# Society Educational Awarenes, Reseach Consultancy, and Health Organization (SEARCHO)

**TECHNICAL SPECIFICATION STANDARD FORMAT FOR DRY VAULT LATRINE**
**Dara – e- Peach, Nari and Nurgal districts of Kunar Province**

## 1. Description

This is a succinct description of the activities to do. The technical specification required will be described below. The designs are in Appendix.
Society Educational Awareness Research Consultancy and Health Organization (SEARCHO) proposes to improve sanitation conditions of local communities in Nari, Dara –e-Peach and Nurgal districts of Kunar. Society Educational Awareness Research Consultancy and Health Organization (SEARCHO) will construct 26 community latrines. The latrine is a pit latrine with a back pipe (vent pipe) fitted to the pit and a screen (fly screen) at the top outlet of the pipe. Latrines are an improvement to overcome the disadvantages of simple pit latrines, i.e. fly and mosquito nuisance and unpleasant odors. The smell is carried upwards by the chimney effect and flies are prevented from leaving the pit and spreading disease. The locations for the latrines will be finalized in consultation with the local communities and SEARCHO Staff.

a) Stone masonry of vault (height 1.8m, length 2.2 m, width 0.5) with foundation and pointing.
b) Stone masonry of stair (height 1.4m, length 2.3m, width 1m) and pointing.
c) Mark of concrete/mortar for stone masonry M-120
d) Installation of metallic trap door (45cm X 45cm) in the vault for empty excreta from latrine.
e) Installation wooding beam, wooding timber and thatch floor.
f) Installation 4” PVC normal type black color pipe for ventilation
g) PCC for covering the floor for seating place (thickness 10cm).
h) Mark of PCC concrete is (M-150).
i) Installation urine 2” GL pipe
j) Fitted urine pipe in Gras trap/sock pit and covered by plastic sheet.
k) Booth mud prick masonry according drawing and mud plastering
l) Covering roof by weeding beam, timber, thatch and mud plastering.
m) Wooding/Metallic door (180 x 90) cm
n) Installation of wooding window frame (25 x 25) cm with mesh

### A – MATERIAL

**Concrete**
*Cement*

- Cement to be used for the mortar and concrete will be preferably artificial Portland cement CPJ CEM II / A 32.5 OR CPJ CEM II / B 32.5 R
- Recoveries of cement dust is prohibited.
- Cement use on the site should not be stored over long periods (more than two months), the Engineer on site will check the quality on regular basis.

*Sand*

- Sand calibration: 1 to 3mm (sieve down)
- The sand used to prepare the mortar must be washed and cleaned.

*Gravel*

The gravel used for every concrete part must be crashed, cleaned and have10 to 25 mm diameter.

Water:

- The water used for every concrete part needs to be clear (turbidity less than 5 NTU) and the cement ratio should not be more than 50%.
- Stone Masonry- (50ft3) = the maximum water used would be 25 liters
- Type 2 (Concrete 1:2:4) = the maximum water used would be 25 liters
- Pointing (1:2)- = the maximum water used would be 18 liters

Concrete

The concrete Mix should have a strength of 150kg/cm². The mixing will be carried out on a well prepared surface (no trash, dust, branch or grass), where the procedure is to dry-mix the cement, sand and gravel, turning over the heap regularly. Once the dry materials are properly mixed, a crater will prepare, into which a suitable quantity of water would be added. Moreover, the concrete will be smooth to avoid any kid of deterioration which can be caused by water or something else.

Appropriate precautions to take are:

- Do not add to much water to avoid excessive shrinkage and separation of the concrete.
- Work at temperature higher than 5°C or use the relevant materials if the temperature is not higher the 5°C (anti freezing additives, calcium chlorite).

Gravel for sock pit

The gravel to use for sock pit must have size is (15 X 30) cm.

