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DRUK HOLDING & INVESTMENTS LTD.

STATE MINING CORPORATION LIMITED

SAMTSE BHUTAN



NIT No. SMCL/HRAD/PROC-1/2024/9992

Date: 08.11.2024

Notice Inviting Tender

The Human Resources & Administration Division of State Mining Corporation Limited invites qualified bidders to submit bids for the construction of an intake chamber, a ferro-cement reservoir tank (FCR), and a break pressure tank as part of a water supply project under the Rural Water Supply Scheme, in accordance with the specified terms and conditions.

Terms and Conditions

1. Scope of Work

- 1.1. The scope of the Work is Construction of Intake chamber, Ferro-Cement Reservoir tank (FCR) and Break pressure tank for water supply under RWSS .The technical specification and the Bill of Quantity are as attached at **Annexure -I**.

2. Clarification to the bidding document

- 2.1. Further information can be obtained in writing from civil.co@smcl.bt / ugyenwangchuk@smcl.bt not later than 3 days from the date of bid submission.

3. Documents comprising bid

- 3.1. The bid must comprise the following documents:
- Bid Security
 - Valid CDB and Trade license
 - Tax clearance
 - Bill of Quantity
 - Drawings and any other relevant documents

4. Bid Price

- 4.1. All prices shall be quoted in Ngultrum(Nu) . The quoted price shall be inclusive of taxes, duties and other levies.

5. Bid Validity

- 5.1. The bid shall be valid for 60 days from the date of submission of the bid.

6. Bid Security

- 6.1. The bid shall be accompanied by a bid security of Nu. 27,500/- in the form of Cash Warrant/ Unconditional Bank Guarantee/ Banker Cheque/ Demand draft in the name of the State Mining Corporation Limited, issued by a reputable Financial Institution enforceable in any Banks in Bhutan.

- 6.2 The Bid security shall be valid up to 07/01/2025
- 6.3 The Bid Security is to be submitted as a part of the Bid in a separate sealed envelope. Any Bid not accompanied by bid security of adequate value and validity shall be rejected by Employer as non-responsive.
- 6.4 The bid security shall be forfeited in the following cases:
- If the Bidder withdraws the bid after Bid opening during the period of Bid validity;
 - If the Bidder does not accept the correction of the Bid price;
 - In the case of a successful bidder, if the bidder fails to sign the Contract or furnish Performance Security within the specified time limit.

7. Submission of Bids

- 7.1. The bid including all documents should be duly filled, signed and sealed in an envelope and addressed to and delivered at the following address to Chief Executive Officer, State Mining Corporation Limited, Samtse Bhutan.

8. Submission deadline

- 8.1. The deadline for receipt of bid(s) by the Employer is 25/11/2024 at 1:00 PM. Bids by electronic means *are or are not* acceptable.

9. Bid Opening

- 9.1. The bid(s) will be opened in the presence of bidders or their representatives who choose to attend at Conference Hall, SMCL Samtse on 25/11/2024 at 2:30 PM. In case due date of the opening of the bid falls on non-working day, the opening of the bid shall be the next working day at the same time.

10. Evaluation of Bid

- 10.1. Bids determined to be substantially responsive to the technical specifications and commercial conditions will be evaluated by comparison of their quoted prices. In evaluating the bids, the Employer will determine for each bids the evaluated price by adjusting the priced bid by making any correction for any arithmetical errors as follows:
- where there is a discrepancy between amounts in figures and in words, the amount in words will govern;
 - where there is discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted shall govern unless in the opinion of the Employer there is an obviously gross misplacement of the decimal point in the unit rate, in which case the line item total as quoted shall govern, and the unit rate shall be corrected.
- 10.2. To assist in the evaluation, comparison of the Bids, the Employer may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered.

11. Employer’s Right to Accept Any Bid, and Reject any or All Bids

11.1. The Employer is not bound to accept the lowest bid and reserves the right to accept or reject any or all the bids without assigning any reason whatsoever.

12. Award of Contract

12.1. The Employer shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated Bid. The Employer shall issue Notification of Award to the successful Bidder. Until a formal Contract is prepared and executed, the Notification of Award shall constitute a binding Contract.

13. Performance Security

13.1. The contractor shall be required to furnish performance security of 10% of the quoted price in the form of cash warrant, demand draft or unconditional Bank Guarantee in the name of State Mining Corporation Limited issued by a reputable financial institution enforceable in any Banks in Bhutan, which shall be furnished upon issuance of notification of the award. Performance Security shall be valid till the handing-taking over of the works.

13.2. The 10% of the payment shall be retained as retention money till the issuance of No Defects Liability Certificate.

14. Variation

14.1. Introducing a Change

14.1.1. Employer shall have the right to propose, and subsequently require, that the Project Manager order the Contractor from time to time during the performance of the Contract to make any change, modification, addition/alteration or deletion to, in or from the Works in the form, quantity or quality of the Works or any part thereof (hereinafter called “Change”), provided that such Change falls within the general scope of the Works and does not constitute unrelated work and that it is technically practicable, taking into account both the state of advancement of the Works and the technical compatibility of the Change envisaged with the nature of the Works as specified in the Contract. Such changes shall include but not limited to the following:

- a. increase or decrease in the quantity of any work included in the Contract;
- b. omission or substitution of any work;
- c. change the drawings, designs specifications, character or quality or kind of any work;
- d. change the levels, lines, positions and dimensions of any part of the Works;
- e. execution of additional work of any kind necessary for the completion of the Works;
- f. change in any specified sequence, method or timing of construction of any part of the Works.

14.1.2. No such changes shall in any way vitiate or invalidate the Contract. The Contractor shall be bound to carry out the works in accordance with such instructions as may be given to him in

writing by the Project Manager. However, the value, if any, of all such Change shall be taken into account in ascertaining the amount of the Contract Price.

- 14.1.3. The Contractor may, from time to time during its performance of the Contract, propose to Employer (with a copy to the Project Manager) any Change that the Contractor considers necessary or desirable to improve the quality, efficiency or safety of the Works. SMCL may at its discretion approve or reject any Change proposed by the Contractor.
- 14.1.4. Notwithstanding **Error! Reference source not found.** and 14.1.3, no change made necessary because of any default of the Contractor in the performance of its obligations under the Contract shall be deemed to be a Change, and such change shall not result in any adjustment of the Contract Price or the Time for Completion.
- 14.1.5. The Contractor shall be under obligation to agree for the Changes as may be required during the execution of the Contract as per directions of the Project Manager and execute such changes at the same rates included in the Contract, provided the total effect of such changes does not exceed the limit of plus/minus twenty percent (+-20%) of the Contract Price. Such ceiling will however be applicable only for items of work/supply for which rates are provided in the Contract. Notwithstanding the aforesaid provision, the quantities for individual items, if specified in the Contract, can vary to any extent. No claim for revision of rates for any individual item in the Bill of Quantities shall be admissible irrespective of the extent to which the ordered quantity may get revised (+) or (-) during the actual execution of the Works. For change beyond twenty percent (20%) of the Contract Price, the adjustment in the rates for Bill of Quantity items shall be made as per the variation slab hereunder:

Variation in value of work	Increase in payment for minus variation	Decrease in payment for plus variation
Up to 20%	Nil	Nil
Above 20% & up to 35%	6.00%	3.00%
Above 35% & up to 60%	8.00%	4.00%
Above 60% & up to 100%	10.00%	5.00%
Above 100%	-	5.00%

- 14.1.6. While working out the value of work for the purpose of variation, the extra items for which new rates have been paid and payment towards price adjustment; and the adjustment towards statutory variations shall not be considered.

