GOVERNMENT OF JAMMU & KASHMIR

P.H.E. DEPARTMENT, JAMMU
PROJECT REPORT
FOR
W.S.S. SAR-SABAL
(UNDER NABARD)

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

Executive Engineer
P.H.E Division
Kathua

Detailed Estimate for the construction of 1000 Gallons GSR at Sar-Sabal

Particulars	Unit	Qty	Rate	Amount
2	3	4	5	6
Earth work in excavation by manual means over incl disposal of excavated earth upto 1m from the cutting edge in all kind of soils 22/28 x (5:20 + 6.70)2/2 x 1.5 = ~~11.68~~ 42.34	cum	~~11.68~~ 42.34	240.45	~~10022.00~~ 10181/2
Trench excavation in all kinds of soils soils by manual abour in trenches for pipes incl disposal of excavated earth upto 1m from cutting edge 3 x 6.25 x 0.90 x 1.10 = 18.562	cum	18.56	240.45	4463.00
Providing and laying cement concrete of specified mix conc. in 1:4:8 aggregates 20 mm nominal sizein nallah stone All work up to plinth level and excluding the cost of centring and shuttering nder bed slab =0.785 x (5.0) 2/2 x 0.30 = 5.88 cum plinth protection = 3.142 x 6.40 x 1.70 x 0.075 = 2.56 otal = ~~7.74 cum~~ 8.44 m3	cum	~~7.74~~ 8.44	3112.8	~~24093.00~~ 26272/2
einforced cement concrete work in walls (any thickness) cl. attached pilasters buttresses plinth and string courses lets coloumn piers etc upto floor five level exculding the st of centering shuttering finishing and reinforcement in 1.5:3 mix d slab:-0.785x(4.70)2/2x0.15 =2.60cum la:-3.124x4.25x0.15 =2.00cum lls:-3.142x4.55x3.30x0.15 =7.07cum tal =~~9.82~~cum 11.67 m3	cum	~~9.82~~ 11.67	6280.95	~~61679.00~~ 73293/2
nforcement cement concrete work in beams suspended ors roofs having slope upto15 degrees landing balconies els etc. upto floor five level exculding the cost of tering. and shuttering finishing anr reinforcement h1:2:4 mix in 20mm nominal size of aggregates m:-3.142x4.65x0.25x0.25 =0.91cum	cum	0.91	~~5776.45~~ 5504.20	~~5257.00~~ 5008

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

6	Reinforced cement concrete work in arches archives domes vaults shells folded plates etc. upto floor five level excludings the cost of centering shuttering finishing and reinforcement with 1:2:4 mix withstone aggregates of 20mm nominal size Dome:-2x22/7x2.85x1.10x0.10 =1.97cum D/d for man hole:-0.60x0.45x0.10 =0.03cum Net =1.94cum	cum	1.94	6033.05	11704.00
7	Centering and shuttering incl. strutting propping etc. and removal of form for walls(any thickness) incl.attached pilasters buttersses plinth and string courses etc wall inner:-22/7x4.40x3.30 = 45.0sqm outer:-22/7x4.70x3.30 = 48.70sqm Total =94.35sqm	sqm	94.35	342.80	32343.00
	Extra for shuttering in circular works qty vide item no.7 = 94.35sqm	sqm	94.35	68.56	6469.00
8	Form work to side of foundation and foundation beam for insitu concrete work sheeting of ordinary timber planks foundation of PLINTH for mass conc.-22/7x5.0x0.30=4.71sqm Drain :- 22/7 x 7.0 x 0.30 =6.60sqm 22/7x7.60x0.30 =7.16sqm 22/7x8.20x0.30 =7.73sqm 22/7x8.80x0.30 =8.29sqm Bed slab:-22/7x4.70x0.15 =2.21sqm Total =36.70sqm	sqm	36.7	179.25	6578.00
9	Centering and shuttering incl. strutting propping etc and removal of forms for arches Domes valuts upto 6.0m span 2x22/7x2.85x1.10 = 19.50sqm	sqm	19.50	1425.7	28086.00
10	Centering and shuttering incl strutting propping etc and removal of forms for lintels beams plinth beams grider etc. Ring beam:-22/7x4.40x0.25 =3.456sqm 22/7x4.90x0.25 =3.848sqm Soffits of beam:-22/7x4.80x0.10 =1.50sqm Total = =8.804sqm	sqm	8.804	305.7	2691.00

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

11 Extra for shuttering in circular worksqty vide item no. 8 = 36.70sqm Qty vide item no.8 =36.70sqm	sqm	36.7	61.14	~~2244.00~~ 2244.00
12 Providing and laying cement concrete of specified mix concentration in 13.6 stone aggregates 20 mm nominal size in nallah stone Drain wall:-22/7x6.40x0.30x0.30 =~~1.909cum~~ 1.80cum 22/7x7.60x0.30x0.30 =2.149cum	cum	3.958	3707.4	~~14674.00~~ 14636.00
13 Providing 40 mm thick concrete flooring in 1:2:4 Nominal mix (max size of aggregates 20 mm nominal) concrete finished with a floating coat of neat cement. P.Protection:-22/7x6.30x1.60 =31.67sqm	sqm	31.67	320	10134.00
14 12 mm thick cement plaster in 1 cement : 3 coarse sand mortar on walls outer:-22/7x4.70x3.45 =50.94sqm Inner:-22/7x4.40x3.40 =47.0sqm Total:- =97.94sqm	sqm	97.94	218	21351.00
15 12 mm thick cement plaster in 1 cement : 4 sand mortar on beam dome etc Beam:- 22/7x4.70x0.5 =7.38sqm Drain:-22/7x7.30x0.30 =6.88sqm 22/7x6.70x0.30=6.31sqm Dome top:-2x22/7x~~2.85~~2.75x1.10=~~14.70sqm~~ 18.99 Total:- =~~27.89sqm~~ 39.56 D/d a/c man hole 0.60x0.45 =0.27sqm nett= ~~27.62sqm~~ 39.29	sqm	~~27.62~~ 39.29	158.65	~~4382.00~~ 6233.00
16 Reinforcement for RCC work incl.straightening cutting and bending placing in position completein cold twisted bars qty for RCC12.67cum@~~1.20q/cum~~=~~1520kgs~~ 1.0 qtl/m3 1267kgs Say 1270kgs	kg	~~1520~~ 1270	71	~~107920.00~~ 90170.00
17 extra for providing and mixing water proofing marterial in cement concrete work@ 1Kg per 50 kg of cement Qty:-83.33bags@1kg=83kgs		83	43.95	3648.00

