગર નો ઠરાવ ક્રમાંક : સીડબલ્યુએ-૨૦૦૪/૮૪૧-એમ-૩, તા: ૩૦-૦૧-૨૦૦૬

(૨) શ્રમ અને રોજગાર વિભાગ, સચિવાલય ગાંધીનગર નો ઠરાવ ક્રમાંક : સીડબલ્યુએ-૨૦૦૪/૧૮૩૧-એમ-૩, તા: ૯-૧૨-૨૦૦૫

પરિપત્ર:

ઉપરોક્ત વિષયના સંદર્ભ માં દર્શાવેલ શ્રમ અને રોજગાર વિભાગ, સચિવાલય ગાંધીનગરના તા: ૩૦-૦૧-૨૦૦૬ અને તા: ૯-૧૨-૨૦૦૫ ના ઠરાવો(નકલ સામેલ છે) તરફ સર્વે સંબંધિતોનું ધ્યાન દોરતા આથી જણાવવામાં આવેછે કે મંજૂર કરાતા ડ્રાફ્ટ ટેન્ડર પેપર્સમાં “સેસ” અંગે જોગવાઈ કરીને ઇજારદારોના દર મહિને કરેલ કામના બિલના ચુકવણામાથી ૧(એક) ટકો સેસ કાપીને તે રકમ “ગુજરાત બિલ્ડીંગ એન્ડ અધર કન્સ્ટ્રક્શન વર્ક્સ વેલફેર બોર્ડ”ના સંદર્ભ: (૨) હેઠળ ના ઠરાવથીનિયત કરેલ હેડ-સબહેડ ખાતે સંબંધિત કાર્યપાલક ઇજનેરશ્રી દ્વારા જમા કરાવવાની રહેશે.હવે પછીથી જે ન્વા અંદાજો મંજૂર કરવામાં આવે તેવા અંદાજ ની દરેક આઇટમના ભાવોમાં ૧% વધારો કરીને વધારેલ ભાવ મુજબ અંદાજો મંજૂર કરવાના રહેશે.તથા ડ્રાફ્ટ ટેન્ડર પેપર્સમાં તે મુજબ રકમ મુકવાની રહેશે. મોટા અને સુવાચ્ય અક્ષરે ITB માં બીલ માંથી કપાત થનાર બધાજ પ્રકારના ટેક્સ/સેસ વિગેરેનો ઉઅલ્લેખ કરવાનો રહેશે.આ સુચના નો અમલ ચુસ્તપણે થાય તેની સંબંધિતો એ નોંધ લઈ તે મુજબ કાર્યવાહી અચૂક રીતે હાથ ધરવાની રહેશે.

(અશોક પંડ્યા)

ઉપસચિવ

માર્ગ અને મકાન વિભાગ

પ્રતિ,

સર્વે અધિક્ષક ઇજનેરશ્રીઓ.(મા.મ.વર્તુળ/પંચાયત,મા.મ.વર્તુળ,/ને.હા.વર્તુળ./એક્સપ્રેસવેવર્તુળ/રા.મા.યો.વર્તુળ/ પાટનગર યોજના વર્તુળ તથા ઇલેક્ટ્રીકલ મા.મ. એક્સપ્રેસ વે વર્તુળ સહિત)સર્વે કાર્યપાલક ઇજનેરશ્રીઓ(ઉપરોક્ત વર્તુળો હસ્તકના સર્વે વિભાગો)સર્વે તાંત્રિક અધિકારીઓ,ના.કા.ઇ.શ્રીઓ સહીત,માર્ગ અને મકાન વિભાગ, સચિવાલય ગાંધીનગર સર્વે પ્રોજેક્ટ શાખાઓ,માર્ગ અને મકાન વિભાગ, સચિવાલય ગાંધીનગર સિલેક્ટ ફાઇલ-૨૦૦૬ સ-શાખા મા.અને મ. વિભાગ, સચિવાલય ગાંધીનગર

Opening of New Sub-head of Account

Government of Gujarat
Labour and Employment Department
No: CWA-2004-1831-M(3)
Sachivalaya, Gandhinagar
Dated: 09/12/2005

Read:

(1) Commissioner of Labour(Factory Wing),Ahmedabad,Letter No; CL-DISH-A-LAW-2004-1748,Dated:3-6-2004

(2) Finance Department, Gandhinagar, Letter No: ONS-102005-5435(133)-K Dated : 01-12-2005

RESOLUTION

Under the Gujarat Building and other Construction Worker's(Regulation of Employment and Condition of Service) Rules 2003, the proposal to meet with the expenditure incurred for the various welfare activities for the beneficiaries of Gujarat Building and Other Construction Workers' Welfare Board and payment of salaries to his establishment of the said board, has been received from Commissioner of Labour, vide his letter referred to in the permeable. The said proposal was under active consideration for some time. After careful consideration, the government is pleased to open a New Sub-Head of Account as under:-

- | | |
|--------------------|---|
| • Demand No:- | • - |
| • Major Head:- | • 0230-Labour and Employment |
| • Sub Major Head:- | • - |
| • Minor Head:- | • 106-Fees under Contract Labour(Regulation and Abolition) Rules |
| • Sub Minor Head:- | • (03)-Contribution frombeneficiaries building workers under Gujarat Building & Other Construction Workers’ Welfare Cess Act 1996 |
| • Demand No:- | • - |

- Major Head:- • 0230-Labour and Employment
- Sub Major • -
- Head:-
- Minor Head:- • 106-Fees under Contract Labour(Regulation and Abolition) Rules
- Sub Minor • (04)-Income from cess levied under Gujarat Building & Other
- Head:- Construction Workers' Welfare Cess Act 1996

- Demand No:- • 57
- Major Head:- • 2230-Labour and Employment
- Sub Major • 01-Labour
- Head:-
- Minor Head:- • 111-Social Security of Labour
- Sub Minor • (05)-Activities of the Gujarat Building & Other Construction
- Head:- Workers' Welfare Cess Act 1996

- 2.0 The Competent Authority(Registering Officer or the Appellate Officer as the case may be) shall arrange to deposit the amount in the said head by challan in the respective treasury or in the bank specified by the State Government, accordingly.
- 3.0 This order is issued in corporate with Finance Department's letter Dated 01-12-2005, referred to in preamble.
- By order and in the name of the Governor of Gujarat.

Sd/-
(S.K.Bamaniya)
Under Secretary to Govt. of Gujarat,
Labour and Employment Department

To:

1. The Principal Secretary and Chairman, Gujarat Building and Other construction Workers' Welfare Board, Sachivalaya, Gandhinagar
2. The Commissioner of Labour, Gujarat State, O-3, New Mental Hospi. Compound, Meghaninagar, Ahmedabad
3. The Director, Industrial Safety & Health, O-9, New Mental Hospi. Compound, Meghaninagar, Ahmedabad
4. The Accountant General, Gujarat, Ahmdabad
5. The Accountant General, Gujarat, Rajkot
6. All District Treasury Officers
7. The Deputy Commissioner of Labour, C/0 the Commissioner of Labour, Gujarat State, Meghaninagar, Ahmedabad
8. The Member Secretary, Gujarat Building and Other construction Workers' Welfare Board, C/0 Office of the Commissioner of Labour, Gujarat State, Meghaninagar, Ahmedabad-16
9. The Finance Department(K-Branch) sachivalaya, Gandhinagar
10. The Section Officer, M-1 Br. Labour and Employment department, sachivalaya, Gandhinagar
11. The Branch select file
12. The Dy. S.O. select file.

Instruction on implementation of the Building and other Construction Workers(ROE & COS) Act,1996
and Building and Other Construction workers Welfare Cess Act,1996

Government of Gujarat
Labour and Employment Department
No: CWA-2004-1831-M(3)
Sachivalaya, Gandhinagar
Dated: 30-Jan-2006

Read: Labour & Employment Department,Gandhinagar GR No:CWA-2004-1831-M(3) dated 9-12-2005

RESOLUTION

Building and other constructions workers are one of the largest and most vulnerable segments of unorganized labour. Their work is characterized byb inherent risk to life and limb of the workers and also by casual nature,temporary relationship between employer and employee,uncertain working hours,lack of basic amenities and inadequate welfare facilities.

Government of India has decided to constitute Welfare Boards for such workers in every state and accordingly,the Building and other Construction workers (Regulation of Employment & Conditons of Service) Act 1996 was enacted by Parliament and brought into force from 19th August,1996.Implementation of the Act including cess collection has already commenced in Kerala,Kernataka,TamilNadu and Delhi. Under the said Act,Government of Gujarat has constituted a Board under section 18. The State Government has been given powers to make rules for carrying out the provisions of this Act.

Accordingly,Government of Gujarat made Gujarat Building and other Construction Workers (Regulation of Employment and Condition of Service) Rules,2003 and published these Rules Vide Notification No:GHR 2003- CWA-2000-1869-M(3),dated 18 th August 2003.Government of Gujarat has also constituted the Gujarat building and other Construction Workers welfare Board vide Notification No:GHR/2004/163/ CWA /2004 /3743-M3,dated 18th December 2004. Secretary(labour) has been appointed as Chairman.

Government of India has also enacted the Building and other Construction Workers Welfare Cess Act (hereinafter called as Cess Act) and brought it in force from 19th August 1996. The Cess Act Provides for the levy and collection of cess on the cost of construction incurred by the employers,for increasing the resources of the Welfare Board. Section 3 of the Cess Act provides that Cess shall be levied and collected

at a rate not less than 1% of the cost of Construction incurred by an employer. Rule 5 of the Building and Other Construction Workers' Welfare Cess Rules, 1998 reads as follows:

The proceeds of the cess collected under Rule 4 shall be transferred by such Government Office, Public Sector Undertakings, Local authority or cess collector, to the Board along with the form of challan prescribed (and in the head of account of the Board) under the accounting procedures of the state, by whatever name they are known.

Such Government Office or Public Sector Undertaking may deduct from the cess collected or claim from the Board, as the case may be, actual collection expenses not exceeding one Percent of the total amount collected.

The amount collected shall be transferred to the Board within thirty days of its collection.

Moreover under Rule 6 every employer within thirty days of commencement of his work or payment of cess, as the case may be has to furnish information in Form 1 to the Assessing Officer. Under Rule 12, the Assessing Officer in cases where the employer has not pay the cess or has paid less cess, can impose a penalty upto the amount of cess payable.

By Government of Gujarat Notification No: GHR/2005/04/CWA/2004/841/M3 dated 3rd January 2005, all Heads of Departments of the Government of Gujarat, all Executive Heads of Public Sector Undertakings and all Executive Heads of Local Authority (except Gram panchayat and Nagar Panchayat) are declared as Cess Collectors and Assessing Officer.

The Building and other Construction workers Welfare Board has passed the necessary resolution to collect the cess with effect from 13th December 2004.

Accordingly the cess is payable by Government Officers, Public Sector Undertakings and Local Authority or Cess Collector to the Board in Challan prescribed in the following Head/Sub Head:

- | | |
|--------------------|---|
| • Major Head:- | • 0230-Labour and Employment |
| • Minor Head:- | • 106-Fees under Contract Labour (Regulation and Abolition) Rules |
| • Sub Minor Head:- | • (04)-Income from cess levied under Gujarat Building & Other Construction Workers' Welfare Cess Act 1996 |

Approval of the Finance Department, Government of Gujarat has been taken for meeting the expenditure to be incurred for the various welfare activities by the Gujarat Building and Other Construction Workers Welfare Board and the opening of the Accounting Head/Sub Head in file No: CWA – 2004-1831-M3 on 1st December 2005 (Copy of Resolution dated 9/12/2005 is enclosed)

All Government Departments Public Sector Undertakings and Local Authority are instructed to pay the above cess as per the Act. All departments, Public Sector Undertakings and Local Authority are also advised to incorporate the 1% Cess in their estimates for all new works.

By order and in the name of the Governor of Gujarat.

Sd/-

(Vinod Babbar)

Principal Secretary to Government,
Labour and Employment Department

Principal Secretary to Chief Minister, Sachivalaya, Gandhinagar

Ps to all Ministers

Ps to all Minister of state

PS to Chief secretary

Accountant General, Gujarat, Rajkot/Ahmdabad All Department of sachivalaya with a request to circulate to all HODS/Boards/Corporations under their administrative control

Pay & Account Office,Ahmedabad/Gandhinagar Resident Audit Office.
Ahmedabad/Gandhinagar

All heads of Departments under Local & Employment Department
All District Panchayat
All Municipal Corporations
Branch Select File
Dy.S.O.Select File

ઈ ટેન્ડરીગમાં ટેન્ડર ફી અનેઅન્ય ડોક્યુમેન્ટ રજુ કરવા અંગે.

ગુજરાત સરકાર
માર્ગ અને મકાન વિભાગ
પરિપત્ર ક્રમાંક પરચ-૧૦૨૦૦૮-૫-સ
સચિવાલય ગાંધીનગર
તા. ૨૭-૧૧-૨૦૦૮

પરિપત્ર

માર્ગ અને મકાન વિભાગમાં હાલ માં ટેન્ડરો ઈ-ટેન્ડર પદ્ધતિથી મેળવવામાં આવે છે. તે અન્વયે સમાન ક્રમાંકના તા.૧૮/૧/૦૮ ના પરિપત્ર માં ટેન્ડર ફી અને બાનાની રકમ જે તે કાર્યપાલક ઈજનેરશ્રી ને ખરેખર ચુકવવા માટે દિન-૭ મં અસલમાં રજીસ્ટર્ડ પોસ્ટ એ.ડી થી મોકલવાની તેમજ અસલમાં ડીમાન્ડ ડ્રાફ્ટ નહિ મોકલનાર સામે શિક્ષાત્મક પગલા લેવાની જોગવાઈ હતી. ઉપરોક્ત પરિપત્રમાં નીચે મુજબ અંશ:ત સુધારો કરી આ શરત નો સમાવેશ ટેન્ડર નોટીસ/ ટેન્ડર મુસદ્દામાં Through R.P.A.D. so as to reach to Executive Engineer Division within 7 days from the last date of uploading ને બદલે " to S.E at the time of tender opening or Send the same through R.P.A.D. so as to reach to Executive Engineer Division within 7 days from the last date of opening." સુધારો કરવામાં આવે છે.તેમજ ખરેખર ટેન્ડર ફી તેમજ બાનાની રકમ નિયત સમયમાં ઇજારદાર ન ભરે તો ઇજારદારની નોંધણી એક વર્ષ માટે એબેન્સ માં રાખવાની કાર્યવાહી કરી ઇ- ટેન્ડરીંગ નો કોડ એક વર્ષ માટે રદ કરાશે.

ગુજરાત રાજ્યપાલશ્રીના હુકમથી અને તેમના નામે,

(આર.કે. ચૌહાણ)

ખાસ ફરજ પર ના અધિકારી
માર્ગ અને મકાન વિભાગ

પ્રતિ

સર્વે મુખ્ય ઇજનેર અન અધિક સચિવશ્રી, માર્ગ અને મકાન વિભાગ સચિવાલય ગાંધીનગર
સર્વે ઉપસચિવશ્રી, માર્ગ અને મકાન વિભાગ સચિવાલય ગાંધીનગર
સર્વ અધિક્ષક ઇજનેરશ્રીઓ ,રાજ્ય વિભાગ - પંચાયત મા.મ. વર્તુળ- ને.હા. વર્તુળ- પા.યો.વર્તુળરા.મા.યો. વર્તુળ ગાંધીનગર સહીત
સર્વ કાર્યપાલક ઇજનેરશ્રીઓ , માર્ગ અને મકાન વર્તુળ - પંચાયત મા.મ. વર્તુળ- ને.હા. વર્તુળ- પા.યો.વર્તુળરા.મા.યો. વર્તુળ ગાંધીનગર સહીત
સર્વ શાખાઓ મા.મ. વિભાગ સચિવાલય ગાંધીનગર

ટેન્ડર માં ભરેલ અસામાન્ય ઊંચા ભાવોના સંદર્ભે કામ પર પડતા ખર્ચ પર નિયંત્રણ રાખવા તથા કામની નાણાકીય પ્રગતિ ભૌતિક પ્રગતિ સાથે સુમેળમાં રહે તે માટે જરૂરી જોગવાઈ કરવા બાબત

ગુજરાત સરકાર
માગ અને મકાન વિભાગ
પરિપત્ર ક્રમાંક પરચ-૧૦૨૦૦૮-૬૧-સ
સચિવાલય ગાંધીનગર
તા. ૨૭-૧૧-૨૦૦૮

પરિપત્ર:

ટેન્ડર માં અસામાન્ય ઊંચા કે નીચા ભાવો ઇજારદારશ્રીઓ દ્વારા ઘણી વાર ભરાતા હોવાનું સરકારશ્રીના ધ્યાન પર આવેલ છે. આવા કિસ્સાઓ માં કામની નાણાકીય અને ભૌતિક પ્રગતિ નો સુમેળ ન રહેવાની સંભાવના રહેલી છે. આથી કામની ભૌતિક પ્રગતિ પ્રમાણે નાણાકીય પ્રગતિ રહે કે જેથી સરકારશ્રી પર સમય પહેલા અયોગ્ય નાણાકીય બોજ ન પડે તે માટે નીચી મુજબની જોગવાઈ ટેન્ડર માં કરવાનો નિર્ણય કરવામાં આવેલ છે. આ જોગવાઈ તમામ કામો ના આ પરિપત્રની તારીખ પછી મંજૂર થતા ડી.ટી.પી માં અચૂક કરવાની રહેશે.

જોગવાઈ: જે કોઈ આઈટમનો ભરેલ ભાવ, તે આઈટમ ના ટેન્ડર માં મુકેલ અંદાજીભાવ કરતાં ટેન્ડર માં મુકેલ અંદાજી રકમથી સમગ્ર ટેન્ડર જેટલું ઊંચું કે નીચું મંજૂર થયું હોય તે ટકાવારી થી ૧૦% થી વધુ ઉંચો રહેતો હોય તેવી આઈટમનું ચુકવણી રનીંગ બીલ વખતે તે આઈટમના અંદાજીત ભાવ + / - મંજૂર ટેન્ડરની ટકાવારી + તે આઈટમના અંદાજી ભાવ ના ૫% ની મર્યાદામાં કરવામાં આવશે. આ રીતે વીથહેલ્ડ કરેલ રકમ કામ સંતોષકારક પૂર્ણ થયે ફાઇનલબીલ મંજૂર કરતી વખતે વ્યાજભારણ વગર છૂટી કરવામાં આવશે.

ઉદાહરણ:

ઉક્ત જોગવાઈની સ્પષ્ટ સમજણ માટે આ સાથે આપેલ ઉદાહરણ ધ્યાને લેવું.

- | | | | |
|---|--|-----|-------|
| ૧ | ટેન્ડરમાં મુકેલ અંદાજી રકમ | રૂ. | ૧૦૦/- |
| ૨ | મંજૂર થયેલ ટેન્ડર ની રકમ | રૂ. | ૧૧૦/- |
| ૩ | ટેન્ડરમાં મુકેલ અંદાજી રકમ સામે ખરેખર મંજૂર થયેલ ટેન્ડર ની ટકાવારી | | ૧૦% |
| ૪ | ટેન્ડરમાં એક આઈટમનો ટેન્ડર માં મુકેલ અંદાજી ભાવ | રૂ. | ૧૦/- |

- ૫ • તે આઈટમનો ભરેલ ભાવ • રૂ. • ૧૪/-
- ૬ • તે આઈટમનો ભરેલ ઉંચા ભાવની ટકાવારી • • ૪૦%
- ૭ • તે આઈટમ માટે રનિંગ બીલ વખતે ચુકવવાપાત્ર ભાવ • રૂ. • ૧૦ + કોલમ ૩ પ્રમાણે ૧૦% ઉંચા +અંદાજી ભાવના ૫% = રૂ.૧૧.૫૦
- ૮ • ફાઇનલ બિલ વખતે વ્યાજભારણ વગર ચુકવવાપાત્ર અને વીથહેલ્ડ રાખેલ ભાવ • રૂ. • ૧૪.૦૦ – ૧૧.૫૦ = રૂ. ૨.૫૦

જો સદર આઈટમના ભાવ રૂ.૧૨.૦૦ કે તેથી નીચા ભરેલ હોય તો રનિંગબીલ માં ભાવ કપાત આ જોગવાઈ મુજબ કરવાની રહેત નહિ.

(આર.કે. ચૌહાણ)

ખાસ ફરજ પર ના અધિકારી

માર્ગ અને મકાન વિભાગ

પ્રતિ: તમામ અધિક્ષક ઈજનેરશ્રીઓ, માર્ગ અને મકાન વિભાગ તમામ કાર્યપાલક ઈજનેરશ્રીઓ , માર્ગ અને મકાન વિભાગ

નકલ રવાના: ૧) સચિવશ્રીના અંગતમદદનીશ,મા.મ.વિભાગ ૨) તમામ મુખ્ય ઈજનેરશ્રી અને અ.સ.શ્રી,મા.મ.વિભાગ

૩) તમામ તાત્રિક ઉપસચિવશ્રીઓ, મા.મ.વિભાગ(૪) ના.કા.ઇ.શ્રીઓ, મા.મ.વિભાગ પ્રોપરપ) નાણાશાખા , મા.મ.વિભાગ

૬) ના.સિ.અ. સિલેક્ટ ફાઇલ ૭) શાખા સીલેક્ટ

બાંધકામના મટીરીયલ્સ તેમજ કોમ્પોનેન્ટ્સ સેમ્પલની
ગુણવત્તા માટેના પરીક્ષણ પૈકીના ૮૦% પરીક્ષણ સ્થળ
પર તથા ૧૦% પરીક્ષણ સરકાર માન્ય લેબોરેટરી / ગેરી
ધ્વાર: તથા ૧૦% ગેરી લેબોરેટરીમાં કરાવવા બાબત.

ગુજરાત સરકાર,
માર્ગ અને મકાન વિભાગ,
પરિપત્ર ક્રમાંક:— પરચ/૧૦૨૦૦૭/૨૮/સ
સચિવાલય, ગાંધીનગર.
તારીખ: ૩૧/૧૨/૨૦૦૮.

પરિપત્ર

બાંધકામના મટીરીયલ્સ તેમજ કોમ્પોનેન્ટ્સના સેમ્પલની ગુણવત્તા માટેના પરીક્ષણ હાલ ગેરી કે સરકાર માન્ય સંસ્થા (લેબોરેટરી) મારફતે કરવામાં આવે છે, કામોની પ્રગતિની સમીક્ષા દરમ્યાન ક્ષેત્રીય અધિકારીઓ તરફથી જાણવા મળેલ છે કે ઉક્ત હયાત પ્રક્રિયામાં ટેસ્ટીંગના પરિણામો વિલંબથી મળે છે, જેમાં સમય પણ ખૂબ વ્યતિત થાય છે. ઈજારદાર એસોસિયેશન તરફથી આવી રજુઆતો મળે છે, આથી આ મુશ્કેલી ધ્યાને લેતાં ઈજારદારશ્રી ધ્વારા જે તે કામ માટે સ્થાપવામાં આવતી લેબોરેટરીમાં સ્થળ પર જ પરીક્ષણ કરવામાં આવે તો વિલંબ નિવારી શકાય તે બાબત વિચારણા હેઠળ હતી, પુખ્ત વિચારણાના અંતે નીચે મુજબની નીતિ હાલના તબક્કે અનુસરવા નક્કી કરવામાં આવ્યું છે.

નીચે જણાવેલ પરીક્ષણોમાં પ્રવર્તમાન પદ્ધતિમાં ફેરફાર કરી ફીક્વન્શી અનુસાર જરૂરી પરીક્ષણો પૈકી ૧૦% સરકાર માન્ય લેબોરેટરી/ગેરી તથા ૧૦% ગેરી લેબોરેટરી અને ૮૦% ફીલ્ડ લેબોરેટરી ધ્વારા કરાવવાના રહેશે. પરંતુ ગેરીમાં નીચેના દરેક પૈકી ઓછામાં ઓછું ૧ (એક) પરીક્ષણ ગેરી લેબોરેટરીમાં કરવાનું રહેશે તથા ઓછામાં ઓછું એક પરીક્ષણ ગેરી / સરકાર માન્ય લેબોરેટરીમાં કરાવવાનો રહેશે. જેમાં નીચે દર્શાવેલ પરીક્ષણો સ્થળ પર કરવાના રહે છે.

એ	એગ્રીગેટ	(૧) ગ્રેડેશન (૨) ફ્લેકીનેશ અને ઈલોગેશન વેલ્યુ (૩) ઈમ્પેક્ટ વેલ્યુ (૪) વોટર અબસોર્પશન
બી	માટી	(૧) ફિલ્ડ એફીડી અને એફએમસી (૨) સીવ એનાલીસીસ

સી	રેતી	(૧) ગ્રેડેશન
ડી	ઈટો	(૧) ડાયમેનશન અને ટોલરન્સ ટેસ્ટ (૨) વોટર અબસોર્પશન
ઈ	ક્રેકીટ	(૧) નોન ડીસ્ટ્રીક્ટીવ ટેસ્ટ (એલ્ટ્રા સોનીક ટેસ્ટીંગ પદ્ધતિથી) (૨) સ્લમ્પ ટેસ્ટ (૩) કોમ્પ્રેસીવ સ્ટ્રેન્થ
એફ	બીટયુમીનસ મીક્સ	(૧) ડામરની ટકાવારી
જી	ડ્રાય મીક્ષ મટીરીયલ	(૧) ગ્રેડેશન

શરતો :-

૧. ઈજારદારે કામની ગુણવત્તા માટે ધારા ધોરણ પ્રમાણની અને ઉપર જણાવેલ પરિક્ષણો માટે પ્રમાણિત થયેલ જરૂરી તમામ સાધનો સહિતની ફિલ્ડ ટેસ્ટીંગ લેબોરેટરી સ્વ ખર્ચે કામના સ્થળે યોગ્ય જગ્યા ઉપર સ્થાપવાની રહેશે. રસ્તાના કામ માટે લાગુ પડતા પ્લાન્ટના સ્થળને કામનું સ્થળ ગણી શકાય. પરંતુ કામનું સ્થળ લેબોરેટરીથી દૂર હોય તો ઈજારદારશ્રી ધ્વારા મોબાઈલ લેબોરેટરીની જરૂરી વ્યવસ્થા રાખવાની રહેશે.
૨. કા.ઈ.શ્રી જયારે સ્થળ પર તેઓનું ચેકીંગ કરવા જાય ત્યારે ટેસ્ટીંગ તેઓએ તેમની રૂબરૂમાં પણ કરાવવાનું રહેશે.
૩. ધારા ધોરણ પ્રમાણના પરીક્ષણોની સંખ્યા પૈકી ૮૦% પરીક્ષણ ફિલ્ડ લેબોરેટરીમાં ઈજારદારના અધિકૃત કવોલીફાઈડ ઈજનેર કે જેઓને સંબંધિત કાર્યપાલક ઈજનેરશ્રીએ I-CARD આપેલ હોય તેમના ધ્વારા ખાતાના ના.કા.ઈ./ મ.ઈ./અ.મ.ઈ. ની હાજરીમાં જ કરવાના રહેશે અને પરિણામોમાં સંયુક્ત સહીઓ કરવાની રહેશે જયારે ૧૦% પરીક્ષણ ગેરી/સરકાર માન્ય લેબોરેટરી (ઓછામાં ઓછું એક પરીક્ષણ) અને ૧૦% ગેરી લેબોરેટરી (ઓછામાં ઓછું એક પરીક્ષણ) મારફતે કરાવવાના રહેશે.
૪. કુલ પરીક્ષણોના ૮૦ % પરીક્ષણ એક જ સ્થળે એકજ સમયે એકજ તબક્કામાં નહી કરતાં કામની પ્રગતિ મુજબ જે તબક્કાએ જે તે કામગીરીને અનુરૂપ જે મટીરીયલ્સ વાપરવાનું થતુ હોય તદ્દનુસાર શરૂઆતના તબક્કામાં રાખવું વચ્ચેના તબક્કામાં તેમજ આખરી તબક્કામાં કરાવવાનું રહેશે. આમ છતાં આ બાબતે સ્થાનિક કક્ષાએથી ના.કા.ઈ.શ્રીએ જરૂરીયાત મુજબ તબક્કાવાર પરીક્ષણો નક્કી કરવાના રહેશે.

૮. મુ.ઈ.શ્રી (પીએનપી) માર્ગ અને મકાન વિભાગ, સચિવાલય, ગાંધીનગર.

૯. નાણાંકીય સલાહકારશ્રી (મા.મ.વિ.), નાણાં વિભાગ, સચિવાલય, ગાંધીનગર

૧૦. સર્વે અ.ઈ.શ્રીઓ મા.મ. વર્તુળ, પેટા/મા.મ. વર્તુળ/ને.હા. વર્તુળ/ એકસપ્રેસ-વે-વર્તુળ/
પાટનગર યોજના વર્તુળ.

૧૧. સર્વે કા.ઈ.શ્રીઓ ઉપર્યુક્ત વર્તુળો હસ્તકના સર્વે વિભાગો.

૧૨. સર્વે તાંત્રિક અધિકારીશ્રીઓ (ના.કા.ઈ.શ્રીઓ સહિત)

૧૩. સર્વે પ્રોજેક્ટ શાખાઓ (રસ્તાને લગતી) માર્ગ અને મકાન વિભાગ, સચિવાલય, ગાંધીનગર.

૧૪. સીલેક્ટ ફાઈલ.

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૭. નિયામકશ્રી (એસટીસી) સ્ટાફ ટ્રેનીંગ કોલેજ, ગાંધીનગર.

As per Govt R & B Deptt. Letter No. C.E. (R & B) Office 46/2007 Dated 25/7/2007

Demand draft for EMD Pre qualification bid & Tender fee shall be submitted in electronic format only through on line (by scanning) while uploading the bid, This submission shall mean that EMD & tender fee is received electronically. However for the purpose of realization of demand draft. bidder shall send the Demand Draft in original through R.P.A.D. so as to reach to Executive Engineer, R & B Division Ahmedabad. During dt.16/01/2025to 21/01/2025. Penaltative action for not submitting Demand Draft in original to EE by bidder shall be initiated Demand Draft for Exemption Certificate is not necessary. However Exemption Certificate shall have to be submitted electronically through online.

Any documents in supporting of bid shall be submitted in electronic format only through online (by scanning etc) & hard copy will not accepted separately.

Sign of Contractor

Executive Engineer
A'bad (R & B) Division,
Ahmedabad.

ક્રમાંક:પરચ-૨૦૧૦-૧૭૧૩૨૨/(૨૧)ડ.૧

માર્ગ અને મકાન વિભાગ
૧૪/૩, સરદાર ભવન
સચિવાલય, ગાંધીનગર
તા. ૧૮/૩/૨૦૧૨

તિ,

અધિક્ષક ઈજનેરશ્રી
પંચાયત (મા.મ)વર્તુળ-૧,૨
રાજકોટ/અમદાવાદ

વિષય :- ટેન્ડર ૨૦ ટકા થી વધુ નીચા આવતા ઘટાડાની રકમમાં ૫ ટકા લેખે
વધારાની સીક્યુરીટી ડીપોઝીટ લેવા અંગે.

ઉપરોક્ત વિષય પરત્વેના તા. ૨/૨/૧૦ ના પત્ર ક્રમાંક:આરપીસી-૨/ટેન્ડર/જન/૨૫૮/અન્વયે
જણાવવાનું કે, ઉક્ત વિષય સંદર્ભે તા. ૨૧/૧/૧૦ ના રોજની મીટીંગમાં થયેલ ચર્ચા મુજબ ઈજારદારશ્રીઓના
ટેન્ડરો અંદાજ કિંમતથી ઘણા નીચા આવે છે. ૨૦ટકા થી વધુ નીચા આવતા ટેન્ડરો માટે ઈજારદારશ્રી પાસેથી
ટેન્ડરની અંદાજ રકમ સામે સ્વીકૃતિ થતી ટેન્ડરની રકમના તફાવત (ઘટાડાની રકમ ઉપર) ના ૫ ટકા વધારાની
સીક્યુરીટી ડીપોઝીટ લેવાની દરખાસ્ત ગ્રાહ્ય રાખવામાં આવે છે. તદ્ઉપરાંત વર્તમાન સમયમાં ૧૫ ટકા થી
વધુના નીચા ટેન્ડરોની પણ ૫ ટકા વધારાની સીક્યુરીટી ડીપોઝીટ લેવા જણાવવામાં આવે છે.

