



DRAFT TENDER PAPERS

Name of Work :- Const. Of Various Anganwadi Building at Dholka Ta. Dholka Dist. Ahmedabad Package No. AHD/Anganwadi/05 (2026-2027) (Chaloda-7, Keliya Vasna-4, Kodaliyapura, Kariyana-1) Total-4

D.T.P. Cost. Rs. 4011844.72

Sr. No.	Name of Work	No.
1	Const. Of Various Anganwadi Building at Dholka Ta. Dholka Dist. Ahmedabad Package No. AHD/Anganwadi/05 (2026-2027) (Chaloda-7, Keliya Vasna-4, Kodaliyapura, Kariyana-1) Total-4	2

**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 Anganwadi Building at Dholka Ta. Dholka Dist. Ahmedabad Package No. AHD/ Anganwadi/ 05 (2026-2027) (Chaloda-7, Keliya Vasna- 4, Kodaliyapura, Kariyana-1)Total-4(Second Time)
Estimated Contract Value (INR)	:-	Rs. 4011844.72
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. 40300/-
Bid Security / EMD in favour of	:-	Executive Engineer, R & B Panchayat Division Ahmedabad

Tender Dates

Bid Document Downloading Start Date	:-	22/6/2026 hrs 12.00
Bid Document Downloading End Date	:-	08/07/2026 hrs 18.00
Pre Bid Opening Date	:-	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	:-	<p>Demand Draft for EMD & Tender fee shall be submitted in Electronic Format Only through 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 send 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></p> <p>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.</p>
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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 form 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)

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 અંદાજ 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 ઈલેક્ટ્રોનિક 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 કરારપત્રનો એક ભાગ ગણાશે. એક યા બધા ટેન્ડર મંજૂર કે ના મંજૂર કરવાનો હકક સત્તાધિકારીશ્રીને અબાધિત રહેશે.

ક્રમ	તાલુકો	રસ્તાનુ નામ/પેકેજ નંબર	અંદાજ રકમ રૂ. લાખ માં	બાનાની રકમ રૂ.	ટેન્ડર ફી રૂ.	ઈજારદાર ની ક્લાસ
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 ક્લાસ 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 ક્લાસ 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 ક્લાસ 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 ક્લાસ 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 ઈનવાઈટીંગ ઓફીસર	કાર્યપાલક ઈજનેરશ્રી, મા.મ. પંચાયત વિભાગ, જિલ્લા પંચાયત ભવન, લાલદરવાજા, અમદાવાદ.
બીડ ઓપનીંગ ઓથોરીટી	અધિક્ષક ઈજનેરશ્રી, મા.મ. પંચાયત વર્તુળ, સી-૬, બહુમાળી ભવન, વસ્ત્રાપુર, અમદાવાદ.

જનરલ ટર્મ્સ એન્ડ કંન્ડીશન્સ

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

કાર્યપાલક ઈજનેર
મા. મ. પંચાયત વિભાગ
અમદાવાદ

જાહેર નિવેદન નં. ૦૪/૨૦૨૬-૨૦૨૭
કાર્યપાલક ઈજનેર 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 લાઈન ઈ-ટેન્ડર
થી જાહેર બાંધકામ ખાતાના યોગ્ય શ્રેણીમાં નોંધાયેલ ઈજારદારો પાસેથી ટેન્ડર માંગવામાં
આવે છે. ઈ-ટેન્ડરની વિગતો અત્રેની કચેરીએ થી તથા વેબસાઈટ
www.statetenders.gujarat.gov.in પર ટેન્ડર તા.૦૮/૦૭/૨૦૨૬ સુધી
જોવા મળશે તથા ઓનલાઈન ટેન્ડર **www.rnb.nprocure.com** પર ડાઉનલોડ
તથા સબમીશન થઈ શકશે.

અહીંથી છાપવું નહીં.

SPECIAL CONDITIONS & GENERAL RESOULATION

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 assignning and reason there of.
10. Detailed working drawings for the work can be viewed only by Autocad version while on line tender down loading.

SPECIAL CONDITION

The unit rates of controlled cement concrete items of RCC Works of Mix M-200 & M-250 included in tender are taken considering Cement Consumption as shown below in Table-A.

TABLE-A

SR. NO.	GRADE OF cONTROLLED CEMENT CONCRETE	CEMENT CONSUMPTION AS PER sor IN BAGS/ CUM	REMARKS
1	2	3	4
1	M-200	8.00	
2	M-250	9.00	

The contractor has to submit the mix design for different grades of cement concrete at his own before execution as directed and to be approved from the Executive in charge. Reduction in rates of RCC items put into the tender by the contractor shall be given according to the cement consumption of the approved mix design of cement concrete for that item. If the cement consumption of the mix design is less than as prescribed in Table-A. The recovery shall be carried out as per the input rate of Cement mentioned in Clause 59A The Condition is also applicable to the (i) excess quantity for RCC items and (ii) Extra item Rate Lists. The Condition is to be followed in addition to Clause-14.

Dated Signature of The Contractor

બાંધકામના મટીરીયલ્સ તેમજ કોમ્પોનેન્ટ્સ
સેમ્પલની ગુણવત્તા માટેના પશ્ચિમ 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 પરિક્ષણ 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 પરિક્ષણો પૈકી ૧૦ ટકા માન્ય લેબોરેટરી ધ્વારા અને ૯૦ ટકા ફિલ્ડ લેબોરેટરી ધ્વારા કરાવવાના રહેશે. જેમા નીચે દર્શાવેલ પરિક્ષણો 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 પ્રમાણોની 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 કામનુ સ્થળ ગણી શકાય.

૨. ધારા ધોરણ પ્રમાણેના પરિક્ષણોની સંખ્યા પૈકી ૮૦ ટકા પરિક્ષણ ફિલ્ડ લેબોરેટરીમાં ઈજારદારના અધિકૃત ક્વોલીફાઇડ 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 પરિક્ષામોમાં 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 તદ્દનુસાર શરુઆતના તબક્કામાં રાખવું વચ્ચેના તબક્કામાં તેમજ આખરી તબક્કામાં કરાવવાનું રહેશે. આમ છતાં આ બાબતે સ્થાનિક કક્ષાએથી ના.કા.ઈ.શ્રીએ જરુરીયાત 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 કન્ટકટ કરવા માટે જરુરી ફી જે તે વિભાગના કા.ઈ.શ્રીએ ચુકવવાની રહેશે અને આ કાર્યવાહી સમયબધ્ધ 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 ચેકસ્ટેન
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. પૂર્વતતી 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 ફોર્મેટમાં 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 ફોર્મેટમાં 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 ફોર્મેટમાં 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

કોન્ટ્રાક્ટર ધ્વારા પુરો પાડવામાં આવતા ડામર ના ભાવ તફાવત બાબત

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

અનુસંધાન

(૧) આવિભાગના (૧) પરિપત્ર ક્રમાંક એસટીઆર ૧૦૯૭-૮૨- હ તા. ૨૭/૧૧/૯૭

(૨) પરિપત્રક્રમાંક એસટીઆર ૧૦૯૭ મં. ૮૨- હ તા. ૨૧/૧૧/૯૮

(૩) પરિપત્ર ક્રમાંક એસટીઆર-૧૦-૨૦૦૧-મં.-૩૪-૨૯-હ તા. ૪/૧૦૨૦૦૫

પરિપત્ર

માર્ગ અને મકાન વભાગ 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 શરુ કર્યાથી પુરુ કરવાની મુળ સમય મર્યાદા અને વધારેલી સમય મર્યાદા સુધી લાગુ પડે છે. જ્યારે ડામરના કિસ્સામાં કામ પુરુ કરવાની વધારેલ સમય મર્યાદામાં ભાવ તફાવતની રકમ આપવા અંગે વિસંગતતા હોઈ ગુજરાત કોન્ટ્રાક્ટર્સ એસોસીયેશન અમદાવાદની રજુઆત થયેલ છે. જે ધ્યાને લઈ પુખ્ત વિચારણાના અંતે ઉપરોક્ત અનુસંધાન ૨ માં દર્શાવેલ તા.૨૧/૧૧/૯૮ ના પરિપત્રની સુચના ક્રમાંક ૨ રદ 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 દરમ્યાન 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 દરમયાનનો 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 પરિપત્રોઅન્યુ 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 ફ્લેટ ટેન્ડરમાં કરવાના રહેશે.

ગુજરાત રાજ્ય પાલશ્રીના હુકમથી અને તેમના નામે.

સહી/-

(પી.બી. શાહ)

ઉપસચિવશ્રી (યં અને મ)

માર્ગ અને મકાન વિભાગ

પ્રતિ,

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 એસોસીયેશન અમદાવાદ

ગુજરાત સરકાર
ઉદ્યોગ અને ખાણવિભાગ
ઠરાવ ક્રમાંક: એમએમઆર/૧૧૨૦૦૦/૨૦૧૩/૬૭.
સચિવાલય, ગાંધીનગર
તારીખ : ૧/૮/૨૦૦૪

વંચાણે લીધા ::-

- (૧) ઉદ્યોગ , ખાણ અને ઉર્જા વિભાગનો ઠરાવ ક્રમાંક: એમસીઆર-૨૧૬૮-૭૩૮૦-૬૭. તા. ૧૨/૧૨/૧૯૬૮
- (૨) ઉદ્યોગ, ખાણ અને ઉર્જા વિભાગનો ઠરાવ ક્રમાંક: એમસીઆર-૨૧૬૮-૮-૬૬૮૫-૬૭, તા. ૧/૧/૧૯૮૭
- (૩) ઉદ્યોગ, ખાણ અને ઉર્જા વિભાગનો ઠરાવ ક્રમાંક: એમસીઆર-૨૧૮૮-(૮)૬૫-૬૭ તા. ૨૫/૧/૧૯૮૧
- (૪) ઉદ્યોગ અને ખાણ વિભાગનો ઠરાવ ક્રમાંક: એમસીઆર-૧૦૮૭-૨૮૫૬-૬૭. તા. ૬/૧૧/૧૯૮૭
- (૫) માન. મુખ્યમંત્રીશ્રીના અધ્યક્ષપણા હેઠળ યોજાયેલ એમ્પાવર્ડ કમીટીની તા. ૧૮/૬/૨૦૦૪ ની બેઠકની કાર્યવાહીનોંધ

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 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-૧૧૨૦૦૦-૨૦૧૩-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 ઈજનેરશ્રી,

(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, એન્જીનીયરીંગ સ્ટાફ કોલેજ, ગાંધીનગર
- મેનેજીંગ ડીરેક્ટરશ્રી, ગુજરાત રાજ્ય બાંધકામ નિગમ લી., ગાંધીનગર --મેનેજીંગ 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 ફાઇલ.

માલસામાન પરીક્ષણ અંગે ટેસ્ટની સંખ્યા અને સ્વીકૃતીના ધોરણો દર્શાવતુ પત્રક ગુણવત્તા નિયમન માર્ગ અને મકાન વિભાગ

ક્રમ	ટેસ્ટની વિગત	ટેસ્ટના ધોરણો	પરીક્ષણોની સ્વીકૃતિના ધોરણો
૧	૨	૩	૪
૧	સીમેન્ટ		
	(ક) સેટીંગ ટાઈમ ઇનીશીયલ,	૫૦ ટનની ટકા થેલીઓમાંથી ૧૫ કીલોનો એક સેમ્પલ લેવાનો રહે છે.	૩૦ મીનીટ કરતા ઓછું નહીં
	ફાઈનલ	૫૦ થી ૧૦૦ ટન-૨ સેમ્પલ	૬૦૦ મીનીટ કરતા વધારે નહીં
		૧૦૦ થી ૨૦૦ ટન-૩ સેમ્પલ	
		૨૦૦ થી ૩૦૦ ટન-૪ સેમ્પલ	
		૩૦૦ થી ૫૦૦ ટન-૫ સેમ્પલ	
		૫૦૦ થી ૮૦૦ ટન-૬ સેમ્પલ	
		૮૦૦ થી ૧૩૦૦ ટન-૭ સેમ્પલ	
	(ખ) ફાઈનનેશ	પાંચ સેમ્પલ માંથી એક ટેસ્ટ (આઈ.એસ. સીવ ૮૦ માઈક્રોન)	૮૦ માઈક્રોનની સીવમાંથી ૮૦% અગર વધુ પગાર થવું જોઈએ.
	(ગ) કન્સીસ્ટેન્સી ટેસ્ટ	એક સેમ્પલ (દરેક સેમ્પલ ઉપર મુજબ)	૩૦% જેટલું
	(ઘ) કોપ્રેસીવ ટેસ્ટ	ત્રીજા દીવસે ઓ.પી.સી. માટે ૧૧૦ કી.ગ્રા./સે.મી. ^૨	દરેક સેમ્પલ ઉપર મુજબ
		સાતમા દિવસ માટે ૨૨૦ કી.ગ્રા / સે.મી. ^૨	
		અઠવાવીસ માં દિવસે ઓ.પી.સી. માટે ૩૧૦ કી.ગ્રા./ સે.મી. ^૨	
	(અ) ફાઈનનેશ ટેસ્ટ પેસીફીક સરફેસ ધ્વારા	ઓ.પી.સી. માટે ૨૦૦૦ કી.ગ્રા./સે.મી. ^૨ વધારે	ઉપર મુજબ પાંચ સેમ્પલમાંથી એક ટેસ્ટ
		પી.પી.સી. માટે ૩૦૦૦ કી.ગ્રા./સે.મી. ^૨ વધારે	
	(બ) રાસાયણિક પુથકકરણ આઈ.એસ ૪૦૩૨-૮૮૬	૧. મેગ્નેશિયમ ઓક્સાઈડ ૬% થી ઓછું	ઉપર મુજબ પાંચ સેમ્પલમાંથી એક ટેસ્ટ.
		૨. સલ્ફર ટ્રાય ઓક્સાઈડ ૨.૭૫% થી ઓછું	
		૩. ઇન્જીશયન લોશ ૫% સુધી	

ર	રેતી				
	(અ) સીલ્ટકન્ટેન્ટ	૧૫૦ ઘન મી. એક ટેસ્ટ (એક સેમ્પલ ૧૦ કિ.ગ્રા)		૩ % સુધી સ્પેસીફિકેશન નિયત કરેલા ધોરણ મુજબ સામાન્ય રીતે ચોથા ઝોન માંથી આવતી રેતી વાપરવી નહીં.	
	(બ) ફાઇનેનેશ મોડ્યુલસ				
૩	ગ્રીટ કપચી (ડામરકામ માટે)	બીટ મીનસ મેક્સડમ, ગ્રીટ અને કપચીના અલગ સ્પષ્ટીકૃત નિયત કરેલા ધોરણો મુજબ બે તેમજ મીક્ષ એગ્રીગેટના દરરોજ બે ટેસ્ટ એક જ પ્લાન્ટ ઉપરથી લેવાના રહેશે. (અલગ અલગ બે અને ડ્રાયરમાંથી બે)		સ્પેકીકેશનના નિયત કરેલા ધોરણો મુજબ.	
	(ક) ગ્રેડેશન ટેસ્ટ	પ્રતિ ૨૦૦ ઘન મીટરે એક ટેસ્ટ		ડામર સપાટી માટે ૧૨% થી વધુ નહીં.	
	(ખ) ફલેકીનેશ ટેસ્ટ	પ્રતિ ૨૦૦ ઘન મીટરે એક ટેસ્ટ		ડબલયુ બી.એમ. સપાટી માટે ૧૫% થી વધુ નહીં	
	(ગ) ઇમેક્સ ટેસ્ટ	પ્રતિ ૨૦૦ ઘન મીટરે એક ટેસ્ટ		૩૦ % થી વધુ નહીં.	
	(ઘ) એબ્રેશન ટેસ્ટ	પ્રતિ ૨૦૦ ઘન મીટરે એક ટેસ્ટ		૩૫ % થી વધુ નહીં.	
	(ચ) કપચીનો સ્ટ્રીપીંગ ટેસ્ટ	દર ૫૦ થી ૧૦૦ ઘન મીટરે એક ટેસ્ટ દરરોજ		ક્વોલીટી કન્ટ્રોલ મેન્યુઅલ પુષ્ક ૨૬ મુજબ	
	ગ્રીટ કપચી			૨૫ % થી વધુ નહીં.	
	(૧) ગ્રેડેશન ટેસ્ટ	૧૦૦ ઘ.મી	૧		
	(૨) ફલેકીનેશ ટેસ્ટ	૧૦૧ થી ૫૦૦ ઘ.મી	૩		
	(૩) ઇમેક્સ ટેસ્ટ	૫૦૧ થી ૧૫૦૦ ઘ.મી	૫		
	(૪) એબ્રેશન ટેસ્ટ	૧૫૦૧ થી ૫૦૦૦ ઘ.મી	૩		
	(૫)કશીંગ ટેસ્ટ				
	(૬) સ્ટ્રીપીંગ ટેસ્ટ				
	(૭) ગ્રેડેશન ટેસ્ટ એટ પ્લાન્ટ સાઇટ	દર ૧૦૦ મે.ટને એક ટેસ્ટ,રોજના ઓછામા ઓછા બે ટેસ્ટ ફરજીયાત		ઓછામા ઓછો એક ટેસ્ટ એક કામ માટે કોઇ સુધારો નહિં.	
	(૮) બાઇડર કન્ટેન્ટ	દર ૧૦૦ મે.ટને એક ટેસ્ટ,રોજના ઓછામા ઓછા બે ટેસ્ટ ફરજીયાત		કોઇ સુધારો નહિં.	
	(૯) ડામરની જરૂરીયાત પ્રમાણે ગુણવત્તાનું પરિક્ષણ	ટેન્કરની સંખ્યા	પરીક્ષણની સંખ્યા		
		૫ થી ૧૦	૧		
		૧૧ થી ૨૦	૨		
		૨૧ થી ૫૦	૩		
		૫૧ થી ૧૦૦	૪		
		૧૦૧ થી ૧૫૦	૫		
		૧૫૧ થી ૫૦૦	૮		
		બાકી દરેક ૫૦ ટેન્કર દીઠ	૧		
	(અ) ડામર એક્સપ્રેશન ટેસ્ટ	બે ટેસ્ટ એક જ પ્લાન્ટ માટે લેવાના રહેશે		૦.૩ % (નિયત ધોરણોના)	
				૦.૮૦	૪ %