## 2. WORK FOLLOW-UP

In order to allow an effective follow-up of work, the Contractor will hold a book of building site on which all information related to the work will be reported. This book will allow the SEARCHO controller, as of his arrival on the building site, to know exactly the progress report of construction work. The remarks and reserves of the Contractor and/or the person in charge for the programmed will be notified in the book of building site. A copy of this field notebook will have to be given to SEARCHO in the end of the project and might be used as intermediate or final report to the donor. On the book of building site, all information will be written down concerning:

- Name of the building site (description of the location);
- logical description of the samples;
- Measurement of the works.
- Generally, all technical details, incidental, clean breakdowns, difficulties with the course of work, with indication of the hours when they occurred.

## 3. WORK PLAN

**This Work Plan for 26 latrine Construction**

**The work must be finished within 8 weeks after the beginning of the construction site**

| No | Description | Week | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | Stone Masonry | | | | | | | | |
| 2 | Foundation excavation | | | | | | | | |
| 3 | Sand | | | | | | | | |
| 4 | Portland cement (M40) (50kg) | | | | | | | | |
| 5 | Trap Door (45*45) cm | | | | | | | | |
| 6 | RCC Slab | | | | | | | | |
| 7 | G.I pipe with elbow | | | | | | | | |
| 8 | PVC 4" pipe black color | | | | | | | | |
| 9 | Mesh of Ventilation PVC 4" | | | | | | | | |
| 10 | Concrete Blocks | | | | | | | | |
| 11 | Plastering | | | | | | | | |
| 12 | Gutter | | | | | | | | |
| 13 | Wooding/ Metallic door(180*90) cm | | | | | | | | |
| 14 | Wooding frame for ventilation (25*25) cm | | | | | | | | |
| 15 | Gravel (10-15) cm | | | | | | | | |
| 16 | Plastic sheet | | | | | | | | |
| 17 | paint | | | | | | | | |

**Appendix: A**

PLAN OF DRY VAULT LATRINE
SECTION A-A
Mud Straw Plaster T= 5 Cm
Dry Soil T= 3 Cm
Mud T= 8 Cm
Straw mud T=1 Cm
Wooden board T= 1.5 Cm
Round wood timbers T= 12 Cm
Non Pressure PVC Vent Pipe D= 4"
zero size Mesh
Concrete Blocks (Wall)
Plate Stone
Ground Level
Ground Level
220.00
35.00
280.00
35.00
150.00
35.00
220.00
30.00
30.00
30.00
190.00
180.00
225.00
45.00
110.00
60.00
50.00
100.00
50.00
No
Surveyed by :
Sidiqullah Omid & Ajmal Qarezada
1
Designed by:
Sayed Hussain Nejat
2
Drawn by:
Mohammad Daud Shafaq
3
Approved by:
Mukhtar Ahmad Basharmal
SEARCH Organization
Scale:
Date:
April 2022
Drawing No:
Sheet No.
01/01
Province:
Kunar
Districts:
Nari,Nurgal & Dara-e-Pech
Village/CDC:
Concern Villages as perContract
Project name: AHF/WASH Project
Drawing Title: Latrine Plan & Section

## SLAB REINFORCEMENT DETAILS

## MANHOLE FRAME & COVER SLAB PLAN

## MANHOLE CONCRETE FRAME

### SECTION C-C

## SECTION B-B

## COVER SLAB REINFORCEMENT DETAILS

## SECTION D-D

| No | | | |
|---|---|---|---|
| | Surveyed by : | Sidiqullah Omid & Ajmal Qarezada | |
| 1 | Designed by: | Sayed Hussain Nejat | |
| 2 | Drawn by: | Mohammad Daud Shafaq | |
| 3 | Approved by: | Mukhtar Ahmad Basharmal | |

SEARCH Organization

| | | | | | |
|---|---|---|---|---|---|
| Scale: | | Sheet No. | 01/01 | Province: | Kunar |
| Date: | April 2022 | | | Districts: | Nari,Nurgal & Dara-e-Pech |
| Drawing No: | | | | Village/CDC: | Concern Villages as per Contract |

Project name: AHF/WASH Project

Drawing Title: Reinforcement Details /Plan & Section