સેક્શન અધિકારી
માર્ગ અને મકાન વિભાગ

Name of Work :- **Const. Of Various Dispansary Building in Sanand Taluka Dist.
Ahmedabad (1) Zolapur (2) Changodar (2025-2026) Total -2**

SCHEDULE – B

Memorandum Showing items of Works to be Carried out

Sr. No.	Item of Work	Quantities estimated but may be more or less	Unit	Tender Rates In Figures Rs.P.S.	Total Amount According to Estimated Quantities
1	3	2	6	4	7
1	Item No. 1 Excavation for foundation upto 1.50 m. depth. Incl. sorting and staking of useful materials and disposing of the excavated stuff upto 50 mt. lead (A) loose or soft soil.	147.850	Cmt	203.83	30136.27
2	Item No. 2 Providing and laying cement concrete 1:4:8 (1 cement : 4 coarse sand :8 machine crushed stone aggregate 40 mm. nominal size) and curing complete excluding the cost of form work in. (A) Foundation and plinth	9.900	Cmt	2680.21	26534.08
3	Item No. 3 Providing and laying cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregates 20mm nominal size) and curing complete excluding cost of form work in (B)Independent piers,columns and pillars upto floor two level	5.000	Cmt	3697.91	18489.55
4	Item No. 4 Steel work ,welded in built up section framed work including cutting ,hoisting fixing in positiona and applying a priming coat of read paint,(A)in beam and joists,channel angles tees,flats,with connecting plates or angle cleanas in main and cross beams,hip and jack rafter,purlin connected common rafter and the like(up to 10)	72.064	Quinte	8413.48	606309.02
5	Item No.5 Providing Corrugated GI Sheet roofing fixed with galvanized iron J & I hooks bolts & nuts 8 mm meter with bitumen & Gi limet washers filled with white led complete excluding the cost of purlins rafters & trusses. (a) 0.80 mm thick sheet	396.000	Smt	727.13	287943.48
6	Item No.6 Removing and scraping of old deteriorated plaster of any thickness from wall/R.C.C member including stacking of serviceable material and disposal of unserviceable from site of work with all lead and lift	780.790	Smt	19.57	15280.06
7	Item No.7 Providing 15mm thick cement plaster in single coaton Rough(Similar)side of single or half brick walls for interior plastering upto floor two level and finished even and smoothin (i)Cementmortar1:3 (1-cement:3-sand)	383.540	Smt	176.58	67725.49
8	Item No.8 Providing 10mm thick cement plasterin single coat on brick/concrete walls for interior plastering upto floor two level and	291.730	Smt	128.86	37592.33

	finished even and smoothin(i)Cement mortar 1:3 (1-cement:3-sand)				
9	Item No.9 20mm thick sand faced cement plaster on walls upto height 10metres above ground level consisting of 12mm thick backing coat of C.M.1:3(1-cement:3-sand)and 8mm thick finishing coat of C.M. 1:1 cement : 1-sand) etc. complete.	504.270	Smt	215.06	108448.31
10	Item No.10 Providing and laying broken chine mosaic flooring for terrace using 12mmto20mm broken pieces of glazed tiles to be laid over cement mortar 1:3 to plain or slope and to be tempered to bring mortar creme out upto surface using white cement including rounding off junction sand extending them upto15cm along the wall,clearing with water and oxalic acidetc.asdirected.	128.015	Smt	747.29	95664.33
11	Item No.11 Distempeing(Twocoats)with oil bound distemper of approved brand and manufacture and of required shade on wall surfaces to give an even shade,over and including a priming coat with distemper primer of approved brandand manufacture after thoroughly brushing the surface free from mortar dropping and other foreign matter and also including preparing the surface even and sand papered smooth.	454.990	Smt	76.84	34961.43
12	Item No.12 Wall painting (twocoats) with plastic emulsion paint of approved brandand manufacture on undecoratedwall surface to give an even shade including throughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth.	362.780	Smt	79.22	28739.43
13	ITEM NO 13 Providing sock pit of 5.0 Cu.Mt volume including excavating and filling brick bats with dry masonry work at top for 45 cm. Height including covering the top with stone including providing vatas in cm 1:3 with finishing curing etc. complete as directed	2.000	No.	3372.19	6744.38
14	Item No. 14 Providing & fixing double coated Syntex or equivalent PVC (ISI) water tank or required capacity each with all necessary fittings and connection etc. complete on terrace.	3500.000	Liter	3.95	13825.00
15	Item No. 15 Provdg. & fixing S.W. Gully trap with C.I. grating brick masonry chamber & water tight C.I. cover with frame of 300 mm x 300 mm size (inside) with standard weight (A) 100 mm x 100 mm size P-type.	6.000	m	1292.19	7753.14
16	Item no- 16 Point wiring for Light / Bell with 2-1.5 sq.mm & earthwire of 1.5 sq.mm (Green)	80.000	Point	493.89	39511.20

	both are of ISI marked 1.1 KV grade FRLS PVC insulated multistrand copper wires, in following type of pipe to be erected concealed in/ on surface on wall/ceiling complete with 6A Modular type switch / bell push & accessories and earth continuity of following type, erected on PVC / Metallic box, single mounting base frame covered with textured/metallic front plate modules erected on / in wall / ceiling as per pipe erected, with necessary Lamp holder/ceiling rose / H.D.Connector as directed. CAT- III				
17	Item No- 17 Point wiring for looped PLUG with tissino type single pole ISI marked 6 A. switch and 6 A socket erected with necessary connections erected on polished wooden block / Metal / PVC box covered with 3 mm. thick laminated sheet for open / concealed wiring.	34.000	Point	177.76	6043.84
18	Item no.18 Pipe type earthing having 150 cms long and 2.5 cms dia galvanised iron pipe with coupling and buch burried inspecially prepared earth pit complete with necessary 8 SWG earth wire.	2.000	Each	434.30	868.60
19	Item No- 19 For using salt and charcoat / coke as required for pipe type earthing.	2.000	Each	202.00	404.00
20	Item no- 20 Approved make ceiling fan with condenser A.C. 230 V50 Cys.1200 mm. sweep complete canopy and 30 Cms. down rod resistance type regulator erected on existing hook or clamp with 24/0.2 flat 3 core flexiblewire with earthing fan approved by Engineer in charge.	12.000	Each	1883.65	22603.80
21	Item No- 21 Approved make C.F.L lamp retrofit 9/11 watt erected if required cat-II	11.000	Each	65.65	722.15
22	Item no- 22 Plastic encloser fitted with din rail suitable for incorporating one / two nos. MCB	4.000	Each	622.67	2490.68
23	Item No.- 23 Providing &fixing Approved make Sumercible Horizontal Pump 1.0 HP with Necessary Switches wiring board etc. completed.	2.000	No.	18402.20	36804.40
24	Item No.- 24 Providing & fixing Florcat tube light fuze , chawk, Statar of Philips / Bajaj as approved by Engineer in charge.	20.000	No.	499.27	9985.40
25	ITEM NO 25 Filling available excavated earth (excluding rock) in trenches. plinth, sides of foundations etc. in layers not exceeding 20 cm. in depth consolidating each disposed layer by ramming and watering.	113.400	Cmt	130.39	14786.23
26	ITEM NO 26 Providing and laying cement concrete 1:3:6 (1-Cement : 3- Coarse sand : 6-	10.689	Cmt	2986.00	31917.35

	Graded brick bat aggregate 40mm normal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth				
27	ITEM NO 27 Brick work using common burnt clay building bricks having crushing strength not less than 35 kg./Sq.Cm. in foundation and plinth in Cement Mortar 1:6 (1- Cement : 6 - fine sand)(B)Conventional	62.776	Cmt	4021.02	252423.55
28	ITEM NO 28 Extra for brick work in superstructure above plinth level upto floor two level (B) Conventional	16.107	Cmt	274.97	4428.94
29	ITEM NO 29 (i) Half brick masonry in common burnt clay building bricks having crushing strength not less than 35 Kg/Sq.Cm. in Cement mortar 1:4 (1-Cement : 4 -coarse sand) in foundation and plinth (B) Conventional	32.470	Smt	599.84	19476.80
30	ITEM NO 30 Providing and laying controlled cement concrete M.200 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (C) Slabs, landing, shelves,Balconies, Lintels,Beams, Girders and Cantilever upto floor two level.	6.193	Cmt	4504.96	27899.22
31	ITEM NO 31 Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. Height of propping and centering below supporting floor to ceiling not exceeding 4 M.and removal of the same for in situ reinforced concrete and plain concrete work in. (B) Flat surfaces such as soffits of supspened floors slabs Landings and the like. (1) Floors etc. upto 200 mm in thickness.	44.946	Smt	254.52	11439.66
32	ITEM NO 32 Providing H.Y.S.D. Bar reinforcement for R.C.C. work including bending, binding and placing in position complete upto floor two level	288.690	Kg.	62.80	18129.73
33	ITEM NO 33 Providing and laying chequered precast cement concrete tiles 22mm thick with aggregate of sizes upto 6mm in floors, treads of steps and landings on 20mm thick bed of C.M. 1:6 (1- cement : 6-sand) or L.M. 1:1.5(1-Lime putty : 1.5 coarse sand) joint with neat cement slurry with pigments to match the shade of the tiles.	14.218	Smt	528.01	7507.25
34	ITEM NO 34 Providing and laying marble chips skirting (Terrazo) or dedo rubbed, and polished to Granolithic finish top layer 6mm thick with white,black or white and black marble chips of size from smallest to 4mm	60.796	Smt	604.49	36750.57

	nominal size laid in cement marble powder mix 3:1 (3- Cement : 1 marble powder by weight) in proportion of 4:7 (4-cement marble powder mix : 7-marble chips by volume) 20mm thick with under layer 14mm thick cement plaster 1:3 (1-cement : 3-coarse sand) (A) Dark shade pigment with ordinary cement (In top layer only)				
35	ITEM NO 35 Providing and fixing flush door shutters, solid core construction with frame of first class hardwood with cross board and face veneer or plywood face panels, including anodised alluminium butt hinges with necessary screws. (B) Non-decorative type and block board core anodised alluminium butt hinges in flush door shutters (2) 35 mm thick.	13.860	Smt	1797.77	24917.09
36	ITEM NO 36 S.S. Handle for door/ window 10 Cm size of ASIS 304 Grade	16.000	No.	54.78	876.48
37	ITEM NO 37 S.S. Stopper 30 Cm long of ASIS 304	16.000	No.	182.32	2917.12
38	ITEM NO 38 Providing and fixing standared extruded of alluminium section of size 63mm x 38.10mm x 1.2mm @ Wt. 0.643 Kg/mt with colour anodized alluminium frame for ventilation with 5 mm thick frosted glass as details etc complete for Ventilation	0.815	M2	1175.56	958.08
39	ITEM NO 39 Finishing wall with weather proof exterior emulsion paint on wall surface (two coats) to give an required shape even shade after thoroughly brushing the surface to remove all dirt, and remains of loose powdered materials.etc complete	71.700	M2	114.53	8211.80
40	ITEM NO 40 Applying two coats of putty & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth.	88.910	M2	40.59	3608.86
41	ITEM NO 41 Providing and laying polished kota stone slab 25mm thick in risers of steps,skirting Dedo and pillars laid on 10mm thick cement mortar 1:3 (1- Cement : 3 coarse sand) and jointed with gray cement slury mixed with pigment to match the shade of slab including rubbing and polishing etc. complete.	12.420	M2	1187.79	14752.35
42	ITEM NO 42 GRANITE PLATFORM	1.200	M2	1360.93	1633.12
43	ITEM NO 43 Providing and fixing 100mm size P or S trap for water closet squatting pan including jointing the trap with the pan and soil	6.000	No.	314.97	1889.82

	pipe in cement Mortar 1:1 (1-Cement : 1-Fine sand)(A) Vitreous China.				
44	ITEM NO 44 Providing and fixing PVC SWR Nahni trap IS 14735 for drain - 100 mm diameter with jali of the following nominal diameter of self cleansing design with C.I scread down or hinged grating including the cost of cutting and making good the walls.	4.000	No.	571.08	2284.32
45	ITEM NO 45 Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesivesolvent, including cost of all materials.	30.000	M2	72.65	2179.50
46	ITEM NO 46 Providing laying and jointing in true line and level 25mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	30.000	M2	91.84	2755.20
47	ITEM NO 47 Providing laying and jointing in true line and level 32mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	20.000	M2	119.15	2383.00
48	ITEM NO 48 PVC SWR pipes IS 13592 for Drain - 75 mmdia	29.980	M2	144.65	4336.61
49	ITEM NO 49 Providing and fixing washbasin with single hole for pillar tap with C.I. or M.S. brackets painted white including sutting holes and making good the same but excluding fittings.(A) Vitreous China:(ii) Flat Back washbasin 550 mm x v 400 mm size. (i) In white colour.	4.000	No.	1414.18	5656.72
50	ITEM NO 50 C.P. BRASS WASTE 40MM DIA.	6.000	No.	89.83	538.98
51	ITEM NO 51 CHROMIUM PLATED, BOTTLE TRAP	6.000	No.	295.80	1774.80

52	ITEM NO 52 BRASS SCREW DOWN STOP COCK 15 MM DIA	6.000	No.	176.33	1057.98
53	ITEM NO 53 Providing and fixing water closet squatting Pan (Indian type W.C. Pan) size 580mm (Earthwork, bed concrete, foot rest and trap to be measured and paid for separately) (A) Vitreous China.(I) Long pattern = White colour	4.000	No.	935.36	3741.44
54	ITEM NO 54 Providing and fixing in Cement Mortar 1:3 (1- Cement : 3-coarse sand)a, pair of white vitreous China 250mm x 130mm x 30mm footrest to long pattern squatting pan water closet.	4.000	Cmt	114.68	458.72
55	ITEM NO 55 Providing and fixing screw down bib taps of following size.(A) Brass screw down bib tap polished bright. (i) 15mm dia.	7.000	No.	186.83	1307.81
56	ITEM NO 56 Providing and fixing Urinal of approved quality including connection with trap and with integral longitudinal flush pipe.(A) Squating plate pattern white earthenware 550mm x 300mm.	2.000	No.	1550.99	3101.98
57	ITEM NO 57Providing and fixing Gun metal check or nonreturn fullway wheel valve.(E) 40mm dia.	4.000	No.	663.43	2653.72
58	Item No- 58 Brick work using common burnt clay building bricks having crushing strength not less than 35 kg/ sq. C.M. In foundation and plinth in cement mortar 1:6 (1cement : 6 fine sand) in super structure	31.000	Cmt	4295.99	133175.69
59	Item no- 59 Providing TMT bar FE 500D reinforcement for RCC Work including bending, binding and placing in posiion Complete upto floor Two level	200.000	Kg.	76.21	15242.00
60	Item no- 60 Providing and fixing pre-cast Rubber Dye inter locking concrete block 60 mm thick with grade of concrete M-150 pnumatic compressed by mechanically passed and as per approved design including 35 mm sand layer for levelling and filling the joint with sand in proper line and level etc. complete.	165.000	Smt	648.84	107058.60
61	Item No.61 provdg & fixing M.S. grills of required pattern to wooden frames of window etc. with M.S. flats at required spacings and frame alround, square or round bars with round headed bolts and nuts or by screws (A) plain grill	252.000	Kg.	101.17	25494.84
62	Item No. 62 Filling in plinth with sand under floors incl. watering ramming consolidating and dressing etc.comp.	90.000	Cmt	460.19	41417.10
63	Item no. 63 Providing and Fixing pre cast concrete kerb stone of gray cement based	9.000	Cmt	361.64	3254.76

	concrete block 30cm length,30cm high and 15cm thick of M250 grade concrete as per approved design and incl excavation for fixing in proper line and level ,filling the joint with C M 1:3 etc complete				
64	Item No- 64 Painting Two coat (Excl.priming coat) on previously painted steel & other metal surfaces with synthetic enamel paint brushing to give an even shade incl. Cleanig the surface of all dirt, dust and other foreign matter.	10.270	Cmt	65.31	670.73
65	Item No.65 Providing and fixing 35mm thick shutter for doors, windows incl Indian teak wood frames 10CM/7CM SIZE incl anodised aluminium fixtures and fastening incl primer coat of approved quality and two coat of oil painting etc complete fully pannelled	3.150	Smt	5338.30	16815.65
66	Item No.66 Providing and fixing window having extruded aluminum Colour anodized section frame main outer size 63.50 x 38.10 x 1.95 mm (of Jindal Section no:4605, @ Wt 1.094 Kg / Rmt), horizontal two track member size 61.85 mm x 31.75 mm x 1.20mm (of Jindal Section no: 8687 @ wt.of 0.695 Kg/mt), vertical member of size 61.85 mm x 31.75mm x 1.30 mm (of Jindal Section no:8758 @ wt.of 0.0659 Kg/mt) with sliding shutters of horizontal member size 40mm x 18mm x 1.29mm (of Jindal Section no:8949 @ wt.of 0.456Kg/mt), vertical member of size 40mm x 18mm x 1.29mm (of Jindal Section no:8947 @ wt.of 0.456Kg/mt/ Section 8948, @ Wt. 0.457 Kg/mt) with 5 mm thick transparent bronze colour tinted float glass with powder coated aluminum fittings and fixtures and transparent silicon sealant glass fixing to frame as per details etc complete for window.	2.970	Smt	2042.22	6065.39
67	Item No.- 67 UGVC Ltd. meter connection charges	1.000	Each	6414.01	6414.01
68	Item No.- 68 Power connection charges from UGVCL/ GEB incl. in all Estimate charge & meter connection given by UGVCL/GEB.	1.000	Each	5712.56	5712.56
69	ITEM 69 Fixing metallic or plastic door handles of sizes with necessary screw etc complete (door handle and screw to be paid under separate item)	8.000	No.	3.67	29.36
70	ITEM 70 Fixing metallic floor door stoppers of sizes with rubber cushion screws etc to suit shutter thickness complete (floor door stopper with rubber cushion screw to be paid under separate items)	8.000	No.	4.30	34.40

71	ITEM 71 marble slab polished granite stone 20 to 25 mm thick black in colour	1.200	No.	2567.79	3081.35
	-				2388801.61

Rs. Twenty Three Lacs Eighty Eight Thousand eight Hundred One & Paisa Sixty One Only

I/We am / are willing to carry out the work at % above/ below percent (Should be written in figures and words) of the estimated rate mentioned above. Amount of my/ our tender works out as under.

*Estimated Amount

*Estimated Amount

Put to tender Rs. Put to tender Rs.

Add.....% above Rs. Deduct% below Rs.

Total Rs. Net. Rs.

In Words In Words

(* Please strike out whichever is not applicable.)

Notes 1 - All work shall be carried out as per Public Works Department Handbook and other specifications of Division or as directed.

નોંધ -૧ :- બધું જ કામ બાંધકામ વિભાગની પુસ્તિકા અને ડિવિઝનની બીજી ખાસ વિગત મુજબ અથવા સૂચના પ્રમાણે કરી આપવાનું રહેશે.

Notes 2 - All the columns in Schedule should be filled in ink and the total of the entries in the last column should be struck by the contractor under his signature.

નોંધ -૨ :- અનુસૂચિમાં બધા ખાનાની વિગતો સહીથી ભરવી અને છેલ્લા ખાનાની નોંધોનો સરવાળો કરી કોન્ટ્રાક્ટરે પોતાની સહી કરવી

Deputy Executive Engineer
R & B Panchayat Sub Division
Sanand

Executive Engineer
R & B Panchayat Divisions
Ahmedabad

Specification

**Name of Work :- Const. Of Various Dispansary Building in Sanand Taluka Dist.
Ahmedabad (1) Zolapur (2) Changodar (2025-2026) Total -2**

TENDER OF ITEM SPECIFICATION

Sr. No.	Name of road	Item No.	Page No.
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1	Item No. 1 Excavation for foundation upto 1.50 m. depth. Incl. sorting and staking of useful materials and disposing of the excavated stuff upto 50 mt. lead (A) loose or soft soil.		
2	Item No. 2 Providing and laying cement concrete 1:4:8 (1 cement : 4 coarse sand :8 machine crushed stone aggregate 40 mm. nominal size) and curing complete excluding the cost of form work in. (A) Foundation and plinth		
3	Item No. 3 Providing and laying cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregates 20mm nominal size) and curing complete excluding cost of form work in (B)Independent piers,columns and pillars upto floor two level		
4	Item No. 4 Steel work ,welded in built up section framed work including cutting ,hoisting fixing in positiona and applying a priming coat of read paint,(A)in beam and joists,channel angles tees,flats,with connecting plates or angle cleanas in main and cross beams,hip and jack rafter,purlin connected common rafter and the like(up to 10)		
5	Item No.5 Providing Corrugated GI Sheet roofing fixed with galvanized iron J & I hooks bolts & nuts 8 mm meter with bitumen & Gi limet washers filled with white led complete excluding the cost of purlins rafters & trusses. (a) 0.80 mm thick sheet		
6	Item No.6 Removing and scraping of old deteriorated plaster of any thickness from wall/R.C.C member including stacking of serviceable material and disposal of unserviceable from site of work with all lead and lift		
7	Item No.7 Providing 15mm thick cement plaster in single coaton Rough(Similar)side of single or half brick walls for interior plastering upto floor two level and finished even and smoothin (i)Cementmortar1:3 (1-cement:3-sand)		
8	Item No.8 Providing 10mm thick cement plasterin single coat on brick/concrete walls for interior plastering upto floor two level and finished even and smoothin(i)Cement mortar 1:3 (1-cement:3-sand)		
9	Item No.9 20mm thick sand faced cement plaster on walls upto height 10metres above ground level consisting of 12mm thick backing coat of C.M.1:3(1-cement:3-sand)and 8mm thick finishing coat of C.M. 1:1 cement : 1-sand) etc. complete.		
10	Item No.10 Providing and laying broken chine mosaic flooring for terrace using 12mmto20mm broken pieces of glazed tiles to be laid over cement mortar 1:3 to plain or slope and to be tempered to bring mortar creme out upto surface using white cement including rounding off junction sand extending them upto15cm along the wall,clearing with water and oxalic acidetc.asdirected.		
11	Item No.11 Distempeing(Twocoats)with oil bound distemper of approved brand and manufacture and of required shade on wall surfaces to give an even shade,over and including a priming coat with distemper primer of approved brandand manufacture after thoroughly brushing the surface free from mortar dropping and other foreign matter and also including preparing the surface even and sand papered smooth.		
12	Item No.12 Wall painting (twocoats) with plastic emulsion paint of approved brandand manufacture on undecoratedwall surface to give an even shade including throughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth.		
13	ITEM NO 13 Providing sock pit of 5.0 Cu.Mt volume including excavating and filling brick bats with dry masonry work at top for 45 cm. Height including		

	covering the top with stone including providing vatas in cm 1:3 with finishing curing etc. complete as directed		
14	Item No. 14 Providing & fixing double coated Syntex or equivalent PVC (ISI) water tank or required capacity each with all necessary fittings and connection etc. complete on terrace.		
15	Item No. 15 Provdg. & fixing S.W. Gully trap with C.I. grating brick masonry chamber & water tight C.I. cover with frame of 300 mm x 300 mm size (inside) with standard weight (A) 100 mm x 100 mm size P-type.		
16	Item no- 16 Point wiring for Light / Bell with 2-1.5 sq.mm & earthwire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multistrand copper wires, in following type of pipe to be erected concealed in/ on surface on wall/ceiling complete with 6A Modular type switch / bell push & accessories and earth continuity of following type, erected on PVC / Metallic box, single mounting base frame covered with textured/metallic front plate modules erected on / in wall / ceiling as per pipe erected, with necessary Lamp holder/ceiling rose / H.D.Connector as directed. CAT- III		
17	Item No- 17 Point wiring for looped PLUG with tissino type single pole ISI marked 6 A. switch and 6 A socket erected with necessary connections erected on polished wooden block / Metal / PVC box covered with 3 mm. thick laminated sheet for open / concealed wiring.		
18	Item no.18 Pipe type earthing having 150 cms long and 2.5 cms dia galvanised iron pipe with coupling and buch burried inspecially prepared earth pit complete with necessary 8 SWG earth wire.		
19	Item No- 19 For using salt and charcoat / coke as required for pipe type earthing.		
20	Item no- 20 Approved make ceiling fan with condenser A.C. 230 V50 Cys.1200 mm. sweep complete canopy and 30 Cms. down rod resistance type regulator erected on existing hook or clamp with 24/0.2 flat 3 core flexiblewire with earthing fan approved by Engineer in charge.		
21	Item No- 21 Approved make C.F.L lamp retrofit 9/11 watt erected if required cat-II		
22	Item no- 22 Plastic encloser fitted with din rail suitable for incorporating one / two nos. MCB		
23	Item No.- 23 Providing &fixing Approved make Sumercible Horizontal Pump 1.0 HP with Necessary Switches wiring board etc. completed.		
24	Item No.- 24 Providing & fixing Florcat tube light fuze , chawk, Statar of Philips / Bajaj as approved by Engineer in charge.		
25	ITEM NO 25 Filling available excavated earth (excluding rock) in trenches. plinth, sides of foundations etc. in layers not exceeding 20 cm. in depth consolidating each disposed layer by ramming and watering.		
26	ITEM NO 26 Providing and laying cement concrete 1:3:6 (1-Cement : 3-Coarse sand : 6- Graded brick bat aggregate 40mm normal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth		
27	ITEM NO 27 Brick work using common burnt clay building bricks having crushing strength not less than 35 kg./Sq.Cm. in foundation and plinth in Cement Mortar 1:6 (1- Cement : 6 -fine sand)(B)Conventional		
28	ITEM NO 28 Extra for brick work in superstructure above plinth level upto floor two level (B) Conventional		

29	ITEM NO 29 (i) Half brick masonry in common burnt clay building bricks having crushing strength not less than 35 Kg/Sq.Cm. in Cement mortar 1:4 (1-Cement : 4 -coarse sand) in foundation and plinth (B) Conventional		
30	ITEM NO 30 Providing and laying controlled cement concrete M.200 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (C) Slabs, landing, shelves,Balconies, Lintels,Beams, Girders and Cantilever upto floor two level.		
31	ITEM NO 31 Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. Height of propping and centering below supporting floor to ceiling not exceeding 4 M.and removal of the same for in situ reinforced concrete and plain concrete work in. (B) Flat surfaces such as soffits of supspened floors slabs Landings and the like. (1) Floors etc. upto 200 mm in thickness.		
32	ITEM NO 32 Providing H.Y.S.D. Bar reinforcement for R.C.C. work including bending, binding and placing in position complete upto floor two level		
33	ITEM NO 33 Providing and laying chequered precast cement concrete tiles 22mm thick with aggregate of sizes upto 6mm in floors, treads of steps and landings on 20mm thick bed of C.M. 1:6 (1- cement : 6-sand) or L.M. 1:1.5(1-Lime putty : 1.5 coarse sand) joint with neat cement slurry with pigments to match the shade of the tiles.		
34	ITEM NO 34 Providing and laying marble chips skirting (Terrazo) or dedo rubbed, and polished to Granolithic finish top layer 6mm thick with white,black or white and black marble chips of size from smallest to 4mm nominal size laid in cement marble powder mix 3:1 (3- Cement : 1 marble powder by weight) in proportion of 4:7 (4-cement marble powder mix : 7-marble chips by volume) 20mm thick with under layer 14mm thick cement plaster 1:3 (1-cement : 3-coarse sand) (A) Dark shade pigment with ordinary cement (In top layer only)		
35	ITEM NO 35 Provoding and fixing flush door shutters, solid core construction with frame of first class hardwood with cross board and face veneer or plywood face panels, including anodised alluminium butt hinges with necessary screws. (B) Non-decorative type and block board core anodised alluminium butt hinges in flush door shutters (2) 35 mm thick.		
36	ITEM NO 36 S.S. Handle for door/ window 10 Cm size of ASIS 304 Grade		
37	ITEM NO 37 S.S. Stopper 30 Cm long of ASIS 304		
38	ITEM NO 38 Providing and fixing standared extruded of alluminium section of size 63mm x 38.10mm x 1.2mm @ Wt. 0.643 Kg/mt with colour anodized alluminium frame for ventilation with 5 mm thick frosted glass as details etc complete for Ventilation		
39	ITEM NO 39 Finishing wall with weather proof exterior emulsion paint on wall surface (two coats) to give an required shape even shade after thoroughly brushing the surface to remove all dirt, and remains of loose powdered materials.etc complete		
40	ITEM NO 40 Applying two coats of putty & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including		

	thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth.		
41	ITEM NO 41 Providing and laying polished kota stone slab 25mm thick in risers of steps,skirting Dedo and pillars laid on 10mm thick cement mortar 1:3 (1-Cement : 3 coarse sand) and jointed with gray cement slury mixed with pigment to match the shade of slab including rubbing and polishing etc. complete.		
42	ITEM NO 42 GRANITE PLATFORM		
43	ITEM NO 43 Providing and fixing 100mm size P or S trap for water closet squatting pan including jointing the trap with the pan and soil pipe in cement Mortar 1:1 (1-Cement : 1-Fine sand)(A) Vitreous China.		
44	ITEM NO 44 Providing and fixing PVC SWR Nahni trap IS 14735 for drain - 100 mm diameter with jali of the following nominal diameter of self cleansing design with C.I scread down or hinged grating including the cost of cutting and making good the walls.		
45	ITEM NO 45 Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesivesolvent, including cost of all materials.		
46	ITEM NO 46 Providing laying and jointing in true line and level 25mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.		
47	ITEM NO 47 Providing laying and jointing in true line and level 32mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.		
48	ITEM NO 48 PVC SWR pipes IS 13592 for Drain - 75 mmdia		
49	ITEM NO 49 Providing and fixing washbasin with single hole for pillar tap with C.I. or M.S. brackets painted white including sutting holes and making good the same but excluding fittings.(A) Vitreous China:(ii) Flat Back washbasin 550 mm x v 400 mm size. (i) In white colour.		
50	ITEM NO 50 C.P. BRASS WASTE 40MM DIA.		
51	ITEM NO 51 CHROMIUM PLATED, BOTTLE TRAP		
52	ITEM NO 52 BRASS SCREW DOWN STOP COCK 15 MM DIA		

53	ITEM NO 53 Providing and fixing water closet squatting Pan (Indian type W.C. Pan) size 580mm (Earthwork, bed concrete, foot rest and trap to be measured and paid for separately) (A) Vitreous China.(I) Long pattern = White colour		
54	ITEM NO 54 Providing and fixing in Cement Mortar 1:3 (1- Cement : 3-coarse sand)a, pair of white vitreous China 250mm x 130mm x 30mm footrest to long pattern squatting pan water closet.		
55	ITEM NO 55 Providing and fixing screw down bib taps of following size.(A) Brass screw down bib tap polished bright. (i) 15mm dia.		
56	ITEM NO 56 Providing and fixing Urinal of approved quality including connection with trap and with integral longitudinal flush pipe.(A) Squating plate pattern white earthenware 550mm x 300mm.		
57	ITEM NO 57Providing and fixing Gun metal check or nonreturn fullway wheel valve.(E) 40mm dia.		
58	Item No- 58 Brick work using common burnt clay building bricks having crushing strength not less than 35 kg/ sq. C.M. In foundation and plinth in cement mortar 1:6 (1cement : 6 fine sand) in super structure (SOR P. No.70 It. No. 06002BA and (SOR P. No.71 It. No. 06006B)		
59	Item no- 59 Providing TMT bar FE 500D reinforcement for RCC Work including bending, binding and placing in position Complete upto floor Two level (SOR P. No. 54 It. No. 05014C)		
60	Item no- 60 Providing and fixing pre-cast Rubber Dye inter locking concrete block 60 mm thick with grade of concrete M-150 pneumatic compressed by mechanically passed and as per approved design including 35 mm sand layer for levelling and filling the joint with sand in proper line and level etc. complete. (R A)		
61	Item No.61 provdg & fixing M.S. grills of required pattern to wooden frames of window etc. with M.S. flats at required spacings and frame around, square or round bars with round headed bolts and nuts or by screws (A) plain grill (SOR p. 87 I. no. 10025AA)		
62	Item No. 62 Filling in plinth with sand under floors incl. watering ramming consolidating and dressing etc.comp. (S.O.R.P.No.48 I. No. 04007A)		
63	Item no. 63 Providing and Fixing pre cast concrete kerb stone of gray cement based concrete block 30cm length,30cm high and 15cm thick of M250 grade concrete as per approved design and incl excavation for fixing in proper line and level ,filling the joint with C M 1:3 etc complete (SOR PG NO 123/I.CODE 14032)		
64	Item No- 64 Painting Two coat (Excl.piming coat) on previously painted steel & other metal surfaces with synthetic enamel paint brushing to give an even shade incl. Cleanig the surface of all dirt, dust and other foreign matter. (SOR P. No. 136 It. No. 19005)		
65	Item No.65 Provoding and fixing 35mm thick shutter for doors, windows incl Indian teak wood frames 10CM/7CM SIZE incl anodised aluminium fixtures and fastening incl primer coat of approved quality and two coat of oil painting etc complete fully pannelled (sor p.87/10030B)		
66	Item No.66 Providing and fixing window having extruded aluminum Colour anodized section frame main outer size 63.50 x 38.10 x 1.95 mm(of Jindal Section no:4605,@ Wt 1.094 Kg / Rmt), horizontal two track member size 61.85 mm x 31.75 mm x 1.20mm (of Jindal Section no: 8687 @ wt.of 0.695 Kg/mt), vertical member of size 61.85 mm x 31.75mm x 1.30 mm (of Jindal		

	Section no:8758 @ wt.of 0.0.659 Kg/mt) with sliding shutters of horizontal member size 40mm x 18mm x 1.29mm (of Jindal Section no:8949 @ wt.of 0.456Kg/mt), vertical member of size 40mm x 18mm x 1.29mm (of Jindal Section no:8947 @ wt.of 0.456Kg/mt/ Section 8948, @ Wt. 0.457 Kg/mt) with 5 mm thick transparent bronze colour tinted float glass with powder coated aluminum fittings and fixtures and transparent silicon sealant glass fixing to frame as per details etc complete for window. (S.O.R.P.161/I.No.11028)		
67	Item No.- 67 UGVC Ltd. meter connection charges		
68	Item No.- 68 Power connection charges from UGVCL/ GEB incl. in all Estimate charge & meter connection given by UGVCL/GEB.		
69	ITEM 69 Fixing metalic or plastic door handles of sizes with neccesary screw etc complete(door handle and screw to be paid under separate item)		
70	ITEM 70 Fixing metalik floor door stopers of sizes with rubber cushion screws etc to suit shutter thickness complete (floor door stopper with rubber cushion screw to be paid under separate items)		
71	ITEM 71 marble slab polished granite stone 20 to 25 mm thick black in colour		

Deputy Executive Engineer
R & B Panchayat Sub Division
Sanand

Executive Engineer
R & B Panchayat Division
Ahmedabad

Item No. 1 Excavation for foundation upto 1.50 m. depth. Incl. sorting and staking of useful materials and disposing of the excavated stuff upto 50 mt. lead (A) loose or soft soil.

4.0.0 (a) Excavation for foundation upto 1.5 M depth including sorting out and stacking useful materials disposing of the excavated stuff upto 50 metre lead-in loose or soft soil.

1.0. General: 1.1. Any soil which generally yields to the application of pickaxes and shovels, phawaras, rakes or any such ordinary excavating implement or organic soil, gravel, silt, sand turf, loam, clay, peat etc., fall under this category.

2.0 Clearing the site : 2.1 The site on which the structure is to be built shall be cleared and all obstructions, loose stone, materials and rubbish of all kind, bush, wood and trees shall be removed as directed: The materials so obtained shall be property of the Government and be conveyed and stacked as directed within 50 M. lead. The roots of the trees coming in the sides shall be cut and coated with a hot asphalt.

2.2 The rate of site clearance is deemed to be included in the rate of earth work for which no extra will be paid.

3.0 Setting out: After clearing the site, the center lines will be given by the Engineer-in-charge. The contractor shall assume full responsibility for alignment, elevation and dimension of each and all parts of the work. Contractor shall supply labourers, materials, etc. required for setting out the reference marks and bench marks and shall maintain them as long as required and directed.

4.0 Excavation : The excavation in foundation shall be carried out in true line and level and shall have the width and depth as shown in the drawings or as directed. The contractor shall do the necessary shoring and shutting or providing necessary slopes to a safe angle, at his own cost. The payment for sue

precautionary measures shall be paid separately if not specified. The bottom of the excavated area shall be evelled both longitudinally and transfersely as directed by removing and watering as required. No earth filling will be allowed for bringing it t o level, if by mistake or any; other reason excavation is made 22 deeper or wider that shwon on the plan or directed. The extra depth or width shall be made up with concrete of same proportion as specified for the foundation concrete at the cost of the contractor. The excavation upto 1.5 m. depth shall be measured under this item.

