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fufonk ewY; #0 ------------------- + T.T (13.5%)Name of work: **Construction of 96 (2-Bhk) Flats in Inderlok Housing Scheme Phase-1, Haridwar** Name of contractor : ………………………………………………………….….

Tender issued on : …………………………………………………………….…

Cost of tender : …………………… Cashier

Signature : ………………………...

Date of opening : ………………………...

**HARIDWAR DEVELOPMENT AUTHORITY**

OVERALL RATE TENDER & CONTRACT

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**OFFICER ISSUING TENDER**

**HARIDWAR DEVELOPMENT AUTHORITY**

**NOTICE INVITING TENDERS**

1. Tenders are hereby invited on behalf of the Vice Chairman Haridwar Development Authority Haridwar as per details given below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No.** | **NAME OF WORK** | **ESTIMATED COST** | **EARNEST MONEY** | **COST OF TENDER** | **TIME ALLOWED FOR COMPLETION** |
| **1** | **Construction of 96 (2-BHK) Flats in Inderlok Housing Scheme Phase-1, Haridwar** | 177684802.48 | 3555000.00 | 5000.00 + T.T | 24 Months |

2. Tender documents and other particulars of the work(s) can be purchased from the office of the Authority between the hours of 11 A.M. on all working days till 20.04.2012 after paying the cost of tender mentioned above.

3. Tender which should be placed in sealed cover will be received by the Executive Engineer, Division.............. Haridwar. Development Authority Haridwar upto 3 P.M. on 21.04.2012 and will be opened by him on the same day at 3.30 P.M. The tenders are expected to be present at the time of opening of tenders.

4. The contractors should quote in figures as well as in words the rate and amount tendered by them.

5. Each tender must be accompanied by a deposit of Earnest Money in any of the following forms.

(a) Deposits call receipts of a Scheduled Bank Guaranteed by Reserve Bank of India.

(b) Post Office Saving Bank Pass Book/National Saving Certificate/ National Plan Certificates/ National Defence Certificates duly pledged to the Executive Engineer Haridwar Development Authority.

6. The acceptance of a tender, will rest with the Vice Chairman, who does not bind himself to accept the lowest tender and reserves to himself the right of rejecting any or all of the tenders received without assigning a reason or of accepting the whole or part of the tender.

All tenders on which any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to rejection.

7. Canvassing in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for rejection.

8. On acceptance of the tender, the name of the authority representative (s) or the contractor who would be responsible for taking instructions from the Engineer-in-charge shall be communicated to the engineer-in-charge.

9. Trade Tax or any other tax on material in respect of this contract shall be payable by the contractor and H.D.A........................................... will not entertain any claim whatsoever in this respect.

10. The contractors must produce Income Tax Clearance Certificate before the tender papers can be sold to him.

11. The contractor, whose tender is accepted, will be required to furnish by way of security deposit for the due fulfillment of his contract such sum as will amount :

(a) In the case of works estimated to cost upto Rs. 1,00,000/- to 10% of the estimated cost.

(b) In the case of works estimated to cost more than Rs. 1,00,000/- and upto Rs. 2,00,000/- to 10% on the first Rs. 1,00,000/- and 7½ % on the balance : and

(c) In the event of works estimated to cost more than Rs. 2,00,000/- to 10% on the first Rs. 1,00,000/- 7½% on the next Rs. 1,00,000/- and 5% on the balance.

The Security deposit may be collected by deductions from the running bills of the contractor at the rate mentioned above and the earnest money if deposited in cash at the time of tender will be treated as the part of security deposit. The Security amount will also be accepted in cash or in the Shape of Government Securities Fixed deposit receipt and Guarantee Bonds of Scheduled Banks will also be accepted for This purpose provided confirmatory advises is forth coming from the Reserve Bank of India.

12. The contractor shall not be permitted to tender in H.D.A. if his near relative is employee of (H.D.A.), He shall also intimate the name of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives of any employee of H.D.A. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of H.D.A.

NOTE : A near relative will include with, husband, parents and grand children, brothers and sisters uncles, aunt and cousins and their corresponding in laws.

13. No employee of H.D.A. is allowed to work as contractor or as employee of a contractor for a period of two years of his retirement from service without the prior permission of Vice Chairman, H.D.A. This contract is liable to be cancelled if either the contractor of any of his employees is found at any time to be such a person who had not obtained the permission of the Vice Chairman, H.D.A. as aforesaid before submission of the tender or engagement in the contractors service.

14. The tender for works shall remain open for acceptance for a period of ninety days from the date of opening of tenders. If any tenders withdraws his tender before the said period or makes any modification in the terms and conditions of the tender which are not acceptable to the H.D.A. then the H.D.A. shall without prejudice to any other right or remedy, be at liberty to forfeit of the said earnest money absolutely.

15. The contractors exempted from payment of earnest money in individual cases should attach with the tender an attested copy of the letter exempting them from the payment of earnest money and should produce the original whenever called upon to do so.

16. The tender for the work shall not be witnessed by a contractor who himself/themselves may has/have tendered for the same work. Failure to observe this condition would render, tenders of the contractors tendering as well witnessing the tender liable to summary rejection.

17. The contractors shall submit list of works which are in hand (progress) in the following form.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NAME OF WORK** | **NAME OF DIVISION** | **AMOUNT OF WORK** | **PRESENT PROGRESS** | **REMARK** |
|  |  |  |  |  |

18. The contractor should be enlisted in the appropriate class in H.D.A.

19. The contractors are advised to see the site of work and be acquainted with the position of materials, condition of contracts, drawing etc. before tendering.

20. If a person, after his tender is accepted does not sign the agreement, his earnest money will be forfeited.

21. The successful bidder shall be required to submit stamp papers of **Rs. 100.00** for the execution of agreement due.

**(Signature of E.E. Division)**

for and on behalf of the Vice Chairman H.D.A

**HARIDWAR DEVELOPMENT AUTHORITY**

Issued to : ……..................................................................................................................................

Issued. ..............................................................................................................................

H.D.A. RT. No. ............................................................................................... Date......................................

**TENDER FOR WORK**

I/We hereby tender for the Executive for the Development Authority. HARIDWAR of the work specified in the under-written memorandum within the time specified in such memorandum at the rates specified therein and in accordance with all respects with the specification desings, drawings and instructions in writing referred to the conditions of contract and with such materials as provided for and in all other respect in accordance with such condition so applicable:-

**MEMORANDUM**

(a) General description

(b) Estimated cost

(c) Earnest money

Not in cash but in the form of interest bearing

securities as per clause 3 of tender

notices enclosed herewith)

(d) Time allowed for the work from date

of written Agreement to commence :-

Note :- When tenders are to be Item App. Unit per (c) Tendered

submitted at a percentage above Number Rate (a)

or below the rate in the sanctioned Below of qty. sanctioned

estimate this information in all in fig. in words

the column should be filled by As per bill of quantity enclosed

the counter signed by herewith.

Ex. Engineer.

In the case of work when

Contractors are required to quote

their own rates for the different

items of works the col. (4) should be

left blank for the tenderers to fill in.

I/We tender at percent above/below the rate entered in the sanctioned estimate.

OR

I/We tender at the rates enclosed should this tender be accepted hereby agree to abide by this and fulfil all the terms and provisions of the conditions of contract annexed to the aproved set of contract documents or in default thereof forfiet and pay to Vice Chairman of Development Authority or his successors in office the sums of money mentioned in said conditions.

Contractor Assistant Engineer

H.D.A.

*P.T.O.*

The sum of Rs. ................................................................................................................................. is herewith forwarded in the form of interest bearing security as earnest money the full value of which shall by retained by Development Authority on account of the security deposit specified in clause I of the condition contract.

SIGNATURE OF CONTRACTOR

FULL NAME

DATED ......................................... ADDRESS

WITNESS ......................................

ADDRESS .....................................

OCCUPATION ...............................

DATE ............................................

ASSISTANT ENGINEER

The above tender is hereby accepted by me on behalf of Development Authority, HARIDWAR

EXECUTIVE ENGINEER

DEVELOPMENT AUTHORITY

HARIDWAR

Date ......................................

**ANNEXURE - I**

**AGREEMENT**

Tender invited by Executive Engineer H.D.A.

(Vikas Pradhikaran, HARIDWAR U.A.)

Tender Notice No. ..........................................................

..........................................................

..........................................................

In consideration of the H.D.A. having treated tenderer/to be on eligible person who may be considered the tenderer hereby agrees to the conditions that the proposals in the above Inviting bid shall not be withdrawn within three months from the date of opening of the tender, also to the condition that if after the tender the tenderer do with his proposal within the said period, earnest money deposited by him may forfeited to the H.D.A. in the of the later and I hereby also agree that if subsequent to the submission of my tender not acceptable to the H.D.A. be deemed the have withdrawn any proposal.

Sign this .................................................................... day of ....................................................................

Witness :

1. ....................................................................................... Signed by ...........................................................

2. ....................................................................................... Signed by ...........................................................

Important Note :- This agreement is to be signed by the contractor on stamp paper of Rs. 100/- with Hundred paise revenue stamp affixed on it. This is to be submitted, alongwith the tender failing which the tender is liable to be rejected.

**SCHEDULE "C"**

The following materials shall be issued at the rates and places noted against each in case of delay and non supply of materials no claim Whatsoever will be entertained on this account. However suitable extension of time shall be granted on these ground for these items at serial No. 1, 2, 3 and 4.

........................................................................................................................................................................

1. Cement Per bag Haridwar Development

Authority Godown

2. Steel (Rods of Bars) Per m. tone at Haridwar

on coils) any other place

within 3 miles

3. Ribbed Ton steel per m. tone from Haridwar

Development Authority

4. Maxphall 80/100 per m. tone Office Haridwar

(in drums)

........................................................................................................................................................................

1. Any other materials if available in Authority stores can be issued to the Contractor for the specific use in the construction work at stock issue rate or market rate whichever is higher after due permission of the Executive Engineer.

2. The contractor shall not have the option to refuse to take delivery of any article stated above. No claim will not be accepted in this account.

3. For non supply, or non availability in market the deptt. Shall not be held responsible.

4. Contractor should ensure that duly required quantities are got issued. The surplus quanitity of materials if available in good condition may be taken by deptt. No carriage will be paid to contractor for returning of the surplus material.

5. Calculation for materials based on U.K. PWD Yard stick shall be binding on contractor One bag of cement will be considered equivalent to 1.18 sq. ft.

6. The contractor will have to return 75% of one empty cement bags to the department in serviceable conditions failing which the cost of the same shall be recovered from him, at the rate of Rs. 2.00 per bags.

7. All receipt is given by the contractors authority agent whose name should be intimated to the Engineer Incharge in writing shall be conclusive proof of the delivery of the materials.

8. For the issue of material more then bonafied requirement the cost will be recovered at furtive rates which shall be 1.50 times of the issue rate.

9. All incidental charges for cartage, storage, safe custody, straitening of steel Bars etc. Shall be born by the contractor.

10. For cement storage work double lock system will have to followed by the contractor.

11. Not more than one monthly requirement shall be issued at a time.

12. Bonafied wastage in steel will be calculated on 3% on measured quantity and will be permitted in working out steel consumed.

13. The contractor will have to return empty maxphall drums to Haridwar Development Authority in good condition, failing which cost of the same @ Rs. 40/- per drum shall be recovered from him.

CONTRACTOR OFFICER ISSUEING

TENDER



**Haridwar Development Authority**

**HOUSING SCHEME BUILDING WORK**

**DETAILED SPECIFICATIONS**

All the work shall be carried cut in strict accordance with the detailed specifications part I specifications part I section (A) Building Revised PWD U.K. or relevant portions of IS: codes or latest C.P.W.D. Specifications unless otherwise specified below or ordered by the Engineer-In-Charge from time to time.

1. MATERIALS :

All materials to be used in the work shall be new and the qualities and standard as specified in I.S. codes or U.K. PWD. Specifications or the C.P.W.D. specification Delivery shall be made sufficiently in advance to enable samples to be tested if required, Rejected materials will have to be removed atones by the contractor from the site.

1. 1. CEMENT :

It shall be ordinary portland cement of any approved manufactures unless specified otherwise and shall comply with the standard laid down in IS : 269-1967. It shall be stored in a rain proof and damp proof shed on dry platforms in such a manner as to prevent desertion ration or contamination. Cement which has set or partially set shall not be used. Storage at work site shall be at the contractor's expense and risk.

1. 2. LIME :

Lime burnt from limes store shall be used. It shall be free from ashes or other extraneous materials. It shall be free from lumps when brought to site works, & not in powder form. It shall be stored in weather proof sheds lime which has been damaged by rains, moisture, or air slaking shall not be used. All damaged and rejected lime shall be removed from the site of work fortwith.

Satna and katni limes shall be preferred for mortar required for concrete and brick masonry whereas Dehradun lime shall be preferred for white washing. It shall confirm to IS : 271 1964.

SLAKING OF LIME : Limes shall be slaked by one of the following methods.

(i) Platform slaking :- Lime before slaking, shall be quite fresh and in the form of lumps. Slaking shall be carried out on masonry platform by sprinkling of water gradually, till lime is slaked and reduced to powder form, During the process of sprinkling of water, the heap of lime be turned over and over again, and no more water shall be used than that required for lime and retain its powdered form. Slaked lime shall be screened through a sieve of 8 meshes to an inch (3 meshes to a cm.) and the residue which does not pass through the sieve, shall be rejected. Slaked lime shall then be run into putty (as described below) before use in mortar.

(ii) Tank slaking (preparation lime putty) :- Sufficiently large slaking vessel or tank shall be made. This shall be partly filled with waste and sufficient quick lime added gradually to fill up the vessel to about half the depth of water. Lime shall be added to water to lime. Stirring and hoeing shall start at once and lime shall not be allowed to get exposed above water. The mix shall be stirred all through the slaking process at least 5 minutes after the boiling has stopped, and as the mix thickened more water shall be added. The lime in state of suspension shall then be allowed to pass through a sieve of 8 meshes to an inch (3 meshes to a cm.) and flow into another tank at a lower level, where it shall be kept standing for at least 3 days before use. The lower tank into another tank at a lower level, where it shall be kept standing for at least 3 days before use. The lower tank into another tank at a lower level, where it shall be kept standing for at least 3 days before use. The lower tank shall be made of dry brick masonry with joints filled with said. Water shall get partially evaporated and absorbed in ground and surplus water at top shall be removed leaving lime putty in the form of paste. Lime putty so formed shall be kept wet, till it is completely used. It can be stored without getting, spoilt for a fortnight, provided it is protected from drying out. If slaked lime (in power form) is run into putty, it shall be kept standing in the lower tank for at least 30 hours, before use.

1. 3. FINE SAND :- This shall be natural river sand clean, sharp and free from deleterious matters. It shall not contain more than 4% of silt as determine din laboratory by dedimonation test with pipettes apparatus. Fineness modulus of and shall not be less than 1.25 blinding of coarse sand shall have to done obtain the desired fineness modules of fine sand for which nothing extra shall be paid.

1. 4.COARSE SAND (Badarpur) :- This shall be natural pit sand clean sharp and strong granular and composed of hard siliceous materials. It shall be free from harmful impurities such as mica, shale or similar laminated materials, salts alkalis and organic matter. It shall be obtained from badarpur, sona, Anangpur of any other quarry approved by Engineer Incharge. The sand shall not contain more than 4% silt. The fineness module of the coarse sand shall not be less than 2.5%

1. 5. COARSE AGGREGATE (STONE BALLAST) :- This shall be broken from hard blue granite or quartzite stone obtained from Gurkul quarry or any other approved quarry. It shall be fine from soft friable, thin elongated or laminated pieces and shall be roughly cubical in shape. It shall be clear and free from dirt and any other for foreign matter.

1. 6. BRICK: - First class bricks shall be moulded from good brick. These shall be of uniform deep red, cherry or copper color, thoroughly burnt without being verified, regular in shape and size and shall have sharp and square sided and edges and parallel faces to ensure formerly in the thickness of the coarses of brick work. The bricks shall be efflorescence with dry of subsequent to soaking in water. Hard homogeneous in texture and emit a clear rinsing sound on being struck. These shall have a minimum crushing strength of 1300 lbs/sq. in (105 kg./sq.cm.) a minimum crushing strength of lbs./sq. in (kg./sq..) All bricks which absorb water more than one sixth of their own, dry weight after being soaked for an hour by immersion in water shall be rejected. the size of brick shall be 9 inch X1-3/8"X2-3/4 (22.9 cm. X11.2 cm.X7.0 cm.) unless otherwise specified. A tolerance upto 1/8 inch (3 mm.) in each direction shall be permitted. The brick shall be provided with forges.

1. 7. BRICK BALLAST :- Ballast for foundation and floor concrete shall be made of over burnt bricks bate broken to 40 mm. gauge and for no of terracing it shall be made of Ist class brick bats and broken to 25 mm. gauge No.under burnt bricks or Jhama (over burnt/Porous brick) shall in any circumstances be used. The ballast shall be free from surkhi, leaves, straw & other foreign matter it is stacked for use.

1. 8. SURKHI :- Surkhi shall be made from well burnt and slightly under burnt (but not from over burnt) brick bats. It shall be clear and free from admixture foreign matter and shall confirm to IS : 1344. It shall be ground to pass through a sieve of 3 meshes to a cm. 8 mashes to an inch) with at least 50% of it passing through a sieve of 6 mashes to a centimeter (15 meshes to an inch). Further soluble salt content shall not exceed 2% by weight.

1. 9. FLYASH: - The flyash should confirm to the requirement of IS : 3812 (Part I) 1966 specification for flyash part I for from use as possolana. It should be clean dry and free from any contraction of bottom ash from thermal power plant Indra Prasth Estate New Delhi along shall be used.

1. 10. WATER :- Water shall be clean and reasonably free from detritus matter, such as soils, acids, alkalies, salts and vegetable of growth and shall be potable.

1. 11. RESTING OF WORKS AND MATERIALS :- The contractor shall if required by the Engineer Incharge arrange the testing of materials, cubes etc. or portions of the work at his own cost in order to prove their the soundness & strength & sufficiency. If after the works at his own cost in order to prove their soundness & strength & sufficiency. If after any such test & or in work is found to be defective or unsound the contractor shall pull down and re-execute the same at his own cost. Defective materials shall be removed from the site immediately. The rate and frequency of testing as decided by the Executive Engineer/Assistant Engineer In-charge of the Authority shall be final and binding on the contractor.

2. SITE CLEARANCE: - Before actual layout, the site of the structure shall be cleared off all undulation, Jungle and grass including heap of surplus earth etc. On completion of the building the ground shall be cleared and dressed on all sides of the building at least upto metal from the nearest edge of building. No. extra payment shall be made for this work, which shall not be deemed to be included in the rates for the work as a whole.

3. EARTH WORK FOR EXCAVATION IN FOUNDATIONS:

EXCAVATION:-The foundation trenches shall be dug out to the exact width of the footings as shown in the dwawing or as directed by the Engineer incharge. The sides of trenches shall be kept vertical and bottom horizontal both transversely and longitudinally the bed of the trenches shall be made level & firm by awaiting and ramming. Any soft or defective spots that are found shall be filled with concrete of the same proportion as the foundation concrete or as may be directed by Engineer in-charge. If the excavation is done dimensions greater that those shown on the drawings or those required by the Engineer incharge the excess depth shall be made good, at the cost to the contractor, with concrete or as may be directed by the Engineer incharge. The trenches shall be inspected & by the Engineer incharge before concrete in placed. Excavated materials shall not be placed within 1.5 meters of the edge of trench of half the depth of trench whichever is more.

3. 2. EARTH FILLING FOUNDATION:-After construction of foundation, the spaces around the foundation shall be cleared of the debris, brief etc. & filled with earth from rubbish, organic or other foreign matters in layers not exceeding 15 cm., well watered, rammed and consolidated before the subsequent one is laid. No payment for refilling shall be made for the earth will be available from the excavation of the foundation.