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

18	Providing and incorporating(during cocreting)G.P.sheet strips water seal 1.25mm(nominal)thick at construction joints includings joints of ends so as to form contious barrier strip to be measured 4x22/7x4.55x0.20x=11.43sqm@5kg/s	kg	57.15	52	2972.00
19	C.I Man hole over with frame LD single seal pattern 455*610mm size(frame@ 15 kg.And cover@21kg.min)	Each	1	1800	1800.00
20	A.c Plain bends with acess door size (80mm dia)@ 6 no"s	Each	6	200	1200.00
21	Providing and fixing of G.I bends 3" dia with M.S. plate includimg welding etc.3nos	Each	3	800	2400.00
22	Providin and laying 100mm dia (nominal bore G.I pipe line in trenches including costs of pipe light grade mass@9.89kg/m) G.I fitting testing excl.E/Works 18.75m	Rm	18.75	919	17231.00
23	Finishing new work with top coat of cement based paint of specified shade and brande to an even shade 22/7x4.70x2.80 =41.34sqm Dome plaster qty=~~14.70sqm~~ 18.99 M² Beam plaster qty=7.38sqm Total:- ~~63.40sqm~~ 67.71 M²	sqm	~~63.4~~ 67.71	56.9	~~3607.00~~ 3852/2
24	Extra for plaster on circular works not exceeding 6.0m in radius	sqm	~~125.6~~ 137.23	19.9	~~2499.00~~ 2730/2

Total Rs 385055/2

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

Consumption Statement for 1000 Gln GSR:-

S.No.	Qty	Rate	Cement	Rate	Sand	Rate	Bajri	Stone
1	~~7.71~~ 8.44	3.4	~~26.316~~ 28.69	0.47	~~3.63~~ 3.96	0.89		~~6.88~~ 7.51
2	~~2.75~~ 4.60	8	~~22~~ 36.80	0.43	~~1.18~~ 1.97	0.85	~~2.33~~ 3.91	
3	7.07	8	56.56	0.43	3.04	0.85	6	
4	0.91	6.4	5.82	0.45	0.4	0.89	0.8	
5	~~2.94~~ 1.86	6.4	~~12.4~~ 11.90	0.45	0.83	0.89	1.65	
6	3.96	4.4	17.42	0.45	1.78	0.89	3.52	
7	31.67	0.34	10.76	0.018	0.57	0.04	1.26	
8	97.94	0.1094	10.71	0.012	1.175			
9	~~27.62~~ 39.29	~~0.1904~~ 0.1094	~~3.02~~ 4.29	0.012	~~0.33~~ 0.47			

182.95

Total ~~165.006 bags~~ Say 183 bags. ~~12.975 cum~~ 14.19 M³ ~~15.63 cum~~ 17.14 M³ ~~6.88 cum~~ 7.51 M³

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

T.B-F 2fs. 385055 f2

Carriages:-

25 Carriage of sand /stone dust/ quarry-muck /moorum/ other aggregates of max size upto 6 mm by Mechanicals transport in all terrains through lead upto 18 kms from Tarnah nullah including cost of loading unloading and stacking, stack measurement
qty; ~~12.975cum~~ 14.19 M)

14.19M) 32.55 f2
cum ~~12.98~~ 229.46 ~~2977.00~~

26 Carriage of stone aggregates of max size 6 to 39 mm by M.T. through a lead upto 18 km from Ujh river including cost of loading, unloading and stacking; stack measurement reduced by 5 %
qty; ~~15.63cum~~ 17.14 M)

17.14M) 3932 f2
cum ~~15.63~~ 229.46 ~~3586.00~~

27 Carriage of stone aggregates of max size 40 to 62 mm by mechanical transport in all terrains through a lead up to 18 km including cost of loading, unloading and stacking; stack measurement reduced by 5 %
qty;= ~~6.88cum~~ 7.51 M)

7.51M) 1873 f2
cum ~~6.88~~ 249.45 ~~1716.00~~

28 Carriage sand / sand dust and other aggregates of max size upto 6 mm by manual labour/ ponnies through an average lead of 5 km including the cost of loading, unloading and stacking
Sand qty;=~~12.975~~ um 14.19M)

14.19M) 30252 f2
cum ~~12.98~~ 2131.93 ~~27662.00~~

29 Carriage of stone aggregates of max size 6 mm upto 39 mm by manual labour/ ponnies through an average lead of 5 km including the cost of loading, unloading and satcking

Bajari ~~15.63~~ cum 17.14M)
Stone agg. ~~6.88~~cum 7.51M)

17.14 213193 36541 f2
cum ~~15.63~~ ~~2131.93~~ ~~33316.00~~
cum ~~6.88~~ 2304.92 ~~15858.00~~
7.51 17309 f2

30 Carriage of departmental material from the road side to the site of work by manual labour /ponnies through a lead of ~~6~~5 km including the cost of loading/ unloading and stacking
Cement 1036 bags = 9.15 M.T
Steel ~~=15.20qtls=1.52MT~~ 12.70 qtl = 1.27 M.T.