15. Extension of time for Completion

- 15.1. The time for completion shall be extended, if the Contractor is delayed or impeded in the performance of any of its obligations under the Contract for reasons not attributable to the Contractor. The extension shall be for such period as shall be fair and reasonable in all the circumstances and as shall fairly reflect the delay or impediment sustained by the Contractor.

16. Force Majeure

16.1. “Force Majeure” shall mean any unavoidable event beyond the reasonable control of Employer or of the Contractor, as the case may be, and which has impeded the progress of work unreasonably and shall include, without limitation to the following:

- a) War, hostilities or warlike operations whether a state of war be declared or not, invasion, act of foreign enemy and civil war;
- b) Rebellion, terrorism, revolution, sabotage by persons other than the Contractor’s personnel, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion and terrorist acts;
- c) Riot, commotion, disorder, strike or lockout by persons other than the Contractor’s personnel;
- d) Munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the Contractor’s use of such munitions, explosives, radiation or radio-activity;
- e) Confiscation, nationalization, mobilization, commandeering or requisition by or under the order of any government or de jure or de facto authority or ruler or any other act or failure to act of any government authority;
- f) Embargo, import restriction, port congestion, , industrial dispute, shipwreck, shortage or restriction of power supply, epidemics/pandemic, quarantine and plague;
- g) Natural catastrophes such as earthquake, hurricane, typhoon, volcanic activity, fire, landslide or flood;
- h) The physical conditions or artificial obstructions on the Site.

16.2. In the event that the Contractor is delayed in performing any of their respective obligations under the Contract, and such delay is caused by force majeure, such delay may be and the period of such delay may be added to the time of performance of the obligation delayed.

17. Liquidated Damage

17.1. If the Contractor fails to complete the work within the period specified in the Contract, the Employer shall deduct liquidated damages at the rate of 0.3 % per day for each day of delay to a maximum of 10% of the Contract price.

18. Payment Terms

18.1. At the time of release of payment, tax shall be deducted at source (TDS) from the gross amount of bills as per the Income Tax Act of the Bhutan. The Employer shall furnish necessary TDS Certificate to the Bidders, issued by the Department of Revenue & Customs, RGoB.

19. Defect liability Period

19.1. The defects liability period shall be a period of a minimum of 6 months.

20. Termination

20.1. The Employer or the Contractor by giving thirty (30) days written notice of default to the other party, may terminate the Contract in whole or in part if the other party causes a fundamental breach of Contract.

21. Suspension

21.1. Project Manager at any time may, by notice to the Contractor, order the Contractor to suspend performance of any or all of its obligations under the Contract. The Contractor shall thereupon suspend performance of such obligation until ordered in writing to resume such performance by the Project Manager. During the period of suspension, the Contractor shall not remove from the site any equipment, material or any part of the works or any Contractor's Equipment, without the prior written consent of Employer.

22. Governing Law

22.1. The Contract shall be governed by and interpreted in accordance with the Laws of Bhutan.

23. Dispute Resolution

23.1. All disputes arising in connection with the present Contract shall be resolved through arbitration in accordance with the rules and procedures of the Alternate Dispute Resolution Act 2013.



Annexure- I

Bill of Quantities (BoQ)

Name of Work: Construction of Intake chamber, Ferro-Cement Reservoir tank (FCR) and Brake pressure tank for water supply under RWSS.							
Location: Shingbuwoong, Dewathang Gewog under Samdrupjongkhar Dzongkhag.							
Prepared By: State Mining Corporation Limited							
Project Duration: 120 days							
Sl No	BSR Code	Description	UoM	Qty.	Rate	Amount	Amounts in words
1	AR	Construction of intake chamber as per the design and drawing- all complete including clearing and excavation works. (Refer Appendix I, Table 1 for the list of pipe fittings and pipes required to be considered in Rate analysis of intake)	each	2.00			
2	AR	Construction of FCR 16cum in accordance with the RWSS design & drawings- all complete including clearing and excavation works. (Refer Appendix I, Table 2 for the list of pipe fittings and pipes required to be considered in Rate analysis of 16cum FCR)	each	1.00			
3	AR	Construction of FCR 12cum in accordance with the RWSS design & drawings- all complete including clearing and excavation works. (Refer Appendix I, Table 3 for the list of pipe fittings and pipes required to be considered in Rate analysis of 12 cum FCR)	each	1.00			
4	AR	Construction of Back Pressure Tank [BPT] in accordance with the RWSS design & drawings- all complete including clearing and excavation works. (Refer Appendix I, Table 4 for the list of pipe fittings and pipes required to be considered in Rate analysis of brake pressure tank)	each	3.00			

5	OHS001	Incorporation of Occupational Health and Safety measures at construction sites as per the attached requirements list. The standards and specifications for the Insurance, OHS materials and (or) equipment shall be in compliance with the Labour and Employment Act - 2007, Regulation on Occupational Health, Safety and Welfare - 2012, and other relevant national documents. All OHS items will remain as the property of the bidder upon completion of the project.	L/S	1			
6	OHS002	Providing temporary living accommodation which includes bed room, kitchen, and toilet cum bathroom including proper water supply and electricity as per the drawing and temporary living accommodation standards. The accommodation facilities must be dismantled and cleaned upon the completion of project. All reusable materials of the accommodation facilities will remain as the property of the bidder upon completion of the project.	L/S	1			



Appendix- I

Table 1. List of pipe fittings and pipes needed in Intake (one and two)				
1	GI Pipe	Description	Quantity	Unit
	1	2" (50mm)	1	m
	2	1 1/2" [40mm]	0.5	m
	3	1/2" (20mm)	0.45	m
2	GI Fitting			
		GI union 2"	1.00	no
		GI socket 2"	2.00	no
		Brass gate valve 2"	1.00	no
		GI union 1 1/2"	1.00	no
		GI nipple 2"	2.00	no
		GI nipple 1 1/2"	3.00	no
		Unequal tee 1 1/2"x1 1/2"x1/2"	1.00	no
		equal tee 1/2"	1.00	no
		Flange set/ Brass union 1 1/2"	1.00	no
3	HDP pipe			
		63mm, PN 4	12.00	m

Table 2. List of pipe fittings and pipes needed in 16cum FCR				
1	GI Pipe	Description	Quantity	Unit
	1	80mm [3"]	1.05	m
	2	50mm [2"]	7.5	m
	3	40mm [1 1/2"]	2.6	m
	4	25mm [1"]	2.6	m
	5	15mm [1/2"]	2.5	m
2	GI fittings			
	1	GI elbow 3"	1.00	no
	2	GI elbow 2"	2.00	no
	3	GI elbow 1 1/2"	2.00	no
	4	GI elbow 1"	2.00	no
	5	GI elbow 1/2"	2.00	no
	6	GI union 3"	1.00	no
	7	GI union 2"	1.00	no
	8	GI union 1/2"	1.00	no
	9	GI nipple 3"	3.00	no
	10	GI nipple 2"	2.00	no
	11	GI nipple 1/2"	2.00	no
	12	Brass gate valve 3"	1.00	no
	13	Brass gate valve 2"	1.00	no
	14	GI unequal tee 3"x3"x1/2"	1.00	no

	15	GI equal tee 2"	1.00	no
	16	GI equal tee 1/2"	1.00	no
	17	GI threaded flange 2"	1.00	no
	18	Flange set 3"	1.00	no
3	HDPE Pipe			
	1	63mm PN 4	12.00	m