5.0. Disposal of the excavated studd : **5.1.** The excavated stuff of the selected type shall be used in filling the trenches and plinth or levelling the ground in layers including ramming and watering etc.**5.2.** The balance of the excavated quantity shall be removed by the contractor from the site of work to a place as directed with lead upto 50 M. and all lift.

6.0. Mode of measurement and payment:

6.1. The measurement of excavation in trenches for foundation shall be made according to the sections of trenches shown on the drawing or as per sections given by the Engineer-in-charge. No payment shall be made for surplus excavation made in excess of above requirements or due to slopping and sloping back as found necessary on account of conditions of soil and requirements of safety.

6.2. The rate-shall be for a unit of one cubic metre.

Item No. 2 Providing and laying cement concrete 1:4:8 (1 cement : 4 coarse sand :8 machine crushed stone aggregate 40 mm. nominal size) and curing complete excluding the cost of form work in. (A) Foundation and plinth

1.0. Materials : Water shall conform to M-I. Cement shall conform to M-3. Sand shall conform to M-6. Grit shall conform to

M-8. Graded stone aggregate 20 mm. nominal size shall conform to M-12.

2.0. General:

2.1. The concrete mix is not required to be designed by preliminary tests. The proportion of the concrete mix shall be 1 : 2 :

4 (1 cement: 4 coarse sand ; 8 graded stone aggregate 40 mm. nominal size) by volume.

Concrete work shall have exposed concrete surface or as specified in the item.

2.2. The designation ordinary M-100, M-150, M-200, M-250 specified as per. I.S.

Corresponding approximately to 1 : 3 : 6,

1 : 2 : 4, 1 : 1 1/2 : 3 and 1:1:2 nominal mix of ordinary concrete by volume respectively.

2.3. The ingredients required for ordinary concrete containing one beg of cement of 50 Kg. by weight (0.0342 Cu. M.) for different proportions of mix shall be as under:

Grade of concrete

Total quantity of dry aggregate by volume per 50 Kgs. of cement to be taken as the sum of individual volume of fine and coarse aggregates, maximum

Proportion of fine aggregate to coarse aggregate

Quantity of water per 50 Kgs. of cement

maximum.

1 2 3 4

M-100 (1 : 3: 6) 300 Liters Generally 1 : 2 for fine aggregate 34 Liters

M-150 (1 : 2 : 4) 2.20 “ to coarse aggregate by volume 32 “

M-200 (1 : 1 1/2 : 3) 160 “ but subject to and upper limit 30 “

M-250 (1:1:2) 100 “ of 1 : 1 1/2 and lower limit 1 : 3 27 “

2.4. The water cement ratios shall not more than those specified in the above table. The cement content of the mix specified

in the Table shall be increased if the quantity of water in a mix has to be increased to overcome the difficulties of placement

and compaction so that the water-cement-ratio specified in the Table is not exceeded.

2.5. Workability of the concrete shall be controlled by maintaining a water-cement-ratio that is bound to give a concrete mix

which is just sufficiently wet to be placed and compacted without difficulty with the means available.

2.6. The maximum size of coarse aggregate shall be as large as possible within the limits specified but in no case greater than

one fourth of the minimum thickness of the member, provided that the concrete can be placed without difficulty so as to

surround all reinforcement thoroughly and to fill the comers of the form.

2.7. For reinforced concrete work, coarse aggregates having a nominal size of 20 mm. are generally considered satisfactory.

2.8. For heavily reinforced concrete members as in the case of ribs of main beams, the nominal maximum size of coarse

aggregate should usually be restricted to 5 mm. less than the minimum, clear distance between the main bars, or 5 mm. less

than the minimum cover to the reinforcement whichever is smaller.

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2.9. Where the reinforcement is widely spaced as in solid slabs, limitations of size of the aggregate may not be important and

the nominal maximum size may sometimes be as great as or greater than the minimum cover.

2.10. Admixture may be used in concrete only with approval of Engineer-in-charge based upon the evidence that with the

passage of time, neither the compressive strength of concrete is reduced nor are other requisite qualities of concrete and steel

impaired by the use of such admixtures.

3.0. Workmanship:

3.1. Proportioning : Proportioning shall be done by volume, except cement which shall be measured in terms of bags of 50

Kg. weight. The volume of one such bag being taken as 0.0342 Cu. metre. Boxes of suitable sizes shall be used for measuring

sand aggregate. The size of the boxes (internal) shall be 35 cms. x 25 cms. and 40 Cms. deep. While measuring the aggregate

and sand, the box shall be filled without shaking ramming or hammering. The proportioning of sand shall be on the basis of

its dry volume and in case of damp sand, allowances for bulkage shall be made.

3.2 Mixing:

3.2.1. For all work, concrete shall “be mixed in a mechanical mixer which alongwith other accessories shall be kept in first

class working condition and so maintained throughout the construction. Measured quantity of aggregate, sand, cement

required for each batch shall be poured into the drum of the mechanical mixer while it is continuously running. After about

half a minute of dry mixing, measured quantity of water required for each batch of concrete mix shall be added gradually and

mixing continued for another one and a half minute. Mixing shall be continued till materials are uniformly distributed and uniform colour of the entire mass is obtained and each individual particle of the coarse aggregate shows complete coating of mortar containing its proportionate amount of cement. In no case shall the mixing be done for less than 2 minutes after all ingredients have been put into the mixer.

3.2.2. When hand mixing is permitted by the Engineer-in-charge for small jobs or for certain other reasons, it shall be done on the smooth watertight platform large enough to allow efficient turning over the ingredients of concrete before and after adding water. Mixing platform shall be so arranged that no foreign material gets mixed with concrete nor does the mixing water flow out. Cement in required number of bags shall be placed in a uniform layer on top of the measured quantity of fine and coarse aggregate, which shall also be spread in a layer of uniform thickness on the mixing platform. Dry coarse and fine aggregate and cement shall then be mixed thoroughly by turning over to get a mixture to uniform colour. Specified quantity of water shall then be added gradually through a rose-can and the mass turned over till a mix of required consistency is obtained. In hand mixing, quantity of cement shall be increased by 10 percent above that specified.

3.2.3. Mixers which have been out of use for more than 30 minutes shall be thoroughly cleaned before putting in a new batch.

Unless otherwise agreed to by the Engineer-in-charge the first batch of concrete from the mixture shall contain only two thirds of normal quantity of coarse aggregate. Mixing plant shall be thoroughly cleaned before changing from one type of cement to another. .

3.3. Consistency: 3.3.1. The degree of consistency which shall depend upon the nature of the work and methods of vibration of concrete, shall be determined by regular slump tests in accordance with I.S. 1199-1959. The slump of 10 mm. to 25 mm. shall be adopted when vibrators are used and 80 mm. when vibrators are not used.

4.4. Inspection:

3.4.1. Contractor shall give the Engineer-in-charge due notice before placing any concrete in the forms to permit him to inspect and accept the false work and forms as to their strength, alignment, and general fitness but such inspection shall not relieve the contractor of his responsibility for the safety of men, machinery, materials and for results obtained. Immediately before concreting, all forms shall be thoroughly cleaned.

3.4.2. Centering design and its erection shall be got approved from the Engineer-in-charge. One carpenter with helper shall invariably be kept present throughout the period of concreting. Movement of labour and other persons shall be totally prohibited for reinforcement laid in position. For access to different parts, suitable mobile platforms shall be provided so that steel reinforcement in position is not disturbed. For ensuring proper cover, mortar blocks of suitable size shim be cast and tied to the reinforcement. Timber, kapachi or metal pieces shall not be used for this purpose.

3.5. Transporting and laying:

3.5.1. The method of transporting and placing concrete shall be as approved. Concrete shall be so transported and placed that no contamination segregation or loss of its constituent material takes place. All form work shall be cleaned and made free from standing water, dust, snow or ice immediately before placing of concrete.

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No concrete shall be placed in any part of the structure until the approval of the Engineer-in-charge has been obtained.

3.5.2. Concreting shall proceed continuously over the area between construction joints. Fresh concrete shall not be placed against concrete which has been in position for more than 30 minutes unless a proper construction joint is formed. Concrete shall be compacted in its final position within 30 minutes of its discharge from the mixer. Except where otherwise agreed to by the Engineer-in-charge concrete shall be deposited in horizontal layers to a compacted depth of not more than 0.45 metre when internal vibrators are used and not exceeding 0.30 metre in all other cases.

3.5.3. Unless otherwise agreed to by the Engineer-in-charge, concrete shall not be dropped into place from a height exceeding 2 metres. When trucks or chutes are used they shall be kept close and used in such a way as to avoid segregation. When concreting has to be resumed on a surface which has hardened, it shall be roughened, swept clean, thoroughly wetted and covered with a 13 mm. thick layer of mortar composed of cement and sand in the same ratio as in the concrete mix itself. This 13 mm. layer of mortar shall be freshly mixed and placed immediately before placing of new concrete. Where concrete has not fully hardened, all laitance shall be removed by scrubbing the wet surface with wire or bristle brushes, care being taken to avoid dislodgement of any particles of coarse aggregate. The surface shall then be thoroughly wetted, all free water removed and then coated with neat cement grout. The first layer of concrete to be placed on this surface shall not exceed 150 mm. in thickness and shall be well rammed against old work, particular attention being given to corners and close spots.

3.5.4. All concrete shall be compacted to produce a dense homogeneous mass with the assistance of vibrators unless, otherwise permitted by the Engineer-in-charge for exceptional cases, such as concreting under water, where vibrators cannot be used. Sufficient vibrators in serviceable condition shall be kept at site so that spare equipment is always available in the event of breakdowns.

Concrete shall be judged to be compacted when the mortar fills the spaces between the coarse aggregate and begins to cream up to form an even surface. Compaction shall be completed before the initial setting starts i.e. within 30 minutes of addition of water to dry mixture. During compaction, it shall be observed that needle vibrators are not applied on reinforcement which is likely to destroy the bond between concrete and reinforcement.

3.6. Curing: Immediately after compaction, concrete shall be protected from weather, including rain, running water, shocks,

vibration, traffic, rapid temperature changes, frost and drying out process. It shall be covered with wet sacking, hassain or other similar absorbant material approved, soon after the initial set and shall be kept continuously wet for a period of not less than 14 days from the date of placement. Masonary work over foundation concrete may be started after 48 hours of its laying but curing of concrete shall be continued for a minimum period of 14 days.

3.7. Sampling and Testing of concrete :

3.7.1. Samples from fresh concrete shall be taken as per I.S. 1199-1959 and cubes shall be made, cured and tested at 7 days or 28 days as per requirements in accordance with I.S. 516-1959. A random sampling procedure shall be adopted to ensure that each concrete batch shall have a resonable chance of being tested i.e. the sampling should be spread over the entire period of concreting and cover all mixing units. The minimum frequency of sampling of concrete of each grade shall be in accordance with following :

Quantity of concrete in the work	No. of samples	Quantity of concrete in the works	No. of samples
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1-5Cmt.	1	16-30Cmt.	3
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6-15Cmt.	2	31-50	4
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51 and above 4 + one additional for each additional 50 M. or part thereof.

NOTE : At least one sample shall be taken from each shift. Ten test specimens shall be made from each sample, five for testing at 7 days and the remaining five at 28 days. The samples of concrete shall be taken on each day of the concreting as per above frequency. The number of specimens may be suitably increased as deemed necessary by the Engineer-in-charge when procedure of tests given above reveals a poor quality of concrete and in other special cases.

3.7.2. Tire average strength of the group of cubes cast for each day shall not be less than the specified cube strength of 150 Kg/Cm at 28 days. 20% of the cubes cast for each day may have value less than the specified strength provided the lowest value is not less than 85% of the specified strength. If the concrete made in accordance with the proportions given for a particular grade docs not yield the specified strength, such concrete shall be classified as belonging to the appropriate lower, grade concrete made in accordance with the proportions given for a particular grade shall not, however, be placed in a higher grade on the ground that the test strength are higher than the minimum specified.

3.8. Stripping:

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3.8.1. The Engineer-in charge shall be informed in advance by the contractor of his intention lo strike the form work. While fixing the time for removal of form work, due consideration shall be given to local conditions, character of the structure, the weather and other condition that influence the setting of concrete and pf the materials used in the mix. In normal circumstances (generally where temperatures are above 20 ° C) and where ordinary concrete is used, forms may be struck after expiry of periods specified in item No. 9.1 (A) for respective item of form work.

3.8.2. All form work shall be removed without causing any shock or vibration as would damage the concrete. Before the soffit and struts are removed, the concrete surface shall be exposed, where necessary in order to ascertain that the concrete has sufficiently hardened. Centring shall be gradually and uniformly lowered in such manner as to permit the concrete to take stresses due to its own weight uniformly and gradually. Where internal metal ties are permitted, they or their removable parts shall be extracted without causing any damage to the, concrete and remaining holes filled with mortar. No permanently embedded metal part shall have less than 25 mm. cover to the finished concrete surface. Where it is intended to re-use the form work, it shall be cleaned and made good to the satisfaction of the Engineer-in- charge. After removal of form work and shuttering, the Executive Engineer shall inspect the work and satisfy by random checks that concrete produced is of good quality.

3.8.3. Immediately after the removal of forms, all exposed bolts etc., passing through the cement concrete member and used for shuttering or any other purpose shall be cut inside the cement concrete member to a depth of at least 25 mm. below the surface of the concrete and the resulting holes be filled by cement mortar. All fine caused by form joints, all cavities produced by the removal of form ties and all other holes and depressions honeycomb spots, broken edges or corners and other defects shall be thoroughly cleaned, saturated with water and carefully pointed and rendered true with mortar of cement and fine aggregate mixed in the proportions used in the grade of concrete that is-being finished and of as dry consistency as is possible to use. Considerable pressure shall be applied in filling and pointing to ensure thorough filling in all voids. Surfaces which are pointed shall be kept moist for a period of 24 hours. If rock pockets/honeycombs in the opinion of the Engineer in- charge are of such an extent or character to effect the strength of the structure materially or to endanger the, life of the steel reinforcement, he may declare the concrete defective and require the removal and replacement of the portions of the structure affected.

4.0. Mode of measurement and payment:

4.1. The consolidated cubical contents of concrete work as specified in item shall be measured. The concrete laid in excess of section shown on drawings or as directed shall not be measured. No deduction shall be made for

(a) Ends of dis-similar materials such as joists, beams, posts, girders, rafters, purline trusses, corbels and steps etc upto 500 Sq. Cm. in section.

(b) Opening upto 0.1 Sq. M.

4.2. The rate includes cost of all materials, labour, tools and plant required for mixing, placing, position, vibrating and compacting, finishing, as directed, curing and all other incidental expenses for producing concrete lied strength The rate excludes the cost of form work.

4.3. The rate shall be for a unit of one cubic metre.

Item No. 3 Providing and laying cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregates 20mm nominal size) and curing complete excluding cost of form work in (B)Independent piers,columns and pillars upto floor two level

1.0. Materials : Water shall conform to M-I. Cement shall conform to M-3. Sand shall conform to M-6. Grit shall conform to M-8. Graded stone aggregate 20 mm. nominal size shall conform to M-12.

2.0. General:

2.1. The concrete mix is not required to be designed by preliminary tests. The proportion of the concrete mix shall be 1 : 2 :

4 (1 cement: 2 coarse sand ; 4 graded stone aggregate 10 mm. nominal size) by volume. Concrete work shall have exposed

concrete surface or as specified in the item.

2.2. The designation ordinary M-100, M-150, M-200, M-250 specified as per. I.S.

Corresponding approximately to 1 : 3 : 6,

1 : 2 : 4, 1 : 1 1/2 : 3 and 1:1:2 nominal mix of ordinary concrete by volume respectively.

2.3. The ingredients required for ordinary concrete containing one bag of cement of 50 Kg. by weight (0.0342 Cu. M.) for different proportions of mix shall be as under:

Grade of
concrete

Total quantity of dry aggregate by volume

per 50 Kgs. of cement to be taken as the

sum of individual volume of fine and

coarse aggregates, maximum

Proportion of fine aggregate to

coarse aggregate

Quantity of

water per 50 Kgs.

of cement

maximum.

1 2 3 4

M-100 (1 : 3: 6) 300 Liters Generally 1 : 2 for fine aggregate 34 Liters

M-150 (1 : 2 : 4) 2.20 “ to coarse aggregate by volume 32 “

M-200 (1 :1 1/2 :3) 160 “ but subject to and upper limit 30 “

M-250 (1:1:2) 100 “ of 1 : 1 1/2 and lower limit 1 : 3 27 “

2.4. The water cement ratios shall not more than those specified in the above table. The cement content of the mix specified

in the Table shall be increased if the quantity of water in a mix has to be increased to overcome the difficulties of placement

and compaction so that the water-cement-ratio specified in the Table is not exceeded.

2.5. Workability of the concrete shall be controlled by maintaining a water-cement-ratio that is bound to give a concrete mix

which is just sufficiently wet to be placed and compacted without difficulty with the means available.

2.6. The maximum size of coarse aggregate shall be as large as possible within the limits specified but in no case greater than

one fourth of the minimum thickness of the member, provided that the concrete can be placed without difficulty so as to surround all reinforcement thoroughly and to fill the corners of the form.

2.7. For reinforced concrete work, coarse aggregates having a nominal size of 20 mm. are generally considered satisfactory.

2.8. For heavily reinforced concrete members as in the case of ribs of main beams, the nominal maximum size of coarse aggregate should usually be restricted to 5 mm. less than the minimum, clear distance between the main bars, or 5 mm. less than the minimum cover to the reinforcement whichever is smaller.

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2.9. Where the reinforcement is widely spaced as in solid slabs, limitations of size of the aggregate may not be important and the nominal maximum size may sometimes be as great as or greater than the minimum cover.

2.10. Admixture may be used in concrete only with approval of Engineer-in-charge based upon the evidence that with the passage of time, neither the compressive strength of concrete is reduced nor are other requisite qualities of concrete and steel impaired by the use of such admixtures.

3.0. Workmanship:

3.1. Proportioning : Proportioning shall be done by volume, except cement which shall be measured in terms of bags of 50

Kg. weight. The volume of one such bag being taken as 0.0342 Cu. metre. Boxes of suitable sizes shall be used for measuring

sand aggregate. The size of the boxes (internal) shall be 35 cms. x 25 cms. and 40 Cms. deep. While measuring the aggregate

and sand, the box shall be filled without shaking ramming or hammering. The proportioning of sand shall be on the basis of

its dry volume and in case of damp sand, allowances for bulkage shall be made.

3.2 Mixing:

3.2.1. For all work, concrete shall "be mixed in a mechanical mixer which alongwith other accessories shall be kept in first

class working condition and so maintained throughout the construction. Measured quantity of aggregate, sand, cement

required for each batch shall be poured into the drum of the mechanical mixer while it is continuously running. After about

half a minute of dry mixing, measured quantity of water required for each batch of concrete mix shall be added gradually and

mixing continued for another one and a half minute. Mixing shall be continued till materials are uniformly distributed and

uniform colour of the entire mass is obtained and each individual particle of the coarse aggregate shows complete coating of

mortar containing its proportionate amount of cement. In no case shall the mixing be done for less than 2 minutes after all

ingredients have been put into the mixer.

3.2.2. When hand mixing is permitted by the Engineer-in-charge for small jobs or for certain other reasons, it shall be done

on the smooth watertight platform large enough to allow efficient turning over the ingredients of concrete before and after

adding water. Mixing platform shall be so arranged that no foreign material gets mixed with concrete nor does the mixing

water flow out. Cement in required number of bags shall be placed in a uniform layer on top of the measured quantity of fine and coarse aggregate, which shall also be spread in a layer of uniform thickness on the mixing platform. Dry coarse and fine aggregate and cement shall then be mixed thoroughly by turning over to get a mixture of uniform colour. Specified quantity of water shall then be added gradually through a rose-can and the mass turned over till a mixture of required consistency is obtained. In hand mixing, quantity of cement shall be increased by 10 percent above that specified.

3.2.3. Mixers which have been out of use for more than 30 minutes shall be thoroughly cleaned before putting in a new batch.

Unless otherwise agreed to by the Engineer-in-charge the first batch of concrete from the mixture shall contain only two thirds of normal quantity of coarse aggregate. Mixing plant shall be thoroughly cleaned before changing from one type of cement to another. .

3.3. Consistency: 3.3.1. The degree of consistency which shall depend upon the nature of the work and methods of vibration of concrete, shall be determined by regular slump tests in accordance with I.S. 1199-1959. The slump of 10 mm. to 25 mm. shall be adopted when vibrators are used and 80 mm. when vibrators are not used.

4.4. Inspection:

3.4.1. Contractor shall give the Engineer-in-charge due notice before placing any concrete in the forms to permit him to inspect and accept the false work and forms as to their strength, alignment, and general fitness but such inspection shall not relieve the contractor of his responsibility for the safety of men, machinery, materials and for results obtained. Immediately before concreting, all forms shall be thoroughly cleaned.

3.4.2. Centering design and its erection shall be got approved from the Engineer-in-charge. One carpenter with helper shall invariably be kept present throughout the period of concreting. Movement of labour and other persons shall be totally prohibited for reinforcement laid in position. For access to different parts, suitable mobile platforms shall be provided so that steel reinforcement in position is not disturbed. For ensuring proper cover, mortar blocks of suitable size shall be cast and tied to the reinforcement. Timber, kapachi or metal pieces shall not be used for this purpose.

3.5. Transporting and laying:

3.5.1. The method of transporting and placing concrete shall be as approved. Concrete shall be so transported and placed that no contamination, segregation or loss of its constituent material takes place. All form work shall be cleaned and made free from standing water, dust, snow or ice immediately before placing of concrete.

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No concrete shall be placed in any part of the structure until the approval of the Engineer-in-charge has been obtained.

3.5.2. Concreting shall proceed continuously over the area between construction joints. Fresh concrete shall not be placed against concrete which has been in position for more than 30 minutes unless a proper construction joint is formed. Concrete

shall be compacted in its final position within 30 minutes of its discharge from the mixer.

Except where otherwise agreed to

by the Engineer-in-charge concrete shall be deposited in horizontal layers to a compacted depth of not more than 0.45 metre

when internal vibrators are used and not exceeding 0.30 metre in all other cases.

3.5.3. Unless otherwise agreed to by the Engineer-in-charge, concrete shall not be dropped into place from a height exceeding

2 metres. When trucking or chutes are used they shall be kept close and used in such a way as to avoid segregation. When

concreting has to be resumed on a surface which has hardened, it shall be roughened, swept clean, thoroughly wetted and

covered with a 13 mm. thick layer of mortar composed of cement and sand in the same ratio as in the concrete mix itself. This

13 mm. layer of mortar shall be freshly mixed and placed immediately before placing of new concrete. Where concrete has

not fully hardened, all laitance shall be removed by scrubbing the wet surface with wire or bristle brushes, care being taken

to avoid dislodgement of any particles of coarse aggregate. The surface shall then be thoroughly wetted, all free water

removed and then coated with neat cement grout. The first layer of concrete to be placed on this surface shall not exceed 150

mm. in thickness and shall be well rammed against old work, particular attention being given to corners and close spots.

3.5.4. All concrete shall be compacted to produce a dense homogeneous mass with the assistance of vibrators unless,

otherwise permitted by the Engineer-in-charge for exceptional cases, such as concreting under water, where vibrators cannot

be used. Sufficient vibrators in serviceable condition shall be kept at site so that spare equipment is always available in the

event of breakdowns.

Concrete shall be judged to be compacted when the mortar fills the spaces between the coarse aggregate and begins to cream

up to form an even surface. Compaction shall be completed before the initial setting starts i.e. within 30 minutes of addition

of water to dry mixture. During compaction, it shall be observed that needle vibrators are not applied on reinforcement which

is likely to destroy the bond between concrete and reinforcement.

3.6. Curing: Immediately after compaction, concrete shall be protected from weather, including rain, running water, shocks,

vibration, traffic, rapid temperature changes, frost and drying out process. It shall be covered with wet sacking, hassain or

other similar absorbant material approved, soon after the initial set and shall be kept continuously wet for a period of not less

than 14 days from the date of placement. Masonary work over foundation concrete may be started after 48 hours of its laying

but curing of concrete shall be continued for a minimum period of 14 days.

3.7. Sampling and Testing of concrete :

3.7.1. Samples from fresh concrete shall be taken as per I.S. 1199-1959 and cubes shall be made, cured and tested at 7 days

or 28 days as per requirements in accordance with I.S. 516-1959. A random sampling procedure shall be adopted to ensure

that each concrete batch shall have a reasonable chance of being tested i.e. the sampling should be spread over the entire period of concreting and cover all mixing units. The minimum frequency of sampling of concrete of each grade shall be in accordance with following :

Quantity of concrete in the work No. of samples Quantity of concrete in the works No. of samples

1-5Cmt. 1 16-30Cmt. 3

6-15Cmt. 2 31-50 4

51 and above 4 + one additional for each additional 50 M. or part thereof.

NOTE : At least one sample shall be taken from each shift. Ten test specimens shall be made from each sample, five for

testing at 7 days and the remaining five at 28 days. The samples of concrete shall be taken on each day of the concreting as

per above frequency. The number of specimens may be suitably increased as deemed necessary by the Engineer-in-charge

when procedure of tests given above reveals a poor quality of concrete and in other special cases.

3.7.2. Tire average strength of the group of cubes cast for each day shall not be less than the specified cube strength of 150

Kg/Cm at 28 days. 20% of the cubes cast for each day may have value less than the specified strength provided the lowest

value is not less than 85% of the specified strength. If the concrete made in accordance with the proportions given for a

particular grade docs not yield the specified strength, such concrete shall be classified as belonging to the appropriate lower,

grade concrete made in accordance with the proportions given for a particular grade shall not, however, be placed in a higher

grade on the ground that the test strength are higher than the minimum specified.

3.8. Stripping:

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3.8.1. The Engineer-in charge shall be informed in advance by the contractor of his intention lo strike the form work. While

fixing the time for removal of form work, due consideration shall be given to local conditions, character of the structure, the

weather and other condition that influence the setting of concrete and pf the materials used in the mix. In normal

circumstances (generally where temperatures are above 20 ° C) and where ordinary concrete is used, forms may be struck

after expiry of periods specified in item No. 9.1 (A) for respective item of form work.

3.8.2. All form work shall be removed without causing any shock or vibration as would damage the concrete. Before the soffit

and struts are removed, the concrete surface shall be exposed, where necessary in order to ascertain that the concrete has

sufficiently hardened. Centring shall be gradually and uniformly lowered in such manner as to permit the concrete to take

stresses due to its own weight uniformly and gradually. Where internal metal ties are permitted, they or their removable parts

shall be extracted without causing any damage to the, concrete and remaining holes filled with mortar. No permanently

embeded metal part shall have less than 25 mm. cover to the finished concrete surface. Where it is intended to re-use the form

work, it shall be cleaned and made good to the satisfaction of the Engineer-in-charge. After removal of form work and shuttering, the Executive Engineer shall inspect the work and satisfy by random checks that concrete produced is of good quality.

3.8.3. Immediately after the removal of forms, all exposed bolts etc., passing through the cement concrete member and used for shuttering or any other purpose shall be cut inside the cement concrete member to a depth of at least 25 mm. below the surface of the concrete and the resulting holes be filled by cement mortar. All fine caused by form joints, all cavities produced by the removal of form ties and all other holes and depressions honeycomb spots, broken edges or corners and other defects shall be thoroughly cleaned, saturated with water and carefully pointed and rendered true with mortar of cement and fine aggregate mixed in the proportions used in the grade of concrete that is-being finished and of as dry consistency as is possible to use. Considerable pressure shall be applied in filling and pointing to ensure thorough filling in all voids. Surfaces which are pointed shall be kept moist for a period of 24 hours. If rock pockets/honeycombs in the opinion of the Engineer in-charge are of such an extent or character to effect the strength of the structure materially or to endanger the life of the steel reinforcement, he may declare the concrete defective and require the removal and replacement of the portions of the structure affected.

4.0. Mode of measurement and payment:

4.1. The consolidated cubical contents of concrete work as specified in item shall be measured. The concrete laid in excess of section shown on drawings or as directed shall not be measured. No deduction shall be made for

(a) Ends of dissimilar materials such as joists, beams, posts, girders, rafters, purline trusses, corbels and steps etc upto 500 Sq. Cm. in section.

(b) Opening upto 0.1 Sq. M.

4.2. The rate includes cost of all materials, labour, tools and plant required for mixing, placing, position, vibrating and compacting, finishing, as directed, curing and all other incidental expenses for producing concrete of strength. The rate excludes the cost of form work.

4.3. The rate shall be for a unit of one cubic metre.

Item No. 4 Steel work, welded in built up section framed work including cutting, hoisting, fixing in position and applying a priming coat of red paint, (A) in beam and joists, channel angles, tees, flats, with connecting plates or angle cleats in main and cross beams, hip and jack rafter, purlin connected common rafter and the like (up to 10)

1.0. Materials: The structured steel work shall conform to M22. Red lead paint primer shall conform to I.S.: 102-1962.

2.0. Workmanship:

2.1. The steel sections' as specified or required shall be cut, square and to correct lengths, as per drawings and design. The cut

ends exposed to view shall be finished smooth; No. two pieces shall be welded or other wise jointed to make up the required length of member, except as indicated in the drawing or as directed. All straightening and shaping to form shall be done by application of pressure and not by hammering. Any bending or cutting shall be carried out in such a manner as not to impair the strength of the metal. All operations shall be done in cold state unless otherwise directed/permitted.

2.2. Steel riveted or bolted in built up section,fram work.

2.2.1. The steel structure as shown in the drawings or as per direction of the the Engineer-kin-charge shall be laid out on level platform to full scale and to full size or in parts. A steel tape shall be used for measurements to ensure maximum accuracy.

2.2.2. Wooden templates 12 mm. to 19 mm. thick or metal sheet template shall be made to correspond to each connecting gusset plate and rivet holes shall be accurately marked on them and drilled. The templates shall be laid on the steel members, and holes of the steel members shall also be marked for cutting. The base of steel columns and the position of Anchor bolts shall be carefully set out.

2.2.3. All stiffeners shall be formed by pressure and where practicable, the metal shall not be cut and welded in making these. In major works or where so specified, shop drawings giving complete details and information for the fabrication of the component parts of the structure, including location type size, length and details of rivets, bolts, or weld shall be prepared in advance of the actual fabrication and as approved. The drawings shall indicate the shop and field rivets and bolts. The steel members shall be distinctly marked or stencilled with paint with the identification mark as given in the shop drawings. The bars shall be thickened at the ends, so as to provide for screwed threads and gradually tapered off to meet their normal section.

Great accuracy shall be observed in fabrication of various member, so that these can be assembled without being unduly packed, strained or forced into position and when built up, shall be true and free from twists, bniks, buckles, or open joints. Before making holes individual members for fabrication, the steel work intended to be rivetted or bolted together shall be assembled or clamped properly and tightly so as to ensure close abutting or lapping of the different members. All stiffeners shall bear tightly both at top and bottom without being drawn or caulked. The abutting joints shall be cut or dressed true and straight and fitted close together.

Web splice plates and fillers under stiffeners shall be cut to fit within 3 mm. or flange Angles, web plates of Girders shall have not cover plates, shall have their ends flush with the top of angles forming the flanges unless otherwise required. The web plates when spiced shall have clearance of more than 6 mm.

The erection, clearance for cleared ends of members connecting steel to steel shall preferably be not greater than 1.5 mm. The erection clearance at the ends of beams without web cleats shall not be more than 3 mm. at each end but where for a practical reason greater clearance is necessary, suitably designed seating shall be provided.

Pins and rollars shall be accurately turned to gauge. These shall be straight and smooth and free from flows. The roller bearing shall be provided with adequate arrangement for holding the girders or truss resting on it. In columns caps and bases, the ends of shafts together with the attached gussets Angles, channels etc., after rivetting together shall be accurately machanised so that the parts connected butt against each other over the entire surfaces of contract connecting angles or channels shall be fabricated and placed in position, with greater accuracy so that they are not undully reduced in thickness by machining.

The ends of bearing stiffners shall be machanised or ground to fit tightly both at the top and bottom. All holes shall generally be drilled to the required size and at required position. Sub punching shall be permitted, provided it is done 3 mm. or less in diameter and reameded thereafter to the required size. The holes for rivets and bolts shall be larger by 0.4 to 6 mm. than the nominal diameter of rivets or black bolts depending upon the diameter of rivets.

Holes shall have their axis perpendicular to the surface-bored through. The drilling or reamering shall be free from butts, and the holes should be clean and accurate. Holes for counter shank bolts shall be made in such a manner that their heads fit flush with the surface after fixing.

The fabrication work shall be completed in workshop as far as it is practicable to do so. Site joints shall be done with rivets

and fitted bolts or black bolts, as shown in the drawings or as directed. Generally the following principles shall govern the use of rivets turned and fitted bolts, and black bolts.

(i) Rivets and turned and fitted bolts shall be used where the connection is such that slip under load has to be avoided.

(ii) Black bolts may be used very sparingly where a force is carried through a connection without impact, vibration or reversal of stresses.

2.2.4. Rivetting : The parts assembled for rivetting shall be in close contact with each other and the bearing stiffeners shall

bear lightly both at top and bottom without being drawn or caulked. Members to be rivetted shall be properly pinned or bolted and rigidly held together while rivetting. Drilling of holes shall not be permitted except to draw the parts together and the drifting tools so used shall have maximum diameter not exceeding the nominal diameter of rivets or bolts. Drifting done during assembling shall not distort the metal or enlarge the holes.

The shanks of rivets shall project beyond the plate-surface sufficiently so as to fill the hole thoroughly and from the required

head after rivetting.

The rivetting shall be done by hydraulic or pneumatic process. However, where such facilities are not available, hand riveting may be permitted. The rivet shall be heated red hot, care being taken to control the temperature of heating so as not to burn the steel. Rivets of diameter less than 10 mm. may be fitted cold. Rivets shall be of heat finish with heads full and of equal size. All loose, burnt or badly formed rivets with concentric or diffident heads shall be cut out and replaced. The heads of rivets shall be central to shanks and shall grip the assembled members firmly. In cutting out rivets, care shall be taken so as not to injure the assembled members, caulking or recupping shall not be permitted.

For testing rivets, hammer weighing approximately 0.25 kg. shall be used. Both heads of the rivets shall be tapped, slack rivets will give a hollow sound and a jar.