	<ul style="list-style-type: none"> (બ) ડામરની ગુણવત્તાનો ટેસ્ટ (પેનીટ્રેશન ટેસ્ટ) 	<ul style="list-style-type: none"> દર ૧૦૦ ટને એક ટેસ્ટ અથવા જરૂરિયાત મુજબ. 	<ul style="list-style-type: none"> ૮૦-૨૨૫ ૫ % ૨૨૫ થી ઉપર ૦ %
૪	<ul style="list-style-type: none"> ઇંટો (ક) એબ્સોર્પ્શન ટેસ્ટ (ખ) વોટર એબસોર્પ્શન ટેસ્ટ (ગ) કોપ્રેશીવ સ્ટ્રેન્થ ટેસ્ટ 	<ul style="list-style-type: none"> ૨૦૦૦ ઇંટોના જથ્થામાંથી ૨૦ ઇંટો લેવાની રહે છે. ૩૫૦૦૦ ઇંટોના જથ્થામાંથી ૩૨ ઇંટો લેવાની રહે છે. અને દરેક ૫૦૦૦૦ ઇંટોના જથ્થામાંથી ૫૦ ઇંટો લેવાની રહે છે. 	<ul style="list-style-type: none"> મોડરેટ ૨૦ % થી વધુ નહીં. એવરેજ ૩૫ કી.ગ્રા./ સે.મી.^૨ થી ઓછુ નહીં. અને દરેક રીઝલ્ટ નિયત ધોરણોના ૨૦ થી ઓછુ હોવુ જોઈએ.
૫	<ul style="list-style-type: none"> સી.સી. ફ્લોરીંગ ટાઈલ્સ (ક) વોટર અબસોર્પ્શન ટેસ્ટ (ખ) ટ્રાન્સવરી સ્ટ્રેન્થ ટેસ્ટ (ગ) એબ્સોર્પ્શન ટેસ્ટ 	<ul style="list-style-type: none"> ૮૦૦૦ ટાઈલ્સમાંથી ૬ ટાઈલ્સ લેવાની રહે છે. ૮૦૦૦ ટાઈલ્સમાંથી ૧૨ ટાઈલ્સ લેવાની રહે છે. ૮૦૦૦ ટાઈલ્સમાંથી ૬ ટાઈલ્સ લેવાની રહે છે. 	<ul style="list-style-type: none"> વધુમાં વધુ ૧૦ % ભીની સુકી ૮૦ કી.ગ્રા./સેમી^૨ ૧૨૦ કી.ગ્રા./સેમી^૨ (ઓછામાં ઓછી) એવરેજ ધસારો ૩.૫ મી.મી. થી વધુ નહીં.
૬	<ul style="list-style-type: none"> પાણી કેમિકલ એનાલીસીસ 	<ul style="list-style-type: none"> એક સોર્સ માટે એક જ વખત ટેસ્ટ લેવાનો રહેશે. પછી જો શંકા થાય તો જ. 	<ul style="list-style-type: none"> ટીડીએસ (મી. ગ્રા/લીટર-૩૦૦૦) સલ્ફેટ (મી.ગ્રા./લીટર-૫૦૦) પી.એચ.વેલ્યુ ૬ થી ૮ ક્લોરાઈડ મી.ગ્રા./ લીટર-૨૦૦૦ (પી.પી.સી.) ૧૦૦૦ (આર.સી.સી.) કાર્બનીક પદાર્થ ૨૦૦ અકાર્બનીક પદાર્થ ૩૦૦૦ (બ) જુદા જુદા ગ્રેડના કોર્કીટ માટે નિયત કરેલ મજબુતાઈ મેળવવાની જરૂરી છે.
૭	<ul style="list-style-type: none"> સીમેન્ટ કોર્કીટના કચુબ ટેસ્ટ 	<ul style="list-style-type: none"> (અ) ઓડીનરી અને કંટ્રોલ કોર્કીટ માટે આઈ.એસ. ૪૫-૧૯૭૮ જથ્થો સેમ્પલની સંખ્યા ૧ થી ૫ ઘન મીટર ૧ ૨ થી ૧૫ ઘન મીટર ૨ ૧૬ થી ૨૦ ઘન મીટર ૩ ૩૧ થી ૫૦ ઘન મીટર ૪ ૫૧ થી ઉપરના ૪ +દરેક જથ્થા માટે ૫૦ ઘન મીટર અથવા તેના ભાગ માટે એક સેમ્પલ (૧ સેમ્પલ - ૬ કચુબ) (બ) ઓડીનરી અને કંટ્રોલ કોર્કીટ પુલોના કામ માટે આઈ.આર.સી. ૨-૧૯૬૬ મુજબ ગતિ ૫૦ ઘન મી.ના જથ્થા માટે ૧૦ કચુબ લેવાના જે પૈકી ૫ કચુબ ૭ દિવસના અંતે અને ૫ કચુબ ૨૮ દિવસના અંતે ટેસ્ટ કરાવવાના રહે છે. 	<ul style="list-style-type: none"> ૭ દિવસ ૨૮ દિવસ કી.ગ્રા/સે.મી.^૨ કી.ગ્રા/સે.મી.^૨ એમ.૧૦૦- ૭૦ ૧૦૦ એમ.૧૫૦- ૧૦૫ ૧૫૦ એમ.૨૦૦- ૧૩૫ ૨૦૦ એમ.૨૫૦- ૧૭૦ ૨૫૦ એમ.૩૦૦- ૨૦૦ ૩૦૦ આ ઉપરાંત આઈ.એસ.આર-૧૯૭૮ ના કો. મુજબ વિશિષ્ટ મજબુતાઈ (કેરેક્ટરી સ્ટીક સ્ટ્રેન્થ ની ગણતરી કરીને મેળવવાની હોય છે. (બ) દરરોજ ટેસ્ટ કરેલા કચુબની સરેરાસ કોમપ્રેસીવ સ્ટ્રેન્થ નિયત ધોરણોથી ઓછી ના હોવી જોઈએ. દરરોજ ટેસ્ટ કરેલા કચુબના ૨૦ % કચુબની સ્ટ્રેન્થ નિયત ધોરણોની સ્ટ્રેન્થ ના ૮૫ટકા થી ઓછી ના હોવી જોઈએ.

		<ul style="list-style-type: none"> કોર્કીટ કામ દરમ્યાન પહેલા ૬ દિવસ માટે કાચમ ઉપર મુજબ કચુબ લેવાના અને ત્યાર પછી ત્રણ દિવસે એકવાર કચુબ ભરવાના રહે છે. (ક) સીમેન્ટ કોર્કીટ બીમના કામ માટે પ્રતિ ૩૦ ઘન મી.ના જથ્થા માટે ૧૦ કચુબ ભરવાના જે પૈકી ૫ કચુબ ૭ દિવસ અને બાકીના ૫ કચુબ ૮ દિવસે ટેસ્ટ કરાવવાના રહેશે. 					
• ૮ •	લોખંડ	•	•	•	•	•	•
•	(ક) માઈલ્ડ સ્ટીલ (આર.સી.સી.)	• ૪૦ ટને ઓછામાં આછું એક ટેસ્ટ લેવાના રહે છે.	• જાડાઈ મીમી	• અલ્ટીમેટ ટેન્સાઈલ સ્ટ્રેન્થ (કી.ગ્રા/સે મી ^૨)	• ઇલ્ડટ્રેસ (કી.ગ્રા/સે મી ^૨)	•	• ઈલોગેશન ના ટકા
•		•					
•		•					
•		•					
•		•					
•		•					
•	(ખ)ટૂવીસ્ટેડ સ્ટીલ બાર	• ૪૦ ટને ઓછામાં આછું એક ટેસ્ટ લેવાના રહે છે.	• ૦-૨૦ • ૨૦-૪૦ • ૪૦ થી વધુ	• ૪૨ • ૪૨ ૪૨	• ૨૨ • ૨૪ ૨૪	•	• ૨૩ • ૨૩ ૨૩
•		•	• બધી સાઈઝ માટે	• ૪૯.૫	• ૪૨.૫	•	• ૧૪.૫
•	(ગ) પ્રીસ્ટ્રેસ્ડ કોર્કીટ માટે સ્ટીલના તાર	• ૪૦ ટને ઓછામાં આછું એક ટેસ્ટ લેવાના રહે છે.	•				
•		•	• ૮.૦	• ૧૪૦	• આવેલ	•	• ૪ ગ્રોજ
•		•	• ૭.૦	• ૧૫૦	• ટેન્સાઈલ	•	• ૪લેન્થ
•		•	• ૫.૦	• ૧૬૦	• સ્ટ્રેન્થથી	•	• ૪૨૦૦ મીમી
•		•					
•		•	• ૪.૦	• ૧૭૫	• ઓછામાં	•	• ૩
			• ૩.૦	• ૧૮૦	• ઓછું	•	• ૨.૫
					૮૫%		

માર્ગ અને મકાન વિભાગ દ્વારા રાજ્યના રસ્તાઓનું બાંધકામ અને તેની મરામત અને જાળવણી ની કામગીરી માટે તા. ૧/૧૨/૯૭ થી અમલમા આવે તે રીતે જે કોઈ કામના ટેન્ડરો વિભાગ દ્વારા બહાર પાડવામા આવે તેમા ડામર વિભાગ દ્વારા પુરો ન પાડતા કોન્ટ્રાક્ટર દ્વારા બારોબાર જે તે ઓઈલ કંપની મા ડામર ના પૈસા ભરી લાવવાનો રહેશે તે પ્રમાણે સ્પષ્ટ સુચના અચુક આપવી એટલે કે તા. ૧/૧૨/૯૭ બાદ માગવામા આવતા કોઈપણ ટેન્ડરોમા શીડયુલ એ મા વિભાગ દ્વારા ડામર પુરો પાડવાની આઈટમો નો સમાવેશ કરવાના રહેશે નહીં.

૧. ઇજારદાર ડામર કચાથી લાવ્યા તે અંગેનું બીલ અસલમા વિભાગને રજુ કરવાનું રહેશે.
૨. રીફાઈનરી ના ગેટપાસ પણ બીલ સાથે સામેલ કરવાના રહેશે.
૩. ડામર જે ટેન્કરમા લાવવામા આવે છે તે ટેન્કરનો વાહન નંબર બતાવવાનો રહેશે.
૪. ડામર ઉપર ઇજારદાર શ્રી ને એડવાન્સ પેમેન્ટ અથવા સીકયોર એડવાન્સ મળી શકશે નહીં.

૫. ઇજારદારે રજુ કરેલ ડામરના અસલ બીલમા ડામરનો ગ્રડ કોલીટી અંગેનો ઉલ્લેખ હોવો જોઈએ આ અંગે ઇજારદારે ડામરના ગ્રેડ અંગેનું ટેસ્ટ રીઝલ્ટ / ગ્રેડ અંગેનું પ્રમાણપત્ર રજુ કરવાનું રહેશે.

૬. ઇજારદારે ડામરની આવક / વપરાશ / બચત અંગેનું રજીસ્ટર પ્લાન્ટ સાઈટ ઉપર નિભાવવાનું રહેશે.

ઉપરોક્ત અનુસંધાનમા જણાવેલ તા. ૨૭/૧૧/૯૭ ના પરીપત્રની સુચના ક્રમાક ૭ રદ ગણી તેના બદલે નીચે મુજબની સુચનાઓ મુજબ કાર્યવાહી કરવાની રહેશે.

(૧) સુચના ક્રમાક (૭)

(અ) રૂ. ૫.૦૦ લાખ સુધીનો અંદાજી રકમના કામોના ડામર કામોના ટેન્ડરોમા ડામરનો ભાવ દર્શાવવાનું રહેશે. નહીં તેમજ તેવા કામો માંડે ડામરનો ભાવ તફાવત પણ ચુકવવાનો / વસુલ કરવાનો રહેશે નહીં. (બ) રૂ. ૫.૦૦ લાખથી વધુ અંદાજીત કીમતના ડામર ભાવ તફાવતની જોગવાઈ નીચે દર્શાવેલ વિગતે કરવાની રહેશે.

(૧) ડામર નો જરૂરી સ્ટાર રેટ જે માસમા ડીટીપી મંજૂર થાય તે માસના રીફાઈનરી ના ભાવ ટેન્ડરમા જથ્થા સામે દર્શાવવાના રહેશે. (૨) રીઝર્વ બેન્કના બુલેટીનમા ડામર ના હોઈ ઇન્ડેક્સ નો હોવાથી ઠેકેદાર વર્ક ઓર્ડર આપ્યા બાદ જે ડામર ખરીદે તે રીફાઈનરી ના મુળ બીલો રજુ કરે અને ખરીદેલ જથ્થો વર્ક ઓર્ડર મુજબ કામમા વાપરે ત્યારે અને ટેન્ડર મુજબની સમય મર્યાદામા કામ પુર્ણ કરે ત્યારે બીલો ખરીદ ભાવ સાથે ઉપરોક્ત (૧) મા જણાવેલ સ્ટાર રેટ વચ્ચે તફાવત જણાય તો ચુકવણી / રીકવરી (એડજસ્ટમેન્ટ) કરવાની રહેશે. (૩) રૂ. ૫.૦૦ લાખથી વધુ અંદાજીત રકમના કામો મા આ જોગવાઈ કરી વર્ક ઓર્ડરની તારીખથી ચુકવણી રીકવરી કરવાની રહેશે. (૪) ઠેકેદારે ખરીદેલ ડામરના ટેસ્ટીંગના જરૂરી પ્રમાણપત્રો ઠેકેદારે સાદર કરવાના રહેશે. (૫) જે કામની અંદાજીત કિંમત રૂ.. ૨૫.૦૦ લાખ કે તેથી વધુ હોય અને સમય મર્યાદા બાર માસ કે તેથી વધુ હોય તેવા કિસ્સામા પ્રાઈઝ વેરીફિકેશન (લેબર મર્ટીરીયલ પી.ઓ.એલ.) ગણવાની થતી કામની રકમ ખર્ચ માંથી ડામરની કીમત તથા ઉપર મુજબનો ડામરનો તફાવત પણ બાદ કરવાનો રહેશે. મહત્તમ મર્યાદા ગણતી વખતે પણ ડામરની અંદાજ માં લેવાયેલ બેઝીક ભાવથી થતી કિંમત ગણી અંદાજીત રકમ માંથી બાદ કરી બાકી રહેલ રકમ પર હાલની પ્રવર્તમાન જોગવાઈ અનુસાર મહત્તમ મર્યાદા ગણવાની રહેશે.

(૨) કોન્ટ્રાક્ટર ખરીદેલ ડામર સાથે વિભાગીય કચેરી એ પી ફોર્મ પુરુ પાડવાનું રહેશે નહીં.

ડામરના પરીક્ષણો ની રીકવન્સી તથા ડામર ના સાઈટ ઉપર પરીક્ષણ બાબત દક્ષિણ ગુજરાત તાંત્રીક અધિકારીઓ / કર્મચારીઓ ને સ્થળ પર પડતી મુશ્કેલી ની રજુઆત ના અનુસંધાને હોટમીક્ષ પ્લાન્ટ અને પેવરથી કરવાના ડામરના કામમાં ડામરના ટેસ્ટીંગ મા પડતી મુશ્કેલીઓ અને તે અંગેના સુચનો બાબત સરકારશ્રીની વિચારણા આથી સર્વે હોટમીક્ષ પ્લાન્ટ થી કરવાના ડામર કામમાં ડામર ના પરીક્ષણ કરવા સ્થળ ઉપર યોગ્ય માળખાકીય સવલતો તથા સાધનો ઉપલબ્ધ કરવામા આવે તો ડામર પરીક્ષણની કામગીરી ૧૦૦૦૦૦ કર્મચારી માં પ્લાન્ટ સાઈટ ઉપર થઈ શકે તે માટે વિચારણા હાથ ધરવામાં આવેલ છે.

પ્રવર્તમાન પધ્ધતી મુજબ ડામર કામના ટેન્ડરો મા ઇજારદારે પ્લાન્ટ ઉત્તર ડામર લાવીને કામો કરવાની જોગવાઈ થઈ હોય નવા ડામર કામનો ટેસ્ટ થયા બાદજ ઉપયોગ કરવો જરૂરી હોય દરેક પ્લાન્ટ સાઈટ ઉપર ડામર પરીક્ષણ માટેની માળખીય સવલતો તથા સાધનો ઇજારદાર દવારા ઉપલબ્ધ હોવા જરૂરી બને છે. આથી સર્વે સંબંધીતો સુચનાઓ પાઠવવામાં આવે છે કે પ્લાન્ટ સાઈટ ઉપર પરીક્ષણની જોગવાઈ હવે પછી થી ડામર કામના ટેસ્ટમા અવશ્યરાખવાની રહેશે. વધુમા સ્થળ ઉપર ની ટેસ્ટ કામગીરી માટેનું જ્ઞાન દરેક તાત્રીક કર્મચારી ને રહે તે માટે ડામર ના પરીક્ષણની તાલીમ ગેરી ને જુદી જુદી પ્રયોગશાળા તરફથી વિભાગના દરેક મદદનીશ ઇજનેર / અધિક મદદનીશ ઇજનેર / નાયબ કાર્યપાલક ઇજનેર / કાર્યપાલક ઇજનેરને મેળવવાની રહેશે. પ્લાન્ટ સાઈટ ઉપર ડામરના પરીક્ષણો નું રજીસ્ટર ક્ષેત્રીય અધિકારીશ્રી એ નિભાવવાનું રહેશે. પ્લાન્ટ સાઈટ ઉપર પરીક્ષણની પધ્ધતી માટે નીચે પ્રમાણેની ટેન્ડરમાં જોગવાઈ રાખવાની રહેશે. (૧) માળખાકીય સવલત સ્થળ ઉપર આશરે ૨૫ ચો.મી. ના ક્ષેત્રફળની પાકા બાંધકામ વાળી લેબોરેટરી જરૂરી પાણી તથા લાઈટની સુવિધા સહીત રાખવાની રહેશે. (૨) સાધનો ની સવલત ડામર કામના નીચે દર્શાવેલ જુદા જુદા પરીક્ષણો માટેની તેની સામે દર્શાવેલ આઈ.એસ. મુજબના સાધનો ઉપલબ્ધ કરવાના રહેશે.

(૧) પેનીટ્રેસન ટેસ્ટ : આઈ.એસ. ૧૨૦૩ (૨) સોફ્ટનીંગ પોઈન્ટ ટેસ્ટ : આઈ.એસ. ૧૨૦૪ (૩) ડકટી લીટી ટેસ્ટ :- આઈ.એસ. ૧૨૦૮ (૩) વીસ્કો સીટી ટેસ્ટ :- ૧૨૦૬ (૫) સ્પેસીફિકેશન ગ્રેવીટી ટેસ્ટ :- આઈ.એસ. ૧૨૦૪ ઉપરોક્ત સાધનો આઈ.એસ. પ્રમાણીત હોવા જોઈએ તેમજ તેને નિયમિત રીતે સેલીબ્રેટ કરાવી કાર્યરત હાલતમા રાખવાના રહેશે. પરીક્ષણની સંખ્યા : એમ.ઓ. એસ્ટી સ્પેસીફિકેશન સેકશન ૯૦૦ મુજબ ડામર કામોના કોલીટી ઓફ બાઈન્ડરના ટેસ્ટની સંખ્યા બેઝ રીકવરટર્ડ દર્શાવેલ છે. તે જોતા દર બે ટેન્ડર દીઠ નમુના ત્રણ પરીક્ષણો પ્લાન્ટ સાઈટ ઉપર કરવાના રહેશે. તદ ઉપરાંત હવે પછીથી નીચે ટેબલના સ્તંભ ૩ અને ૪ માં દર્શાવ્યા પ્રમાણેના પરીક્ષણો ગેરી માપણ કરવાના રહેશે.