Table 3. List of pipe fittings and pipes needed in 12 cum FCR

1	GI Pipe	Description	Quantity	Unit
	1	80mm [3"]	1.05	m
	2	50mm [2"]	6.8	m
	3	40mm [1 1/2"]	3.95	m
	4	20mm [1"]	1.05	m
	5	15mm [1/2"]	7.95	m
2	GI fittings			
	1	GI elbow 3"	1.00	no
	2	GI elbow 2"	2.00	no
	3	GI elbow 1 1/2"	3.00	no
	4	GI elbow 1"	1.00	no
	5	GI elbow 1/2"	6.00	no
	6	GI nipple 3"	3.00	no
	7	GI nipple 1 1/2"	3.00	no
	8	GI nipple 1"	3.00	no
	9	GI nipple 1/2"	6.00	no
	10	GI union 3"	1.00	no
	11	GI union 2"	1.00	no
	12	GI union 1 1/2"	1.00	no
	13	GI union 1"	1.00	no
	14	GI union 1/2"	3.00	no
	15	Brass gate valve 3"	1.00	no
	16	Brass gate valve 2"	1.00	no
	17	Brass gate valve 1 1/2"	1.00	no
	18	Brass gate valve 1"	1.00	no
	19	GI equal tee 2"	1.00	no
	20	GI equal tee 1/2"	3.00	no
	21	GI unequal tee 3x3x1/2"	1.00	no
	22	GI unequal tee 1 1/2x1 1/2x1/2"	1.00	no
	23	GI unequal tee 1x1x1/2"	1.00	no
	24	GI threaded flange 2"	1.00	no
	25	Flange set 3"	1.00	no
	26	Bruss union 1 1/2"	1.00	no
	27	Bruss union 1"	1.00	no
3	HDPE Pipe			

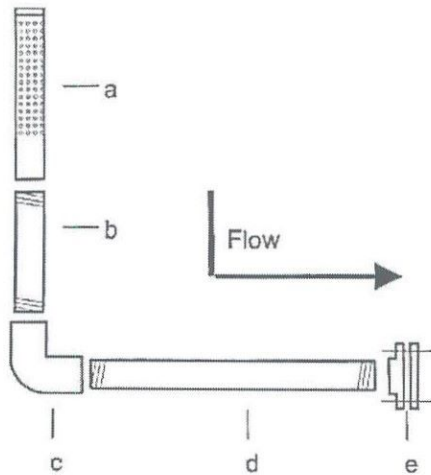
1	63mm PN 4	18	m
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Table 4. List of pipe fittings and pipes needed in brake pressure tank

GI Pipe	Description	Quantity	Unit
1	50mm [2"]	1.65	m
2	40mm [1 1/2"]	1.65	m
GI fittings			
1	Flange/brass union 2"	2.00	No
2	GI elbow 2"	5.00	No
3	GI union 2"	1.00	No
4	GI nipple 2"	3.00	No
5	Brass gate valve 2"	1.00	No
6	Float valve 2"	1.00	No
7	GI elbow 1 1/2"	2.00	No
8	GI union 1 1/2"	1.00	No
9	GI nipple 1 1/2"	2.00	No
10	Brass gate valve 1 1/2"	1.00	No
11	GI valve box 4"	1.00	No
HDPE Pipe			
1	40mm [1 1/2"] PN 4	6.00	m

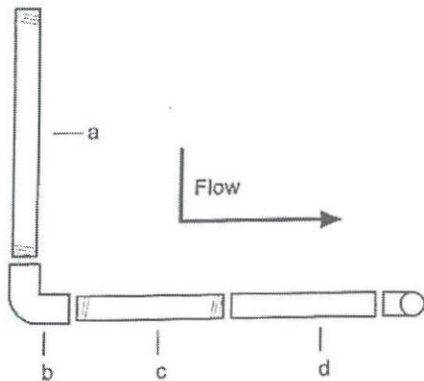


10.4.2 Outlet Fittings for BPT with float valve



FITTINGS REQUIRED	SIZE OF HDP MAIN SUPPLY LINE				
	4"	3"	2"	1 1/2"	1" / 1/2"
a. HDP Strainer	110/90mm	63mm	50mm	40/32mm	25/20mm
b. GI Pipe, 20 cm long	4"	3"	2"	1 1/2"	1"
c. GI Elbow	4"	3"	2"	1 1/2"	1"
d. GI Pipe, 40 cm long	4"	3"	2"	1 1/2"	1"
e. Flange Set/Brass Union	4"/110mm	3"/90mm	2"/63mm	1 1/2"/50mm	1"/32mm

10.4.3 Overflow Fittings

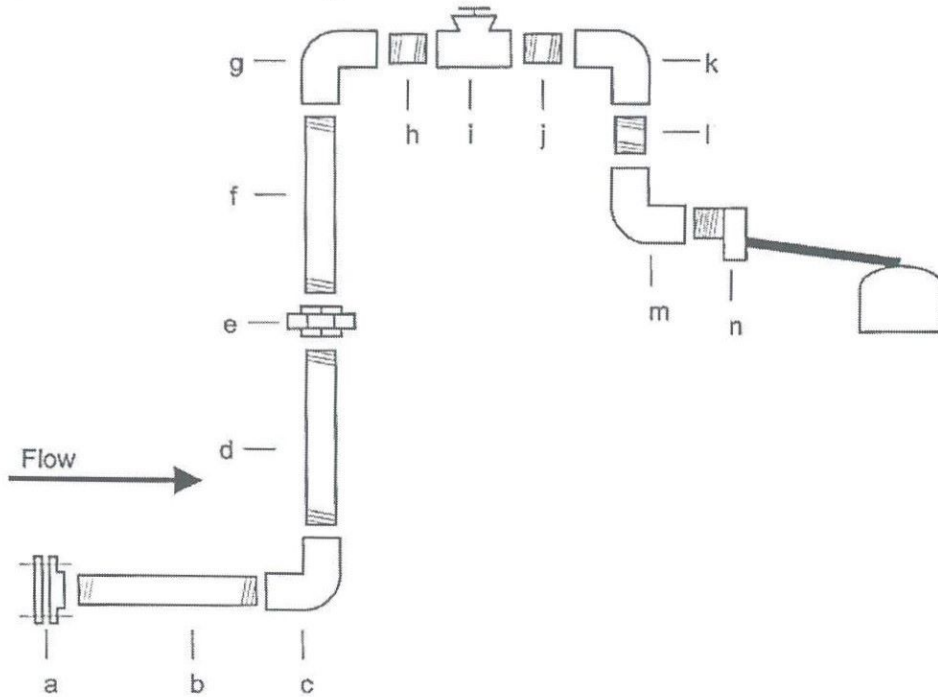


FITTINGS REQUIRED
a. 1 1/2" GI Pipe, 70 cm long
b. 1 1/2" GI Elbow
c. 1 1/2" GI Pipe, 40 cm long
d. 50mm HDP Pipe with bend



