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LIBRARY  
INTERNATIONAL REFERENCE CENTRE  
FOR COMMUNITY WATER SUPPLY AND  
SANITATION (IRC)

**GOVERNMENT OF THE PEOPLE'S  
REPUBLIC OF BANGLADESH**

**UNICEF-ASSISTED RURAL WATER SUPPLY  
AND SANITATION PROGRAMME**

**IMPLEMENTATION GUIDELINE  
AND SPECIFICATION FOR  
WATER SUPPLY AND SANITATION  
IN URBAN SLUMS AND FRINGES**

**DEPARTMENT OF PUBLIC HEALTH  
ENGINEERING (DPHE)**

**UNITED NATIONS CHILDREN'S FUND  
(UNICEF)**

**July 1989**

B22-BD89-6720

20.5. Pond Sand Filter (PSF) Construction

After finalization of sites and realization of contribution money from the beneficiaries and receipt of deposit from the Paurashava, the DPHE will construct the PSF following the supplementary guidelines at ANNEX 15.

20.6. Rehabilitation of Choked Up Shallow Tubewells

The desanding and resinking of shallow tubewells will be carried out following the supplementary guidelines at ANNEX 16.

20.7. Iron Removal Plant (IRP) Construction

After finalization of sites and receipt of contribution money from the beneficiaries and deposit from the Paurashava the DPHE will construct the IRP following the supplementary guidelines at ANNEX 17.

21. PRODUCTION AND SALE OF LATRINE COMPONENTS

21.1. Each Paurashava will have the option to establish at least one latrine production centre, unless one already exists under the Paurashava. If one already exists, the Paurashava may expand the production capacity to cope with the extra provision under this project. Municipal Corporations may have more than one production centre.

21.2. The location of the Paurashava Production Centre should be within the premises of the Paurashava Offices or at a location very close to the Paurashava Office. The Paurashava will provide suitable land free of cost having accessibility and clear visibility to the public.

21.3. The production centre will be constructed by DPHE using UNICEF supplied cement, old GI pipes and CGI sheets. The construction cost will be paid by DPHE under RPA which UNICEF will reimburse. UNICEF will also provide through DPHE tools and production equipment necessary for the production of latrine components. The design of the production shed will be the same as used in the village sanitation project.

21.4. For the production of latrine components the Paurashava in consultation with SOE DPHE will arrange for the purchase of local materials at their

cost such as khoa, sand, crude oil, wax, kerosene oil, according to an annual physical target to be provided by DPHE with the ADP.

The SDE, DPHE will provide requisite quantity of UNICEF-supplied cement, chicken wire mesh and M S Wire No. 10 to the Paurashava in 2 half-yearly instalments.

The labour and local material costs for production of latrine components will be met out of sales proceeds.

21.5. The Paurashava in consultation with SDE, DPHE will arrange for the production of water seal latrine components at the latrine production centres. Components for both single pit and twin pit latrines will be produced for sale.

21.6. This project will adopt a "market" approach to latrine production and sale. The production centres will produce a range of latrine components which can be purchased by the customer in any quantity or configuration. The basic components should include:

- 21.6.1. RCC ring 36" diameter.
- 21.6.2. RCC squatting slab (without pan)
- 21.6.3. Ferrocement pan (without waterseal)
- 21.6.4. Ferrocement pan with water seal (for direct pit)
- 21.6.5. U-pipe for pan (for offset pits)
- 21.6.6. Cement pipe (for offset pits)
- 21.6.7. Y-junction with gate (for offset pits)
- 21.6.8. RCC blank slab (for pit cover of offset pits)

The above components can cover the range from the complete twin pit offset pour flush latrine currently being promoted down to a simple squatting slab on its own. The components should be suitable for assembly into any of the technologies promoted by other projects providing assistance to Paurashava (e.g. LCSP, Dutch Aided, UNICEF-assisted). The customer should be allowed to purchase any components according to his requirements and his ability to pay.

The designs and specifications of all these components are shown in the ANNEX 18.