All rivet heads shall be painted with red lead paint within a week of their fixing.

2.2.5. Bolting all bolt heads and nuts shall be hexagonal and of equal size unless specified otherwise. The screwed heads shall conform to I.S.: 1363-1960 and the threaded surface shall not be tapered.

The bolts shall be of such length so as to project two clear threads beyond the nuts when fixed in position and these shall fit in the holes without any shakes. The nut shall be fit in the threaded ends of bolts properly. Where turned and fitted bolts are required to be used in place of rivets they shall be provided with washers not less than 6 mm. thick so that the nut when tightened shall not bear on the unthreaded body of the bolt. Tapered washers shall be provided for all heads and nuts bearing on levelled surfaces. The threaded portion of the bolts shall not be within the thickness of the parts bolted together. The faces of the bolt heads and nuts abutting against steel members shall be machine finished. Where there is a risk of the nut being removed or becoming loose due to vibrations or reversal of stresses, these shall be secured from slackening by the use of locknuts, spring washers cross-cutting or hammering down of threads as directed. Bolts, nuts and washers shall be thoroughly cleaned and dipped in double boiled linseed oil before use. The whole steel work shall be painted with a coat of priming coat of red lead, as per relevant specifications of painting.

3.0. Mode of measurements & payment:

3.1. The steel work shall be measured in general as under.

(a) All work shall be measured on the basis of finished dimensions as fixed at site and measured net unless specified otherwise.

(b) The weight of steel sections, steel strips in finished work shall be calculated from standard weight on the same basis on which steel is supplied to the Contractor by department or those given in relevant I.S. if steel is arranged by the contractor.

(c) The weight of steel plates and strips shall be taken from relevant I.S. based on 7.85 Kg/sq. metre for every millimetre Sheet thickness if steel is supplied by the contractor, otherwise, the weight shall be calculated on the basis on which steel is supplied to the contractor by department.

(d) Unless otherwise specified weight of clearets, brackets, packing pieces, bolts, nuts, washers, distance pieces, separators, diaphragm gusset (taking over all square dimensions) fish plates etc. shall be added to the weight of respective items.

(e) In rivetted work allowance to be made of weight of rivet heads. No deductions shall be made for rivet or bolt holes excluding holes for anchorage or holding down bolts.

(f) For forged steel and steel castings, weight shall be calculated on the basis of 7850 kg/cum.

(g) Unless otherwise specified an addition of 2.5 percent of the weight of structure shall be made for shop and site rivet heads in rivetted steel structure.

(h) Unless otherwise specified, no allowance shall be made for the weld metal in case of welded steel structure.

(i) Dimensions other than cross sections and thickness of plates shall be measured to nearest 0.001 m.

(j) Mill tolerance shall be ignored when weight is determined by calculation.

3.2. The rate includes cost of all material, labour, erection, hoisting, scaffolding protective measure, required for proper completion of the item of work. This shall also include conveyance and delivery handling, loading, unloading and storing etc. required for completing the item described above including necessary wastage involved.

3.3. The rate shall be for a unit of one quintal.

Item No.5 Providing Corrugated GI Sheet roofing fixed with galvanized iron J & I hooks bolts & nuts 8 mm diameter with bitumen & GI limpet washers filled with white lead complete excluding the cost of purlins rafters & trusses. (a) 0.80 mm thick sheet

1.0 Materials : Corrugated G.I. sheets shall conform to M-24.

2.0. Workmanship :

2.1. Spacing of purlins : One purlin shall be provided at the ridge and one at the eaves. The spacing of other purlins for 0.8 mm. thick G.I. sheet shall not exceed 1.80 metres. The purlin shall coincide with the centre line of the end lap. The ridge purlins shall be placed in such a way that the ridges can be fixed properly. The portion overhanging the wall support shall not be more than one fourth of the spacing of purlins.

2.2. The top surface of the purlins shall be painted before the sheets are fixed over them. Embedded portions of purlins shall be finished with two coats of coal-tar.

2.3. Laying of Sheets :

2.3.1. The sheets shall be laid in purlins to a true plane with the line of corrugations truly parallel or normal to the sides of area to be covered. The sheets shall not generally be built into gables and parapets. They shall be bent up along their side edges close to the wall, and the junction shall be protected by suitable flashing or by projecting drip course.

2.3.2. The laps at end shall be provided 150 mm. minimum for roof slopes 1 in 2 (1 vertical: 2 horizontal) and steeper but 200 mm. shall be provided for flatter slopes than those above. The side lap shall be provided two ridges of corrugations at each side.

2.3.3. The sheets shall be cut to the dimensions of the shape of the roof either along their lengths or their width or in slant across the line of corrugations at hips and valleys. The sheets shall be cut carefully with a straight edge and chisel to give a straight finish. The sheets shall be laid such that the laps are turned away from the usual direction of local heavy rain.

2.3.4 Fixing of Sheets:

2.3.4.1. Sheets shall be fixed to the purlins or other roof members such as hips of valley rafter etc. with 'J' or 'L' galvanised hook bolts, and galvanised nuts 8 mm. dia, with bitumen impel washers and G.I. washers. Limpet washers with white lead shall be used. Length of hook bolt shall be varied to suit the requirement. Bolts shall be sufficiently long so that after fixing the project above the top of their nuts by not less than 12 mm. the grip of 'J' or 'L' hook bolts on the side of purlins shall not be less than 25 mm.

There shall be minimum of three hooks bolts placed at the ridge of corrugations in each sheets in every purlin, and their spacing shall not exceed 300 mm. coach screw shall not be used for fixing the sheets to purlins, where the slopes of roof are not less than 2 1/2 horizontal). (1 vertical: 2 1/2 horizontal). Sheets shall be jointed together at the side laps by galvanised iron bolts and nuts 25 mm. x 6 mm. size each bolt with a bitumen and G. I. limpet washer filled with white lead. Where the overlaps at the sides extend to two corrugations these bolts shall be placed zig-zag over the two over lapping corrugations, so that the ends of the overlapping sheets are drawn lightly towards each other. The spacing of same bolts shall not exceed 600 mm. along each of the staggered rows.

2.3.5. Holes for all bolts shall be drilled and not punched in the ridges of the corrugations from the under side, while the sheets are on the ground. The holes in the sheets shall be atleast 50 mm. from the edge. Sheets drilled wrongly shall be rejected. The holes in the washers shall be of the exact diameter of hook, bolts or the scam bolts. The nuts shall be tightened from above to give a leak-proof roof.

2.3.6. The roof when complete shall be true to lines and slopes and shall be lead-proof.

3.0.Mode of measurements & payment:

3.1 The measurements of the C.G.I. sheet roof shall be taken for finished work insuperficial area in general plane (not girthed on the roof). The laps between the C.G.I. sheets both at their ends and along the side edges shall not be measured. The overlaps of C.G.I. sheets over the valley piece and their underlap under the ridge, hip and flashing piece shall be included in the measurements.

3.2. No deductions in measurements shall be made for openings for chimney stacks, sky light etc., of area upto 0.40 sq. mt. nor extra be paid for extra labour in cutting and for wastage etc., in forming such openings.

3.3 The rate of roof shall include the cost of all materials and labour involved in all operations described above. The rate all includes the cost of provision, erection and removal of the scaffolding, benching, ladders, templates and tools required for the proper erection and completion of the work. The rate includes the cost of purlins, rafters and trusses.

3.4 The rate shall be for a unit of one sq. metre.

Item No.6 Removing and scraping of old deteriorated plaster of any thickness from wall/R.C.C member including stacking of serviceable material and disposal of unserviceable from site of work with all lead and lift

1.0. Materials & Workmanship : 1.1. All loose pieces and scales shall be removed by sand papering and surface shall be cleared of all greaseay, dust, dirt, etc. on decorated wall surface. Where heavy scaling has taken place, the entire surface shall, be scrapped by means of steel scrappers so as to remove all accumulated distemper, leaving clean surfaces. Necessary repairs to the scratches shall be made as directed.

2.0.Mode of measurements & payment:

2.1.The relevant specifications of item No. 18.11 shall be followed.

2.2.The rate shall be for a unit of one sq. metre.

Item No.7 Providing 15mm thick cement plaster in single coat on Rough(Similar)side of single or half brick walls for interior plastering upto floor two level and finished even and smooth in (i)Cementmortar1:3 (1-cement:3-sand)

17.58.(I) 15 mm. thick cement plaster in single coat on fair side pf brick concrete walls for interior plastering upto floor twolevel and finished even and smooth in (i) C.M. 1:3.

1.0. Materials: 1.1. Water M-1. The cement mortar of proportion 1 : 3 shall conform to M-13.

2.0. Workmanship:

2.1. Scaffolding : Wooden ballies, bamboos, planks, treaties and other scaffolding shall be sound. These shall be properly examined before erection and use. Stage scaffolding shall be provided for ceiling plaster which shall be independent of the walls.

2.2. Preparation of back-ground:

2.2.1. The surface shall be cleaned of all dust, loose mortar droppings, traces of algae, efflorescence and other foreign matter by water or by brushing. Smooth surface shall be roughened by wire brushing if it is not hard and by racking if it is hard. In case of concrete surface, if a chemical retarder has been applied to the form work, the surface shall be roughened by wire

brushing and all the resulting dust and loose particles cleaned off and care shall be taken that none of the retarders is left on the surface. Trimming of projections on brick/concrete surface where necessary shall be carried out to get an even surface.

2.2.2. Raking of joints in case of masonry where necessary shall be allowed to dry out for sufficient period before carrying out the plaster work.

2.2.3. The work shall not be soaked but only damped evenly before applying the plaster. If the surface becomes dry such area shall be moistened again.

2.2.4. For external plaster, the plastering operation shall be started from top floor and carried downwards. For internal plaster, the plastering operations may be started wherever the building frame and cladding work are ready and the temporary supporting ceiling resting on the wall of the floor have been removed. Ceiling plaster shall be completed before starting plaster to walls.

2.3. Applications of plaster :

2.3.1. The plaster about 15 x 15 cms. shall be first applied horizontally and vertically at not more than 2 metres intervals over the entire surface to serve as gauge. The surfaces of these gauges shall be truly in plane of the finished plastered surface. The mortar shall then be applied in uniform surface slightly more than the specified thickness, then brought to a true surface by working a wooden straight edge reaching across the gauges with small upward and sideways movement at a time. Finally, the surface shall be finished off true with a trowel or wooden float according as a smooth or a sandy granular texture is required. Excessive trowelling or overworking the float shall be avoided. All corners, arrises, angles and junctions be truly vertical or horizontal as the case may be and shall be carefully finished. Rounding or chamfering corners, arrises junctions etc. shall be carried out with proper templates to the size required.

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2.3.2. Cement plaster shall be used within half an hour after addition of water. Any mortar or plaster which is partially set shall be rejected and removed forthwith from the site.

2.3.3. In suspending the work at the end of the day, the plaster shall be left out clean to the line both horizontally and vertically. When recommencing the plaster, the edges of the old work shall be scraped clean and wetted with cement putty before plaster is applied to the adjacent areas to enable the two to properly join together. Plastering work shall be closed at the end of the day on the body of the wall and nearer than 15 cm. to any corners or arrises. Horizontal joints in plaster work shall not also occur on parapet tops and copings as these invariably lead to leakage. No portion of the surface shall be left out initially to be packed up later on.

2.3.4. Each coat shall be kept damp continuously till the next coat is applied or for a minimum period of 7 days. Moistening shall commence as soon as plaster is hardened sufficiently. Soaking of walls shall be avoided and only as much water as can be readily absorbed shall be used, excessive evaporation on the sunny or windward side of building in hot air or dry weather shall be prevented by hanging mattings or gunny bags on the outside of the plaster and keeping them wet.

3.0. Mode of measurements & payment:

3.1. The rate shall include the cost of all materials, labour and scaffolding etc. involved in the operations described under workmanship.

3.2. All plastering shall be measured in square metres unless, otherwise specified. Length, breadth or height shall be measured correct to a centimetre.

3.3. Thickness of the plaster shall be exclusive of (the thickness of the key i.e. grooves or open joints in brick work, stone work etc. or space between laths. Thickness of plaster shall be average thickness with minimum 10mm. at any point on this surface.

3.4. This item includes plastering upto floor two level.

3.5. The measurement of wall plastering shall be taken between the walls or partition (dimensions before plastering being taken) for length and from the top of floor or skirting to ceiling for height. Depth of cover of cornices if any shall be deducted.

3.6. Soffits of stairs shall be measured as plastering on ceilings. Flowing soffits shall be measured separately.

3.7. For jambs, soffits, sills etc. for openings not exceeding 0.5 sq. mt. each in area for ends of joists, beams, posts, girders, steps, etc. not exceeding 0.5 sq. mt. each in area and for openings exceeding 0.5 sq. mt. and not exceeding 3.00 sq. mt. in each area deductions and additions shall be made in the following manner:

(a) No deductions shall be made for ends of joints, beams, posts etc. and openings not exceeding 0.5 sq. mt. each and no addition shall be made for reveals, jambs, soffits, sills etc. of these opening for finish to plaster around ends of joints, beamsposts etc.(b) Deduction for openings exceeding 0.5 sq. mt. but not exceeding 3 sq. mt. each shall be made as follows and no additions shall be made for reveals, jambs, soffits, sills etc. of these openings.(i) When both faces of all wall are plastered with same plaster, deduction shall be made for one face only.

(ii) When two faces of wall are plastered with different types of plasters or if one, faces is plastered and the other pointed, deductions shall be made from the plaster or pointing on the side of frame for door, window etc. on which width of reveals is less than that on the other side but no deductions shall be made on the other side. Where width of reveals on both faces of all are equal, deductions of 50% of area of opening on each face shall be made from area of plaster and/or pointing as the case may be.

3.8. For openings having door frames equal to projecting beyond the thickness of wall, full deduction for opening shall be made from each plastered face of the wall.

3.9. In case of openings of area above 3 sq. mt. each, deduction shall be made for opening but jambs, soffits and sills shall be measured.

3.10. The rate shall be for a unit of one sq. metre.

Item No.8 Providing 10mm thick cement plaster in single coat on brick/concrete walls for interior plastering upto floor two level and finished even and smooth in (i) Cement mortar 1:3 (1-cement:3-sand)

Item No.9 20mm thick sand faced cement plaster on walls upto height 10metres above ground level consisting of 12mm thick backing coat of C.M. 1:3 (1-cement:3-sand) and 8mm thick finishing coat of C.M. 1:1 cement : 1-sand) etc. complete.

17.58.(I) 10 mm. thick cement plaster in single coat on fair side of brick concrete walls for interior plastering upto floor two level and finished even and smooth in (i) C.M. 1:3.

1.0. Materials: 1.1. Water M-1. The cement mortar of proportion 1 : 3 shall conform to M-13.

2.0. Workmanship:

2.1. Scaffolding : Wooden ballies, bamboos, planks, treaties and other scaffolding shall be sound. These shall be properly examined before erection and use. Stage scaffolding shall be provided for ceiling plaster which shall be independent of the walls.

2.2. Preparation of back-ground:

2.2.1. The surface shall be cleaned of all dust, loose mortar droppings, traces of algae, efflorescence and other foreign matter by water or by brushing. Smooth surface shall be roughened by wire brushing if it is not hard and by racking if it is hard. In case of concrete surface, if a chemical retarder has been applied to the form work, the surface shall be roughened by wire

brushing and all the resulting dust and loose particles cleaned off and care shall be taken that none of the retarders is left on the surface. Trimming of projections on brick/concrete surface where necessary shall be carried out to get an even surface.

2.2.2. Raking of joints in case of masonry where necessary shall -be allowed to dry out for sufficient period before carrying out the plaster work.

2.2.3. The work shall not be soaked but only damped evenly before applying the plaster. If the surface becomes dry such area shall be moistened again.

2.2.4. For external plaster, the plastering operation shall be started from top floor and carried downwards. For internal plaster, the plastering operations may be started wherever the building frame and cladding work are ready and the temporary supporting ceiling resting on the wall of the floor have been removed. Ceiling plaster shall be completed before starting plaster to walls.

2.3. Applications of plaster :

2.3.1. The plaster about 15 x 15 cms. shall be first applied horizontally and vertically at not more than 2 metres intervals over the entire surface to serve as gauge. The surfaces of these gauges shall be truly in plane of the finished plastered surface. The mortar shall then be applied in uniform surface slightly more than the specified thickness, then brought to a true surface by working a wooden straight edge reaching across the gauges with small upward and sideways movement at a time. Finally, the surface shall be finished off true with a trowel or wooden float according as a smooth or a sandy granular texture is required. Excessive trowelling or overworking the float shall be avoided. All corners, arrises, angles and junctions be truly vertical or horizontal as the case may be and shall be carefully finished. Rounding or chamfering corners, arrises junctions etc. shall be carried out with proper templates to the size required.

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2.3.2. Cement plaster shall be used within half an hour after addition of water. Any mortar or plaster which is partially set shall be rejected and removed forthwith from the site.

2.3.3. In suspending the work at the end of the day, the plaster shall be left out clean to the line both horizontally and vertically. When recommencing the plaster, the edges of the old work shall be scraped clean and wetted with cement putty before plaster is applied to the adjacent areas to enable the two to properly join together. Plastering work shall be closed at the end of the day on the body of the wall and nearer than 15 cm. to any corners or arrises. Horizontal joints in plaster work shall not also occur on parapet tops and copings as these invariably lead to leakage. No portion of the surface shall be left out initially to be packed up later on.

2.3.4. Each coat shall be kept damp continuously till the next coat is applied or for a minimum period of 7 days. Moistening shall commence as soon as plaster is hardened sufficiently. Soaking of walls shall be avoided and only as much water as can be readily absorbed shall be used, excessive evaporation on the sunny or windward side of building in hot air or dry weather shall be prevented by hanging matings or gunny bags on the outside of the plaster and keeping them wet.

3.0. Mode of measurements & payment:

3.1. The rate shall include the cost of all materials, labour and scaffolding etc. involved in the operations described under workmanship.

3.2. All plastering shall be measured in square metres unless, otherwise specified. Length, breadth or height shall be measured correct to a centimetre.

3.3. Thickness of the plaster shall be exclusive of the thickness of the key i.e. grooves or open joints in brick work, stone work etc. or space between laths. Thickness of plaster shall be average thickness with minimum 10mm. at any point on this surface.

3.4. This item includes plastering up to floor two level.

3.5. The measurement of wall plastering shall be taken between the walls or partition (dimensions before plastering being taken) for length and from the top of floor or skirting to ceiling for height. Depth of cover of cornices if any shall be deducted.

3.6. Soffits of stairs shall be measured as plastering on ceilings. Flowing soffits shall be measured separately.

3.7. For jambs, soffits, sills etc. for openings not exceeding 0.5 sq. m. each in area for ends of joists, beams, posts, girders, steps, etc. not exceeding 0.5 sq. m. each in area and for openings exceeding 0.5 sq. m. and not exceeding 3.00 sq. m. in each area deductions and additions shall be made in the following manner:
(a) No deductions shall be made for ends of joints, beams, posts etc. and openings not exceeding 0.5 sq.

mt. each and no addition shall be made for reveals, jambs, soffits, sills etc. of these opening for finish to plaster around ends of joints, beamsposts etc.(b) Deduction for openings exceeding 0.5 sq. mt. but not exceeding 3 sq. mt. each shall be made as follows and no additions shall be made for reveals, jambs, soffits, sills etc. of these openings.(i) When both faces of all wall are plastered with same plaster, deduction shall be made for one face only.

(ii) When two faces of wall are plastered with different types of plasters or if one, faces is plastered and the other pointed, deductions shall be made from the plaster or pointing on the side of frame for door, window etc. on which width of reveals is less than that on the other side but no deductions shall be made on the other side. Where width of reveals on both faces of all are equal, deductions of 50% of area of opening on each face shall be made from area of plaster and/or pointing as the case may be.

3.8. For openings having door frames equal to projecting beyond the thickness of wall, full deduction for opening shall be made from each plastered face of the wall.

3.9. In case of openings of area above 3 sq. mt. each, deduction shall be made for opening but jambs, soffits and sills shall be measured.

3.10. The rate shall be for a unit of one sq. metre.

Item No.10 Providing and laying broken chine mosaic flooring for terrace using 12mm to 20mm broken pieces of glazed tiles to be laid over cement mortar 1:3 to plain or slope and to be tempered to bring mortar creme out upto surface using white cement including rounding off junction sand extending them upto 15cm along the wall, clearing with water and oxalic acid etc. as directed.

1.0 MATERIAL - WATER

1.1 Water shall not be salty brackish and shall be clean, reasonably clear and free objectionable quantities of silt and traces of oil injurious alkalis salts organic matter and other deleterious material which will either weaken the mortar of concrete or cause efflorescence or attack the steel in R.C.C. container for transport storage and huddling of water shall be clean. Water shall conform to the Standard Specification in I.S. 455 - 1978.

1.2 If required by the Engineer in charge, it shall be tested by comparison with distilled water compression shall be made by means of standard cement tests for soundness, time of setting and mortar strength as specified in I.S. 269 - 1976. Any indication of unsoundness charge in time of setting by 50 minutes or more or decrease of more than 10 percent strength of mortar prepared with distilled water sample when compared with the result obtained with mortar prepared with distilled water shall be sufficient cause for rejection of water under test.

1.3 Water for curing, mortar concrete or masonry should not be too acidic/too alkaline.

1.4 It shall be free of elements which significantly affect the hydration reaction or otherwise interface with the hardening of mortar or concrete during curing or those which produce objectionable stains or other unsightly deposits on concrete or mortar surfaces.

1.5 Hard and bitter water shall not be used for curing.

1.6 Potable water will generally found suitable for curing mortar or concrete.

2.0 CEMENT

2.1 Cement shall be ordinary Portland slag cement as per I.S. 1624 - 1974 or Portland slag cement as per I.S.455-1976.

- 2.2 Cement shall be stored above the ground level in perfectly and dry and water tight sheds. Wherever bulk storage containers are used, there capacity should be sufficient to cater to the requirements at site and should be cleaned at least once every 3 to 4 months. The aggregate shall be stored in such a way as to prevent admixture of foreign materials. Different size of fine or coarse aggregate shall be stored in separate stock piles sufficiently away from the each other to prevent inter mixing the materials.

3.0 SAND

- 3.1 Sand shall be natural sand, clean, well graded, hared, strong, durable and gritty particular free from immures amounts of dust, clay, kankar, modules, soft or flaky particles shall alkali salts, organic matter, learn mica or other deleterious substance and shall be got approved from the Engineer in charge. The sand shall not contain more than 8 percent of slit as determined by field test if necessary, the sand

COARSE SAND - The fineness modules of coarse sand shall not be less than 2.5 and shall not exceed 3.0. The sieve analysis of coarse sand be as under :

I.S. Sieve Designation	% by wt. passing
4.75 mm	100
2.36 mm	90 to 100
1.18 mm	70 to 100
600 MC	30 to 100
300 MC	85 to 70
150 MC	00 to 50

- 3.2 **FINE SAND** : The fineness modules shall not exceed 1.0 the sieve analysis of fine sand be as under:

I.S. Sieve Designation	% by wt. passing
4.75 mm	100
2.36 mm	100
1.18 mm	70 to 100
600 MC	40 to 85
300 MC	05 to 50
150 MC	00 to 10

- 3.3 Materials shall be stored as to prevent their deterioration of their quality and fitness for the work. Any material which has deterioration or has been damaged or is otherwise considered defective by the Engineer in charge shall not be used in the work.

1.4 WATER PROOFING COMPOUND

Water proofing compound shall be of approved quality and make as approved by Engineer in charge.

1.5 BRICK BATS

Brick bat aggregates shall be broken from well burnt or slightly over burnt and dense bricks it shall be homogeneous in texture roughly cubical in shape clean and free from dirt or any

other foreign material brick bats shall be of 40 to 50 mm nominal size unless otherwise specified in the item the under burnt or over burnt bricks bats shall not be used.

1.6 CHINA MOSAIC TILE PIECES

China mosaic tiles pieces shall be of 50 mm to 90 mm nominal size, tiles pieces shall be made from hard and good quality of tiles.

1.7 WHITE CEMENT

White cement shall be of approved make it shall confirm definition of I.S. 8042-E-1978 the sample of white cement shall be approved by Engineer in charge.

WORKMANSHIP

- A** First of all surface of the entire terrace shall be cleaned by thoroughly brooming and then by wire brushes. All the loose material, dust and debries shall be removed thoroughly from the entire surface of the terrace.

All joints and cracks shall be racked off and cut in trench which shall be filled by neat cement slurry admixed with water proofing compound. The joints with parapet shall be racked up to 30 cm height and shall be applied by neat cement slurry admixed with water proofing compound.

Neat cement slurry shall be prepared and a water proofing compound of approved make shall be mixed with the slurry in proportion specified by the manufacturer of the compound and shall be laid through out the surface of the terrace by the use of brushes mala etc. Cement slurry shall be prepared by adding adequate quantity of water so as to spread it uniformly on the surface.

- B** Cement concrete 1:5:10 (Using 50% of cement mortar 1:5, 1 part of cement and 5 part of coarse sand by volume admixed with water proofing compound of approved make in specified proportion). Of specified thickness shall be laid (Specification of C.C. 1:5:10 shall be followed for the execution of this layer) all over the surface of the terrace in true level and required slope including rounding of junctions of walls and slabs.

- C** After two days of proper curing applying a second coat of cement slurry on entire surface of the terrace.

- D** The entire surface shall be finished with 20 mm thick C.M. 1:4 and China mosaic tilling in true level and slope as directed by Engineer in charge and finally finishing the surface with trowel with white cement slurry (Specification of white glazed tiles flooring shall be followed for the execution of this item).

- E** Finishing the surface with 20 mm thick C.M. 1:4 and China mosaic tilling and finally finishing the surface with trowel with white cement slurry.

- F** After two days proper curing the terrace shall be flooded for 15 days.

7.0 MODE OF MEASUREMENT AND PAYMENT

- 7.1** The unit rate of flooring shall include the cost of all materials, tools and plant required for mixing, laying of base layer in true level and slope as required applying and placing broken pieces of china mosaic tile in position, compacting, finishing, curing, providing treatment of 30 cm high allover the length of parapets and corners and sill of doors etc. and all other incidental expenses for producing flooring work to complete the structure of its components as shown on the drawings and according to these specifications. They shall also include the cost of making, fixing of all scaffolding and forms required for the work. The rate of plastering shall include the cost of all labour, materials, tools and plants, scaffolding and all incidental expenses as described herein above.
- 7.2** The plaster work shall be measured for its length and width, limiting dimensions to those specified on plan or as directed. The rate shall be for a unit of one Square Meter.
- 7.4** [A guarantee bond on appropriately stamped paper shall be given by the contractor to the Department in the manner and form prescribed below.](#)
- 7.5** The payment will be made on **Square Meter** basis of the finished work.

FORM OF GUARANTEE BOND

Contractor I / We _____) here by guarantee that work will remain unaffected and will not be in anyway damaged by water rain and will not leak from surface for a period for 5 years after completion of the work of water proofing treatment as per the terms and conditions of the contract and damage that might be caused on account of water rain and or other similar type of dampness of leakage from walls or above floor.

The guarantee shall remain in force for the period of 5 years from the completion of the work under the contract and it shall remain binding to the contractor for period of 5 years.

The deposit at the rate of 20% of the cost of this item from the running and final bills shall be recovered and remained for the first one year after completion of the work or at least on monsoon season passed which ever is later and 10% shall be retained for the balance of the guarantee period and shall be returned only after completion of the guarantee period.

MODE OF MEASUREMENT AND PAYMENT

The length and breadth shall be measured correct to cm. as per the dimension of the sanctioned plants. No deduction shall be made not extra for paid for any opening for pipes etc. upto 0.1 sq.mt. The rate shall include the cost of all labour and materials required for the operation involved. For satisfactory completion.

Item No.11 Distempering(Twocoats)with oil bound distemper of approved brand and manufacture and of required shade on wall surfaces to give an even shade,over and including a priming coat with distemper primer of approved brand and manufacture after thoroughly brushing the surface free from mortar dropping and other foreign matter and also including preparing the surface even and sand papered smooth.

1.0. Materials : 1.1. Oil bound washable distemper and primer shall be of approved brand and manufacture.

The distemper shall be required colour and shade and the same shall conform to I.S. 428-1969.

2.0. Workmanship: 2.1. Scaffolding: Where scaffolding is required, it shall be erected in such a way that as far as possible no part of scaffolding shall rest against the surface to be distempered. A properly secured strong and well tied suspended platform (Joola) may be used for distempering. Where ladders are used, pieces of old gunny bags shall be tied at top and bottom to prevent scratches to the walls and floors. For distempering to ceiling, proper stage scaffolding shall be erected where necessary.

2.2. Preparation of surface :

Item No.12 Wall painting (twocoats) with plastic emulsion paint of approved brand and manufacture on undecorated wall surface to give an even shade including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth.

2.2.1. The undecorated surface to be distempered shall be thoroughly brushed off from dust, dirt, grease, mortar and dropping and other foreign matter and sand papered smooth. New plaster surface shall be allowed to dry for at least 2 months before applications of distemper.

2.2.2. All unnecessary nails shall be removed. Pitting in plaster shall be made good with plaster of paris mixed with dry distemper of colour to be used. The surface shall then be rubbed down again with a fine grade sand paper and made smooth. A coat of distemper shall be applied over the patches. The surface shall be allowed to dry thoroughly before the regular coat of distemper is allowed. The surface affected by moulds, moss, fungi algae lichens, efflorescence etc. shall be treated in accordance with I.S. 2395 (Part-I) 1966. Before applying distempering, any unevenness shall be made good by applying putty made of plaster of paris mixed with water on entire surface including filling up the undulation and then sand papering the same after it is dry.

2.3. Priming coat:

2.3.1. A priming coat or distemper primer of approved manufacture and shade shall be applied over the papered surface in case of new work on undecorated surface. If the distemper priming is done after the wall surface dries completely, the distemper primer shall be applied.

2.3.2. Application of Primer shall be done as under:

The primer shall be applied with a brush on the clean dry and smooth surface. Horizontal strokes shall be given first and vertical strokes shall be applied immediately afterwards. This entire operation will constitute one coat. The surface shall be finished as uniformly as possible leaving no brush marks. It shall be allowed to dry for at least 48 hours before oil bound distemper or Paint is applied.

2.3.3. Oil bound distemper is not recommended to be applied within six months of the completion of wall plaster.

2.4. Preparation of oil bound distemper : 2.4.1. The distemper shall be diluted with water or any other prescribed thinner in a manner recommended by the manufacture only. Sufficient quantity of distemper required for a day's work shall be prepared.

2.5. Application of Distemper coat:

2.5.1. For undecorated surfaces, after the primer coat is dried for at least 48 hours, the surface shall be lightly

sand papered to make it smooth for receiving the distemper, taking care not to rub out the priming coat. All loose particles shall be dusted off after rubbing. Minimum two coats of distemper shall be applied with brushes in horizontal strokes followed immediately by vertical strokes which together shall constitute one coat. The subsequent coats shall be applied after a time interval of at least 24 hours between consecutive coats to permit proper drying of the proceeding coat. The finished surface shall be even and uniform without patches, brush marks, distemper drops etc.

2.5.2. Sufficient quantity of distemper shall be mixed to finish one room at a time. The application of a coat in each room shall be finished in one operation and no work shall be started in any room which cannot be completed on the same day.

2.5.3. 15 cm. double bristled distemper brush shall be used. After day's work brushes shall be thoroughly washed in hot water soap solution and hung down to dry. Old brushes which are dirty and caked! with distemper shall not be used on the work.

2.6. Protective measurements : The surfaces of doors, windows, floors, articles of furniture etc. and such other parts of the buildings as are not to be distempered shall be protected from being splashed upon. Such surfaces shall be cleaned opt distemper splashes if any.

3.0. Mode of measurements & payment:

3.1. Priming coat of distemper primer, scraping of surface spoiled by stunk soots removal of oil and grease spots, treatment for infection of effloresces mould moss, fungi, algae and lichen and patch repairs to plaster shall be included in this item for which nothing extra shall be paid.

3.2. All the work shall be measured net in the decimal system as in place subject to the following limits unless otherwise stated hereinafter:

(a) Dimensions shall be measured to the nearest 0.01 m.

(b) Area in individual items shall be worked out to the nearest 0.01 sq. m. All work shall be measured in sq. metre. No deductions shall be made for ends of joints, beams, posts etc., and openings, not exceeding 0.5 sq. m. each and no addition shall be made for reveals, jambs, soffits, sills etc. of these openings nor for finish alround ends of joints, beams, posts etc.

3.3 . Deductions of opening exceeding 0.5 sq. m. but not exceedings 3 m. in each shall be made as follows and net addition shall be made for reveals, jambs, soffits etc. of these openings:

(a) When both the faces of walls are provided with same finish deductions shall be made or one face only.

(b) When each face of wall is provided with different finish, deduction shall be made for that side of frame for doors, windows etc. on which width of reveal is less than that of the other side but no deduction shall be made on the other side. Where the width of reveals on the both the faces of wall are equal, deduction of 50% of area of opening of each face shall be made from area of finish.

(c) When only one face of wall is treated and the other face is not treated, full deduction shall be made if the width of the reveal on treated side is less than that on untreated sides but if the width of the reveal is equal or more than that on untreated side neither deductions not addition to be made for reveals, jambs, soffits, sills etc.

3.4. In case opening of area exceeding 3 sq. m. each, deduction shall be made for openings but jambs, sills and soffits shall be measured.

3.5. No deductions shall be made for attachments such as casings, conduits, pipes, electric wiring and the like.

3.6. Item includes removing nails, making good holes, cracks, patches with material similar in composition of distemper.

3.7. The rate includes cost of all materials, labours, scaffolding, protective measures etc. involved in all the operations

described above. This shall also include conveyance, delivery, handing, unloading, storing work etc.

3.8. The rate shall be for a unit of one sq. metre.

1.0. Materials

Water shall be conform M-1. The plastic emulsion shall conform to I.S.: 5411-1969 (part-I).

2.0. Workmanship

2.1. Scaffolding : The relevant specifications of item-No. 18.11 Para 2.1 From Building Specification Book shall be followed.

2.2. Preparation of surface : The relevant specification of item No. 18.44 Para 2.2 From Building Specification Book shall be followed.

2.3. Preparation of Mix :

This shall be done as per manufacture's instructions. The thinning of emulsion is to be done with water and not with turpentine. The quantity of thinner to be added shall be as per manufacturer instructions.