આઈ.એસ. ૧૨૦૧ / ૧૯૭૮ મુજબ પરીક્ષણોની સંખ્યા

પરીક્ષણ કરવાની સુધારેલ સંખ્યા

ટેન્કરની સંખ્યા	પરીક્ષણની સંખ્યા	ટેન્કરની સંખ્યા	પરીક્ષણની સંખ્યા
૨થી ૧૫	૧	૫ થી ૧૦	૧
૧૬ થી ૫૦	૨	૧૧ થી ૨૦	૨
૫૧ થી ૧૫૦૦	૩	૨૦ થી ૫૦	૩
	૫	૫૧ થી ૫૦૦	૪
		બાકીના દરે ૫૦ ટેન્કર દીઠ	૧

ઉપર મુજબના ડામરના સાઈટ ઉપર તેમજ ગેરી મા પરીક્ષણો કરવાની જોગવાઈઓ હવે પછીના દરેક ડામર કામના ટેન્કરો માં અવશ્ય રાખવાની રહેશે. આ સુચનાઓનો અમલ યુસ્ત પણ થાય તેવું દરેક ૧૦૦૦થી વધુ ડામરો અધિકારીઓ અવશ્ય ધ્યાન રાખવું પરીપત્ર ક્રમાંક એસ.એસ.આર. ૧૦૯૯ - આઈ.પી. ૯૧ (૯) સ તા. ૨૬/૭/૯૯

ટીડીએસ અંગે જોગવાઈ કરવાનો સુધારો (ઠરાવ ક્રમાંક વેવેઅ / ગાંધી / વવટ / ટીડીએસ ૯૭.૯૮ / જા: ૪૪૫૧ તા. ૧૯/૭/૯૭ તા. ૧/૪/૦૭ થી વેચાણવેરા કાયદામાં કરેલ જોગવાઈ મુજબ રૂ. ૧૦.૦૦ લાખથી વધુ કિંમત ના વર્ક્સ / કોન્ટ્રાક્ટ સંબંધે રકમની ચુકવણી વખતે ચુકનારે ચુકવાની રકમ ના બે ટકા લેખે રકમ વેરા પેટે મુળ સ્થળેથી કપાત કરીને ટીડીએસ ૧૦ દિવસ સરકારી ભરણા માટેના સાદા ચલનથી વેચાણવેરા સદરે જમા કરાવવાના રહેશે તા. ૧/૪/૨૦૦૨ પછી ચુકવવા પાત્ર થતી વર્ક્સ કોન્ટ્રાક્ટ વધે તેવા સંજોગો મા બે ટકાની ટીડીએસ ની કપાત કરવાની રહેશે.

તા. ૨૨/૪/૨૦૦૨ વેચાણવેરા કમિશ્નર ગુ.રા. અમદાવાદ

રાજ્ય માં વૃક્ષારોપણને પ્રોત્સાહન મળે તે અંગેના સર્વે પ્રયત્નો રાજ્ય સરકાર દ્વારા કરવામાં આવે છે. વર્ષો વર્ષ વૃક્ષ રોપવાના કાર્યક્રમ નું આયોજન પણ મોટા પાયે કરવામાં આવે છે. આ પ્રયત્નને વેગ આપવા બંધાઈ રહેલ / નવા બંધાતા મકાનોનીકામગીરી અંગે નીચે મુજબની સુચનાઓ આપવા મા આવે છે. (૧) નવા મકાનો માં અંદાજે ના ભાગ રૂપે વૃક્ષારોપણ માવજત અને ઉછેરની કામગીરી નો સમાવેશ અંદાજમા અવશ્ય કરવો (૨) મકાનના કંપાઉન્ડમાં ૬.૬ મીટરના અંતરે વૃક્ષો રોપવાની જોગવાઈ કરવી (૩) ઝડપથી ઉગી શકે લાંબુ ટકી રહે અને લીલોતરી આપે તેવા વૃક્ષોની પસંદગી વાવેતર માં કરવી (૪) વૃક્ષોની માવજત પાણી પાવું તથા ખાતર વગેરે સઘળી બાબતો નો આઈટમમાં સમાવેશ કરવો મકાન બાંધકામ નો પાવો બોદાણની સાથે વૃક્ષો રોપવા જેથી મકાન પુર્ણ થાય ત્યારે સંબંધીત ખાતાને મકાનની સાથેસાથ ઉછેરેલા વૃક્ષો પણ સોંપી સકાય આ માટે જરૂર જણાય તો કંપાઉન્ડ વોલ નું બાંધકામ શરૂઆત માં હાથ ધરવું શક્ય હોય તો મકાન ના કંપાઉન્ડ ની સાથેસાથ આસપાસ ના વિસ્તારમાં વન વિભાગના સહકાર થી વધારાના વૃક્ષોનો વાવેતર પણ કરવું આ સુચનાઓનું યુસ્ત પણે અમલ કરવા તથા તેની સમાંતરે સમીક્ષા કરવા સર્વે કાર્યપાલક ઇજનેરશ્રી ઓ / અધિક્ષક ઇજનેરશ્રી ઓ ને આથી સુચના આપવા મા આવે છે .

રાજ્ય સરકારના બાંધકામ માટે વપરાતા ગૌણ ખનિજની રોયલ્ટી ભરવા બાબત.

ગુજરાત સરકાર

ઉદ્યોગ અને ખાણ વિભાગ

ઠરાવ ક્રમાંક : એમએમઆર/૧૧૨૦૦૦/૨૦૧૩/છ

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)

નાયબ સચિવઉદ્યોગ અને ખાણ વિભાગ

ગુજરાત સરકાર

માર્ગ અને મકાન વિભાગ

પીશ્રપત્ર ક્રમાંક:ટીએનસી/૧૦૮૯-(૪)-સ

સચિવાલય, 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 પદ-૫૯-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:૭-૪-૯૨

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

સરકારશ્રીના ઉપર સંદર્ભ(૩) માં દર્શાવેલ તા.૩૧-૮-૮૧ના ઠરાવથી ટેન્ડર ફોર્મના ક્લોઝ પદ-૫૯-એ-(બી-૨)અને ક્લોઝ ૬૦-૬૦એ(બી-૧) માં સુધારો કરવામાં આવેલ. ઉપર સંદર્ભ(૬)માં 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 સ્ટાર્ટેટની જોગવાઇ રાખવાનો નિર્ણય થયેલ છે.

આ પરિપત્રનો અમલ તે રવાના થયાની તારીખથી કરવાનો રહેશે

આ 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 છે

ગુજરાતના રાજ્યપાલશ્રીના હુકમથી અને તેમના નામે,

(અશોક પંડ્યા)

ઉપસચિવ

માર્ગ અને મકાન વિભાગ

પ્રતિ,

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

સર્વે 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
પરિપત્રકમાંક એસએસઆર-૧૦૨૦૦૪-આઇબી-૪૧(૨૪)-સ
સચિવાલય ગાંધીનગર
તા.૨/૧૨/૨૦૦૬

વિષય : મકાનો અને અન્ય બાંધકામના કામદારો ના કલ્યાણ સેસ.એક્ટ ૧૯૯૬ હેઠળ ૧% સેસ
“ગુજરાત બિલ્ડીંગ એન્ડ

અધર 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 આવે છે કે મંજૂર કરાતા ડ્રાફ્ટ ટેન્ડર પેપર્સમાં “સેસ” અંગે જોગવાઈ કરીને ઇજારદારોના દર મહિને કરેલ કામના બિલના ચુકવણીમાંથી ૧(એક) ટકો સેસ કાપીને તે રકમ “ગુજરાત બિલ્ડીંગ એન્ડ અધર કન્સ્ટ્રક્શન વર્ક્સ વેલફેર બોર્ડ”ના સંદર્ભ: (૨) હેઠળ ના ઠરાવથી નિયત કરેલ હેડ-સબહેડ ખાતે સંબંધિત કાર્યપાલક ઇજનેરશ્રી દ્વારા જમા કરાવવાની રહેશે. હવે પછીથી જે નવા 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 ઉચ્છેદ 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

ઈજનેરશ્રીઓ.(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 ઈજનેરશ્રીઓ(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 ફાઈલ-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,LetterNo: 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 Head:-
 - (04)-Income from cess levied under Gujarat Building & Other Construction Workers' Welfare Cess Act 1996
 - Demand No:-
 - 57
 - Major Head:-
 - 2230-Labour and Employment
 - Sub Major Head:-
 - 01-Labour
 - Minor Head:-
 - 111-Social Security of Labour
 - Sub Minor Head:-
 - (05)-Activities of the Gujarat Building & Other Construction 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 Wefare 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:

- (1) 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.
- (2) 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.
- (3) 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 ટેન્ડરીંગમાં 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 એવેન્સ 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

સીલેક્ટ ફાઇલ

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 અંદાજભાવ કરતાં ટેન્ડર માં મુકેલ અંદાજ 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 અંદાજ 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 અંદાજ રકમ	• રૂ. •	૧૦૦/-
• ૨ •	મંજૂર થયેલ ટેન્ડર ની રકમ	• રૂ. •	૧૧૦/-
• ૩ •	ટેન્ડરમાં મુકેલ અંદાજ રકમ સામે ખરેખર મંજૂર થયેલ ટેન્ડર ની ટકાવારી	• •	૧૦%
• ૪ •	ટેન્ડરમાં એક આઈટમનો ટેન્ડર મા મુકેલ અંદાજ 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 +અંદાજ 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 પ્રોપર
૫) નાણાશાખા , મા.મ.વિભાગ૬) 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 ધ્વારા 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 એફડીડી અને એફએમસી (૨) સીવ એનાલીસીસ

સી	રેતી	(૧) ગ્રેડેશન
ડી	ઈંટો	(૧) ડાયમેનશન અને ટોલરન્સ ટેસ્ટ (૨) વોટર અબસોર્પશન
ઈ	કોંક્રીટ	(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 પ્રમાણેની 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 પ્રમાણેના પરીક્ષણોની સંખ્યા પૈકી ૮૦% પરીક્ષણ ફિલ્ડ લેબોરેટરીમાં ઈજારદારના અધિકૃત ક્વોલીફાઈડ 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 પરિક્ષામોમાં સંયુક્ત સહીઓ કરવાની રહેશે જયારે ૧૦% પરિક્ષણ ગેરી/સરકાર માન્ય લેબોરેટરી (ઓછામાં ઓછું એક પરીક્ષણ) અને ૧૦% ગેરી લેબોરેટરી (ઓછામાં ઓછું એક પરીક્ષણ) મારફતે કરાવવાના રહેશે.
૪. કુલ પરિક્ષણોના ૮૦ % પરિક્ષણ એક જ સ્થળે એકજ સમયે એકજ તબક્કામાં નહી કરતાં કામની પ્રગતિ મુજબ જે તબક્કાએ જે તે કામગીરીને અનુરૂપ જે મટીરીયલ્સ વાપરવાનું થતુ હોય તદ્દઅનુસાર 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/ એક્સપ્રેસ-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.

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.8/8/2012 to 16/8/2012 . 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.

તાત્કાલિક/સમયમર્યાદા:

ક્રમાંક:પરચ-૨૦૧૦-૧૭૧૩૨૨/(૨૧)ડ.૧

ગુજરાત સરકાર

માર્ગ અને મકાન વિભાગ

૧૪/૩, સરદાર ભવન

સચિવાલય, ગાંધીનગર

તા. ૧૮/૩/૨૦૧૨

પ્રતિ,

અધિક્ષક ઇજનેરશ્રી

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 ઇજારદારશ્રીઓના ટેન્ડરો અંદાજ કિંમતથી ઘણા નીચા આવે છે. ૨૦ટકા થી વધુ નીચા આવતા
ટેન્ડરો માટે ઇજારદારશ્રી 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 Anganwadi Building at Dholka Ta. Dholka
Dist. Ahmedabad Package No. AHD/Anganwadi/05 (2026-2027) (Chaloda-7, Keliya
Vasna-4, Kodaliyapura, Kariyana-1) Total-4

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 1.5 mt depth including sorting out and stacking of unseful materials and disposing off the excavated stuff upto 50 meter lead.(A) Loose or soft soil	320.000	Cmt	203.83	65225.60
2	Item No. 2 Providing and laying cement concrete 1:4:8 (1 Cement : 4 coarse sand :8 machine crushed stone aggregates 40 mm nomial size) and curing complete excluding cost of form work in (A) Foundation and plinth	64.000	Cmt	2849.16	182346.24
3	Item no. 3 Brick work using common burnt clay building brick 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	180.000	Cmt	4021.02	723783.60
4	Item no. 4 Filling available excavated earth (excluding rock) in trenches plinth, sides of foundations etc. in layers not exceeding 20 cm in depth consolidating each depo sited layer by ramming and watering.	296.000	Cmt	130.39	38595.44
5	Item No. 5 Providing and laying cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 crushed stone aggregates 20 mm nominal size) and curing complete including cost of form work in (A) Wall caps/copings.	12.600	Cmt	4046.21	50982.25
6	Item No. 6 Brickwork using common burnt clay building bricks having crushing strength not less than 35 Kg/Sq.Cm. in Super structure in C.M.1:6 (1 Cement :6 sand). (B)Conventional.	156.000	Cmt	4061.21	633548.76
7	Item no. 7 Half brick masonry in common burnt clay building bricks having crushing strenght not less than 35 kg/sq. cm. in cement Mortar 1:4 (1 cement : 4 coarse sand) super structure (B) Conventional	52.000	Smt	599.84	31191.68
8	Item no. 8 Providing and laying ordinary cement concreate 1:1.5:3 (1 Cement : 1.5 coarse sand : 3 graded stone aggregates 20mm nominal size) and	4.400	Cmt	8091.15	35601.06

	curing complete Including cost of form work in (i) Beam Having cross-sectional area 0.05 to 0.12 sq. m. (SOR P. 65 It 0+ Diff of Cement				
9	Item no. 9 Providing and laying ordinary cement concrete 1:1.5:3 (1 Cement : 1.5 coarse sand : 3 graded stone aggregates 20mm nominal size) and curing complete Including cost of form work in (iv) Slabs having more than 10 cm and up to 13 cm thickness	26.000	Cmt	7313.70	190156.20
10	Item No. 10 Providing & Thermo Mechanically Treated Bars (TMT Bars) FE415 reinforcement for RCC Work including bending, binding and placing in position complete up to floor two.	3400.000	Kg.	67.26	228684.00
11	Item No. 11 Providing 15 mm thick cement plaster in single coat on brick / concrete wall for interior plastering up to floor two level finished even and smooth in.(1) Cement mortar 1:3 (1 Cement 3 Sand)	520.000	Smt	224.79	116890.80
12	Item No. 12 Providing 20 mm thick sand faced cement plaster on walls upto height 10 meters above ground level consisting of 12 mm thick backing coat of C.M.1:3 (1 Cement : 3 sand) and 8 mm thick finishing coat of C.M.1:1 etc,	440.000	Smt	300.66	132290.40
13	Item No. 13 Providing 10 mm thick cement plaster in single coat on brick / concrete wall for interior plastering up to floor two level finished even and smooth in.(1) Cement mortar 1:3 (1 Cement 3 Sand)	688.000	Smt	128.86	88655.68
14	Item No.14 Providing and fixing single shutter flush door with standard aluminium colour anodized hollow section frame approved shade & colours & rectangular tube shape main frame of jindal section No. 4656 of the size 101.60 mm x 44.75 mm x 1.63 mm having weight 1.089 kg per metre filled with country wood 35 mm thick flush door laminated both side with 0.8 mm thick lamination of the make sunmica / Decolam formica or equivalent lamination, using U type aluminium beading around door, three nos of stainless steel hinges for shutter of required size fixtures fastenings & all other hardware fixtures and fastenings like handles, stopper, aldrap tadi, shall be of stainless steel of approved quality & size directed by Engineer in charge etc. complete.	23.000	Smt	4027.88	92641.24
15	Item No. 15 Providing and fixing extruded aluminium windows having extruded aluminium colour anodized section frame main outer size 95 mm x 24 mm x 1.17 mm (of jindal section No. 2459 @ Wt. 0.738 Kg/ mt) horizontal four track	19.200	Smt	1583.95	30411.84

	member size 92 mm x 31.75 mm x 1.30 mm (of jindal section No. 8688@ Wt. 1.07Kg/ mt) vertical member of size 92 mm x 31.75 mm x 1.50 mm (of jindal section No. 8933 @ Wt.1.06 Kg/ mt) with sliding shutters of horizontal member size 40 mm x 18 mm x 1.29 mm (of Jindal Section no. 8947 @ wt. of 0.456 Kg/ mt) Vertical member of size 40 mm x 18 mm x 1.29 mm (of Jindal section No. 8949 @ Wt. of 0.456 Kg/ mt) with 5 mm thick transparent bronze colour tinted float glass with powder coated aluminium silicon sealant glass fixing to frame as per details etc. complete.				
16	Item No.16 Providing and fixing standard extruded of alluminium section of size 63 mm x 38.10 mm x 1.20 mm (jindal section 2434 @ Wt. 0.643 Kg/mt) with colour anodized alluminium frame for ventilation with 5 mm thick frosted glass as details etc. complete. For Ventilation.	12.640	Smt	1175.56	14859.08
17	Item no. 17 Providing & laying Polish Kota Stone slab flooring over 20 mm (average) thick base of cement mortar 1:6 (1 Cement 6 Coarse snad) or L.M. 1:1.5 laid over and jointed with grey cement slurry including rubbing & polishing etc. complete. (A)25 mm thick	180.000	Smt	992.66	178678.80
18	Item No. 18 Providing and laying white glazed tiles 6 mm thick in flooring & in dedo laid on a bed of 12 mm thick C.M.1:3 (1 cement :3 fine sand) finished with flush pointing in white cement etc.	44.000	Smt	917.25	40359.00
19	Item No. 19 Providing & laying Polish Kota Stone slab 25 mm (average) thick in riser of steps, skirting Dedo and pillars laid on 10 mm thick cement mortar 1:3(1 Cement 3 Coarse snad) and jointed with grey cement slurry including rubbing & polishing etc. complete.	14.000	Smt	1187.79	16629.06
20	Item No. 20 Providing & Fixing 30 mm thick polished Kota-stone slabs for Shelves of Cupboard shelves including making grooves in walls and finishing with C.M.(1:3) and polishing etc. Complete.	48.000	Smt	617.11	29621.28
21	Item No. 21 Providing & laying broken china mosaic flooring for terrace using 12 mm to 20 mm broken places of glazed tiles to be laid over cement mortar 1:3 in plain or slope and to be tempered to bring mortar crème out up to surface using white cement including rounding off junction and extending them up to 15 cm along thee well cleaning with water and oxalic acid as directed.	176.000	Smt	747.29	131523.04