- 21.7. The running of the production centre is the responsibility of the Pournashava. The centre may be run on a contract system or by paid labour, at the choice of the Pournashava. One option is for the Pournashava to contract the mason and labourers on a piece-work basis, whereby payment is made for each component produced. This will improve productivity. The Pournashava would retain responsibility for providing materials, tools etc. If an additional bonus was given for each sale, this could encourage the production mistries and labourers to promote sales.
- 21.8. Latrine components produced under this project will be sold at subsidized cost, with payment at time and point of sale. The subsidy will gradually be reduced as demand is stimulated. The greatest subsidy will apply to the basic components of slab, pan and first ring of a single pit. Other components will be sold at or near full cost.
- 21.9. The selling price of components should be adequate to cover full production costs, excluding the cost of UNICEF-supplied materials but including labour and overheads, with a small profit margin. The revenue from sale of latrines must be deposited in a separate account and exclusively used to continue and expand production. The unit sale price (maximum and minimum) of different components is shown at ANNEX 19. However, on the receipt, the items that are sold along with the type of latrine (single/double) are to be mentioned with price. A specimen of receipt is shown at ANNEX 20.

Applicant group members for new tubewells will receive first priority for purchasing latrine components.

- 21.10. If any Pournashava wishes to make an extra subsidy or permit an instalment system of payment, local exceptions to the guideline may be permitted provided that the target group qualifying for such an exception can be clearly specified and identified e.g. as residents of a sweepers' colony, people in a zero taxation category etc. Pournashavas must first submit a request to deviate from the standard guidelines to the local DPHE and

UNICEF officials who will in turn pass the request to their Dhaka headquarters. The request must clearly state the proposed mechanism for the extra subsidy or for cost recovery by instalment, the justification for the proposed relaxation of the normal sale conditions and the proposed safeguards for ensuring that only the intended beneficiaries benefit from the special subsidy or payment method. Final approval for the deviation will be taken jointly by DPHE and UNICEF offices in Dhaka. Any deviations will initially be approved on a trial basis for a fixed period.

- 21.11. Installation of latrines will be the responsibility of the customer. However, the Pourashava may give training to local contractors and qualify them to install latrines, for which a recommended price should be established by the Pourashava. The contractor is to be hired by the customer, not by the Pourashava.
- 21.12. The production centres should have information leaflets giving the advantages and disadvantages of each type of latrine that can be assembled with the components available. These leaflets should also be distributed to the general public, and especially to tubewell applicant groups. A large display board at the centre should give the price of components.
- 21.13. The production centre may receive assistance from different sources and projects. However, material utilization and production will have to be accounted for separately for each of the projects.
- 21.14. If any other Government-approved project assisting the centre allows payment of full cost by an installment system, this may be adopted by the Pourashava and applied only to the latrines produced with assistance from that project.
- 21.15. Promotion of Home-Made Latrines  
To promote sanitation among those who cannot afford to buy a water-seal latrine, all latrine production centres will construct a home-made hygienic latrine, as a demonstration. The costs for this demonstration latrine will be borne from the sales revenue of water-seal latrines. Information leaflets with drawings of home-made latrines will be made available to the public at the production centre.

21.16. Daily Consumption and Production Register

The Pouna Engineer (PE) will maintain a daily consumption and production register. The daily consumption of raw materials with corresponding production of finished products will be recorded daily in this register. A proforma is at ANNEX 21.

21.17. Monthly Production, Sale and Materials Reports

The Pouna Engineer (PE) will prepare and submit to the SOE, DPHE and Pourashava chairman monthly production, sales and materials accounts report as per ANNEX 22.

He will send one copy to the Pourashava Chairman and 3 copies to the SDE, DPHE. The SOE will send one copy to the EE territorial and one copy to the UZO concerned.

21.18. Latrine Installation Register

The Pouna Engineer (PE) will maintain a latrine installation register as per proforma at ANNEX 23. He will collect the installation information through the Pouna PHP/Mechanic.

22. MAINTENANCE OF HANDPUMP SYSTEM

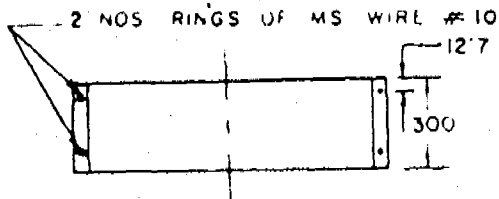
The Project Director (PD) will bear overall responsibility of the project. The beneficiaries will assume responsibility for operation and maintenance of all installations provided under this project. In the case of installations by self-help, the responsibility of the beneficiaries commences at the time of their receipt of materials from the stores. In the case of installations under the contract system, the contractor may be liable to rectify any defects reported within the time specified in the contract, after which responsibility must be assumed totally by the beneficiaries.

The beneficiaries will nominate one Caretaker family who will receive training and, if necessary, tools as part of the installation procedure.