3. 3. EARTH FILLING IN PLINTH:-The plinth shall be similarly filled with selected from the excavation or other approved earth from other places if required in 15 cm layers shall be well watered, rammed and consolidated before proceeding with the next one. Payment for earth filling shall be made only for the earth over and above the one used from excavation of foundations.

3. 4. Yamuna sand filling in plinth: Sand shall be clean and free from dusoranc and other foreign matter and shall be filled in a manner similar to earth filling in plinth. The surface of the consolidated sand shall be dressed to required level or slope. Concreting of floor shall not be started till the Engineer incharge has inspected and approved the filling.

4. MORTARS:

4. 1. LIME MORTAR:-

4.1.1. Lime mortar shall be prepared by mixing and grinding lime putty, sand surkhi or flyash in specified proportions.

4.1.2. MIXING AND GRINDING:-Lime putty sand and surkhi or flyash shall be mixed or water tight masonry platforms or in through. This shall then be sprinkled with necessary quantity of water and ground in masonry lined mortar mill. The ingredients in specified proportions shall be measured in boxes of suitable size.

The mill shall be constructed of first class bricks in lime mortar with down ward. The outer edge of the mill shall be raised above the track followed by the driving animal. The track itself be sloped out words and kept well consolidated and watered. No dust or mud shall be allowed to fall into water being ground.

The mortar shall be ground for not less than 180 revolutions. It shall be raked up continuously during the process. Water shall be added as required during grinding, are being taken not to add water that which shall being the mortar to the consistency of staff paste.

4.1.3. GENERAL:-All mortar shall be used as soon as possible after grinding. As a rule mortar shall be used on the dry it is made. Lime surkhi or lime flyash sand mortar remaining used for over 36 hours shall be rejected and removed from the site of work. The mortar shall be kept damp and shall no account be allowed to dry.

2. CEMENT MORTAR:-

2.1. Cement mortar shall be prepared by cement and sand in specified proportion.

2.2. PROPORTIONING:-The unit of measurement for cement shall be bag of cement weighting 50 kg and this shall be taken as 035 cum (1.18 ft.) sand in specified proportion shall be measured in boxes of suitable sizes. It shall be measured not the basis of its dry volume. In case of damp sand, its quantity shall be increased suitably to allow for bulkage.

2.3. MIXING:-The mixing of mortar be done in mechanical mixer or by hand mixing as specified.

(a) mixing in mechanical mixer: cement and sand specified proportions shall be mixed dry thoroughly in a mixer. Water shall then be added gradually add wet mixing continued for at least one minute. Care shall be taken not do add more water than which shall bring the mortar to the consistency of a stiff paste.

Mixing shall be cleared with water each time, before suspending the work.

(b) HAND MIXING:- The measured quantity of sand be leveled on clean masonry platform and cement bags emptied on top. The cement and shall be thoroughly mixed dry by being turned over and over, backwards and forwards, several times till the mixture is of a uniform color. The quantity of dry mix which can be used within 30 minutes shall then be mixed in masonry thoroughly with just 7 sufficient quantity of water to bring the mortar of the consistency of a stir paste.

2.4 GENERAL:-Mortar shall be used as soon as possible after and before it has begun to set, and in any case within 30 minutes after the water is added to the dry mixture. Mortar unused for more than 30 minutes shall be rejected and removed from the site, of work.

CONCRETE WORK IN FOUNDATION:

5.1. FOUNDATION LIME CONCRETE:

1.1. LIME Concrete-This shall be prepare by mixing graded brick ballast of gauge specified with wet ground lime surkhi mortar of specified mix. The proportioning of wet mortar and ballast shall be by volume.

5.1.2. MIXING:-Mixing shall only be done in mechanical mixer as ordered by the Engineer incharge. Mixing by hand shall not be allowed at all.

5.1.2.1. In case of machine mixing, measured quantity of aggregate, and wet ground mortar shall be poured in the drum of the mixture while it is revolving. The water be added slowly upto required quantity and the wet mixing shall be continued for at least one minute, till a uniform mix of required consistency is obtained.

5.1.3. LAYING:-Lime concrete shall be laid (end not thrown) in layers while it is quite fresh. Each layer shall be   
thoroughly rammed and consolidated before the succeeding layer is placed. Consolidated thickness of each layer shall not exceed 15 cm. joint where necessary shall be staggered in different layers. Concrete shall be consolidated thoroughly on the same day before the work is stopped. Ramming on the following day shall not be done.

5.1.4. CURRING:-After the concrete has begun to harden i.e. about 24 hours after its laying, the curring shall be done by keeping the concrete damp with moist gunny bags, sand or other material approved by the Engineer incharge, for a minimum period of 7 days till then masonry and flooring over the foundation or base concrete shall not be started. Ramming on the following day shall not be done.

6. BRICK WORK:

6.1. MATERIAL :-Brick work shall be laid with the specified mortar of workable consistency as per detailed specifications given under the Mortars.

6.2. SOAKING OF BRICKS :-Brick required for masonry in cement mortar shall be thoroughly soaked into clear water for at least an hour immediately before use. The soaked bricks shall be kept on wooden plank or brick platform to avoid earth being smeared on them.

6.3. LAYING:

6.3.1. Brick work shall be laid in English bond unless otherwise specified. Half or cut brick shall not be used except where necessary to complete the bond. Closers in such shall be cut to the required size and used near the ends of walls.

6.3.2. In brick work, selected brick shall be used for the face work. The bricks shall be laid by laying method. A layer or mortar shall be spread on full width for suitable length on lower course. Each brick shall first be laid so as to project over the one below, both at the end at the size, then pressed into the mortar and shaved into final position so as to embed brick and to fill its inside faces fully with mortar.

6.3.3. The walls shall be laid up truly plump. All courses shall be horizontal and vertical joints shall be truly vertical. Vertical joints in alternate course shall come directly one over the other. The thickness of brick coarse shall be kept uniform.

6.3.4. Both the faces of walls of thickness than 23 cm. (9") shall be kept in proper plane. All the concreted brick work shall be carried up nearly at one level and no portion of the work shall be left more than one meter below the rest of the work. Where be carried up nearly at one level and on portion of the work shall be left more than one raked back according to Bond (and not left toothed) at an angle not exceeding 45. All iron fixtures. Outlet of water, holdfasts of doors and windows etc. Which are required to be built in walls. Shall be embedded in cement mortar or in cement, concrete as specified in their connect position as the work proceed.

6.4. JOINTS:-Brick shall be so laid that all joints are quite full mortar. The thickness of joints shall not exceed 6 mm. in brick work. The face joints shall be raked to a minimum depth of 13 mm. by raking tool daily during the progress of work when the mortar is still green so as to provide proper key for the plaster or pointing to be done. Where plastering or pointing is not required to be done, the joints shall be struck flush and finished at the time of laying. The face of brick work shall be cleaned daily all mortar droppings removed.

6.5. CURRING:- Green work shall be protected from rain by suitable covering. Masonry work in cement mortar shall be kept wet constantly on all faces for a minimum period of 7 days. The top necessary work shall be left flooded, at the close of the day.

6.6. MODE OF MEASUREMENT:-Brick work of more than brick thickness one brick thickness, half brick thickness and less will be measured in cubic meter. The length and height of wall shall be measured as actual at site but the width shall be paid as below:-

(a) Walls with on edge 7.5 cm.

(b) Half brick thick wall 11.5 cm.

(c) One brick thick wall. 23.0 cm.

(d) 1 1/2" thick brick wall.. 35.0 cm.

(e) 2 brick thick wall. 46.0 cm.

(f) 2 1/2 brick thick wall. 58.0 cm.

(g) 3 brick thick wall 69.0 cm.

6.7. The contractor's rate for brick work shall include cost of all scaffolding curring and providing necessary set back projection, cutting tooting, stirring coarse holes for cables slopes at roof level using bricks etc. as per direction of Engineer incharge.

7. DAMP PROOF COURSE:

7.1. CEMENT CONCRETE LAYER:-This shall consists of cement concrete of specified proportion and thickness edges of damp proof course shall be straight even and vertical, side shuttering shall consist of wooden forms and shall be strong and properly fixed so that it does not disturbed during compaction and mortar does not leak through. The concrete work shall be of workable consistency and shall be tamped thoroughly to make dense mass. When, the sides are removed, the surface should come out without any honey comb.

7.2. WATER PROOFING MATERIAL:-Water proofing material such accord products water lack etc. shall be added to the concrete mix if specified mix if specified in accordance with the manufacturer's specifications or as directed by the Engineer incharge.

7.3. Curring damp proof course shall be cured for at least 7 days after which it shall be allowed to day.

8. DOOR AND WINDOW FRAMES:

8.1. WOOD WORK IN CHAUKHATS:-The work shall be best available indian sal wood, free from knots and racks of other defects, well seasoned and of uniform color. The side of wood work which has to come in contact with wall shall be given 2 coats of coal tar before fixing for which no extra payment shall be made section will be adopted as per direction of Engineer incharge.

8.2. STEEL FRAMES:

8.2.1. MILD STEEL:-Mild steel frames for doors windows in 'T' section. Standard quality steel 'T' section shall be used which shall confirm to relevant IS: specifications. It shall be free from cracks flows, rough and imperfect edeges, rust and scaling and all other harmful defects. The steel section shall be straight end out to correct length. No pieces shall be welded or otherwise jointed to make up required length of a member. The built up door frame shall be true and free from twist, buckles and open joints. Welding shall be done by electric process. Electric method shall be adopted. Where public electricity is not available, Engineer shall be arranged. Gas welding shall be resorted to using oxide effluence flame with specific prior approval of Engineer incharge. Before placing the door frame in position it shall be given a coat or red load paint of approved quality. All the holdfast of doors and windows shall be emended in 15 cm. x 10 cm. 1:3:6 (1 cement 3 coarse sand 6 parts 3/4" stone grit) as ordered by the Engineer incharge.

8.2.2 PRESSED STEEL FRAMES FOR DOORS:-The profile of pressed steel frame for doors shall confirm to is : 4251/1951/1967. The work shall be carried out as per direction of the Engineer incharge.

9. REINFORCED CEMENT CONCRETE WORK:

9.1. MATERIAL:

9.1.1. WATER CEMENT FLYASH SAND AND BALLAST:-Same as under para 1 under sub-head materials.

9.1.2. STEEL REINFORCEMENT:-Mild steel round bars or ribbed or steel be supplied by the trust where so stipulated in the contract. Where contractor has to arrange for these, tested steel shall be used unless otherwise, specified. It shall be sound and capable of being doubled over when cold. It shall be free from cracks, surface flows, laminations, rust, adhering earth or any other material that may impair hand between concrete and steel cleaning, If desired shall be done by the contractor free of cost steel shall confirm to IS: 432 (part 1) 1966, is: 1786-1966.

9.2. GENERAL:- Reinforcement concrete work may be cast in suitor precast as may directed by the Engineer incharge according to the nature of work.

9.3. FORM WORK:

9.1. GENERAL:-Shuttering shall be either of wooden panning of 3 cm. minimum thickness or of steel plates. The shuttering shall be supported on battens and beams and props of vertical bellies properly cross braced together so as to make the form work rigid. In place of Baltic props, brick pillars of adequate section built in mud Mortar may be use. The form work shall be sufficiently strong and shall have chamber so that it assumes correct shape after deposition of the concrete and shall be able to resist forces caused by vibrations of live load of men working over it and other in credential loads associated with it. The shuttering shall have smooth and even surface and its joints shall not permit leakage of cement grout.

If at any stage of work during or after placing concrete in the structure, the form works sags or bulges out beyond the required shape of the structure, the concrete shall be removed and work redone with fresh concrete and adequately rigid form work without any extra payment. Details of shuttering and centering shall be subjected to the approval of the Engineer incharge. The completed form work shall be inspected and approved by the Engineer, before the reinforcement bars are placed in position.

9.3. PROPING OR ENTERING:-The props shall consist of bellies of brick masonry pillars laid in mud mortar Belies shall have 10 cm. minimum diameter and shall be placed at 1 to 1.25 meters spacing.

9.3.3. SHUTTERING:-The timber used in shuttering shall not be as dry as to absorb water from concrete and swell and as green or wet as to shrink after creation. Kail wood or such other kind of timber which placed on the sides and the surface in contact with concrete. Wooden from work with sheet metal lining or steel plates shall also be permitted.

9.3.4. SURFACE TREATMENT FOR SHUTTERING:-The surface shuttering that would come in contact with concrete shall be well wetted and coated soap solution applied the concrete is done. Alternatively, a coat of raw linseed oil form oil approved manufacturer may be applied in place of soap solution. In case of steel shuttering, either soap or raw linseed oil shall be applied after thoroughly the surface.

9.3.5. CAMBER:-Shuttering for and slabs shall have camber of 1/2" per 10 ft. (1 to 240) or as directed by the Engineer incharge. For cantilevers, the camber at free end shall be 1/48 of the projected length or as directed by the Engineer incharge.

9.3.6. ASSEMBLAGE OF FORMS AND OTHER STRICKING:-The forms shall be so assembled as to facilitate easing and removal of their various parts in proper sequence without jarring the concrete. In a slab and 'T' Beam construction, sides shall be stripped first, then the underside of slab and lastly that of beam.

From shall be carefully in order to prevent the load going suddenly transferred to concrete. The period that shall elapse after the concrete has been laid before and removal of centering and shuttering is undertaken shall be as follows:-

Part of structure Period after which to be removed centering.

1. Sides of foundation, columns, beams 8 days.

2. Undersides of slabs uptp 5 mtrs (15') span 10 days.

3. Undersides of slabs above 5 meter span and undersides of

Beams upto 7 meters span 14 days.

4. Undersides of beams over 7 meters span and upto

10 meters span 21 days.

In case of cantilever slabs and beams, the centering shall be remain structures for contracting or anchoring down have been erected and have attained sufficient strength work damaged through premature or care less removal of form shall be reconstructed without any extra payment.

9.3. REINFORCEMENT:-

BENDING AND OVER LAPPING:-Bars shall be bent cold, correctly and accurately to the size and shape as shown on the drawing or as directed by the Engineer incharge. Only bars of full length shall be used, but where this cannot be done, over lapping of bars shall be done as directed by the Engineer incharge.

9.4.2. PLACING IN Position-Reinforcement bars shall be placed in position as shown in the drawing. Bars shall be thoroughly cleaned of rust, scales, grease, oil and any other foreign matter placing them imposition. The bars crossing one another shall be tied together at every intersection with two strands of annealed steel wire 18 to 20 S.W.G. twisted tight to make the steel work rigid that reinforcement does not get displaced proper cover shall be given in the bars.

9.4.3. CONCRETING:

9.4.4. CONCRETE:-Concrete mix shall be 1:2:4 (1 cement: 2 coarse sand and 4 hard stone ballast of 2 cm. and down gauge) unless otherwise specified. Concrete shall be mixed by mechanical mixers only Hand mixing of concrete for RCC work shall not be allowed.

9.4.2. CONSISTENCY:-For reinforcement concrete work, concrete which will flow into the forms and around the reinforcement without any segregation of coarse aggregate from the mortar, shall be used.

The following slumps shall be adopted for different types of work.

**S.No. Type of work When vibrators are used Slumps when vibrators are**

**not used.**

1. Mass concrete in RCC

foundation footings. 1 to 2.5 cm. 8 cm.

2. Beams, slabs and column

simply reinforced. 2.5 to 4 cm. 10 to 12 cm.

3. Thin RCC section or section

with congested steel 4 to 5 cm. 12.5 to 15 cm.

9.4.3. PLACING OF CONCRETE:-After contacting, shuttering and reinforcement is placed, and passed by the Engineer incharge concrete shall be deposited and not dropped in its final position. A cost of thick cement slurry shall be given on the top of shuttering and reinforcement as the concreting proceeds for which no extra payment shall be made. In case of concreting of slab and beam, wooden plank supported directly on the centering by means of wooden block or lugs shall be provided to convey the concrete to the concrete to the place of deposition without disturbing the reinforcement in any way. Labour shall not be allowed to walk over the reinforcement.

It is necessary that the time between mixing and placing concrete shall not exceed 20 minutes so that the initial setting process is not differed, with.

9.4.4. COMPACTION:-Concrete shall be compacted into a dense mass immediately after placing by means of mechanical vibrator only RCC slab concrete shall be compacted with pan vibrator

9.4.5. MEASUREMENT:-The gross dimension of R.C.C. slabs, beams and chhajas etc. inclusive of bearing of walls and exclusive of the thickness of plaster (if any)   shall be measured for the purpose of payment.

If slab any 'T' beam construction, the slab shall be taken as running continuously through and beam as the portion below the slab.

Chhaja shall beam measured in the item of R.C.C. slab. Lintals over doors and windows opening upto 2 meter clear span shall be paid in the item of lintal, beyond which it shall beam measured in the item of light beams.

9.4.6. TESTING:-Concrete cubes 15 cm. x 15 cm. (6"x6"x6") shall be prepared at the time of leaving of R.C.C. slab, beams etc. as often as considered necessary by the Engineer incharge. And their strength shall be tested after 7 days or 28 days or as IS: 458-1964. In case required strength is not found, the decision of Executive Engineer incharge about, reduction of rates or rejection of concrete as the case may be shall be final and binding on the contractor. The testing charges shall be bear by the contractor and the result of the test shall be binding on the contractor. The contractor shall redder all assistance for the preparation of cubes safe custody of the Rate:-The rate of R.C.C. shall include cost of material, labour centering, shuttering laying finishing, testing etc.

10. PRECAST CEMENT JALI:-It shall be of cement concrete to 1:2:4 (1 cement 2 coarse sand and 4 hard stone grit 0.3 cm. gauge) reinforce with 16 gauge (1.6 mm.) mild steel wire unless otherwise specified.

The jali shall be set in position true to plumb using 1:2 cement and coarse sand mortar before the jambs, sills and soffits of the opening are plastered. It shall than be properly grouted. The jali shall beam measured for its gross superficial area. Rate is inclusive of material and labour involved in all the operations above.

11. STEEL WORK (ROUND BARS) IN REINFORCEMENT:-Entire quantity required for reinforcement in RCC work shall be arrange by the Trust and shall be issued to the contract at rate specified in Schedule C' and cost recovered from Bill. Mild steel bars reinforcement shall be in required form as show in the drawing or as directed by the Engineer incharge. The bars shall be cold bent. The hooks and authorized overlaps shall be measured. Cost of binding wire will not be paid. Reinforcement shall be measured in length and their weight form standard tables.

12. RIBBED FOR STEEL IN REINFORCEMENT"

Same as specifications as for Mild steel round bars above.

13. MILD STEEL CLAMP:-Fan clamps to be fixed during the laying of RCC slabs shall be of approved design made of 16 mm dia M.S. Barbend to shape with its ends hooked. Loop should be truly vertical and at the correct depth form the inner side of the slab or beam. The hooked arm and the loop shall be tied, to the reinforcement either directly or through cut pieces of M.S. Bars with G.I. Wire.

14. PAINTING OF ROOF SLAB WITH HOT BITUMEN"

14.1. PREPARING THE SURFACE:-The surface shall be painted when it is thoroughly dry. The surface to be painted shall be clean with wire brushes and cotton or gunny cloth. All loose material and scale shall be removed and the surface shall be further cleaned with a piece of cloth lightly socked in kerosene oil.

14.2. PAINTING WITH BITUMEN:-The contractor shall bring the bitumen to site in its original packing and shall open and use it in the presence of Engineer incharge or his representative. The surface prepared and treated shall be painted uniformly with maze halt of grade 80/100, after heating it to a temperature of not less than 350 F (177 c) and more than 375 F (191 C).

Care shall be taken that no blank patches are left. The spreading of bitumen to be speared per sq. meter of roof surface shall be 1.71 kg. (35 Lbs per % sq. ft.)

14.3. SPREADING OF SAND:-Immediately after painting dry, clean, sharp and coarse sand at the rate of 0.6 cum. per 100 sq. m. (20 ft.) surface when the bitumen is still hot.