22	Item No. 22 Distempering (Two coats) with oil bound washable distemper of app. Brand and manufacture and of required shade on wall surface to give an even shade over and incl. as primary coat of alkali resistance primer of app brand after through brushing the surface free from mortar drops and other foreign matter and also including preparing the surface even and smooth.	720.000	Smt	76.84	55324.80
23	Item No. 23 Finishing Wall with water proofing cement paint on wall surface)Two coats) to give and approved brand and manufacture & required shape even shade after thoroughly brushing thee surface to removed all dirt & remains of loose powdered materials. for every subsequent coat of water proofing cement paint of approved brand and manufacture.	440.000	Smt	114.53	50393.20
24	Item no. 24 Providing and fixing water closet Orrissa port (Indian type W.C.PAN) size 580 mm White colour of CERA Brand or equivalent as approved by Engineer in charge.	4.000	No.	935.36	3741.44
25	Item no. 25 Providing and fixing 100 mm size "P" of "S" trap for water closet squatting pan incl. jointing the trap with the pan and soil pipe on cement mortar 1:1(1 Cement 1 fine sand) (A) Vitreous china	4.000	No.	314.97	1259.88
26	Item No. 26 (A) Providing laying and jointing in true line and level 20 mm dia. U.P.V.C. pipe (SCH-40) for cold water including fittings make Prince/ Supreme/ ASTRAL/ FINOLEX or equivalent 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 cancelled as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	24.000	Rmt	72.65	1743.60
27	Item No. 26 (B) Providing laying and jointing in true line and level 32 mm dia. U.P.V.C. pipe (SCH-40) for cold water including fittings make Prince/ Supreme/ ASTRAL/ FINOLEX or equivalent 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 cancelled as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	48.000	Rmt	91.84	4408.32
28	Item No. 27 Providing and fixing screw down bib taps of following size. (A) Gun Metal screw	12.000	No.	214.81	2577.72

	down bib tap (I) 20 mm dia.				
29	Item No. 28 Providing & 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. Scream down or hinged gratin including the cost of cutting and making good the walls.	12.000	No.	571.08	6852.96
30	Item No. 29 Providing and fixing S.W. Gully trap with C.I. grating brick masonry chamber and water tight C.I. cover with frame of 300 mm x 300 mm size (inside) with standard weight etc. (I) Square mouth trap. (A) 100 x 100 mm size P - type Sup to 10 ton)	4.000	No.	1292.19	5168.76
31	Item No. 30 Constructing brick masonry chamber for underground C.I. inspection chamber & bends with bricks having crushing strength not less than 35 kg/cm ² in C.M. 1:5 C.I. cover with frame (Light duty) 455 x 610 mm internal dimensions : total weight of cover with frame to be not less than 38 kgs. (wt. of cover 23 kgs. and Wt. of frame 15 kgs. (R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm size) foundation concrete 1:5:10 inside plaster 15 mm th. with cement mortar 1:3 finished smooth with a floating coat of neat cement on walls and bed concrete etc. comp. I) Inside Dimensions 455 mm x 610 mm & 650 mm deep for single pipe line	8.000	No.	2932.93	23463.44
32	Item No. 31 Construction underground sock well 1.50 m diameter & 3 mt in depth with Honey comb Brick masonry having crushing stg. Not less than 35 Kg/ sqmt in C.M. 1:5, 0.35 m thick at bottom 1.50 mt & 0.23 mt thick 1.00 m of honey comb masonry and 0.23 m thick 0.50 m Ht at top level RCC 1:2:4 slab 0.10 m thick of top including inspection gap 0.60 m x 0.45 m and cover Ready made F.R.c. cover whole work as per instruction of Engineer in charge etc. complete	4.000	No.	22595.72	90382.88
33	Item No. 32 Providing and fixing to wall ceiling and floor 10.00 Kg. F/Cm ² working pressure poluthene pipes of the following outside Dia. Low density complete with special flange compression type fittings wall clip setc. including	60.000	Rmt	336.24	20174.40

	making good the wall ceiling and floor (G)110 mm				
34	Item No. 33 Providing and fixing to wall ceiling and floor 10.00 Kg. F/Cm ² working pressure poluthene pipes of the following outside Dia. Low density complete with special falnge compression type fittings wall clipsetc. including making good the wall ceiling and floor (A) 75 mm	64.000	Rmt	277.43	17755.52
35	Item no. 34 Construction of an under ground masonry water tank of size 2.00 m x 1.00 m x 1.00 m (2000 litre capacity) made up from brick masonry 0.23 mt thick top slabe 0.10 mt thick of RCC 1:2:4 & FRC Cover including 15 mm thick inside plaster in C.M. 1:4 as per the approved drawing & design etc. complete.	8000.000	Litre	9.58	76640.00
36	Item No. 35 Construction of a cooking platform 60 cms wide of 30mm thick polished kota stone with brick masonry supports including the approved quality stainless steel sink of size 600 X 400 X 150 including fixing the sink in the stone platform with waste pipe and whole work as per instruction of Engineer in charge.	4.800	Smt	3092.15	14842.32
37	Item No. 36 Providing & erecting and fixing double coated syntex or equivalent PVC (ISI) water tan of requied capacity each with all necessary fitting and connection etc. complete on terrace.	2000.000	Liter	3.95	7900.00
38	Item no. 37 Provdg. & fixing gun metal check or nonreturn full way wheel valve. (C) 25 mm dia.	8.000	No.	420.63	3365.04
39	Item no. 38 Filling in plinth with sand under floors including watering raming consolidating and dressing etc. complete.	28.000	Cmt	460.19	12885.32
40	Item no. 39 Providing and laying cement concrete flooring 1:2:4 (1 Cement 2 coarse sand 4 graded stone agg. 20 mm nominal size) laid in one layer and finished with a floating coat of near cement (B) 50 mm thick (up to 10 ton)	176.000	Smt	351.56	61874.56
41	Item no- 40 Providing and fixing pre-cast Rubber Dye inter locking concrete block 60 mm thick with grade of concrete M-200 pnumatic compressed by mechanically passed and as per approved design including 75 mm sand layer for levelling and filling the joint with sand in proper line and level etc. complete.	628.000	Smt	671.04	421413.12
42	Item no- 41 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	32.000	Point	467.63	14964.16

	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				
43	Item No- 42 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.	8.000	Point	167.66	1341.28
44	Item no. 43 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.	4.000	Each	434.30	1737.20
45	Item No- 44 For using salt and charcoat / coke as required for pipe type earthing.	4.000	Each	202.00	808.00
46	Item no- 45 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.	8.000	Each	1717.00	13736.00
47	Item No- 46 Approved make C.F.L lamp retrofit 9/11 watt erected if required cat-II	16.000	Each	65.65	1050.40
48	Item no- 47 Plastic encloser fitted with din rail suitable for incorporating one / two nos. MCB	8.000	Each	60.60	484.80
49	Item No.- 48 UGVC Ltd. meter connection charges	4.000	Each	5670.14	22680.56
50	Item No.- 49 Poswer connection charges from UGVCL/ GEB incl. in all Estimate charge & meter connection given by UGVCL/GEB.	4.000	Each	5050.00	20200.00
	-			Total	4011844.72

Rs. Forty Lacs Eleven Thousand eight Hundred Forty four & Paise Seventy Two 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
Dholka

Executive Engineer
R & B Panchayat Divisions
Ahmedabad

Specification

Name of Work :- Const. Of Various Anganwadi Building at Dholka Ta. Dholka
Dist. Ahmedabad Package No. AHD/Anganwadi/05 (2026-2027) (Chaloda-7, Keliya
Vasna-4, Kodaliyapura, Kariyana-1) Total-4

TENDER OF ITEM SPECIFICATION

Sr. No.	Name of road	Item No.	Page No.
1	Item No. 1 Excavation for foundation upto 1.5 mt depth including sorting out and stacking of unseful materials and disposing off the excavated stuff upto 50 meter 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 aggregates 40 mm nomial size) and curing complete excluding cost of form work in (A) Foundation and plinth		
3	Item no. 3 Brick work using common burnt clay building brick 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		
4	Item no. 4 Filling available excavated earth (excluding rock) in trenches plinth, sides of foundations etc. in layers not exceeding 20 cm in depth consolidating each depo sited layer by ramming and watering.		

5	Item No. 5 Providing and laying cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 crushed stone aggregates 20 mm nominal size) and curing complete including cost of form work in (A) Wall caps/copings.		
6	Item No. 6 Brickwork using common burnt clay building bricks having crushing strength not less than 35 Kg/Sq.Cm. in Super structure in C.M.1:6 (1 Cement :6 sand). (B)Conventional.		
7	Item no. 7 Half brick masonry in common burnt clay building bricks having crushing strenght not less than 35 kg/sq. cm. in cement Mortar 1:4 (1 cement : 4 coarse sand) super structure (B) Conventional		
8	Item no. 8 Providing and laying ordinary cement concreate 1:1.5:3 (1 Cement : 1.5 coarse sand : 3 graded stone aggregates 20mm nominal size) and curing complete Including cost of form work in (i) Beam Having cross-sectional area 0.05 to 0.12 sq. m. (SOR P. 65 It 0+ Diff of Cement		
9	Item no. 9 Providing and laying ordinary cement concreate 1:1.5:3 (1 Cement : 1.5 coarse sand : 3 graded stone aggregates 20mm nominal size) and curing complete Including cost of form work in (iv) Slabs having more than 10 cm and up to 13 cm thickness		
10	Item No. 10 Providing & Thermo Mechanically Treated Bars (TMT Bars) FE415 reinforcement for RCC Work including bending, binding and placing in position complete up to floor two.		
11	Item No. 11 Providing 15 mm thick cement plaster in single coat on brick / concrete wall for interior plastering up to floor two level finished even and smooth in.(1) Cement mortar 1:3 (1 Cement 3 Sand)		
12	Item No. 12 Providing 20 mm thick sand faced cement plaster on walls upto height 10 meters above ground level consisting of 12 mm thick backing coat of C.M.1:3 (1 Cment : 3 sand) and 8 mm thick fisnishing coat of C.M.1:1 etc,		
13	Item No. 13 Providing 10 mm thick cement plaster in single coat on brick / concrete wall for interior plastering up to floor two level finished even and smooth in.(1) Cement mortar 1:3 (1 Cement 3 Sand)		
14	Item No.14 Providing and fixing single shutter flush door with standard alluminium colour anodized hollow section frame approved shade & colours & rectengluar tube shape main frame of jindal section No. 4656 of the size 101.60 mm x 44.75 mm x 1.63 mm having weight 1.089 kg per metre filled with country wood 35 mm thick flush door laminated both side with 0.8 mm thick lamination of the make sunmica / Decolam formica or equivalent lamination, using U type alluminium beading around door, three nos of stainless steel hinges for shutter of required size fixtures fastenings & all other hardware fixtures and fastenings like handles, stopper, aldrap tadi, shall be of stainless steel of approved quality & size directed by Engineer in charge etc. complete.		
15	Item No. 15 Providingg and fixing extruded aluminium windows having extruded aluminium colour anodized section frame main outer size 95 mm x 24 mm x 1.17 mm (of jindal section No. 2459 @ Wt. 0.738 Kg/ mt) horizontal four trak member size 92 mm x 31.75 mm x 1.30 mm (of jindal section No. 8688@ Wt. 1.07Kg/ mt) vertical member of size 92 mm x 31.75 mm x 1.50 mm (of jindal section No. 8933 @ Wt.1.06 Kg/ mt) with sliding shutters of horizontal member size 40 mm x 18 mm x 1.29 mm (of Jindal Section no. 8947 @ wt. of 0.456 Kg/ mt) Vertical member of size 40 mm x 18 mm x 1.29 mm (of Jindal section No. 8949 @ Wt. of 0.456 Kg/ mt) with 5 mm thick transparent		

	bronze colour tinted float glass with powder coated aluminium silicon sealant glass fixing to frame as per details etc. complete.		
16	Item No.16 Providing and fixing standard extruded of alluminium section of size 63 mm x 38.10 mm x 1.20 mm (jindal section 2434 @ Wt. 0.643 Kg/mt) with colour anodized alluminium frame for ventilation with 5 mm thick frosted glass as details etc. complete. For Ventilation.		
17	Item no. 17 Providing & laying Polish Kota Stone slab flooring over 20 mm (average) thick base of cement mortar 1:6 (1 Cement 6 Coarse snad) or L.M. 1:1.5 laid over and jointed with grey cement slurry including rubbing & polishing etc. complete. (A)25 mm thick		
18	Item No. 18 Providing and laying white glazed tiles 6 mm thick in flooring & in dedo laid on a bed of 12 mm thick C.M.1:3 (1 cment :3 fine sand) finished with flush pointing in white cement etc.		
19	Item No. 19 Providing & laying Polish Kota Stone slab 25 mm (average) thick in riser of steps, skirting Dedo and pillars laid on 10 mm thick cement mortar 1:3(1 Cement 3 Coarse snad) and jointed with grey cement slurry including rubbing & polishing etc. complete.		
20	Item No. 20 Providing & Fixing 30 mm thick polished Kota-stone slabs for Shelves of Cupboard shelves including making grooves in walls and finishing with C.M.(1:3) and polishing etc. Complete.		
21	Item No. 21 Providing & laying broken china mosaic flooring for terrace using 12 mm to 20 mm broken places of glazed tiles to be laid over cement mortar 1:3 in plain or slope and to be tempered to bring mortar crême out up to surface using white cement including rounding off junction and extending them up to 15 cm along thee well cleaning with water and oxalic acid as directed.		
22	Item No. 22 Distempering (Two coats) with oil bound washable distemper of app. Brand and manufacture and of required shade on wall surface to give an even shade over and incl. as primary coat of alkali resistance primer of app brand after through brushing the surface free from mortar drops and other foreign matter and also including preparing the surface even and smooth.		
23	Item No. 23 Finishing Wall with water proofing cement paint on wall surface)Two coats) to give and approved brand and manufacture & required shape even shade after thoroughly brushing thee surface to removed all dirt & remains of loose powdered materials. for every subsequent coat of water proofing cement paint of approved brand and manufacture.		
24	Item no. 24 Providing and fixing water closet Orrissa port (Indian type W.C.PAN) size 580 mm White colour of CERA Brand or equivalent as approved by Engineer in charge.		
25	Item no. 25 Providing and fixing 100 mm size "P" of "S" trap for water closet squatting pan incl. jointing the trap with the pan and soil pipe on cement mortar 1:1(1 Cement 1 fine sand) (A) Vitreous china		
26	Item No. 26 (A) Providing laying and jointing in true line and level 20 mm dia. U.P.V.C. pipe (SCH-40) for cold water including fittings make Prince/ Supreme/ ASTRAL/ FINOLEX or equivalent 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 cancelled as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.		

27	Item No. 26 (B) Providing laying and jointing in true line and level 32 mm dia. U.P.V.C. pipe (SCH-40) for cold water including fittings make Prince/ Supreme/ ASTRAL/ FINOLEX or equivalent 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 cancelled as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.		
28	Item No. 27 Providing and fixing screw down bib taps of following size. (A) Gun Metal screw down bib tap (I) 20 mm dia.		
29	Item No. 28 Providing & 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. Scream down or hinged gratin including the cost of cutting and making good the walls.		
30	Item No. 29 Providing and fixing S.W.Gully trap with C.I. grating brick masonry chamber and water tight C.I. cover with frame of 300 mm x 300 mm size (inside) with standard weight etc. (I) Square mouth trap. (A) 100 x 100 mm size P - type Sup to 10 ton)		
31	Item No. 30 Constructing brick masonry chamber for underground C.I. inspection chamber & bends with bricks having crushing strength not less than 35 kg/cm ² in C.M. 1:5 C.I. cover with frame (Light duty) 455 x 610 mm internal dimensions : total weight of cover with frame to be not less than 38 kgs. (wt. of cover 23 kgs. and Wt. of frame 15 kgs. (R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm size) foundation concrete 1:5:10 inside plaster 15 mm th. with cement mortar 1:3 finished smooth with a floating coat of neat cement on walls and bed concrete etc. comp.I) Inside Dimensions 455 mm x 610 mm & 650 mm deep for single pipe line		
32	Item No. 31 Construction underground sock well 1.50 m diameter & 3 mt in depth with Honey comb Brick masonry having crushing stg. Not less than 35 Kg/ sqmt in C.M. 1:5, 0.35 m thick at bottom 1.50 mt & 0.23 mt thick 1.00 m of honey comb masonry and 0.23 m thick 0.50 m Ht at top level RCC 1:2:4 slab 0.10 m thick of top including inspection gap 0.60 m x 0.45 m and cover Ready made F.R.c. cover whole work as per instruction of Engineer in charge etc. complete		
33	Item No. 32 Providing and fixing to wall ceiling and floor 10.00 Kg. F/Cm ² working pressure poluthene pipes of the following outside Dia. Low density complete with special falnge compression type fittings wall clipsetc. including making good the wall ceiling and floor (G) 110 mm		
34	Item No. 33 Providing and fixing to wall ceiling and floor 10.00 Kg. F/Cm ² working pressure poluthene pipes of the following outside Dia. Low density complete with special falnge compression type fittings wall clipsetc. including making good the wall ceiling and floor (A) 75 mm		
35	Item no. 34 Construction of an under ground masonry water tank of size 2.00 m x 1.00 m x 1.00 m (2000 litre capacity) made up from brick masonry 0.23 mt thick top slabe 0.10 mt thick of RCC 1:2:4 & FRC Cover including 15 mm		

	thick inside plaster in C.M. 1:4 as per the approved drawing & design etc. complete.		
36	Item No. 35 Construction of a cooking platform 60 cms wide of 30mm thick polished kota stone with brick masonry supports including the approved quality stainless steel sink of size 600 X 400 X 150 including fixing the sink in the stone platform with waste pipe and whole work as per instruction of Engineer in charge.		
37	Item No. 36 Providing & erecting and fixing double coated syntex or equivalent PVC (ISI) water tan of requied capacity each with all necessary fitting and connection etc. complete on terrace.		
38	Item no. 37 Provdg. & fixing gun metal check or nonreturn full way wheel valve. (C) 25 mm dia.		
39	Item no. 38 Filling in plinth with sand under floors including watering raming consolidating and dressing etc. complete.		
40	Item no. 39 Providing and laying cement concrete flooring 1:2:4 (1 Cement 2 coarse sand 4 graded stone agg. 20 mm nominal size) laid in one layer and finished with a floating coat of near cement (B) 50 mm thick (up to 10 ton)		
41	Item no- 40 Providing and fixing pre-cast Rubber Dye inter locking concrete block 60 mm thick with grade of concrete M-200 pnumatic compressed by mechanically passed and as per approved design including 75 mm sand layer for levelling and filling the joint with sand in proper line and level etc. complete.		
42	Item no- 41 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		
43	Item No- 42 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.		
44	Item no. 43 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.		
45	Item No- 44 For using salt and charcoat / coke as required for pipe type earthing.		
46	Item no- 45 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.		
47	Item No- 46 Approved make C.F.L lamp retrofit 9/11 watt erected if required cat-II		
48	Item no- 47 Plastic encloser fitted with din rail suitable for incorporating one / two nos. MCB		
49	Item No.- 48 UGVC Ltd. meter connection charges		
50	Item No.- 49 Poswer connection charges from UGVCL/ GEB incl. in all Estimate charge & meter connection given by UGVCL/GEB.		