2.4. Application :

2.4.1. Before pouring into small containers for use, the paint shall be stirred thoroughly in item container. When applying also, the paint shall be continuously stirred in the smaller container, so that its consistency is kept uniform.

2.4.2. The paint shall be laid on evenly and smoothly by means of crossing and laying off the crossing and consist of covering the area over with paint, brushing the surface hard for the first time over and then, brushing alternately in opposite direction two or three times and then finally brushing lightly in direction at right angles to the same. In this process, no brush Marks shall be left after the laying off is finished. No hair marks from the brush or clogging of paint puddles in the corners of panels, angles of moldings, etc. shall be left on the work. The full process of crossing and laying off will constitute one coat.

2.4.3. The paint shall be applied with brush or rollers. For undecorated surfaces, the surface shall be treated with minimum two coats of cement water proofing paint. The second or subsequent coat shall not be started until the proceeding coat as become sufficiently hard to resist marking by brushing being used.

2.4.4. The surface on finishing shall present a flat velvety smooth finish. It shall be even and uniform in shade without patches, brush marks, paint drops etc.

2.5. Precautions :

(a) Old brushes if they are to be used with emulsion paints, shall be completely dried of turpentine or oil paint by washing in warm soap water. Brushes shall be quickly washed in water immediately after use and kept immersed in water fusing break periods to prevent the paint from hardening on the brush.

(b) In the preparation of wall for plastic emulsion painting, no oil base petals shall be sued in filling cracks, holes etc.

(c) Splashes on floors etc. shall be cleaned out without delay as they will be difficult to remove after hardening.

(d) Washing or surfaces treated with emulsion paint shall not be done within 3 to 4 weeks of application

2.6. Protective payment : The relevant specifications of item No. 18.11 From Building Specification Book shall be followed.

3.0. Mode of measurements and payment

3.1. The relevant specifications of item No. 18.11 From Building Specification Book shall be followed.

3.2. The rate shall be for a unit of One sq. meter.

ITEM NO 13 Providing sock pit of 5.0 Cu.Mt volume including excavating and filling brick bats with dry masonry work at top for 45 cm. Height including covering the top with stone including providing vatas in cm 1:3 with finishing curing etc. complete as directed

Item No. 14 Providing & fixing double coated Syntex or equivalent PVC (ISI) water tank or required capacity each with all necessary fittings and connection etc. complete on terrace.

1.0. MATERIAL

1.1. PVC Water tank

PVC Water tank of specified capacity and of I.S.I. mark of approved in liters of approved make and quality

Net capacity shall be net volume of water stored between the lowest level of overflow and lowest specified level.

1.2. Nipple

Galvanise pipe nipple shall be of approved make and of best quality

1.3. Ball valve

Ball valve shall be of approved make and of best quality

1.4. Connections

Connections shall be of approved make and of best quality

2.0 WORKMAN SHIP

2.1. Tank shall be approved quality and as per IS standard make. Material used in manufacturing tank shall be confirmed to relevant IS code. The material of tank and lead and fittings which may come in contact of water should be such that it does not impart any taste, colour or odour. It does not have any toxic effect and it does not contaminate the water. Thereby making it unpotable.

2.2. The tank shall be fixed properly in a level position and making all required necessary correction like inlet outlet flushing overflow and air vent. Tank shall be satisfying the standards of public health.

3.0 MODE OF MEASUREMENT & PAYMENT :

3.1. The unit rate PVC tank shall include the cost of all materials, tools and plant required for lifting to required height with all lead and lift, placing & fixing in position, all required specials and jointing adhesive compound, finishing as per direction of the Engineer-in-charge, and all other incidental expenses for producing PVC water tank work of specified diameter to complete the structure or its components as shown on the drawings and according to these specifications. They shall also include the cost of making, fixing and removing of all scaffolding and forms required for the work.

3.2. The PVC water tank work shall be measured for its number limiting to specified capacity to those specified on plan or as directed. The rate shall be for a unit of one number.

3.3. The payment will be made on number basis of the finished work.

Item No. 15 Provdbg. & fixing S.W. Gully trap with C.I. grating brick masonry chamber & water tight C.I. cover with frame of 300 mm x 300 mm size (inside) with standard weight (A) 100 mm x 100 mm size P-type.

1.0 Materials : (1) Water shall conform to M-I. (2) Cement mortar of proportion 1: 5 shall conform to to M-I 1. (3) Burnt

brick shall conform to M-15. (4) The S.W. Gully trap of 100 mm. x 100 mm. size shall conform to M-70.

2.0. Workmanship : 2.1. Excavation for gully trap shall be done true to dimensions and levels as indicated on plans or as directed.

The excavation work shall generally be done as per relevant specification of item 4.0.0. of earth work.

2.2. Fixing : 2.2.1. The gully trap shall be fixed over cement concrete 1: 5 : 10 (1 cement: 5 sand : 10 graded brick bats

aggregate 40 mm. nominal size) foundation 650 mm. square and 100 mm. thick. The depth of top of concrete below the

ground level shall be 675 mm. The jointing of gully outlet to the branch drain shall be done similar to jointing of S. W. pipe

as described in item No. 24.1.(A).

2.3. Brick masonry chamber: After fixing and testing gully and branch drain, a brick masonry 300 x 300 mm. inside with

bricks in C.M. 1 : 5 (1 cement: 5 sand) shall be built With a 100 mm. brick work round the gully trap from the top of bed

concrete upto ground level. The space between the chamber walls and the trap shall be filled with cement concrete 1:5:10.

The upper portion of the chamber i.e. above the top level of the trap shall be plastered inside with cement mortar 1 : 3 (1

cement: 3 sand) finished with floating coat of neat cement. The corners and bottom of the chamber shall be rounded of so as

to slope towards the grating.

2.4. C.I. cover with frame 300 mm. x 300 mm. (inside) size shall than be fixed on the top of the brick masonry with C.C. 1:2:4

(1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm. nominal size) 40 mm. thick and rendered smooth. The finished

top of the cover shall be left about 40 mm. above the adjoining ground level so as to exclude the surface water from entering

the gully trap.

3.0. Mode of measurements & payment:

3.1. The rate includes cost of all labour, materials, tools and plant etc. required for satisfactory completion of this item as

described above.

3.2. The rate shall be for a unit of one number basis.

Item no- 16 Point wiring for Light / Bell with 2-1.5 sq.mm & earthwire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multistrand copper wires, in following type of pipe to be erected concealed in/ on surface on wall/ceiling complete with 6A Modular type switch / bell push & accessories and earth continuity of following type, erected on PVC / Metallic box, single mounting base frame covered with textured/metallic front plate modules erected on / in wall / ceiling as per pipe erected, with necessary Lamp holder/ceiling rose / H.D.Connector as directed. CAT- III

Item No- 17 Point wiring for looped PLUG with tissino type single pole ISI marked 6 A. switch and 6 A socket erected with necessary connections erected on polished wooden block / Metal / PVC box covered with 3 mm. thick laminated sheet for open / concealed wiring.

Item no.18 Pipe type earthing having 150 cms long and 2.5 cms dia galvanised iron pipe with coupling and buch burried inspecially prepared earth pit complete with necessary 8 SWG earth wire.

Item No- 19 For using salt and charcoat / coke as required for pipe type earthing.

Item no- 20 Approved make ceiling fan with condenser A.C. 230 V 50 Cys. 1200 mm. sweep complete canopy and 30 Cms. down rod resistance type regulator erected on existing hook or clamp with 24/0.2 flat 3 core flexible wire with earthing fan approved by Engineer in charge.

Item No- 21 Approved make C.F.L. lamp retrofit 9/11 watt erected if required cat-II

Item no- 22 Plastic encloser fitted with din rail suitable for incorporating one / two nos. MCB

Item No.- 23 Providing & fixing Approved make Sumercible Horizontal Pump 1.0 HP with Necessary Switches wiring board etc. completed.

Item No.- 24 Providing & fixing Florcat tube light fuze, chawk, Stator of Philips / Bajaj as approved by Engineer in charge.

Item no. 16 to 24 Specification as per Electrification Book Attached

ITEM NO 25 Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm. in depth consolidating each disposed layer by ramming and watering.

1.0. Workmanship:

1.1. The earth to be used for filling shall be free from salts, organic or other foreign matter. All clods of earth shall be broken.

1.2. As soon as the work in foundation has been completed and measured, the site of foundation shall be cleared of all debris, brick bats, mortar dropping etc; and filled with earth in layers not exceeding 20 Cms. Each layer shall be adequately watered, rammed and consolidated before the succeeding layer is laid. The earth shall be rammed with iron rammers where feasible and with the butt ends of crow-bars, where rammer cannot be used.

1.3. The plinth shall be similarly filled with earth in layers not exceeding 20 Cms. adequately watered and consolidated by ramming with iron or wooden rammers. When filling reaches finished level, the surface shall be flooded with water for at least 24 hours and allowed to dry and then rammed and consolidated.

1.4. The finished level of filling shall be kept to shape intended to be given to floor.

1.5. In case of large heavy duty flooring like factory flooring, the consolidation may be done by power rollers, where so specified. The extent of consolidation required shall also be as specified.

1.6. The excavated stuff of the selected type shall be allowed to be used in filling the trenches and plinth. Under no circumstances black cotton soil be used for filling the plinth.

2.0. Mode of measurement and payment:

2.1. The payment shall be made for filling in plinth and trenches. No deduction shall be made for shrinkage or voids, if consolidated as instructed above.

2.2. The rate shall be for a unit of one cubic metre.

4.24. Filling in plinth with sand under floors including watering, ramming consolidating and dressing etc. complete.

1.0. Materials: 1.1. Sand shall conform to M. 6.

2.0. Workmanship : 2.1. The relevant specifications of item No. 4.12 shall be followed except that sand shall be filled in under floors, including watering, ramming, consolidating and dressing etc. complete.

3.0. Mode of measurement and payment:

3.1. The relevant specifications of item No. 4.12 shall be followed.

3.2. The rate includes cost of collecting carting sand with all lead and labour for filling the same in plinth

under floors.

The rate shall be for a unit of one cubic metre.

ITEM NO 26 Providing and laying cement concrete 1:3:6 (1-Cement : 3- Coarse sand : 6- Graded brick bat aggregate 40mm normal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth

1.0. Materials

1.1. Water shall conform to M-1. Cement shall conform to M-3 Sand shall conform to M-6. Stones aggregate 40

mm. nominal size shall conform to M-12.

2.0. Workmanship

2.1. General

2.1.1. Before stating concrete the bed of foundation trenches shall be cleared of all loose materials, leveled,

watered and rammed as directed

2.2. Proportion of Mix:

2.2.1. The proportion of cement, sand and coarse aggregate shall be one part of cement. 3 parts of sand and 6

parts of stone aggregates and shall be measured by volume.

2.3. Mixing:

2.3.1. The concrete shall be mixed in a mechanical mixer at the site of work. Hand mixing may however be allowed

for smaller quantity of work if approved by the Engineer-in-charge. When hand mixing is permitted by the Engineer-incharge

in case "of break-down of machineries and in the interest of the work, it shall be carried out on a water tight

platform and care shall be taken to ensure that mixing is continued until the mass is uniform in colour and

consistency, However in such case 10% more cement than otherwise period 1 1/2 to 2 minutes. The quantity of

water shall be just sufficient to produce a dense concrete of required workability for the purpose.

2.4. Transporting & Placing the Concrete:

2.4.1. The concrete shall be handed from the place, of mixing to the final position in not more than 15 minutes by

the method as directed and shall be placed into its final-position, compacted and finished within 30 minutes of mixing

with water i.e. before the setting commences.

2.4.2. The concrete shall be laid in layers of 15 cms. to 20 cms.

2.5.1. The concrete shall be rammed with heavy iron rammers and rapidly to get the required compaction and to

allow all the interstices to be filled with mortar.

2.6. Curing:

2.6.1. After the final set, the concrete-shall be kept continuously wet if required by pounding for a period of not less

then 7 days form the date of placement.

2.7. Mode of Measurement & Payment:

2.7.1. The concrete shall be measured for its length, breadth and depth, limiting dimensions to those specified on

plan or as directed.

2.7.2. The rate shall be for a unit of one cubic meter.

ITEM NO 27 Brick work using common burnt clay building bricks having crushing strength not less than 35 kg./Sq.Cm. in foundation and plinth in Cement Mortar 1:6 (1- Cement : 6 -fine sand)(B)Conventional

Materials

- 1.1. Water shall conform to M-1. Cement shall conform to M-3. Sand shall conform to M-6. Grit shall conform to M-8. Graded stone aggregate 20 mm nominal size shall conform to M-12.
- (a) The bars shall be kept in position by the following methods :
 - (i) In case of beam and slab construction, sufficient number of precast cover blocks in cement mortar 1:2 (1 cement : 2 coarse sand) about 4 cms. x 4 cms. section and of thickness equal to the specified cover shall be placed between the bars and shattering as to secure and maintain the requisite cover of concrete over the reinforcement. In case of cantilevered or doubly reinforce beams or slabs, the main reinforcing bars shall be held in position by introducing chain spacers or supports bars at 1.0 to 1.2 meter centers.
- 1.2. All bars projecting from pillars, columns, beams, slabs etc, to which other bars and concrete are to be attached or bounded to later on, shall be protected with a coat of thin neat cement grout, if the bars are not likely to be incorporated with succeeding mass of concrete within the following 10 days. This coat of thin neat cement shall be removed before concreting.
- 1.3. The shuttering to be provided shall be of ordinary timber plank and shall conform to M-26.
- 1.4. The dimensions of scantlings and battens shall conform to the design. The strength of the wood shall not be less than that assumed in the design.

2.0. General

- 2.1. The concrete mix is not required to be designed by preliminary testes. The proportion of the concrete mix shall be 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm. nominal size) by volume concrete work shall have exposed concrete surface or as specified in the item.
- 2.2. The designation ordinary M-100, M-150, M-200, M-250 specified as per I.S. corresponds approximately to 1:3:6, 1:2:4, 1:1.1/2:3 and 1:1:2 nominal mix of ordinary concrete by volume respectively.
- 2.3. The ingredients required for ordinary concrete containing one bag of cement of 50 kg. by weight (0.0342 Cu.M.) for different proportions of mix shall be as under:

TABLE

Grade of concrete	Mix by volume	Total quantity of dry aggregates by volume per 50 kg. cement to be taken as sum aggregate of the individual volumes of fine & coarse aggregates, maximum	Proportion of fine aggregate to coarse aggregate	Quantity of water per 50 kg. of cement max.
(1 cubic metre : 1000 Liters)				
1	2	3	4	5
Ordinary	Liters			Liters
M-100	1:3:6	300	Generally 1:2 for fine aggregate to Coarse aggregate by volume but subject to a upper limit of 1:1.1/1 & a lower limit of 1:3.	34
M-150	1:2:4	220		32
M-200	1:1.1/2:3	160		30
M-250	1:1:2	100		27

- 2.4. The water cement ratios shall not be more than specified in the above table. The cement content of the mix specified in the table shall be increased if the quantity of water in mix has to be met eased to overcome the difficulties of placements and compaction so that the water-cement ratio specified in the table is not exceeded.

- 2.5. Workability of the concrete shall be controlled by maintaining a water -cement-ratio that is found to give a concrete mix which is just sufficient wet to be placed and compacted without difficulty with the means available.
- 2.6. The maximum size of coarse aggregate shall be as large as possible within the limits specified but in no case greater than one forth of the minimum thickness of the member provided that the concrete can be placed without difficulty so as to surround all reinforcement thoroughly and to fill the corners of the form.
- 2.7. For reinforced concrete work; coarse aggregates having a nominal size of 20 mm. are generally considered satisfactory.
- 2.8. For heavily reinforced concrete members as in the case of ribs of main beams, the nominal maximum size of coarse aggregate should usually be restricted to 5 mm. less than the minimum clear distance between the main bar or 5 mm. less than the minimum cover to the reinforcement whichever is smaller.
- 2.9. Where the reinforcement is widely spaced as in solid slabs, limitations of size of the aggregate may not be so important, and the nominal maximum size may some times be as great as or greater than the minimum cover.
- 2.10. Admixture maybe used in concrete only with approval of Engineer-in-charge based upon the evidence that with the passage of time neither the compressive strength of concrete is reduced not are other requisite qualities of concrete and steel impaired by the use of such admixtures.

3.0. Workmanship

- 3.1. **Proportioning :** Proportioning shall be done by volume, except which shall be measured in terms of bags of 50 kg. weight, the volume of one such bag being taken as 0.0342 cu. meter Boxes of suitable size shall be used for measuring sand aggregate. The size of boxes (internal) shall be 35 x 25 cms. and 40 cms deep while measuring the aggregate and sand the boxes shall be filled without shaking ramming or hammering. The proportioning of sand shall be on the basis of its dry volume and in case of damp saner, allowances for bulk age shall be made.

3.2. Mixing :

- 3.2.1. For all work, concrete shall be mixed in a mechanical mixed which along with other accessories shall be kept in first class working condition and so maintained throughout the construction Measured quantity of aggregate, sand and cement required for each batch shall be poured into the claim of the mechanical mixer while it is continuously running. After half a minute of dry mixing measured quantity of water required for each batch of concrete mix shall be added gradually and mixing continued for another one and a half minute Mixing shall be continued till materials are uniformly distributed and uniform colour of the entire mass is obtained and each individual particle of the coarse aggregate shows complete coating of mortar containing its proportionate amount of cement. In no case shall the mixing he done for less than 2 minutes after-oil ingredients have been put into the mixer.
- 3.2.2. When hand mixing is permitted by the Engineer-in-charge for small jobs or for certain other reasons, it shall be done on the smooth watertight platform large enough to allow efficient tuning over the ingredients of concrete before and after adding water Mixing platform shall be so arranged that no foreign malarial gets mixed with concrete nor does the mixing water flow out. Cement in required number of bags shall be spread in n layer of uniform thickness on the mixing platform. Dry coarse and fine aggregate and cement shall then be mixed thoroughly be turning over to get a mixture to uniform colour. Specified quantity water shall then be added gradually through a rose can and the mass turned over till a mix of required consistency is obtained. In hand mixing quantity of cement shall be increased by 10 percent above that specified.
- 3.2.3. Mixers which haw been out of use for more than 30 minutes shall be thoroughly cleaned before putting in a new batch. Unless otherwise agreed to by the Engineer in-charge the first batch of concrete from the mixture shall contain only two thirds of normal quantity of coarse aggregate Mixing plant shall be thoroughly cleaned before changing from one type of cement to another.
- 3.2.4. The form work shall conform to the shape lines and dimensions as shown on the plans and be constructed as to remain sufficiently rigid during the placing and compacting of the concrete. Adequate arrangements shall be made by the contractor toe safe-guard against any settlement of the form-work during the course of concreting and after concreting. The form work of shuttering, centering, scaffolding, bracing etc. shall be as per design.

3.3. Clearing and Treatment of forms:

- 3.3.1 All rubbish, particularly chipping shaving and saw dust shall be removed from the interior of the form before the concrete work is placed and the-form in contact with concrete shall be cleaned and thoroughly wetted or treated. The surface shall be then coated with soap solution applied before concreting is done. Soap solution for the purpose shaft prepared by dissolving yellow soap in water to get consistency of paint. Alternatively a coat of raw linseed oil shall be applied after thoroughly cleaning the surface. Care shall be taken that the coating does not get on construction joint surface and reinforced bars.

4.0 Stripping time:

- 4.1. In normal circumstances and where ordinary cement is used forms may be struck after expire of following periods.
 - (a) Sides of walls columns and vertical faces of beams.....24 to 48 hours.
 - (b) Beam soffits, (props, left under).....7 days.
 - (c) Removal of props slabs:
 - (i) Slabs spanning up to 4.5 m.....7 days.
 - (ii) Spanning over 4.5 mm.....14 days.
 - (d) Removal of props t beams and Arches:
 - (i) Spanning up to 6 mm.....14 days.
 - (ii) Spanning over 6 m.....21 days.
- 5.0 **Procedure when removing the form work :**
- 5.1. All form work shall be removed without such shock or vibrations as would damage the reinforced concrete surface. Before the soffits form work and struts are removed, the soffits and the concrete surface shall be exposed where necessary in order to ascertain that the concrete has sufficiently hardened.
- 6.0 **Centering:**
- 6.1. The centering to be provided shall be got approved. It shall be sufficiently strong to ensure absolute safety of the form work and concrete work before, during and after pouring concrete. Watch should be kept to see that behavior or centering and form work is satisfactory during concreting. Erection should also he such that it would allow removal of forms in proper sequence without damaging either the concrete or the forms to be removed.
- 6.2. The props of centering shall be provided on firm foundation or base of sufficient strength to carry the loads without any settlement.
- 6.3. The centering and form work shall, be inspected and approved by the Engineer-in-charge before concreting. But this will not relieve the contractor of his responsibility for strength, adequacy and safety of form work and centering. If there is a failure of form work or centering, contractor shall be responsible for the damages to property.
- 7.0 **Scaffolding:**
- 7.1. All scaffolding, hoisting arrangements and ladders etc. required for the facilitating of conceding shall be provided and removed on completion of work by contractor at his own expense. The scaffolding, hoisting arrangements and ladders etc. shall be strong enough to with sand all live, dead and impact loads expected to act and shall be subject to the approval of the Engineer-in-charge. However contractor shall be solely responsible for the safety of the scaffolding, hoisting arrangement, ladders, work and workman etc.
- 7.2. The scaffolding, hoisting arrangements and ladder shall allow easy approach to the work spot and afford easy inspection.
- 7.3. The rate is applicable to all condition of working and height up to 4 mts. The rate shall include the cost of materials and labour for various operations involved such as :
 - (a) Splayed edges, notching, allowance for overlaps and passing at angles, battens centering, shuttering propping, bolting, wedging easing, striking and removal.
 - (b) Filleting to form stop chamfered edges or splayed external angles not exceeding 20 mm: width to beams, columns and the like.
 - (c) Temporary openings in the forms for pouring concrete, if required removing rubbish etc.
 - (d) Dressing with oil to prevent adhesion of concrete with shuttering and.
 - (e) Raking or circular cutting.
- 8.0 **Re-Use:**
- 8.1. Before re-use, all from shall be inspected by Engineer-in-charge and their suitability ascertained. The forms shall be scarred, cleaned and joints are gone over, repaired where required. Inside surface shall be retreated to prevent adhesion of concrete.
- 9.0. **Consistency:**
- 9.1. The degree of consistency which shall depend upon the nature of the work and methods of vibration of concrete shall be determined by regular slump tests in accordance with I.S. 1199-193. The skimp of 10 mm. to 25 mm shall be adopted when vibrators are used and 80 mm. when vibrators are not used.
- 9.2. **Inspection:**
- 9.2.1. Contractor shall give the Engineer-in-charge due notice before placing any concrete in the forms to permit him to inspect and accept the false work and forms as to their strength, alignment and general fitness but such inspection shall not relieve the contractor of his responsibility for the safely of men machinery materials and for results obtained immediately before concreting all forms shall be thoroughly cleaned.
- 9.2.2. Centering design and its erection shall be got approved from the engineer-in-charge. One carpenter with helper shall invariably be kept present throughout the period of concreting. Movement of labour and other persons shall be totally prohibited for reinforcement laid in position. For access to different parts suitable

mobile platforms shall be provided so that steel reinforcement in position is not disturbed. For ensuring proper cover, mortar blocks of suitable size shall be cast and tied to the reinforcement. Timber kapachi or metal pieces shall not be used for this purpose.

9.3. Transporting and laying:

9.3.1. The method of transporting and placing concrete shall be as approved. Concrete shall be so transported and placed that no contamination, segregation or loss of its constituent material takes place. All form work shall be cleaned and made free from standing water, dust, snow or ice immediately before placing of concrete. No concrete shall be placed in any part of the structure until the approval of the engineer-in-charge has been obtained.

9.3.2. Concreting shall proceed continuously over the area between construction joints. Fresh concrete proper contraction joint is formed. Concrete shall be compacted in its final position within 30 minutes of its discharge from the mixer. Except where otherwise agreed to by the engineer-in-charge, concrete shall be deposited in horizontal layers to a compacted depth of not more than 0.45 meter when internal vibrators are used and not exceeding 0.30 meter in all other cases.

9.3.3. Unless otherwise agreed to by the Engineer-in-charge concrete shall be dropped in to place from a height exceeding 2 meters. When trucking or chutes are used they shall be kept close and used in such a way as to avoid segregation. When concreting has to be resumed on a surface which has hardened, it shall be roughened, swept clean, thoroughly wetted and covered with a 13 mm. thick layer of mortar composed of cement and sand in the same ratio as in the concrete mix itself. This 13 mm. layer of mortar shall be freshly mixed and placed immediately before placing of new concrete. Where concrete has not fully hardened, all laitance shall be removed by scrubbing the wet surface with wire or bristle brushes, care being taken to avoid dislodgement of any particles of coarse aggregate. The surface shall then be thoroughly wetted, all free water removed and then coated with neat cement grout. The first layer of concrete to be placed on this surface shall not exceed 150 mm. in thickness and shall be well rammed against old work, particular attention being given to corners and close spots.

9.3.4. All concrete shall be compacted to produce a dense homogeneous mass with the assistance of vibrators, unless otherwise permitted by the Engineer-in-charge for exceptional cases, such as concreting under water, where vibrators cannot be used. Sufficient vibrators in serviceable condition shall be kept at site so that spare equipment is always available in the event of breakdowns. Concrete shall be judged to be compacted when the mortar fills the spaces between the coarse aggregate and begins to cream up to form an even surface. Compaction shall be completed before the initial setting starts i.e. within 30 minutes of addition of water to dry mixture. During compaction, it shall be observed that needle vibrators are not applied on reinforcement which is likely to destroy the bond between concrete and reinforcement.

9.4. Curing:

Immediately after compaction, concrete shall be protected from weather including rain, running water, shocks, vibration, traffic, rapid temperature changes, frost and drying out process. It shall be covered with wet sacking or jute or other similar absorbent material approved, soon after the initial set, and shall be kept continuously wet for a period of not less than 14 days from the date of placement. Masonry work over foundation concrete may be started after 48 hours of its laying but curing of concrete shall be continued for a minimum period of 14 days.

9.5. Sampling and testing of concrete:

9.5.1. Samples from fresh concrete shall be taken as per I.S. 1199-1959 and cubes shall be made, cured and tested at 7 days and 28 days as per requirements in accordance with I.S. 526-1959. A random sampling procedure shall be adopted to ensure that each concrete batch shall have a reasonable chance of being tested i.e. the sampling should be spread over the entire period of concreting and cover all mixing units. The minimum frequency of sampling of concrete of each grade shall be in accordance with following :

Quantity of concrete in the work	No of samples	Quantity of concrete in the works	No of samples
1 - 5 Cmt.	1	16-30 Cmt.	3
6 - 15 Cmt.	2	31-50 Cmt.	4
51 and above	4± one additional for each additional 50 mm. or part thereof.		

Note : At least one sample shall be taken from each shift, Ten test specimens shall be made from each sample, five for testing at 7 days and the remaining five at 28 days. The samples of concrete shall be taken on each day of concreting as per above frequency. The number of specimens may be suitably increased as deemed necessary by the Engineer-in-charge when procedure of tests given above reveals a poor quality of concrete and in other special cases.

9.5.2. The average of the group of cubes cast for each day shall not be less than the specified cube strength of 150 K/g Cm² at 28 days. 20% of the cubes cast for each day may have value less than the specified strength provided the lowest value is not less than 85% of the specified strength. If the concrete made in accordance with the proportions given for a particular grade does not yield the specified strength, such concrete shall be classified as belonging to the appropriate lower grade. Concrete made in accordance with the Proportions given for a particular grade shall not, however be placed in a higher grade on the ground that the test strength are higher than the minimum specified.

9.6. Stripping :

9.6.1. The Engineer-in-charge shall be informed in advance by the contractor of his intention to strike the form work. While fixing the time of removal of form work, due consideration shall be given to local conditions, character of the structure, the weather and other conditions that influence the setting of concrete and of the materials used in the mix. In normal circumstances (generally where temperatures are above 20.C) and where ordinary concrete is used, forms may be struck after expire or periods specified in item No.9.1 (A) for respective item of form work.

9.6.2. All form work shall be removed without causing any shock or vibration as would damage the concrete. Before the soft and struts are removed, the concrete surface shall be gradually exposed, where necessary in order to ascertain that concrete has sufficiently hardened. Centering shall be gradually and uniformly lowered in such a manner as to permit the concrete to take stresses due to its own weight uniformly and gradually. Where internal metal tiles are permitted, they or their removable parts shall be extracted without causing any damage to the concrete and remaining holes filled with mortar. No permanently embedded metal part shall have less than 25 mm. cover to the finished concrete surface. Where it is intended to re-use the form work, it shall be cleaned and made good to the satisfaction of the Engineer-in-charge. After removal of form work and shutting, the Executive Engineer shall inspect the work and satisfy by random checks that concrete produced is of good quality.

9.6.3. Immediately after the removal of forms, all exposed bolts etc. passing through the cement concrete member and used for shuttering or any other purpose shall be cut inside the cement concrete member to a depth of at least 25 mm. below the surface of the concrete and the resulting holes be filled by cement mortar, all fins, caused by form joints, all cavities produced by the removal of form tiles and all other holes and depressions, honeycomb spots, broken edges or corners and other defects, shall be thoroughly cleaned, saturated with water and carefully pointed and rendered true with mortar of cement and fine aggregate mixed in proportions used in the grade of concrete that is being furnished and of as dry consistency as is possible to use. Considerable pressure shall be applied in filling and pointing to ensure thorough filling in all voids. Surface which are pointed shall be kept moist for a period of 24 hours. If rock pockets/honeycombs in the opinion of the Engineer-in-charge are of such an extent or character as to effect the strength of the structure materially or to endanger the life of the steel reinforcement, he may declare the concrete defective and require the removal and replacement of the portions of structure affected.

10.0. Mode of Measurement & Payment

10.1. The consolidated cubical contents of concrete work as specified in item shall be measured. No deduction shall be made for

(a) Ends of dissimilar materials such as joints, beams, posts, girders, girders, purling trusses, corbels and steps etc. up to 500 Sq. Cm. in section.

10.2. Form work shall be measured as the area in square meters to shuttering in contact with concrete except in the case of inclined member and portion of curved profile and upper side in which case on area of underside shall be measured for payment.

10.3. Form work to secondary beams shall be measured up to the sides of main beams but no deduction shall be made from the form work of the main beam at the inter section point. No deduction shall be made from the form work of a column at inter section of beams.

10.4. The rate includes cost of all materials labour, tools and plant required for mixing, placing in position, vibrating and compacting, finishing, as directed, curing and all other incidental expenses for producing concrete of specified strength. The rate includes the cost of form work.

10.5. the size of the stone aggregate shall be 10 mm nominal size and the concrete work shall be carried out in 25 mm. thick damp proof course

10.6. The rate shall be for a unit of **oneSq. meter.**

ITEM NO 28 Extra for brick work in superstructure above plinth level upto floor two level (B) Conventional

Materials

1.1. Water shall conform to M-1. Cement shall conform to M-3. Sand shall conform to M-6. Grit shall conform to M-8. Graded stone aggregate 20 mm nominal size shall conform to M-12.

(a) The bars shall be kept in position by the following methods :

(i) In case of beam and slab construction, sufficient number of precast cover blocks in cement mortar 1:2 (1 cement : 2 coarse sand) about 4 cms. x 4 cms. section and of thickness equal to the specified cover shall be placed between the bars and shattering as to secure and maintain the requisite cover of concrete over the reinforcement. In case of cantilevered or doubly reinforce beams or slabs, the main reinforcing bars shall be held in position by introducing chain spacers or supports bars at 1.0 to 1.2 meter centers.

1.2. All bars projecting from pillars, columns, beams, slabs etc, to which other bars and concrete are to be attached or bounded to later on, shall be protected with a coat of thin neat cement grout, if the bars are not likely to be incorporated with succeeding mass of concrete within the following 10 days. This coat of thin neat cement shall be removed before concreting.

1.3. The shuttering to be provided shall be of ordinary timber plank and shall conform to M-26.

1.4. The dimensions of scantlings and battens shall conform to the design. The strength of the wood shall not be less than that assumed in the design.

2.0. General

2.1. The concrete mix is not required to be designed by preliminary testes. The proportion of the concrete mix shall be 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm. nominal size) by volume concrete work shall have exposed concrete surface or as specified in the item.

2.2. The designation ordinary M-100, M-150, M-200, M-250 specified as per I.S. corresponds approximately to 1:3:6, 1:2:4, 1:1.1/2:3 and 1:1:2 nominal mix of ordinary concrete by volume respectively.

2.3. The ingredients required for ordinary concrete containing one bag of cement of 50 kg. by weight (0.0342 Cu.M.) for different proportions of mix shall be as under:

TABLE

Grade of concrete	Mix by volume	Total quantity of dry aggregates by volume per 50 kg. cement to be taken as sum aggregate of the individual volumes of fine & coarse aggregates, maximum	Proportion of fine aggregate to coarse aggregate	Quantity of water per 50 kg. of cement max.
(1 cubic metre : 1000 Liters)				
1	2	3	4	5
Ordinary	Liters			Liters
M-100	1:3:6	300	Generally 1:2 for fine aggregate to Coarse aggregate by volume but subject to a upper limit of 1:1.1/1 & a lower limit of 1:3.	34
M-150	1:2:4	220		32
M-200	1:1.1/2:3	160		30
M-250	1:1:2	100		27

2.4. The water cement ratios shall not be more than specified in the above table. The cement content of the mix specified in the table shall be increased if the quantity of water in mix has to be met eased to overcome the difficulties of placements and compaction so that the water-cement ratio specified in the table is not exceeded.

2.5. Workability of the concrete shall be controlled by maintaining a water -cement-ratio that is found to give a concrete mix which is just sufficient wet to be placed and compacted without difficulty with the means available.

- 2.6. The maximum size of coarse aggregate shall be as large as possible within the limits specified but in no case greater than one fourth of the minimum thickness of the member provided that the concrete can be placed without difficulty so as to surround all reinforcement thoroughly and to fill the corners of the form.
- 2.7. For reinforced concrete work; coarse aggregates having a nominal size of 20 mm. are generally considered satisfactory.
- 2.8. For heavily reinforced concrete members as in the case of ribs of main beams, the nominal maximum size of coarse aggregate should usually be restricted to 5 mm. less than the minimum clear distance between the main bar or 5 mm. less than the minimum cover to the reinforcement whichever is smaller.
- 2.9. Where the reinforcement is widely spaced as in solid slabs, limitations of size of the aggregate may not be so important, and the nominal maximum size may some times be as great as or greater than the minimum cover.
- 2.10. Admixture maybe used in concrete only with approval of Engineer-in-charge based upon the evidence that with the passage of time neither the compressive strength of concrete is reduced nor are other requisite qualities of concrete and steel impaired by the use of such admixtures.