9.15 3879 f2
MT ~~8.25~~ 424.01 ~~3498.00~~
MT ~~1.52~~ 424.01 ~~644.00~~
1.27 538 f2

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

31 Carriage of Departmental material from the roadside to the site of the work by manual lab/ponnies through a lead 5km including the cost of loading/unloading and stacking

Cement ~~183 bags~~ 9.15 M.T.
~~185 bags = 8.25 MT~~
steel ~~= 15.20 qtl~~ = ~~1.52 MT~~ 1.27 M.T.
~~12.700 kg~~

9.15
MT ~~8.25~~ 849.7 ~~7010.00~~ ~~7774~~/2
MT ~~1.52~~ 1825.31 ~~2774.00~~
1.27 2318/2

~~7150~~ ~~4986.50~~
Add 20% above ~~9749.00~~
~~5986.50~~
~~Say 5 86 Lacs~~
Total Rs 492726/2
Rs 97825/2
Rs 590551/2

Say Rs 5.91 Lacs.

J.E

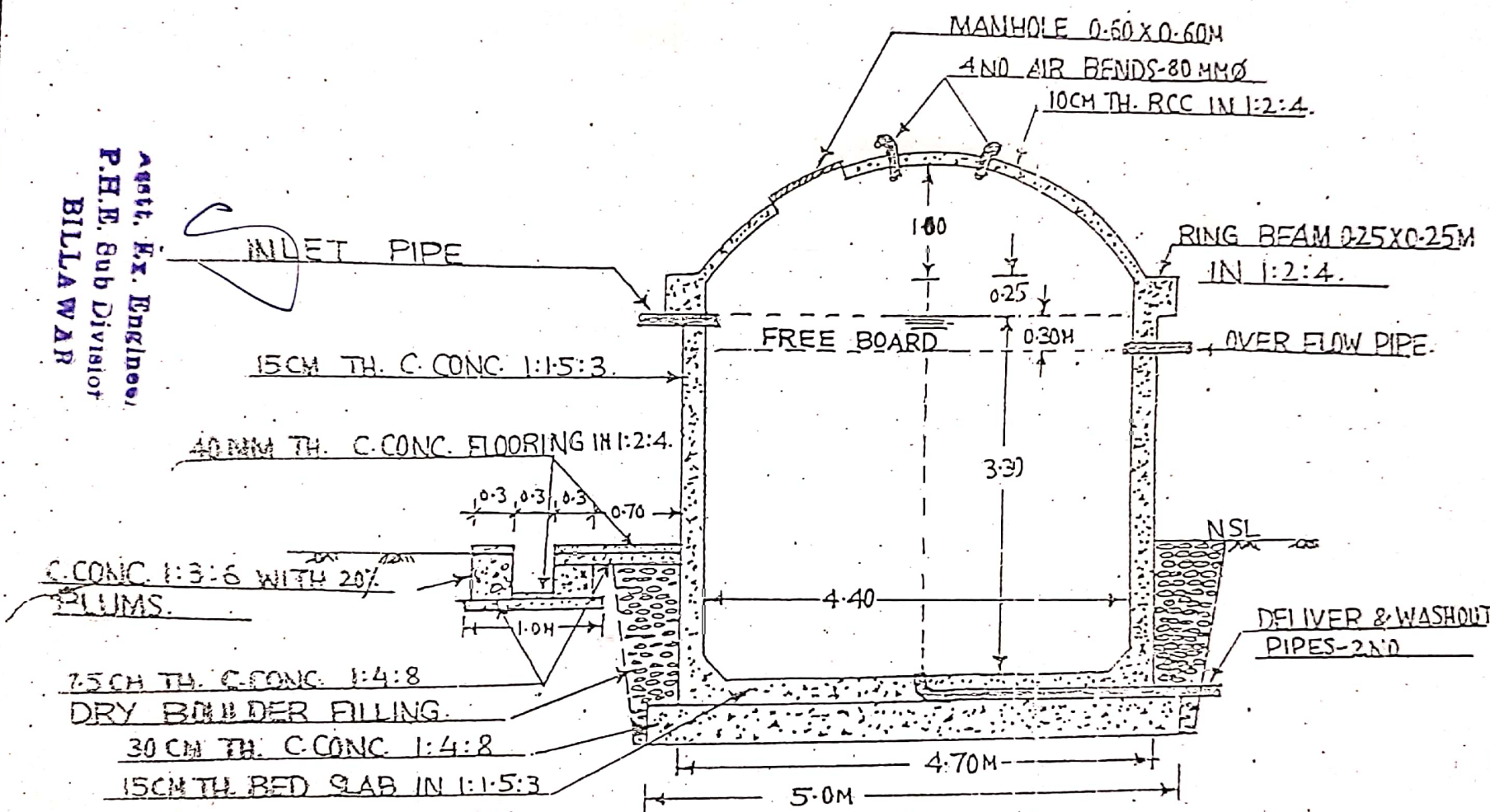
A.E

A.E.E
PHE S.Div.
Billawar

Ex-Engineer
PHE Div
Kathua

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

DRAWING FOR CONSTRUCTION OF 10 000 GLNS. CAP GSR AT UNDER W.SS SAR-SABAL (NOT TO SCALE)



Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

JEN AE ASSTT. EX. ENGINEER PHE SUB DIVISION BILLAWAR.

EXECUTIVE ENGINEER
PHE. DIVISION
KATHUA

Detailed Estimate for Construction of Filtration Plant cum Pump Room AT SAR-SABAL.

W.S.S SAR-SABAL.