Deputy Executive Engineer
R & B Panchayat Sub Division
Dholka

Executive Engineer
R & B Panchayat Division
Ahmedabad

Item No. 1 Excavation for foundation upto 1.5 mt depth including sorting out and stacking of unseful materials and disposing off the excavated stuff upto 50 meter 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 tractor 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 hand broken stone aggregates 40 mm nomial size) and curing complete excluding cost of form work in (A) Foundation and plinth

1.0. Materials : 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.

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 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 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 wafer 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

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 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.

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 to 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 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 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 dissimilar materials such as joists, beams, posts, girders, rafters, purline trusses, corbels and steps etc up to 500 Sq.

Cm. in section.

(b) Opening up to 0.1 Sq. M.

4.2. The rate includes cost of all materials, labour, tools and plant required for mixing, placing, positioning, 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. 3 Brick work using common burnt clay building brick 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

1.0 Materials : Water shall conform to M-1. Cement shall conform to M-3. Sand shall conform to M-6. Brick shall conform to M-15. Cement mortar shall conform to M-11.

2.0. Workmanship:

2.1. Proportion:

2.1.1. The proportion of the cement mortar shall be 1 : 6 (1 cement: 6 fine sand) by volume.

2.2. Wetting of bricks : 2.2.1. The bricks required for masonry shall be thoroughly wetted with clean water for about two hours before use or as directed. The cessation of bubbles, when the bricks are wetted with water is an indication of thorough wetting of bricks.

2.3. Laying:

2.3.1. Bricks shall be laid in English bond unless directed otherwise. Half or cut bricks shall not be used except when necessary to complete the bond; closers in such case shall be cut to required size and used near the ends of walls.

2.3.2. A layer of mortar shall be spread on full width for suitable length of the lower course. Each brick shall first be properly bedded and set home by gently tapping with handle of trowel or wooden mallet. Its side face shall be flushed with mortar before the next brick is laid and pressed against it. On completion of course, the vertical joints shall be fully filled from the top with mortar.

2.3.3. The walls shall be taken up truly in plumb. All courses shall be laid truly horizontal and all vertical joints shall be truly vertical. Vertical joints in alternate course shall generally be directly one over the other. The thickness of brick course shall be kept uniform.

2.3.4. The brick shall be laid with frog upwards. A set of tools comprising of wooden straight edges, mason's spirit level, square half metre rub, and pins, string and plumb shall be kept on the site of work for frequent checking during the progress of work.

2.3.5. Both the faces of walls of thickness greater than 23 cms. shall be kept in proper place. All the connected brick work shall be kept not more than one metre over the rest of the work. Where this is not possible, the work shall be raked back according to bond (and not left toothed) at an angle not steeper than 45 degrees.

2.3.6. All fixtures, pipes, outlets of water, hold fasts of doors and windows etc. which are required to be built in wall shall be embedded in cement mortar.

2.4. Joints:

2.4.1. Bricks shall be so laid that all joints are quite flush with mortar. Thickness of joints shall not exceed 12 mm. The face joints shall be raked out as directed by taking tools daily during the progress of work, when the mortar is still green so as to provide key for plaster or pointing to be done.

2.4.2. The face of brick shall be cleaned the very day on which the brick work is laid and all mortar dropping removed.

2.5. Curing. 2.5.1. Green work shall be protected from rain suitably. Masonry work shall be kept moist on all the faces for a period of seven days. The top of masonry work shall be kept well wetted at the close of the day.

2.5. Preparation of foundation bed : 2.6.1. If the foundation is to be laid directly on the excavated bed, the bed shall be levelled, cleared of all loose materials, cleaned and wetted before starting masonry. If masonry is to be laid on concrete footing, the top of concrete shall be cleaned and moistened. The contractor shall obtain the engineer's approval for the foundation bed, before foundation masonry is started. When pucca flooring is to be provided flush with the top to plinth, the inside plinth offset shall be kept lower than the outside plinth top by the thickness of the flooring.

3.0. Mode of measurements and payment:

3.1. The measurements of this item shall be taken for the brick masonry fully completed in foundation up to plinth. The limiting dimensions not exceeding those shown on the plans or as directed shall be final. Battered, tapered and curved portions shall be measured net.

3.2. No deduction shall be made from the quantity of brick work, nor any extra payment made for embedding in masonry or making holes in respect of following items :

(1) Ends of joints, beams, posts, girders, rafters, purlins, trusses, corbel steps etc. where cross sectional area does not exceed 500 Sq. Cm.

(2) Openings not exceeding 1000 Sq. Cm. (3) Wall plates and bed plates, bearing of slabs, chhajjas and the like whose thickness does not exceed 10 Cms. and the bearing does not extend to the full thickness of wall. (4) Drainage holes, and recesses for cement concrete blocks to embed hold fasts for doors, windows etc.

(5) Iron fixtures, pipes up to 300 mm. dia; hold fasts and doors and windows built into masonry and pipes etc. for concealed wiring.

(6) Forming chases of section not exceeding 350 Sq. Cm. in masonry.

3.3. Apertures for fire places shall not be deducted nor shall extra labour required to make splaying of jambs, throating and making Arches over the aperture be paid for separately.

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

Item no. 4 Filling available excavated earth (excluding rock) in trenches plinth, sides of foundations etc. in layers not exceeding 20 cm in depth consolidating each deposited 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 atleast 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.

Item No. 5 Item No. 5 Providing & laying ordinary cement concrete M-150 (1:2:4) (1 Cement : 2 coarse sand : 4 graded stone aggregates 20mm nominal size) for RCC coping and sill band including finishing smooth with curing etc. complete including the cost of formwork but excluding the cost of reinforcement for RCC work.

1.0. Materials : 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.

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 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 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 panicles 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

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 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.

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 to 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 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 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 joits, 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. 6 Brickwork using common burnt clay building bricks having crushing strength not less than 35 Kg/Sq.Cm. in Super structure above plinth to level up to floor two level in C.M.1:6 (1 Cement :6 sand). (B)Conventional.

Materials: Brick shall conform to M-15. Cement mortar shall conform M-11.

2.0. Workmanship:

2.1. The relevant specifications of item No. 6.12. (A) shall be followed except that the masonry work shall be carried out above plinth level to floor two level i.e. for ground floor.

2.2. The frames of doors, windows, cupboards etc. shall be housed into the brick work at the correct location and level as

directed. The heavy steel doors, window frames etc. shall be built in with brick work, but for ordinary steel doors and windows required opening for frames, hold-fasts etc. shall be left in the wall and frames embedded later on in order to avoid damage to the frames.

2.3. Necessary scaffolding shall be provided. The supports of the scaffolding shall be sound and strong tied together with horizontal pieces over which the scaffolding planks shall be fixed. Simple scaffolding shall be allowed normally. In this case scaffolding hole shall rest in hold header horizontal coarse only. Minimum number of holes shall be left in brick work for supporting horizontal scaffolding holes.

The contractor is responsible for providing and maintaining sufficiently strong scaffolding so as to withstand all loads likely to come upon it.

2.4. For the face of brick work, where plastering is to be done, joints shall be racked out to a depth not less than thickness of joints. The face of brick work shall be cleaned and mortar dropping removed on very same day that brick work is laid.

3.0. Mode of measurement:

3.1. The masonry work of G.F. i.e. above plinth level to floor two level shall be measured and paid under this item.

3.2. Brick work in parapet shall be included in the corresponding masonry item of storey immediately below the floor above which the parapet is built.

3.3. No deduction shall be made from quantity of brick work. No extra payment shall be made for embedding in masonry or making holes in respect of following items :

(1) Ends of joints, beams, posts, girders, rafters, purlins truses corbel, steps etc. where cross sectional area docs not exceed

500 Sq.Cm.

(2) Opening not exceeding 1000 Sq. Cm.

(3) Wall plate, sand bed plates, bearing of slab, chhajjas and like whose thickness does not exceed 10 Cms. and the hearing does not extend the full thickness of wall.

(4) Drainage holes and recesses for cement concrete blocks to embed hold fasts for doors, windows etc.

(5) Iron fixtures pipes upto 300 mm. dia. hold fasts of doors, and windows built into masonry and pipes etc. for concealed wiring.

(6) Forming charges of section not exceeding 350 Sq. Cm. in masonry.

(7) Apertures for fire places, shall not be deducted nor shall extra labour required to make spaying of Jambs, throating and

making trenches over the aperture be paid for separately.

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

Item no. 7 Half brick masonry in common burnt clay building bricks having crushing strenght not less than 35 kg/sq. cm. in cement Mortar 1:3 (1 cement : 3 coarse sand) with 2 nos of 6 mm mild steel round bars after every threle course embedded in cement mortar in foundation and plinth (B) Conventional

1.0 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. 6.19 (A) except the brick work of half bricks shall be carried out.

2.2. Cement mortar used in masonry work shall be in proportion of 1 part of cement and 3 parts of sand by volume.

2.3. All bricks shall be laid stretcher wise, breaking joints with those in the under and lower courses. The wall shall be taken truly plumb. All courses shall be laid 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 Sequent checking.

3.0 Mode of measurement and payment.

3.1. The half brick masonry work in foundation and plinth 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. 6.12 shall be followed. The length shall be measured nearest to one Cm.

3.3. The rate shall be for a unit of sq. metre.

Item no. 8 Providing and laying ordinary cement concrete 1:1.5:3 (1 Cement : 1.5 coarse sand : 3 graded stone aggregates 20mm nominal size) and curing complete Including cost of form work in (i) Beam Having cross-sectional area 0.05 to 0.12 sq. m.

1.0. Materials : 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.

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 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 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.

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 panicles 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

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 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.

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 to 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 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 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 Riling 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 joits, 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. 9 Providing and laying ordinary cement concreate 1:1.5:3 (1 Cement : 1.5 coarse sand : 3 graded stone aggregates 20mm nominal size) and curing complete Including cost of form work in (iv) Slabs having more than 10 cm and up to 13 cm thickness

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 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 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, hessian 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. 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 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.

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 to 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 upt 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. 10 Providing & Thermo Mechanically Treated Bars (TMT Bars) reinforcement for RCC Work including bending, binding and placing in position complete up to floor two.

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 37 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 as 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 include. 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. 11 Providing 15 mm thick cement plaster in single coat on brick / concrete wall for interior plastering up to floor two level finished even and smooth in.(1) Cement mortar 1:3 (1 Cement 3 Sand) finishing with Floating coat of neat cement Slurry

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-l. 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 properlyexamined before erection and use. Stage scaffolding shall be provided for ceiling plaster which shall be independent of thewalls.

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 matterby water or by brushing. Smooth surface shall be roughened by wire brushing if it is not hard and by racking if it is hard. Incase 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 onthe 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 carryingout 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 areashall 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 arc 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 al not more than 2 metres intervals over the entire surface to serve as gauge. The surfaces of these gauges shall be truly inplane of the finished plastered surface. Themortar 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 comers, 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. 105

23.2. 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 recommending 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 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. Flying 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 openings for finish to plaster around ends of joints, beam posts 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 face 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. 12 Providing 20 mm thick sand faced cement plaster on walls upto height 10 meters above ground level consisting of 12 mm thick backing coat of C.M.1:3 (1 Cement : 3 sand) and 8 mm thick finishing coat of C.M.1:1 etc,

17.58.(I) 20 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-l. 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 properlyexamined before erection and use. Stage scaffolding shall be provided for ceiling plaster which shall be independent of thewalls.

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 matterby water or by brushing. Smooth surface shall be roughened by wire brushing if it is not hard and by racking if it is hard. Incase 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 onthe 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 carryingout 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 areashall 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 arc 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 al not more than 2 metres intervals over the entire surface to serve as gauge. The surfaces of these gauges shall be truly inplane of the finished plastered surface. Themortar 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 comers, 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 requiried. 105

23.2. 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 recommending the plaster, the edges of the old work shall be scraped clean and wetted with cement putty before plaster isapplied 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 arid 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 invaiiably 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 rill 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 handing 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. 13 Providing 10 mm thick cement plaster in single coat on brick / concrete wall for interior plastering up to floor two level finished even and smooth in.(1) Cement mortar 1:3 (1 Cement 3 Sand)

17.58.(I) 15 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-l. 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. 105

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 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. Flying 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.14 Providing & fixing flush door shutter solid core construction with frame of first class hand wood with cross bend and face veneer or plywood face panels including stainless steel hinges, Aldrop, stoper Handle with necessary screws (B) Non Decorative type & block board core anodized aluminium but hinges in flush door shutters 35 mm thick incl. frames of M.S. angle 40 x 40 x 6 mm with fixing of door screen with digital print both sides of shutters & oil painting three coats the frame of door incl. iron fixers & required all materials as labours All materials as approved by engineer in charge.

The relevant Specification of flush door shutter as per Item no. 10.30 Page No. 63 of General Technical Specification for building work shall follow. The M.s. angle frame 40 x 40 x 6 mm shall be used for frame of doors which conforms to M-22 Page No. 8 of General technical specification for building work On Both side of flush door shutter Door screen with digital print of approved brand & design shall be fixed as per the

instruction of Engineer in charge Three coats painting of M.S. angle frame shall be carried out as per relevant specification 19.7 & 19.15 page No. 122 & 123 standard specification booklet at building work.

The required hardware such as hinges Handle stopper, Aldrop etc. of stainless steel Shall be used The whole work shall be carried out as per the instruction of Engineer incharge.

The rate shall be for a unit of one smt which incl. Rate of flush door shutter, M.S. angle tramed Door screen with digital print & required all materials fixture fastening hardware & labour oil painting etc. complete.

Item No. 15 Providing and fixing extruded aluminium windows having extruded aluminium colour anodized section frame main outer size 95 mm x 24 mm x 1.17 mm (of jindal section No. 2459 @ Wt. 0.738 Kg/ mt) horizontal four track member size 92 mm x 31.75 mm x 1.30 mm (of jindal section No. 8688 @ Wt. 1.07 Kg/ mt) vertical member of size 92 mm x 31.75 mm x 1.50 mm (of jindal section No. 8933 @ Wt. 1.06 Kg/ mt) with sliding shutters of horizontal member size 40 mm x 18 mm x 1.29 mm (of Jindal Section no. 8947 @ wt. of 0.456 Kg/ mt) Vertical member of size 40 mm x 18 mm x 1.29 mm (of Jindal section No. 8949 @ Wt. of 0.456 Kg/ mt) with 5 mm thick transparent bronze colour tinted float glass with powder coated aluminium silicon sealant glass fixing to frame as per details etc. complete.

1.0 MATERIAL

1.1 Aluminum standard section

1.1.1 Main outer frame of rectangular tube

Aluminum alloy used in the manufacture of extruded Window section shall confirm to I S designation HEA-WP of I S 733-1975 and also Designation WVG –WP of I S 1285-1975 section shall be as specified in the drawing and design

Size of the **rectangular tube** shall confirm **65.0 x 25.0 X 1.25 mm**

All sections shall be Free from any scratches or holes or any damages on surface. All section shall have finished luster surface on all sides

1.1.2. Two track channel frame for window portion

Aluminum alloy used in the manufacture of extruded Window section shall confirm to I S designation HEA-WP of I S 733-1975 and also Designation WVG –WP of I S 1285-1975 section shall be as specified in the drawing and design

Size of the **two track Channel** shall confirm **65.0 x 25.0 X 1.25 mm**

All channels shall be Free from any scratches or holes or any damages on surface. All section shall have finished luster surface on all sides

1.1.3 Window shutter frame of size 50 X 25 x 1.5 mm

Aluminum alloy used in the manufacture of extruded Window section shall confirm to I S designation HEA-WP of I S 733-1975 and also Designation WVG –WP of I S 1285-1975 section shall be as specified in the drawing and design

Size of the **frame** shall confirm **50 X 25 x 1.5 mm**

All sections shall be Free from any scratches or holes or any damages on surface. All section shall have finished luster surface on all sides

1.1.4 PVC two track rubber top and bottom sliding channel

Top and bottom channel of rubber shall be of approved make and quality and shall be Free from any scratches or holes or any damages on surface.

All channels shall have finished luster surface on all sides

1.3 Glass

The glass shall be of approved make having thickness of 5 mm The glass shall be clear and free from scratches and cracks The glass shall be provided on the top

1.5. Rubber Gasket

Rubber gasket shall be of approved make. shall be Free from any scratches or holes or any damages on surface. and shall have finished luster surface on all sides

1.6. Fixtures

1.6.1 Hinges,

Hinges shall be of approved make. shall be Free from any scratches or holes or any damages on surface. and shall have finished luster surface on all sides

1.6.2 Handles,

handles shall be of approved make. shall be Free from any scratches or holes or any damages on surface. and shall have finished luster surface on all sides

1.1.4 Bolts,

All bolts shall be of approved make. shall be Free from any scratches or holes or any damages on surface. and shall have finished luster surface on all sides

1.6.5 Stoppers,

stoppers shall be of approved make. shall be Free from any scratches or holes or any damages on surface. and shall have finished luster surface on all sides

2.0 WORKMANSHIP

The Work of aluminum window shall be done with extreme finishing. The partial board shall be fixed in the bottom panel and glass shall be fitted on top panel as directed by Engineer in charge using glazing clips and rubber gaskets as required. All the fixtures and fastenings shall be fitted at right place and as directed by Engineer in charge. Floor spring shall be fitted properly so as to align the window properly and shall be given trial of opening and closing properly.