3.0. Workmanship

- 3.1. **Proportioning :** Proportioning shall be done by volume, except which shall be measured in terms of bags of 50 kg. weight, the volume of one such bag being taken as 0.0342 cu. meter Boxes of suitable size shall be used for measuring sand aggregate. The size of boxes (internal) shall be 35 x 25 cms. and 40 cms deep while measuring the aggregate and sand the boxes shall be filled without shaking ramming or hammering. The proportioning of sand shall be on the basis of its dry volume and in case of damp sand, allowances for bulkage shall be made.

3.2. Mixing :

- 3.2.1. For all work, concrete shall be mixed in a mechanical mixer which along with other accessories shall be kept in first class working condition and so maintained throughout the construction Measured quantity of aggregate, sand and cement required for each batch shall be poured into the claim of the mechanical mixer while it is continuously running. After half a minute of dry mixing measured quantity of water required for each batch of concrete mix shall be added gradually and mixing continued for another one and a half minute Mixing shall be continued till materials are uniformly distributed and uniform colour of the entire mass is obtained and each individual particle of the coarse aggregate shows complete coating of mortar containing its proportionate amount of cement. In no case shall the mixing be done for less than 2 minutes after all ingredients have been put into the mixer.
- 3.2.2. When hand mixing is permitted by the Engineer-in-charge for small jobs or for certain other reasons, it shall be done on the smooth watertight platform large enough to allow efficient turning over the ingredients of concrete before and after adding water Mixing platform shall be so arranged that no foreign material gets mixed with concrete nor does the mixing water flow out. Cement in required number of bags shall be spread in a layer of uniform thickness on the mixing platform. Dry coarse and fine aggregate and cement shall then be mixed thoroughly by turning over to get a mixture of uniform colour. Specified quantity water shall then be added gradually through a rose can and the mass turned over till a mix of required consistency is obtained. In hand mixing quantity of cement shall be increased by 10 percent above that specified.
- 3.2.3. Mixers which have been out of use for more than 30 minutes shall be thoroughly cleaned before putting in a new batch. Unless otherwise agreed to by the Engineer in-charge the first batch of concrete from the mixture shall contain only two thirds of normal quantity of coarse aggregate Mixing plant shall be thoroughly cleaned before changing from one type of cement to another.
- 3.2.4. The form work shall conform to the shape lines and dimensions as shown on the plans and be constructed as to remain sufficiently rigid during the placing and compacting of the concrete. Adequate arrangements shall be made by the contractor to safeguard against any settlement of the form-work during the course of concreting and after concreting. The form work of shuttering, centering, scaffolding, bracing etc. shall be as per design.

3.3. Clearing and Treatment of forms:

- 3.3.1 All rubbish, particularly chipping shaving and saw dust shall be removed from the interior of the form before the concrete work is placed and the form in contact with concrete shall be cleaned and thoroughly wetted or treated. The surface shall be then coated with soap solution applied before concreting is done. Soap solution for the purpose shall be prepared by dissolving yellow soap in water to get consistency of paint. Alternatively a coat of raw linseed oil shall be applied after thoroughly cleaning the surface. Care shall be taken that the coating does not get on construction joint surface and reinforced bars.

4.0 Stripping time:

- 4.1. In normal circumstances and where ordinary cement is used forms may be struck after expiry of following periods.
 - (a) Sides of walls columns and vertical faces of beams.....24 to 48 hours.

- (b) Beam soffits, (props, left under).....7 days.
- (c) Removal of props slabs:
 - (i) Slabs spanning up to 4.5. m.....7 days.
 - (ii) Spanning over 4.5 mm.....14 days.
- (d) Removal of props t beams and Arches:
 - (i) Spanning up to 6 mm.....14 days.
 - (ii) Spanning over 6 m.....21 days.
- 5.0 Procedure when removing the form work :**
- 5.1.** All form work shall be removed without such shock or vibrations as would damage the reinforced concrete surface. Before the soffits form work and struts are removed, the soffits and the concrete surface shall be exposed where necessary in order to ascertain that the concrete has sufficiently hardened.
- 6.0 Centering:**
- 6.1.** The centering to be provided shall be got approved. It shall be sufficiently strong to ensure absolute safety of the form work and concrete work before, during and after pouring concrete. Watch should be kept to see that behavior or centering and form work is satisfactory during concreting. Erection should also be such that it would allow removal of forms in proper sequence without damaging either the concrete or the forms to be removed.
- 6.2.** The props of centering shall be provided on firm foundation or base of sufficient strength to carry the loads without any settlement.
- 6.3.** The centering and form work shall, be inspected and approved by the Engineer-in-charge before concreting. But this will not relieve the contractor of his responsibility for strength, adequacy and safety of form work and centering. If there is a failure of form work or centering, contractor shall be responsible for the damages to property.
- 7.0 Scaffolding:**
- 7.1.** All scaffolding, hoisting arrangements and ladders etc. required for the facilitating of concreting shall be provided and removed on completion of work by contractor at his own expense. The scaffolding, hoisting arrangements and ladders etc. shall be strong enough to withstand all live, dead and impact loads expected to act and shall be subject to the approval of the Engineer-in-charge. However contractor shall be solely responsible for the safety of the scaffolding, hoisting arrangement, ladders, work and workman etc.
- 7.2.** The scaffolding, hoisting arrangements and ladder shall allow easy approach to the work spot and afford easy inspection.
- 7.3.** The rate is applicable to all condition of working and height up to 4 mts. The rate shall include the cost of materials and labour for various operations involved such as :
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 - (b) Filleting to form stop chamfered edges or splayed external angles not exceeding 20 mm: width to beams, columns and the like.
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 - (d) Dressing with oil to prevent adhesion of concrete with shuttering and.
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- 8.0 Re-Use:**
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- 9.2. Inspection:**
- 9.2.1.** Contractor shall give the Engineer-in-charge due notice before placing any concrete in the forms to permit him to inspect and accept the form work and forms as to their strength, alignment and general fitness but such inspection shall not relieve the contractor of his responsibility for the safety of men machinery materials and for results obtained immediately before concreting all forms shall be thoroughly cleaned.
- 9.2.2.** Centering design and its erection shall be got approved from the engineer-in-charge. One carpenter with helper shall invariably be kept present throughout the period of concreting. Movement of labour and other persons shall be totally prohibited for reinforcement laid in position. For access to different parts suitable mobile platforms shall be provided so that steel reinforcement in position is not disturbed. For ensuring proper cover, mortar blocks of suitable size shall be cast and tied to the reinforcement. Timber kapachi or metal pieces shall not be used for this purpose.

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9.5. Sampling and testing of concrete:

- 9.5.1.** Samples from fresh concrete shall be taken as per I.S. 1199-1959 and cubes shall be made, cured and tested at 7 days and 28 days as per requirements in accordance with I.S. 526-1959. A random sampling procedure shall be adopted to ensure that each concrete batch shall have a reasonable chance of being tested i.e. the sampling should be spread over the entire period of concreting and cover all mixing units. The minimum frequency of sampling of concrete of each grade shall be in accordance with following :

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Note : At least one sample shall be taken from each shift, Ten test specimens shall be made from each sample, five for testing at 7 days and the remaining five at 28 days. The samples of concrete shall be taken on each day of concreting as per above frequency. The number of specimens may be suitably increased as deemed

necessary by the Engineer-in-charge when procedure of tests given above reveals a poor quality of concrete and in other special cases.

- 9.5.2.** The average of the group of cubes cast for each day shall not be less than the specified cube strength of 150 K/g Cm² at 28 days. 20% of the cubes cast for each day may have value less than the specified strength provided the lowest value is not less than 85% of the specified strength. If the concrete made in accordance with the proportions given for a particular grade does not yield the specified strength, such concrete shall be classified as belonging to the appropriate lower grade. Concrete made in accordance with the Proportions given for a particular grade shall not, however be placed in a higher grade on the ground that the test strength are higher than the minimum specified.

9.6. Stripping :

- 9.6.1.** The Engineer-in-charge shall be informed in advance by the contractor of his intention to strike the form work. While fixing the time of removal of form work, due consideration shall be given to local conditions, character of the structure, the weather and other conditions that influence the setting of concrete and of the materials used in the mix. In normal circumstances (generally where temperatures are above 20°C) and where ordinary concrete is used, forms may be struck after periods specified in item No.9.1 (A) for respective item of form work.
- 9.6.2.** All form work shall be removed without causing any shock or vibration as would damage the concrete. Before the soft and struts are removed, the concrete surface shall be gradually exposed, where necessary in order to ascertain that concrete has sufficiently hardened. Centering shall be gradually and uniformly lowered in such a manner as to permit the concrete to take stresses due to its own weight uniformly and gradually. Where internal metal tiles are permitted, they or their removable parts shall be extracted without causing any damage to the concrete and remaining holes filled with mortar. No permanently embedded metal part shall have less than 25 mm. cover to the finished concrete surface. Where it is intended to re-use the form work, it shall be cleaned and made good to the satisfaction of the Engineer-in-charge. After removal of form work and shutting, the Executive Engineer shall inspect the work and satisfy by random checks that concrete produced is of good quality.
- 9.6.3.** Immediately after the removal of forms, all exposed bolts etc. passing through the cement concrete member and used for shuttering or any other purpose shall be cut inside the cement concrete member to a depth of at least 25 mm. below the surface of the concrete and the resulting holes be filled by cement mortar, all fins, caused by form joints, all cavities produced by the removal of form tiles and all other holes and depressions, honeycomb spots, broken edges or corners and other defects, shall be thoroughly cleaned, saturated with water and carefully pointed and rendered true with mortar of cement and fine aggregate mixed in proportions used in the grade of concrete that is being furnished and of as dry consistency as is possible to use. Considerable pressure shall be applied in filling and pointing to ensure thorough filling in all voids. Surface which are pointed shall be kept moist for a period of 24 hours. If rock pockets/honeycombs in the opinion of the Engineer-in-charge are of such an extent or character as to effect the strength of the structure materially or to endanger the life of the steel reinforcement, he may declare the concrete defective and require the removal and replacement of the portions of structure affected.

10.0. Mode of Measurement & Payment

- 10.1.** The consolidated cubical contents of concrete work as specified in item shall be measured. No deduction shall be made for
- (a) Ends of dissimilar materials such as joints, beams, posts, girders, girders, purling trusses, corbels and steps etc. up to 500 Sq. Cm. in section.
- 10.2.** Form work shall be measured as the area in square meters to shuttering in contact with concrete except in the case of inclined member and portion of curved profile and upper side in which case on area of underside shall be measured for payment.
- 10.3.** Form work to secondary beams shall be measured up to the sides of main beams but no deduction shall be made from the form work of the main beam at the inter section point. No deduction shall be made from the form work of a column at inter section of beams.
- 10.4.** The rate includes cost of all materials labour, tools and plant required for mixing, placing in position, vibrating and compacting, finishing, as directed, curing and all other incidental expenses for producing concrete of specified strength. The rate includes the cost of form work.
- 10.5.** the size of the stone aggregate shall be 10 mm nominal size and the concrete work shall be carried out in 25 mm. thick damp proof course

10.6. The rate shall be for a unit of **oneSq. meter.**

ITEM NO 29 (i) Half brick masonry in common burnt clay building bricks having crushing strength not less than 35 Kg/Sq.Cm. in Cement mortar 1:4 (1-Cement : 4 -coarse sand) in foundation and plinth (B) Conventional

Materials

Bricks shall conform to M-15. Water shall conform to M-1. Cement shall conform to M-3. Sand shall conform to M-6. Cement mortar shall conform to M-11.

2.0. Workmanship

- 2.1.** Relevant specifications of bricks, wetting and laying of bricks, joints, curing etc shall conform to **Item No. 7** except that the brick work of half brick shall be carried out.
- 2.2.** Cement mortar used in masonry work shall be in proportion of 1 part of cement and 4 parts of coarse sand by volume.
- 2.3.** All bricks shall be laid stretcher wise, breaking joints with those in the upper and lower courses. The wall shall be taken truly plumb. All courses shall be said truly horizontal and all vertical joints shall be truly vertical. The bricks shall be laid with frogs upwards. A set of masons tools shall be maintained on work as required for frequent checking. After every three course 2 nos. of 6mm mild steel round bars shall be embedded in cement mortar.

3.0. Mode of measurement and payment

- 3.1.** The half brick masonry work in [superstructure](#) shall be measured under this item the limiting dimensions shall not exceed those shown in the plan or as directed. Any work done extra over the specified dimensions shall be ignored.
- 3.2.** The relevant specifications of **Item No. 7** shall be followed. The length shall be measured nearest to one cm.
- 3.3.** The rate includes the cost of providing 2 nos. of 7mm dia. mild steel round bars after every 4th course.
- 3.4.** The rate shall be for a unit of one sq. meter.

ITEM NO 30 Providing and laying controlled cement concrete M.200 and curing complete excluding the cost of formwork and reinforcement for reinforced concrete work in (C) Slabs, landing, shelves, Balconies, Lintels, Beams, Girders and Cantilever upto floor two level.

- 1. In case of ordinary concrete mix not required to be designed by preliminary tests and proportions of cement fine aggr. and coarse aggr. are specified by volume as given in table below for different four grades designated as ordinary M 100 M 150 M 200 and M 250
- 2. In the designation of a concrete mix letter M refers to the mix and the numbers to the specified 28 days works cube compressive strength of that mix on 150 mm cubes expressed in Kg/ cm
- 3. The ordinary concrete mix shall generally be specified by volume. For cement which normally comes in bags and is used by weight volume shall be worked out taking 50 Kg. of cement as 0.035 cubic metre in volume while measuring aggre. by volume shaking ramming or hammering shall not be done

proportioning of sand be s per its dry. volume in case it is damp allowance for bulking shall be made as per IS 2386 (Part III)

4. In gradients required for ordinary concrete containing one 50 Kg bag of cement for different proportions of mix shall be as given in the Table below.

Grade of Concrete	Mix by Volume	Total quantity of dry aggregate by volume per 50 Kg cement to be taken as sum of individual volume of line % coarse aggregate maximum (1 cubic metre = 100 Litres)	Proportions of fine aggregate to coarse aggregate	Quantity of water per 50 Kg of cement maximum
Ordinary M 200	1:3:6	300	Generally 1:2 for fine aggr. to coarse aggr. by volume but to a upper limit of 1:1:5 and lower limit of 1:3	34
Ordinary M 150	1:2:4	220		32
Ordinary M 200	1:1:5:3	160		30
Ordinary M 250	1:1:2	100		27

5. Following shall be the maximum nominal size of coarse aggr. for the different items of work.

- | | | | |
|------|---|----|----|
| i. | Plain C.C. | 60 | mm |
| ii. | Solid type piers abutments and Wing walls and their per caps
(Coarse aggregate of size up to 40 mm shall be machine crushed) | 40 | mm |
| iii. | C.C. wearing coat M - 150
(Coarse aggre. of size up to 40 mm shall be machine crushed) | 20 | mm |

6. Fine aggregate shall be clean hard coarse sand. It shall be free from the dust and such other substance. The sand shall be got approved by the Engineer in charge.

7. All materials shall be stored as to prevent their deterioration or intrusion of their quality and fitness for the work. Any materials which has deteriorated or has been damaged or is otherwise considered defective by the Engineer in charge shall not be used in the work.

8. Cement shall be stored above the ground level in perfectly dry and watertight sheds and shall be stocked not more than eight bags high. Wherever bulk storage containers are used. their capacity should be sufficient to cater to the requirements at site and should be cleaned at least once every 3 to 4 months. Cement more than 3 to 4 month old shall incariably be tasted to ascertain that it satisfies the acceptability requirements. The aggregate shall be stored in such a way as to prevent admixture or foreign materials. Different sizes of fine or coarse aggr. shall be stored in separate stock piles sufficiently remover from each other to prevent intermixing the materials at edges of the pipes.

9. The water for mixing shall be potable water to the satisfaction of the Engineer in charge. The quantity or water shall be just sufficient to produce a dense concrete of required workability for the job.

10. For all work concrete shall be mixed in a mechanical mixer along with other accessories shall be kept in first class working condition and so maintained throughout the Construction. Mixing shall be continued till materials are uniformly distributed and an uniform colour of the entire mass is obtained and each individual particles of the coarse aggre. shows complete coating of mortar constraining its proportionate amount of cement in on case shall the mixing be done for less than 2 minutes after all ingredients have been put in to the mixer.

11. When hand mixing is permitted by the Engineer in charge for snall jobs or for certain other reasons it shall be done on a smooth watertight platform shall be so arranged that no foreign materials shall get mixed with concrete nor does the mixing water flow out. Cement in required number of bags shall be placed in a uniform layer on top of the measured quantity of fine and coarse aggre. which shall also be spread in a layer of uniform thickness on the mixing platform Dry. coarse and fine agge. and cement then shall be mixed thoroughly by turning over to mass turned over till a mix of required consistency is obtained. In hand mixing quantity of cement shall be increased by 10 percent above that specified.

12. Mixers which have been out of use for more than 30 minutes shall be thoroughly cleaned before putting in a new batch. Unless otherwise agreed to by Engineer in charge the first batch concrete from the mixer shall contain only two third of normal quantity of course aggregate Mixing plants shall be thoroughly cleaned before changing from one type of cement to another.

13. The method of transported and placing concrete shall be approved by the Engineer in charge concrete shall be so transported and placed that no contamination segregation or loss of its constituent material takes place. all from work and reinforcement contained on it shall be cleaned and made free standing water dust snow or ice immediately before placing of concrete No concrete shall be placed in any part of the structure until approval of the of the Engineer in charge has been obtained.

14. If concreting is not started within 24 hours of the appovalbeing given it shall have to be obtained against from the Engineer in charge. Concreting than shall proceed continuously over the area between construction joints. Fresh concrete shall not be placed against concrete shall be compacted in its final for more than 30 minutes unless a proper construction joint is formed. Concrete shall be compacted in its final position within 30 minutes of its discharge from the mixer unless carried in properly designed agitators operating continuously when this time shall be within 2 hr. of the addition of cement to the mix and within 30 minutes of its discharge from the agitator. Except where otherwise agreed to by the Engineer in charge concrete shall be disposed in horizontal layer to a compacted depth of not more than 0.45 metre when internal vibrators are used and not exceeding 0.30 metre in all other cases.

15. Unless otherwise agreed to by the Engineer in charge concrete shall not be dropped into place from a height exceeding 2 metres. when trucking or chutes are usedthey shall be kept clean and used in such way as to avoid segregation. When concreting has to be resumed on a surface which has hardened it shall be roughened swept clean thoroughly wated and cleaned with a 13 mm thick layer of mortar composed of cement and sand immediately before placing of new concrete. Where concrete has not fully hardened. all laitance shall be removed by scrubbing before placing of new concrete. where concrete has not fully care being taken to avoid dislodgement of particulars of coarse aggre. The surface shall then be thoroughly wetted all free water removed and then coated with neat cement grout. The first layer of concrete to be placed on this surface shall not exceed 150 mm in thickness and shall be well rammed against old work particular attention beigt given to corners and close spots.

16. All concrete shall be compacted to produce a dense homogeneous mass with the assistance of vibrators unless otherwise permitted by the Engineer in charge for exceptional cases such as concreting under water where vibrator cannot be used sufficient vibrators in serviceable condition shall be kept at site so that spare equipment is always available in the event of break downs.

17. Immediately after compaction concrete shall be protected against harmful effects of weather including rain running water shocks vibrations due to traffic rapid temperature changes fast drying process it shall be covered with wet sacking hessian or other similar absorbent materials approved by the engineer in charge soon after the initial set. It shall be kept continuously wet for a period of not less than 14 days from the date of placement. Masonry work over the foundation concrete may be started after 48 hours of its laying but the curing of concrete shall be continued for a minimum period of 14 days.

18. Form Work shall include all temporary or permanent forms required for forming the concrete together with all temporary construction required for their support. Forms for concrete shall be constructed of metal or timber suitably lined and be of substantial and rigid construction true to shape and dimensions shown on the drawings. Where metal forms are used all bolts and rivets shall be countersunk and set into ground to provide a smooth plain surface. Where timber is used shall be well seasoned free from knots projection nails splits or other defects that may mark the cement surface of concrete. For exposed concrete faces timber for shuttering shall be wrought on all faces in contact with concrete.

19. Forms shall be made mortar tight and shall be made sufficiently rigid by the use of ties and bracings to prevent any displacement or sagging between supports. They shall be strong enough to withstand all pressure ramming and vibration without deflection from the prescribed lines occurring during and after placing the concrete. Screw jacks or hardwood wedges where required shall be provided to make up any settlement in the form work either before or during the placing of concrete. Suitable camber shall be provided in horizontal members of surface specially in long spans to counteract the effects of any deflection. The frame work shall be so fixed as to provide for such camber. Forms shall be so constructed as to be removable in sections in the desired sequence without damaging the surface of concrete or disturbing other sections. Unless otherwise specified of directed chamfers or fillets of size 25 mm x 25 mm shall be provided at all angles of frame work to avoid sharp corners.

20. Works strength tests shall be made in accordance with IS : 516 Each test shall be conducted on ten specimens five of which shall be tested at seven days and the remaining five at 28 days. The samples of concrete shall be taken on each day of concreting and cubes shall be made at the rate of one for every 5 cubic metre of concrete or as part thereof. However, if concreting done in a day is less than 15 cubic meter the minimum number of cubes can be reduced to 6 with the specific permission of the Engineer-in-charge. Similar works tests shall be carried out whenever the quality and grading of suitable increased as deemed necessary by the Engineer-in-charges when procedure of tests given above reveal a poor quality of concrete and in other special cases.

21. The average strength of the group of cubes cast for each day shall not be less than the specified works cube-strength. 20 percent of the cubes for each day may have values less than the specified strength, providing the lowest value is not less than 85 percent of the specified strength.

22. R.C.C. work shall have exposed concrete surface. Centering design and its erection shall be approved by the Engineer-in-charge. One carpenter with helper will invariably be kept present throughout the period of concreting. Movement of labour and other persons shall be totally prohibited over reinforcement laid in position. For access to different parts suitable platforms shall be provided so that steel reinforcement in position is not disturbed. For ensuring proper cover mortar blocks of suitable size shall be cast and tied to the reinforcement. Timber, kaptchi or metal plates shall not be used for this purpose. Concreting of important structural members shall always be done in the presence and under the supervision of departmental person not below the rank of Asst. Engineer/ Add. Asst. Engineer Overseer or as instructed by the Engineer in charge. After removal of form work checks that concrete produced is of good quality plastering shall not be allowed to the exposed faces of concrete.

23. In reinforced concrete the volume occupied by reinforcement shall not be deducted. The slab shall be measured as running continuously and the beam as the portion below the slab.

24. All necessary labour materials, equipment etc. for sampling preparing test cubes curing etc. shall be provided by the concretor. Testing of the materials and concrete may be arranged by the Engineer-in-charge in an approved laboratory at the cost of the contractor.

25. The payment will be made on cmt basis of the finished work.

26. The unit rate for concrete shall include of all materials labour tools and plants required for mixing placing in positions vibreting and compacting finishing as per direction of the Engineer in Charge curing and all other incidental expenses for producing concrete of specified strength to complete the structure or its components as shown in the drawings and according to these specifications. The rate shall also include the cost of making fixing and removing of all centering and forms required for the work centering

ITEM NO 31 Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. Height of propping and centering below supporting floor to ceiling not exceeding 4 M.and removal of the same for in situ reinforced concrete and plain concrete work in. (B) Flat surfaces such as soffits of supspened floors slabs Landings and the like. (1) Floors etc. upto 200 mm in thickness.

1.0. Materials:

1.1.The shuttering to be provided shall be of ordinary timber planks and shall conform to M-26.

1.2.The dimensions of scantlings and battens shall conform to the design. The strength of the wood shall not be less than that assumed in the design.

2.0. Workmanship : 2.1. The form work shall conform to the shapee lines and dimension as shown on the plans and be so constructed as to remain sufficiently rigid during the placing and compacting of the concrete. Adequate arrangements shall be made by the contractor to safe-guard against any settlement of the form work during the course of concreting and after concreting. The form work of shuttering, centering, scaffolding bracing etc. shall be as per design.

2.2.Cleaning & Treatment of forms: 2.2.1. All rubbish, particularly chippings shaving and saw dust shall be removed from the interior of the form before the concrete is placed and the form work in contact with concrete shall be cleaned and thoroughly welted or treated. The surface shall be then coaled with soap solution applied before concreting is done. Soap solution for the purpose shall be prepared by dissolving yellow soap in water to get consistency of paint. Alternatively a coat of raw linseed oil or form oil of approved manufacture may be applied in case steel shuttering is used. Soap solution or raw linseed oil shall be applied after thoroughly cleaning the surface. Care shall be taken that the coaling does not gel on construction joint surface and reinforcement bars.

2.3.Stripping time : 2.3.1. In normal circumstances and where ordinary cement is used forms may be struck after expiry of following periods.:

(a)Sikes of walls columns and vertical faces of beam - 24 to 48 hours.

(b)Beam soffits. (Props left under) - 7 days.

(c)Removal of props slabs

(i) Slabs spanning upto 4.5 m. - 7 days (ii) Spanning over 4.5 mm. -14 days.

(d) Removal of props to beams and Arches

(i) Spanning upto 6m.-14 days. (ii) Spanning over 6 m. - 2 days.

2.4.Procedure when removing the form work : 2.4.1. All form work shall be removed without such shock or vibrations as would damage the reinforced concrete surface. Before the soffit form work and struts are removed, the soffits and the concrete surface shall be exposed where necessary in order to ascertain that the concrete has sufficiently hardened.

2.5.Centering : 2.5.1. The centering to be provided shall be got approved. It shall be sufficiently strong to ensure absolute safety of the form work and concrete work before, during and after pouring concrete. Watch should be kept to see that behaviour of centering and form work is satisfactory during concreting. Erection should also be such that it would allow removal of forms in proper sequence without damaging either the concrete or the forms to be removed.

2.5.2.The props of centering shall be provided on firm foundation or base of sufficient strength to carry the loads without any settlement.

2.5.3.The centering and form work shall be inspected and approved by the Engineer- in-charge before concreting. But this

will not relieve the contractor of his responsibility for strength, adequacy and safety of form work and centering. If there is a failure of form work or centering, contractor shall be responsible for the damages to the work, injury to life and damage to property.

2.6. Scaffolding:

2.6.1.All scaffolding, hoisting arrangements and ladders etc. required for the facilitating of concreting shall be provided and removed on completion work by contractor at his own expense. The scaffolding, hoisting arrangements and ladders etc. shall be strong enough to withstand all live, dead and impact loads expected to act and shall be subject to the approval of the Engineer-in-charge. However, contractor shall be solely responsible for the safety of the scaffolding, hoisting arrangement, ladders, work and workman etc.

2.6.2.The scaffolding, hoisting arrangements and ladders shall allow easy approach to the work spot and afford easy inspection.

2.6.3.The rate is applicable to all conditions of working and height upto 4 mts. The rate shall include the cost of materials and labour for various operations involved such as :

(a)Splayed edges, notching, allowance for overlaps and passing at angles, battens centering, shuttering, strutting, propping

bolting, nailing, wedging, easing, striking and removal.

(b)Filleting to form stop chamfered edges or splayed external angles not exceeding 20 mm. width to beams, columns and the like.

(c)Temporary openings in the forms for pouring concrete, if required, removing rubbish etc.

(d)Dressing with oil to prevent adhesion of concrete with shuttering and

(e)Raking or circular culling.

ITEM NO 32 Providing H.Y.S.D. Bar reinforcement for R.C.C. work including bending, binding and placing in position complete upto floor two level

Specification for this item shall conform to item no. 5.4.11,

P. 37 of General Technical Specifications for building work except that the thermo mechanically treated bars (TMT) shall be used instead of H.Y.S.D. bars for all floors.

TMT bar shall conform to IS 1786/FC 415 for R.C.C. work. It shall be purchased from approved manufacturer and necessary proof of purchase shall be submitted. Bars shall be

tested in Govt. or Govt. approved laboratory before use. All necessary tests shall be carried out as per instruction of engineer in charge.

415 TMT bar shall conform to min 415 Mpa yield strength. Tensile strength of min 600 Mpa and elongation percentage min 22. The chemical composition of bars shall be as below.

	<i>% Max.</i>
<i>Carbon</i>	<i>0.25</i>
<i>Sulphur</i>	<i>0.05</i>
<i>Phosphorus</i>	<i>0.05</i>
<i>Sulphur and</i>	<i>0.01</i>
<i>Phosphorus</i>	

Rate shall be for a unit of one kg

2.0. Workmanship :

2.1. The work shall consist of furnishing and placing reinforcement to the shape and dimensions shown as on the drawings or as directed.

2.2. Steel shall be clean and free from rust and loose mill scale at the time of fixing in position and subsequent concreting.

2.3. Reinforcing steel shall conform accurately to the dimensions given in the bar bending schedules shown on relevant drawings. Bars shall be bent cold to specified shape and dimensions or as directed using a proper bar bender, operated by hand or power to attain proper radius of bends. Bars shall not be bent or straightened in a manner that will injure the material. Bars bent during transport or handling shall be straightened before being used on the work. They shall not be heated to facilitate bending. Unless otherwise specified, a 'U' type hook at the end of each bar shall invariably be provided to main reinforcement. The radius of the bend shall not be less than twice the diameter of the round bar and the length of straight part of the bar beyond the end of the curve shall be at least four times the diameter of the round bar. In case of bars which are not round and in case of deformed bars, the diameter shall be taken as the diameter of circle having an equivalent effective area. The hooks shall be suitably encased to prevent any splitting of the concrete.

2.4. All the reinforcement bars shall be accurately placed in exact position shown on the drawing and shall be securely held in position during placing of concrete by annealed binding wire not less than 1 mm. in size, and by using stay blocks or metal chair spacers, metal hangers, supporting wires or other approved devices at sufficiently close intervals. Bars shall not be allowed to sag between supports nor displaced during concreting or any other operations of the work. All devices used for positioning shall be of non-corrodible material. Wooden and metal supports shall not extend to the surface of concrete, except where shown on drawings. Placing bars on layers of freshly laid concrete as the work progresses for adjusting bar spacing

shall not be allowed. Pieces of broken stone or brick and wooden blocks shall not be used. Layers of bars shall be separated by spacer bars, precast mortar blocks or other approved devices. Reinforcement after being placed in position shall be maintained in a clean condition until completely embedded in concrete. Special care shall be exercised to prevent any displacement of reinforcement in concrete already placed. To prevent reinforcement from corrosion, concrete cover shall be provided as indicated on drawing. All the bars protruding from concrete and to which other bars are to be spliced and which are

likely to be exposed for a period exceeding 10 days shall be protected by a thick coat of neat cement grout. .

2.5. Bars crossing each other where required shall be secured by binding wires (annealed) of size not less than 1 mm. in such manner that they do not slip over each other at the time of fixing and concreting.

2.6. As far as possible, bars of full length shall be used. In case this is not possible, overlapping of bars shall be done as directed. When practicable, overlapping bars shall not touch each other, but be kept apart by 25 mm. or 1.25 times the maximum size of the coarse aggregate whichever is greater by concrete between them. Where not feasible, overlapping bars

shall be bound with annealed wires not less than 1 mm. thick twisted tight The overlaps shall be staggered for different bars and located at points along the span where neither shear nor bending movement is maximum.

2.7. Whenever indicated on the drawings or desired by the Engineer-in-charge, bars shall be joined by couplings which shall have a cross-section sufficient to transmit the full stresses of bars. The ends of the bars that are joined by coupling shall be upset for sufficient length so that the effective cross section at the base of threads is not less than normal cross-section of the

bar. Threads shall be standard threads. Steel for coupling shall conform to I.S. 226.

2.8. When permitted or specified on the drawings, joints of reinforcement bars shall be butt-welded so as to transmit their full stresses. Welded joints shall preferably be located at points when steel will not be subject to more than 75 per cent of the maximum permissible stresses and welds so staggered that at any one section not more than 20 percent of the rods are welded. Only electric arc welding using a process which excludes air from the molten metal and conforms to any or all other special provisions for the work shall be accepted. Suitable means shall be provided for holding bars securely in position during welding. It shall be ensured that no voids are left in welding and when welding is done in two or three stages, previous surface shall be cleaned properly. Ends of the bars shall be cleaned of all loose scale, rust, grease, paint and other foreign matter before welding. Only competent welders shall be employed on the work. The M.S. electrodes used for welding shall conform to I.S. 814. Welded pieces of reinforcement shall be tested. Specimen shall be taken from the actual site and their number and frequency of test shall be as directed.

3.0 Mode of measurement and payment

3.1 For the purpose of calculating consumption wastage shall not be permitted beyond 5 percent Excess consumption over 5 % will be charged at penal rate.\

3.2 Reinforcement shall be measured in length including overlaps separately for different diameters as actually used in the work . Where welding or comping is resorted to in place of lap joints such joints shall be measured for payment as equivalent length of overlap as per design requirement from the length so measured the weight of reinforcement shall be calculated in tonnes on the same basis of as per M 18 even though steel is supplied to the contractor by the department on actual weight Length shall include hooks at the end wastage and annealed steel wire for binding shall not be measured and the cost of these items shall be deemed to be included in the rate for reinforcement.

3.3 The rate for reinforcement included cost of steel binding wires its carting from department store to work site cutting binding placing, binding & fixing in position as shown on the drawing and as directed. It shall also inclu. All devices for keeping reinforcement in approved position Cost of joining as per approved method and all wastage and speller bars.

3.4 The rate shall be for a unit of 1.00 Kg

ITEM NO 33 Providing and laying chequered precast cement concrete tiles 22mm thick with aggregate of sizes upto 6mm in floors, treads of steps and landings on 20mm thick bed of C.M. 1:6 (1- cement : 6-sand)

or L.M. 1:1.5(1-Lime putty : 1.5 coarse sand) joint with neat cement slurry with pigments to match the shade of the tiles.

2.0. Mode of measurements & payment:

2.1. The relevant specifications of item No. 14.71 (A) shall be followed except that thickness shall be measured correct upto 1 mm. flooring laid in borders, margins and treads of steps, shall be measured under item or flooring in respective of width.