No.	Particulars	Amount
	Earth work in excavation by manual means over areas (exceeding 30 cms in depth, 5 m in width as well as 10 sqm on plan) including disposal of excavated earth by 1 m for cutting edge, displaced earth to be levelled and neatly dressed in all kinds of soil	
	Levelling of land :	
	22.0 × 1/2 × 10.0 × 1.80 = 198.00 cum	
	Filtration Plant from Right to Left	
	2.0 × 1.70 × 0.65 = 2.21 cum	
	= π/4 × 3.95² × 1.15 = 14.08 cum	
	Pillars = 4 × 0.70 × 0.70 × 1.15 = 2.25 cum	
	Sump = π/4 × 5.30² × 1.25 = 27.56 cum	
	Total = 46.10 cum ..... (A)	
	Wash out pipe = 12.0 × (0.95 + 1.50)/2 × 1.50 = ~~18.00~~ 22.05 cum .(B)	
	For pacca drains around plant = 40 × 0.90 × 0.40 = 14.40 cum	
	For toe wall in hill side = 20 × 0.70 × 0.30 = 4.20 cum	
	Total = 284.75 m³ @ ₹ Rs 240.45/m³	68468.00
2)	Extra load of length up to 25 rmt	
	Qty. 284.75 cum @ ₹ 41.80 cum	11902.00
3	Providing and laying in position specified grade of cement concrete 1:4 & (1 cement : 4 coarse sand : 8 graded stone aggr. 40 mm size crushed)	~~11902.00~~
	For right to left	
i)	2.0 × 1.70 × 0.20 = 0.68 cum	
ii)	π/4 × 3.95² × 0.20 = 2.45 cum	
iii)	Pillars = 4 × 0.70 × 0.20 = 0.56 cum	
		~~82.85~~

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

Sump = π/4 × 5.30² × 0.20 = 4.41 cum

= 40.00 × 0.90 × 0.10 = 3.60 cum

Toe Wall = 20 × 0.70 × 0.10 = 1.40 cum

Total = 13.10 cum @ ₹ 30.93.50/m³ 40527.00

Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centering and shuttering, finishing + reinforcement. All work up to plinth level 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)

From right to left

Bed slab = 1.80 × 1.30 × 0.15 = 0.351 cum

Gola = 2 ×(1.0+1.5)/2 × 0.20 = 0.10 cum

π/4 × 3.55² × 0.15 = 1.483 cum

Gola = π × 3.25 × 1/2 × 0.30 × 0.30 = 0.459 cum

Total = ~~2.052 cum~~ 2.39M³

1.80 × 1.80 × 0.15 = 0.486 cum

Gola = 4 × 1.6 × 1/2 × 0.20 × 0.20 = 0.128 cum

25 × × 1.20 × 0.15 = 0.225 cum

Gola = 2 × (0.90 + 1.0)/2 × 0.20 × 0.20 = 0.076

Sump = π/4 × 4.00² × 0.15 = ~~2.827 cum~~ 1.884M³

Gola = π × 4.50 × 1/2 × 0.30 × 0.30 = ~~0.158 cum~~ 0.63M³

Slab projection for inspection path :

18.00 × 0.45 × 0.10 = 0.810 cum

Total = ~~7.50~~ 6.63M³ cum @ ₹ 5564.20cum Rs 36987/2

41281.00

Reinforced cement concrete work in walls any thickness including attached pilaster, buttresses, pillars, piers, abutments, post and struts etc. up to floor five level including cost of cement 1:1.5:3 (1 cement : 1.5 coarse sand : 3 stone aggregate nominal size 20 mm)

Chamber : 2 × 1.80 × 3.30 × 0.15 = ~~1.172 cum~~ 1.78

2 × 1.00 × 3.30 × 0.15 = 0.990 cum

1 × 1.00 × 2.70 × 0.10 = 0.270 cum

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

Sedimentation Tank

$\pi \times 3.40 \times 3.80 \times 0.15 = 6.08$ cum

Filtration Tank :

$3 \times 1.65 \times 2.40 \times 0.15 = 1.782$ cum

$1 \times 1.65 \times 2.00 \times 0.15 = 0.495$ cum

$2 \times 1.25 \times 2.00 \times 0.15 = 0.750$ cum

$1 \times 0.90 \times 2.00 \times 0.15 = 0.270$ cum

$1 \times 0.90 \times 2.00 \times 0.10 = 0.180$ cum

Walling Sump : $\pi \times 4.70 \times 1.80 \times 0.20 = 5.312$ cum

Pillars = $4 \times 1.40 \times 0.30 \times 0.30 = 0.504$ cum

Total = ~~17.80~~ 18.40 M³ cum @ ₹ 6280.95/m³

Rs 115613/-
111800.00

5 Reinforced cement concrete work in beams, suspended floors, roof having slope up to 15° landing balconies 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)

Sump slab : $\pi/4 \times 4.90^2 \times 0.125 = 2.355$ cum

P/R slab : $\pi/4 \times 5.80^2 \times 0.125 = 3.30$ cum

Beams : $2 \times 4.90 \times 0.30 \times 0.40 =$ ~~1.32 cum~~ 1.17 M³

Door Lintel : $1 \times 1.80 \times 0.225 \times 0.225 = 0.09$ cum ..... (A)

Window Lintel : $3 \times 1.50 \times 0.225 \times 0.225 = 0.22$ cum ..... (B)

Total (A + B) = 0.31 ..... (C)

Total = ~~7.285~~ 7.13 cum @ ₹ 5776.45/m³

41186/-
~~41208.~~

6 Providing and laying cement concrete 1:3:6 (1 cement : 3 coarse san : 6 stone aggregate 20 mm) excluding centering and shuttering

Drain = $2^3 \times 40.00 \times 0.30 \times 0.30 = 7.20$ cum

Toe Wall = $20 \times (0.45 + 0.70)/2 \times 1.00 =$ ~~12.50 cum~~ 11.50

Total = ~~29.70~~ 18.70 cum @ 80% = ~~15.76 cum~~ 14.96 M³

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

Bed slope of sedimentation tank :

$\pi \times 3.25 \times 1/2 \times 1.625 \times 0.40 = 3.31$ cum

Total = ~~19.01~~ 18.27 cum @ ₹ 3707.40/m³

67734/-
70700.