3.0 Mode of Measurement & Payment :

3.1. The unit rate of aluminum window shall include the cost of all materials, cost of anodizing, cost of all necessary fixtures and fastenings, labour charges for fixing frames, windows and fixing the window in wall at the place shown in drawing and as instructed by Engineer in charge, all tools and plant required for assembling and fixing in position, finishing as per direction of the Engineer-in-charge, and all other incidental expenses for preparing window frame and shutter of specified size to complete the window structure or its components as shown on the drawings and according to these specifications. They shall also include the cost of making, fixing and making walls good by plaster patch colour etc as required

3.2. The window shall be measured for its improvising and fixing extruded Alluminium window two track sliding shutter with frame section **65.0 x 25.0 X 1.25** mm weighing 0.547 Kg./Rmt., bottom, top and vertical channel section **50 X 25 x 1.5** mm weighing 0.457 Kg./Rmt. extrude alluminium colour anodised section frame with sliding shutter with 5 mm thick transparent bronze colour tinted float glass panel of modi guard or equivalent make with powder coated alluminium fittings and fixtures and transparent silicon glass fixings to from as detail including PVC T in frame silicon based linings handles, locks two nos. PVC gasket screws alluminium joints special runner etc. complete. For **Window** and height, limiting dimensions to those specified on plan or as directed.

3.3. The rate shall be for a unit of one square meter.

Item No.16 Providing and fixing standard extruded of alluminium section of size 63 mm x 38.10 mm x 1.20 mm (jindal section 2434 @ Wt. 0.643 Kg/mt) with colour anodized alluminium frame for ventilation with 5 mm thick frosted glass as details etc. complete. For Ventilation.

1.0. Materials: The structured steel work shall conform to M.22. Page No. 8 of general specification for building works Glass Q-4 mm thick confirms to M 38 P.No. 12 of standard.

Specification booklet for building works. F17 Proof galvanized M.S. wire gauge 9 I.S. gauge designation 85 G with wire of 0.56 mm shall be used 10 mm thick square M.s. bars @ required spacing shall be fixed which confirms to M 18 P.no. 7 standard Specification book of building works oil painting three coats shall be carried out as per relevant specification No. 19.7 & 19.15 page No. 122 & 123 of standard specification booklet of building works. The whole work shall be carried out as per instruction of Engineer in charge.

The rate shall be for a unit of one sqm which included cost of M.s. frame 10 mm square bars. Glass, wire mesh welding oil painting & required labours for fixing etc.

Item no. 17 Providing & laying Polish Kota Stone slab flooring over 20 mm (average) thick base of cement mortar 1:6 (1 Cement 6 Coarse sand) or L.M. 1:1.5 laid over and jointed with grey cement slurry including rubbing & polishing etc. complete. (A)25 mm thick

1.0. Materials : **1.1.** Water shall conform M-1. Lime mortar shall conform to M-10. Cement mortar shall conform to M-11

polished kotah stone shall conform to M-49.

2.0. Workmanship :

2.1 Each slab shall be cut to the required size and shape and fine chisel dressed at all the edges.

The sides thus dressed shall have a full contact if a straight edge is laid along. The sides shall be table rubbed with coarse

and before paving. All angles and edges of the slabs shall be true square and free from clippings and giving a plane surface.

The thickness shall be 25 mm. (Average) as specified in the item but not less than 20 mm. at any place of the slab.

2.2 Bedding for the kotah stone slabs shall be cement mortar 1 : 6 (1 cement; 6 coarse sand) or L.M. 1 : 1.5. of average

thickness 20 mm. as given in the description of the item. Sub grade shall be cleaned, wetted and mopped. Mortar of the specified

mix and thickness shall be then be spread on an area sufficient to receive one kotah stone slab. The slab shall be washed clean

before laying. It shall be laid on top pressed, tapped gently to bring it in level with the other slabs. It shall then be lifted and laid aside. Top surface of the mortar shall then be corrected by adding fresh mortar at hollows or depressions. The mortar shall then be allowed to harden bit. Over this surface, cement slurry of honey like consistency shall be applied. The slab shall then be gently placed in position and lapped with wooden mallet till it is properly pedded in level with and close to the adjoining slab. The joint shall be as fine as possible. The slabs fixed in the floor adjoining the wall shall enter not less than 10 mm. under the plaster, skirting or dado. The junction between the wall floor shall be finished neatly. The finished surface shall be true to levels and slopes as directed.

2.3 The floor shall be kept wet for a minimum period of 7 days, so that bedding and joints set properly.

2.4 Polishing shall be normally commenced after 14 days of laying the stone slab. First polishing shall be done with carborundum stones of 120 grade grit fitted in the heavy machine and then second polishing shall be done with carborundum stone of 220 to 350 grade grit fitted in heavy machine.

Water shall be properly used during polishing. The stone shall then be washed clean with water.

When directed by the Engineer-in-charge wax polish of approved quality shall be applied on the surface with the help of soft cloth over a clean and dry surface. Then the polish machine fitted with bobs shall be run over it.

2.5. The holes required for Nahni traps, pipes any other fittings shall be made without any extra cost.

3.0. Mode of measurements & payment:

3.1 The rate shall include the cost of all materials and labour involved in all the operations described above. The kotah stone flooring shall be measured in square metres correct to, two places of decimal, length and breadth shall be measured correct to a centimeter and between the finished face of skirting dado or wall plaster and no deduction shall be made nor extra paid for any opening in floor of

areas upto 0.1sq. mt.

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

Item No. 18 Providing and laying white glazed tiles 6 mm thick in flooring & in dado laid on a bed of 12 mm thick C.M.1:3 (1 cement :3 fine sand) finished with flush pointing in white cement etc.

14.29. White glazed tiles 6 mm. thick in flooring treads of steps and landings laid on a bed of 12 mm. thick cement mortar 1:3 (1 cement: 3 coarse sand) finished with flush pointing in white cement.

1.0. Materials : Water shall conform to M-I. Cement mortar shall conform to M-11. White glazed tiles shall conform to M-55.

2.0. Workmanship:

2.1. Bedding:

2.1.1. The sub-grade shall be cleaned, wetted and mopped- The bedding shall then be laid evenly over the surface tamped and corrected to desired level and allowed to harden enough to offer a rigid cushion to tiles and to enable the mason to place wooden planks across and squat on it.

2.1.2. The white glazed tiles shall be laid on cement mortar bedding of 12 mm. thick in C.M. 1 : 3 The mortar shall have sufficient plasticity for laying and there shall be no hard lumps that would interfere with the evenness of bedding. The base shall be cleared and well wetted. The mortar shall then be spread in thickness not less than 10 mm. at any place and average 12 mm. thickness. The proportion of the cement mortar shall be as specified in the item.

2.2. Fixing tries:

2.2.1. The tiles before laying shall be soaked in water for atleast two hours. Neat grey cement grout at 3.3. Kg/Cement/Sq. mt. of honey like consistency shall be spread over the mortar bedding as directed. The edges of the tiles be smeared with neat cement slurry. The tiles shall be well pressed and gently tapped with a wooden mallet till they are properly bedded and in level with the adjoining tiles. There shall be no hollows in bed or joints. The joints between the tiles shall be as thin as possible in straight line or as per pattern.

2.2.2. The tiles shall not have staggered joints. The joints shall be true to centre line both ways. The Nehni trap coming in the flooring shall be so positioned that its grating shall replace only one tile as far as possible. Where full size tiles cannot be fixed, they shall be cut (Swan) to the required size and the edges rubbed smooth to ensure straight and true joints. The joints shall be filled with grey cement grout with wire brush or trowel to a depth of 5 mm. and loose material removed. White cement shall be used for pointing the joints. After fixing the tile finally in an even plane the flooring shall be kept wet and allowed to nature undisturbed for 7 days.

2.3. Cleaning: 2.3.1. The surplus cement grout that may have come out of the joints shall be cleared off before it sets. Once the floor has set, it shall be carefully washed, cleared by dilute acid and dried. Proper precaution and measures shall be taken to ensure that the tiles are not damaged in any way till the completion of the construction.

3.0. Mode of measurements & payment:

3.1. The work done shall be measured in sq. mt. for visible area of work done. The length and width of the flooring shall be measured not between the faces of skirting or dados or plastered face of wall as the case may be. The paving under dado or skirting shall not be measured. No deduction shall be made nor extra paid for any opening in the floor of area upto 0.1 sq. mt. Nothing extra shall be paid for laying the floors at different levels in the same rooms.

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

Item No. 19 Item No. 19 Providing & laying Polish Kota Stone slab 25 mm (average) thick in riser of steps, skirting Dado and pillars laid on 10 mm thick cement mortar 1:3(1 Cement 3 Coarse sand) and jointed with grey cement slurry including rubbing & polishing etc. complete.

1.0. Materials : 1.1. Water shall conform M-I. Lime mortar shall conform to M-10. Cement mortar shall conform to M-11

polished kotah stone shall conform to M-49.

2.0. Workmanship :

2.1 Each slab shall be cut to the required size and shape and fine chisel dressed at all the edges.

The sides thus dressed shall have a full contact if a straight edge is laid along. The sides shall be table rubbed with coarse

and before paving. All angles and edges of the slabs shall be true square and free from clippings and giving a plane surface.

The thickness shall be 25 mm. (Average) as specified in the item but not less than 20 mm. at any place of the slab.

2.2 Bedding for the kotah stone slabs shall be cement mortar 1 : 6 (1 cement; 6 coarse sand) or L.M. 1 : 1.5. of average

thickness 20 mm. as given in the description of the item. Sub grade shall be cleaned, wetted and mopped. Mortar of the specified

mix and thickness shall be then be spread on an area sufficient to receive one kotah stone slab. The slab shall be washed clean

before laying. It shall be laid on top pressed, tapped gently to bring it in level with the other slabs. It shall then be lifted and

laid aside. Top surface of the mortar shall then be corrected by adding fresh mortar at hollows or depressions. The mortar

shall then be allowed to harden bit. Over this surface, cement slurry of honey like consistency shall be applied. The slab shall

then be gently placed in position and lapped with wooden mallet till it is properly pedded in level with and close to the

adjoining slab. The joint shall be as fine as possible. The slabs fixed in the floor adjoining the wall shall enter not less than

10 mm. under the plaster, skirting or dado. The junction between the wall floor shall be finished neatly. The finished surface

shall be true to levels and slopes as directed.

2.3 The floor shall be kept wet for a minimum period of 7 days, so that bedding and joints set properly.

2.4 Polishing shall be normally commenced after 14 days of laying the stone slab. First polishing shall be done with

carborundum stones of 120 grade grit fitted in the heavy machine and then second polishing shall be done with carborundum

stone of 220 to 350 grade grit fitted in heavy machine. Water shall be properly used during polishing. The stone shall then be

washed clean with water. When directed by the Engineer-in-charge wax polish of approved quality shall be applied on the

surface with the help of soft cloth over a clean and dry surface. Then the polish machine fitted with bobs shall be run over it.

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2.5. The holes required for Nahni traps, pipes any other fittings shall be made without any extra cost.

3.0. Mode of measurements & payment:

3.1 The rate shall include the cost of all materials and labour involved in all the operations described above. The kotah stone flooring

shall be measured in square metres correct to, two places of decimal, length and breadth shall be measured correct to a centimeter and

between the finished face of skirting dado or wall plaster and no deduction shall be made nor extra paid for any opening in floor of areas upto 0.1sq. mt.

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

Item No. 20 Providing & Fixing 30 mm thick polished Kota-stone slabs for Shelves of Cupboard shelves including making grooves in walls and finishing with C.M.(1:3) and polishing etc. Complete.

1.0. Materials : **1.1.** Water shall conform M-I. Lime mortar shall conform to M-10. Cement mortar shall conform to M-11

polished kotah stone shall conform to M-49.

2.0. Workmanship :

2.1 Each slab shall be cut to the required size and shape and fine chisel dressed at all the edges.

The sides thus dressed shall have a full contact if a straight edge is laid along. The sides shall be table rubbed with coarse

and before paving. All angles and edges of the slabs shall be true square and free from clippings and giving a plane surface.

The thickness shall be 25 mm. (Average) as specified in the item but not less than 20 mm. at any place of the slab.

2.2 Bedding for the kotah stone slabs shall be cement mortar 1 : 6 (1 cement; 6 coarse sand) or L.M. 1 : 1.5. of average

thickness 20 mm. as given in the description of the item. Sub grade shall be cleaned, wetted and mopped. Mortar of the specified

mix and thickness shall be then be spread on an area sufficient to receive one kotah stone slab. The slab shall be washed clean

before laying. It shall be laid on top pressed, tapped gently to bring it in level with the other slabs. It shall then be lifted and

laid aside. Top surface of the mortar shall then be corrected by adding fresh mortar at hollows or depressions. The mortar

shall then be allowed to harden bit. Over this surface, cement slurry of honey like consistency shall be applied. The slab shall

then be gently placed in position and lapped with wooden mallet till it is properly pedded in level with and close to the

adjoining slab. The joint shall be as fine as possible. The slabs fixed in the floor adjoining the wall shall enter not less than

10 mm. under the plaster, skirting or dado. The junction between the wall floor shall be finished neatly. The finished surface

shall be true to levels and slopes as directed.

2.3 The floor shall be kept wet for a minimum period of 7 days, so that bedding and joints set properly.

2.4 Polishing shall be normally commenced after 14 days of laying the stone slab. First polishing shall be done with

carborundum stones of 120 grade grit fitted in the heavy machine and then second polishing shall be done with carborundum

stone of 220 to 350 grade grit fitted in heavy machine. Water shall be properly used during polishing. The stone shall then be washed clean with water. When directed by the Engineer-in-charge wax polish of approved quality shall be applied on the surface with the help of soft cloth over a clean and dry surface. Then the polish machine fitted with bobs shall be run over it.

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2.5. The holes required for Nahni traps, pipes any other fittings shall be made without any extra cost.

3.0. Mode of measurements & payment:

3.1 The rate shall include the cost of all materials and labour involved in all the operations described above. The kotah stone flooring shall be measured in square metres correct to, two places of decimal, length and breadth shall be measured correct to a centimeter and between the finished face of skirting dado or wall plaster and no deduction shall be made nor extra paid for any opening in floor of areas upto 0.1sq. mt.

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

Item No. 21 Providing & laying broken china mosaic flooring for terrace using 12 mm to 20 mm broken places of glazed tiles to be laid over cement mortar 1:3 in plain or slope and to be tempered to bring mortar crème out up to surface using white cement including rounding off junction and extending them up to 15 cm along the well cleaning with water and oxalic acid as directed.

MATERIALS

Water shall confirm to M 1 Cement mortar shall confirm to M 11 and white cement glaze tiles shall confirm to M 55 of General Specification of materials.

WORKMANSHIP

The sub grade shall be cleaned wetted and mopped. The bedding shall be laid evenly over the surface tamped and corrected to desired level and allowed to harden enough to offer a rigid cushion to tiles and to enable the to place woodenplank across the squat on it. The white glazed tiles shall be laid on cement mortar bedding of 20 mm thick in C.M. 1:3 The mortar shall have sufficient plasticity for laying and these shall have lumps that would interfere with the ecennes of bedding The base shall be cleared and wall not less than 20 mm at any place. The proportion of the cement mortar shall be asspecified in the items. The waterproofing material of approved brand shall be added @ rate of 1 Kg/ 10 sqm or as per instruction of manufacture.

FIXING TILES.

The tiles before laying shall be soaked in water for at least two hours. Neat grey cement grout at 2.0 Kg. cement /sqmt of honey like consistency shall be spread over the mortar

bedding as directed. The edges of the tiles measured with neat cement slurry. The tiles shall be pressed and gently lapped with a wooden mallet till they are properly bedded and in level with the adjoining tiles. There shall be not hollows in bed or joints.

The white glazed tiles shall be broken in to pieces of 12 to 25 mm size.

The joints shall be filled with grey cement grout with wire brush of trowed to a depth of 5 mm and loose materials removed white cement shall be used for pointing the joints After fixing the tiles finally an uneven place the flooring shall be kept wet and allowed to nature undisturbed for 7 days.

Before laid cement mortar in CM 1:3 as a bedding necessary C.c. 1:2:4 shall be done for making required grade if any so as water run to water spout easily. The specification of C.C. 1:2:4 shall be following as per relevant items of attached booklet.

No any extra payment shall be done for addition work of C.C. 1:2:4 if any and water proofing materials to be used in C.M. 1:3 for bedding of china mosaic tiles flooring.

CLEANING

The surplus cement grout that may have come out of the joints shall be cleared off before it sets. Once the floor has set it shall be carefully washed cleaned by dilute acid and dared. Proper precaution and measures shall be taken to ensure that the tiles are not damaged any way till the completion of the construction.

The white glazed china mosaic tiles shall be breaked as pr requirement and direction given by Engineer in charge. The white glazed tiles shall be fixed in C.M. 1:3 The joints shall be filled with white cement and all joints shall be rubbed and finished in line and level. The necessary approved format guarantee bond for 7 (Seven) year shall be furnished by the contractor for leakage works as per format attached.

MADE OF MEASUREMENT & PAYMENT

The work done shall be measured in sqmt for visible are work done The length and width of the flooring shall be measured not between the face of skirting or dedos or plastered face of walls as the case may be the paving under dedo or skirting shall not be measured no deduction shall be made for extra paid for any opening thee floor of area up to 0.1 sqmt. Nothing extra shall be paid for laying thee floors at different levels in the same rooms.

The rate shall be for a unit of one smt.

Item No. 22 Distempering (Two coats) with oil bound washable distemper of app. Brand and manufacture and of required shade on wall surface to give an even shade over and incl. as primary coat of alkali resistance primer of app brand after through brushing the surface free from mortar drops and other foreign matter and also including preparing the surface even and 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 :

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2.2.1. The undecorated surface to be distempered shall be thoroughly brushed off from dust, dirt, grease, mortar dropping and other foreign matter and sand papered smooth. New plaster surface shall be allowed to dry for atleast 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 prime 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 of 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 around ends of joints, beams, posts etc.

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3.3 . Deductions of opening exceeding 0.5 sq. m. but not exceeding 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 on 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 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 nor 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.

Item No. 23 Finishing Wall with water proofing cement paint on wall surface)Two coats) to give and approved brand and manufacture & required shape even shade after thoroughly brushing the surface to removed all dirt & remains of loose powdered materials. for every subsequent coat of water proofing cement paint of approved brand and manufacture.