10.4 BPT WITH float-valve fitting details

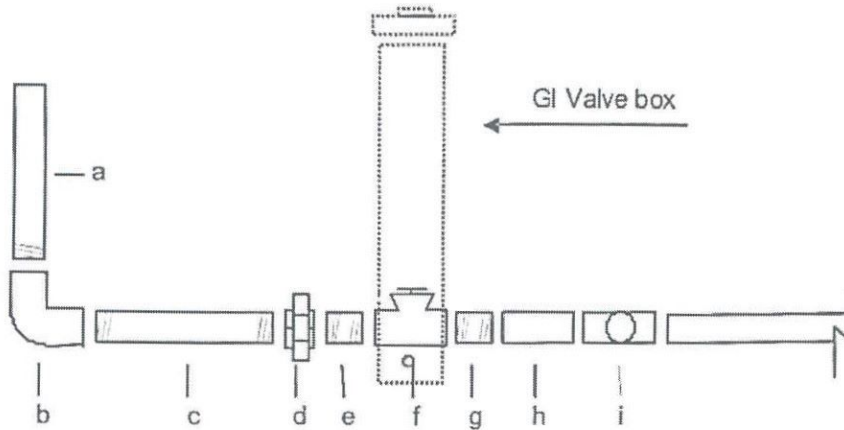
10.4.1 Inlet Fittings



FITTINGS REQUIRED	SIZE OF HDP MAIN SUPPLY LINE					
	4"	3"	2"	1 1/2"	1"	1/2"
	110mm	90mm	63mm	50/40mm	32/25mm	20mm
a. Flange Set/Brass Union	4"/110mm	3"/90mm	2"/63mm	1 1/2"/50mm	1"/32mm	1/2"/20mm
b. GI Pipe, 40 cm long	4"	3"	2"	1 1/2"	1"	1/2"
c. GI Elbow	4"	3"	2"	1 1/2"	1"	1/2"
d. GI Pipe, 40 cm long	4"	3"	2"	1 1/2"	1"	1/2"
e. GI Union	4"	3"	2"	1 1/2"	1"	1/2"
f. GI Pipe, 25 cm long	4"	3"	2"	1 1/2"	1"	1/2"
g. GI Elbow	4"	3"	2"	1 1/2"	1"	1/2"
h. GI Pipe, 15 cm long	4"	3"	2"	1 1/2"	1"	1/2"
i. Globe Valve/Gate Valve	4"	3"	2"	1 1/2"	1"	1/2"
j. GI Pipe, 15 cm long	4"	3"	2"	1 1/2"	1"	1/2"
k. GI Elbow	4"	3"	2"	1 1/2"	1"	1/2"
l. GI Nipple	4"	3"	2"	1 1/2"	1"	1/2"
m. GI Elbow	4"	3"	2"	1 1/2"	1"	1/2"
n. Float Valve	4"	3"	2"	1 1/2"	1"	1/2"



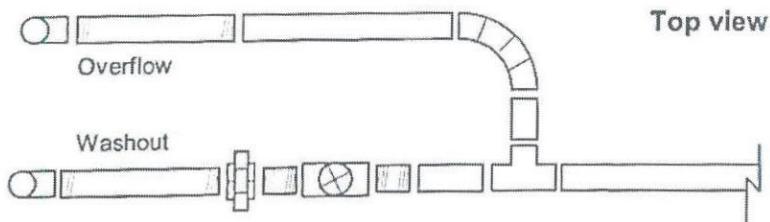
10.3.4 Washout Fittings



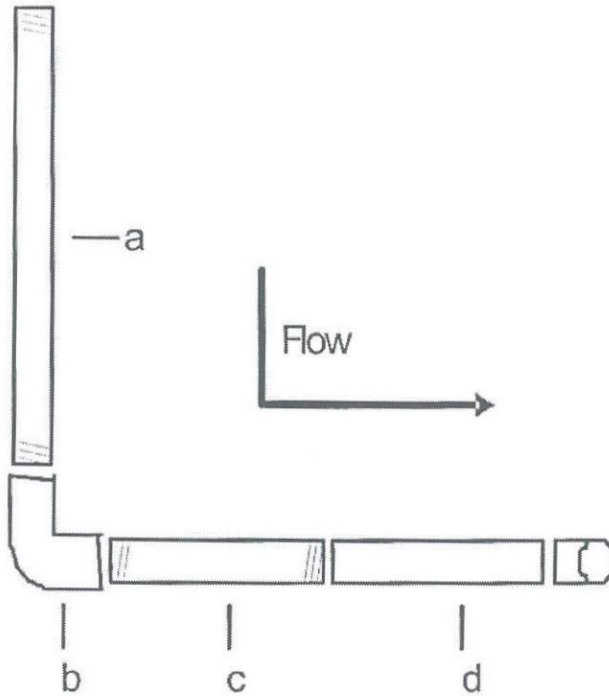
FITTINGS REQUIRED	
a.	1½" GI Pipe, 15 cm long
b.	1½" GI Elbow
c.	1½" GI Pipe, 40 cm long
d.	1½" GI Union
e.	1½" GI Nipple
f.	1½" GI Gate Valve
g.	1½" GI Nipple
h.	50mm HDP Pipe, 10 cm long
i.	50mm HDP Tee
GI Valve Box 4" to be placed over the Gate Valve	
50mm HDP Pipe long - 5m	

Note : See for the layout details of the combined Washout and Overflow the sketch below.

Combined Washout and Overflow fittings sketch



10.3.3 Overflow Fittings



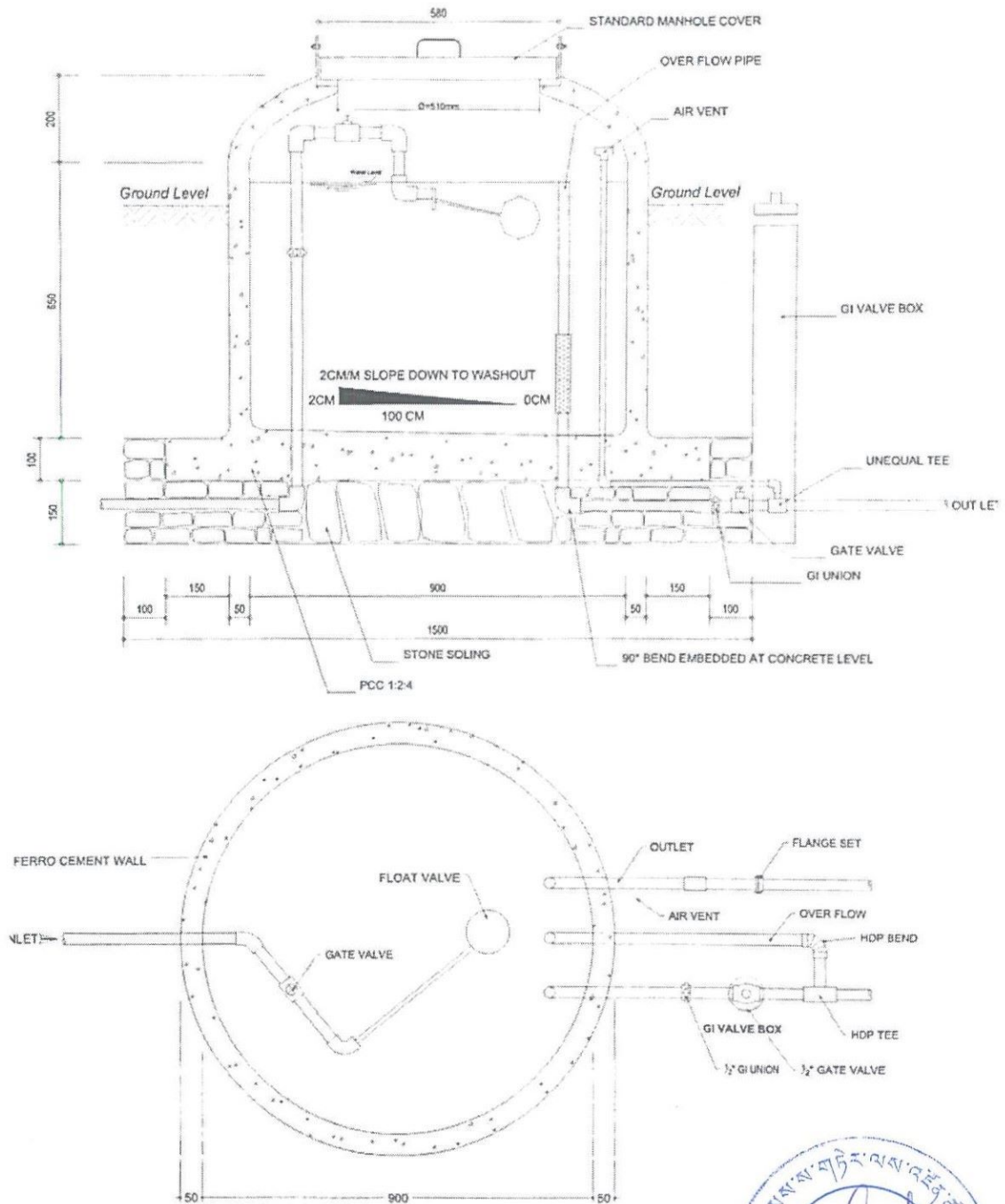
FITTINGS REQUIRED	
a.	1½" GI Pipe, 70 cm long
b.	1½" GI Elbow
c.	1½" GI Pipe, 40 cm long
d.	50mm HDP Pipe with bend

