

PART-I

TECHNICAL SPECIFICATION

1. **Scope of Work.** Provn of RCC Septic tank of size 8.90 M X 2.70 M for 200 users designed to carry sewage and sludge water to include excavation in any type of soil with PCC 1:4:8 below foundation, RCC 1:2:4 type B-1 (Nominal mix) in Walls Base Slab, Baffle walls and Roof Slab including beams etc with Vent shaft, manhole openings with cover connection etc. complete with effective depth of 2.5 meter and overall depth of 3 meter. Provn of soakage wells of size 2.4 M dia X 4.5 M effective depth to include excavation in any type of soil, foundation in PCC 1:3:6, walls of honey combed with brick masonry and RCC/ SFRC cover slab.

2. **Septic Tanks.** Septic Tanks of capacity as mentioned in Drg No 1 (Ser No S-13) shall be built to the following specifications and as shown on drawings:-

(a) **Foundation and floor.** PCC (1:2:4) type B-2 over hard core. Floor shall be finished with 20mm thick water proofing cement plaster in cement mortar (1:3), (the cement mixed with an integral water proofing compound as per manufacturer's instructions) to an even and smooth surfaces using extra cement.

(b) **Brick work** . All brick work shall be in cement mortar 1:4.

(c) **Finishes RCC.** 20mm thick water proofing cement plaster internally in cement mortar (1:3) finished even and smooth using extra cement mixed with approved integral water proofing compound according to the manufacturer's instructions. External surfaces shall be flush pointed in the same mortar as the work proceeds.

(d) **All RCC Works.** RCC 1:2:4 type B1(Nominal mix) using 20mm graded stone aggregate

(e) **Steps.** 20mm dia mild steel steps 30cm apart vertically staggered in situations shown on drawings and painted with 2 coats of paint.

(f) **Excavation work.** In any type of soil and surplus spoil shall be disposed to a distance not exceeding 50 meters.

(g) **All other details.** As shown on drawings.

3. **Soakage Wells.** Provn of soakage wells excavation, in any type of soil, foundation in PCC 1:3:6, walls of honey combed with brick masonry with top ring of RCC 1:2:4 type B1 using 20mm graded stone aggregate including intercepting chamber and screen chamber made of Brick masonry in CM, RCC cover slab in RCC 1:2:4 type B1 using 20mm graded stone aggregate / SFRC cover slab, interconnecting pipes of RCC/DWC complete filled with brick bats of size 3.60M dia X 4.50M effective depth all as per details shown on drawings (Drg No 2) to the following specifications:

(a) **Excavation and earth work.** In any type of soil and disposal of surplus earth to a distance not exceeding 50 meters

(b) **PCC In foundation.** PCC1:4:8 type D-2 (using 40mm graded crushed stone aggregate) in subbase.

- (c) **Walls**. Brick work in cement mortar (1:4) including honey comb brick
- (d) **Cover slab**. RCC 1:2:4 type B1 (Nominal Mix) with reinforcement and RCC manhole cover all as shown on drgs
- (e) **Fillings**. Burn Brick bats filling of gauge 80 to 150mm
- (vi) **All other work**. As shown on drawings.

5. **Makes of Items/ Relevant IS**. The following make of items conforming to relevant IS with latest amendments will be incorporated in the work. Wherever the make or relevant IS code is not specified, it will be minimum ISI approved product incorporating the latest relevant IS code applicable. All Items should be of brand as given in store list.

Ser No	Item	Relevant IS	Makes
(a)	Reinforcement Steel	IS-4923-1997	SAIL/TATA/ Jindal/ RINL
(b)	MS items/ accessories	Conform to relevant IS	SAIL/ TATA/ Jindal/ RINL

6. **Specification of Construction Material**

Ser No	Brief Specifications	A/U
1	Sand Coarse conforming to IS-383	Cum
2	Stone Aggregate Coarse 20mm conforming to IS-383	Cum
3	Stone Aggregate Coarse 40mm conforming to IS-383	Cum