15. TAR FELLATING (WATER PROOFING TREATMENT):- Water proofing treatment will be laid in accordance to IS: code 1346-1966 in four courses which are as follows:-

(i) Initial layer of hot partially blown bitumen 30/40 grade on equivalent applied on clean

surface at the rate 1.2 kg. per sq. m. minimum.

(ii) Messier base self finished felt type 3 grade I applied over painted surface.

(iii) Hot partially blown bitumen 30/40 grade or equivalent applied on tar felt surface @ 1.2

kg. per sq. m. minimum.

(iv) 4th and final layer of stone grit of 6 mm. and down size for gravell spread at specified

bottom of material per unit area. The work shall be carried out as per direction of the Engineer incharge.

16. MUD PHUSKA TERRACING WITH TILE BRICK PAVING:-

MUD PHUSKA:-For mud phuska, selected soil which should be good quality brick free stones, kanker grass roots etc. shall be collected & stacked at side. The soil shall not be collected from a locality infested with white ants. Just before laying on the roof the soil shall be made damp by adding water. It shall be turned over with phawaras so as to break clods & pulverize the same. Quantity of water to be added to the soil shall be carefully regulated so that the soil shall have optimum moisture content at the time of laying and compaction on the roof. The soil shall be laid on roof to requisite thickness and slope, well compacted with wooden rammers and thapies, to obtain an event surface to correct slope. Average thickness of soil shall be as specified in the item.

16.2. MUD PLASTER:-After laying the mud phuska, the surface shall be given a coat of mud plaster 25 mm. thick and the plaster shall be allowed to dry and crack.

The dry soil be reduced to fine powder and mixed with in a pit adding chopped straw (Bhusa) in proportion of 65 kg. per cubic meter of soil. The chopping used shall not be longer than 2 cm. The mixture shall be allowed to mature for a period of not less than 7days. During this period, it shall be worked out at interval with feet & spades (Phawaras) as to get pugged into a homogeneous mase, free from lumps & clods. The mud mortar shall be pushed again very thoroughly just before use.

16.3. GOBRI LEAPING:-After the mud plaster has dried, the surface should be given a coat of gobri leaping so as to completely fill any cracks that may have formed in the mud plaster. Mortar for gobri leaping shall be prepared by mixing equal quantities fresh gobri and finally sicued clay and adding sufficient water to form a thin paste. The quantity of gobri used in gobri leaping shall not be less than 0.03 cum. per 100 sqm. of plaster area.

16.4. LAYING OF TILE BRICK:-After the gobri leaping has dried flat tile bricks, confirming to the specification for the tile brick shall be laid using the minimum amount of plain mud mortar (without bhusa) as bedding so as to obtain  
correct slope and even surface of tile floor care shall be exercises to sea that mud mortar does not rise into the vertical joints of tiles more than 2 mm. The tiles shall be laid closed to each other, the thickness of joints shall not be less 6 mm. and more than 2 mm. The tiles shall be laid closed to each other, the thickness of joints shall not be less 6mm. and more than 12 mm. in width. After the tiles are well set and bedding mortar has driod, joints of the tiles shall be grouted with the cement mortar of mix 1:3 (1 cement, 3 jamuna sand of FM 1.25) such that all the joints are completely filled with mortar neatly.

16.5. CURRING:-As soon as cement grout obtains initial set, the surface of the tile brick shall be covered with wet gunny bags or wet sand to prevent quick during. After about 8-12 hours the tile floor shall be cured be frequent sprinkling of water on the surface for a period of 7 days.

16.6. MEASUREMENT:-The measurement shall be taken for the finished work (mud phuska terracing of stipulated thickness mud plaster, gobri leaping and flat tile paving and grouting over the tiled surface.)

17. BRICK DRIP COURSE:-Brick drip course shall be laid above the junction of the roof with the well to shield the cracks which may develop at these junctions.

The upper corner of projecting brick shall be chamfered of rounded off with 7.5 cm. radius A transverse drip to rotating about 1.3 cm. (1/2") deep shall be out on the under side of the projecting bricks special molded bricks shall be used for the brick course. Where MOULDED BRICKS ARE NOT available brick cut to shape shall be permitted. The work shall be carried out as per direction of Engineer incharge.

18. KHURRAS:-Khurras shall be 45x45 cm. (1.5x1.5") size unless otherwise specified and shall be formed of cement concrete 1:2:4 mix (1 cement 2 coarse sand 4 stone ballast of (2 cm.) nominal gauge. The concrete shall be laid to an average thickness of 5 cm. with its edged not less than 20 mm. Lower than the level to the adjoining, roof surface. concrete shall be laid to a size greater than the stipulated size of the Khurra in such a way that the adjoining terracing of tile bricks shall over lap the concrete, on the three edges by not less than 7.5 cm. (3") the concrete will slope through the width of the wall into the outlet opening to ensure a water tight joint.

The Khurras the sides of the outlet shall be rendered with 12 mm. cost of cement plaster 1:3 mix (1cement 3 coarse sand).

This shall be done when the concrete is still green, and shall be finished with a floating coat of neat cement. The sides of khurras and the sides of outlet shall be well rounded. The size of finished outlet opening shall be 10 cm. widths by 20 cm. high on as ordered by an Engineer incharge.

In case where rain water is to be disposed off through rain water pipe from gratings be provided at the outlet as a safe guard against coking. Khurras shall be measured in numbers.

19. A.C. RAIN WATER DOWN PIPE:-The pipe shall confirm to IS: 1626-1960 or as revised from time to time and shall be of approved manufacture. These shall be straight true, smooth and regular in thickness. They shall be sound homogeneous and free cracks and other flaws.

Piper shall be demurred to face of wall below all joints by standards holder bat clamps or approved manufacture.

The spigot of the upper pipe shall be properly fitted into the socket of the lower pipe such that there is a uniform angular space for filling with joining material which be of spun yarn soaked in bitumens properly pressed with caulking tools upto 1/3 depth and the remaining 2/3 depth shall be filled in with staff cement mortar 1:2 (1 cement 2 coarse sand) and shall be finished smooth at an angle of 45 sloping up. It shall be cured for 7 days.

The finished pipe line shall be truly vertical or to line slopes as directed and shall be at the uniform distance of 40 mm. form the finished face of the wall.

20. STEEL GLAZED WINDOW AND VENTILATOR:-Steel windows and ventilators shall be of quality as approved by Engineer incharge.

The windows and ventilator frames shall be standard rolled 'MAN' or 'MAHAVIR' sections or equivalent as approved by Engineer incharge per drawing including steel lugs (Mullion, Transome and glass work .) The window and ventilator shall be manufactured by Mechanical devised and fixtures as required by IS 1038-1968. The glazing shall be Hindustan palkington of the thickness of glass shall be as mentioned of quantities. The type over all sizes, side openings position of steel windows and ventilations shall be specified as per various details given in IS: 1038-1968 unless otherwise specified.

The work shall be carried out as per directions of the Engineer Incharge.

21. M.S. GRILL: M.S. Grill shall be fabricated with M.S. sections strictly as per approved design. All joints shall be proper fit, and work shall be true and even.

22. WOODEN FLUSH DOOR SHUTTERS:-The flush door solid core of block construction/particulars Board constructions as specified. The frame shall be of first class hard wood. The core shall be covered on each face with cross boards and face vanoors and lipped on all the edges.

The flush doors shall be obtained from firms of repute such as 'Stiaply' or any other firm is approved by the Engineer Incharge.

23. DEODAR WOOD DOOR AND WINDOW SHUTTERS:-Timber shall be of 1st class quality well seasoned and shall have uniform color, reasonably straight grains. It shall be free from dead knots, crooks and stakes and sap wood.

The door shutters of specified thickness shall be made in accordance with the detailed drawing. The shutter shall be obtained from (Kashmir Government Joinery Mills Srinagar or) other approved manufacturer.

The work in general shall confirm to IS: 1003 (part-1) 1966 and 1033 (part-11 1966.

24. FITTINGS FOR TIMBER DOORS:-

24. 1. GENERAL:-Fittings shall be of iron brass, aluminum or as specified. These shall be of make as approved by the Executive Engineer/Engineer incharge.

The schedule of fittings required for doors areas indicated in the table. Fittings shall be got approved by the Engineer incharge before fixing.

Screws used for fittings shall be same metal and finish as the fittings unless required by the Engineer incharge.

SCHEDULE OF FITTINGS IN DOORS AND WOODEN WINDOWS.

**ITEM Hingos Handle Aldrop Tower bolt Door**

**stopper**

10 cm. 8 cm. 10 cm. 25 cm. 30 cm. 23 cm. 15 cm.

1 Single leaf door 3 No. - 2 1 \_ 1 1 1

2. Double leaf Door 6 No. - 2 1 1 1 1 2

3 Windows single leaf - - 1 - - 1 1 1

4 Windows Double leaf - - 4 2 - 1 1 2

5. Notes-Doors to be provided in front rooms court yards and verandah shall be provided one extra Aldrop over the schedule given above.

The screws shall be of Nottlefold make. Under no circumstance screws shall be hammered otherwise heavy penalty shall be imposed as deemed fit by Engineer incharge.

25. PLASTERING:

25.1.1. PREPARATION OF SURFACE:-Joints shall be raked out properly and surface, washed and kept wet before plastering is commenced. Efflorescence if any shall be removed by wetting brushing and scraping.

25.1.2. MORTAR:-The mortar of the specified mix using the type of sand as prescribed in the item shall be used.

25.1.3. APPLICATION OF PLASTER:-Ceiling plaster if any, shall be completed before commencement of wall plaster, Plastering shall be started from the top and worked down to the floors, All putlog holes shall be properly filled in advance of the plastering. To ensure even thickness and cure surface plaster about 15x15 cm. shall be first applied horizontally and vertically at not more than 2 meter interval over the entire surface to serve as gauges. The mortar shall than be laid on the wall between the gauges with trowel. The mortar shall be applied in a uniform surface slightly more than the specified thickness. This shall be brought to a true surface by working wooden straight edge rouching the edges. Finally the surface shall be finished cure with trowel or wooden float. All corners, angles and junction shall be finished as per direction of the Engineer incharge.

The plastering and finishing shall be complete within half an hour of adding water to dry mortar.

In suspending work at the end of the day, the plaster shall be left, cut clean to line both horizontally and vertically, where recommending the plaster, the edge of the old work shall be scraped the wetted with cement slurry before plaster is applied to the adjacent area to enable the two properly join together.

No portion of the surface shall be left put intcially to be patched up lator on.

25.1.4. FINISH:-The plaster shall be finished to a plumb surface and to the proper degree of smoothness as required. The work shall be tested frequently as the work precedes with a cure straight edge not less than 2.5 m. long and with plumb bobs. All horizontal lines and surface shall be tested with a level and all jobs and corners with a plumb bob as the work proceeds.

25.1.5. CURRING:-Curring shall be commended after 24 hours and shall continue for a period of at least 7 days.

25.1.6. THICKNESS:-The thickness of the plaster shall be 12 mm. or 15 mm. as described in the item.

25.2. CEMENT PLASTER 12 MM. & 20 MM. SINGLE COAT WORK WITH A FLOATING COAT OF NEAT CEMENT:-

25.2.1. Specification for this item work shall be same for item 25.1 (cement plaster 12 mm. or 15 mm.) of the specified thickness and mix except for the additional floating coat which shall be out as below.

When the plaster has been brought to a true surface with the wooden straight edge it shall be uniformly treated over its entire area with a paste on neat cement and rubbed smooth so that the whole surface is covered with neat cement costing the quantity of cement applied coat shall not be less than 1 kg. per sqm. smooth finish shall be completed with trowel immediately and in no case later than half hour of adding water to the plaster mix. the rest of the specification shall be same as for 25.1

26. CEMENT CONCRETE FLOOR:-

26.1.1. CEMENT CONCRETE:-Cement concrete of mix 1:2:4 (1 cement 2 coarse sand 4 hard stone grit 2 cm. nominal gauge) shall be used.

Concrete shall be mixed by mechanical mixer when the Engineer incharge permits otherwise. In case off hand mixing 10% extra cement shall have to be added for which nothing extra shall be paid.

26.1.2. SUB-GRADE:-Flooring shall be laid on lime concrete sub grade where so provided with the slope required for the flooring. Floors in verandah, kitchen, bath, w.c. etc. shall invariably be provided with suitable slopes to drain of washings. Lime concrete sub grade shall be allowed to set for 7 days and cement flooring shall be laid in the next 3 days. If the cement concrete flooring is to be laid directly on the R.C.C. slab, the surface of R.C.C. slab shall be rough-end with brushes while the concrete is green. This shall be done carefully without disturbing the concrete. Before laying floor, the laitance shall be removed, the surface of slab backed and a coat of cement slurry 2.75 kg per sq m. shall be applied at out, so as to get a good bond between R.C.C.

26.1.3. LAYING:-

26.1.3.1. PANELS:-Flooring of specified thickness shall be laid in the pattern as directed by the Engineer incharge. The border shall have mitered joints at the corners of the room and intermediate joints shall be in straight line with the panel joints. The panels shall be of uniform size not exceeding 3.5. sq. mt. in area and 2.5 meter in any direction for a floor having thickness less of 40 mm. and above for floor having thickness less than 40 mm. The panel size shall not exceed 1 .5 sq. mt. and 2.5 meter in any direct on. Laying of panels shall be as per direction of Engineer incharge.

26.1.3.2. SHUTTERING:-The panels shall be bounded by wooden battens or flat iron having the same depth as the concrete floor. These shall be fixed in position, with their top at proper level giving slope where required. The surface of the batten or flats to come in concrete shall be smeared with soap solution (or non staining oilrt raw linseed oil) before concretion. The flooring shall put against the masonry of the wall which shall be plastered.

At places where strips are required to be provided, these shall be as per pattern of panel with their top flushing with the proposed finished level. The glass strips shall be laid with cement mortar pads of both sides a dry in advance and shall be protected adequately form any damage. Any strip damaged or disturbed shall be re-laid and got checked by the Engineer incharge before the flooring is commenced. The mortar pads used for holding the strap shall be removed in succession at the time of laying of floor and replaced by cement concrete mix.

27.1.3.3. CONCRETING:-All the cement required for the floor of the area in one room shall be mixed dry in one lot on a dry floor to make uniform in color.

Cement concrete shall be placed in position and leveled up with the help of straight edge and trowel. It shall then be beaten with a wooden 'Thappy ' or masons trowel. The blows shall be fairly heavy in the beginning but as consolidation takes place, light rapid strokes shall be given. Beating shall cease as soon as the surface is found covered with cream of mortar. The surface shall be tested with straight edge and made true.

The battens or flats used for shuttering shall be removed on the next day of the laying of cement concrete. The ends thus exposed shall be repaired if damaged, with cement mortar 1:2 (1 cement and 2 coarse sand) and allowed to set for a minimum period of 24 hours. While laying concrete, care shall be taken to see that the edges of the previously laid panels are not damaged and fresh mortar is not splashed over them. The joints between the panels should be as fine as straight lines.

26.1.4. FINISHING:-The top finishing layer in specified thickness consisting of cement and marble bust slurry in a specified proportion shall follow immediately, after cessation of beating. Light color pigment shall also be added if specified in the description of the item as per direction of the Engineer incharge.

The cement, marble dust slurry shall be properly pressed twice by means of iron floats, once when the slurry applied and the second time when it starts setting.

The junction of the floor with wall plaster, dado or skirting shall be rounded off where so required upto 25 cm. radius.

The man engaged on finishing operations shall be provided raised wooden platform to sit on as to prevent damage to the work.

26.1.5. CURRING POLISHING & FINISHING:-The curing shall be done for at least 7 days. The work shall be carried out as per directions of the Engineer incharge.

Note:-If polishing and finishing of floor with french mason polish is required in the item, it shall be done as per direction of the Engineer incharge.

26.2. CEMENT PLASTER IN RISERS OF STEPS SKIRTING DADO:-

26.2.1. GENERAL:-A band of plaster at the bottom of wall not exceeding 30 cm. in height above the floor shall be classified as skirting the work shall be carried out simultaneously with the laying its corners and junctions with the floor shall be rounded off neatly where so required upto 25 mm. radius. It shall be projecting out uniformly from the wall plaster by a minimum of 6 mm. it so required.

26.2.2. PREPARATION OF WALL SURFACE:-The joints shall be raked to a depth of at least 15 mm. in masonry walls while the masonry is being laid. The surface shall be cleaned thoroughly washed with water and kept wet before skirting or dado is commenced.

26.2.3. Application-Skirting with specified mortar and to specific thickness shall be commenced immediately after the surface is prepared. It shall be laid along with the border or adjacent panels of floor. The joints is skirting shall be kept true and straight in continuation of the line of joints in boarders of adjacent panels. The skirting shall be finished smooth and true to truly horizontal and joints truly vertical except where otherwise indicated.

26.2.4. FINISHING:-The finishing of surface shall be done simultaneously with the borders or adjacent panels of floor in the manner specified under para 26.1.4 except that the cement to be applied in the form of slurry for smooth finishing shall be at the rate of 1 kg. of cement per sqm of skirting.

26.2.5. CURRING:-It shall be continued for at least 7 days.

26.3. GRANOLITHIC (TERRAZO) MARBLE FLOORING LAID IN SITU.

26.3.1. UNDER LAYER:-

26.3.2.1. MORTAR:-The mix for terrazzo topping shall consist of cement with or without pigment, marble powder, marble aggregate the proportion as specified.

Before staring the work the contractor shall get the sample of marble approved by the Engineer incharge. The cement to be used shall be ordinary gray cement, white cement molured cement or cement with admixtures of coloring gray cement, white quality in the ratio specified in the description of the item or in the ratio to set the required shaded as ordered by the Engineer incharge. Coloring matter where specified shall be mixed dry thoroughly with the cement and marble powder and then marble chips added and mixed as specified. The full quantity of dry mixture of mortar required for a room shall be prepared in a top lot in order to ensure a uniform color. This mixture shall be stored in a dry place and well covered and protected from moisture. The dry mortar shall be mixed with water in the usual way as and when required. The mixed mortar shall be homogeneous and still and contain just sufficient water to make it workable.

26.3.3. LAYING:-The marble topping shall be laid while the under layer is still plastic which is normally achieved between 18th. 24 hours after the under layer has been laid. A cement slurry be brushed on the surface immediately before top laying is commenced. The surface of level by a straight edge and steel flats in such a manner that the maximum amounts of marble chips came up and are uniformly over the surface and on part of the surface is left without chips.

26.3.4. POLISHING CURRING AND FINISHING:-Polishing shall be done by machine. After 36 hours of laying the top layer, the surface shall be watered and grout with machine fitted with special rapid cutting grit block of coarse grade (No. 60) till the marble chips are evenly suppressed and the floor is smooth. After the first grinding the surface shall be thoroughly washed to remove grinding mud and covered with grout of cement and coloring matter in the same mix proportion as the topping in order to fill any pin holes that appear. The surface shall be allowed to cure for 5 to 7 days and then around with machine fitted with fine grade grit block (No. 120). The surface is cleaned and repaired as before and allowed to cure again for 3 to 5 days. Finally the third grinding shall be done with machine fitted with finest grout grit block (No. 320) to get ever and smooth surface without pinholes. The finished surface showed the marble chips evenly exposed.

When use to machine for polishing is not feasible, rubbing and polishing be done by hand in the same manner as specified for machine polishing accept that carborandum stone or coarse grade (No. 60) shall be used for the first rubbing, stone of medium grade (No. 60) for second rubbing and stone of gine No. 120 for final rubbing respectively.

After the final polishing, exilic acid shall be dusted over surface at 2/3 lbs. per sft. (33 g. per sqm) Sprinkled with water and revived hard namdah block (pad of wooden rags). The following day the floor shall be wiped with a moist rag and dried with soft cloth and finished smooth with french mansion polish.