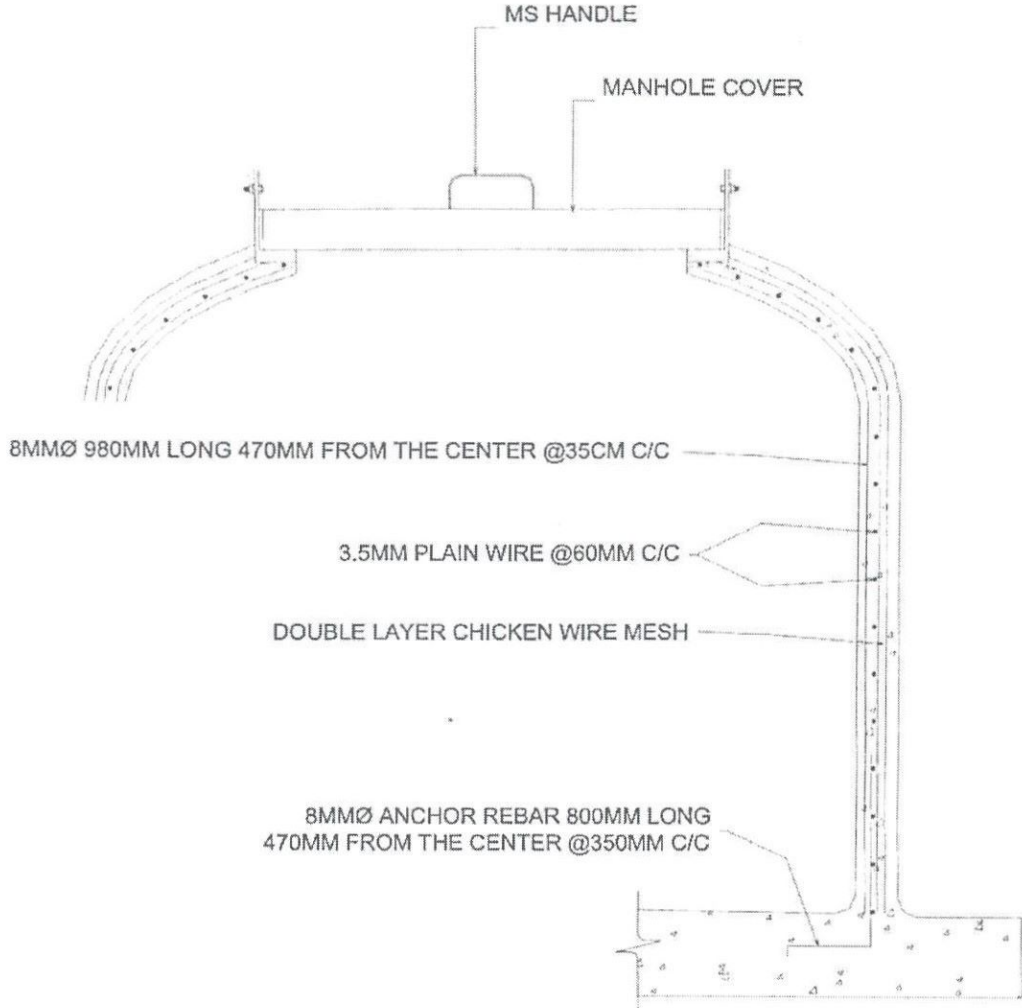
Note : See combined Washout and Overflow on the detailed pipe fitting list for Break Pressure Tank without Float Valve.

To avoid using a Flange Set/Brass Union for the Washout and Overflow the ends of the 50mm HDP Pipes are heated, expanded and forced over the GI pipes.



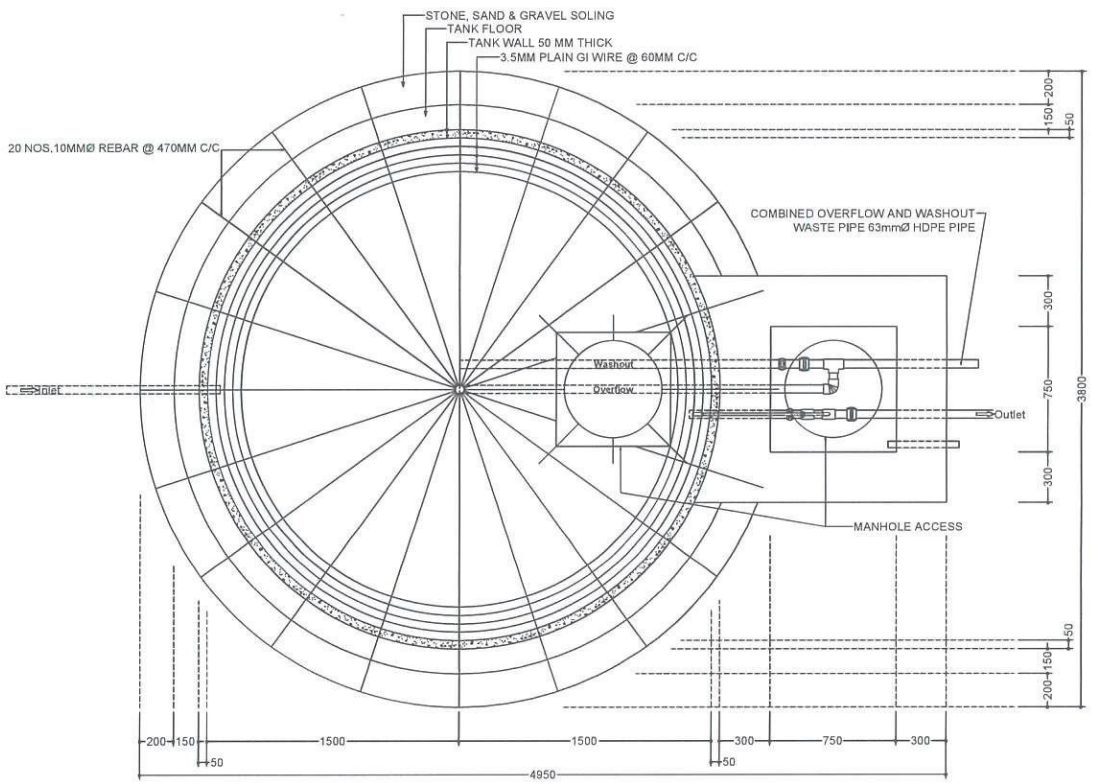
10.5 Compound structure drawing of Break pressure tank with float valve