22458/-

Centering, shuttering, propping etc. and removal of form work for foundation, [illegible] base of columns etc. for mass concrete from right to left

2 × (1.80+1.30)/2 × 0.20 = 0.66 sqm

π/4 × 3.95 × 0.20 = 2.44 sqm

π/4 × 5.30² × 0.20 = 4.41 sqm

Pillars : 4 × 4 × 0.70 × 0.20 = 2.24 sqm

Drain : 40 × 0.40 × 2 = 32.00 sqm

40 × 2 × 0.30 = 24.00 sqm

Toe Wall = 20 × 1.10 = 22.00 sqm

Ends = 2 × (0.45 + 0.70)/2 × 1.10 = 1.26 sqm

Total Qty. = 89.01 sqm @ ₹ 179.25/m²

Walls of any thickness

Chamber outside = 2 × (1.80+1.30) × 3.45 = 21.39 sqm

nner side = 2 × (1.0+0.70) × 3.30 = 11.22 sqm

ltration Unit :

uter side = 3 × 1.80 × 2.55 = 13.77 sqm

= 1 × 1.80 × 2.15 = ~~3.87~~ 2.87 sqm

ner side = 3 × 1.80 × 2.40 = 12.96 sqm

= 1 × 1.80 × 2.00 = 3.60 sqm

ter side = 2 × 1.20 × 2.15 = 5.16 sqm

= 1 × 1.25 × 2.15 = 2.68 sqm

ter side = 4 × 0.50 × 2.00 × 4.00 sqm

= 1 × 0.90 × 2.00 = 1.80 sqm

= 2 × 0.90 × 1.50 = 2.70 sqm

imentation Tank :

er side = π × 3.55 × 3.45 = 38.45 sqm

r side = π × 3.25 × 3.30 = 33.67 sqm

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

15955

Outer side = π × 4.90 × 1.95 = 30.00 sqm

Inner side = π × 4.50 × 1.80 = 25.43 sqm

Total = 210.70 M² / 190.03 sqm @ ₹ Rs 342.80/M² — 72.28 M²

Extra for shuttering in circular surface

Qty. = 127.55 sqm @ ₹ 68.56/M² — 87.44 M²

d) For shelves, roofs up to 15° slope, landings etc.

P/R slab = π/4 × 4.45² = 15.54 sqm

= π/4 × 5.35² × 0.45 = 10.11 M² / 7.55 sqm

Sump slab = π/4 × 4.50² = 15.89 sqm

Total = 41.54 M² / 35.98 sqm @ ₹ Rs 372.40/M² — 15.469 M²

e) Lintels, beams, plinth, beam, girders and bressumers

Lintel Outside : π × 4.90 × 0.15 = 2.30 sqm

Inner side : π × 4.45 × 0.15 = 2.09 sqm

Total = 4.39 sqm @ ₹ 305.70/M² — 1.342 M²

f) Extra for shuttering in circular surface :

Qty. 4.39 sqm @ ₹ 61.14/M² — 0.268 M²

g) Edges of slab under 200 mm thickness

Sump tank slab : π × 4.90 = 15.38 rmt

P/R slab = π × 5.80 = 18.21 rmt

Total = 33.59 rmt @ ₹ 176.55/Rmt — 59.30

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

h) Extra for shuttering in circular surface

Qty. 33.59 rmt @ ₹ 35.31/R.m — 11.86 M²

12 mm cement sand plaster 1:3 finished with floating coat of neat cement

Area vide item No. 7(b) inner side only

1) 22 + 5.40 + 12.96 + 3.60 + 1.80 + 2.70 + 33.67 + 25.43

= 107.58 sqm @ ₹ 142.65/-

95.38 M

15132 f2

15988.00

Brick work with FPS bricks of class designation 75 in foundation & plinth

Pump room = π × 4.675 × 3.00 × 0.225 = 9.908 cum

D/d Door = 1 × 2 × 1.00 × 0.225 = 0.450 cum

D/d Windows = 3 × 1.20 × 0.90 × 0.225 = 0.729 cum

D/d Lintel vide item 5(C) - 0.31

Total = 8.42 cum @ ₹ 4551.45 cum

38323 f2

38233.00

15 mm cement sand plaster 1:6

Pump room inner side = π × 4.45 × 3.00 = 41.91 sqm

Outer side = π × 4.90 × 3.00 = 46.15 sqm

Total = 88.06 sqm

D/d door = 1 × 2.00 × 1.00 = 2.00 sqm

D/d Windows = 3 × 1.20 × 0.90 = 3.24 sqm

Net Qty. = 82.82 sqm @ ₹ 164.40/-

13615 f2

12 mm thick cement plaster 1:4

On RCC outer side from right to left

Chamber = 2 × (1.3+1.50) × 3.0 = 16.80 sqm

Sedimentation Tank = π × 3.55 × 3.00 = 33.44 sqm

Total = 50.24 sqm

Filtration Tank : 3 × 1.80 × 2.40 = 12.96 sqm

1 × 1.80 × 2.00 = 3.60 sqm

3 × 1.25 × 2.00 = 7.50 sqm

Sump = π × 4.90 × (0.90+0.125) = 15.77 sqm

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

(3)

[illegible] = 3 × 5.80 × 0.125 = 2.27 sqm

Total = 18.04 sqm

Drain = 40 × 2 × 0.30 = 24.00 sqm

Toe Wall = 20 × 0.80 = 16.00 sqm

Total = 132.34 sqm @ ₹ [illegible]

20955.00

Extra for plastering in circular surface

Area vide item No. 8, 10 and 11

41.54 + 33.67 + 36.00 + 25.43 + 82.82 + 33.44 + 18.04 =

264.94 M² sqm @ [illegible] @ Rs 19.90/M²

Rs 5275/-

19502.00

Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 20 mm) finished with a floating coat of neat cement crushed.