26.4. GRANDLITHIC (TERRAZO) STIRTING OR DADO LAID IN SITU.

26.4.1. UNDER COAT:-Is shall be as specifications as in Para 26.3.2 shall hold good as for as applicable and shall include cutting to like and fair finish to top edges of terrazzo, polishing shall be done only with hand.

26.4.3. POLISHING CURRING AND FINISHING:-Specifications as in Para 20.3.4 shall hold good.

26.5. GRANDLITHIC (TERRAZO) TILE FLOORING:-

26.5.1. Terrazzo Tiles :- Terrazzo tiles shall generally confirm in all respect to standards laid down in IS: 1237-1950 or revised.

The size of the tiles to be used shall be as required by the Engineer incharge. The tiles shall be manufactured under hydraulic pressure of not less than 140 kg. per sq. cm. and shall be given the first grinding with machine before delivery to site.

The proportion of cement to aggregate in the backing of the tiles shall not be lesser than 1:3 by weight. Similarly the proportion of cement to marble chips aggregate in the wearing layer of the tiles and the proportion pigment to be used there in shall not exceed 10% of wt. of cement used in mix. The finished thickness of the upper layer shall not be less than 5 mm. for size of marble chips from the same test 6 mm. and also not less than 6 mm. for size of marble chips ranging from the smallest upto 12 mm. and not less 6 mm. for size of marble chips varying from the smallest upto 20 mm.

26.5.2. LAYING :- Sub grade concrete of the RCC slab on which the tiles are to be laid shall be cleaned wetted and mopped. The bedding of for the tiles shall be with cement mortar 1:3 (1 cement, 3 coarse sand) of average thickness 25 mm. or as ordered by the Engineer incharge. Over the cement mortar bedding tiles shall be fixed in level and slopes as required after spreading neat. Gray cement slurry of honey like consistency on the cement mortar. The joints between tiles shall be kept as possible and not exceeding 1.5 mm. and in straight line or to suit the required pattern.

The surface of the flooring during laying shall be checked with a straight edge at least 2 mm. long so as to obtain a true surface with the required slope.

Tiles which are fixed in the floor adjoining the well shall enter not less than 12 mm. under the plaster skirting or dado. The junction between wall plaster and tile work shall be finished neatly and without waviness.

After the tiles have been laid, surplus cement grout that may have come out of the joint shall be cleaned off.

26.5.3. CURRING, POLISHING AND FINISHING:-The day after the tiles and laid al joints shall be cleaned of the gray cement with a wire brush or trowel to a depth of 5 mm. and all dust and loose mortar removed and cleaned. Joints shall than be grouted with grey or white cement mix with or without pigment to match the shade of the topping of the wearing layer of the tiles. The same cement slurry shall then be applied to the entire surface of the tiles a thin coat with a view to protect the surface form abrasive damage and fill the pin holes that may exit on the surface.

The floor shall then be kept wet for a minimum 7 days. The surface shall thereafter be ground evenly and polished as specified in para 26.3.4.

The finished floor shall not sound hollow when tapped with a wooden matter.

26.6. MOSAIC TILES IN RISERS OF STEP, SKIRTING AND DADO:

26.6.1. TERRAZO OR MOSAIX TILES:-These shall have the same specifications as in para 26.5.1. as for as applicable.

26.6.2. LAYING:-12 mm. thick plaster of 1 cement, 3 coarse sand mortar shall than be applied and allowed to harden. The plaster shall be roughened with wire brushes or by scratching diagonal lines 2 mm. deep at approx. 7.5 cm. both ways. The back of tiles shall be buttered, with a coat of grey cement slurry and edges with grey or white cement slurry with or with pigment to match the shape of the tiles, and set in the bedding mortar. These shall be tamped and corrected to plaster planes and lines, the tiles shall have joints as thin as possible. Top of skirting or dado shall be truly horizontal and joints truly vertical except where wise indicated.

26.6.3. CURRING POLISHING AND FINISHING:-The specifications as in para 26.3.4.

26.7. White glazed tile work:

26.7.1. WHITE GLAZED TILE FLOORING:-The tiles be of approved Indian manufacturers. They shall be flat, and true to shade they shall be free from cracks, crazing spots chipped edges and corners. The glazing shall be of uniform shade.

The tiles shall be of nominal size such as 15x15 cm. and 10x10 cm. The size of the tiles to be used shall be as required by Engineer incharge.

The thickness of the tiles shall be 10 mm. unless otherwise specifically mentioned in the item.

Tile shall confirm to IS: 777-1962 in all respects.

26.7.2. PREPARATION OF SURFACE AND LAYING:- Subgrade concrete on the RCC slab on which the tiles are to be laid shall be cleaned wetted and mopped. The bedding for tiles shall be with 12 mm. thick mortar 1:3 (1cement, 3coarse sand) or as specified.

Mortar shall be spread, temped and corrected to proper levels and allowed to harden sufficiently to offer a fairly rigid cushion for the tiles to be set and to enable the mason to place wooden planks across and squad on it.

Over this mortar bedding, neat grey cement slurry of honey like consistency shall be spread at the rate of 3.3 kg. cement per sqm and tiles shall there after be bedded in level and slopes required. The joints shall be kept as thin as possible and in straight line. The surface shall be checked frequently with a straight edge about 2 m. long so as obtain a true surface with the required slope.

with the required slope.

Tiles which are fixed in the floor adjoining the wall shall enter not less than 10 M.M. under plaster skirting or dado.

After tiles have laid, surplus cement gout shall be cleaned off.

26.7.3 POINTING AND FINISHING The joints shall be cleaned of the grey cement grout with wire, brushes to a depth of 5 mm. and all dust and loose motor removed, joint shall then be flush pointed with white cement, The floor shall then be kept wet for 7 days.

After curring the surface shall be washed clean.

The finished floor shall not sound hollow when tapped with a wooded mallet.

26.8 WHITE GLAZED TILES IN RISER OF STEPS SKIRTING AND DADO.

26.8.1. WHITE GLAZED 1- the Specification of white glazed tiles shall be same as in para 26.7.1

26.8.2. PREPARATION OF SURFACE:-This shall be same as in para under cement Pinxter in riser of steps, skirting and dado.

26.8.3. LAYING:- 12mm. thick plaster in 1 cement and 3 coarse sand mortar shall be applied and allowed to harden. The plaster shall be roughened with wire brushes or by scratching diagonal lines 1.5 mm. deep at 7.5 cm. centre both ways.

The back of the tiles shall be buttered with a coat of grey cement slurry and edges with white cement slurry and set the bedding mortar. The tiles shall be set in the required pattern keeping thin joints.

26.8.4. CURRING AND FINISHING:-The joints shall be cleared and flush pointed with white cement the surface shall be kept wet for 7 days. After curing the surface shall be washed finished clean.

The finished work shall not sound bellow when tapped with wooden matter.

27. WHITE WASHING:

27.1. PREPARATION OF SURFACE:-Before new work is white washed, the surface shall be thoroughly free mortar dropping and foreign matter.

27.2. PREPARATION OF LIME WASH:-The wash shall be prepared from fresh stone white lime (Dehradun quality). The lime shall be thoroughly slaked on the spot, mixed and stirred with sufficient water to make a thin cream. This shall be allowed to stand a period of 24 hours and then shall be screened through a clean coarse cloth. four kg of gum per cum. of cream (40z of gum per cft. of cream) dissolved in hot water shall be added. The approximate quantity of water to be added in making the cream with be five liters per kg. of lime.

27.3. WHITE WASHING:-The white wash shall be applied with Moon Brushes to the specified number of coats the operation for each coat shall consist of a strike of the brush giving form top down ward another from bottom upward and similarly one stroke horizontally form the right and another form the left before it dries. Each coat shall be inspected and approved by the Engineer incharge before the subsequent coat is applied. NO portion of surface shall be left out initially to be patched the later on. The finished dry surface shall not show any sign of cracking and pooling nor shall it come off readily on the hand when rubbed.

27.4. PROTECTIVE MEASURES:-Doors windows, floors skirting dado, articles, furniture and such other part of the building no to be white washed shall be protected from being splashed upon. Splashing and dropping if any shall be removed by the contractor at his own cost and the surface cleaned. Damage if any, to the fitting and fixtures shall be recovered from the contractor.

28. COLOR WASHING:-In the case of color washing, mineral color not affected by lime shall be added to white wash. No color wash to the required kit or shade will be got approved from the Engineer incharge. The color shall be even tiles over the whole surface. If it is blotchy or otherwise badly applied, it shall be reddened by the contractor.

For new work, the priming coat shall be white washed with lime. Two or more coats as specified shall then be applied on the entire surface till it presents smooth and uniform finish.

The finished dry surface shall not be provider and shall not readily of on the hand when rubbed.

28.1. GENERAL:-The specifications for white washing shall apply to this work also, the difference being that the specified color wash shall be obtained by adding the necessary pigment to the white wash.

29. DRY DISTEMPERING:

29.1. MATERIALS:-Dry distemper of approved brand and manufacture shall be used. The shade shall be got approved from the Engineer incharge before application of the distemper. The dry distemper shall be stirred slowly in clean warm water using 0.6 litre per kg of distemper or as specified by the marker. It shall be allowed to stand for at least 30 minutes (of it practicable overnight) before use. the mixture shall be well stirred before and during use to maintain an even consistency.

Distemper shall not be mixed in large quality than is required for one day's work.

29.2. PREPARATION OF SURFACE:-Before new work is distempered, the surface shall be thoroughly brushed form mortar dropping and other foreign matter with sand papered & smoothed.

New plaster surface shall be allowed to dry for at least two months applying distemper.

Fitting in plaster shall be made good with plaster of paris mixed with dry distemper of the color to be used. The surface shall be allowed to dry thoroughly before the regular coat of distemper is applied.

29.3. PRIMING COAT:-Priming coat of whiting shall be applied over the prepared surface in new work as per direction of the Engineer incharge. NO white washing coat shall be used as a priming coat for distemper. The treated surface be allowed to dry before distemper coat is given.

29.4. APPLICATION:-The application of each coat shall be as follows. The entire surface shall be coated with the mixture uniformly with proper distemper brushes (ordinary white wash brushed shall not be allowed) in horizontal strokes followed immediately by vertical one which together shall constitute one coat.

The subsequent coats shall be spoiled only after the previous coat has dried on approved by the Engineer incharge. The finished surface shall be even and uniform and shall show no brush marks.

Enough distemper shall be mixed to finish on room at a time.

The application of a coat of each room shall be finished in one operation and no work shall be started in any room which cat not be complete the same days.

After each day’s work, the brushes shall be washed in hot water & hung down to dry. Old brush as which is dirty shall not be used.

30. WATER PROOF CEMENT PAINTS:

30.1. MATERIAL:-The water proof cement paint shall be approved brand and manufacture.

30.2. PREPARATION OF SURFACE:-For new work, the new surface shall be thoroughly cleaned of all mortar dropping, dirt, dust, algal, grease and other foreign matter by brushing and washing. The surface shall be thoroughly wetted with clean water before the water proof cement is applied.

30.3. PREPARATION OF MIX:-Water proofing cement point shall be mixed in such quantities as can be used within an hour of its mixing of otherwise then mixture will set and thicken water proof cement paint shall be mixed with water in two stages. The first stage shall comprise of two parts of water proof cement and one part of water stirred thoroughly and allowed to stand for five minutes. Card shall be taken to add the water proof cement paint gradually to the water and not vice-versa .The second stage shall comprise of adding further one part of water to the mix and stirred thoroughly of obtain a liquid or workable and in all case the manufacturers instruction shall be followed, meticulously to obtain a liquid or workable and. In all case the manufactures instruction shall be followed, meticulously. The lids of cement paint drums shall be kept tightly closed where not is use to avoid air settings.

30.4. APPLICATION:-The solution shall be applied on the clean and watted surface with brushes or spraying machine.

The solution shall be kept well stirred during the period of application. It shall be applied on the surface which is on the shady side of the building that direct heat of the sun on the surface is avoided. The complete surface will be watered after the days work.

The second coat shall be applied after the first coat has set for at 24 hours and got approved by the Engineer incharge. Before application on the second of subsequent coats, the surface of the previous coat shall not be wetted.

31. PAINTING:

31.1. MATERIAL:-Paints, varnishes etc. of approved brand and manufacture shall be used. Readymade paint as necessary in case of ready mixed paint, the brand of thinner is commended by manufacturer as instructed by the Engineer incharge shall be used.

Approved paint shall be brought to the site of the work by the contractor in their original container in sealed condition. The main hole work or at least a forth right’s work.

31-2. COMMENCING WORK:-Painting shall not be started until the E/1 had inspected the item of work to be painted satisfied himself above their proper quality and given his approval to commence the work painting except the priming coat, small generally be taken in hand after another building work is practically finished. The rooms should be thoroughly swept out the entire building cleaned upto least one day in advance of the paint work being stared.

31.3. PREPARATION SURFACE:-The surface shall be thoroughly cleaned and dusted. All rust, dirt, scaled, make and grease shall be the prepared surface shall have the approval of the Engineer incharge after inspection, before painting is commenced.

31.4. APPLICATION:-Before pouring into small containers for use the paint shall be stirred thoroughly in its containers. When applying also, the paint shall be continuously stirred in the smaller containers so that its consistency is kept uniform. The painting shall be laid evenly and smoothly by means of crossing and laying off consist of covering the area with paint, brushing the surface hard for the first time and then brushing alternately in directions, two or three time and then finally brushing lightly in a direction at right angle to the same. In this process, no brush mark shall be left after lying off is finished. The full process of crossing and laying shall constitute on coat .

Each coat shall be allowed to dry out thoroughly and got approved by the Engineer incharge before the next coat is applied. This should be facilitated by thorough ventilation.

Each coat except the last coat shall be lightly rubbed down by sand papers and cleaned dust before the next coat is laid.

No. hair mark from the Brush or clogging or paint puddles in the corners of panels, angles of moulding etc. shall be left on the work.

In painting doors and windows; the putty round the glass panels must also be painted; but care must be taken to see that no paint stains etc. are left on the glass Tops of shutters and surface in similar hidden locations shall not be left out in painting. In painting steel work, special care shall be taken painting over bolts nuts, rivets etc.

31.5. BRUSHES AND CONTAINERS:-After work, the brushes shall be completely cleaned of paint and linseed oil rinsing with turpentine. A brush in which paints has dried up is rained and shall on account be used for painting work.

32. CASTING OF BRICK ROOF PANELS:-The panels shall be casted on a pucca platform in wooden frame made of correct size. Mortar used shall be 1:3 cement and coarse sand mortar. Two No. 6 mm dia bars shall be put in the panels longitudinally so as to form a shape of hooks on both sides for lifting purposes. The casting of such panels shall involve the use of 17 No. of 1st class bricks having all frogs on one side as per direction of Engineer in charge.

The brick panel shall be lifted from the platform after 48 hour safer proper curing and that shall be collected at other place where proper curing shall be done for the next ten days. The brick panel shall be casted over sheet of poly then over pucca platform so as to avoid any sticking to the platform. The sheet can be repeatedly used for casting purposes. Broken or distended or disturbed rick panels shall not be allowed to be used on repairing.

33. PARILY CASTING OF RCC BEAM (JOIST):-The beams shall be partially casted in size of 10 cm. x 13 cm. for the required length in 1:3:4 cement coarse sand and stone ballast. The beam shall only be casted in approved steel or wooden frames and proper curing shall be done for the next 12 days. The casting shall be done on a pucca platform with poly then sheet underneath.

34. HOISTING OF BEAM AND PLACING OF BRICK ROOF FRAME:-The beams shall be properly placed in position for the taking up the brick panels and proper nos. of proper shall be put below beam so as to avoid any sagging or deflection during operation. The brick roof panel shall be put on RCC beams with bearing of 1:3 cement coarse sand green mortar so as to give sound baring of to the roof panel. The joints in between the brick panels shall also be filled in with 1:3 cement coarse sand mortars. The frogs of all the brick panels shall up words. All the cracked broken, dismantled or disturbed RCC beam and brick panels shall not be allowed to be used on repairing.

34. HOISTING OF BEAM AND PLACING OF BRICK ROOF PANELS:-The beam shall be properly placed in position for making up the brick panels and proper has of props shall be put below beam so as to avoid any sagging of deflection during operation. The brick roof panels shall be put on RCC beams with bearing of 1:3 cement coarse sand green mortars so as to give sound bearing to the roof panel. The forge of all the brick panels shall be up words. All cracked or broken, dismantled or disturbed RCC beam and brick panels shall not be allowed to be used on requiring.

35. CONCERTING OVER ROOF PANELS:- 2.5 cm. thick 1:2:4 cement concrete (1 cement : 2 coarse sand : 4 zeera of 10 mm. gauge) shall be laid on the already laid paneled roof as per direction of Engineer incharge. All necessary temperature reinforcement over portion of beam shall be laid as per actual requirement. The remaining web of the beam shall also be filled in with the above concrete in continuation with the concreting ever roof panels as per direction of Engineer incharge.

36. CASTING OF BRICK WALLS PANELS:-The panels shall be casted on a pucca platform in wooden frame made of exact size. The casting of panels shall involve the use of 18 Nos. 1st class brick and 1:4 cement and sand mortar (fineness modulus 1.25) and 4 Nos. of M.S. hoods made out of 6 mm. bars. The brick shall be put in the wooden frame all frogs up wards and brake on edge on the short side of the panel. The hoods shall be placed in position and as direction on Engineer incharge. The 1:4 cement mortar shall be filled in between the joints. The brick panel shall be lifted from the platform only after 48 hours proper curing and then shall be collected at a place as per direction of Engineer incharge were proper curing shall be done for next ten days. These panels shall be casted over sheet of poly then over pucca platform so as to avoid any sticking to the platform sheet can repeatedly used for casting purposed. Broken or dismantled or disturbed brick panels shall be allowed to be used on repairing.

37. HOISTION OF WALL PANELS AND SAND CONCRETING OF COBOUMNS:-After complete curing the wall panels shall be placed over the plinth so as to from a portion of height of wall. The bottom of the wall panel shall be placed with green mortar of 1:4 (F.M. 1.25). The panel shall be so placed that it comes under exact plus and there will be a gap of 5 cm. between two panels and the hooks of each panel shall face each etc. the gap of 5 cm. between two panels shall thereafter be filled with 1:2:4 concrete so as from a column of 3 cm. x 11 cm. Before concretizing 6 mm. dia bars shall be put on Colum portions wooden plank shall be used as a side shuttering of 5 cm. side of column which shall be removed after wards and can be repeatedly used. when one row of wall panels is completed another row of panels shall be placed above the previous row of panels in plumb so as to from the wall. The panels shall be places accordingly so as form the full fight of the wall comprise full height of wall. The work shall be done as per direction of Engineer incharge.

**DETAILED SPECIFICATION SECTION 'B'**

**WATER SUPPLY AND SANITARY FITTINGS**

All work shall be carried out in accordance with relevant I.S. specification /CPWD/U.A./P.W.D.   
specification.

1. INDIAN TYPE W.C. PANS:-W.C. pans shall be of white glazed earthen ware of "Hindustan Twofold make of 1st quality as approved by the Engineer incharge. The flushing inlet shall be in front unless otherwise specified or ordered by Engineer incharge. It shall be properly fixed as required or as directed by the Engineer incharge. It shall also have an inlet or supply horn for connection the flush pipe. The flushing cistern shall be free from manufacturing faults and other defects effecting utility. All working parts should operate smoothly and efficiently. Cistern shall confirm to the specification given in I.s. code 2362-1963 or as revised. Outlet fittings of cistern shall be sincerely connected to it. Ball cock shall be of G.I. and strong enough to sustain suddenly applied pull of 10 kg and should have a suitable C.P. handle. The C.I. cistern shall be of NOMOS Make and approved by Engineer incharge and shall be painted with two coat of white or gray or any other enamel paint on outside. The entire work will be carried out to satisfaction of the Engineer incharge. The HCI 10 cm. dia or Strap shall be of approved heavy quality and with or without venture as required and nothing extra shall be paid for this.