REINFORCEMENT RETAILS



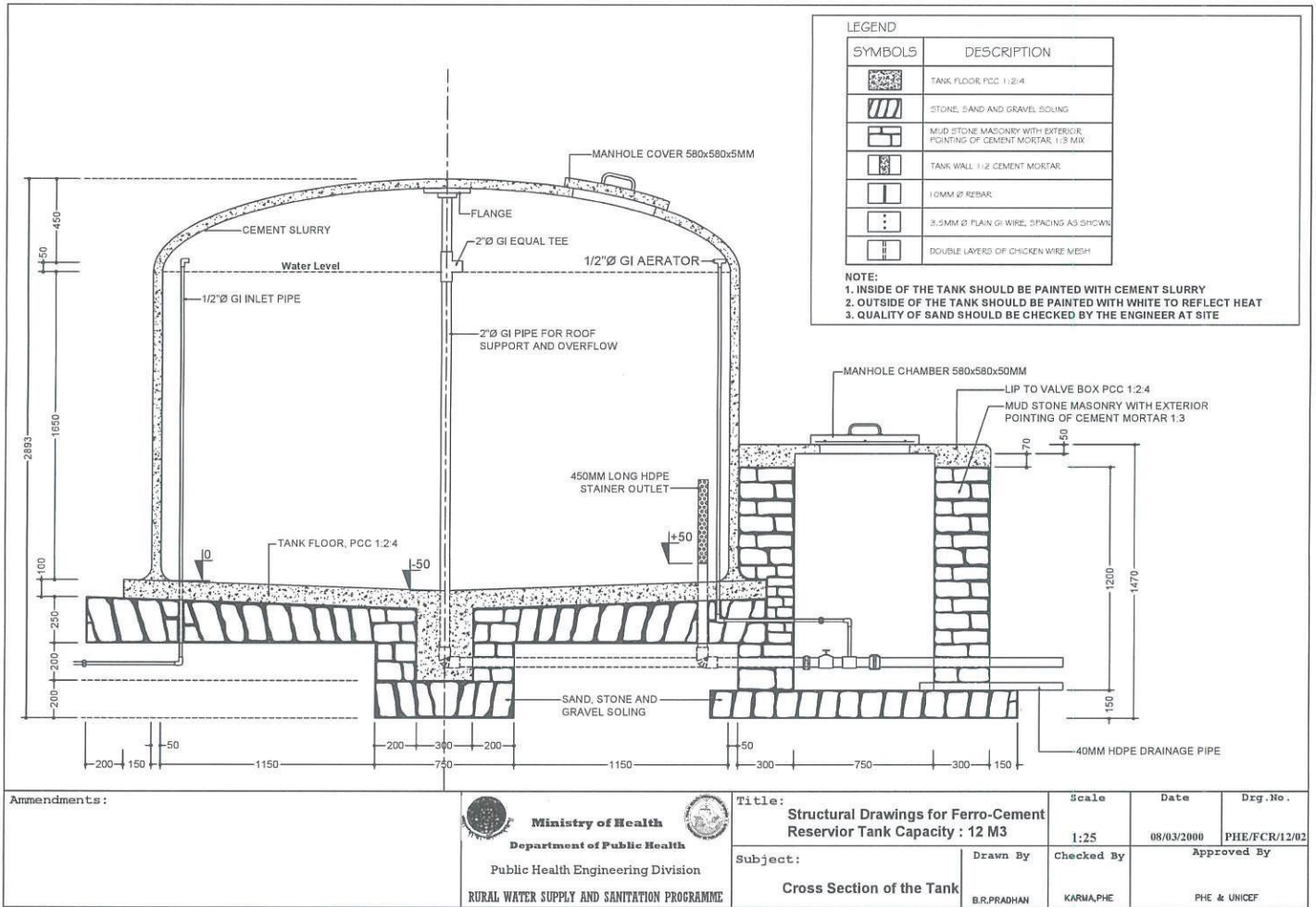


Amendments :


Ministry of Health
 Department of Public Health
 Public Health Engineering Division
 RURAL WATER SUPPLY AND SANITATION PROGRAMME

Title: Structural Drawings for Ferro-Cement Reservoir Tank Capacity : 12 M3		Scale 1:30	Date 08/03/2000	Drwg. No. PHE/FCR/12/01
Subject: Plan of the Tank		Drawn By B.R.PRADHAN	Checked By KARMA,PHE	Approved By PHE & UNICEF



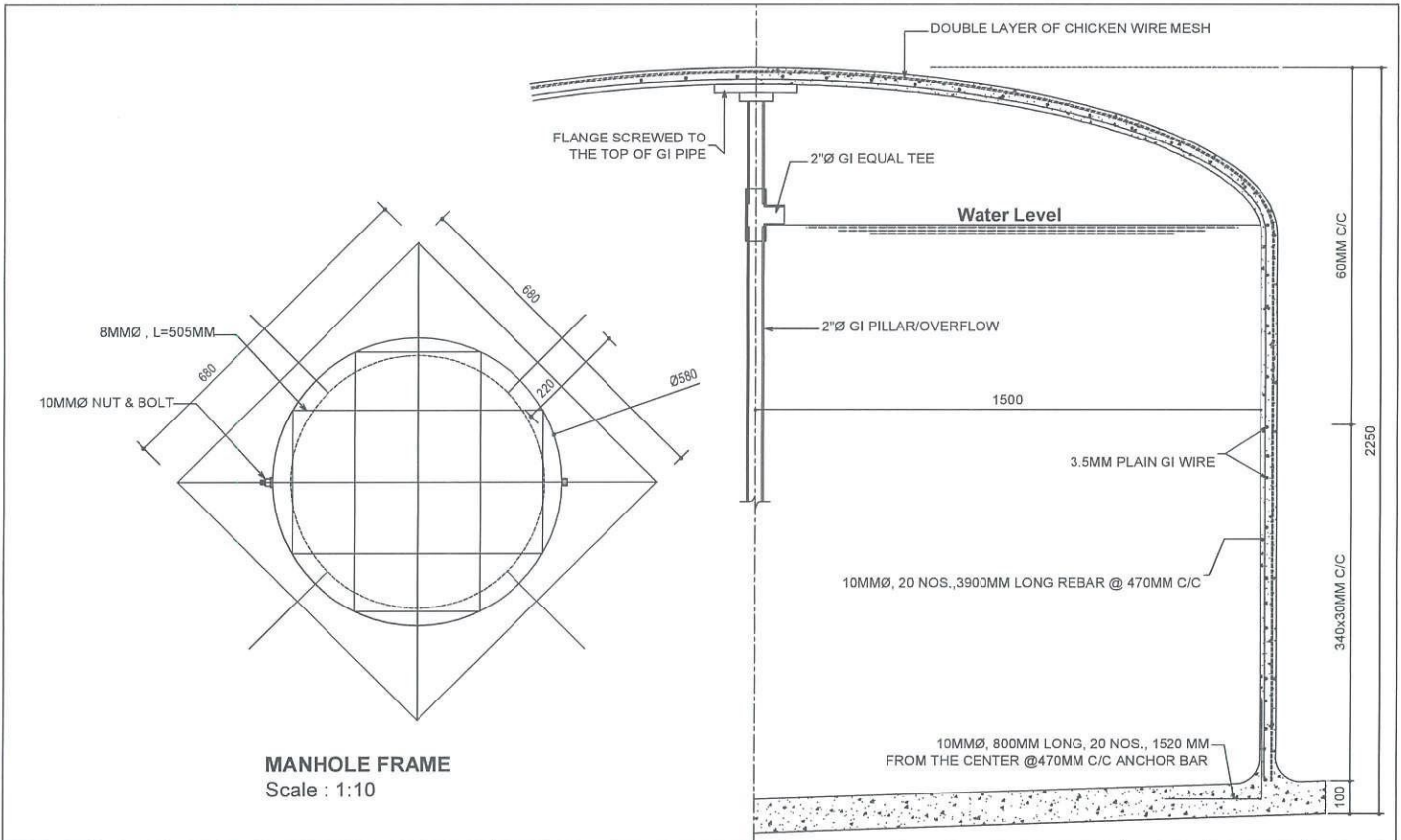



Ministry of Health
 Department of Public Health
 Public Health Engineering Division
 RURAL WATER SUPPLY AND SANITATION PROGRAMME