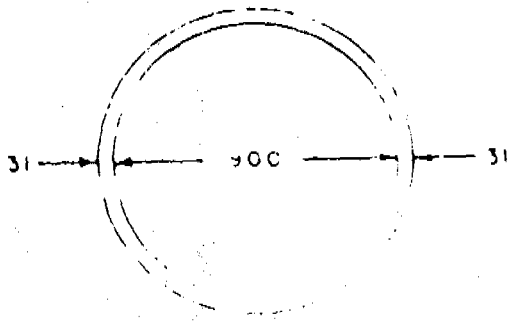
Although primary responsibility for maintenance remains with the beneficiaries, they may request the Pouna Engineer for technical advice or material assistance. If the Pourashava is not able to meet this request, it may be passed on to DPHE.

DESIGN AND SPECIFICATION OF  
DIFFERENT COMPONENTS OF LATRINES

1. 914.4 DIA. RCC RINGS (1:2:4)



ELEVATION



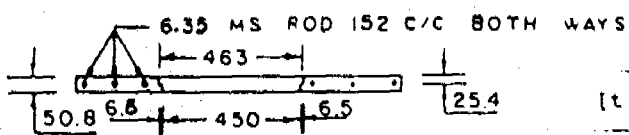
PLAN

REQUIREMENT OF MATERIALS & LABOUR

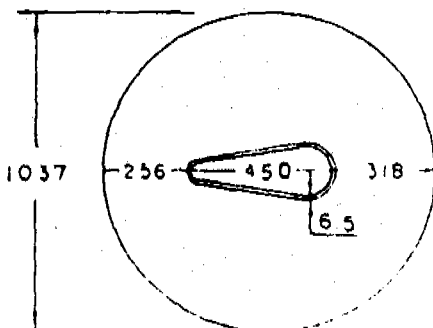
Item	Unit	Qty.	Cost	Source
Cement	lb.	33	33.00	UNICEF/DPHE
Sand	cft.	0.73	6.00	Pourashava
Khoa	cft.	1.46	37.00	Pourashava
M.S. Wire	lb.	1.10	11.00	UNICEF/DPHE
Tools	L.S.	L.S.	3.00	Pourashava
Mason	No.	1/10	8.00	Pourashava
Labour	No.	1/10	5.00	Pourashava

Total Take = 103.00

2. 50.8 THICK RCC SLAB (1:2:4, WITHOUT PAN)



ELEVATION



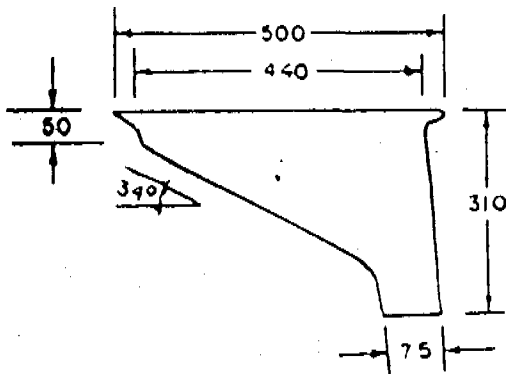
PLAN

REQUIREMENT OF MATERIALS & LABOUR

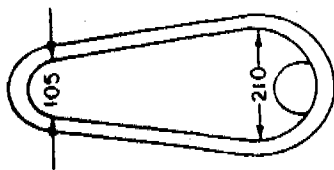
Item	Unit	Qty.	Cost	Source
Cement	lb.	29	29.00	UNICEF/DPHE
Sand	cft.	0.64	5.00	Pourashava
Khoa	cft.	1.28	32.00	Pourashava
6.35 MS Rod	lb.	5.20	52.00	UNICEF/DPHE
Tools	L.S.	L.S.	3.00	Pourashava
Mason	No.	1/4	20.00	Pourashava
Labour	No.	1/6	8.00	Pourashava

Total Take = 149.00

3. CONCRETE PAN WITHOUT WATER SEAL FOR TWIN PIT LATRINE  
(Ratio 1:1, Thickness 12.7)



ELEVATION



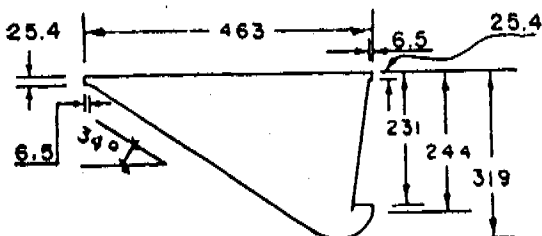
PLAN

REQUIREMENT OF MATERIALS & LABOUR

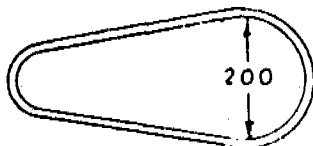
Item	Unit	Qty.	Cost	Source
Cement	10.	10	10.00	UNICEF/DPH
Sand	cft.	0.15	1.20	Pourashava
Khoa	cft.	nil.	-	
Tools	L.S.	L.S.	2.00	Pourashava
Mason	No.	1/6	13.33	Pourashava
Labour	No.	1/8	6.25	Pourashava

