

# KERALA WATER AUTHORITY

SEWERAGE CIRCLE TRIVANDRUM



## DPR FOR THE CONSTRUCTION OF 5 MLD STP, NETWORK & ALLIED COMPONENTS AT THIRUVALLA MUNICIPALITY **VOLUME-II**



**KERALA**

**2021**



**ESTIMATE**

## General Abstract

**SBM2.0 SEWERAGE SCHEME TO THIRUVALLA MUNICIPALITY IN  
PATHANAMTHITTA DISTRICT- CONSTRUCTION OF 5 MLD SEWAGE  
TREATMENT PLANT**

(Dsor year: 2018)

SI No	Heading Description	Amount
1	Site clearing and Levelling	193539.41
2	2.EQUALIZATION TANK	3620905.80
3	3. MBBR TANK - 2Nos.	4462822.54
4	4.SECONDARY CLARIFIER	5543091.52
5	5. FILTER FEED TANK	1650225.61
6	6.TREATED WATER TANK	1645666.47
7	7.SLUDGE SUMP	479019.20
8	8. SLUDGE THICKNER	1190923.64
9	9. THICKENED SLUDGE SUMP	479860.32
10	10. CENTRATE SUMP	672575.43
11	11. RCC PLAT FORM FOR VARIOUS MECHANICAL ITEMS AND MOTORS AND PIPE LAYING WORKS	3483820.37
12	12 TREATED WATER CHANNEL	414580.43
13	13. SLUDGE STORAGE YARD	941211.09
14	FOUNDATIONS-GENERATOR	252807.38
15	FILTER FOUNDATION	2763986.93
16	PUMP HOUSE	226016.35
17	INTERNEL ROADS, WALKWAYS&amp; STORM WATER DRAINS	24091037.44
18	CENTRIFUGE BUILDING	2955983.55
19	19. LAND SCAPING & AFFORESTATION (DSR for horticulture)	889713.50
20	20. Receiving chamber, screen channel and grit chamber and parshall flume	2093857.18
Total		<b>58051644.15</b>
Centage @		<b>10.0%</b>
Centage Amount		<b>5805164.41</b>
Provision for GST payments (in %) @		<b>18.0%</b>
Amount reserved for GST payments		<b>10449295.95</b>
Total & Centage		<b>74306104.51</b>
Lumpsum for round off		<b>0.00</b>
<b>GRAND TOTAL Rs</b>		<b>74306104.51</b>
<b>Rounded Grand Total Rs 7,43,06,105</b>		

PRICE

EST NO:

Rupees Seven Crore Forty Three Lakh Six Thousand One Hundred and Five Only



Kerala Water Authority

PRICE

## Detailed Estimate

**SBM2.0 SEWERAGE SCHEME TO THIRUVALLA MUNICIPALITY IN  
PATHANAMTHITTA DISTRICT- CONSTRUCTION OF 5 MLD SEWAGE  
TREATMENT PLANT**

(Dsor year: 2018)

Sl No	Description	No	L	B	D	CF	Quantity	Remark
<b>1 Site clearing and Levelling (Cost Index:37.29 %)</b>								
1	2.31 Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared							
	Site clearing	1				9500.0	9500.000	
							Total Quantity	9500.000 sqm
							Total Deducted Quantity	0.000 sqm
							Net Total Quantity	9500.000 sqm
							Say 9500.000 sqm @ Rs 14.96 / sqm	<b>Rs 142120.00</b>
2	2.33.1 Felling trees of the girth (measured at a height of 1 m above ground level) including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable material. Beyond 30 cm girth up to and including 60 cm girth							
		100					100.000	
							Total Quantity	100.000 No
							Total Deducted Quantity	0.000 No
							Net Total Quantity	100.000 No
							Say 100.000 No @ Rs 453.61 / No	<b>Rs 45361.00</b>
3	2.33.2 Felling trees of the girth (measured at a height of 1 m above ground level) including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable material. Beyond 60 cm girth up to and including 120 cm girth							
		3					3.000	
							Total Quantity	3.000 No
							Total Deducted Quantity	0.000 No
							Net Total Quantity	3.000 No
							Say 3.000 No @ Rs 2019.47 / No	<b>Rs 6058.41</b>

SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>22.EQUALIZATION TANK (Cost Index:37.29 %)</b>								
1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil							
	18.5M INNER DIA	3.14	7.950	7.950	1.500		297.684	
	Total Quantity						297.684 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						297.684 cum	
	Say 297.684 cum @ Rs 216.71 / cum						<b>Rs 64511.10</b>	
2	2.26.1 Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials.All kinds of soil							
	18.5 M INNER DIA	3.14	7.950	7.950	1.600		317.530	
	Total Quantity						317.530 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						317.530 cum	
	Say 317.530 cum @ Rs 107.70 / cum						<b>Rs 34197.98</b>	
3	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)							
		3.14	5.200	5.200	0.100		8.491	
	Total Quantity						8.491 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						8.491 cum	
	Say 8.491 cum @ Rs 7459.93 / cum						<b>Rs 63342.27</b>	
4	5.37.2 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as							