Drain : 40 × 0.90 = 36 sqm

Top = 7.4 × 4.45 = 15.54 sqm

Total = 51.54 sqm @ ₹ [illegible]

16492.00

Reinforcement for RCC work including straightening, cutting, bending, placing in position complete

Qty. vide item No. 3, 4 and 5

6.63 + 18.40 + 7.13 = 32.16 M³

6.63 + 17.80 + 8.70 = 33.60

Say 32.16 cum @ 100/cum = 32.16 Qtls @ ₹ [illegible]/Kg

Rs 228336/-

1

2385.00

Providing in compacting (during construction GP sheet water seal) 1.25 mm thick at construction joints

Inlet chamber : 3 × (1.15 + 1.65) = 8.40 m

Sedimentation Tank = 3 × π × 3.40 = 32.02 m

Filteration Tank = 2 × 4 × 1.65 = 13.20 m

= 2 × 3 × 1.25 = 7.50 m

Sump = 2 × π × 4.65 = 29.20 m

Total = 90.32 × 0.20 = 18.06 sqm @ 7 kg/sqm

Total = 126 kgs @ ₹ 52/Kg

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

6552/-

7208

6760.92

16 Providing and fixing 1 mm thick MS steel door with frame of 40×40×6 mm angle iron and 3 mm MS Gusset plates at the junction and corners all necessary fittings complete including applying a primary coat of approved steel primer using MS angle 40×40×6 mm diagonal braces

Door = 1 × 2.00 × 1.20 = 2.40 sqm

Windows = 3 × 0.90 × 1.20 = 3.24 sqm

Total = 5.64 sqm @ ₹ 3171 /sqm

17886.00

17 Providing and laying GI pipe 80 mm dia

Inside Chamber + sedimentation tank + wash out

Total = 31.25 rmt @ ₹ (6774 + 5719)

~~= 5.50 × 0.30 = 5.18 sqm~~

21190.00

18 White washing new work (Three or more coats) with lining to give an even shade

P/R roof = $\pi/4 \times 4.45^2$ = 15.54 sqm

Walling = $\pi \times 4.45 \times 3.00$ = 41.91 sqm

Total = 57.45

D/d Doors and windows

Doors = 1 × 2.00 × 1.20 = 2.40 sqm

Windows = 3 × 0.90 × 1.20 = 3.24 sqm

Total = 51.81 sqm @ ₹ 15.90/sqm

823.00

19 Finsihing walls with water proofing cement paint of approved brand to give an even shade new with two or more coats

Area vide item No. 10+11

=46.15+50.24+12.96+3.60+7.50+18.04 = 138.49 sqm

D/d Doors and windows = 5.24 sqm

Total = 133.25 sqm @ ₹ 56.90/sqm

7582.00

Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

20 Painting new metallic surface with two or more coats of synthetic enamel of specified shade and brand

Area vide item No. 16 = 5.24 × 2 = 10.48 sqm

Window grill = 1 × 3 × 0.9 × 1.20 = 3.24 sqm

= 13.72 sqm @ ₹ 69.30/M²

Provision for providing and fixing steel grill

Provision for electric fitting

Filling available excavated earth

90% qty. item 1"B" 22.05 M³ = 19.84 M³ cum @ 90% = ~~18 cum~~ ~~16.20 cum~~

20% of item No. 1 "A" = 46.10 cum @ 20% = 9.22 cum

Total = 29.06 M³ ~~25.42~~ cum @ ₹ ~~825~~ 2.5/-

Dry boulder filling on level including supply of stones

Material Consumption Chart

S. No.	Item	Qty.	Rate	Cement	Rate	Sand	Rate	Bajree	40 mm
2	1:4:8	13.10	170	2227	0.47	6.15	0.89		11.65
3,4	1:1.5:3	95.03 25.93	400	10812 7360	0.45	11.66 2.18 11.38	0.85	22.84 27.64 27.56	
5	1:2:4	7.13 7.28	320	2508 2282	0.45	3.20 3.63	0.89	6.34 7.18	
6	1:3:6	18.27	220	4125 4019	0.47	8.58	0.89	16.26	
10	1:6	82.82	4.13%	342	0.02	1.65			
8	1:3	95.38 96.8	9.54%	909 961	0.01	1.54			
11	1:4	132.3	7.67	1015	0.01	1.32			
13	1:2:4	51.54	17/sqm	876	0.02	1.03 0.92	0.04	2.06	
TOTAL				19030 21682 4766 3611 4346		31.33 31.71 cum		46.30 44.71	11.65

Dumping / filling of stones around the filtration plant on horizontal including their supply

Chamber = (2.10+2.40)/2 × (1.95+2.58)/2 × 0.65 av. = 1.30 cum

Old structure = 1.95 × 1.95 × 0.50 av. = 1.90 M³ ~~1.41 cum~~

Total = 1.39 M³ ~~1.89 cum~~ ..... (A)

Sub. Dy. Ex. Engineer
P.H.E. Sub Division
BELLA WAR

950/2
480.00
10000.00
15600.00
2477/20
2167.00

Scanned with CamScanner

Add for sedimentation Tank = $\pi/4 \times (4.20)^2 \times 1.50$ = ~~15.92~~ 20.77 cum