Total Take = 32.78

4. FERRO CEMENT PAN WITH WATER SEAL FOR DIRECT PIT (DPHE TYPE)  
(Ratio 1:1, Thickness 12.7)



ELEVATION



PLAN

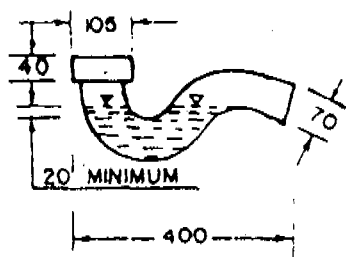
REQUIREMENT OF MATERIALS & LABOUR

Item	Unit	Qty.	Cost	Source
Cement	lb.	10	10.00	UNICEF/DPH
Sand	cft.	0.15	1.20	Pourashava
Wire mesh	sft.	0.25	2.50	UNICEF/DPH
Crude Oil	litre	0.136	0.78	Pourashava
Wax	lb.	0.02	0.60	Pourashava
K. Oil	gal.	0.01	0.55	Pourashava
Tools	L.S.	L.S.	2.00	Pourashava
Mason	No.	1/6	13.33	Pourashava
Labour	No.	1/8	6.25	Pourashava

Total Take = 37.21



5. CONCRETE 'U'-PIPE FOR PAN (FOR OFFSET PIT)  
(Ratio 2:1, Thickness  $\frac{1}{2}$ " )



REQUIREMENT OF MATERIALS & LABOUR

Item	Unit	Qty.	Cost	Source
Cement	lbs.	2.16	2.00	UNICEF/DPHE
Sand	cft.	1.0	8.00	Pourashava
Wax ) K. Oil )	L.S.	L.S.	3.00	Pourashava
Tools	L.S.	L.S.	4.00	Pourashava
Mason	No.	1/10	8.00	Pourashava
Labour	No.	1/10	5.00	Pourashava

Total Taka = 30.00

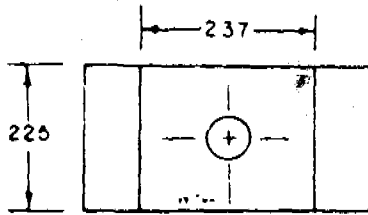
6. 4" DIA. CEMENT PIPE (FOR OFFSET PIT) 2' - 6" LONG  
(Ratio 1:3, Thickness  $\frac{1}{2}$ " )

REQUIREMENT OF MATERIALS & LABOUR

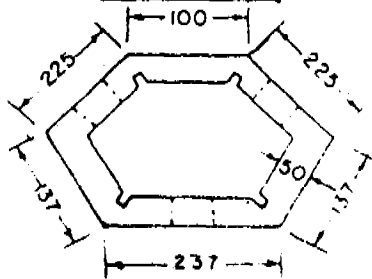
Item	Unit	Qty.	Cost	Source
Cement	lbs.	5	5.00	UNICEF/DPHE
Sand	cft.	2	16.00	Pourashava
Crude Oil ) K. Oil )	L.S.	L.S.	2.00	Pourashava
Tools	L.S.	L.S.	2.00	Pourashava
Mason	No.	1/15	5.33	Pourashava
Labour	No.	1/15	3.33	Pourashava

Total Taka = 33.66

9. Y - JUNCTION WITH GATE (FOR OFFSET PITS)  
(Ratio 1:3, Thickness 2")



ELEVATION

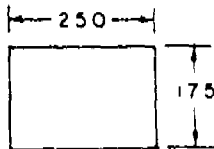


PLAN

FOR GATE



ELEVATION



PLAN

REQUIREMENT OF MATERIALS & LABOUR

Item	Unit	Qty.	Cost	Source
Cement	lb.	15	15.00	UNICEF/DPHE
Sand	cft.	0.67	5.36	Pourashava
MS wire	lb.	0.25	2.25	UNICEF/DPHE
Tools	L.S.	L.S.	2.00	Pourashava
Mason	No.	1/8	8.00	Pourashava
Labour	No.	1/8	6.25	Pourashava
Others	L.S.	L.S.	2.00	Pourashava