2. URINAL BASING:-These shall be of plan back or corner wall type lipped in they shall be of white glazed of earth unaware of size as specified. The urinals shall be of one piece construction. Each urinal shall be provided with not less than two fixing holes of a minimum dia of 6.4 mm. on each on side. Each urinal shall have an integral flushing rim of suitable type and inlet or supply horn for connecting the flush pipe.

The flushing rim and inlet shall be of the self draining type. It shall have a weep hole at the flushing inlet of the urinal at the bottom of the urinal. Outlet horn for connecting of an outlet pipe shall be provided. The exterior of the outlet shall not be glazed and the surface shall be provided with groves at right angles to the axis of the outlet to facilitate fixing to the outlet pipe. The inside surface of the urinal shall be uniform and smooth throughout to ensure efficient flushing. The bottom of pan shall have sufficient slope from the front the outlet such then there is efficient drawing of the urinal.

3. URINAL SQUATTING PLATES:-The plates shall be of white glazed fireclay with integral flushing rim, with front or side inlet. There shall be 4 inch. (10 cm.) dia white glazed fireclay channel with stop and outlet pieces in front.

4. WASH BASING:-The wash hand basin shall be white glazed earthenware of Hindustan Twofold make of 1st quality in the size as specified wash hand basins shall be provided with 1 .27 cm. size c.p. pillar cock of approved make. The basin shall be supported on a pair of R.S. or C.I bracket embedded in the wall in 1:3 cement coarse sand mortar Brackets shall be painted with white enamel paint (one primer+2 coats of enamel). Each basin shall be provided with a nonferrous 1 1/4 dia was to fitting. Every basin shall have an integral soap holder recess or recesses which shall fully drain into the bowl. A 1 1/4" dia rubber plug shall also be fixed to wash basin with the help C.P. brass chain. All the waste fittings shall be chromium plated. The chromium plating shall be of grade B type confirming is IS 1068-1958 or revised. The rate shall include with supplying and fixing or 1 1/4" dia G.I. pipe (A class) up to required length. The basin has to embed in the wall for which no extra shall be paid to the contractor.

5. FIRE CLAYSING:-The sink shall before one piece construction including a combined overflow. The floor of the sink shall gently slope towards the outlet. The outlet shall in all cases be suitable for waste fittings having flanges of 86 mm. (3-3/4") dia and the waste hole shall have a minimum dia meter of 64 m. at the bottom water tight waste rubber plug of suitable dia. The fittings of waste plug shall be of chromium plated. The sink shall be supported of R.C. or C.I. brackets imbedded in Brick work with 1:3 cement and coarse sand mortar. The C.P. brass trap and union shall be connected to 40 mm. (1.5") G.I. pipe. It shall be suitable bent towards the wall and shall discharge into open drain or gully trap or floor trap.

6. SHISHAM WOOD DRAINAGE BOARD:-The drainage board shall be manufactured from well seasoned Shisham wood. It has a fluted surface with smooth finish capable of being cleaned. The board shall be one piece. To prevent water running back 66 mm. deep groves shall be cut on the underside parallel to a 1/2" away back from the drip. It shall be provided with 1/2" thick 65 to 75 mm height back and sides skating with edges rounded off end of the board shall rest on the sink at the other supported on M.S. or C.I. Bracket given 2 coats a of white sink embedded and fixed in position by means of dead-on plug and screws.

7. MOSAIC SINKS SPECIFICATION:-Same as above but for white or color mosaic sink duly polished.

8. WHITE GLAZED EARTHWARE FOOTREST:-Two nos. white glazed rectangular or other standard pattern footrests shall be fixed over the pan with 1:3 cement and coarse sand mortar as directed by Engineer incharge.

9. MIRRORS:-The mirror shall be of superior quality with edges both. It shall be free from flaws, specks and bubbles. Its thickness shall not be less than 1/3". It shall be uniformly silver plan at the back free all defects, which shall have uniform covering paint of red led. The mirror shall be mounted on 1/4" thick plain asbestos sheet ground and be fized in position by means of 4 No. C.P. brass screws and C.P. brass or rubber washer and wooden plugs firmly embedded in wall.

10. H.C.I. SOIL OF VENT PIPE:-The soil waste, vent and snits phonate double dipped fittings shall confirm to B. S. 416-1957 of latest edition for heavy grade C.I. pipe. The pipe shall have spigot and socked with bead on spigot and pipe and fittings shall be true to shape smooth and with inner and outlet surface concentric. They shall be round and nicely cast and shall be free from crack, lap, Pinholes and other imperfections. The pipe shall be 1-8 meter (6.0) in length unless a shorter length is required at junction. All the specials such as tees junctions, horn bent, collars etc. shall also be of approved heavy quality with or without access door, which shall be made leek proof by providing 3 mm. thick rubber washer and white lead between the pipe and door cover. The pipes and fittings shall be fixed with sockets facing upwards and the end of the upper pipe shall be properly fitted so that there is a uniform annual space for filling with jointing materials. The joints shall be first filled with spun yard well packed leaving a space of 1" depth for filling the lead. The lead may be filled in the joint by proper leading signs of it they are not available, then by first roping a tope of hump yarn around the pipe and covering it with wet clay and taking out the rope leaving a hole for pouring the lead. The lead shall be supplied by the contractor at his own cost for which no extra shall be paid to him. The lead shall be rendered through flues and each joint filled with molten lead in one continuous pouring. Before caulking, the projecting and surplus lead be removed by flat chisel and then joint caulked with proper caulking tool and using ha hammer of 1.0 to 1.3 kgm. weight in such a manner so as to make the top smoothest and flush with the socket and joints perfectly round and made leak proof. The pipes shall be laid o properly rammed base to a slope of 1 in 50 when these are required to be placed underground. The pipe and specials along the well shall be kept in position by M.S. holder bat clamps fixed in the wall in 1 cement and 3 coarse sand mortar. The clamps shall be provided on all the sockets of pipe and fittings.

The raised portions of the pipes above parapets of roof shall be supported by iron stays where necessary. The finished line shall be truly vertical. The clearance the surface of the wall shall not be less than 4 cm. (1 1/2") where otherwise encased in R.C.C. or masonry.

Before laying, all the pipes and specials shall be painted with bitumen and exposed portions with special metal promerl point painted already. Afterwards all the exposed portions shall be finally finished with two coats of high grade black enamel paint of approved quality.

11. C.P. BRASS TOWEL RAIL:-The rail shall be of C.P. Brass with 2 nos. c.p. brackets. It shall be fixed by means of c.p. Brass screws to wooden plus firmly embedded in the well.

12. H.C.I. FLOOR TRAP:-These shall be of H.C.I. approved heavy quality of self cleaning design in 10 cm. (4") diameter inlet 5 cm. (2") diameter outlet and with screwed down or hinged C.I. grating. The floor trap shall be confirmed 15 I.S.I. specifications for water seal also. The floor trap shall be confirmed 15 I.S.I. specifications for water seal also. The floor trap shall jointed with C.I. pipe as mentioned above for H.C.I. soil or vent pipe. The trap shall be fixed with 1:2:4 cement concrete 8 cm. (3") thick in bed and around.

The joining with the drain pipe shall be done with lead caulked joint. The trap shall be painted with bitumen before fixing in position. It not already painted.

13. S.W. PIPES:-All the pipes shall be laid to level and gradient shown in the plan and as directed by the Engineer incharge. The trenches shall be dug to their required level and gradient and them lime concrete in 45 cm. width (100 parts 4 cm. 1st class or over burnt brick ballast 16 parts of white lime and 32 parts surkhi by volume) shall be laid and properly rammed to finished thickness of 15 cm. All the pipe shall be covered with lime concrete upto half round and all sockets shall be fully covered upto the thickness of 10 cm. in height. The pipe shall then be laid with great care to prevent any sand etc. from entering into the pipe. Each length of the pipe shall be laid truly in straight line without vertical or horizontal undulation.

All the pipe, heads, gully traps and master traps shall be best self glazed variety of perfect pottery or martin burnt make these shall be of first quality (not commercial) true to shape inside and outside smooth and giving a ringing sound well struck.

The pipe shall be sockets up to gradient and the body of the pipe must be for its entire length resting on lime concretes, bed and at places must be excavated in the concrete to receive the sockets of the popes. In joints, a rope of spun yarn socked in neat cement shall be placed around the pipe in such a way that the ends are left on opposite side of the pipe and them inserted in the sockets by means of caulking tool and cement mortar 1:1 shall be filled in as shown below.

Description of pipe Depth of socket Depth of yarn Depth of cement morts

1-7/8" 3/4" 1-1/8"

The spun yarn is provided to keep the spigot and socket and concentric and to prevent cement mortar form penetrating into the pipes. The cement mortar shall be lightly moistened and on no account shall be soft or slurry and shall be carefully inserted by hand into the joints. The joints shall be finished by punching and caulking and adding more mortar till the joint is filled completely. The joint shall be finished on neatly outside the sockets at an angle of 45.

Stone ware pipes used for sewer shall be subjected to a test pressure of 1.5 mortar (5") head of water at the highest point of the section under test. Where leakage will be visible, the defective portion shall have to be re-laid.

14. S.W. MASTER TRAPS:-The trap shall be best Indian make approved quality complete and shall confirm to relevant I.S. specification. The master trap shall be embedded in lime and shall concrete as per the direction of the Engineer incharge.

15. GLASS SHELF:-Glass shelf with C.P. Brass brackets and guard rail supporting on brackets shall be fixed to wooden cleats with P. Brass screws above wash basin. The shelf shall be of quality 1/4" thick free flaws, specks and bubbles.

16. MASNORY MANHOLE AND INSPECTION CHAMBERS:-The size as given in the schedule shall be clear size between two opposite walls when inside plastered. The masonry shall be of first class in specified mortar. The walls shall be of thickness as specified. The slab of the manhole to be 4-1/2" thick R.C.C. slab 1:2: 4 cement approved coarse sand and 3/4" graded gurkul stone grit. For cement of slab shall comprise of 10 mm. dia. For steel bars 4" centre both ways. The cost iron double channel cons. should weight not less than 50 kg and should be fixed with R.C.C. cover suitably. The depth of the manhole may very at different places which shall be supposed to be covered in the overall standard rate. The inside wall shall be given 1/2" thick plaster with 1:3 cement and coarse sand and neat cement rubbed. The base concrete shall be 6" deep consisting 100:16:32 of 4 cm. gauge first class brick ballast. White lime and surkhi. The channels inside the manhole to be made, in 1:2:4 plain cement concrete. The tendered rate shall include cost of material, labour T & P etc. required for proper completion of work.

17. S.W. GULLY TRAP:-These shall be of grazed ware (po type (s) type according to the depth of connection sewer conforming to I.S. 651-1955. These shall be laid over 45 cm. x 30 cm. base of 18 cm. thick lime concrete having 1st class brick ballast white lime and surkhi mixed in proportion of 100:16:32.

The brick work in chamber over it shall be done in 1:6 cement and approved fine sand of finesses modules 1.25 mortar and shall be plastered and finished and rounded with 1:3 cement and coarse sand mortar. The top shall be finished with the existing floor in the locality, if no flooring exists then with 1:2:4 cement concrete finished with neat fixing of C.I. grading of 15 cm. x 15 cm.

18. H.C.I. GULLY TRAP:-These shall be superior quality and shall conform to relevant I.S. specification. Other items required for proper completion of work shall be as detailed against the specifications for the items of S.W. gully Trap.

19. G.I. PIPES AND G.I. FITTINGS:-The pipes shall be galvanized mild steel welded pipes and seamless screwed and socketed tubes conforming to the requirements of I.S. 1239-1858 for medium grade ( jindal, jain make). These shall be of the diameter specified in description of the item. The sockets shall be designated for the respective nominal course of the pipe for which they are intended.

The pipe and sockets shall be cleanly finished well galvanized in and out and free from cracks, surface, floors, lamination and other defects. All screw threads shall be clean well cut. The ends shall be out clearly and square with arms of the tube. The details of pipe and sockets regarding nominal bore thickness and weight are as given below.

Nominal bore Thickness of pipe Weight of pipe Minimum length of sockets.

1/2" (15 cm.) 2.65 mm. 1.28 kgm/m. 43 mm.

3/4" (20 cm. 2.65 mm. 1.59 kgm/m. 36 mm.

8% variation in weight and thickness of pipe on other side shall be permissible.

These shall be of approved heavy quality and fixed in position with white lead cotton thread so as to make the joint water tight.

The fittings shall be of cast iron or mild steel tubes and shall be designed for the respective bores of the pipe for which they are intended. Axis of the fittings shall be in the same line in which they are to be fixed. If any difference in axis is found in fittings, these may be rejected.

The pipe shall be cleaned and cleaned of all foreign matter before laid. In jointing the pipes, the inside of the sockets and the screwed and of the pipe shall be oiled and rubbed over with white laid and a few turns of spun yarn worked rounded the screwed and of the pipe. The end shall than be screwed in the sockets etc. with pipe wrench. Care should be taken that all pipes are kept at all times free from dust and dirt during fixing. Any threads exposed after jointing shall be painted with approved anticorrosive paint to prevent corrosion.

For internal work pipes and fittings shall runny of the surface of the walls and ceiling. The fixing shall be done by means of standard pattern holder bat clamps. Keeping the pipe about 15 cm. (1/2") clear from the wall. The pipes shall not ordinarily be curried in walls or solid floors. Where unavoidable pipes may be buried for short distances provided adequate protection in given against damage and where so required joints are not buried where directed by Engineer incharge a M.S. tube sleeve be fixed at a place a piece is passing through a wall or floor for reception of pipe and to allow freedom for expansion and contraction and other movements. The pipe should not come in contact with white lime mortar or concrete as the pipe is affected by lime.

All pipe shall be fixed truly vertical and horizontal unless unavoidable the pipe shall be fixed to wall with standard pattern holder bat clamps of required shape and size, clamps being imbedded in 1:3 cement and coarse sand mortar.

For external work, the galvanized iron pipes and fittings shall be laid in 1.0 ft. wide and 2.0 ft. deep trenches. At joints, the trench width shall be increased where necessary the work of excavation and refilling shall be done true to line and radiant in accordance with general specifications for each work in trenches.

The pipes shall be painted with two coats of anticorrosive bitumen of approved quality. The pipe shall be laid on layer of 3" sand filled upto 6" above pipes. The remaining portion of the trench shall be filled with excavated earth and the surplus earth disposed off as directed.

The laying and jointing the pipes and fittings shall be inspected under working condition of pressure and flow. Any joint found leaking shall be redone and all leaking pipes replaced without extra cost.

The length shall be measured in running meters correct to a 1 cm. for the finished work which shall include G.I. pipe and G.I. fittings such as bends, tees, elbows, reducers, crosses plugs, sockets nipples and nuts but excluding brass or gun metal taps (cocks) valves, lead connection pipes and shower rose.

20. BRASS FITTINGS:-The brass or gun metal fittings shall be of heavy quality and approved pattern with screws or flanged ends as specified. The fittings shall comply in all respect with the Indian standard specification No. I.S.778-1957. the standard size of brass fittings shall be designated by the nominal bore of the pipe outlet to which the fittings are attached. A sample of each kind of fittings shall be got approved from the Engineer incharge and all supplies made according to the approved samples.

All cost fittings shall be sound free laps, below holes and both internal and external surface shall be clean smooth and free from sand etc. burring, plugging or patching of the casting shall not be permissible. The bodies, bonnets, spindles and other parts shall be truly machined so that when assembled the part shall be axial parallel and cylindrical with surface smoothly finished.

The fittings shall be fitted in pipe line in a workman like manner. The joint between fittings and pipe shall be made leak proof.

All that fittings shall be polished bright when fitted. The minimum weight of the fittings should be as given below as per I.S. specification NO. 773-1957.

**Size Bib cock Stop cock Well value or screwed full way value.**

1/2" 15 mm. 400 gm. 400 gm. 0.567 kg.

3/4" 20 mm. 750 gm. 750 gm. 0.680 kg.

1" 25 mm. 750 gm. 750 gm. 1.007 kg.

11/4" 32 mm. 750 gm. 750 gm. 1.599 kg.

1.5" 40 mm. 750 gm. 750 gm. 2.268 kg.

2" 50 mm. 750 gm. 750 gm. 3.232 kg.

The chromium plating of the chromium plated brass fittings shall be or grade B conforming to I.S. code No. 7068-1958.

MEASUREMENT:-The fittings shall be measured in Nos.

20. P.V.C. PIPES AND Fittings-The P.V.C. pipe for internal supply work shall conform to relevant I.S.I. specification. The P.V.C. pipe and fittings shall be of either of the following makes only.

1. M/s Garware Plastics Ltd, Bombay

2. M/s Union Carbide.

3. M/s Imperial Chemical Industries (I.C.I.)

4. M/s Calico Chemical and Plastics Pvt. Ltd. Bombay.

The pipe fittings e.g. sockets, bends, elbows, plugs, unions, tees, reducers etc. required for pipe work shall also be of the same manufacture as that of the pipe. The adhesive required for the pipe work shall also be arranged from the same manufacturer.

The P.V.C. pipe shall be concealed in the wall and the wall shall be finished with the original specification of the plaster for which nothing extra shall be payable. For external work the P.V.C. pipe and fittings shall be laid in 1 ft. wide and 2 ft deep trenches. The work General specifications for earth work in trenches. The pipe shall be laid on a layer of 3" sand filled upto 6" above pipe. The remaining portion of trench shall be filled with excavated earth.

22. P.V.C. BIB COCKS AND STOP COCKS:-These shall be arranged only from the approved manufacturers enlisted in the specification for P.V.C. pipes. These will be fixed as per relevant I.S. specification.

**Haridwar Development Authority**

**GENERAL CONDITIONS OF CONTRACT:**

(1) The contract, means the documents forming the tender and acceptance there of and the formal agreement executed between the vice chairman Haridwar Development Authority, Haridwar and the contractor, together with the documents referred to therein, including these conditions, the specification, designs, drawing and instruction issued from time to time the Engineer incharge and all these documents taken to together shall be deemed to form one contract and shall be complementary to another.

(2) In the contract the following expressions shall, unless the context otherwise required, have the meanings herewith respectively assigned to them:-

(a) The work or ‘Work ‘ shall, unless there be something either in the subject or content repugnant to such construction, shall be construed and taken to mean the works by or by virtue of the contract contracted to be executed, whether temporary or permanent, and whether original, altered substituted or additional.

(b) The site shall mean land and/or places, on into or through which work is to be executed, under the contract, or any adjacent land, path or street through which work is to be executed under the contract, or any adjacent land path or street, which may be allotted or used for the purpose of carrying out contract.

(c) The contractor shall mean the individual or firm or company, whether incorporated or not, undertaking the work and shall include the legal personal representatives of such individuals or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual or firm or company.

(d) The vice chairman shall mean the vice chairman Haridwar Development Authority, Haridwar is successor’s assignees.

(e) The Engineer incharge shall mean the Executive Engineer or the Assistant Engineer who shall supervise and be in charge or the work

(f) The Executive Engineer shall mean the Executive Engineer, Haridwar Development Authority, Haridwar incharge of the work.

(g) The Assistant Engineer shall mean the Assistant Engineer, Haridwar Development Authority, Haridwar & incharge of the work.

(h) The 'Estimated' Cost shall mean the cost of the work or works as estimated on the basis of the tendered rate or rates agreed to between the parties to the contract.

(i) The Development shall mean the Haridwar Development Authority, Haridwar works importing the singular number include the plural number and vice versa.

**SECURITY DEPOSIT:**

Clause 1-The contractor shall permit Government at the time of making any payment to him for work done under the contract to deduct 10 percent of all money as payable on account of security deposit until such deductions as along with the sum already deposited as earnest money to be adjusted in the last deduction bill amount.

(i) In the case of works estimated to cost Rs. 1,00,000/- to 10% of the estimated cost.