	per design mix is payable/recoverable separately.All work above plinth level upto floor V level							
	Side Wall	3.14	15.100	0.300	2.500		35.561	
	Total Quantity						35.561 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						35.561 cum	
	Say 35.561 cum @ Rs 11682.76 / cum						<b>Rs 415450.63</b>	
5	<p>5.37.1          Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work upto plinth level</p>							
	bottom slab	3.14	7.850	7.850	1.000		193.495	
	side wall alround	3.14	15.100	0.300	2.000		28.449	
	Total Quantity						221.944 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						221.944 cum	
	Say 221.944 cum @ Rs 10009.95 / cum						<b>Rs 2221648.34</b>	
6	<p>5.34.1          Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).</p>							
	Qty.Vide 5.37.2	1	64.009				64.009	
	Qty.Vide 5.37.1	1	221.944				221.944	
	Total Quantity						285.953 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						285.953 cum	
	Say 285.953 cum @ Rs 83.13 / cum						<b>Rs 23771.27</b>	
7	<p>od326203/2021_2022          Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level</p>							
	as per item no 5.37.1	1	221.940				221.940	
	as per item no 5.37.2	1	35.560				35.560	



						Total Quantity	257.500 kg	
						Total Deducted Quantity	0.000 kg	
						Net Total Quantity	257.500 kg	
						Say 257.500 kg @ Rs 83.10 / kg	<b>Rs 21398.25</b>	
8	5.9.1	Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete						
	PCC Side	1	3.14*15.7		0.150		7.395	
	Base slab	1	3.14*15.5		0.900		43.804	
						Total Quantity	51.199 sqm	
						Total Deducted Quantity	0.000 sqm	
						Net Total Quantity	51.199 sqm	
						Say 51.199 sqm @ Rs 339.52 / sqm	<b>Rs 17383.08</b>	
9	5.9.2	Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.						
	Side wall Outer	1	3.14*15.1		4.500		213.363	
	Side wall Inner	1	3.14*14.5		4.500		204.885	
						Total Quantity	418.248 sqm	
						Total Deducted Quantity	0.000 sqm	
						Net Total Quantity	418.248 sqm	
						Say 418.248 sqm @ Rs 726.20 / sqm	<b>Rs 303731.70</b>	
10	13.7.1	12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)						
	inside wall	3.14	14.500	4.500			204.886	
	Bottom slab top	1	3.140	7.250	7.250		165.047	
	Outside wall around	1	3.140	15.100	4.500		213.363	
						Total Quantity	583.296 sqm	
						Total Deducted Quantity	0.000 sqm	
						Net Total Quantity	583.296 sqm	
						Say 583.296 sqm @ Rs 406.24 / sqm	<b>Rs 236958.17</b>	
11	13.52.2	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.On concrete work						

	outside wall around	1	3.140	15.100	2.500		118.535		
	Total Quantity						118.535 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						118.535 sqm		
	Say 118.535 sqm @ Rs 225.70 / sqm							<b>Rs 26753.35</b>	
12	<p>22.23.1</p> <p>Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage &amp; water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage. For vertical surface two coats @ 0.70 kg per sqm</p>								
	Side wall Inner	1	3.14*14.5		4.500		204.885		
	Total Quantity						204.885 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						204.885 sqm		
	Say 204.885 sqm @ Rs 577.44 / sqm							<b>Rs 118308.79</b>	
13	<p>22.23.2</p> <p>Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage &amp; water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage. For horizontal surface one coat @ 1.10 kg per sqm.</p>								
	Bottom slab top	1	3.140	7.250	7.250		165.047		
	Total Quantity						165.047 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						165.047 sqm		
	Say 165.047 sqm @ Rs 445.03 / sqm							<b>Rs 73450.87</b>	

SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>33. MBBR TANK - 2Nos. (Cost Index:37.29 %)</b>									
1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil								
	MBBR -1	1	3.140	5.200	5.200	0.85	72.170		
	MBBR -2	1	3.140	5.200	5.200	0.85	72.170		
	Total Quantity							144.340 cum	
	Total Deducted Quantity							0.000 cum	
	Net Total Quantity							144.340 cum	
	Say 144.340 cum @ Rs 216.71 / cum							<b>Rs 31279.92</b>	
2	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)								
	MBBR -1	3.14	5.200	5.200	0.100		8.491		
	MBBR -2	3.14	5.200	5.200	0.100		8.491		
	Total Quantity							16.982 cum	
	Total Deducted Quantity							0.000 cum	
	Net Total Quantity							16.982 cum	
	Say 16.982 cum @ Rs 7459.93 / cum							<b>Rs 126684.53</b>	
3	5.37.1 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work upto plinth level								
	MBBR 1 & MBBR II								
	For bottom slab	2*3.14	5.100	5.100	0.750		122.508		
	side wall alround	2*3.14	4.800	0.300	4.500		40.695		
	Total Quantity							163.203 cum	
	Total Deducted Quantity							0.000 cum	