Total Take = 40.86

REQUIREMENT OF MATERIALS & LABOUR

Item	Unit	Qty.	Cost	Source
Cement	lb.	1	1.00	UNICEF/DPHE
Sand	cft.	0.05	0.50	Pourashava
Mason	No.	1/15	5.33	Pourashava
Labour	No.	1/15	3.33	Pourashava
Others	L.S.	L.S.	1.00	Pourashava

Total Take = 11.16

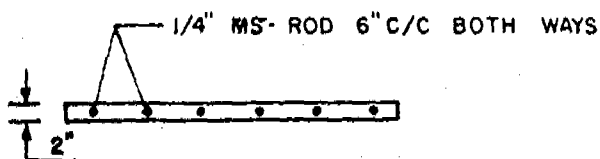
FOR TOP COVER (THICKNESS 2", RATIO 1:3)REQUIREMENT OF MATERIALS & LABOUR

Item	Unit	Qty.	Cost	Source
Cement	lb.	4	4.00	UNICEF/DPHE
Sand	cft.	0.16	1.28	Pourashava
C.W. Mesh	sft.	1	3.00	UNICEF/DPHE
Mason	No.	1/10	8.00	Pourashava
Labour	No.	1/10	5.00	Pourashava
Others	L.S.	L.S.	2.00	Pourashava

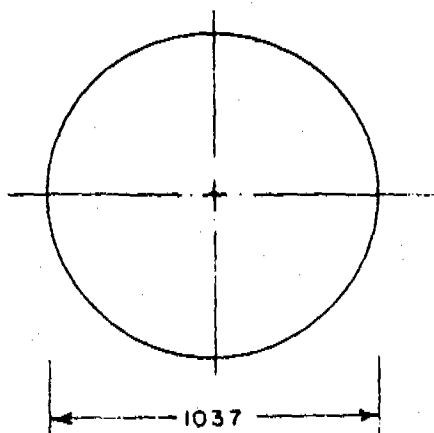
Total Take 23.28

GRAND TOTAL      75.30

B. 2" THICK RCC (1:2:4) BLANK SLAB (FOR PIT COVER OF OFFSET PITS)



ELEVATION



PLAN

REQUIREMENT OF MATERIALS & LABOUR

Item	Unit	Qty.	Cost	Source
Cement	lb.	29	29.00	UNICEF/DPHE
Sand	cft.	0.64	5.00	Pourashava
Khoa	cft.	1.28	32.00	Pourashava
1/4" MS Rod	lb.	5.50	55.00	UNICEF/DPHE
Tools	L.S.	L.S.	3.00	Pourashava
Mason	No.	1/4	20.00	Pourashava
Labour	No.	1/6	6.00	Pourashava

Total Taka = 152.00

Unit Sale Price of Different Components of Latrines

Maximum and minimum unit sale price of different latrine component are shown below. The Paurashavas will adopt price appropriate for its local costs.

Items	Maximum unit price	Minimum unit price
1. 36" dia RCC rings	Tk. 40 for the first ring only of the single pit latrine. Tk. 65 for each any other rings	Tk. 30 for the 1st ring only of single pit latrine. Tk. 60 for each any other ring.
2. 2" thick RCC slab without pan	Tk. 60 if the latrine is single pit. Tk. 75 for double pit	Tk. 50 if the latrine is single pit. Tk. 68 if the latrine is double pit.
3. Concrete pan without water seal for twin pit latrine	Tk. 25.00	Tk. 23.00
4. Ferrocement pan with water seal for direct pit	Tk. 20.00	Tk. 15.00
5. Concrete U-pipe for pan for offset pits	Tk. 31.00	Tk. 28.00
6. 4" dia cement pipe for offset pit (2,-6")	Tk. 32.00	Tk. 29.00
7. Y-junction with base, gate and top cover	Tk. 55.00	Tk. 50.00
8. 2" thick RCC blank slab for pit cover of offset pits	Tk. 75.00	Tk. 68.00

Cash Memo No. \_\_\_\_\_  
 (Latrine sale) date: \_\_\_\_\_

Name of Paurashava: \_\_\_\_\_  
 Name & address of buyer: \_\_\_\_\_

Type of latrine to be built: Single pit /\_\_\_/ Double pit /\_\_\_/

Sl. No. Items	Quantity	Unit price	Total price
---------------	----------	------------	-------------