(ii) In the case of works estimated to cost more than Rs. 1,00,000/- and upto Rs. 2,00.000/- to 10% on the first Rs. 1,00,000 and 7 1/2% on the balance and

(iii) In the case of works estimated to cost more than Rs. 2,00,000/- to 10% on the first Rs. 1,00,000/- 7 % on the next Rs. 10,000/- and 5% on the balance unless he is they are exempted from payment of security deposit, in individual cases of has/have deposited the amount of the security at the rates mentioned above in cash or in the form of Government Securities of Fixed Deposit Receipts of Guarantee Bonds of any Schedules Bank of India.

If the security is furnished in the form of guarantee bonds, the contractor undertakes to renew to furnish fresh guarantee to cover the period of the extensions, If any and failure on his part to do so shall be construed as a breach of this contract and, without prejudice to any other remedy provided in these conditions, the Engineer incharge shall have the right to withhold payment and deduct and entire security amount from any moneys becoming payable to the contractor.

The amount of the security money shall, if not withheld on account of breach of contract, be refunded after six months of the date of the completion of the work or after payment to the final bill whichever is later.

Provided that in case the payment of the final bill is not made within six months of the completion of the work, 75% of the amount of the security money can be refunded with the prior approval of the Vice Chairman.

All compensation or other sums of money payable by the contractor to authority under the terms of his contract be deducted from, or paid by the sale of a sufficient part of his security deposit, or from the interest arising there from or from any sums which may be due or may become due to the contractor by Authority or any account whatsoever, and the event of his security deposit being reduced by reason of any such deduction or sale as aforesaid the contractor shall within ten days thereafter make good in cash or Government Securities, endorsed as aforesaid any sum or sums which may have been deducted, from or raised by sale of his security deposit or any part thereof.

**COMPENSATION FOR DELAY**

CLAUSE 2- The time allowed for carrying out the work as entered in the tender shall be strictly observed by the contractor and shall be checked from date on which the order to commence work is given to the contractor. The work shall throughout the stipulated period of the contract be proceeded with all due diligences (time being deemed to be the essence of the contract on the part of contractor) and the contractor shall pay as compensation an amount equal to one percent or such smaller amount as the Executive Engineer or behalf of the Authority (whose decision in writing shall be final) may decide on the amount of the estimated cost of the whole work shown by the tender for every day that the work remains uncommented of unfinished after the proper dates. And further to ensure good progress during the execution of the work, the contractor shall be bound, in all cases in which the time allowed for any work exceed one month to copulate one fourth the value of the whole of the work within......................... months from the date of written order to commence the work, one half the value of the work within.......................months form such date and three fourth as the value of the work within ............................... month from such date. In the event of the contractor failing to comply with this condition he shall be liable to pay as compensation an amount equal to one percent or such smaller amount as the executive Engineer on behalf of the authority (whose decision in writing shall be final) may decide on the said estimated cost of the whole work for every day that the due quantity of work remains incomplete. Provided that before taking action under this clause the Executive Engineer on behalf of the authority shall give a notice of 15 days in writing of the contractor and provided always that the entire amount of compensation to be paid under the provision of this clause shall not exceed the maximum amount of security in clause 1 \*\*

**Action when whole security deposit is forfeited**,

**Clause 3-** (I)The Engineer incharge on behalf of the Authority shall have the power without prejudice to have right against the contractor in any respect of any delay or inferior workmanship or otherwise or to any claims for claims for damage in respect of any breaches of the contract and without prejudice to any rights or remedies under any of the provisions of this contract or otherwise and whether the date for completion has or not elapsed by notice in writing, to determine the contract in any of the following cases.

(a) If the contractor having been given by the Engineer incharge a notice in writing to rectify, reconstruct or replace any defective work or any work damaged by any reason whatsoever or that the work is being performed in any inefficient or otherwise improper or un workman like manner shall omit to comply with requirement or such notice for a period of seven days of such notice or if the contractor shall delay or suspend the execution of the work so that either in the judgment of the Engineer incharge (which shall be final and binding) he will be unable to secure completion of the work by the date of completion or he has already failed to complete the work by that date.

\*\*To be stuck off in all cases when the time allowed for completion does not exceed one month.

(b) If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be bound up or in circumstances shall arise which entire the court or creditor a receiver or manager or which entire the court to make a winding up order.

(c) If the contractor commits breach of any of the items and condition of this contract other than those mentioned in sub-clause (a) above.

(d) If the contractor commits any acts mentioned in clause 21 here or.

2. When the contractor has made himself liable for action under any of the cases, aforesaid, the Executive Engineer on behalf of the Authority shall have powers to adopt any one or more or following courses as he may deem best situated the interest of Authority.

(i) To determine or rescind the contract as aforesaid (which termination or rescission notice in witting to the contractor under the hand of the Engineer incharge or communicated through the Assistant Engineer, shall be concussive evidence.) Upon such determination or rescission the deposit of the contractor shall be liable to be forfeited and shall be absolutely at the disposal of the Authority.

(ii) To employ labour paid by the Authority and to supply material to carry out the works or any part of the work debting the contractor with the cost of the labour and the price of the material (of the amount of which cost and price the certificate under the hand of the Engineer incharge shall be final conclusive against the contractor) and crediting him with the value of the work done in all respects in the same manner and at the same rates as if it had been carried out by the contractor, under the terms of his contract. The certificate of the Engineer incharge as to the value of the work done shall be final and conclusive against the contractor provided always that action under this sub clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the Authority are less than amount payable to the contractor at his agreement rates, the difference shall not be paid to the contractor.

(iii) After giving notice to the contractor to measure up the work of the contractor and to take such part thereof as shall be unexecuted out his hands and to give it to another contractor to complete in which case any expenses which have been paid to the original contractor if the whole work had been executed by him (of the amount of which excess the certificate in writing of the Engineer incharge shall be final and conclusive) shall be borne and paid by the original contractor and may be deducted from any money due to him by the Authority under this contract or on any other account whatsoever or from his security deposit or the proceeds of sales there of or a sufficient art there of as the case may be.

(3) In the event of any or more or the courses mentioned in sub-clause (2) above being adopted by the Engineer incharge the contractor shall have no claim to compensation for ant loss sustained by him by reason of his having purchased any material or entered into any engagements or made any advances account with a view to the execution of the work or the performance of contract. And in case action in taken under any of the provisions aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work therefore actually performed under this contract unless and until the Engineer incharge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

**Certificate remains liable to pay compensation if action not taken under clause -3**

**Power to take possession of, required removal of or sell contractor's plant.**

**Clause 4-** In any case in which any of the powers conferred upon the Engineer incharge by clause 3 hereof shall have become exercisable and the same are not exercised, the non exercise thereof shall not constitute a waiver of any the conditions hereof, and such power shall not withstanding be exercisable in the event of any future case of default by the contractor for which by any clause or clauses hereof he is declared liable to pay compensation & liability of the contractor for past & future compensation shall remain unaffected in the event of the Engineer incharge putting in force all or any of the power versed in him under the preceding clause, the Engineer incharge may if he so desires, take possession of all or any tools, plant, material or /and stores, in or upon the works or the site thereof or belonging to the contractor or procured by him and intended to be used for the execution of the work of any part thereof, paying or allowing for the same in account at the contract rates or in the case of these not being application, at current market rates, to be certified by the Engineer incharge whose certificate thereof shall be final, otherwise the Engineer incharge may be notice in writing to the contractor or his clerk of the work, foreman or other authorized agent required him to remove such tools plant, material or stores from the premises (within a time to be specified in such notice); and in the event of the contractor failing to comply with any such requisition, the Engineer incharge may remove at the contractor's expense or sell them auction or private sale on the account of the contractor and at his risk in all respects and the certificate of the Engineer incharge as to the expense of any such removal and the amount of the proceeds and expense of any sale shall be final and conclusive against the contractor.

**Extension of time**

**Clause-5**- If the contractor shall desire an extension of the time for completion of the work on the grounds of this having been unavoidably hindered in its execution, or any other ground, he shall apply in writing to the Assistant Engineer and a copy thereof is sent to the Executive Engineer within 30 days of the date of the hindrance on account of which he desires such extension as aforesaid, and the Assistant Engineer shall if in his opinion reasonable grounds be shown there for, recommend such extension of time if any, as may, in his opining is necessary or proper to Executive Engineer who will authorize such extension of time, if any, as may, in his opinion, be necessary or proper, and his decision shall be final. Provided always that if the contractor continues to perform the work beyond the date completion or the extended date, as the case may be without obtaining approval for extension as aforesaid, the right of the Authority to claim compensation under clause 3 shall not be deemed to have waived.

**Final certificate**

**Clause 6**- On completion of the work the contractor shall send a registered notice to the  
Engineer incharge giving the date of completion and sending a copy of it to the Executive Engineer and shall request the Assistant Engineer to give him a certificate of completion but no such certificate shall be given nor shall the work be considered to be complete until the contractor shall have removed form the site on which the work shall be executed, all scaffolding, surplus materials and rubbish, and cleared off the dirt from all wood work, door, windows, walls, floors or other parts of any building in, upon or about which the work is to be executed or of which he may have had possession for the purpose of the executive thereof and he has filled up the pits. If the contractor shall fail to comply with the requirements of this clause as to removal of scaffolding, surplus materials and rubbish and cleaning off dirt and filling of pits on or before the date fixed for completion of the work, the Engineer incharge may at the expense of the contractor remove such scaffolding, surplus materials and the rubbish and dispose of the same as he thinks fit, and clean off such dirt and fill the pits as aforesaid the contractor shall forthwith pay the amount of all expenses so incurred and shall have no claim in respect of any such Scaffolding or surplus material as aforesaid except for any sum actually relaxed by the sale thereof. On completion the work shall be measured by the Assistant Engineer himself or through his subordinates, whose measurement shall be binding and conclusive against the contractor. Provided that if subsequent to the taking of measurements by the sub ordinate as aforesaid the Assistant Engineer has reason to believe that the measurements taken by his sub ordinates are not correct, the Assistant Engineer shall have the power to cancel the measurements already taken by his subordinates and acknowledged by the contractor to take measurements again after giving reasonable notice to the contractor and such re measurements shall be binding on the contractor.

Within Ten/Thirty days of the receipt of the notice the Engineer incharge shall inspect the work and if there is visible no defect on the face to the work, shall give the contractor a certificate of completion. It the Assistant Engineer finds that the work has been fully completed it shall be mentioned in the certificate so granted. If no the other hand it is found that there are certain visional defects to be removed, the certificate to be granted by Assistant Engineer shall specifically mention the details of the visible defects along with the intimate of the cost for removing these defects. The final certificate of completion of work shall be given after the visible defects pointed out above have been removed.

**Clause 7**- No payments shall be made for works estimated to cost less than rupees one thousand till after the whole of the works shall have been completed and a certificate of completion given. But in the case of works estimated to cost more than rupees one thousand, the contractor shall, on submitting the bill thereof, be entitled to receive a monthly payment proportionate to the part thereof then approved and passed by the Engineer incharge, whose certificate of such approval and passing of the sum so payable shall be final and conclusive against the contractor. but all such intermediate payments shall be regarded as payments by way of advance against the final payment only not as payments for works actually done and completed and shall not preclude the requiring of bad, unsound and imperfect of unskilled work to be removed and taken away and reconstructed, rejected or it shall not be considered as an admission of the due performance of the contract of part thereof in any respect or the accruing of any claim, not shall in conclude, determine or affect in any way the powers of the Engineer incharge under these condition or any of them as to the final settlement and adjustment of the account or otherwise or in other way or affect the contract.

The final bill shall be submitted by the contractor within one month of the date fixed for completion of the work or of the date of the certificate of completion furnished by the Assistant Engineer and payment shall be made within three months of the submission of the such bills, if the amount of the contract plus that of the additional items is upto Rs.2 lacs and six months if the same exceeds Rs. 2 lacs. If there shall be any dispute about any items of the work then the undisputed or items only shall be paid within the said period of three months or six months as the case may be. The contractor shall submit a list of the disputed items within 30 days from the disallowance thereof and if he fails to do so, this claim shall be deemed to have been fully waived and absolutely extinguished.

**Clause 8**- Bill shall be submitted by the contractor each month on or before the date fixed by the Engineer incharge for all work executed in the previous month and the Engineer incharge shall take or cause to be taken the request measurement for the purpose of having the same verified, and as admissible, adjusted, if possible, before the expiry of ten days from the presentation of the bill. If the contractor does not submit the bill within the time fixed as aforesaid, the Engineer incharge may get the said work measurement up in the presence of the contractor, whose countersignature to the measurement list will be sufficient warrant, and the Engineer incharge may prepare a bill from such list which shall be binding on the contractor in all respects.

**Contractor to be given a week to file objection to the measurements recorded by the Authority.**

**Clause 9-** Before taking any measurement of any work as has referred in clause 6.7 and 8 thereof, the Engineer incharge or subordinate deputed by him shall give reasonable notice to the contractor. If the contractor fails to attend at the time of measurements after such notice or fails to countersign or to record the difference within a week from the date of measurement in the manner required by the Engineer incharge then and in any such event, the measurement taken by the Engineer incharge or by the subordinate deputed by him as the case may be shall notwithstanding the provision in clause 8 be final and binding on the contractor and contractor shall have no right to stipulate the same.

**Bills to be on printed forms.**

**Clause 10-** The contractor shall submit all bill on the period forms to be had on application at the office of the Engineer incharge and the charge in the bill shall always be entered at the rates specified in the tender or in the case of any extra ordered in pursuance of these conditions and not mentioned of provided in the tender, at the rates hereinafter provided for such work.

**Stores supplied by Authority.**

**Clause 11-** If the specification or estimate of the work provides for the use of any special description of materials to be supplied from the Engineer incharge store, or if it is required that the contractor shall use certain stores to be provided by the Engineer incharge (such material and stores and the prices to be thereof as hereinafter mentioned being so far as practicable for convenience of the contractor by not so as in any way to contract the meaning or effect of his contract, specified in the Schedule or memorandum hereto annexed) the contractor shall be supplied with such material and stores as are required from time to time to be used by him for the purpose of the contract only, and the value of the full quantity of materials and stores so supplied at the rates specified in the said schedule or memorandum may be set off or deducted from any sums then due, or thereafter to become due, to the contractor under the contractor otherwise, or against, or from the security deposit, or the proceeds of sale thereof: If the same is held in Government securities, the same or a sufficient portion there for being in this case sold for the purpose. It shall be the responsibility of the contractor to ascertain from time to time from the Engineer incharge about the position of availability of the materials as aforementioned and ant delay on the part of the Engineer incharge to arrange supplies of the same shall not entitle the contractor to any compensation but in the event of all such delays the contractor shall be granted reasonable extension of time. All materials supplied to the contractor are the property of the contractor, but shall not on any account be removed from the site of the work, except with the written permission of the Engineer incharge or under his orders and shall at all times be open to inspection by the Engineer incharge. Any such materials unused and in perfectly good condition at the time of the completion or determination of the contract may, by special arrangement be taken over by Government at the prevailing market rates, if required for use on other works in progress provided that the price allowed, shall not exceed the amount charged to the contractor.

**Work to be execute in accordance with specifications, drawings, orders etc.**

**Clause 12-** The contractor shall execute the whole and every part of the work in the most substantial and work-man like manner and as regards material and otherwise in every respect instinct accordance with the specifications. The contractor shall also conform exactly fully faithfully to the designs, drawing and instructions in writing relating to the work signed by the Engineer incharge and lodged in his office, and to which the contractor shall be entitled to have access to such office for the purpose of inspecting during office hours, and the contractor shall be furnished free of charge one copy of the specification and of all such designs, drawings and instruction are not included in the detailed P.W.D. specifications for buildings and roads enforced from time to time or any other printed publications or general specifications referred to elsewhere in the contract.

**Alterations in specifications and designs. Do not invalidate contract. Extension of time in consequence of after actions.**

**Clause 13-** The Engineer incharge shall have power to make any alteration in, commission from, additions to as substitutions for the specifications drawing, designs and instruction that may appear to him necessary during the progress of the work and the contractor shall carry out the work in accordance with any instructions which may be given to him in writing signed by the Engineer incharge, and such alterations, commission, additions or substitutions shall not invalidate the contract and any altered, addition or substitute work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same condition in all respects on which he agreed to do the main work. The time for the completion of the work shall be extended in the proportion that the altered, additional or substituted work bears to the original contract work, and the certificate of the Engineer incharge shall be conclusive as to such proportion, the rates for such additional, after or substituted work under this clause shall be worked out in accordance with the following provisions in their respective order:-

(i) If the rates for the additional, altered or substituted work are specified in the contract for the work, the contractor in bound to carry out the additional, altered or substituted work at the same rates as are specified in the contract for the work.

(ii) If the altered, additional or substituted work includes any work for which no rates are specified in the contract for the work or cannot be derived from the similar class of work in the contract then such work shall be carried out at the rates entered in the schedule or Rates for Meerut District minus/plus percentage which the total tendered amount bears to the estimated cost of the entire work put to tender.

(iii) If the rates for the additional, altered or substituted work are not specifically provided in the contract for the work, the rates will be derived from rates for similar class of the work as are specified in the contract for the work.

(iv) In the rates for the altered, additional or substituted work cannot be determined in the manner specified in sub-clauses (i)to (iii) above, then the rates for such work shall be worked out on the basis of the schedule of rates of district specified above minus/plus the percentage which the total tendered amount bears to the estimated cost of the entire work7 put to tender provided always that if the rate for a particular part of the item in not in the schedule or Rates, the rate for such part or parts will be determined by the Executive Engineer behalf of the Authority on the basis of the prevailing market rates when the work was done.

(v) If the rates for the altered, additional or substituted work cannot be determined in the manner specified in sub-clauses (i) to (iv) above, then the contractor shall within 7 days of the date of receipt of order to carry out the work, inform the Executive Engineer of the rates which it is his intention to charge for such class of work, supported by analysis of rate of rates claimed and the Executive Engineer shall determine the rate of rates on the basin of the prevailing market rates and pay the contractor accordingly. However, the executive Engineer by notice in writing will be at liberty to cancel his order to carry out such class of work and arrange to carry it out in such manner as he may consider advisable. But under no circumstances the contractor shall suspend the work on the plea of non settlement or rates of items failing under these clauses.

The rates under sub-clause (i), and (iii) shall be worked by the Executive engineer on  
 behalf of the Authority.

**For compensation and alteration in or registration of work to be carried out.**

**Clause 14**- If at any time after the commencement of the work the administrator shall for reason whatsoever not require the whole thereof in the tender to be carried out the   
Engineer incharge shall give notice in writing of the fact to the contractor who shall have no claim to any payment or compensation whatsoever on account of any profit or advantage, which he might have derived from the execution of the work in full but which he did not derive in consequence of the full amount of the work not having been carried out, neither shall he have any claim for compensation by reason of any alteration having been made in the original specifications, designs and instructions which shall involve any curtailment of the work as originally contemplated nor shall he have any claim to compensation by reason of his having purchase or procured material with a view to the execution of the work of the performance of the contract But the Engineer incharge shall have the option either to take over material at site, if a approved quality and not in excess of the requirements of the work and to pay to the contractor the actual cost thereof (of the amount of which cost, a certificate by the Engineer incharge shall be binding of the contractor). In the event of this option not being exercised, the contractor may submit to the Engineer incharge, within one month of the date of the order closing down the work a detailed statement of the loss that he estimates he will sustain by remaining, selling, or other wise disposing of the material. The estimate will be forwarded to the Administrator who will decide what sum, if any should as a matter of grace be paid to the contractor to compensate him for the suffered by him, and the decision of Administrator shall be final and binding on the contractor.