1.0. Materials : 1.1. The water shall conform to M-1. Cement water proofing shall conform to I.S. 5410-1969.

2.0. Workmanship :

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

2.2. Preparation of surface: The relevant specifications of item No. 18.11 shall be followed except that the word white wash colour wash shall be substituted with water proofing cement paint. The surface shall be thoroughly wetted with clean water before cement water proofing paint is applied.

2.3. Preparation of paint: Portland cement shall be prepared by adding paint powder to water and stirring to obtain a thick paste, which shall then be diluted to a brushable consistency. Generally, equal volumes of paint powder and water make a satisfactory paint. In all cases, the manufacture's instructions shall be followed. The paint shall be mixed in such quantities as can be used up within an hour of mixing as otherwise the mixture will set and thicken, affecting flowing and finish. The lids of cement paint drums shall be kept tightly when not in use.

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 water proof cement paint. Not less than 24 hours shall be allowed between two coats. Next coat shall not be started until the preceding coat has become sufficiently hard to resist marking by the brush being used. In hot dry weather, the preceding coat shall be allowed between two coats. Next coat shall not be started until the preceding coat has become sufficiently hard to resist marking by the brush being used. In hot dry weather, the preceding 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 cement 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 laps shall be well brushed out.

2.4.7. Water proof cement paint shall not be applied on surfaces already treated with white wash colour wash, distemper dry or oil bound varnishes, paint etc. It shall not be applied on gypsum, wood and metal surfaces.

2.5. Curing : Painted surfaces shall be sprinkled with water two or three times a day. This shall be done between coats and for at least two days following the final coat. The curing shall be started as soon as the paint has hardened so as not to be damaged by the sprinkling of water say about 12 hours after the application.

2.6. Protection measures shall be taken as per item No. 18.11 para 2.6.

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. 24 Providing and fixing water closet Orrissa port (Indian type W.C.PAN) size 580 mm White colour of CERA Brand or equivalent as approved by Engineer in charge.

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).

1.0. Materials : The 100 mm. size 'P' or 'S' trap for water closet shall conform to M.62 Cement mortar shall conform to M.11

2.0 Materials : Workmanship 'P' or 'S' trap shall be fixed with pan and 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 1: 1 (1 cement: 1 fine sand).

1.0. Materials: **1.1.** The pair of white vitreous china foot-rests shall conform to M-62. Cement mortar shall conform to M-11.

2.0. Workmanship: **2.1.** After laying the floor, the floor, shall be suitably sloped so that the waste water is drained into the pan. A pair of foot-rests of size 250 mm x 130 mm. x 30 mm. of white vitreous china shall be set in cement mortar 1: 3 (1 cement: 3 coarse sand). The foot-rests shall be fixed at a distance of 175 mm. from the inner edge of the back side of the pan and shall be fixed at convenient angle.

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3.0. Mode of measurements & payment:

3.1. The rate shall include the cost of all materials and labours involved in all the operations described under workmanship.

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

Item no. 25 Providing and fixing 100 mm size "P" of "S" trap for water closet squatting pan incl. jointing the trap with the pan and soil pipe on cement mortar 1:1(1 Cement 1 fine sand) (A) Vitreous china

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 15 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.

1.0. Materials : The 100 mm. size 'P' or 'S' trap for water closet shall conform to M.62 Cement mortar shall conform to M.11

2.0 Materials : Workmanship 'P' or 'S' trap shall be fixed with pan and 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 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 labour involved in the operations described under workmanship including testing.

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

1.0. Materials: **1.1.** The pair of white vitreous china foot-rests shall conform to M-62. Cement mortar shall conform to M-11.

2.0. Workmanship: **2.1.** After laying the floor, the floor, shall be suitably sloped so that the waste water is drained into the pan. A pair of foot-rests of size 250 mm x 130 mm. x 30 mm. of white vitreous china shall be set in cement mortar 1: 3 (1 cement: 3 coarse sand). The foot-rests shall be fixed at a distance of 175 mm. from the inner edge of the back side of the pan and shall be fixed at convenient angle.

3.0. Mode of measurements & payment:

3.1. The rate shall include the cost of all materials and labours involved in all the operations described under workmanship.

3.2. The rate shall be for a unit of one pair.

Item No. 26 (A) Providing laying and jointing in true line and level 20 mm dia. U.P.V.C. pipe (SCH-40) for cold water including fittings make Prince/ Supreme/ ASTRAL/ FINOLEX or equivalent 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 cancelled as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.

(B) Providing laying and jointing in true line and level 32 mm dia. U.P.V.C. pipe (SCH-40) for cold water including fittings make Prince/ Supreme/ ASTRAL/ FINOLEX or equivalent 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 cancelled 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: Galvanised mild steel lubes of specified dia. nominal bore shall conform to I. S. 1239-1968. The galvanised fittings, clamps, etc. required for specified dia. bore pipes shall be of best quality and make as approved by the Engineer-incharge.

2.0. Workmanship : 2.1. Cutting, Laying and Jointing:

2.1.1. When the tubes are to be cut or rethreaded the end shall be carefully filed out so that no obstruction to bore is offered.

The ends of the tubes shall then be threaded conforming to the requirements of I. S. 554-1955 with pipe dies and taps carefully in such a manner as will not result in slackness of joints when the two pieces are screwed together.

2.1.2. The taps and dies shall be used only for straightening screw threads which have become bent or damaged and dies shall not be used for turning of the threads so as to make them slack as the latter procedure may not result in a watertight joints.

The screw threads for tube and fittings shall be protected from edge until they are fitted.

2.1.3. In jointing the tubes, the inside of the socket and the screwed end of the tubes shall be oiled and smeared with white or red lead and wrapped around with a few turns of fine spun yarn round the screwed end of the tube. The end shall then be

tightly screwed in the socket, tees, etc. with a pipe wrench. Care shall be taken that all pipes and fittings are properly jointed

so as to make the joints completely water tight and pipes are kept at all times free from dust, and dirt during fixing. Burr joints

shall be removed after screwing. After laying, the open ends of the pipes shall be temporarily plugged to prevent access of

water, soil, or any other foreign matter.

2.1.4. Any threads exposed after jointing shall be painted or in the case of underground piping thickly coated with approved anti corrosive paint to prevent corrosion.

2.2. Fixing of the tube fitting to wall ceiling and Pools :

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2.2.1. In case of fixing of tubes and fillings to the walls or ceiling, these shall run on the surface of the wall or ceiling (not in chase) unless otherwise specified. The fixing shall be done by means of standard pattern, holder clamps keeping the pipes about 15 mm. clear of the wall. When it is found necessary to conceal the pipes and when specified so, chasing may be adopted or pipe fixed in duets or recesses etc. provided that there is sufficient space to work on the pipe with usual tools. The pipe shall not ordinarily be buried in walls or solid floors, where unavoidable, pipes may be buried for short distances provided that adequate protection is given against damage and where so required joints are not buried. Where required M.S. tube sleeve shall be fixed at a place a pipe is passing through a wall or floor for expansion and contraction and other movements. In case the pipe is embeded in walls or floors, it should be painted with anti-corrosive bitumastic paint of approved quality. The pipe should not come in contact with lime mortar or lime concrete as the pipe is affected by lime. Under the floors, the pipe shall be laid in layer of sand filling.

2.2.2. All pipes and fittings shall be fixed truly vertical and horizontal unless unavoidable. The pipes shall be fixed to walls with standard pattern clamps of required size and shape, one end of which shall be properly plugged or cemented into walls with cement mortar 1 : 3 (1 cement: 3 coarse sand) and the other tightened round the pipes to hold it securely. These clamps shall be spaced at regular intervals in straight length at 2 M C/C interval in horizontal run and 2.5 M. interval in vertical run. For pipe of 15 mm dia. upto 25 mm. dia. the holes in the walls and floors shall be made by drilling with chisel or jumper and not by dismantling the brick work or concrete. However for bigger diameter pipes, the holes shall be carefully made of the smallest required size. After fixing the pipe the holes shall be made good with cement mortar 1:3(1 cement: 3 coarse sand) and properly finished to match the adjacent surface.

2.3. Testing of joints :

2.3.1. After laying and jointing, the pipes and fittings shall be inspected under working conditions of pressure and flow. Any joint found leaking shall be redone, and all leaking pipes removed and replaced without extra cost.

2.3.2. The pipes and fillings as they are laid shall be tested to hydraulic pressure of 6 Kg./sq. cm. The pipe shall be slowly and carefully charged with water allowing all air to escape and avoiding all shock and water hammer. The draw off takes and

stopcock shall then be closed and specified hydraulic pressure shall be applied gradually.

The pressure gauge must be accurate.

The pipes and fillings shall be tested in sections as the work of laying proceeds keeping the joints exposed for inspection

during the testing.

3.0. Mode of measurements & payment:

3.1. The description of each item shall unless otherwise stated, be held to include where necessary, conveyance, and delivery, handling, unloading, storing fabrication, hoisting, all labour for finishing to required shape and size; testing, fitting in position, straight, culling and waste, return of packing etc.

3.2. The length shall be measured on running metre basis of finished work. The length shall be taken along the centre line of the pipe and fittings. The pipes fixed to walls, ceiling, floors etc. shall be measured and paid under this item.

3.3. All the work shall be measured in decimal system as fixed in its place, subject to tolerance given below unless otherwise stated:

(i) Dimension shall be measured to the nearest 0.01 metre,

(ii) Area shall be worked out to the nearest 0.01 sq. metre.

3.4. All measurements of culling shall unless otherwise stated be held to include the consequent waste.

3.5. In case of filling of unequal bore, the largest bore shall be measured for the test.

3.6. Testing of pipe lines filling sand joints include for providing all plant and appliances necessary for obtaining access to the work to be tested and carrying out the tests.

3.7. The rate includes galvanised steel tubing with screwed socket joints, together with all fittings (such as bends, sockets, springs, elbows, tees, crosses, short pieces, clamps and plugs unions etc.) and fixing complete with clamping wall-hooks, wooden plugs etc. and also cutting, screwing and waste and for making forged (or hand mad) bends on piping as required.

Connector shall be inserted, where required or directed. The rate also includes cutting through walls, floors etc. and their

making good and painting exposed threads with anti-corrosive paint as above and testing.

Where lubes are to be fixed to wall,

ceiling and flooring, the rate shall not include painting of pipes, providing sleeves and sand Oiling under floor for which

separate payment shall be made.

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

Item No. 27 Providing and fixing screw down bib taps of following size. (A) Brass screw down bib tap polished bright etc.comp.(I) 15 mm dia.

1.0. Materials: Galvanised mild steel lubes of specified dia. nominal bore shall conform to I. S. 1239-1968. The galvanised

fittings, clamps, etc. required for specified dia. bore pipes shall be of best quality and make as approved by the Engineer-in-charge.

2.0. Workmanship : 2.1. Cutting, Laying and Jointing:

2.1.1. When the tubes are to be cut or rethreaded the end shall be carefully filed out so that no obstruction to bore is offered.

The ends of the tubes shall then be threaded conforming to the requirements of I. S. 554-1955 with pipe dies and taps carefully in such a manner as will not result in slackness of joints when the two pieces are screwed together.

2.1.2. The taps and dies shall be used only for straightening screw threads which have become bent or damaged and dies shall not be used for turning of the threads so as to make them slack as the latter procedure may not result in a watertight joint.

The screw threads for tube and fittings shall be protected from edge until they are fitted.

2.1.3. In jointing the tubes, the inside of the socket and the screwed end of the tubes shall be oiled and smeared with white or

red lead and wrapped around with a few turns of fine spun yarn round the screwed end of the tube. The end shall then be

tightly screwed in the socket, tees, etc. with a pipe wrench. Care shall be taken that all pipes and fittings are properly jointed

so as to make the joints completely water tight and pipes are kept at all times free from dust, and dirt during fixing. Burr joints

shall be removed after screwing. After laying, the open ends of the pipes shall be temporarily plugged to prevent access of water, soil, or any other foreign matter.

2.1.4. Any threads exposed after jointing shall be painted or in the case of underground piping thickly coated with approved anti corrosive paint to prevent corrosion.

2.2. Fixing of the tube fitting to wall ceiling and Pools :

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2.2.1. In case of fixing of tubes and fittings to the walls or ceiling, these shall run on the surface of the wall or ceiling (not

in chase) unless otherwise specified. The fixing shall be done by means of standard pattern, holder clamps keeping the pipes about 15

mm. clear of the wall. When it is found necessary to conceal the pipes and when specified so, chasing may be adopted

or pipe fixed in ducts or recesses etc. provided that there is sufficient space to work on the pipe with usual tools. The pipe

shall not ordinarily be buried in walls or solid floors, where unavoidable, pipes may be buried for short distances provided

that adequate protection is given against damage and where so required joints are not buried. Where required M.S. tube sleeve

shall be fixed at a place a pipe is passing through a wall or floor for expansion and contraction and other movements. In case

the pipe is embedded in walls or floors, it should be painted with anti-corrosive bitumastic paint of approved quality. The pipe

should not come in contact with lime mortar or lime concrete as the pipe is affected by lime.

Under the floors, the pipe shall be laid in layer of sand filling.

2.2.2. All pipes and fittings shall be fixed truly vertical and horizontal unless unavoidable. The pipes shall be fixed to walls with standard pattern clamps of required size and shape, one end of which shall be properly plugged or cemented into walls with cement mortar 1 : 3 (1 cement: 3 coarse sand) and the other tightened round the pipes to hold it securely. These clamps shall be spaced at regular intervals in straight length at 2 M C/C interval in horizontal run and 2.5 M. interval in vertical run. For pipe of 15 mm dia. upto 25 mm. dia. the holes in the walls and floors shall be made by drilling with chisel or jumper and not by dismantling the brick work or concrete. However for bigger diameter pipes, the holes shall be carefully made of the smallest required size. After fixing the pipe the holes shall be made good with cement mortar 1:3(1 cement: 3 coarse sand) and properly finished to match the adjacent surface.

2.3. Testing of joints :

2.3.1. After laying and jointing, the pipes and fittings shall be inspected under working conditions of pressure and flow. Any joint found leaking shall be redone, and all leaking pipes removed and replaced without extra cost.

2.3.2. The pipes and fillings as they are laid shall be tested to hydraulic pressure of 6 Kg./sq. cm. The pipe shall be slowly and carefully charged with water allowing all air to escape and avoiding all shock and water hammer. The draw off takes and stopcock shall then be closed and specified hydraulic pressure shall be applied gradually. The pressure gauge must be accurate. The pipes and fillings shall be tested in sections as the work of laying proceeds keeping the joints exposed for inspection during the testing.

3.0. Mode of measurements & payment:

3.1. The description of each item shall unless otherwise stated, be held to include where necessary, conveyance, and delivery, handling, unloading, storing fabrication, hoisting, all labour for finishing to required shape and size; testing, fitting in position, straight, culling and waste, return of packing etc.

3.2. The length shall be measured on running metre basis of finished work. The length shall be taken along the centre line of the pipe and fittings. The pipes fixed to walls, ceiling, floors etc. shall be measured and paid under this item.

3.3. All the work shall be measured in decimal system as fixed in its place, subject to tolerance given below unless otherwise stated:

- (i) Dimension shall be measured to the nearest 0.01 metre,
- (ii) Area shall be worked out to the nearest 0.01 sq. metre.

3.4. All measurements of culling shall unless otherwise stated be held to include the consequent waste.

3.5. In case of filling of unequal bore, the largest bore shall be measured for the test.

3.6. Testing of pipe lines filling sand joints include for providing all plant and appliances necessary for obtaining access to the work to be tested and carrying out the tests.

3.7. The rate includes galvanised steel tubing with screwed socket joints, together with all fittings (such as bends, sockets,

springs, elbows, tees, crosses, short pieces, clamps and plugs unions etc.) and fixing complete with clamping wall-hooks, wooden plugs etc. and also cutting, screwing and waste and for making forged (or hand mad) bends on piping as required. Connector shall be inserted, where required or directed. The rate also includes cutting through walls, floors etc. and their making good and painting exposed threads with anti-corrosive paint as above and testing. Where lugs are to be fixed to wall, ceiling and flooring, the rate shall not include painting of pipes, providing sleeves and sand Oiling under floor for which separate payment shall be made. 3.8. The rate shall be for a unit of one Running metre.

Item No. 28 Providing & fixing PVC SWR Nahi trap IS 14735 for drain - 100 mm diameter with jali of the following nominal diameter of self cleansing design with C.I. Scream down or hinged gratin including the cost of cutting and making good the walls.

1.0. Materials: Galvanised mild steel lugs of specified dia. nominal bore shall conform to I. S. 1239-1968. The galvanised fittings, clamps, etc. required for specified dia. bore pipes shall be of best quality and make as approved by the Engineer-in-charge.

2.0. Workmanship : 2.1. Cutting, Laying and Jointing:

2.1.1. When the tubes are to be cut or rethreaded the end shall be carefully filed out so that no obstruction to bore is offered.

The ends of the tubes shall then be threaded conforming to the requirements of I. S. 554-1955 with pipe dies and taps carefully in such a manner as will not result in slackness of joints when the two pieces are screwed together.

2.1.2. The taps and dies shall be used only for straightening screw threads which have become bent or damaged and dies shall not be used for turning of the threads so as to make them slack as the latter procedure may not result in a watertight joint.

The screw threads for tube and fittings shall be protected from edge until they are fitted.

2.1.3. In jointing the tubes, the inside of the socket and the screwed end of the tubes shall be oiled and smeared with white or red lead and wrapped around with a few turns of fine spun yarn round the screwed end of the tube. The end shall then be

tightly screwed in the socket, tees, etc. with a pipe wrench. Care shall be taken that all pipes and fittings are properly jointed

so as to make the joints completely water tight and pipes are kept at all times free from dust, and dirt during fixing. Burr joints

shall be removed after screwing. After laying, the open ends of the pipes shall be temporarily plugged to prevent access of water, soil, or any other foreign matter.

2.1.4. Any threads exposed after jointing shall be painted or in the case of underground piping thickly coated with approved anti corrosive paint to prevent corrosion.

2.2. Fixing of the tube fitting to wall ceiling and Pools :

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2.2.1. In case of fixing of tubes and fittings to the walls or ceiling, these shall run on the surface of the wall or ceiling (not

in chase) unless otherwise specified. The fixing shall be done by means of standard pattern, holder clamps keeping the pipes about 15 mm. clear of the wall. When it is found necessary to conceal the pipes and when specified so, chasing may be adopted or pipe fixed in duets or resesses etc. provided that there is sufficient space to work on the pipe with usual tools. The pipe shall not ordinarily be buried in walls or solid floors, where unavoidable, pipes may be buried for short distances provided that adequate protection is given against damage and where so required joints are not buried. Where required M.S. tube sleeve shall be fixed at a place a pipe is passing through a wall or floor for expansion and contraction and other movements. In case the pipe is embeded in walls or floors, it should be painted with anti-corrosive bitumastic paint of approved quality. The pipe should not come in contact with lime mortar or lime concrete as the pipe is affected by lime. Under the floors, the pipe shall be laid in layer of sand filling.