1. RCC ring
2. RCC slab without pan
3. Concrete pan without water seal
4. FC pan with water seal
5. U-pipe
6. Cement pipe
7. Y-junction with plate
8. RCC blank slab for cover

Total: \_\_\_\_\_

Signature of the buyer

Date: \_\_\_\_\_

Signature of the seller

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Date: \_\_\_\_\_

Cash Memo No. \_\_\_\_\_  
 (Latrine sale) date: \_\_\_\_\_

Name of Paurashava: \_\_\_\_\_  
 Name & address of buyer: \_\_\_\_\_

Type of latrine to be built: Single pit /\_\_\_/ Double pit /\_\_\_/

Sl. No. Items	Quantity	Unit price	Total price
---------------	----------	------------	-------------

1. RCC ring
2. RCC slab without pan
3. Concrete pan without water seal
4. FC pan with water seal
5. U-pipe
6. Cement pipe
7. Y-junction with plate
8. RCC blank slab for cover

Total: \_\_\_\_\_

Signature of the buyer

Date: \_\_\_\_\_

Signature of the seller

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

Date: \_\_\_\_\_

Register for recording daily consumption of  
raw materials and production of  
finished products

ANNEX  
Page

Name of the Panchayat: \_\_\_\_\_

Name of the month: \_\_\_\_\_

PART A

Sl No.	Item of raw materials and finished products	Stock from previous month	Total quantity received during the month	Total available quantity during the month	Remarks (Quantity and date of receipt of each item during the month)
1.	Cement (bag)				
2.	Khoa (cft)				
3.	Sand (cft)				
4.	Chicken wire (roll/sft)				
5.	MS wire no. 10 (kg)				
6.	RCC ring (No.)				
7.	RCC slab without pan (No.)				
8.	Concrete pan without water seal (No.)				
9.	PC pan with water seal (No.)				
10.	U-pipe for pan (No.)				
11.	Cement pipe (No.)				
12.	Y-junction with gate (No.)				
13.	RCC blank slab for cover (No.)				

Ref: Annex 21

Consumption and Production

Date	CONSUMPTION					PRODUCTION							
	Cement	Khoa	Sand	Chicken wire	MS wire	RCC ring	RCC slab without pan	Concrete pan without water seal	FC pan with water seal	U-pipe for pan	Cement pipe	Y-junction with gate	RCC blank slab for cover
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
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16													
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20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													
31													
Total:													
Total sale during month													
Balance at the end of the month													

Raw material = (Total available) - (total consumption during the month)  
 Finished product = (stock from previous month + total production) - total sale

Monthly Materials Accounts and Progress Report  
(Latrine Production and Sale)

ANNEX C

Name of the Pourashava : \_\_\_\_\_

Report for the month of \_\_\_\_\_

Sl. No.	Items of raw materials and finished products	Stock from previous month	Total additional quantity received/produced during the month	Total quantity available during the month	Total quantity consumed/sold during the month	Balance at the end of the month	Amount of sale proceeds received	Amount of sale proceeds deposited in the bank	Remarks On sale pattern
1	Cement (bag)								SINGLE PIT LATRINE
2	Khoa (cft)								1 with one slab only -
3	Sand (cft)								2 with one slab and one rings only -
4	Chicken wire mesh (roll/sft)								3 with one slab +
5	MS wire No.10 (kg)								2 rings -
6									4 with 1 slab + 3 rings -
7									5 with 1 slab + 4 rings -
8									6 with 1 slab + 5 rings -
9									TWIN PIT LATRINE
10	RCC ring (no.)								1 with Concrete pan, U-pipe Y and cement pipe etc.
11	RCC slab without pan (no.)								+ 2 rings only -
12	Concrete pan without water seal (No.)								2 with 4 rings only -
13	FC pan with water seal (no.)								3 with 6 rings only -
14	U-pipe (no.)								4 with 8 rings only -
15	Cement pipe (no.)								5 with 10 rings only -
16	Y-Junction with gate (no.)								OTHERS (name & quantity of individual items only
17	RCC blank plate (no.)								

Total:

Memo No. \_\_\_\_\_ Date \_\_\_\_\_

Copy to: \_\_\_\_\_ Signature of the Poura Engineer: \_\_\_\_\_

The Chairman \_\_\_\_\_ Pourashava (1 copy) Name of the Poura Engineer: \_\_\_\_\_  
The SDE, DPHE \_\_\_\_\_ Subdivision (3 copies) Designation of the PE: \_\_\_\_\_

Date: \_\_\_\_\_

Ref: annex22