	Net Total Quantity						163.203 cum	
	Say 163.203 cum @ Rs 10009.95 / cum						<b>Rs 1633653.87</b>	
4	5.34.1 Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately. Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).							
	MBBR 1 & II							
	Same as 5.37.1	2*1	163.203				326.406	
	Total Quantity						326.406 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						326.406 cum	
	Say 326.406 cum @ Rs 83.13 / cum						<b>Rs 27134.13</b>	
5	od326203/2021_2022 Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level							
	as per 5.37.1	1	163.203			120.0	19584.360	
	Total Quantity						19584.360 kg	
	Total Deducted Quantity						0.000 kg	
	Net Total Quantity						19584.360 kg	
	Say 19584.360 kg @ Rs 83.10 / kg						<b>Rs 1627460.32</b>	
6	4.12 Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .							
	qty as per 5.37.1	1	163.203			340.0	55489.021	
	Total Quantity						55489.021 kg	
	Total Deducted Quantity						0.000 kg	
	Net Total Quantity						55489.021 kg	
	Say 55489.021 kg @ Rs 1.37 / kg						<b>Rs 76019.96</b>	
7	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete							
	MBBR I & II							
	RAFT SLAB	2	3.140	10.200	0.750		48.042	
	Total Quantity						48.042 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						48.042 sqm	

	Say 48.042 sqm @ Rs 339.52 / sqm						<b>Rs 16311.22</b>	
8	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, buttheresses, plinth and string courses etc.							
	MBBR I &II							
	OUTSIDE ALROUND	2*1	3.140	9.600	4.500		271.296	
	INSIDER	2*1	3.140	9.000	4.500		254.340	
	Total Quantity						525.636 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						525.636 sqm	
	Say 525.636 sqm @ Rs 726.20 / sqm						<b>Rs 381716.86</b>	
9	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)							
	INSIDE WALL	2*1	3.140	9.000	4.500		254.340	
	BOTTOM SLAB TOP	2*1	3.140	4.500	4.500		127.170	
	OUTSIDE WALL AROUND	2*1	3.140	9.600	4.500		271.296	
	Total Quantity						652.806 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						652.806 sqm	
	Say 652.806 sqm @ Rs 406.24 / sqm						<b>Rs 265195.91</b>	
10	13.52.2 Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.On concrete work							
	Same as above 13.7.1	1	652.806				652.806	
	Total Quantity						652.806 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						652.806 sqm	
	Say 652.806 sqm @ Rs 225.70 / sqm						<b>Rs 147338.31</b>	
11	22.23.1 Providing and applying integral crystalline slurry of hydrophilic in nature forwaterproofing treatment to the RCC structures like retaining walls of the basement,water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 partsintegral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 partsintegral crystalline slurry : 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the							

	help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage. For vertical surface two coats @0.70 kg per sqm							
	inside wall	1	3.140	9.000	4.500		127.170	
	Total Quantity						127.170 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						127.170 sqm	
	Say 127.170 sqm @ Rs 577.44 / sqm						<b>Rs 73433.04</b>	
12	<p>22.23.2</p> <p>Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage &amp; water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage. For horizontal surface one coat @1.10 kg per sqm.</p>							
	MBBR -1 & 11							
	BOTTOM slab TOP	2*1	3.140	4.500	4.500		127.170	
	Total Quantity						127.170 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						127.170 sqm	
	Say 127.170 sqm @ Rs 445.03 / sqm						<b>Rs 56594.47</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>44. SECONDARY CLARIFIER (Cost Index: 37.29 %)</b>								
1	<p>2.6.1</p> <p>Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed. All kinds of soil</p>							
		3.14	7.700	7.700	1.100		204.788	
	Total Quantity						204.788 cum	
	Total Deducted Quantity						0.000 cum	

	Net Total Quantity						204.788 cum	
	Say 204.788 cum @ Rs 216.71 / cum						<b>Rs 44379.61</b>	
2	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)							
	For tank	3.14	7.700	7.700	0.100		18.618	
	Total Quantity						18.618 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						18.618 cum	
	Say 18.618 cum @ Rs 7459.93 / cum						<b>Rs 138888.98</b>	
3	5.37.2 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work above plinth level upto floor V level							
	for bottom slab	3.14	7.600	7.600	1.000		181.367	
	Side wall alround	3.14	7.600	0.300	4.000		28.637	
	Total Quantity						210.004 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						210.004 cum	
	Say 210.004 cum @ Rs 11682.76 / cum						<b>Rs 2453426.33</b>	
4	5.34.1 Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).							
	Same as item no. 5.37.2	1	210.004				210.004	
	Total Quantity						210.004 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						210.004 cum	
	Say 210.004 cum @ Rs 83.13 / cum						<b>Rs 17457.63</b>	
5	od326203/2021_2022							

	Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level							
	ASPER 5.37,2	1	210.010			120.0	25201.200	
	Total Quantity						25201.200 kg	
	Total Deducted Quantity						0.000 kg	
	Net Total Quantity						25201.200 kg	
	Say 25201.200 kg @ Rs 83.10 / kg						<b>Rs 2094219.72</b>	
6	4.12 Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .							
	AS PER 5.37,2	1	210.010			340.0	71403.400	
	Total Quantity						71403.400 kg	
	Total Deducted Quantity						0.000 kg	
	Net Total Quantity						71403.400 kg	
	Say 71403.400 kg @ Rs 1.37 / kg						<b>Rs 97822.66</b>	
7	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete							
	Raft slab	1	3.140	15.200	1.000		47.728	
	Total Quantity						47.728 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						47.728 sqm	
	Say 47.728 sqm @ Rs 339.52 / sqm						<b>Rs 16204.61</b>	
8	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.							
	outside alround	1	3.140	14.600	4.000		183.376	
	inside	1	3.140	14.000	4.000		175.840	
	Total Quantity						359.216 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						359.216 sqm	
	Say 359.216 sqm @ Rs 726.20 / sqm						<b>Rs 260862.66</b>	
9	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)							
	Inside wall	1	3.140	14.000	4.000		175.840	



	Bttom slab top	1	3.140	7.000	7.000		153.860		
	outside wall alround	1	3.140	14.600	4.000		183.376		
	Total Quantity						513.076 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						513.076 sqm		
	Say 513.076 sqm @ Rs 406.24 / sqm							<b>Rs 208431.99</b>	
10	13.52.2 Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On concrete work								
	Outside wall alround	1	3.140	14.600	4.000		183.376		
	Total Quantity						183.376 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						183.376 sqm		
	Say 183.376 sqm @ Rs 225.70 / sqm							<b>Rs 41387.96</b>	
11	22.23.1 Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage. For vertical surface two coats @ 0.70 kg per sqm								
	inside wall	1	3.140	14.000	4.000		175.840		
	Total Quantity						175.840 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						175.840 sqm		
	Say 175.840 sqm @ Rs 577.44 / sqm							<b>Rs 101537.05</b>	
12	22.23.2 Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010								

	i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage. For horizontal surface one coat @ 1.10 kg per sqm.								
	Bottom slab top	1	3.140	7.000	7.000			153.860	
	Total Quantity							153.860 sqm	
	Total Deducted Quantity							0.000 sqm	
	Net Total Quantity							153.860 sqm	
	Say 153.860 sqm @ Rs 445.03 / sqm							<b>Rs 68472.32</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>55. FILTER FEED TANK (Cost Index: 37.29 %)</b>									
1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed. All kinds of soil								
		1	8.300	6.300	0.850		44.447		
	Total Quantity							44.447 cum	
	Total Deducted Quantity							0.000 cum	
	Net Total Quantity							44.447 cum	
	Say 44.447 cum @ Rs 216.71 / cum							<b>Rs 9632.11</b>	
2	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level: 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)								
	tank	1	8.300	6.300	0.100		5.230		
	Total Quantity							5.230 cum	
	Total Deducted Quantity							0.000 cum	
	Net Total Quantity							5.230 cum	
	Say 5.230 cum @ Rs 7459.93 / cum							<b>Rs 39015.43</b>	
3	5.37.2 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of								

	concrete, improve workability without impairing strength and durability as per direction of the Engineer - in-charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work above plinth level upto floor V level						
	for bottom slab	1	8.100	6.100	0.750		37.058
	side wall alround	1	26.000	0.250	3.500		22.750
	Total Quantity						59.808 cum
	Total Deducted Quantity						0.000 cum
	Net Total Quantity						59.808 cum
	Say 59.808 cum @ Rs 11682.76 / cum						<b>Rs 698722.51</b>
4	5.34.1 Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).						
	Same as 5.37.2	1	59.810				59.810
	Total Quantity						59.810 cum
	Total Deducted Quantity						0.000 cum
	Net Total Quantity						59.810 cum
	Say 59.810 cum @ Rs 83.13 / cum						<b>Rs 4972.01</b>
5	od326203/2021_2022 Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level						
	as per above item	1	59.810			120.0	7177.201
	Total Quantity						7177.201 kg
	Total Deducted Quantity						0.000 kg
	Net Total Quantity						7177.201 kg
	Say 7177.201 kg @ Rs 83.10 / kg						<b>Rs 596425.40</b>
6	4.12 Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .						
	as per above item	1	59.810			340.0	20335.400
	Total Quantity						20335.400 kg
	Total Deducted Quantity						0.000 kg
	Net Total Quantity						20335.400 kg
	Say 20335.400 kg @ Rs 1.37 / kg						<b>Rs 27859.50</b>
7	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of						