2.2.2. All pipes and fittings shall be fixed trully vertical and horizontal unless unavoidable. The pipes shall be fixed to walls with standard pattern clamps of required size and shape, one end of which shall be properly plugged or cemented into walls with cement mortar 1 : 3 (1 cement: 3 coarse sand) and the other tightened round the pipes to hold it securely. These clamps shall be spaced at regular intervals in straight length at 2 M C/C interval in horizontal run and 2.5 M. interval in vertical run. For pipe of 15 mm dia. upto 25 mm. dia. the holes in the walls and floors shall be made by drilling with chisel or jumper and not by dismantling the brick work or concrete. However for bigger diameter pipes, the holes shall be carefully made of the smallest required size. After fixing the pipe the holes shall be made good with cement mortar 1:3(1 cement: 3 coarse sand) and properly finished to match the adjacent surface.

2.3. Testing of joints :

2.3.1. After laying and jointing, the pipes and fittings shall be inspected under working conditions of pressure and flow. Any joint found leaking shall be redone, and all leaking pipes removed and replaced without extra cost.

2.3.2. The pipes and fillings as they are laid shall be tested to hydraulic pressure of 6 Kg./sq. cm. The pipe shall be slowly and carefully charged with water allowing all air lo escape and avoiding all shock and water hammer. The draw off takes and stopcock shall then be closed and specified hydraulic pressure shall be applied gradually. The pressure gauge must be accurate. The pipes and fillings shall be tested in sections as the work of laying proceeds keeping the joints exposed for inspection during the testing.

3.0. Mode of measurements & payment:

3.1. The description of each item shall unless otherwise stated, be held to include where necessary, conveyance, and delivery,

handling, unloading, storing fabrication, hoisting, all labour for finishing to required shape and size; testing, fitting in position, straight, culling and waste, return of packing etc.

3.2. The length shall be measured on running metre basis of finished work. The length shall be taken along the centre line of the pipe and fittings. The pipes fixed to walls, ceiling, floors etc. shall be measured and paid under this item.

3.3. All the work shall be measured in decimal system as fixed in its place, subject to tolerance given below unless otherwise stated:

(i) Dimension shall be measured to the nearest 0.01 metre,

(ii) Area shall be worked out to the nearest 0.01 sq. metre.

3.4. All measurements of culling shall unless otherwise stated be held to include the consequent waste.

3.5. In case of filling of unequal bore, the largest bore shall be measured for the test.

3.6. Testing of pipe lines filling sand joints include for providing all plant and appliances necessary for obtaining access to the work to be tested and carrying out the tests.

3.7. The rate includes galvanised steel tubing with screwed socket joints, together with all fittings (such as bends, sockets, springs, elbows, tees, crosses, short pieces, clamps and plugs unions etc.) and fixing complete with clamping wall-hooks, wooden plugs etc. and also cutting, screwing and waste and for making forged (or hand mad) bends on piping as required.

Connector shall be inserted, where required or directed. The rate also includes cutting through walls, floors etc. and their making good and painting exposed threads with anti-corrosive paint as above and testing. Where lugs are to be fixed to wall, ceiling and flooring, the rate shall not include painting of pipes, providing sleeves and sand Oiling under floor for which separate payment shall be made.

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

Item No. 29 Providing and fixing S.W.Gully trap with C.I. grating brick masonry chamber and water tight C.I. cover with frame of 300 mm x 300 mm size (inside) with standard weight etc. (I) Square mouth trap. (A) 100 x 100 mm size P - type Sup to 10 ton)

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.

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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. 30 Constructing brick masonry chamber for underground C.I. inspection chamber & bends with bricks having crushing strength not less than 35 kg/cm² in C.M. 1:5 C.I. cover with frame (Light duty) 455 x 610 mm internal dimensions : total weight of cover with frame to be not less than 38 kgs.(wt. of cover 23 kgs. and Wt. of frame 15 kgs.(R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm size) foundation concrete 1:5:10 inside plaster 15 mm th. with cement mortar 1:3 finished smooth with a floating coat of neat cement on walls and bed concrete etc. comp.I) Inside Dimensions 455 mm x 610 mm & 850 mm deep for single pipe line

1.0. Materials: 1.1. The cast iron (spun) Nahni trap shall be conform to M-69. The C. I. hinged or screwed down cover shall be of best quality.

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 C. I. Pipe, 75 mm. dia. with lead joints. The lead joints shall be done in conformation with I.S. 782-1976.

3.0. Mode of measurements & 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. 31 Construction underground sock well 1.50 m diameter & 3 mt in depth with Honey comb Brick masonry having crushing stg. Not less than 35 Kg/ sqmt in C.M. 1:5, 0.35 m thick at bottom 1.50 mt & 0.23 mt thick 1.00 m of honey comb masonry and 0.23 m thick 0.50 m Ht at top level RCC 1:2:4 slab 0.10 m thick of top including inspection gap 0.60 m x 0.45 m and cover Ready made F.R.c. cover whole work as per instruction of Engineer in charge etc. complete

1.0 Materials : (1) Water shall conform to M-I, (2) Cement mortar of proportion 1: 1 shall conform to M-11. (3) 100mm. dia. glazed stoneware pipe shall conform to M-71.

2.0. Workmanship: 2.1. The trenches for stoneware pipe drains shall be carried out as per relevant specifications of item No.

23.4(A) except that the work is for stoneware pipes of 100 mm. dia.

2.2. Laying: 2.2.1. The pipes shall be laid accurately and perfectly true to line, levels and gradients. Great care shall be taken to prevent sand etc., from entering the pipes. The pipes between two manholes shall be laid truly in a straight line without vertical or horizontal undulation. All junctions and changes in direction and diameter shall be made inside manholes by means of curved tapered channels formed in cement concrete finished smooth and benched on both sides. The body of the pipe shall rest for its entire length, on an even level bed grips being made or left on the bed to receive the sockets of the pipes.

2.3. Jointing:

2.3.1. Tarred gaskin or yam socked in neat cement slurry first be placed around the spigot of each pipe and the spigot shall then be placed well home into the socket of the pipe previously laid. The pipe shall then be adjusted and fixed in the correct position and gaskin cculked home so as to fill not more than 1/4th of the total dept or (13 mm. in depth) of the socket.

2.3.2. The remainder of the socket shall be filled with stiff mixture of cement mortar in porportion of one part of cement and one part of sharp sand. When the socket is filled, a fillet, shall be formed round the joints trowel, forming an angle of 45° with the barrel of the pipe.

2.3.3. The mortar shall be mixed as necessary for immediate use.

2.3.4. After the joint is made, any extraneous materials shall be removed from the inside of the joints with a suitable scraper of 'badger'. The newly made joint shall be protected, until set, from the sun, dry winds, rain or *host*, sacking or other suitable materials which shall be used for the purpose.

23.5. The mortar shall be cured to 10 days.

2.4. Testing of Joints: The pipe line shall be tested as directed.

2.4.1. If any leakage is visible, the defective part of the work shall be made good at no extra cost.

2.4.2. A slight amount of sweating which is uniform may be overlooked, but excessive sweating from a particular pipe or joints shall be watched for and taken as indicating a defect to be made good.

3.0. Mode of measurements & payment:

3.1. Pounding or bottaning of the trenches bed to fit the lower part of the pipe and 'Grips' left to take socket, collars etc. are included in the rate of laying the pipes.

3.2. The measurements shall be net without any allowance for cutting and waste. The length of bends, junctions and other connections shall be included in the total length of the drain pipes. Nothing extra shall be paid for the same. The rate includes necessary excavation refilling trenches etc. complete.

33. The rate shall be for a unit of one running metre.

Item No. 32 Providing and fixing to wall ceiling and floor 10.00 Kg. F/Cm² working pressure poluthene pipes of the following outside Dia. Low density complete with special falnge compression type fittings wall clipsetc. including making good the wall ceiling and floor (G)110 mm

1.0 Materials : (1) Water shall conform to M-I, (2) Cement mortar of proportion 1: 1 shall conform to M-11. (3) 100mm.

dia. glazed stoneware pipe shall conform to M-71.

2.0. Workmanship: 2.1. The trenches for stoneware pipe drains shall be carried out as per relevant specifications of item No.

23.4(A) except that the work is for stoneware pipes of 100 mm. dia.

2.2. Laying: 2.2.1. The pipes shall be laid accurately and perfectly true to line, levels and gradients. Great care shall be taken to prevent sand etc., from entering the pipes. The pipes between two manholes shall be laid truly in a straight line without vertical or horizontal undulation. All junctions and changes in direction and diameter shall be made inside manholes by means of curved tapered channels formed in cement concrete finished smooth and benched on both sides. The body of the pipe shall rest for its entire length, on an even level bed grips being made or left on the bed to receive the sockets of the pipes.

2.3. Jointing:

2.3.1. Tarred gaskin or yam socked in neat cement slurry first be placed around the spigot of each pipe and the spigot shall then be placed well home into the socket of the pipe previously laid. The pipe shall then be adjusted and fixed in the correct position and gaskin cculked home so as to fill not more than 1/4th of the total dept or (13 mm. in depth) of the socket.

2.3.2. The remainder of the socket shall be filled with stiff mixture of cement mortar in porportion of one part of cement and one part of sharp sand. When the socket is filled, a fillet, shall be formed round the joints trowel, forming an angle of 45° with the barrel of the pipe.

2.3.3. The mortar shall be mixed as necessary for immediate use.

2.3.4. After the joint is made, any extraneous materials shall be removed from the inside of the joints with a suitable scraper of 'badger'. The newly made joint shall be protected, until set, from the sun, dry winds, rain or host, sacking or other suitable materials which shall be used for the purpose.

23.5. The mortar shall be cured to 10 days.

2.4. Testing of Joints: The pipe line shall be tested as directed.

2.4.1. If any leakage is visible, the defective part of the work shall be made good at no extra cost.

2.4.2. A slight amount of sweating which is uniform may be overlooked, but excessive sweating from a particular pipe or joints shall be watched for and taken as indicating a defect to be made good.

3.0. Mode of measurements & payment:

3.1. Pounding or bottaning of the trenches bed to fit the lower part of the pipe and 'Grips' left to take socket, collars etc. are included in the rate of laying the pipes.

3.2. The measurements shall be net without any allowance for cutting and waste. The length of bends, junctions and other connections shall be included in the total length of the drain pipes. Nothing extra shall be paid for the same. The rate includes necessary excavation refilling trenches etc. complete.

33. The rate shall be for a unit of one running metre.

Item No. 33 Providing and fixing to wall ceiling and floor 10.00 Kg. F/Cm² working pressure poluthene pipes of the following outside Dia. Low density complete with special falnge compression type fittings wall clipsetc. including making good the wall ceiling and floor (A) 75 mm

1.0. Materials & Workmanship : The relevant specifications of item 24.00.2(A) shall be followed except that the volume of soak pit shall fee 5 cum. clear.

2.0. Mode of measurements & payment:

2.1. The relevant specifications of item 24.00.2(A) shall be followed.

2.2. The fate shall be for a unit of one number.

Item no. 34 Construction of an under ground masonry water tank of size 2.00 m x 1.00 m x 1.00 m (2000 litre capacity) made up from brick masonry 0.23 mt thick top slabe 0.10 mt thick of RCC 1:2:4 & FRC Cover including 15 mm thick inside plaster in C.M. 1:4 as per the approved drawing & design etc. complete.

1.0. Materials & Workmanship : The relevant specifications of item 24.00.2(A) shall be followed except that the volume of soak pit shall fee 5 cum. clear.

2.0. Mode of measurements & payment:

2.1. The relevant specifications of item 24.00.2(A) shall be followed.

2.2. The fate shall be for a unit of one number.

Item No. 35 Construction of a cooking platform 60 cms wide of 30mm thick polished kota stone with brick masonry supports including the approved quality stainless steel sink of size 600 X 400 X 150 including fixing the sink in the stone platform with waste pipe and whole work as per instruction of Engineer in charge.

1.0 Materials : (1) Water shall conform to M-I, (2) Cement mortar of proportion 1: 1 shall conform to M-11. (3) 100mm. dia. glazed stoneware pipe shall conform to M-71.

2.0. Workmanship: **2.1.** The trenches for stoneware pipe drains shall be carried out as per relevant specifications of item No.

23.4(A) except that the work is for stoneware pipes of 100 mm. dia.

2.2. Laying: **2.2.1.** The pipes shall be laid accurately and perfectly true to line, levels and gradients. Great care shall be taken to prevent sand etc., from entering the pipes. The pipes between two manholes shall be laid truly in a straight line without vertical or horizontal undulation. All junctions and changes in direction and diameter shall be made inside manholes by means of curved tapered channels formed in cement concrete finished smooth and benched on both sides. The body of the pipe shall rest for its entire length, on an even level bed grips being made or left on the bed to receive the sockets of the pipes.

2.3. Jointing:

2.3.1. Tarred gaskin or yam socked in neat cement slurry first be placed around the spigot of each pipe and the spigot shall then be placed well home into the socket of the pipe previously laid. The pipe shall then be adjusted and fixed in the correct position and gaskin cculked home so as to fill not more than 1/4th of the total dept or (13 mm. in depth) of the socket.

2.3.2. The remainder of the socket shall be filled with stiff mixture of cement mortar in porportion of one part of cement and one part of sharp sand. When the socket is filled, a fillet, shall be formed round the joints trowel, forming an angle of 45° with the barrel of the pipe.

2.3.3. The mortar shall be mixed as necessary for immediate use.

2.3.4. After the joint is made, any extraneous materials shall be removed from the inside of the joints with a suitable scraper of 'badger'. The newly made joint shall be protected, until set, from the sun, dry winds, rain or host, sacking or other suitable materials which shall be used for the purpose.

23.5. The mortar shall be cured to 10 days.

2.4. Testing of Joints: The pipe line shall be tested as directed.

2.4.1. If any leakage is visible, the defective part of the work shall be made good at no extra cost.

2.4.2. A slight amount of sweating which is uniform may be overlooked, but excessive sweating from a particular pipe or joints shall be watched for and taken as indicating a defect to be made good.

3.0. Mode of measurements & payment:

3.1. Pounding or bottaning of the trenches bed to fit the lower part of the pipe and 'Grips' left to take socket, collars etc. are included in the rate of laying the pipes.

3.2. The measurements shall be net without any allowance for cutting and waste. The length of bends, junctions and other connections shall be included in the total length of the drain pipes. Nothing extra shall be paid for the same. The rate includes necessary excavation refilling trenches etc. complete.

33. The rate shall be for a unit of one running metre.

Item No. 36 Providing & erecting and fixing double coated syntex or equivalent PVC (ISI) water tank of required capacity each with all necessary fitting and connection etc. complete on terrace.

The P.V.C. water tank of I.S. marked & double coated of the make sintex or as equivalent as approved by Engineer-in-charge shall be installed at places as directed by Engineer-in-charge. The PVC tank in single vertical piece of capacity as per requirement shall be installed. It should be free from any defects and no unlike odour should come from the tank.

The PVC tank with top closed shutter shall be positioned on necessary platform & fixed all the G.I. connections as required for the inlet, outlet & over flow line as directed by Engineer-in-charge. No extra payment shall be made for such fittings with the tank. The item includes all cost of labours, materials & arrangements to be made for positioning the tank on terrace or at places as directed by Engineer-in-charge. The rate shall be paid for a unit of Liter basis.

Item no. 37 Provdg. & fixing gun metal check or nonreturn full way wheel valve. (C) 25 mm dia.

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 socketed tailpieces, 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. 38 Filling in plinth with sand under floors including watering raming consolidating and dressing etc. complete.

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. 39 Providing and laying cement concrete flooring 1:2:4 (1 Cement 2 coarse sand 4 graded stone agg. 20 mm nominal size) laid in one layer and finished with a floating coat of near cement (B) 50 mm thick (up to 10 ton)

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 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 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.

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 bulking 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 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 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
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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 to 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 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 required strength. The rate excludes the cost of form work.

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

Item no- 40 Providing and fixing pre-cast Rubber Dye inter locking concrete block 60 mm thick with grade of concrete M-200 pneumatic compressed by mechanically passed and as per approved design including 75 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 color coordinated aggregates in face mix. - Colors specified by the architects, using UV resistant color pigments from Laxness. - 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) ± 1.5 mm
 5. Thickness of wearing layer Not less than 5mm
 6. Tolerance in Thickness of block ± 3 mm
 7. Colors UV Light resistant fast colors from Laxness 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 colors 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.
- 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. 41 to 49 is Specification in electrical Book Attached

Name of Work :- Const. Of Various Anganwadi Building at Dholka Ta. Dholka
Dist. Ahmedabad Package No. AHD/Anganwadi/05 (2026-2027) (Chaloda-7, Keliya
Vasna-4, Kodaliyapura, Kariyana-1) Total-4

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 Laboaratory, (R & B) of field Lboaratory of GERI (R & B) for which 1 % of the estimated amount pur 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 Howerer 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 sched ule B	Briel Description of Materials to be tested	Qty. of Materi als	Prescription of test which shall be carried out	Frequency @ which test shall be carried out		Total No. of Test to be taken
	45 to 90 mm		Gradation Test	1 to 100 Cmt – 1 Test		
	45 to 63 mm			100 to 500 cmt – 3 Test		
	25 to 40 mm metal		Impect value	500 to 1500 cmt – 5 Test		
	10 to 20 mm kapuchi		Flakiness Index	1500 to 5000 cmt – 7 Test		
	6 mm size grit					
	10 to 12 mm kapuchi					
	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 Spaul					
	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		1Penetration 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		
				1		
			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 grading		
7	Carpet & seal coat mix		temperature of binder in boiler, aggregates in the dryer and mix at the time of laying and rolling (Binde content vide 45 IMD 2172)	One Test on individual contitunents and mixed aggregates from the dryer for each 100 tonnes on mix subject to minimum of two tests per plant per day.	
				One Test for each 100 tons of mix subjects to mini. of Two per day plnat	
			Rate of spreaded mix materials	Reguler control through checjs on layer thickness.	
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 stemgth	200 T	3 tests GERI
			Fineness	300 T	4 tests Manual
			Chemical analysis	500 T	5 Tests 2002)
			Soundess	800 T	6 tests
				1300 T	7 tests
				and 8 tests for longer consingment	
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
Dholka

Executive Engineer
R & B Panchayat Divisions
Ahmedabad