2.1 The rate shall be for a unit of one cubic metre.

14.81. (C) 20 mm. thick precast concrete tile with aggregate of sizes upto 6 mm. laid in floors, treads of steps and landings on 20 mm. thick bed of cement mortar 1 : 6 (1 cement: 6 coarse sand) or L.M. 1: 1.5 jointed with neat cement slurry with pigment to match the shade of the tiles complete with precast .tiles of Dark shades using ordinary cement.

1.0 Materials: Water shall conform to M-1. Cement shall conform to M-3. Sand shall conform to M-6. Lime mortar 1: 1.5 shall conform to M-10. Cement mortar shall conform to M-11. Tiles shall conform to M-47 (A). Cement concrete tiles shall conform to I.S. 1237-1959 and pigments to be admixed with mortar or for grouting shall conform to I.S. 2114-1962.

2.0. Workmanship:

2.1 The tiles shall be laid on the sub-grade of concrete of the R.C.C. slab. Bedding shall be in lime mortar 1: 1.5 or cement mortar (1:6). The amount of water added shall be minimum required for sufficient plasticity and workability in C.M. or lime mortar where the ingredients shall be thoroughly mixed dry, hard lumps removed and water added to give a good workability.

2.2. The base shall be cleaned of ail dust, dirt and scum and properly wetted without allowing water pools. For a bedding of cement mortar the mortar shall be then spread evenly over the base of two rows of tiles and three to five metres in length. The top shall be kept rough so that cement slurry can be absorbed. The thickness of the bedding shall be not less than 10 mm. at any place. The laying of tiles shall be commenced with neat cement slurry of honey-like consistency and shall be spread over the mortar bed over an area sufficient to receive about 20 tiles. The tiles shall then be fixed in this grout one after the other, each tile being gently tapped and properly bedded in line and level with the adjoining tiles. The joints shall be as narrow as possible and normally shall not exceed 1.5 mm. After the day's work the excess cement slurry on top shall be cleaned as also the joints with a broom stick and washed before the slurry sets hard. Next day the joints shall be filled with the cement grout of the same shade as the matrix of the tiles. Tiles which are fixed in the floor adjoining the wall shall go a minimum of 10 mm. under the wall plaster, skirting or dado. For the purpose, plaster etc. may be left unfinished by about 50 mm. above the proposed finished level of the floor. The unfinished strip shall be plastered after laying the floor tiles. Where full die cannot be used, tile shall be cut to the size to be used.

2.1. The flooring shall be cured for 7 days.

ITEM NO 34 Providing and laying marble chips skirting (Terrazo) or dado rubbed, and polished to Granolithic finish top layer 6mm thick with white, black or white and black marble chips of size from smallest to 4mm nominal size laid in cement marble powder mix 3:1 (3- Cement : 1 marble powder by weight) in proportion of 4:7 (4-cement marble powder mix : 7-marble chips by volume) 20mm thick with under layer 14mm thick cement plaster 1:3 (1-cement : 3-coarse sand) (A) Dark shade pigment with ordinary cement (In top layer only)

1.0. Materials : (1) Water shall conform to M -1. (2) Cement shall conform to M-3- Sand shall conform to M-6 (4) Burnt bricks shall conform to M-15 (5) Precast marble mosaic terrazo paniara of 75 mm. thickness shall be of best quality. The width of paniara shall be as directed.

2.0. Workmanship:

2.1. The brick masonry shall be constructed for paniara for the size as directed in C. M. 1 : 6. The thickness of wall shall be 23 cms. thick and height shall be 74 cms. The relevant specifications of B. B. masonry at item 6.13 (b) shall be followed for

B. B. masonry work.

2.2. The B. B. masonry work shall be covered with precast marble terrazzo paniera a top, of width and length as specified or

as directed. The terrazzo masaic paniara shall be 75 mm. thickness.

2.3. The whole masonry work shall be finished smooth with C.m. 1: 3. on both sides. The relevant specification of item No.

17.59 (I) shall be followed.

2.4. The drainage outlet and water arrangement shall be made as directed.

3.0. Mode of measurements & payment:

3.1. The work shall be measured for the finished work.

3.2. The rate shall include the cost of all labour and materials involved in the operations described above.

3.3. The rate shall be for a unit of One Running Metre.

ITEM NO 35 Providing and fixing flush door shutters, solid core construction with frame of first class hardwood with cross board and face veneer or plywood face panels, including anodised alluminium butt hinges with necessary screws. (B) Non-decorative type and block board core anodised alluminium butt hinges in flush door shutters (2) 35 mm thick.

1.0. Materials : Rush door shall conform to M-30. Plywood shall conform to M-37. Anodised aluminium butt hinges shall conform to M-43.

2.0. Workmanship:

2.1. The relevant specifications of item No. 10.23 shall be followed except that the shutters be non-decorative type and block board core with face veneer or plywood, with 35 mm. thickness.

2.2. Ready made shutters shall be correct size and shall fit into the door or other openings without excessive scraping of edges. Adding of battens etc. to make up to the size shall not be allowed.

3.0. Mode of measurements & payment:

3.1. The relevant specifications of item No. 10.12 (A) (I) shall be followed.

3.2. The rate shall be for unit of one sq. metre.

ITEM NO 36 S.S. Handle for door/ window 10 Cm size of ASIS 304 Grade

ITEM NO 37 S.S. Stopper 30 Cm long of ASIS 304

ITEM NO 38 Providing and fixing standard extruded of alluminium section of size 63mm x 38.10mm x 1.2mm @ Wt. 0.643 Kg/mt with colour anodized alluminium frame for ventilation with 5 mm thick frosted glass as details etc complete for Ventilation

ITEM NO 39 Finishing wall with weather proof exterior emulsion paint on wall surface (two coats) to give an required shape even shade after thoroughly brushing the surface to remove all dirt, and remains of loose powdered materials.etc complete

1.0. Materials : 1.1. The weather proof exterior emulsion paint shall be of approved brand like Asian or Neriolec or other equivalent make of ISI.

2.0. Workmanship :

2.1. Preparation of surface:

2.2.1. The surface shall be thoroughly cleaned of all dust, dirt, mortar croppings and other foreign matter before .white wash is to be applied.

2.2.2. The surface spoiled by smoke soot shall be scraped with steel wire brushes or steel scrapers or shall be rubbed with over-burnt surkhi or brick bats. The surface shall be then broomed to remove all dust, dirt and shall be washed with clean water.

2.1.3. Oil or grease spots shall be removed by suitable chemical and smooth surface shall be rubbed with wire brushes.

2.2.4. All unsound portion of the surface plaster shall be removed to full depth of plaster in rectangular patches and plastered again after raking the masonry joints properly. Such portion shall be wetted and allowed to dry. They shall then be given one coat of white wash.

2.2.5. All unnecessary nails shall be removed, the holes cracks patches etc. shall be made good with materials similar in imposition to the surface to be prepared.

2.4. Application of Paint:

2.4.1. No painting shall be done when the paint is likely to be exposed to a temperature of below 7°C within 48 hours after application.

2.4.2. When weather conditions are such as to cause damage the work shall be carried out in the shadow as far as possible. This helps the proper hardening of the paint film by keeping the surface moist for a longer period.

2.4.3. To maintain the uniform mixture and to prevent segregation, the paint shall be stirred frequently in the bucket.

2.4.4. For undercoated surfaces, the surfaces shall be treated with minimum two coats of Exterior Emulsion paint. Not less than 24 hours shall be allowed between two coats. Next coat shall not be started until the proceeding coat has become

sufficiently hard to resist marking by the brush being used. In hot dry weather, the proceeding coat shall be allowed between

two coats. Next coat shall not be started until the proceeding coat has become sufficiently hard to resist marking by the brush

being used. In hot dry weather, the proceeding coat shall be slightly moistened before applying the subsequent coat.

2.4.5. The finished surface shall be even and uniform in shade, without patches, brush marks, paint drops etc.

2.4.6 The Exterior Emulsion paint shall be applied with a brush with relatively short stiff hog or fibre bristles. The paint shall be brushed in uniform thickness and shall be free from excessive heavy brush marks. The lamps shall be well brushed out.

3.0. Mode of measurements & payment :

3.1. All the work shall be measured in the decimal system as under :

(a) Dimensions shall be measured to the nearest 0.01 M.

(b) Area in individual items shall be worked out to the nearest 0.01 Sq. M.

All the work shall be measured in sq. mt. Deductions for jambs, soffits, sills etc. for opening not exceeding 0.5 sq. mt. each in

area for ends of joints, posts, beams, girders, steps etc. not exceeding 0.5 sq. mt. each in area and for opening exceeding 0.3

sq. mt. and not exceeding 3.0 sq. mt. each in area deductions and additions shall be made as under :

3.2. No deductions shall be made for ends of joints beams, posts etc. and openings not exceeding 0.5. sq. mt. each. No addition

shall be made for reveals, jambs, soffits, sills etc. of these openings nor for finish arounds ends of joints, beams, posts etc.

3.3. Deductions for openings exceeding 0.5 sq. mt. but not exceeding 3 sq. mt. each shall be made as follows and no addition

shall be made for reveals, jambs, soffits etc. of these openings:

(a) When both the faces or walls are provided with finish, deduction shall be made for one face only.

(b) When each face of wall is provided with different finish deduction shall be made for that side of frame for door, windows

etc. on which width of reveals is less than that of the other side, where width of reveals on both faces of wall are equal,

deduction of 50% of area of opening on each face shall be made from total area of finish.

(c) When only one face of wall is treated and the other face is not treated, full deduction shall be made if the width of reveal

on the treated side is less than that on the untreated side, but if the width of the reveal is equal or more than on the untreated

side neither deductions nor additions be made for reveals, jambs, soffits, sills etc.

3.4. In case of area of opening exceeding 3 sq. mt. each, deduction shall be made for openings but jambs, soffits, shall be measured.

3.5. No deduction shall be made for attachment such as casing, conducts, pipe, electric wiring and the like.

3.6. Corrugated surfaces shall be measured flat as fixed and not girth. The quantities so measured shall be increased by the

following percentage and the resultant shall be included with the general areas.

(a) Corrugated steel sheets 14%

(b) Corrugated A. C. Sheets 20%

(c) semi corrugated A. C. Sheets 10%

(d) Nainital pattern roof (Plain sheeting with rolls) 10%

(e) Nainital pattern roof (with corrugated sheets) 25%

3.7. Cornices and other wall features, when they are not picked out in a different finish/colour shall be girthed and included

in the general area

3.8. The rate shall include the cost of all materials, labour, scaffolding, protective measures etc. involved in all the operations

described above.

3.9. The rate shall be for a unit of one sq. metre.

ITEM NO 40 Applying two coats of putty & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth.

1.0. Materials : Water shall be conform to M-I. The plastic emulsion shall conform to I.S. 5411-1969 (part-I).

2.0. Workmanship:

2.1. Scaffolding : The relevant specifications of item No. 18.11 para 2.1. shall be followed.

2.2. Preparation of surface : The relevant specifications of item No. 18.44 para 2.2. shall be followed.

2.3. Preparation of Mix : This shall be done as per manufacturers instructions. The thinning of emulsion is to be done with water and not with turpentine. The quantity of thinner to be added shall be as per manufacturer instructions.

2.4. Applications:

2.4.1. Before pouring into small containers for use, the paint shall be stirred thoroughly in its container. When applying also, the paint shall be continuously stirred in the smaller container, so that its consistency is kept uniform.

2.4.2. The paint shall be laid on evenly and smoothly by meant of crossing and laying off the crossing and laying off consist of covering the area over with paint, brushing the surface hard for the first lime over and then brushing alternately in opposite direction two or three times and then finally brushing lightly in a direction at right angles to the same. In this process, no brush marks shall be left after the laying off is finished. No hair marks from the brush or clogging of paint puddles in the corners of panels, angles of mouldings, etc. shall be left on the work. The full process of crossing and laying off will constitute one coat.

2.4.3. The paint shall be applied with brush or rollers. For undecorated surfaces, the surface shall be treated with minimum two coats of cement water proofing paint. The second or subsequent coat shall not be started until the preceeding coat has become sufficiently hard to resist marking by brush being used.

2.4.4. The surface on finishing shall present a flat velvety smooth finish. It shall be even and uniform in shade without patches, brush marks, paint drops etc.

2.5. Precautions:

(a) Old brushes if they are to be used with emulsion paints, shall be completely dried of turpentine oil paint by washing in warm soap wafer.

Brushes shall be quickly washed in water immediately after use and kept immersed in water during break periods to prevent the paint from hardening on the brush.

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(b) In the preparation of wall for plastic emulsion painting, no oil base putties shall be used in filling cracks, holes etc.

(c) Splashes on floors etc. shall be cleaned out without delay as they will be difficult to remove after hardening.

(d) Washing of surfaces treated with emulsion paint shall not be done within 3 to 4 weeks of application.

2.6. Protective measures: 2.6.1. The relevant specifications of item No. 18.17. para 2.3. shall be followed:

3.0. Mode of measurements & payment:

3.1. The relevant specifications of item No. 18.11 shall be followed.

3.2. The rate shall be for a unit of one sq. metre.

ITEM NO 41 Providing and laying polished kota stone slab 25mm thick in risers of steps, skirting Dedo and pillars laid on 10mm thick cement mortar 1:3 (1- Cement : 3 coarse sand) and jointed with gray cement slurry mixed with pigment to match the shade of slab including rubbing and polishing etc. complete.

49.1. Polished kotah stone shall have the same specifications as per rough kotah stone except as mentioned below :

49.2. The stones shall have machine polished smooth surface. When brought on site, the stones shall be single polished or double polished depending upon its use. The stones for paving shall generally be single polished. The stones to be used for dedo, .skirting, platforms, sink, veneering, sills, steps, etc. where machine polishing after the stones are fixed in situ is not possible, shall be double polished.

M-50. Dholpur Stone Slab :

50.1 Dholpur stone slab shall be of best quality as approved by the Engineer-in-charge The stone slab shall be even, sound

and durable, regular in shape and of uniform colour.

50.2. The size of the stone shall be specified in the item or detailed drawings or as approved by the Engineer-in-charge. The

thickness of the stone shall be as specified in the item of work with the permissible tolerance of plus or minus 2 mm. The provisions in respect of polishing as for polished Kotah stone shall apply to polished Dholpur stone also. All angles and edges

of the face of the stone slab shall be fine chiselled or polished as specified in the item of work and all the four edges shall be machine cut.

All angle and elges of the stone slab shall be true and plane.

50.3 The sample of stone shall be got approved from the Engineer-in-charge for shade and tint for a particular work. It shall

be ensured that the stones to bemused in a particular work shall not differ much in shade or tint from the

approved

sample.

M-51. Marble Slab:

51.1. Marble slab shall be white or of other colour and of best quality as approved by the Engineer-in-charge.

51.2. Slabs shall be hard, uniform and homogeneous in texture. They shall have even crystalline grain and free from defects and cracks. The surface shall be machine polished to an even and perfectly plane surface and edges machine cut true and square. The rear face shall be rough to provide key for the mortar.

51.3. Marble slabs with natural veins, if selected shall have to be laid as per the pattern given by the Engineer-in-charge. Size

of the slab shall be minimum 450 mm x 450 mm. and preferable- 600 mm x 600 mm. However, smaller sizes will be allowed to be used to the extent of maintaining required pattern.

ITEM NO 42 GRANITE PLATFORM

ITEM NO 43 Providing and fixing 100mm size P or S trap for water closet squatting pan including jointing the trap with the pan and soil pipe in cement Mortar 1:1 (1-Cement : 1-Fine sand)(A) Vitreous China.

General

This work shall consist of **Providing and fixing wash down water closet (Indian, W.C. Pan Size 580 mm with 100 mm I 'P' or 'S' trap including jointing the trap with soil pipe** of the shape and dimensions shown on the drawings and conforming to these Specifications or as approved by the Engineer in charge

MATERIAL

1.0. wash down water closet (Indian type)

1.1. The Indian type white glazed water closet of first quality shall be of size as specified in the item and conforming to I.S. 771-1979 and I.S. 2556 – (Part-II) 1981. Each pan shall have integral flushing. It shall also have an inlet at back and front for connecting flush pipes as directed. The inside of the bottom of the pan shall have sufficient slope from the front towards the outlet and surface shall be uniform and smooth. Pan shall be provided with 100 mm. diameter 'P' or 'S' trap with approximately 50 mm. Water seal and 50 mm . diameter vent horn.

2.0. Foot Rests

2.1. A pair of white glazed earthen ware rectangular foot to minimum size 250 mm 130 mm. x 20 mm shall be provided with the water closet.

3.0. 'P' or 'S' trap for water closet squatting pan Vitreous China.

3.1. 'P' or 'S' trap shall be of white porcelain first quality best Indian make and it shall conform to general Indian IS standards The size of the 'P' or 'S' trap shall be as specified in item. 'P' or 'S' trap shall be of one piece All internal angles shall be designed so as to facilitate cleaning.

3.2. 'P' or 'S' trap shall have single piece as specified.

3. 0. WATER

3.1 Water shall not be salty brackish and shall be clean reasonably clear and free objectionable quantities of silt and traces of oil injurious alkalis salts organic matter and other deleterious material which will either weaken the mortar of concrete or cause efflorescence or attack the steel in R C C container for transport storage and huddling of water shall be clean, Water shall confirm to the standard specified in I S 455 -1978

3.2. If required by the Engineer in charge it shall be tested by comparison with distilled water compression shall be made by means of standard cement tests for soundness time of setting and mortar strength as specified in I S 269-1976 Any indication of unsoundness change in time of setting by 30 minutes or more or decrease of more than 10 percent strength of mortar prepared with distilled water sample when compared with the result obtained with mortar prepared with distilled water shall be sufficient cause for rejection of water under test.

3.3 Water for curing mortar concrete or masonry should not be too acidic or too alkaline

3.4 It shall be free of elements which significantly affect the hydration reaction or otherwise interface with the hardening of mortar or concrete during curing or those which produce objectionable stains or other unsightly deposits on concrete or mortar surfaces

3.5 Hard and bitter water and sea water shall not be permitted for curing

3.6 Potable water will generally found suitable for curing mortar or concrete

3.7. Storage Water shall be stored in containers/ tanks covered at top and cleaned at regular intervals in order to prevent intrusion by foreign matter or growth of organic matter Water from shallow muddy or marshy surface shall not be permitted The intake pipe shall be enclosed to exclude silt, mud grass and other solid materials and there shall be a minimum depth of 0.60 m on water below the intake at all times

3.8. As a guide following concentrations represent the maximum permissible values

(a) to neutralize 200 ml sample of water using phenolphthalein as indicator, it should not require more than 2 ml of 0.1 normal NaOH

(b) To neutralize 200 ml of water using methyl orange as an indicator, it should not required more than 10 ml of 0.1 normal HCl

(c) the permissible limits for solids shall be as follows when tested in accordance with IS 3025

	Permissible limits (Max)
Organic	200 mg/lit
Inorganic	3000 mg/lit
Soleplates (SO ₄)	500 mg/lit
Chlorides (Cl)	500 mg/lit
Suspended matter	2000 mg/lit

In case of structures of length 30 m and below, the permissible limit of chlorides may be increased up to 1000 mg/lit

All samples of water (including potable water shall be tested and suitable measures taken where necessary to ensure conformity of the water to the requirements stated herein.

(d) The pH value shall not be less than 6

4.0 CEMENT

4.1. Cement to be used in the works shall be any of the following types with the prior approval of the Engineer:

- a)** Ordinary Portland cement, 33 Grade, conforming. to *IS:269*.
- b)** Rapid Hardening Portland cement, conforming to *IS:8041*.
- c)** Ordinary Portland Cement, 43 Grade, conforming to *IS: 8112*.
- d)** Ordinary Portland Cement, 53 Grade, conforming to *IS: 12269*.
- e)** Soleplate Resistant Portland cement, conforming to *IS: 12330*.

4.2. Cement conforming to *IS:269* shall be used only after ensuring that the minimum required design strength can be achieved without exceeding the maximum permissible cement content of 540 kg/cum. of concrete.

4.3. Cement conforming to *IS: 8112* and *IS: 12269* may be used provided the minimum cement content mentioned elsewhere from durability considerations is not reduced. From strength considerations, these cements shall be used with a certain caution as high early strengths of cement in the 1 to 28-day range can be achieved by finer grinding and higher constituent ratio of C_3S/C_2S , where C_3S is Tri-calcium Silicate and C_2S is D-calcium Silicate In such cements, the further growth of strength beyond say 4 weeks may be much lower than that traditionally expected. Therefore, further strength tests shall be carried out *for* 56 and 90 days to fine tune the mix design from strength considerations.

4.4. Cement conforming to *IS: 12330* shall be used when sodium soleplate and magnesium soleplate are present in large enough concentration to be aggressive to concrete. The recommended threshold values as per *IS:456* are soleplate concentration in excess of 0.2 per cent in soil substrata or 300 ppm (0.03 percent) in ground water. Tests to confirm actual values of soleplate concentration are essential when the structure is located near the sea coast, chemical factories, agricultural land using chemical fertilizers and sites where there are effluent discharges or where soluble soleplate bearing ground water level is high Cement conforming to *IS:12330* shall be carefully selected from strength considerations to ensure that the minimum required design strength can be achieved without exceeding the maximum permissible cement content of 540 kg/cum. of concrete.

4.5. Cement confirming to *IS 8041* shall be used only for pre cast concrete products after specific approval of the Engineer in charge

4.6. Total chloride content in cement shall in no case exceed 0.05 percent by mass of cement also total sulfur content calculated as sulfuric anhydride (SO_3) shall in no case exceed 2.5 per cent and 3.0 percent when tri-calcium aluminates per cent by mass in up to 5 or grater than 5 respectively

4.7. Storage

Cement shall be transported, handled and stored on the site in such a manner as to avoid deterioration or contamination, Cement shall be stored above ground level in perfectly dry and

water tight sheds and shall be stacked not more than eight bags high. Wherever bulk storage containers are used their capacity should sufficient to cover to the requirement at site and should be cleaned at least once every 3 to 4 months

4.8. Each consignment shall be stored separately so that it may be readily identified and inspected and cement shall be used in the sequence in which it is delivered in any way, during storage shall not be used in the works and shall be removed from the site by the contractor without charge to the employer

The contractor shall prepare and maintain proper records on site in respect of delivery handling storage and use of cement and these records shall be available for inspection by the engineer in charge at all times

4.9. The contractor shall make a monthly return to the engineer in charge on the date corresponding to the interim certificate date showing the quantities of cement received and issued during the month in stock at the end of the month.

5.0 SAND

5.1 Sand shall be natural sand, clean well graded, hard strong durable and gritty particular free from immures amounts of dust, clay, kankar modules

5.2. For masonry works sand shall confirm to the requirements of IS: 2116

5.3. For plain and reinforced cement concrete (PCC and RCC) or pre stressed concrete (PSC) works fine aggregates shall consist of clean, hard strong and durable prices of crushed stone, crushed gravel or suitable combination of natural sand crushed stone or gravel, They shall not contain dust lumps soft or flaky materials mica or other deleterious materials in such quantities as to reduce the strength and durability of concrete, or to attack the embedded steel. Motorized sand washing machines should be used to remove impurities from sand. Fine aggregate having positive alkali-silica reaction shall not be used. All fine aggregates shall conform to IS L 383 and tests for conformity shall be carried out as per IS : 2386 (Part I to VIII) The contractor shall submit to the Engineer in charge the entire information indicated in Appendix A of IS : 383. The fineness modulus of fine aggregate shall neither be less than 2.00 nor greater than 3.5.

5.4. Sand fine aggregates for structural concrete shall conform to the following grading requirements as shown in the table below

5.5 Fine Sand: The fineness module shall not exceed 1.0 the sieve analysis of fine sand be as under:

IS. Sieve Designation % by wt. passing			
	Zone I	Zone II	Zone III
10 mm	100	100	100
4.75 mm	90-100	90-100	90-100
2.3 6mm	60-95	75-100	85-100
1.18 mm	30-70	55-90	75-100
600 MC	15-34	35-59	60-79
300 MC	5-20	8-30	12-40
150 MC	0-10	0-10	0-10

5.6. Coarse Sand: The fineness modules of coarse sand shall not be less than 2.5 and shall not exceed 3.0. The sieve analysis of coarse sand be as under:

I. S. Sieve Designation	% by wt. passing
4.75 mm	100
2.36mm	90 to 100
1.18 mm	70 to 100
600 MC	30 to 100

300 MC	85 to 70
150 MC	00 to 50

5.2. Proportion of Mix

5.2.1. Cement and sand shall be mixed to specified proportion, sand being measured by measuring boxes, the proportion of cement will be by volume on the basis of 50 Kg/Bag of cement being equal to 0.0342 Cu.m. The mortar may be hand mixed or machine mixed as directed.

5.3. Proportion of Mortar :

5.3.1. In hand mixed mortar, cement and sand in the specified proportions shall be thoroughly mixed dry on a clean impervious platform by turning over at least 3 times or more till a homogeneous mixture of uniform colour is obtained. Mixing platform shall be so arranged that no deleterious extraneous material shall get mixed with mortar or mortar shall flow out. While mixing, the water shall be gradually added and thoroughly mixed to form a stiff plastic mass of uniform colour so that each particle of sand shall be completely covered with a film of wet cement. The water cement ratio shall be adopted as directed

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

6.0. WORKMANSHIP

6.1. The (Indian type) pan shall be sunk into the floor and embedded in a cushion of average 15cm. cement concrete 1:5:10 (1 cement : 10 graded stone aggregate or brick aggregate 40 mm. nominal size) or and its bed concrete. The floor should be left 15 mm below the top level of the pan so as to allow for flooring and its bed concrete. The floor should be suitably stopped so that the waste water is drained into the pan. The pan shall be provided with 100 mm. 'P' or 'S' trap as specified in the item No. 23.113 with approximately 50 mm. seal. The joints between the pan and the trap shall be made leak- proof with cement mortar 1:1 (1 cement : 1 fine sand).

6.2. The 'P' or 'S' trap shall be fixed with pan cast iron pipe with C.M. 1.1. The pan shall be provided with a 100 mm. 'P' or 'S' trap as specified in the item with an approximately 50 mm . seal The joint between the pan and the trap shall be made leak-proof with cement mortar 1:1 (1 cement : 1 fine sand).

6.0 MODE OF MEASUREMENT & PAYMENT :

6.1. The unit rate Water Closet shall include the cost of all materials, tools and plant required for lifting to required height with all lead and lift, placing & fixing in position, all required specials and jointing adhesive compound, finishing as per direction of the Engineer-in-charge, and all other incidental expenses for producing Water Closet work of specified size to complete the structure or its components as shown on the drawings and according to these specifications.

6.2. The rate includes cost of labour for fixing pans and seat cover, inlet outlet connections , including the cost of seat and covers and water jet including testing the same

6.3. The Water Closet work shall be measured for its number limiting to specified capacity to those specified on plan or as directed. The rate shall be for a unit of one number.

6.4 The payment will be made on number basis of the finished work.

ITEM NO 44 Providing and fixing PVC SWR Nahni trap IS 14735 for drain - 100 mm diameter with jali of the following nominal diameter of self cleansing design with C.I screed down or hinged grating including the cost of cutting and making good the walls.

1.0. Materials

1.1. The **PVC SWR Nahni Trap** shall conform to **IS 14735 for drain**. The C.I. hinged or screwed down cover shall be of best quality & as approved by Engineer in charge.

2.0. Workmanship

2.1. The Nahni trap with 100 mm. dia inlet and 50 mm. dia. outlet shall be fixed as per drawing or as directed.

2.2. The Nahni trap shall be jointed with drainage Pipe.

3.0. Mode of measurements and payment

3.1. The rate includes cost of all labour, materials, tools and plants etc. required for satisfactory completion of this item including lead, jointing and testing.

3.2. The rate shall be for a unit of one number.

ITEM NO 45 Providing laying and jointing in true line and level 15mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesivesolvent, including cost of all materials.

1.0. Materials : 1.1. The low density polythene pipe of specified diameter with 6 Kg./F. Sq. Cm. working pressure shall conform to I.S. 3076-1968. The specials and fillings required shall be of best quality.

2.0. Workmanship:

2.1. The P.V.C. Pipes of specified diameter shall be fixed as directed. Due to thermal expansion of rigid P.V.C. Pipes, due allowance shall be made particularly in over ground pipe lines for any change in length of pipe line which may occur during installation or when pipe line is in service.

2.2. Above ground installation of rigid P.V.C. pipe should be undertaken after precautions are observed for their protection against dirt sun rays and mechanical damage.

2.3. The rigid P.V.C. pipe lines should not be kept exposed above ground when it passes through public place, railway lines, roads, road side and footpaths.

2.4. P.V.C. pipes shall be supported at the followings intervals :

20 mm. dia. 500 mm.

25 mm. dia. 750 mm.

32mm. dia. 900mm.

2.5. Closet support spacings shall be provided, if recommended by the manufacturer.

2.6. The guide line indicated by the manufacturer regarding handling, transportation, storing, laying and jointing of pipes shall be kept in view during execution.

2.7. P.V.C.V. pipes shall be fixed on wall with wooden plugs and suitable clamps.

2.8. Jointing the pipes :

2.8.1. The pipes and sockets shall be accurately cut. The ends of the pipes and filling should be absolutely free from dirt and dust. The outside surface of the pipes and the inside of the fillings shall then be roughened with emery paper, and then solvent cement shall be applied to the matching surface and pushed home and joint. Since solvent cement is aggressive to P.V.C. care must be taken to avoid applying excessive cement to the inside of pipe sockets as any surplus cement cannot be wiped off after jointing. Empty solvent cement tins, brushes, rags, or paper impregnated with cement should not be buried in the trenches. They should be gathered, not left scattered about, as they can prove to be a hazard to animals which may chew them.

2.8.2. If any manufacturer recommends its own methods of jointing the same shall be adopted after necessary approval from the Engineer-in-charge.

2.9. Laying pipes in trenches :

2.9.1. The pipes shall be laid over uniform relatively soft fine grained soil found to be free of presence of hard objects such as large flints, rocky projections, large tree roots etc. The width of the trenches shall be minimum width required for working.

2.9.2. The pipes laid underground shall not be less than one metre from the ground level. The pipe shall be positioned in the trenches so as to avoid any induced stresses due to reflection. Any deviation required shall be obtained by using proper type of rubber ring joints.

3.0. Mode of measurements & payment:

3.1. The relevant specifications of item No. 23.2 (A) shall be followed except that the P.V.C. pipes of specified dia. shall be paid under this item.

3.2. The rate shall be for a unit of one running metre.

ITEM NO 46 Providing laying and jointing in true line and level 25mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.

1.0. Materials : 1.1. The low density polythene pipe of specified diameter with 6 Kg./F. Sq. Cm. working pressure shall conform to I.S. 3076-1968. The specials and fillings required shall be of best quality.

2.0. Workmanship:

2.1. The P.V.C. Pipes of specified diameter shall be fixed as directed. Due to thermal expansion of rigid P.V.C. Pipes, due allowance shall be made particularly in over ground pipe lines for any change in length of pipe line which may occur during installation or when pipe line is in service.

2.2. Above ground installation of rigid P.V.C. pipe should be undertaken after precautions are observed for their protection

against dirt sun rays and mechanical damage.

2.3. The rigid P.V.C. pipe lines should not be kept exposed above ground when it passes through public place, railway lines, roads, road side and footpaths.

2.4. P.V.C. pipes shall be supported at the followings intervals :

20 mm. dia. 500 mm.

25 mm. dia. 750 mm.

32mm. dia. 900mm.

2.5. Closet support spacings shall be provided, if recommended by the manufacturer.

2.6. The guide line indicated by the manufacturer regarding handling, transportation, storing, laying and jointing of pipes

shall be kept in view during execution.

2.7. P.V.CV. pipes shall be fixed on wall with wooden plugs and suitable clamps.

2.8. Jointing the pipes :

2.8.1. The pipes and sockets shall be accurately cut. The ends of the pipes and filling should be absolutely free from dirt and

dust The outside surface of the pipes and the inside of the fillings shall then be roughened with emery paper, and then solvent

cement shall be applied to the matching surface and pushed home and joint. Since solvent cement is aggreswive to P.V.C.

care must be taken to avoid applying excessive cement to the inside of pipe sockets as any surplus cement cannot be wiped

off after jointing. Empty solvent cement tins, brushes, rags, of paper unpregneted with cement should not be buried in the

trenches. They should be gathered, not left scatcrred about, as they can prove to be a hazard to animals which may chew them.

2.8.2. If any manufacturer recommends its own methods of jointing the same shall be adopted after necessary approval from

the Engineer-in-charge.

2.9. Laying pipes in trenches :

2.9.1. The pipes shall be laid over uniform relatively soft fine grained soil found to be free of presence of hard objects such

as large flints, rocky projections, large tree roots etc. The width of the trenches shall be minimum width required for working.

2.9.2. The pipes laid underground shall not be less than one metre from the ground level. The pipe shall be positioned in the

trenches so as to avoid any induced stresses due lo reflection. Any deviation required shall be obtained by using proper type

of rubber ring joints.

3.0. Mode of measurements & payment:

3.1. The relevant specifications of item No. 23.2 (A) shall be followed except that the P.V.C. pipes of specified dia. shall be

paid under this item.

3.2. The rate shall be for a unit of one running metre.

ITEM NO 47 Providing laying and jointing in true line and level 32mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with

the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials

1.0. Materials : 1.1. The low density polythene pipe of specified diameter with 6 Kg./F. Sq. Cm. working pressure shall conform to I.S. 3076-1968. The specials and fillings required shall be of best quality.

2.0. Workmanship:

2.1. The P.V.C. Pipes of specified diameter shall be fixed as directed. Due to thermal expansion of rigid P.V.C. Pipes, due allowance shall be made particularly in over ground pipe lines for any change in length of pipe line which may occur during installation or when pipe line is in service.

2.2. Above ground installation of rigid P.V.C. pipe should be undertaken after precautions are observed for their protection against dirt sun rays and mechanical damage.

2.3. The rigid P.V.C. pipe lines should not be kept exposed above ground when it passes through public place, railway lines, roads, road side and footpaths.

2.4. P.V.C. pipes shall be supported at the followings intervals :

20 mm. dia. 500 mm.

25 mm. dia. 750 mm.

32mm. dia. 900mm.

2.5. Closet support spacings shall be provided, if recommended by the manufacturer.

2.6. The guide line indicated by the manufacturer regarding handling, transportation, storing, laying and jointing of pipes shall be kept in view during execution.