	columns, etc for mass concrete							
	Raft slab	1	28.400		0.750		21.300	
	Total Quantity						21.300 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						21.300 sqm	
	Say 21.300 sqm @ Rs 339.52 / sqm						<b>Rs 7231.78</b>	
8	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.							
	outside alround	1	26.000		3.500		91.000	
	inside	1	24.000		3.500		84.000	
	Total Quantity						175.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						175.000 sqm	
	Say 175.000 sqm @ Rs 726.20 / sqm						<b>Rs 127085.00</b>	
9	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)							
	inside wall	1	24.000		3.500		84.000	
	base slab	1	7.000	5.000			35.000	
	Total Quantity						119.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						119.000 sqm	
	Say 119.000 sqm @ Rs 406.24 / sqm						<b>Rs 48342.56</b>	
10	13.52.2 Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.On concrete work							
	Same As 13.7.1	1	119.000				119.000	
	Total Quantity						119.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						119.000 sqm	
	Say 119.000 sqm @ Rs 225.70 / sqm						<b>Rs 26858.30</b>	
11	22.23.1 Providing and applying integral crystalline slurry of hydrophilic in nature forwaterproofing treatment to the RCC structures like retaining walls of the basement,water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5							

	partsintegral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 partsintegral crystalline slurry : 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducingpermeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against anyleakage.For vertical surface two coats @0.70 kg per sqm							
	inside wall	1	24.000		3.500		84.000	
	Total Quantity						84.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						84.000 sqm	
	Say 84.000 sqm @ Rs 577.44 / sqm						<b>Rs 48504.96</b>	
12	22.23.2 Providing and applying integral crystalline slurry of hydrophilic in nature forwaterproofing treatment to the RCC structures like retaining walls of the basement,water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 partsintegral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 partsintegral crystalline slurry : 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducingpermeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against anyleakage.For horizontal surface one coat @1.10 kg per sqm.							
	Bottom slab top	1	7.000	5.000			35.000	
	Total Quantity						35.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						35.000 sqm	
	Say 35.000 sqm @ Rs 445.03 / sqm						<b>Rs 15576.05</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>66.TREATED WATER TANK (Cost Index:37.29 %)</b>								
1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil							
	PCC	1	8.300	6.300	0.850		44.447	
	Total Quantity						44.447 cum	

## PRICE

EST NO:

		Total Deducted Quantity					0.000 cum	
		Net Total Quantity					44.447 cum	
		Say 44.447 cum @ Rs 216.71 / cum					<b>Rs 9632.11</b>	
2	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)							
	for tank	1	8.300	6.300	0.100		5.230	
		Total Quantity					5.230 cum	
		Total Deducted Quantity					0.000 cum	
		Net Total Quantity					5.230 cum	
		Say 5.230 cum @ Rs 7459.93 / cum					<b>Rs 39015.43</b>	
3	5.37.2 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work above plinth level upto floor V level							
	for bottom slab	1	8.100	6.100	0.750		37.058	
	side wall alround	1	26.000	0.250	3.500		22.750	
		Total Quantity					59.808 cum	
		Total Deducted Quantity					0.000 cum	
		Net Total Quantity					59.808 cum	
		Say 59.808 cum @ Rs 11682.76 / cum					<b>Rs 698722.51</b>	
4	5.34.1 Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).							
	Same as 5.37.2	1	59.810				59.810	
		Total Quantity					59.810 cum	
		Total Deducted Quantity					0.000 cum	
		Net Total Quantity					59.810 cum	
		Say 59.810 cum @ Rs 83.13 / cum					<b>Rs 4972.01</b>	

5	od326203/2021_2022 Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level						
	AS PER 5.37.2	1	59.810			120.0	7177.201
	Total Quantity						7177.201 kg
	Total Deducted Quantity						0.000 kg
	Net Total Quantity						7177.201 kg
	Say 7177.201 kg @ Rs 83.10 / kg						<b>Rs 596425.40</b>
6	4.12 Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .						
	AS PER 5.37.2	1	59.810			340.0	20335.400
	Total Quantity						20335.400 kg
	Total Deducted Quantity						0.000 kg
	Net Total Quantity						20335.400 kg
	Say 20335.400 kg @ Rs 1.37 / kg						<b>Rs 27859.50</b>
7	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete						
	Raft slab	1	28.400		0.750		21.300
	Total Quantity						21.300 sqm
	Total Deducted Quantity						0.000 sqm
	Net Total Quantity						21.300 sqm
	Say 21.300 sqm @ Rs 339.52 / sqm						<b>Rs 7231.78</b>
8	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.						
	outside alround	1	26.000		3.500		91.000
	inside	1	24.000		3.500		84.000
	Total Quantity						175.000 sqm
	Total Deducted Quantity						0.000 sqm
	Net Total Quantity						175.000 sqm
	Say 175.000 sqm @ Rs 726.20 / sqm						<b>Rs 127085.00</b>
9	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)						

	inside wall	1	24.000		3.500		84.000	
	base slab	1	7.000	5.000			35.000	
	Total Quantity						119.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						119.000 sqm	
	Say 119.000 sqm @ Rs 406.24 / sqm						<b>Rs 48342.56</b>	
10	13.52.2 Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On concrete work							
	Tank wall above ground	1	26.000		3.800		98.800	
	Total Quantity						98.800 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						98.800 sqm	
	Say 98.800 sqm @ Rs 225.70 / sqm						<b>Rs 22299.16</b>	
11	22.23.1 Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage. For vertical surface two coats @ 0.70 kg per sqm							
	inside wall	1	24.000		3.500		84.000	
	Total Quantity						84.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						84.000 sqm	
	Say 84.000 sqm @ Rs 577.44 / sqm						<b>Rs 48504.96</b>	
12	22.23.2 Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the							