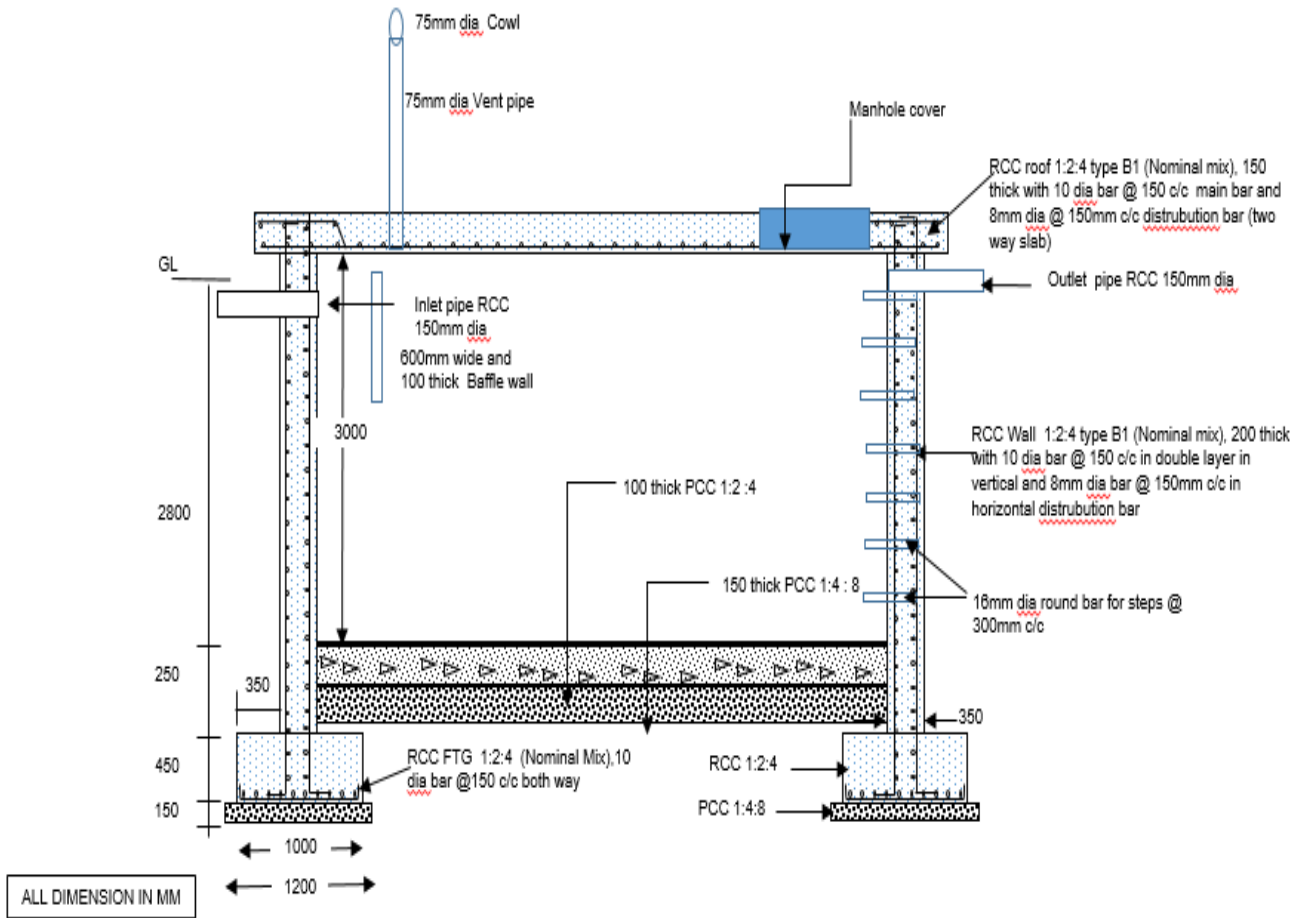
STORE LIST FOR ONE SEPTIC TANK 200 USERS
CAPACITY WITH SOAKAGE WELL

Ser No	Items	A/U	Qty
1	TMT bar FE 550 grade 08mm dia, Make : TATA/SAIL/RINL, ISI Marked	Kgs	700
2	TMT bar FE 550 grade 10mm dia, Make : TATA/SAIL/RINL, ISI Marked	Kgs	1470
3	TMT bar FE 550 grade 12mm dia, Make : TATA/SAIL/RINL, ISI Marked	Kgs	60
4	Round bar FE 550 grade 16mm dia, for step rungs	Kgs	50
5	Water Proofing Compound in 1 Kg packing, Make : CICO/CICA/ Fosroc/Sika	Kgs	94
6	Admixture complast SP- 430 Make : FOSROC/SIKA/STP and Equavalent	Ltrs	140
7	45x45x5mm Angle steel confirming to IS 4923-1997 (Make : TATA / SAIL / RINL)	RM	3
8	Binding wire annealed not less than 0.9mm dia.	Kgs	100
9	75mm dia cast iron vent pipes, with or without ears	Rm	2
10	75mm dia cast iron cowl	Each	1
11	150mm dia RCC pipe 2500mm long NP2 with collar	Nos	40
12	80mm thk SFRC manhole cover of size 1200mmx800mm	Nos	8
13	PCC Solid block 400x200x200mm (+/-10mm) minimum strength 50Kg/Sqcm. PCC shall conform to IS-2185 (Part I) 2005. Solid Block made out of PCC 1:3:6 having the compressive strength 5 KN/Sqmm (Delivery at Bump-IV, North Sikkim).	Nos	400
14	Old bricks of size 230mmx115mmx55mm thk	Nos	6000
15	Burn Brick bats	Cum	26