Title: Structural Drawings for Ferro-Cement Reservoir Tank Capacity : 12 M3
Subject: Cross Section of the Tank

Scale	Date	Drq. No.
1:25	08/03/2000	PHE/FCR/12/02
Drawn By	Checked By	Approved By
B.R.PRADHAN	KARMA,PHE	PHE & UNICEF

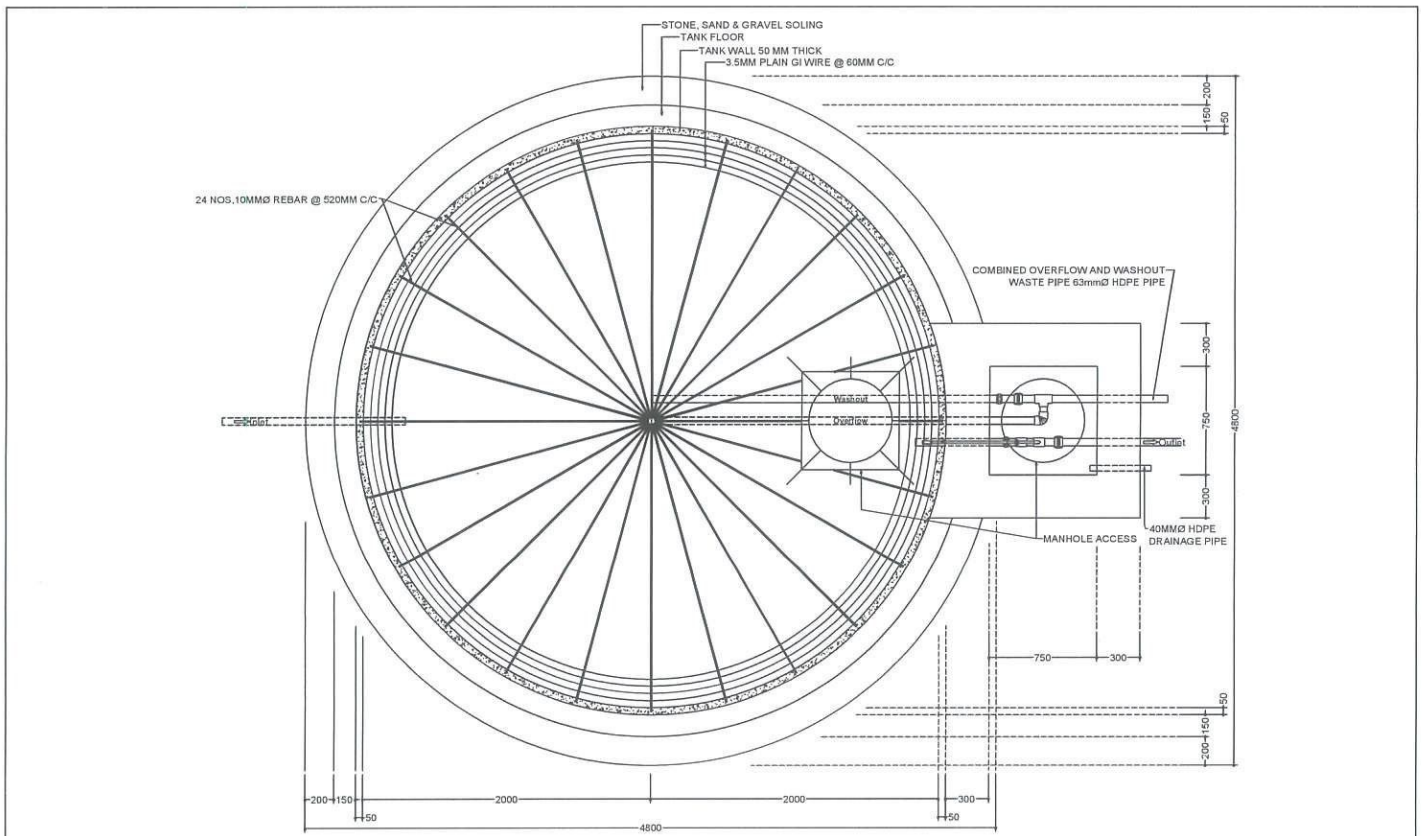




MANHOLE FRAME
Scale : 1:10

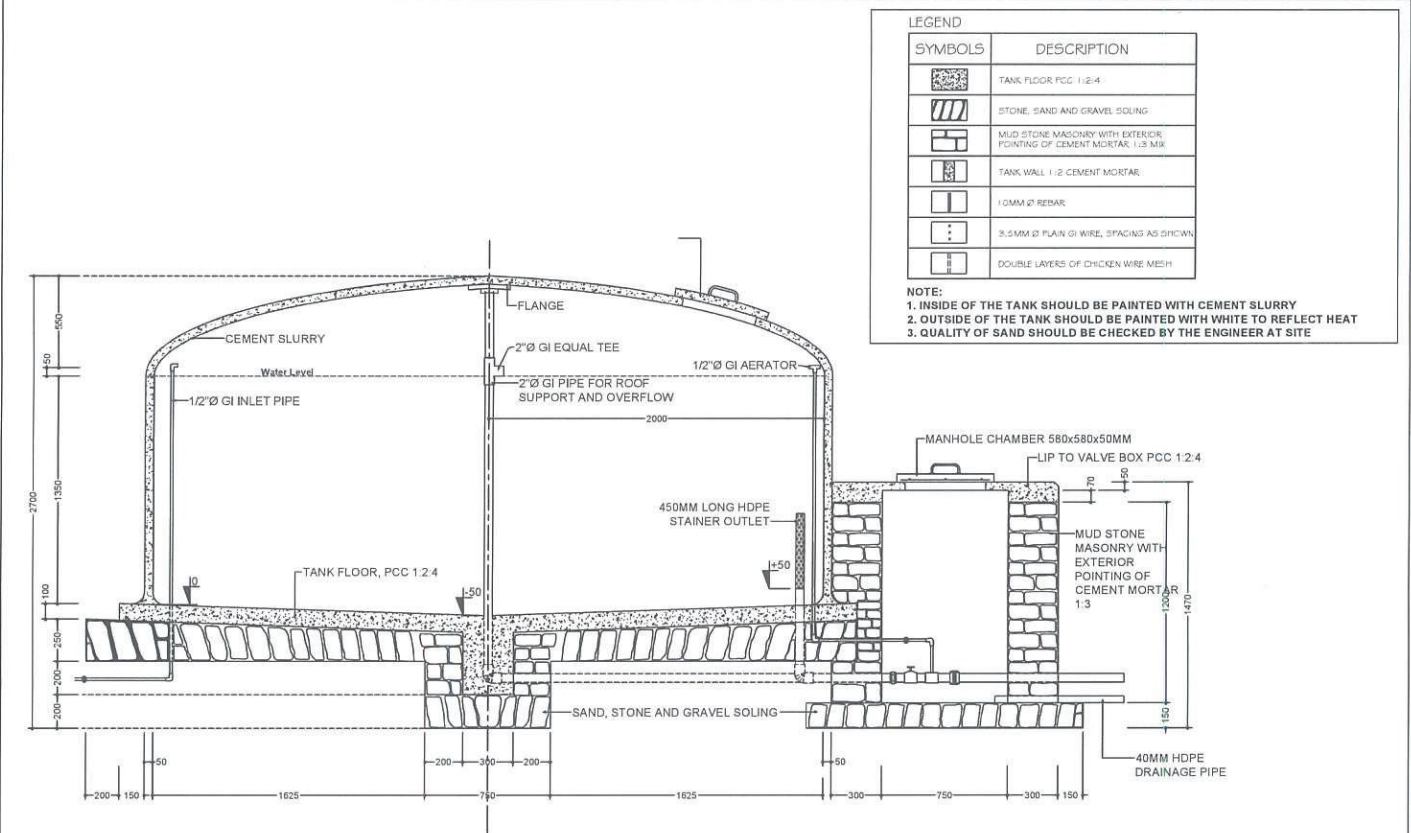
Amendments :	 Ministry of Health Department of Public Health Public Health Engineering Division RURAL WATER SUPPLY AND SANITATION PROGRAMME	 Title: Structural Drawings for Ferro-Cement Reservoir Tank Capacity : 12 M3 Subject: Typical Reinforcing details of Tank & Manhole Frame	Scale	Date	Drw. No.
			1:15	08/03/2000	PHS/FCR/12/03
		Drawn By B.R.PRADHAN	Checked By KARMA,PHE	Approved By PHE & UNICEF	