help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage. For horizontal surface one coat @ 1.10 kg per sqm.								
		1	7.000	5.000			35.000	
Total Quantity							35.000 sqm	
Total Deducted Quantity							0.000 sqm	
Net Total Quantity							35.000 sqm	
Say 35.000 sqm @ Rs 445.03 / sqm							<b>Rs 15576.05</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>77.SLUDGE SUMP (Cost Index:37.29 %)</b>								
1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed. All kinds of soil							
		3.14	2.525	2.525	1.500		30.030	
Total Quantity							30.030 cum	
Total Deducted Quantity							0.000 cum	
Net Total Quantity							30.030 cum	
Say 30.030 cum @ Rs 216.71 / cum							<b>Rs 6507.80</b>	
2	2.26.1 Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials. All kinds of soil							
		3.14	2.525	2.525	1.400		28.028	
Total Quantity							28.028 cum	
Total Deducted Quantity							0.000 cum	
Net Total Quantity							28.028 cum	
Say 28.028 cum @ Rs 107.70 / cum							<b>Rs 3018.62</b>	
3	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level: 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)							
	for tank	3.14	2.525	2.525	0.100		2.002	
Total Quantity							2.002 cum	

						Total Deducted Quantity	0.000 cum
						Net Total Quantity	2.002 cum
						Say 2.002 cum @ Rs 7459.93 / cum	<b>Rs 14934.78</b>
4	5.37.2	<p>Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work above plinth level upto floor V level</p>					
	bottom slab	3.14	2.425	2.425	0.300		5.540
	sidewall alround	3.14	2.125	2.125	2.500		35.448
	S I D E W A L L A L R O U N D	3.14	1.875	1.875	2.500		-27.597
						Total Quantity	40.988 cum
						Total Deducted Quantity	-27.597 cum
						Net Total Quantity	13.391 cum
						Say 13.391 cum @ Rs 11682.76 / cum	<b>Rs 156443.84</b>
5	5.37.1	<p>Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work upto plinth level</p>					
	slab	3.14	2.425	2.425	0.200		3.694
						Total Quantity	3.694 cum
						Total Deducted Quantity	0.000 cum
						Net Total Quantity	3.694 cum
						Say 3.694 cum @ Rs 10009.95 / cum	<b>Rs 36976.76</b>
6	5.34.1	<p>Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.Providing M-30 grade concrete instead of M-25 grade</p>					

	BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).							
	Same as 5.37.2	1	40.988				40.988	
	Total Quantity						40.988 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						40.988 cum	
	Say 40.988 cum @ Rs 83.13 / cum						<b>Rs 3407.33</b>	
7	od326203/2021_2022 Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level							
	AS PER 5.37.1	1	13.390			120.0	1606.801	
	AS PER 5.37.2	1	3.694			120.0	443.280	
	Total Quantity						2050.081 kg	
	Total Deducted Quantity						0.000 kg	
	Net Total Quantity						2050.081 kg	
	Say 2050.081 kg @ Rs 83.10 / kg						<b>Rs 170361.73</b>	
8	4.12 Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .							
	AS PER 5.37.1	1	13.390			340.0	4552.600	
	AS PER 5.37.2	1	3.694			340.0	1255.960	
	Total Quantity						5808.560 kg	
	Total Deducted Quantity						0.000 kg	
	Net Total Quantity						5808.560 kg	
	Say 5808.560 kg @ Rs 1.37 / kg						<b>Rs 7957.73</b>	
9	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.							
	outside alround	3.14	4.250		2.500		33.363	
	inside	3.14	3.750		2.500		29.438	
	Total Quantity						62.801 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						62.801 sqm	
	Say 62.801 sqm @ Rs 726.20 / sqm						<b>Rs 45606.09</b>	
10	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of							

	columns, etc for mass concrete								
	raft slab	1	3.140	4.850	0.300		4.569		
	Total Quantity						4.569 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						4.569 sqm		
	Say 4.569 sqm @ Rs 339.52 / sqm							<b>Rs 1551.27</b>	
11	5.9.3 Centering and shuttering including strutting, etc. and removal of form for:Suspended floors, roofs, landings, balconies and access platform								
	top slab bottom	1	3.140	1.875	1.875		11.040		
	top slab side	1	3.140	4.250	0.200		2.670		
	Total Quantity						13.710 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						13.710 sqm		
	Say 13.710 sqm @ Rs 826.01 / sqm							<b>Rs 11324.60</b>	
12	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)								
	inside wall	3.14	3.750		2.500		29.438		
	bottom slab top	3.14	1.875		1.875		11.040		
	top slab bottom	3.14	1.875		1.875		11.040		
	Total Quantity						51.518 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						51.518 sqm		
	Say 51.518 sqm @ Rs 406.24 / sqm							<b>Rs 20928.67</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>88. SLUDGE THICKNER (Cost Index:37.29 %)</b>									
1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil								
		1	3.140	3.750	3.750	0.85	37.533		
	Total Quantity						37.533 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						37.533 cum		