TOOL LIST FOR ONE SET

Ser No	Nomenclature	AU	Qty
1	Transparent pipe 5mm dia bore for water leveling best quality	Mtr	20
2	Iron bar 600mmx16mm (to bend 12mm & 10mm TMT bar)	Nos	2
3	Industrial safety helmet confirming to IS-2925 of approved colour. Make: Taparia/TATA	Nos	5
4	Hammer weight 500 gms with wooden handle, ISIS marked. Make: Taparia/TATA	Nos	1
5	Plaster trowel with wooden handle ISI marked.	Nos	2
6	Fish line best quality.	Roll	4
7	Plumb bob iron best quality.	Nos	2
8	Galvanised iron pan mortar (Tasla), 18 gauge, 16" dia minimum weight of 1 Kg. Make : Taparia/TATA.	Nos	6
9	Rammer earth with handle (min wt 5 Kg without handle), Make : Taparia/TATA (Agro) .	Nos	2
10	Picks axes with chiesel and point ends (Kudali 14 CP) nominal wt 3.0 Kg, overall length (min) 595mm with handle. Make : Taparia/TATA.	Nos	5
11	Showel square nose 14 gauge TATA high carbon steel, blade size 310 x 245mm, shaft size 710mm fitted with strong Steel crutched wooden handles.	Nos	5
12	Multipurpose non-slip rubber reusable gloves for scrubbing, cleaning, brick work etc, colour: Olive Green / Black, Make : SAFEYURA / ESAB / Jupiter Seamless	Pair	50
13	Brick trowel steel 305 mm, Make : Taparia/TATA .	Nos	2
14	Gum boot best quality ISI Marked	Nos	10
15	Plaster Rod Rod 1.2 M Long selected quality	Nos	2
16	Water Bucket Steel 13" dia best quality	Nos	4
17	Crow Bar 5.1 Kgs best quality	Nos	1
18	Measuring Tape 5 Mtr Make " FREEMANS "	Nos	2
19	GI Sheet and TMT Rod cutting Machine. Make :TATA/Bosch/Taparia	Nos	1
20	Cutting blade 4" dia for GI Shett and TMT Rod cutting Machine Best quality ISI Marked	Nos	5
21	Plywood 8' x 4' x 12mm BWP Grade, Make : Century/Kitply/Greenply/Duraply/Duratuff, ISI approved	Nos	10
22	Soft wood battens of size not exceed13sqcm	Rm	60
23	Nails 25mm long	kg	3
24	Nails 50mm long	kg	3
25	Heavy duty openable props/scaffolding made of MS pipe of 60 & 48mm dia (outer pipe OD 60mm & inner pipe OD 48mm) of 3mm wall thick tensile strength 41.18 Kn corrosion resistat and high yield strength, B-1139. Dimension 1.70m -3.00m and surface treated with hot dip galvanised powder coated silver colour with adequate (base plate, nut, bolt & jointing cleats) jointing arrangements.	Nos	50
26	MS Centering plates of size 90cm x 60cm of thickness 14 guage with two stiffeners including all necessary jointing arrangement (nut, bolt & jointing cleats etc) applying a coat of bituminous paint over a coat of red oxide. Make : JINDAL/SAIL/RINL	Nos	50
25	Portable MS body Needle Vibrator Machine with power 3 HP to 5 HP, weight - 20 to 30 Kg petrol engine with min frequency 50 Hz, voltage-200 to 300 for concrete vibrating Make : Bosch/Taparia.	Nos	1