D/d structure = $\pi/4 \times (3.55)^2 \times 1.00$ = 9.89 cum

Total = ~~6.03~~ 10.87 cum ..... (B)

Add for sump tank = $\pi/4 \times [(6.06^2+(6.70)^2/2 \times 1.20$ = 38.43 cum

D/d structure = $\pi/4 \times (4.95)^2 \times 1.05$ = 20.21 cum

Total = 18.22 cum ..... (C)

Total Qty. (A+B−C) = ~~26.14~~ 30.48 cum @ ₹327.05/cum

9968/2
8547.00

Providing and mixing of water proof material during construction

Qty. vide item No. 4 = ~~17.81~~ cum 18.40

Qty. vide item No. 3 = ~~8.47~~ cum 6.63

25.03 m³ @ 8 bag = 200 bag

= 200 kg @ Rs 43.95/kg

Rs 8790/2

Extra for brick masonry in superstructure

Qty. vide item No. 9 = ~~6.31~~ 8.42 cum @ ₹706.50/cum

Rs. 5948/2
6758.00

Carriage of brick average 65 km by Mechanical Transport

Qty. as per item No. 9 = 8.42 cum @ 475 bricks/~~100~~ cum

Qty. = 4000 No.s @ ~~₹246.05~~ 1349.68/1000 No.s

5398/2
2210.88

Carriage of sand average 18 km by Mechanical Transport

Qty. as per chart = 31.33 cum @ ₹229.48/cum

7188/2
11436.00

Carriage of bajree average 12 km by Mechanical Transport

Qty. as per chart ~~38.73~~ 46.30 cum @ ₹ 182.24/cum

8621/2
8142.00

Carriage of stone aggregate 40 mm size by Mechanical Transport average 12 km Lead

Qty. 11.65 cum @ ₹ 202.41/cum

2358.00

Carriage of cement and steel average 65 km by Mechanical Transport

Cement = ~~144~~ 434 bags or ~~8.88~~ 21.70 MT @ ₹ 449.91/MT

Steel = ~~53.60~~ 32.160 Qtls or ~~2.36~~ 3.21 MT @ ₹ 449.91/MT

Assistant Engineer
P.H.E. Sub Division
BILLAWAR

9763/2
3905.00

1446/2
1511.50

32	Carriage of brick average 1.00 km by Head Load Qty. 4000 Nos @ ₹1.906 per/1000 Nos	3624/52
		15396.0 15211/2
33	Carriage of sand average 1.00 km by Head Load Qty. 31.334 cum ₹ 48.53/cum	
34	Carriage of bajree average 1.00km by Head Load Qty 46.304 cum ₹ 48.53/cum	2248 0/2 21261.0
35	Carriage of stone aggregate 40 mm size by Head Load average 1.00 Km Qty. : 11.65 cum @ ₹ 52.92/cum	6115/2 6325.0
36	Carriage of cement and steel 1.00 km by Head Load Cement = 21.704 MT @ 207.30/ Steel = 3.21 MT @ 445.31/ Total Qty ~~12.24 MT @ ₹ 52.92/cum~~	4498/2 7987.0 1429/2 1496
	TOTAL Rs 1036464/2 ~~1039058~~ +	800020
	Add 20% except item No. 21 and 22 202998/2 +	155504
	TOTAL Rs ~~1242029~~ 1238757/2 12.938	955524

Say Rs 12.39 lacs.

JE

ASTT. EX. ENGINEER
PHE SUB DIV.
BILLAWAR

EXECUTIVE ENGINEER
P.H.E. DIVISION
KATHUA

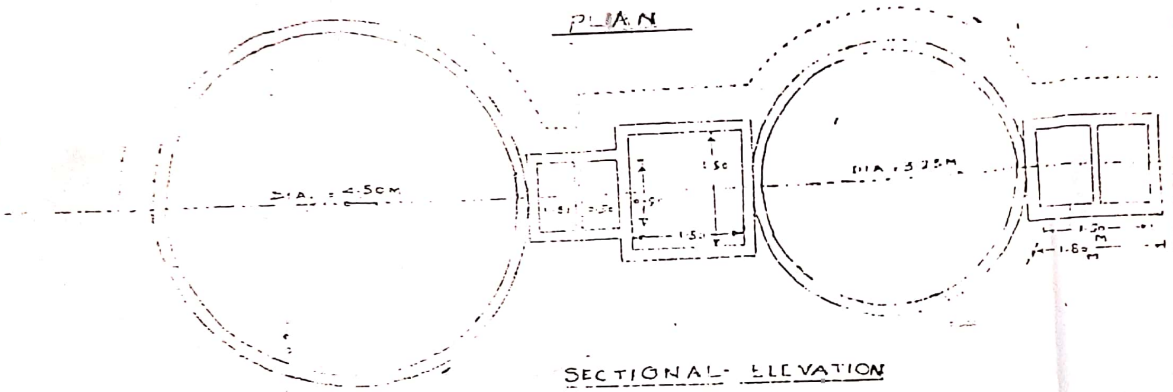
Asstt. Ex. Engineer
P.H.E. Sub Division
BILLAWAR

(36)