	Say 37.533 cum @ Rs 216.71 / cum						<b>Rs 8133.78</b>	
2	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)							
	for tank	3.14	3.750	3.750	0.100		4.416	
	Total Quantity						4.416 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						4.416 cum	
	Say 4.416 cum @ Rs 7459.93 / cum						<b>Rs 32943.05</b>	
3	5.37.1 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work upto plinth level							
	bottom slab	3.140	3.650	3.650	0.750		31.375	
	side wall alround	3.14	3.350	0.300	3.500		11.045	
	Total Quantity						42.420 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						42.420 cum	
	Say 42.420 cum @ Rs 10009.95 / cum						<b>Rs 424622.08</b>	
4	5.34.1 Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).							
	Same as 5.37.1	1	42.420				42.420	
	Total Quantity						42.420 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						42.420 cum	
	Say 42.420 cum @ Rs 83.13 / cum						<b>Rs 3526.37</b>	
5	od326203/2021_2022 Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level							

	AS PER 5.37.1	1	42.410			120.0	5089.200		
	Total Quantity						5089.200 kg		
	Total Deducted Quantity						0.000 kg		
	Net Total Quantity						5089.200 kg		
	Say 5089.200 kg @ Rs 83.10 / kg						<b>Rs 422912.52</b>		
6	4.12 Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .								
	AS PER 5.37.1	1	42.420			340.0	14422.801		
	Total Quantity						14422.801 kg		
	Total Deducted Quantity						0.000 kg		
	Net Total Quantity						14422.801 kg		
	Say 14422.801 kg @ Rs 1.37 / kg						<b>Rs 19759.24</b>		
7	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete								
	Raft slab	1	3.140	7.300	0.300		6.877		
	Total Quantity						6.877 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						6.877 sqm		
	Say 6.877 sqm @ Rs 339.52 / sqm						<b>Rs 2334.88</b>		
8	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.								
	inside	1	3.140	6.200	3.500		68.138		
	outside	1	3.140	6.700	3.500		73.633		
	Total Quantity						141.771 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						141.771 sqm		
	Say 141.771 sqm @ Rs 726.20 / sqm						<b>Rs 102954.10</b>		
9	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)								
	inside wall	1	3.140	6.200	4.500		87.606		
	bottom slab top	1	3.140	3.100	3.100		30.176		
	outside wall alround	1	3.140	6.700	3.500		73.633		



specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage. For horizontal surface one coat @ 1.10 kg per sqm.								
	bottom slab top	1	3.140	3.100	3.100		30.176	
Total Quantity							30.176 sqm	
Total Deducted Quantity							0.000 sqm	
Net Total Quantity							30.176 sqm	
Say 30.176 sqm @ Rs 445.03 / sqm							<b>Rs 13429.23</b>	
Sl No	Description	No	L	B	D	CF	Quantity	Remark
<b>99. THICKENED SLUDGE SUMP (Cost Index:37.29 %)</b>								
1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed. All kinds of soil							
		3.14	2.525	2.525	1.500		30.030	
Total Quantity							30.030 cum	
Total Deducted Quantity							0.000 cum	
Net Total Quantity							30.030 cum	
Say 30.030 cum @ Rs 216.71 / cum							<b>Rs 6507.80</b>	
2	2.26.1 Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials. All kinds of soil							
		3.140	2.525	2.525	1.500		30.030	
Total Quantity							30.030 cum	
Total Deducted Quantity							0.000 cum	
Net Total Quantity							30.030 cum	
Say 30.030 cum @ Rs 107.70 / cum							<b>Rs 3234.23</b>	
3	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level: 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)							
		1	3.14*2.52 5	2.525	0.100		2.002	
Total Quantity							2.002 cum	
Total Deducted Quantity							0.000 cum	
Net Total Quantity							2.002 cum	



	Say 2.002 cum @ Rs 7459.93 / cum						<b>Rs 14934.78</b>
4	<p>5.37.1          Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work upto plinth level</p>						
	BOTTOM	1	3.14*2.42 5	2.425	0.300		5.540
	SIDE WALL AROUND	1	3.14*2.12 5	2.125	2.500		35.448
		3.14	1.875	1.875	2.500		-27.597
	Total Quantity						40.988 cum
	Total Deducted Quantity						-27.597 cum
	Net Total Quantity						13.391 cum
	Say 13.391 cum @ Rs 10009.95 / cum						<b>Rs 134043.24</b>
5	<p>5.37.2          Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work above plinth level upto floor V level</p>						
	TOP SLAB	1	3.14*2.42 5	2.425	0.200		3.694
		1	0.450	0.600	0.150		-0.040
	Total Quantity						3.694 cum
	Total Deducted Quantity						-0.040 cum
	Net Total Quantity						3.654 cum
	Say 3.654 cum @ Rs 11682.76 / cum						<b>Rs 42688.81</b>
6	<p>od326203/2021_2022          Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level</p>						