**Action and compensation payable in case of bad work.**

**Clause 15**- If it shall appear to the Engineer incharge or his subordinate in charge of the work, that any work has been executed unsound, imperfect or unskillful workmanship or with material of any inferior description or that material or articles provided by him for the execution of the work are unsound or a quality inferior to that contracted for or otherwise not in accordance with the contract, the contractor shall on demand in writing from the Engineer incharge specifying the work, material or articles complained of not withstanding that the same may have been inadvertently passes, certified and paid for forthwith rectify or remove and reconstruct the work so specified in whole or in part as the case may require or as the case may be remove the material or articles so specified and provide other proper and suitable material or articles at his own proper charge and cost, and the event of his failing to do so within a period to be specified by the Engineer incharge in his demand aforesaid, then the contractor shall be liable to pay compensation at the one percent on the amount of the estimate for every day not exceeding ten days while his failure to do so shall continue and in the case of any such failure the Engineer incharge may rectify or remove and re-execute the work or remove and replace with others the material or articles complained lf as the case may be at the risk and expense in all respects of the contractor.

**Acceptance of substandard work and causing Technical Examination of work.**

**Clause 16-** Authority shall have the right to accept reduced rate, sub-standard or defective work, and to cause an audit and technical examination of the works , and the running and final bills of the contractor including all supporting vouchers, abstract etc. to be made before or after the payment of the final bill and, it as a result of such acceptance of sub-standard or defective work, audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract, but not to have been actually executed , the contractor shall be liable to refund the amount of the over payment and it shall be lawful for Authority to recover the same from him in the manner prescribed in clause 1 above or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment may be duly paid by Authority to the contractor.

Provided that the sub-standard or defective work accepted in not considered to be seriously defective by the Engineer incharge and the rate of the work so accepted is suitably reduced by him to compensate the Authority and such reduction is binding on the contractor.

**Works to be open to inspection. Contractor or responsible agent to be present.**

**Clause 17-**All work under or in the course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of the Engineer incharge and his subordinates, and the contractor shall at all times during the usual working houses, and at all other time, at which reasonable notice of intention of the Engineer incharge or his subordinate to visit the work at all have been given to the contractor, either himself be present to receive orders and instructions, or have a responsible agent duly accredited in wring present for that purpose. Order given to the contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

**Notice to be given before work is covered up.**

**Clause 18-** The contractor shall give not less than days notice in writing to the Engineer incharge or his subordinate in charge of the work before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is so covered up or placed beyond the reach of measurement, and shall not cover up or place beyond the reach of measurement any work without the consent in writing of the Engineer incharge or his subordinate in charge of the work; and if any work shall be covered up or placed beyond the reach of measurement without such notice having given or consent obtained the same shall be uncovered at the contractor expanse or in default thereof no payment or allowance shall be made for such work or the material with white the same was executed.

**Contractor liable for damage done and for imperfections for six months after certificates**

**Clause 19-** If the contractor of his work people or servants shall break, deface, injure or destroy any part of a building on or in white they may be working, or any building, road, fence, enclosure of grass land or cultivated ground contiguous to the premises on which the work or any part of it being executed, or if any damage shall happen to the work while in progress from any cause whatsoever, or any defect, shrinkage or other faults appear in within six months after a certificate final or otherwise, of its completion shall have been given by the Engineer incharge as aforesaid, the contractor shall make the same good at his own expense, or in default, the Engineer incharge may cause the same to be made good by other workman and deduct the expense (of which the certificate of the Engineer incharge shall be final) from any sums that may then or at nay times thereafter, become due to the contractor or from his security deposit, of the proceeds of sale thereof or a sufficient portion thereof or in any other manner, legally permissible.

**Contractor to supply plant ladders, scaffolding etc. Damages arising from nonprofessionals of light fencing etc. Work not to be sublet.**

**Clause 20-** The contractor shall supply at his own cost all materials (except such special material. If any, as any in accordance with the contract be supplied from the Engineer incharge stores,) plant, tools, appliances, implements, ladders, cordage, tackle, scaffolding and temporary works requisite or proper for the proper execution of the work, weather original, altered or substituted and whether include in the specifications or other documents forming part of the contractor referred to in these conditions or not, which may be necessary for the purpose of satisfying or complying with the requirement of the Engineer incharge as to any matter as to which under these condition he is entitled to be satisfied or which he is entitled to require together with carriage thereof to and from the work. The contractor shall also supply without charge the requisite number of person with the means and materials necessary for the purpose of setting out works, and counting, weighting and assisting in the measurement or examination at any time and form time to time or the work or materials. Failing his so doing the same may be provided by the Engineer incharge of the expense of the contractor and the expense may be deducted from any money due to the contractor under the contract or from his security deposit or the proceeds or sale thereof, or of a sufficient portion thereof. The contractor also provide all necessary fencing and light required to protect the public from accident, and shall be bound to bear the expenses of defense of every suit action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above procession, and to pay any damages and costs which may be awarded in any such suit, action or proceeding to any such person, or which may with the consent of the contractor be paid to compromise any claim by any such person. If any equipment is issued by the Authority store, rent will be recovered from the contractor bills at rates fixed by the Executive Engineer the terms of such issue to be ascertained by the contractor from the Engineer incharge in writing in advance.

**Contract may be cancelled and security deposit forfeited for subletting becomes involving.**

**Clause 21-** The contract shall not be assigned or sublet without the written approval of the Executive Engineer. And if the contractor shall assign or sublet his contract, or attempt so to do, or become insolvent or commence any insolvency proceeding or make any composition with his creditors, or attempts so to do or if any bride, gratuity, gift, loan, perquisite reward of advantage, pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered be the contractor, or ant of his servants or agents, to any Authority officer or person in the employ of Authority in any way relating to his office or employment of if any such officer or person shall become in any way directly or indirectly interested in the contract, the executive Engineer may thereupon by notice in writing rescind the contractor, and the security deposit of the contractor shall thereupon stand forfeited and be absolutely at the disposal of authority and the same consequence shall ensure as if the contract had been rescind under clause 3 hereof, and in addition the contractor shall not be entitled to recover or be paid for any work there to or for actually performed under the contract.

**Clause 22-** The contractor shall not for the execution of the work employ any labour less than 12 years of age and, within the limits of any cantonment any female laborer. for every breach of this convenient the contractor shall be liable to pay way of liquidated damages such sum not exceeding fifty rupees as the Engineer incharge may fix and the Engineer incharge may recover such sum by deduction from any sums which may be due, or may at any time thereafter become due to the contractor.

**Clause 23- (a)** The contractor shall pay to his labourers a fair wage and shall supply every labourer employed by him with a wage-card on which the rate of wages, the attendance and payments will be entered.

**Clause 23- (b)** the contractor before he commences work shall paste in a conspicuous place of the work a notice giving the rates of wages which shall not be less the minimum wages applicable and where no minimum wages are applicable the wages will be such as may be certified as fair wages by the Engineer-Incharge and shall send a copy of the notice to the Engineer-Incharge.

**Clause 24-** The contractor shall be bound by all statutory provisions with regard to the period for which wages shall be paid and deduction from wages.

**Clause 25 -** The contractor shall be bound by all statutory provisions with regard to the period for which wages shall be paid and deduction from wages.

**Clause 26-** The respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this agreement the contractor shall comply with or cause to be complied with all the directive issued by Government of U.P. from time to time for the protection of health and sanitary arrangements for workers employed by Authority and its contractors.

**Clause 27 -** Leave and pay during leave of all labour employed by the contractor shall be regulated as follows:-

**(1) LEAVE: Maternity benefit rules for female workers employed by contractors**

(i) In case of delivery, maternity leave not exceeding 8 week a, 4 weeks upto and including the

day of delivery and 4 week following that day.

(ii) In the case of miscarriage-upto 3 weeks from the date of miscarriages.

**(2) pay :**

(i) In case of delivery-leave pay during maternity leave will be at the rate of the woman's average daily earnings, calculated the total wages earned on the day when full time work was done during a period of 3 months immediately preceding the date on which she gives notice that she executed to be confined or at the rate of seventy five paisa a day whichever is greater.

(ii) In case of miscarriage leave pay at the rates of average daily earnings calculated on the total wages earned on the day when full time work was done during a period of three months immediately preceding the date of such miscarriage.

(iii) Condition for the grant maternity leave:

No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period not less than 6 months immediately preceding the date on which she proceeds on leave.

In the event of the contractor committing a default or breach of any of the provision of the Authority's Directions to contractor for the protection of health and sanitary arrangement for the workers or furnishing any information or submitting or filling and any statement under the provisions of the above directions which is materially incorrect, the contractor shall without prejudice to any other liability pay to Authority a sum not exceeding Rs. 50/- for every default or breach and in the event of the contractor defaulting continuously in this respect, the penalty may be enhance to Rs. 50/- per day for each day of default subject to a maximum of 5 percent of the estimated cost of the work put to tender. The decisions of the Engineer incharge shall be final and binding on the parties.

Should it appear to the Engineer incharge that the contractor is not properly observing and complying with the said direction for the protecting of health and sanitary engagements for work people employed by the contractor (here in referred as the said direction), the engineer incharge shall have power to give notice in writing to the contractor requiring that the said direction be complied with and the amenities therein be provided to the work properly within a reasonable time to be specified i the notice. If the contractor shall fail within the period specified in the notice to comply with and observe the said direction and to provide the amenities to the work people as aforesaid, the Engineer incharge shall have the power to provide the amenities herein before mentioned at the cost of the contractor. The contractor shall erect, make and maintain at his expense, and approved standards all necessary huts and sanitary arrangements required for his work proper on the site in connection with the execution of the work and if the same shall not have been erected to constructed, according to the approved standards, the Engineer incharge shall have powered give notice in writing to the contractor required that the said huts and sanitary arrangements be remodeled and/or reconstructed according to approved standard and if the contractor shall fail to removal or reconstruct such huts and sanitary arrangements according to the approved standard within the period spiced in the notice, the Engineer incharge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standard at the cost of the contractor.

**Clause 28-** The contractor shall at his own cost provide his labour with a sufficient number of hurt (hereinafter referred to as the camp) of the following specifications on a suitable plot of land to be approved by the Engineer incharge.

1 (a) The minimum height of each hut at the eye level be 7 feet and the floor area to be provided will be at rate or 30 sq. feet for each member of the worker's family with the labourer.

(b) The contractor shall in addition construct suitable cooking places having a minimum area  
 of 6"x5" adjacent to the hut each family.

(c) The contractor shall also construct temporary latrines and urinals for the use of the  
 labourers each on the scale of not less then four per each one hundred of the total  
 strength, separate latrines and urinals being provided for women.

(d) The contractor shall construct sufficient member of bathing and washing places, one unit  
 for every 25 persons residing in camp. These bathing and washing pieces shall be   
 suitably screened.

2 (a) All the huts shall have walls of sun dried or burnt bricks, laid in mud mortar or other  
 suitable local materials as may be approved by the Engineer incharge. In case of sun  
 dried brick, the wall should be plastered with mud on both sides. The floor may be katcha but plastered with mud and shall be at least 6" above the surrounding ground.  
 The roofs shall be laid with thatched or any other material as may be approved by the  
 Engineer incharge and the contractor shall ensure throughout the period occupation the  
 roofs remain water light.

(b) The contractor shall provide hut with proper ventilation.

(c) All doors windows and ventilators shall be provided with suitable for security purpose.

(d) There shall be kept open space of at least 8 yards between the rows of hours which may be reduced to 20 ft. according to the availability of site with the approval of the Engineer incharge. Back to back construction will be allowed.

3. **WATER SUPPLY:-** The contractor shall provide adequate supply of water for the use of labourers. The provisions shall not be less than 2 gallons of pure and whole some water per head per day for drinking purpose. Where pipe water supply is available, the supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry shall be provided. The contractor shall also at his own cost make arrangements for laying pipe lines for water supply to his labour camp from the existing main where ever available and shall pay all fees and charges thereof.

4. The site selected for the camp shall be high ground, removed from jungle.

5. **Disposal of excreta- (Sum payable by way of compensation to be considered as reasonable compensation without reference to actual loss.)**The contractor shall make necessary arrangements for the disposal of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration in not allowed, the contractor shall make arrangement for the removal of excreta through the Municipal board and inform it about the number of labourers employed so that arrangements may be made by such Board for the removal of the excreta. All charges on this account shall be born by the contractor and paid direct by him to the municipality. The contractor shall provide one sweeper for every eight seats in case of dry system.

6. **drainage-** (**Change in constitution of firm.)** The contractor shall provide efficient

Arrangements for draining away sludge water so as to keep the camp neat and tidy.

7. The contractor shall make necessary arrangements for keeping the camp area

sufficiently lighted to avoid any accidents to the workers.

8. **sanitation- (Work to be under direction of Engineer incharge.)**The contractor shall

make arrangements for necessary for conservancy and sanitation in the labour camps

according to the rules of the Local polices Health and Medical Authority.

**Clause 29-** (**Protests.)** All sums payable be way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of Authority without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

**Clause 30-** In the case of a tender by partners any change in the condition of the firm shall be forthwith notified by the contractor to the Engineer incharge for his information.

**Clause 31-** All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Engineer incharge for the time being, who shall be entitled to direct at what point or points and in what manner they are to be commenced from time to carried on.

**Clause 32-** (a) If the contractor considers any work demanded of him to be outside the requirements of contract, or considers any record or ruling of the Engineer incharge or of his subordinates to be unfair, he shall immediately upon such work being demanded or such record or ruling being made, ask in writing instructions or decisions, whereupon he shall proceed without delay to perform the work or conform to the record whereupon he shall proceed without delay to perform the work or conform to the record or ruling and within twenty days after date of receipt of the written instructions or decisions he shall file a written protest with the Engineer incharge, stating clearly and in detail the basis of his objections. Except for such protests or objections, as are made on record. In the manner herein specified and within time limit stated, the record, rulings instructions or decisions of the Engineer incharge contained in letters drawings to the contractor shall be considered as written instructions or decisions, subject to protests or abjections as herein provided.

(b) If the contractor is dissatisfied with the final decision of the Engineer incharge in presence of clause 32 (a), the contractor may within twenty days receiving notice of such decision, give notice in writing requiring that the matter be submitted to arbitration an furnishing detailed particulars of the dispute or difference specifying clearly the point at issue. If the contractor fails to give such notice in the period of twenty days as stipulated above the decision of the Engineer incharge shall be conclusive and binding on the contractor.

(c) Except where otherwise provided in the contract all questions and disputes relating to the meaning of the specifications, designs, drawing and instructions here in before mentioned and as to the quality of workmanship or materials used on the work or as any other question, claim, right, or rates for extra items sanctioned and decided or not by the competent authority under the conditions of this contract, matter or thing whatsoever, i any way arising out of or relating to the contract, design, drawings, specifications, estimates, instructions, orders on these condition or otherwise concerning the work, or the execution or failure to execute the same, whether rising during the progress of the sole arbitration of the person or persons appointed by the Administrator. It will be no objection to any such appointment that that arbitrator so appointed is a Government servant, that he had to deal with the matters to which the contract relates and that in the course of his duties as Government servant he had expressed views on all or any of matters in dispute or difference. The arbitrator to whom the matter is originally or subsequently referred being incapacitated to act, the Administrator shall appoint another persons to act as arbitrator in accordance with the terms of contract. It is also a term of this contract that no person other than a person appointed by the Administrator as aforesaid shall act as arbitrator and, if for any reason that not possible, the matter is not be referred to arbitration at all. The arbitrator (s) may from time to time with the consent of the parties enlarge the time for making and publishing the award.

Subject as aforesaid to the provisions of the arbitration Act, 1960, or any statutory modification or re-enactment thereof and rules made there under and for the time being in force shall apply to the arbitration proceedings under this clause.

All dispute between the parties to the contract arising out of and relating to the contract shall after written notice by either party to the contract, to the order party, be referred to arbitration as above. Unless the parties otherwise agree, such reference shall not take place until after the completion, alleged completion or abandonment to the work or the determination of the contract. The value of arbitration shall be such a place or places as may be fixed by the arbitrator in his/their sole discretion. Any suit or application for the enforcement of this arbitrating clause shall be filed in the competent court at Ghaziabad and no other court of any other pradesh or outside Uttar Pradesh shall have any Jurisdiction in the matter. The award of arbitrator shall be final, conclusive and binding on both the parties to the contract.

**Clause 33-** The contractor shall obtain from the stores of the Engineer incharge all stores all all imported materials, if required, to any considerable extent for the work or any part thereof or in making up articles required there for or in connection therewith. The value of such stores and articles as may be supplied to the contractor by the Engineer incharge will be debited to the contractor if they are not entered in the schedule. They will be debited at cost price, which for the purpose of this contract shall include the cost of cartridge and all other expenses whatsoever which shall have been incurred in obtaining delivery of the same at the stores aforesaid.

**Stores imported from Europe to be obtained from government. / Arbitrator**

**clause 34-** Except where otherwise provided in the contract all question and disputes relating to the meaning of the specification designs, drawings and instruction herein mentioned and as to the quality of workmanship of materials used on the work or as to any other question, claim, right, matter or thing whatsoever, in any way arising out of or relation to the contract, designs drawings specifications, estimates instructions, orders or these condition or otherwise concerning the work, or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitrator of the Administrator of the Authority of if so pleases any person appointed by him. It will be no objection to any such appointment that the arbitrator so appointed is a government servant, that he had t deal with matters to which the contract relates and that in the course of his duties as Government servant or Administrator he had expressed views on all or any or the matters in dispute or difference. In the event of the arbitrator to whom the matter is originally referred being transferred or vacating his office or being unable to act for any such reason, the Administrator at the time of such transfer, vacation of office or inability to act, shall appoint another person to act as arbitrator in accordance with the terms of the contract such person shall be entitled to proceed with reference from the stage at which it was left by his predecessor. It is also term of this contract tht no person other than a person appointed by the Administrator or the Administrator himself should act as arbitrator and if for any reason that is not possible, the matter in not to be referred to arbitration at all.

The arbitrator may from time to time with the consent of the parties enlarge the time for making and published the award.

**Action where no specification in given**

**Clause 35-** In the case of any class of work for which there in no specification in the contract such work shall be carried out in accordance with the detailed P.W.D. specification and in the advent of there being no detailed specification for the same work shall be carried out in all respect in accordance with the instruction and requirement of the Engineer incharge.

**Clause 36-** The additions and deductions on account of the percentage referred to the page 3 of the accepted tender will be calculated on the gross, and net, amount of the bill for the work done.

**Contractor's percentage whether applied to net or gross amount of bills (Strike out this Clause in the case of an item rate contract)**

**clause 37-**(1) In every case in which by virtue of the provisions of section 12, sub section (1) the workmen's compensation Act 1923 government is obliged to pay compensation to a workman employment by the contractor or by any sub-contractor from him in the execution of the said work, government will recover from the contractor the amount of the compensation so paid, and without prejudice to the rights of Government under Section 12 sub-section (2) of the said Act, government shall be at liberty to recover such amount or any part thereof by deducting it either from the security deposited by the contractor to his credit under clause 1 of these conditions or from any other sum due to Government from the contractor whether this contract or otherwise.

(2) Government shall not be bound to contest any claim made against it under section 112, sub-section (1) of the said Act except on the written request of the contractor and upon his giving to Government full security for all costs for which Government might become liable in consequence of contesting the claim.

**Clause 38-** No brick for use on the work shall be manufactured within the limits of a municipality cantonment or notified area or within half a mile of the site of work. Any brick so manufactured may be rejected by the Engineer incharge.

**Clause 39-** No earth for filling, or for any other purpose, shall be excavated within five miles of the site of the work except with the written permission of the Engineer incharge then than only on condition that the area in which such excavation is made, shall be leveled and dressed by the contractor at his own expense in accordance with the instructions of the Engineer incharge and in such a manner as to prevent the formation of pools stagnant water. If the contractor fails to comply with this condition the Engineer incharge many cause the ground to be leveled and dressed by other workmen and deduct the expenses (of due, or may at any time there after become due to the contractor or from his security deposit, or from the proceeds of sale there of.)