2.7. P.V.CV. pipes shall be fixed on wall with wooden plugs and suitable clamps.

2.8. Jointing the pipes :

2.8.1. The pipes and sockets shall be accurately cut. The ends of the pipes and filling should be absolutely free from dirt and dust The outside surface of the pipes and the inside of the fillings shall then be roughened with emery paper, and then solvent cement shall be applied to the matching surface and pushed home and joint. Since solvent cement is aggressive to P.V.C. care must be taken to avoid applying excessive cement to the inside of pipe sockets as any surplus cement cannot be wiped off after jointing. Empty solvent cement tins, brushes, rags, of paper unpregnated with cement should not be buried in the trenches. They should be gathered, not left scaterred about, as they can prove to be a hazard to animals which may chew them.

2.8.2. If any manufacturer recommends its own methods of jointing the same shall be adopted after necessary approval from the Engineer-in-charge.

2.9. Laying pipes in trenches :

2.9.1. The pipes shall be laid over uniform relatively soft fine grained soil found to be free of presence of hard objects such

as large flints, rocky projections, large tree roots etc. The width of the trenches shall be minimum width required for working.

2.9.2. The pipes laid underground shall not be less than one metre from the ground level. The pipe shall be positioned in the

trenches so as to avoid any induced stresses due to reflection. Any deviation required shall be obtained by using proper type of rubber ring joints.

3.0. Mode of measurements & payment:

3.1. The relevant specifications of item No. 23.2 (A) shall be followed except that the P.V.C. pipes of specified dia. shall be paid under this item.

3.2. The rate shall be for a unit of one running metre.

ITEM NO 48 PVC SWR pipes IS 13592 for Drain - 75 mmdia

1.0. Materials

1.1. The **PVC SWR Nahni Trap** shall conform to **IS 14735 for drain**. The C.I. hinged or screwed down cover shall be of best quality & as approved by Engineer in charge.

2.0. Workmanship

2.1. The Nahni trap with 100 mm. dia inlet and 50 mm. dia. outlet shall be fixed as per drawing or as directed.

2.2. The Nahni trap shall be jointed with drainage Pipe.

3.0. Mode of measurements and payment

3.1. The rate includes cost of all labour, materials, tools and plants etc. required for satisfactory completion of this item including lead, jointing and testing.

3.2. The rate shall be for a unit of one number.

ITEM NO 49 Providing and fixing washbasin with single hole for pillar tap with C.I. or M.S. brackets painted white including cutting holes and making good the same but excluding fittings.(A) Vitreous China:(ii) Flat Back washbasin 550 mm x v 400 mm size. (i) In white colour.

1.0 MATERIAL

1.1. WASH BASIN

Wash basin squatting pan shall be European type and of best quality as approved by engineer in charge size of the wash basin shall match as per provision in the item of wash basin. type and shape and colour of the wash basin shall be approved by Engineer in charge.

1.1.2 Wash basin shall be of white porcelain first quality best Indian make and it shall conform to IS 2556 (Part – IV) – 1972 and I.S 771 – 1979. The size of the wash basin shall be as specified in the item Wash basin shall be of one piece construction with continued over flow arrangements. All internal angles shall be designed so as to facilitate cleaning. Wash basin shall have single tap hole or two holes as specified. Each basin shall have a circular waste hole which is either rebated or beveled internally with 65 mm diameter at top and 10 mm depth to suit the waste fitting. The necessary stud slot to receive the bracket on the under side of the basin shall be provided Basin shall have an internal soap holder recess which shall fully drain into the bowl.

1.2. Chromium plated bottle trap

P-trap shall be of best quality as approved by engineer in charge

1.3. Pillar cock

Pillar cock shall be of best quality and make and chromium plated as approved by engineer in charge

1.4. Stop cock

Stop cock shall be of 15 mm dia meter and shall be chromium plated of best quality as approved by engineer in charge

1.5. C P Brass waste

C P Brass waste shall be of best quality as approved by engineer in charge having 40 mm dia meter

2.0. WORKMANSHIP

2.1. The washbasin shall be fixed on the wall as and where directed. The wash basin shall be supported on a pair of M.S. or C.I. brackets fixed in C.M. 1:3 (1 cement : 3 sand). The bracket shall conform to I.S. 775 – 1962. The wall plaster on the rear shall be cut to rest the top edge of the washbasin. After fixing the basing plaster shall be made good and surface finished to match the existing one.

2.2. The brackets shall be painted white with ready – mixed paint.

2.3. The C.I. brass trap and union shall be connected to 32 mm dia waste pipe which shall be suitably bent towards the wall and which shall discharge into an open drain leading to a gully trap or direct in to gully-trap on the ground floor and shall be connected to a waste pipe through a floor trap on the upper floors. C.P. brass trap and union may not be provided where the surface drain or a floor trap is placed directly under basin and the waste is discharged in to vertically.

2.4. The height of the front edge to the wash basin from the floor level shall be 80 cms.

2.5. The necessary inlet, outlet, connections and fittings such as pillar cocks, CP dress waste trap waste pipe, stop cock, chain wish rubber plug etc. shall be fixed.

2.6. The payment of fittings shall be made separately under separate items.

3.0 MODE OF MEASUREMENT & PAYMENT :

3.1. The unit rate Wash basin shall include the cost of all materials, tools and plant required for lifting to required height with all lead and lift, placing & fixing in position, all required specials and jointing adhesive compound, finishing as per direction of the Engineer-in-charge, and all other incidental expenses for producing Wash basin work of specified size to complete the structure or its components as shown on the drawings and according to these specifications.

3.2. The Wash basin work shall be measured for its number limiting to specified capacity to those specified on plan or as directed. The rate shall be for a unit of one number.

3.3. The payment will be made on number basis of the finished work.

ITEM NO 50 C.P. BRASS WASTE 40MM DIA.

1.0 MATERIAL

1.1. WASH BASIN

Wash basin squatting pan shall be European type and of best quality as approved by engineer in charge size of the wash basin shall match as per provision in the item of wash basin. type and shape and colour of the wash basin shall be approved by Engineer in charge.

1.1.2 Wash basin shall be of white porcelain first quality best Indian make and it shall conform to IS 2556 (Part – IV) – 1972 and I.S 771 – 1979. The size of the wash basin shall be as specified in the item Wash basin shall be of one piece construction with continued over flow arrangements. All internal angles shall be designed so as to facilitate cleaning. Wash basin shall have single tap hole or two holes as specified. Each basin shall have a circular waste hole which is either rebated or beveled internally with 65 mm diameter at top and 10 mm depth to suit the waste fitting. The necessary stud slot to receive the bracket on the under side of the basin shall be provided Basin shall have an internal soap holder recess which shall fully drain into the bowl.

1.2. Chromium plated bottle trap

P-trap shall be of best quality as approved by engineer in charge

1.3. Pillar cock

Pillar cock shall be of best quality and make and chromium plated as approved by engineer in charge

1.4. Stop cock

Stop cock shall be of 15 mm dia meter and shall be chromium plated of best quality as approved by engineer in charge

1.5. C P Brass waste

C P Brass waste shall be of best quality as approved by engineer in charge having 40 mm dia meter

2.0. WORKMANSHIP

2.1. The washbasin shall be fixed on the wall as and where directed. The wash basin shall be supported on a pair of M.S. or C.I. brackets fixed in C.M. 1:3 (1 cement : 3 sand). The bracket shall conform to I.S. 775 – 1962. The wall plaster on the rear shall be cut to rest

the top edge of the washbasin. After fixing the basing plaster shall be made good and surface finished to match the existing one.

2.2. The brackets shall be painted white with ready – mixed paint.

2.3. The C.I. brass trap and union shall be connected to 32 mm dia waste pipe which shall be suitably bent towards the wall and which shall discharge into an open drain leading to a gully trap or direct in to gully-trap on the ground floor and shall be connected to a waste pipe through a floor trap on the upper floors. C.P. brass trap and union may not be provided where the surface drain or a floor trap is placed directly under basin and the waste is discharged in to vertically.

2.4. The height of the front edge to the wash basin from the floor level shall be 80 cms.

2.5. The necessary inlet, outlet, connections and fittings such as pillar cocks, CP dress waste trap waste pipe, stop cock, chain wish rubber plug etc. shall be fixed.

2.6. The payment of fittings shall be made separately under separate items.

3.0 MODE OF MEASUREMENT & PAYMENT :

3.1. The unit rate Wash basin shall include the cost of all materials, tools and plant required for lifting to required height with all lead and lift, placing & fixing in position, all required specials and jointing adhesive compound, finishing as per direction of the Engineer-in-charge, and all other incidental expenses for producing Wash basin work of specified size to complete the structure or its components as shown on the drawings and according to these specifications.

3.2. The Wash basin work shall be measured for its number limiting to specified capacity to those specified on plan or as directed. The rate shall be for a unit of one number.

3.3. The payment will be made on number basis of the finished work.

ITEM NO 51 CHROMIUM PLATED, BOTTLE TRAP

1.0. Materials : The chromium plated bottle trap shall be of approved make and of best quality. The bottle trap shall be provided with coupling.

2.0. Workmanship: The bottle trap shall be fixed on hand wash basin with wooden gullies and screws as directed. The work shall be carried out in best workman like manner.

3.0.Mode of measurements & payment:

3.1.The rate includes cost of all materials and labour involved for satisfactory completion of this item.

3.2.The rate shall be for a unit of one number.

ITEM NO 52 BRASS SCREW DOWN STOP COCK 15 MM DIA

1.0. Materials: 1.1. 15 mm. dia. brass screw down with bright polished finish shall conform to I.S. 781-1977. The bib cock shall be best Indian make and quality.

2.0. Workmanship : 2.1. The screw down bib cock 15 mm. dia. as specified above shall be fixed as directed. The threaded portion shall be smeared with white or red lead and around with a few turns of fine spun yarn round the screwed end of the pipe. The bib cock shall be then screwed and fixed to water tight position.

3.0. Mode of measurements & payment:

3.1. The rate includes cost of all labour, materials, tools and plant etc. required for satisfactory completion of this item.

3.2. The rate shall be for a unit of one number.

ITEM NO 53 Providing and fixing water closet squatting Pan (Indian type W.C. Pan) size 580mm (Earthwork, bed concrete, foot rest and trap to be measured and paid for separately) (A) Vitreous China. (I) Long pattern = White colour

1.0. Materials: 1.1. Water closet squatting pan (Indian type W.C. Pan) shall conform to M-62. Cement mortar shall conform to M-11.

2.0. Workmanship : 2.1. The pan shall be sunk into the floor and embedded in a cushion of average 15 cm. cement 1 : 5:

10 (1 cement: 5 fine sand : 10 graded stone aggregate or brick aggregate 40 mm. nominal size) or as specified. This concrete

shall be left 115 mm. below the top level of the pan so as to allow for flooring and its bed concrete. The floor should be suitably sloped so that the waste water is drained into the pan. The pan shall be provided with 100 mm. 'P' or 'S' trap as specified in the item No. 23.113 with approximately 50 mm. seal. The joints between the pan and the trap shall be made leak-proof with cement mortar 1 : 1 (1 cement: 1 fine sand).

3.0. Mode of measurements & payment:

3.1. The rate shall include the cost of all materials and labours involved in the operations described under workmanship.

3.2. The rate shall be for a unit of one number.

3.3. The 'P' or 'S' trap shall be paid separately.

ITEM NO 54 Providing and fixing in Cement Mortar 1:3 (1- Cement : 3-coarse sand) a, pair of white vitreous China 250mm x 130mm x 30mm footrest to long pattern squatting pan water closet.

1.0. Materials : Wash down water closet (European type W.C. Pan) shall conform to M-60. Cement mortar shall conform to M-11.

2.0. Workmanship: Closet shall be fixed to the floor by means of 75 mm. long 6.5 mm. diameter counter sunk bolts and nuts embedded in the floor concrete using rubber or fibre washers so as not to allow any lateral displacement. The joint between the trap of W. C. and soil pipe shall be made with C.M. 1:1 (1 cement: 1 fine sand).

3.0. Mode of measurements & payment:

3.1. The rate shall include the cost of all labour for fixing pans and seat and cover, inlet, connections etc. complete including testing the same.

3.2. The payment of seat and cover shall be made separately. 3.3. The rate shall be for a unit of one number.

ITEM NO 55 Providing and fixing screw down bib taps of following size.(A) Brass screw down bib tap polished bright. (i) 15mm dia.

1.0. Materials: 1.1. 15 mm. dia. brass screw down with bright polished finish shall conform to I.S. 781-1977. The bib cock shall be best Indian make and quality.

2.0. Workmanship : 2.1. The screw down bib cock 15 mm. dia. as specified above shall be fixed as directed. The threaded portion shall be smeared with white or red lead and around with a few turns of fine spun yarn round the screwed end of the pipe. The bib cock shall be then screwed and fixed to water tight position.

3.3.Mode of measurements & payment:

3.4.The rate includes cost of all labour, materials, tools and plant etc. required for satisfactory completion of this item.

3.5.The rate shall be for a unit of one number.

ITEM NO 56 Providing and fixing Urinal of approved quality including connection with trap and with integral longitudinal flush pipe.(A) Squating plate pattern white earthenware 550mm x 300mm.

1.0. Materials: 1.1. The white earthenware flat pack or comer type urinal of size 430 mm. 260 mm. x 350 mm. shall conform to M-64.

2.0. Workmanship: 2.1. The urinals shall be fixed in position by using wooden plugs and screws and shall be at a height 65 cms. from the floor level to the top of the lip or urinal, unless otherwise directed. The wooden plugs shall be 50 mm. x 50 mm. at base lapping to 38 mm. x 38 mm. at top and 50 mm. in length shall be fixed in wall in cement mortar 1: 3 (1 cement : 3 coarse sand). The urinal shall be connected to 32 mm, dia. galvanised mild steel waste pipe which shall discharge in the channel or-floor trap. The connection between the urinal and flush or waste pipe shall be made by means of putty or whit elead mixed with chopped hemp.

3.0.Mode of measurements & payment:

3.1.The rate includes cost of all labours, materials, tools and plants etc. required for satisfactory completion of this item.

3.2.The rate shall be for a unit of one number.

ITEM NO 57Providing and fixing Gun metal check or nonreturn fullway wheel valve.(E) 40mm dia.
Item No- 58 Brick work using common burnt clay building bricks having crushing strength not less than 35 kg/ sq. C.M. In foundation and plinth in cement mortar 1:6 (1cement : 6 fine sand) in super structure

1.0. Materials:

1.1. The gun metal check or non return full way wheel valve of specified dia. shall conform to I.S. 778-1964. The non return valve shall be of tested quality.

2.0. Workmanship :

2.1. The gun metal check or non return valve" shall be fully cleared of all foreign matter before fixing. The fixing of valve shall be done by means of bolts nuts and 3 mm. rubber insertions with flanges of spigot and socked tail pieces, drilled to the same specification as in case of socket and spigot and with flanges in case of flanged pipes. The jointing shall be done leak proof.

3.0. Mode of measurements & payment:

3.1. The rate includes all labours, materials, tools and plant etc. required for

satisfactory completion of this item.

3.2. The rate shall be for a unit of one number.

Item no- 59 Providing TMT bar FE 500D reinforcement for RCC Work including bending, binding and placing in position Complete upto floor Two level

Specification for this item shall conform to item no. 5.4.11,

P. 37 of General Technical Specifications for building work except that the thermo mechanically treated bars (TMT) shall be used instead of H.Y.S.D. bars for all floors.

TMT bar shall conform to IS 1786/FC 415 for R.C.C. work. It shall be purchased from approved manufacturer and necessary proof of purchase shall be submitted. Bars shall be tested in Govt. or Govt. approved laboratory before use. All necessary tests shall be carried out as per instruction of engineer in charge.

415 TMT bar shall conform to min 415 Mpa yield strength. Tensile strength of min 600 Mpa and elongation percentage min 22. The chemical composition of bars shall be as below.

	<i>% Max.</i>
<i>Carbon</i>	<i>0.25</i>
<i>Sulphur</i>	<i>0.05</i>
<i>Phosphorus</i>	<i>0.05</i>
<i>Sulphur and</i>	<i>0.01</i>
<i>Phosphorus</i>	

Rate shall be for a unit of one kg

2.0. Workmanship :

2.1. The work shall consist of furnishing and placing reinforcement to the shape and dimensions shown as on the drawings or as directed.

2.2. Steel shall be clean and free from rust and loose mill scale at the time of fixing in position and subsequent concreting.

2.3. Reinforcing steel shall conform accurately to the dimensions given in the bar bending schedules shown on relevant drawings. Bars shall be bent cold to specified shape and dimensions or as directed using a proper bar bender, operated by hand or power to attain proper radius of bends. Bars shall not be bent or straightened in a manner that will injure the material. Bars bent during transport or handling shall be straightened before being used on the work. They shall not be heated to facilitate bending. Unless otherwise specified, a 'U' type hook at the end of each bar shall invariably be provided to main reinforcement. The radius of the bend shall not be less than twice the diameter of the round bar and the length of straight part of the bar beyond the end of the curve shall be at least four times the diameter of the round bar. In case of bars which are not round and in case of deformed bars, the diameter shall

be taken as the diameter of circle having an equivalent effective area. The hooks shall be suitably encased to prevent any splitting of the concrete.

2.4. All the reinforcement bars shall be accurately placed in exact position shown on the drawing and shall be securely held in position during placing of concrete by annealed binding wire not less than 1 mm. in size, and by using stay blocks or metal chair spacers, metal hangers, supporting wires or other approved devices at sufficiently-close intervals. Bars shall not be allowed to sag between supports nor displaced during concreting or any other operations of the work. All devices used for positioning shall be of non-corrodible material. Wooden and metal supports shall not extend to the surface of concrete, except where shown on drawings. Placing bars on layers of freshly laid concrete as the work progresses for adjusting bar spacing

shall not allowed. -Pieces of broken stone or brick and wooden blocks shall not be used. Layers of bars shall be separated by spacer bars, precast mortar blocks or other approved devices. Reinforcement after being placed in position shall be maintained in a clean condition until completely embedded in concrete. Special care shall be exercised to prevent any displacement of reinforcement in concrete already placed. To prevent reinforcement from corrosion, concrete cover shall be provided as indicated on drawing. All the bars protruding from concrete and to which other bars are to be spliced and which are likely to be exposed for a period exceeding 10 days shall be protected by a thick coat of neat cement grout. .

2.5. Bars crossing each other where required shall be secured by binding wires (annealed) of size not less than 1 mm. in such manner that they do not slip over each other at the time of fixing and concreting.

2.6. As far as possible, bars of full length shall be used. In case this is not possible, overlapping of bars shall be done as directed. When practicable, overlapping bars shall not touch each other, but be kept apart by 25 mm. or 1.25 times the maximum size of the coarse aggregate whichever is greater by concrete between them. Where not feasible, overlapping bars

shall be bound with annealed wires not less than 1 mm. thick twisted tight. The overlaps shall be staggered for different bars and located at points along the span where neither shear nor bending movement is maximum.

2.7. Whenever indicated on the drawings or desired by the Engineer-in-charge, bars shall be joined by couplings which shall have a cross-section sufficient to transmit the full stresses of bars. The ends of the bars that are joined by coupling shall be upset for sufficient length so that the effective cross section at the base of threads is not less than normal cross-section of the bar. Threads shall be standard threads. Steel for coupling shall conform to I.S. 226.

2.8. When permitted or specified on the drawings, joints of reinforcement bars shall be butt-welded so as to transmit their full stresses. Welded joints shall preferably be located at points where steel will not be subject to more than 75 per cent of the maximum permissible stresses and welds so staggered that at any one section not more than 20 percent of the rods are welded. Only electric arc welding using a process which excludes air from the molten metal and conforms to any or all other special provisions for the work shall be accepted. Suitable means shall be provided for holding bars securely in position during welding. It shall be ensured that no voids are left in welding and when welding is done in two or three stages, previous surface shall be cleaned properly. Ends of the bars shall be cleaned of all loose scale, rust, grease, paint and other foreign matter before welding. Only competent welders shall be employed on the work. The M.S. electrodes used for welding shall conform to I.S. 814. Welded pieces of reinforcement shall be tested. Specimen shall be taken from the actual site and their number and frequency of test shall be as directed.

3.0 Mode of measurement and payment

3.1 For the purpose of calculating consumption wastage shall not be permitted beyond 5 percent. Excess consumption over 5 % will be charged at penal rate.\

3.2 Reinforcement shall be measured in length including overlaps separately for different diameters as actually used in the work. Where welding or comping is resorted to in place of lap joints such joints shall be measured for payment as equivalent length of overlap as per design requirement from the length so measured the weight of reinforcement shall be calculated in tonnes on the same basis of as per M 18 even though steel is supplied to the contractor by the department on actual weight Length shall include hooks at the end wastage and annealed steel wire for binding shall not be measured and the cost of these items shall be deemed to be included in the rate for reinforcement.

3.3 The rate for reinforcement included cost of steel binding wires its carting from department store to work site cutting binding placing, binding & fixing in position as shown on the drawing and as directed. It shall also inclu. All devices for keeping reinforcement in approved position Cost of joining as per approved method and all wastage and speller bars.

3.4 The rate shall be for a unit of 1.00 Kg

Item no- 60 Providing and fixing pre-cast Rubber Dye inter locking concrete block 60 mm thick with grade of concrete M-150 pneumatic compressed by mechanically passed and as per approved design including 35 mm sand layer for levelling and filling the joint with sand in proper line and level etc. complete.

Supply of Reflective Type (Wet Cast) finish Interlocking Concrete paving blocks of VYARA make, with - wear resistant aggregates colour coordinated aggregates in face mix. - Colours specified by the architects, using UV resistant colour pigments from Lanxess. - supplied with two coats of UV resistant acrylic lacquer coating Sr. Parameters Minimum Requirements

1. Percentage Water Absorption Average not over 6%
 2. Compressive strength Average not less than 450 Kg/cm²
 3. Average wear in Thickness- Abrasion Average wear not more than 2mm
 4. Tolerance in size (length + breadth) \pm 1.5mm
 5. Thickness of wearing layer Not less than 5mm
 6. Tolerance in Thickness of block \pm 3mm
 7. Colours UV Light resistant fast colours from Lanxess only to be used.
- The concrete pavers should confirm to requirements of IS 15658:2006.
 - The manufacturing company must be an ISO 9001:2008 certified Company or should have equivalent quality management systems in place to ensure quality product.
 - The blocks will be made using wear resistant materials in the face mix as specified by the architects.
 - The colours of the blocks (wearing layer) will be as selected by the architects.
 - The blocks must be cured in controlled environment to ensure efflorescence free material.
 - The manufacturer must have in house testing laboratory to carry out all testing including Compressive strength testing, Water absorption, abrasion resistance etc.
 - The concrete pavers should have perpendicularities after release from the mould and the same should be retained until the laying.
 - Compaction of moulds should be done by mechanical vibrators. The vibrator should vibrate in both horizontal & vertical directions simultaneously. Mould should be retained minimum 1 & 1/2 minutes on table type vibrator's platform.
- The top surface should be of anti skid type, should not have pin holes and should be dense. The colour pigment and lacquer coating should not be harmful to concrete. t
- The pavers should have uniform interlocking spacer bars of 2mm to 3mm to ensure compacted sand filling after vibration on the paver surface.

- The manufacturer must have in house testing laboratory to carry out all testing including Compressive strength testing, Water absorption, abrasion resistance etc.
- The concrete pavers should have perpendicularities after release from the mould and the same should be retained until the laying.

Item No.61 providg & fixing M.S. grills of required pattern to wooden frames of window etc. with M.S. flats at required spacings and frame alround, square or round bars with round headed bolts and nuts or by screws (A) plain grill

1.0. Materials

The structural steel shall conform to M-22 Paint shall conform to M44

2.0. Workmanship

2.1. The M.S. Grill shall be prepared as per the drawing or as directed for fixing to wooden frames of windows etc.

2.2. The grill shall be fabricated to the designs and patterns shown in the drawings and the weight shall be as directed, and the joints shall be reverted or welded as shown in the plan or as directed. The grill so formed shall be fixed into the frames of the windows etc. before they are erected in position. The outside strip frame of the grill shall be housed to its full thickness into the recess cut into the frame of the windows etc. The grill shall be fixed to the frame with number of bolts and nuts or screws viz. bolt nut/screw per 30 cm. of the length of outer strip subject to minimum of 2 Nos. on each side of the frame or as indicated in the drawing or as directed.

2.3. The bolts and nuts or screws shall be counter sunk and shall be fixed with the top of their heads flush with the face of the frame strips.

2.4 Grill shall be painted Mat finished oil paint two coats followed by one coat of red lead primer.

3.0. Mode of measurements & payment

3.1. No payment shall be made for weight of screws, bolts nuts etc. only weight of grill shall be paid.

3.2. The rate shall be for a unit of one kg.

Item No. 62 Filling in plinth with sand under floors incl. watering ramming consolidating and dressing etc.comp.

4.24. Filling in plinth with sand under floors including watering, ramming consolidating and dressing etc. complete.1.0. Materials: 1.1. Sand shall conform to M. 6.

2.0. Workmanship : 2.1. The relevant specifications of item No. 4.12 shall be followed except that sand shall be filled inundo, floors, including watering, ramming, consolidating and dressing etc. complete.

3.0. Mode of measurement and payment:

3.1. The relevant specifications of item No. 4.12 shall be followed.

3.2. The rate includes cost of collecting carting sand with all lead and labour for filling the same in plinth under floors.

3.3. The rate shall be for a unit of one cubic metre

Item no. 63 Providing and Fixing pre cast concrete kerb stone of gray cement based concretre block 30cm length,30cm hight and 15cm thick of M250 grade concrete as per appeoved design and incl excavation for fixing in proper line and level ,filling the joint with C M 1:3 etc complete

Materials :-

- (1) Concrete Kerb stone size 30 cm x 30 cm x 15 cm of M 2350 grade cons as approved by Architect Engineer in charge.
- (2) Water shall conform to M- 1
- (3) Cement shall conform to M- 3
- (4) Sand shall conform to M- 6
- (5) Grit shall conform to M- 8

Item No- 64 Painting Two coat (Excl.piming coat) on previously painted steel & other metal surfaces with synthetic enamel paint brushing to give an even shade incl. Cleanig the surface of all dirt, dust and other foreign matter.

1.0. Materials

Water shall be conform M-1. The plastic emulsion shall conform to I.S.: 5411-1969 (part-I).

2.0. Workmanship

2.1. Scaffolding : The relevant specifications of item-No. 18.11 Para 2.1 From Building Specification Book shall be followed.

2.2. Preparation of surface : The relevant specification of item No. 18.44 Para 2.2 From Building Specification Book shall be followed.

2.3. Preparation of Mix :

This shall be done as per manufacture's instructions. The thinning of emulsion is to be done with water and not with turpentine. The quantity of thinner to be added shall be as per manufacturer instructions.

2.4. Application :

2.4.1. Before pouring into small containers for use, the paint shall be stirred thoroughly in item container. When applying also, the paint shall be continuously stirred in the smaller container, so that its consistency is kept uniform.

2.4.2. The paint shall be laid on evenly and smoothly by means of crossing and laying off the crossing and consist of covering the area over with paint, brushing the surface hard for the first time over and then, brushing alternately in opposite direction two or three times and then finally brushing lightly in direction at right angles to the same. In this process, no brush Marks shall be left after the laying off is finished. No hair marks from the brush or clogging of paint puddles in the corners of panels, angles of moldings, etc. shall be left on the work. The full process of crossing and laying off will constitute one coat.

2.4.3. The paint shall be applied with brush or rollers. For undecorated surfaces, the surface shall be treated with minimum two coats of cement water proofing paint. The second or subsequent coat shall not be started until the proceeding coat as become sufficiently hard to resist marking by brushing being used.

2.4.4. The surface on finishing shall present a flat velvety smooth finish. It shall be even and uniform in shade without patches, brush marks, paint drops etc.

2.5. Precautions :

(a) Old brushes if they are to be used with emulsion paints, shall be completely dried of turpentine or oil paint by washing in warm soap water. Brushes shall be quickly washed in water immediately after use and kept immersed in water fusing break periods to prevent the paint from hardening on the brush.

(b) In the preparation of wall for plastic emulsion painting, no oil base petals shall be sued in filling cracks, holes etc.

(c) Splashes on floors etc. shall be cleaned out without delay as they will be difficult to remove after hardening.

(d) Washing or surfaces treated with emulsion paint shall not be done within 3 to 4 weeks of application

2.6. Protective payment : The relevant specifications of item No. 18.11 From Building Specification Book shall be followed.

3.0. Mode of measurements and payment

3.1. The relevant specifications of item No. 18.11 From Building Specification Book shall be followed.

3.2. The rate shall be for a unit of One sq. meter.

Item No.65 Providing and fixing 35mm thick shutter for doors, windows incl Indian teak wood frames 10CM/7CM SIZE incl anodised aluminium fixtures and fastening incl primer coat of approved quality and two coat of oil painting etc complete fully panelled

Item No.66 Providing and fixing window having extruded aluminum Colour anodized section frame main outer size 63.50 x 38.10 x 1.95 mm (of Jindal Section no:4605, @ Wt 1.094 Kg / Rmt), horizontal two track member size 61.85 mm x 31.75 mm x 1.20mm (of Jindal Section no: 8687 @ wt.of 0.695 Kg/mt), vertical member of size 61.85 mm x 31.75mm x 1.30 mm (of Jindal Section no:8758 @ wt.of 0.0.659 Kg/mt) with sliding shutters of horizontal member size 40mm x 18mm x 1.29mm (of Jindal Section no:8949 @ wt.of 0.456Kg/mt), vertical member of size 40mm x 18mm x 1.29mm (of Jindal Section no:8947 @ wt.of 0.456Kg/mt/ Section 8948, @ Wt. 0.457 Kg/mt) with 5 mm thick transparent bronze colour tinted float glass with powder coated aluminum fittings and fixtures and transparent silicon sealant glass fixing to frame as per details etc complete for window.

Item No.- 67 UGVC Ltd. meter connection charges

Item No.- 68 Power connection charges from UGVCL/ GEB incl. in all Estimate charge & meter connection given by UGVCL/GEB.

ITEM 69 Fixing metallic or plastic door handles of sizes with necessary screw etc complete (door handle and screw to be paid under separate item)

ITEM 70 Fixing metallic floor door stoppers of sizes with rubber cushion screws etc to suit shutter thickness complete (floor door stopper with rubber cushion screw to be paid under separate items)

ITEM 71 marble slab polished granite stone 20 to 25 mm thick black in colour

Item no. 66 to 71 Specification as per Electrification Book Attached

Name of Work :- Const. Of Various Dispensary Building in Sanand Taluka Dist. Ahmedabad (1) Zolapur (2) Changodar (2025-2026) Total -2

SCHEDULE FOR TESTING OF MATERIALS

For ensuring quality control and workmanship, Various tests prescribed below for materials shall be taken at periodical intervals as stipulated below.

The materials shall be got tested at Government recognised Laboratory, (R & B) of field Laboratory of GERI (R & B) for which 1 % of the estimated amount put to Tender shall be recovered from the contractor from the R.A. bills and final bills at the testing charges shall be paid to the GERI by the

Government However if the charges increase over 1 % no excess recovery shall be made from the contractor as per resolution of B & C Department dated 10th May 1985 vide TNC/1085 (4)s.

Item No. as per schedule B	Brief Description of Materials to be tested	Qty. of Materials	Prescription of test which shall be carried out	Frequency @ which test shall be carried out		Total No. of Test to be taken
	40 MM		Gradation Test	1 to 100 Cmt – 1 Test		
	20 MM			100 to 500 cmt – 3 Test		
	25 to 40 mm metal		Impact value	500 to 1500 cmt – 5 Test		
	10 to 20 mm kapchi		Flakiness Index	1500 to 5000 cmt – 7 Test		
	6 mm size grit					
	10 to 12 mm kapchi					
	6 to 10 mm grit					
	19.20 to 26.5 mm					
	13.20 to 19.20 mm					
	4.75 to 13.20 mm					
	2.36 to 4.75 mm					
	5.60 to 11.20 mm					
	2.80 to 5.60					
	Quarry Spall					
	40 mm nominal sie					
	20 mm MCBT					
2	Sand		Stripping Value	-As above-		
3	Murum		P. I. Value	One test per / 50 Cmt		
4	Sand		Silt Content	One test per work		
	Stone dust		Gradation	One test per 200 Cmt		
5	Asphalt		1 Penetration Test as per I.S. 1203	No. of Tankar	Test	
	(ii) Emulsion			1 to 10	1	
				11 to 20	2	
				21 to 50	3	
				50 to 100	4	
				Remaining every 50 tankar		
			2. Ductility Test	As per I.S. 1208		
			3. Specification Gravity Test	As per I.S. 1202		
			4. Softening point Test	As per I.S. 1204		
			5. Viscosity Test	As per I.S. 1206		
6	Tack coat		Binder temperature for application	Irregular close in intervals Two tests per day		
			Rate of spread of binder			
7	WOOD					
8	Bricks		Water absorption	1 test per 50000 Bricks		
			Efflorence			
			Size			
			Compressive Strength			
9	Cement		Consistency	Up to 50 T	1 test	
			Setting time	100 T	2 tests (As per	
			Compressive strength	200 T	3 tests GERI	

			Fineness	300 T	4 tests Manual	
			Chemical analysis	500 T	5 Tests 2002)	
			Soundness	800 T	6 tests	
				1300 T	7 tests	
				and 8 tests for longer consignment		
10	Steel T.M.T. Bar		Tensile Strength	1 Test/40tonnes/per category		
	M.S. Bar		Yield Stress			
			Elongation			
			Size			
11	C C cube 1.1.5.3		Compressive Strength	Only C.C. M.P	No. of test	
	M-100		(I.S. 516 – 1959)	1 to 5	1 No	
	M-150			6 to 15	2 No	
	M-200			16 to 20	3 No	
	M-250			31 to 50	4 No	
	C.C. 1:3:6			51 & above	4 + 1	
				(For each additional 50 or part thereof)		

The number of test will be as per Manual of Quantity Control of latest Govt. G.R./ Circulars will be final .

The Contractor shall have to pay 1 % of the estimate cost put to tenders all testing of materials & same shall be deducated from their bills for the works. The testing of various materials shall be carried out in DERI and result received shall be binding to all i.e. the contractor and Govt.

Testing charges of GERI shall be born by Govt. No refund be made nor extra charges over 1 % shall be recoverable from the ccontractor.s

Deputy Executive Engineer
R & B Panchayat Sub Division
Sanand

Executive Engineer
R & B Panchayat Division
Ahmedabad