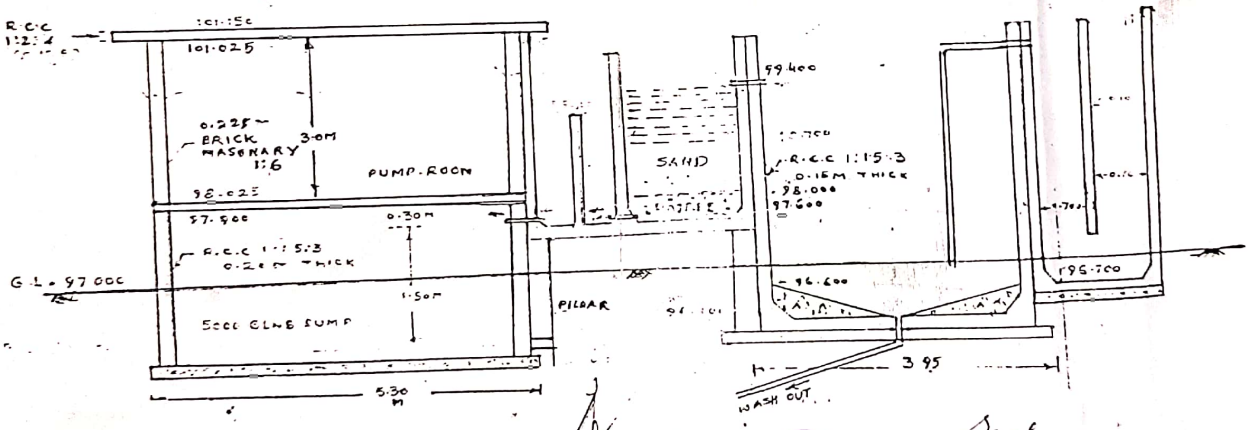
DRAWING OF SLOW SAND FILTRATION PLANT OF 5000 Gms GPM AT SHR[illegible]

W.S.S. BAR-SABAL-I

PLAN



SECTIONAL ELEVATION



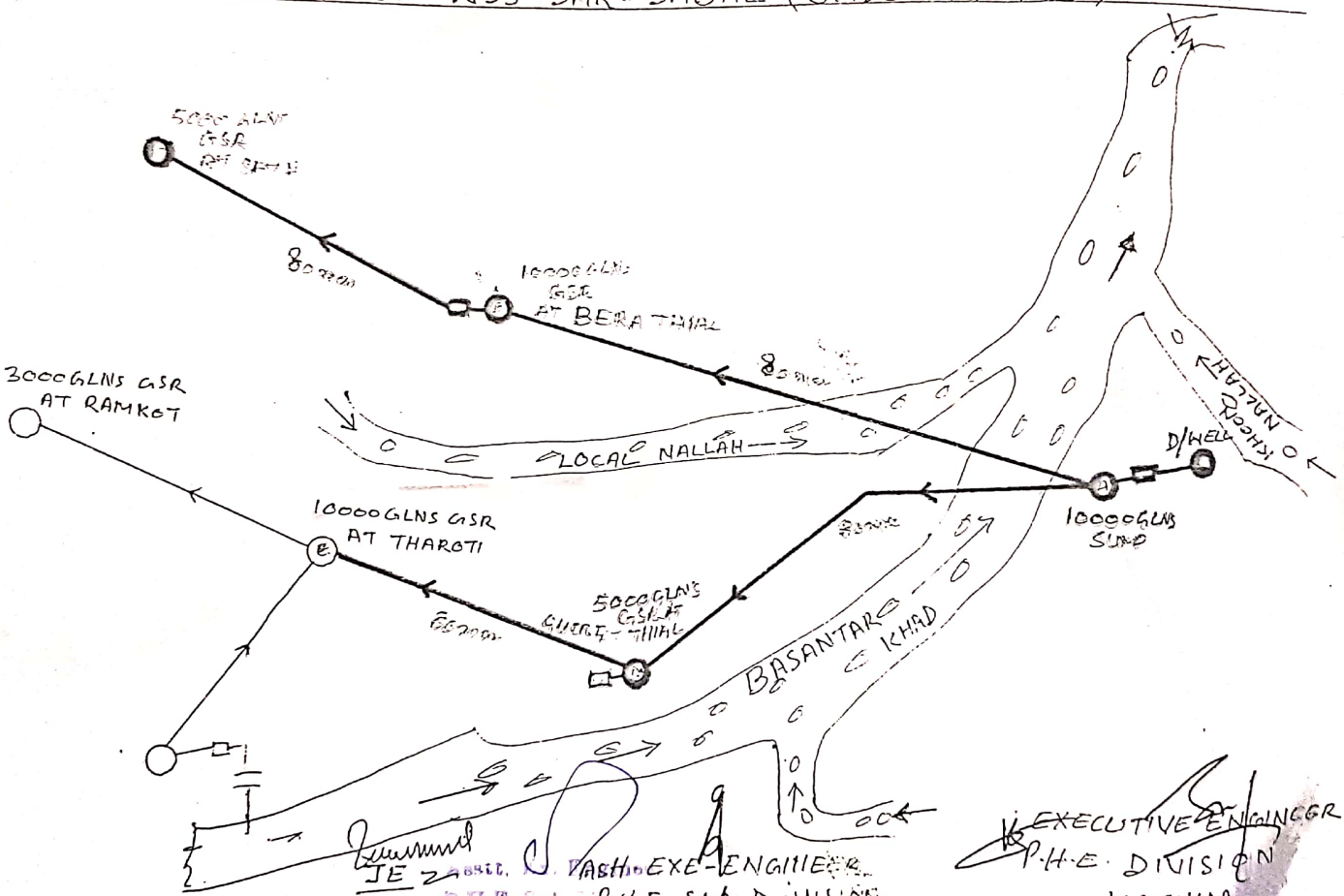
Jr. ENGINEER

ASSTT. ENGINEER
P.H.E SUB DIV
BILLAWAR

EXECUTIVE ENGINEER
P.H.E. DIVISION
KATHUA

Asstt Ex. Engineer
P.H.E. Sub Division
BILLAWAR

LINE PLAN OF WSS SAR - SABAL (UNDER NABARD)



JE

EXE. ENGINEER
P.H.E. SUB DIVISION
BILLAWAR

EXECUTIVE ENGINEER
P.H.E. DIVISION
KATHUA