Contractor **Engineer Incharge**

**Development Authority**

**Hardwar**

\*\*Delete which ever is not applicable. 10 Day will apply to works at the headquarter of Engineer Incharge & 30 days for work at other places)

**Haridwar Development Authority**

**special condition for the contract**

1.Each page of the bill quantity, specification and condition should be signed by the contractor.

2. Tenderers should give their rates after careful examination of site of work Drawings can be seen in the office during working hours. Drawing and specification can however without entitling the contractor to any compensation due to change made there in charge of site will also not entitle the contractor to any compensation.

3. The contractor must take into consideration all fluctuations in rates of labour and materials during currency of the work. No claim what so ever this account shall be entertained.

4. The units of the rates as shown in the bill of quantities should be carefully seen rates once given by the contractor shall remain unchanged and no excuse on any account will be entertained after the tender box has been closed.

5. RIGHT OF REJECTION:-The department reserves the right to reject any or all the tenders without assigning any reason for doing so. It also reserves the right to allot either a part of the work or the whole to any tenderers, should the said tenderer to sign the bond, if he is given a portion of work, his proportionate Earnest Money shall be forfeited and his tender rejected.

6. INSPECTION OF THE SITE AND CHARACTER OF SOIL:-The contractor shall inspect and examine the size and its surrounding and shall satisfy before submitting his tender as to the nature of ground of subsoil and specially about the strata through and on which excavation is to be made foundations to be built & other works to be executed in his interest he should make sure of the position of quarries, topography of the size, availability of food stuffs, Labour and materials and other amenities before tendering No claim for additional work or extra rate due to any of the above reasons will be allowed as specified in General specifications.

7. LINES AND LEVELS:-The contractor shall be solely responsible for setting out the work and for the correctness of the positions levels dimension and alignments according to the plans and shall provide all necessary assistance, instruments pages stakes, poles and other materials required for the purpose. He will keep his own qualified staff instruments to do the job. The tendered rate shall be deemed in include all this.

8. TOOLS AND PLANTS:-The contractor shall arrange of his own tools plant required for the proper execution and completion of the work within the specified time. If any equipment is issued Departmental rent will be recovered from the contractor's bill at rates and terms to be entertained by the contractor from the Engineer incharge in writing in advance.

9. WATCH & WARD:-The contractor shall in connection with the work provide and maintain at his own cost all guard fencing and watch & ward required for proper execution & safety of materials etc.

10. MEASUREMENTS:-The Engineer incharge shall accept otherwise certain and determine by measurements the value in accordance with the contract of the work done. He shall when be require any part of parts of the work to be measured, give notice to the contractor who shall forth attend or send an authorized agent or representative with the necessary labour and implements to assist the official measuring the work in making such measurements and shall furnish all particulars required. Should the contractor fail to attend or omit, to send such Agent or representative, than the measurements make by the Engineer incharge or any official under him or approved by him, shall be taken to be the correct measurements of the work.

11. MATERIALS AND APPLIANCE:-All reasonable facilities will be provided by the Authority to the contractor for procuring of controlled material but the failure on the part of the contractor to get the material in pursuance to any permit etc. issued on behalf of the Authority, shall not serve any ground for not carrying out his obligations under the contractor.

12. TIME OF WORKING:-The contractor will be required to so that the usual working hours are adhered to. No. work should be done in the night without the permission of the Engineer incharge except when it is absolutely necessary for the saving of life or property or for the safety of the work in which case the contractor shall immediately seek advice of the Engineer incharge. Sometimes, however, some work as may be directed by the Engineer incharge with have to be carried out in the night and no extra payment shall be made to the contractor on this account.

13. PROGRAME & RETURNS TO BE FURNISHED:-As son as practicable but not later one month after the acceptance of his tender the contractor shall, if required to submit the Engineer incharge for his approval a programme showing the order of procedure and method is which he propose to carry out the work and shall when ever required by the Engineer incharge for his information particulars in writing of the contractor arrangement for carrying out of works.

14. DRAWINGS AND THEIR OWNERSHIP:-The sets of working drawing be got issued by the contractor from the office after his tender has been accepted Contractor shall keep one set of drawing in god condition ready at site available to department Engineer staff on completion of the work, the contractor will have to return these drawing to the office.

15. EXTRA ITEM OF WORKS:-The cost of extra items of the work necessitated during the execution of the work shall be determined as stated in H.D.A. condition of contract.

16. CLAIMS:-The contractor shall submit of the Executive once in every month an account giving full and detailed particulars of all claims for any additional expenses to which the contractor may consider himself entitled and of the extra and additional works ordered and executed during the preceding month. No claim for payment for any such work shall be considered which has not been included in such particulars.

17. DEFAULT TO CONTRACTOR'S IN COMPLIANCE:-Defiance of the instructions of the Executive Engineer or the Engineer incharge on the part of the contractor will make the contract liable to be terminated.

18. Will full insubordination or disobedience to the orders of the Engineer staff whether alone or in combination with another shall be considered to be an act of misbehavior and penalty for this decided and imposed by the Executive Engineer shall be final and binding on the contractor.

19. CLEARANCE OF SITE ON COMPLETION:-The contractor shall at all times keep the premises free from accumulated waste material or rubbish caused by his employees on the works and on completion of the work he shall clear away and remove from site all construction wastes, surplus material rubbish temporary works of any kind and fill up borrow pits dug by him. He will leave while of the site and work clean and in a workman like condition to the entire satisfaction of the Engineer incharge as provide in H.D.A. condition of contract nothing extra shall be paid to the contractor for this cleaning.

20. FOSSILE ETC:-All fossil, coins, articles of value of antiquity and other remains or things of Geological or archeological interest discovered on the site of the work shall, be given to the Authority by the contractor and shall be deemed absolute property of the Authority.

21. SUSPENSION OF WORK:-The contractor shall on written order of the Executive Engineer, suspend the progress of the work of any part thereof for such time manner as may be considered, necessary and shall during such suspension protect and secure the work so far as is necessary for the proper execution of the work by reason of the weather or by some default on the part.

22. SUB STANDARD WORK:-Concrete of strength below 80% of the required strength (as determined by actual tests) shall not be accepted. Concrete of strength not below 80% of required strength may be accepted as sub standard work at suitably reduced rates provided the use of this under strength concrete is confirmed to such members and in such quantities that the safety of the structure is not end angered. The acceptance, of such sub standard work will be at the entirely discretion of Executive Engineer and the contractor shall not claim as a matter of right. The decision of Executive Engineer shall be final regarding reduction or rates for such sub-standard works.

23. If required the contractor shall provide at his own expenses suitable accommodation for his employees including adequate sanitary arrangement and water supply.

24. The quantities shown in the bill of quantities are approximate and liable to variation to any extent on either side and the contractor will not be entitled to any extra rates or compensation due to any charge in the quantity of the work to be done. Few items may be required to be omitted and contractor shall not be entitled to claim any profit on this account.

25. Joint tenders will not be considered unless the firm is registered one or the person signing the tender possesses the power of each other the partners shall be considered as jointly responsible as well as individually for the tender failing which the tender is liable to be rejected and earnest forfeited.

26. No more than one tender should be submitted by any contractor or by one firm of contractor.

27. All tendered rates shall be considered to include all jobs as mentioned in the detailed specifications attached.

28. After acceptance of the tender the H.D.A. conditions of contract with necessary will be attached with the bond and the same will be binding on the contractor.

29. The work of electric fittings shall be taken in hand when the building work has sufficiently advanced. The contractor will have to afford all facilities to outer contractor in the execution of their work so that the entire work may proceed smoothly. No compensation on this account shall be allowed.

30. When opening the tender the rates shall be read out to all contractors who are present.

31. The white lime required for the work shall be brought to the site in unslacked condition and selected properly and so specification on the work after approval of the Engineer incharge or his representative.

32. All building material arranged by the contractor shall be subject to the approval of the Engineer incharge and rejected material if any will have to be removed by the contractor within three days from the site of the work otherwise a penalty of Rs. 50/- per day may be imposed on him till the materials in question are removed.

33. The materials to be supplied by the Department as per schedule 'C' appended at the rates mentioned there in shall be supplied to the contractor in such lost and at such time Engineer incharge desired. The contractor should send his requirements well in advance of the Engineer incharge. The materials will be supplied in time as for as possible but in case of any material being not available, no claim will be entertained. In case of a material, listed in schedule 'C' the contractor will use only those material which have been issued by the Department unless directed by the Engineer incharge and approved by the Executive Engineer.

34. Other material not covered by the schedule 'C' can also be issued to the contractor at the discretion of the Executive Engineer incharge if available at the current market rate or stock rates which ever is higher.

35. All material issued to the contractor will have to be stacked and stored properly at the site of the work and a proper account will have to be maintained by the contractor, in accordance with the instructions of the Engineer incharge etc. so that checking can be dome when necessary. If any surplus materials are left the completion of the work it shall not be disposed or removed by the contractor unless he receives permission in writing from the Engineer incharge.

36. An order book will be kept at the site of the work in which instruction on may be recorded by the Engineer incharge or his representative. The contractor or his authorized agent will be required to sign the book daily in acknowledgment of the instruction. In case the contractor refuses to do so the instructions written there in shall be binding on the contractor.

37. VERBAL INSTRUCTIONS ISSUED BY THE CONTRACTOR:-Any verbal instruction issued by the officer from time to time in connection with charge in design or specification which the contractor thinks entitles him for extra payment shall be got confirmed in writing by the contractor. Failure to do this on a account entitled him extra payment.

38. The contractor shall be responsible to carry out the work according to the drawings with the contract bond drawing of details given by Engineer I/C, In case the contractor executes the work or larger dimensions than shown in drawings he will he paid for as per drawing. In case work executed is of lesser dimensions and not covered by the tolerances allowed, it will be at the discretion of Engineer I/C, to accept the work or to reject. In case the work is to be accepted the payment, will be made as per dimensions actually executed.

39. The contractor before commencing the work shall (a) post in a conspicuous place at the side of work Notice, giving the purpose of wages which have been certified by the Engineer incharge.

40. The contractor shall be bound by the rules made by the Govt. with regard to the period for which wages have to be paid deduction from wages.

41. The contractor shall be bound to give preference to ex-service men where available. The nearest sub regional employment exchange may be consulted regarding availability of such man.

42. The tender rates shall include all quarrying charges, royalty screening tools and plants, carriage of materials of the site, stocking and removal of all rejected material, district board and Municipal Board Taxes, sales tax, and water arrangement etc.

43. Condition of H.D.A. condition of contract manual from 79/80/81/82 will also be application and will form part of the contractor.

44. No claim for extra payment on account of delay in the supply of materials or machineries to be issued by the H.D.A. will be entertained.

45. The contractor must write his correct and complete postal address in the tender and arrange to take the delivery of all letters. If any letter is received back undelivered it will be contractor responsibility and contractor shall be bound for such action as may be written in the content of such letter. Any charge of address must be intimated to this office for which be should obtain acknowledgment. The contractor or his agent will not refuse to delivery of letters at the site for work or in H.D.A. office.

46. Stamps duty as required in the contract deed will be borne by the contractor.

47. The H.D.A. shall have the right to accept at deduced rate sub standard and defective work provided that the sub standard or defective work in not considered to be seriously defective by the Engineer incharge, and the rates of the work so accepted will be suitably reduced by the Executive Engineer to compensate the H.D.A. and such reduction will be at the entire discretion of the Executive Engineer and shall be final and binding on the contractor.

48. The work must comply with the relevant U.A. P.W.D. detailed specifications and relevant latest standards of india standard codes, as specified in detailed specifications at ached. Decision of the Executive Engineer regarding applicability, interpretation or any dispute about specifications shall be final and binding on the contractor. The tendered rate shall be deemed to cover the following where required to be done and no extra payment for these shall be made.

(a) Cutting of existing roads and making it good completion of work in original shape and with specification of broken work.

(b) Cutting and making holes in the brick work or roofs (RB or RCC) or floors or plaster and making good the same after completion of the work to original shape and with specification of broken work.

(c) Making of pillars in 1st class brick i 1:3 cement in approved coarse sand mortar for fixing supply lines or water tank as desired by the Engineer incharge.

(d) Painting two coats of approved paint on all exposed faces on either GI or HCI pipe lines, flushing cisterns, bracket and other fittings and M.S. tanks and girders etc.

(e) Load jointing in HCI soil or vent pipes, lead shall be filled up to 2 cm. both (minimum) extra than the caulking by jute.

(f) The supervising staff can check by getting the laps joints opened 20% of all the joints. The same shall have to be refilled by the contractor at his own cost. If any joint found with lesser quantity lf load or crack in lead jointing than penalty as deemed fit by the Engineer incharge shall be imposed to the extent of rejection of all the joints. The instruction as given in writing by the department official shall have to be binding on the contractor.

49. One sample of each sanitary water supply fittings and accessories shall have to be got approved from the Engineer incharge before actual execution of the work.

50. The contractor shall be fully responsible for any loss or breakage and defects in the work till the same is not finally measured and taken over from him and till such time he shall to replace or make such damages etc. at his cost.

51. If the building work is in progress the contractor shall have to work cooperation with other contractor if any so that the entire work may proceed smoothly. In the event of any dispute the decision of the Executive Engineer shall be final. The progress will have to be given in such a way so that the work of building contractor may not suffer.

52. The contractor shall have to dispose of all his surplus earth, and rubbish etc. away from the building, from the site of the work and as where directed by Engineer incharge, at the time of the completion of the work.

53. All the concealed pipe lines shall be tested as per direction of Engineer incharge and shall be concealed only when it is approved. The testing charges and equipment etc. for the same will be done by the contractor. The contractor shall be responsible for the leakage till the 10% security is released.

54. The tendered rate shall include all the local and other taxes, water charges, carriage etc. NO claim shall be entertained on such amount the quantities are liable to very on either side to any extent for which no claim shall be entertained.

55. After laying and jointing the S.W. & pipes and fittings shall be inspected and got tested any joint found leaking shall be done and all leaking pipes removed and replaced without extra cost.

56. The tendered rate shall be deemed cover the charge of making necessary connection with water tanks and supply pipes etc. for which nothing extra shall be paid.

57. The floor and walls etc. cut for proper completion of the work shall be repaired and finished to its original specifications.

58. The G.I. pipe work including fitting shall be tested to a pressure as specified in relevant IS code to ensure that pipe have proper threads and proper material. All leaky joints shall be made leak proof.

Smoke test shall be carried out for HCI pipe line work as provided in the specifications. The S.W. pipe line shall be tested for 5 meters head of water. Nothing extra shall be paid for all these testing.

59. For the materials supplied by the department, proper account will have to be maintained. For cement double lock system will have to be followed.

60. Floor trap. Nahani Trap if any and W.C. shall be paid at the reduced rates i.e. 90% of the rate till got tested against leakage to the satisfaction of Engineer incharge.

61. The contractor has to carry out the work of testing twice, once before taking the final measurements and secondly and time during period of 6 months from the date of expiry of contact i.e. maintenance period at no extra payment for this 10% security shall be refunded only after the satisfactory completion of work, test maintenance period.

62. No payments will be made to contractor for cutting chase and its repair in brick work after completion of brick work for fixing precast or cast in sita RCC shelves and no claim on this account shall be entertained.

63. The jambs of the doors, windows shall be finished with cement mortar 1:2:3 (1 cement, 2 coarse sand, 2 jamuna sand) against the 12 mm. & 15 m. thick plastering items of bill of quantities not nothing extra will be paid no this account.

64. NO claim will be made to contractor for damage to building work or materials caused by rain any natural calamities or any other reason what so ever during the execution of the work and no such claim on this account shall be entertained.

I/We carefully read the above conditions and agreed to abide by them.

**Haridwar Development Authority**

**GENERAL CONDITIONS**

1. Tenders are advised to see the site of the work and be acquainted with the position of material conditions of contract drawing, modifications etc, if any, before tendering.

2. The work shall be carried out as per U.A. P.W.D. detailed specifications amended up to date. The contractor should be through these specifications and U.A. P.W.D schedule of rates revised and amended upto date before tendering.

3. In giving rates tinkerers are advised to take into account fluctuation in market rates, no claim will be entertained on this account during acceptance of the tender and currency of the contract.

4. All entries by the tinkerers should be in one in one hand. Erasures and over writings should be signed by the contractor.

5. Rates should be written in figures as well as in works in the tender. In case of variation of rates written in works and in figures lower of the two will be accepted.

6. Quantities of works are subjects to wide variation without any notice contractor. In the event of variation in quantities of work, the contractor shall not be entitled for any compensation and tender rates accepted shall stand as applicable.

7. Conditional, incomplete, unsigned or un-witnessed tenders shall not be entertained.

8. Not more than one tender should be submitted by one contractor by one firm of contractor.

9. Under no circumstances will a father or his son or close or the partners of the firm be allowed to tender for the work as separate tender. Breach of this condition will render the tenderer of such tender liable to rejection and forfeiture of their money or permanent security.

10. In case of firm tender it must be signed by each partner of member by the person holding the power of attorney on behalf of all order partners members of the firm. In later case a copy of the power of attorney attested by a Gazetted Officer must accompany the tender.

11. Provide that no tender from unregistered firms (as required under registration of firms and societies act.) shall be entertained.

12. Tendered rates will hold good for three months from the date of opening the tender.

13. Contractor shall be bound to pay wages which shall not be less than fair wages in the locality. This minimum rate shall be fixed by the Vice Chairman in consultation with the district Magistrate.

14. Contractor shall be bound to give preference to ex-serviceman wherever available. The nearest sub regional Employment Exchange may be consulted regarding availability of such persons.

15. The tendered rates shall include all quarrying charges, royal’s screens, tools and plants, carriage of materials to site stack and removal charge of any rejected material, Sales Tax and other local taxes payable t District Board or municipal Board and water arrangement etc.

16. Conditions of General P.W. NO. 9/Mannual-79/80/81/82 will also be applicable.

17. An order book will be kept at the site of eh work in which instruction an order shall be recorded by the Engineer incharge or his representative. The contractor, his authorized agent will be required to sing the order book daily in acknowledge of the instruction and shall comply with the order and instructions given in that book.

18. All receipts signed and issued by the contractor, their authorized agent whose named and specimen signatures should be furnished in writing of the Engineer incharge shall be conclusive proof of the delivery of materials.

19. No claim for extra payment shall be entertained on account of delay a supply of materials or machineries by the Authority.

20. The contractor must write their correct and complete address in tenders and arrange to take delivery of all letters. If any, letter is received back undelivered it will be contractor's own responsibility and contractor shall be bound for action as he may be required through the contents of such letter.

21. The contractor should attach with the tender list showing their qualifications, experience of work and financial status of him.

22. Stamps duty as required on the contract deed will be borne by the contractor.

23. 75% secured advance can be allowed as per rules in financial Hand book.

24. All measurements shall be done as per ISI rules and corrected upto date.

25. The final bill shall be prepared after three months from the date of completion of the work. In case the doors & windows shutters are not supplied by the department.

26. All the work completed under Indian Electricity Rules, 1956, as the U.A. P.W.D. specifications for Electrical works.

27. The contractor should be submitted completion certificate and testing reports by Electricity Inspector of U.A. Electricity before final Bill

28. The final Bill shall be paid to the contractor only after the handing over the system of U.A.S.E.B. by the contractor through H.D.A.

**Assistant Engineer**

I/We have carefully read above conditions and agree to abide by them.

Place ........................... **Signature of Contractor**

**Haridwar Development Authority**

1. The quantities are liable to wide variation upto any extent for which no claim whatsoever shall be entertained.
2. All works shall be carried out as per U.A.P.W.D. Detailed specifications and amendments made therein from time to time.
3. Trade tax as admissible from time to time will be recovered from the gross amount of the bills.
4. In the event of any dispute HARDWAR courts will have exclusive jurisdiction and no suit shall lie in any other court outside HARDWAR District.

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**Note: Rates to be mention in BOQ**

ASSTT. ENGINEER CONTRACTOR fufonk@dqVs'ku [kksyh x;h

H.D.A.

vf/k0 vfHk0@ys[kkf/kdkjh@lfpo