DRAWING



SECTION AT A-A

PART-II

TECHNICAL SPECIFICATION : HARDSTANDING

1. **Scope of work.** The wk consists of supply of stores for provn of hard standing as per estimation and drg attached.
2. **Excavation.** Surface excavation averaging 50 cm deep shall be done. Excavated surface shall be levelled, watered and well rammed to get a truly compacted and levelled surface.
3. **Sub base.** 150 mm thick (compacted thickness) Granular sub base in two layer 75 mm each with coarse aggregates of grading II (63 to 40mm size)spread, rolled and consolidated.
4. **Cement concrete.** PCC 1:3:6 type C2 using 40mm graded stone aggregate of 100 mm thick with compressive strength after 7days as minimum 7 Mpa. Finishing concrete surface to be done by brooming and necessary form work to be done.
5. **Inter locking tiles.** The flooring of Hard Standing will be provided with 100mm thk will be provided by heavy duty Interlocking tiles M-50 grade over 20mm sand cushion bedding.
6. **Kerb Stone.** Kerb stone will be provided four sides of hard standing of size 450x200x125mm thk PCC 1:2:4 type B1using 20 mm graded stone aggregate, including levelling and dressing of top surface with joint in cement mortar 1:4 complete all as specified.
7. **Drawings.** 01 x dwgs are att with this TS :-
 - (a) Hard standing Drg Sheet No 01 - Details of section.
8. Any addintion/deletion/changes on the Job will be at the directions of Commanding Officer, Engineer Regiment and will be carried out without any additional cost at the time of execution. Any items if erroneously left over will be provided by vendor at own expenses.
9. Each and every item mentioned in the TS should adhere to latest ISI specification.
10. Any details are left out in design/drawings, will be assume as per sound and good engineering practice with consultation this office.
11. **Makes of Items/ Relevant IS.** The following make of items conforming to relevant IS with latest amendments will be incorporated in the work. Wherever the make or relevant IS code is not specified, it will be minimum ISI approved product incorporating the latest relevant IS code applicable.

Ser No	Item	Relevant IS	Makes
(a)	Quick setting compound	Conform to relevant IS	Accelerex/ Cico/ Fosroc
(b)	Cement PPC/OPC	Conform to relevant IS	ACC/ Ambuja/ India Cement/ Birla/Ultra Tech
(c)	Interlocking tiles	Conform to relevant IS	Nitco, Ultra, star,Jindal

12. **Specification of Construction Material**

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3	Stone Aggregate Coarse 40mm conforming to IS-383	Cum

LIST OF ITEMS FOR CONSTRUCTION OF HARDSTANDING

Ser No	Description of Items	Unit
1	200mm thick Granular Sub Base (GSB) of grading-II (63 to 40mm size) , spread, rolled and consolidated in two layers of 10 cms each	Cum
2	100mm thk heavy duty rubberised glossy finish Interlocking tiles M-50 grade of size 0.20mx0.20m not exceed 0.0444sqm including levelling and dressing of surface to required level and slope, filling joints with local sand including the cost of all labour, tools and plants etc	Nos
3	Kerb stone M-35 Grade using 20mm graded stone aggregate (For edge Restrains grey cement colour) along the perimeter of the hardstanding including levelling and dressing of top surface with joint in cement mortar 1:4 complete all as specified.	Nos
4	Synthetic enamel paint	Ltr
5	Primer	Kg

TOOL LIST FOR ONE SET

Ser No	Nomenclature	AU	Qty
1	Transparent pipe 5mm dia bore for water leveling best quality	Mtr	40
2	Plaster trowel with wooden handle ISI marked.	Nos	4
3	Fish line best quality.	Roll	4
4	Plumb bob iron best quality.	Nos	2
5	Galvanised iron pan mortar (Tasla), 18 gauge, 16" dia minimum weight of 1 Kg. Make : Taparia/TATA.	Nos	20
6	Rammer earth with handle (min wt 5 Kg without handle), Make : Taparia/TATA (Agro) .	Nos	2
7	Picks axes with chiesel and point ends (Kudali 14 CP) nominal wt 3.0 Kg, overall length (min) 595mm with handle. Make : Taparia/TATA.	Nos	10
8	Showel square nose 14 gauge TATA high carbon steel, blade size 310 x 245mm, shaft size 710mm fitted with strong Steel crutched wooden handles. Make : Tata (Agro)/Taparia .	Nos	15
9	Multipurpose non-slip rubber reusable gloves for scrubbing, cleaning, brick work etc, colour: Olive Green / Black, Make : SAFETYURA / ESAB / Jupiter Seamless	Pair	100
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13	Water Bucket Steel 13" dia best quality	Nos	6
14	Crow Bar 5.1 Kgs best quality	Nos	1
15	Measuring Tape 5 Mtr Make " FREEMANS "	Nos	2
16	Measuring Tape 15 Mtr Make " FREEMANS "	Nos	2

DRAWING