Amendments :	 Ministry of Health Department of Public Health Public Health Engineering Division RURAL WATER SUPPLY AND SANITATION PROGRAMME	 Title: Structural Drawings for Ferro-Cement Reservoir Tank Capacity : 16 M3 Subject: Plan of the Tank	Scale	Date	Dwg. No.
			1:35	08/03/2000	PHE/FCR/16/01
		Drawn By B.R.PRADHAN	Checked By KARMA,PHE	Approved By PHE & UNICEF	





SYMBOLS	DESCRIPTION
	TANK FLOOR PCC 1:2:4
	STONE, SAND AND GRAVEL SOLING
	MUD STONE MASONRY WITH EXTERIOR POINTING OF CEMENT MORTAR 1:3 MIX
	TANK WALL 1:2 CEMENT MORTAR
	10MM Ø REBAR
	3.5MM Ø PLAIN GI WIRE, SPACING AS SHOWN
	DOUBLE LAYERS OF CHICKEN WIRE MESH

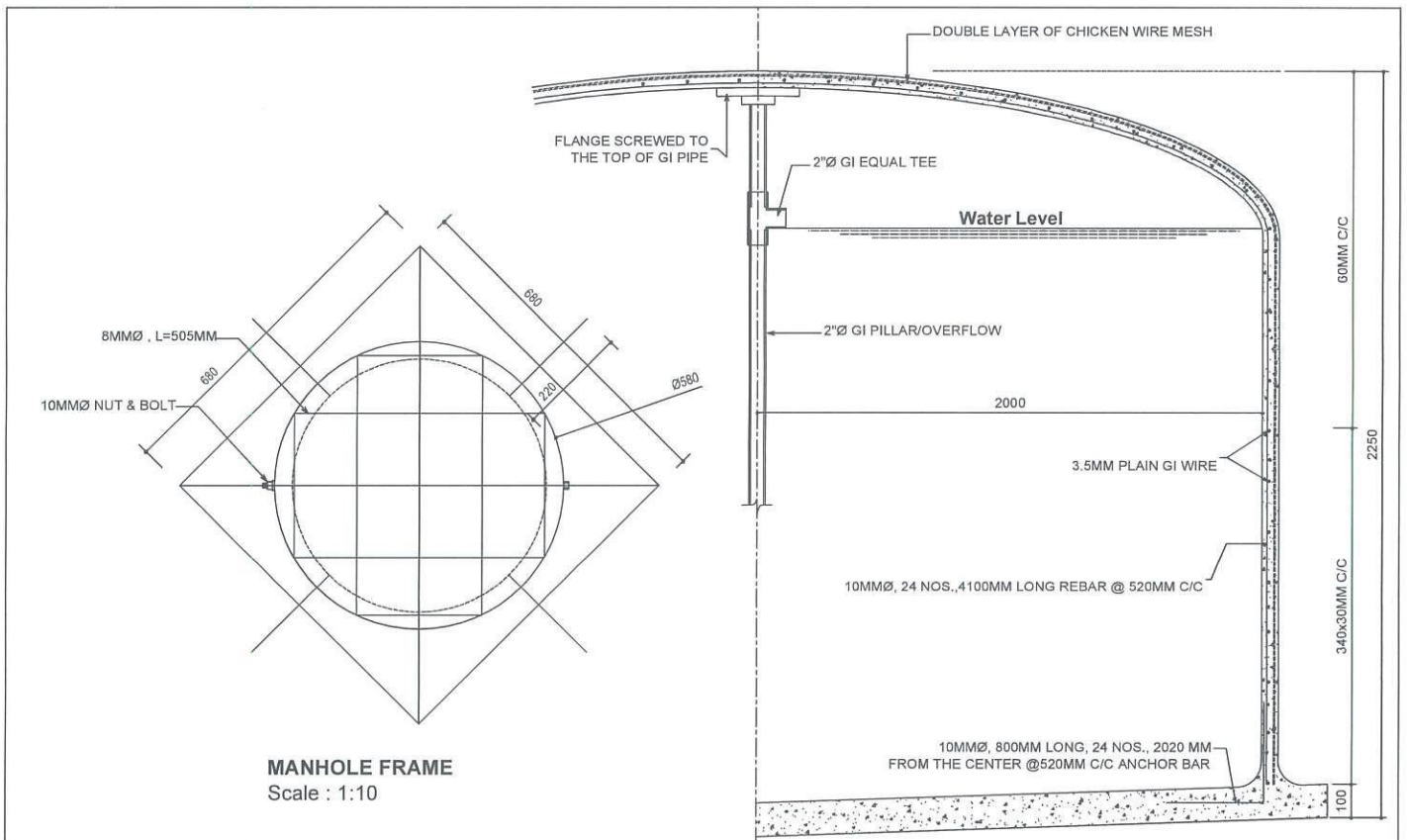
NOTE:
 1. INSIDE OF THE TANK SHOULD BE PAINTED WITH CEMENT SLURRY
 2. OUTSIDE OF THE TANK SHOULD BE PAINTED WITH WHITE TO REFLECT HEAT
 3. QUALITY OF SAND SHOULD BE CHECKED BY THE ENGINEER AT SITE

Amendments:


Ministry of Health
 Department of Public Health
 Public Health Engineering Division
 RURAL WATER SUPPLY AND SANITATION PROGRAMME


Title: Structural Drawings for Ferro-Cement Reservoir Tank Capacity : 16 M3		Scale: 1:30	Date: 08/03/2008	Drw. No.: PHE/FCR/16/02
Subject: Cross Section of the Tank	Drawn By: B.R.PRADHAN	Checked By: KARMA,PHE	Approved By: PHE & UNICEF	





MANHOLE FRAME
Scale : 1:10

Amendments:


Ministry of Health
 Department of Public Health
 Public Health Engineering Division
 RURAL WATER SUPPLY AND SANITATION PROGRAMME

Title: Structural Drawings for Ferro-Cement Reservoir Tank Capacity : 16 M3		Scale: 1:15	Date: 08/03/2000	Drw.No.: PHE/FCR/16/03
Subject: Typical Reinforcing details of Tank & Manhole Frame	Drawn By: B.R.PRADHAN	Checked By: KARMAPHE	Approved By: PHE & UNICEF	