	AS PER 5.37.1	1	13.390			120.0	1606.801		
	AS PER 5.37.2	1	3.650			120.0	438.000		
	Total Quantity						2044.801 kg		
	Total Deducted Quantity						0.000 kg		
	Net Total Quantity						2044.801 kg		
	Say 2044.801 kg @ Rs 83.10 / kg						<b>Rs 169922.96</b>		
7	4.12 Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .								
	AS PER 5.37.1	1	13.390			340.0	4552.600		
	AS PER 5.37.2	1	3.650			340.0	1241.000		
	Total Quantity						5793.600 kg		
	Total Deducted Quantity						0.000 kg		
	Net Total Quantity						5793.600 kg		
	Say 5793.600 kg @ Rs 1.37 / kg						<b>Rs 7937.23</b>		
8	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete								
	raft slab	1	3.14*4.85		0.100		1.523		
	Total Quantity						1.523 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						1.523 sqm		
	Say 1.523 sqm @ Rs 339.52 / sqm						<b>Rs 517.09</b>		
9	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.								
	Outer wall	1	3.14*4.25		2.500		33.363		
	Inner wall	1	3.14*3.75		2.500		29.438		
	Total Quantity						62.801 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						62.801 sqm		
	Say 62.801 sqm @ Rs 726.20 / sqm						<b>Rs 45606.09</b>		
10	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)								
	inside wall	1	3.140	3.750	2.500		29.438		

	bottom slab top	1	3.140	1.875	1.875		11.040	
	top slab bottom	1	3.140	1.875	1.875		11.040	
	Total Quantity						51.518 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						51.518 sqm	
	Say 51.518 sqm @ Rs 406.24 / sqm						<b>Rs 20928.67</b>	
11	13.52.2 Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On concrete work							
	13.7.1	1	51.518				51.518	
	Total Quantity						51.518 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						51.518 sqm	
	Say 51.518 sqm @ Rs 225.70 / sqm						<b>Rs 11627.61</b>	
12	22.23.1 Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage. For vertical surface two coats @ 0.70 kg per sqm							
	Inner	1	3.14*3.75		2.500		29.438	
	Total Quantity						29.438 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						29.438 sqm	
	Say 29.438 sqm @ Rs 577.44 / sqm						<b>Rs 16998.68</b>	
13	22.23.2 Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010							

i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage. For horizontal surface one coat @ 1.10 kg per sqm.								
	bottom slab top	1	3.14*1.87 5		1.875		11.040	
Total Quantity							11.040 sqm	
Total Deducted Quantity							0.000 sqm	
Net Total Quantity							11.040 sqm	
Say 11.040 sqm @ Rs 445.03 / sqm							<b>Rs 4913.13</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>1010. CENTRATE SUMP (Cost Index: 37.29 %)</b>								
1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed. All kinds of soil							
		3.140	1.350	1.350	1.500		8.584	
Total Quantity							8.584 cum	
Total Deducted Quantity							0.000 cum	
Net Total Quantity							8.584 cum	
Say 8.584 cum @ Rs 216.71 / cum							<b>Rs 1860.24</b>	
2	2.26.1 Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials. All kinds of soil							
		3.14	1.350	1.350	1.350	1.4	10.816	
Total Quantity							10.816 cum	
Total Deducted Quantity							0.000 cum	
Net Total Quantity							10.816 cum	
Say 10.816 cum @ Rs 107.70 / cum							<b>Rs 1164.88</b>	
3	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level: 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)							
		3.140	1.350	1.350	0.100		0.573	
Total Quantity							0.573 cum	

						Total Deducted Quantity	0.000 cum
						Net Total Quantity	0.573 cum
						Say 0.573 cum @ Rs 7459.93 / cum	<b>Rs 4274.54</b>
4	5.37.1	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work upto plinth level					
	bottom slab	3.14	1.250	1.250	0.300	1.472	
	side wall alround	3.14	1.900	1.900	2.500	28.339	
						Total Quantity	29.811 cum
						Total Deducted Quantity	0.000 cum
						Net Total Quantity	29.811 cum
						Say 29.811 cum @ Rs 10009.95 / cum	<b>Rs 298406.62</b>
5	5.37.2	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work above plinth level upto floor V level					
	top slab	3.14	0.950	0.950	0.200	0.567	
						Total Quantity	0.567 cum
						Total Deducted Quantity	0.000 cum
						Net Total Quantity	0.567 cum
						Say 0.567 cum @ Rs 11682.76 / cum	<b>Rs 6624.12</b>
6	5.34.1	Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).					
	5.37.1	1	29.811			29.811	

	5.37.2	1	0.567				0.567	
	Total Quantity						30.378 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						30.378 cum	
	Say 30.378 cum @ Rs 83.13 / cum						<b>Rs 2525.32</b>	
7	od326206/2021_2022 Extra for providing Sulphate resistant cement for structure above plinth level							
	5.37.2	1	0.567				0.567	
	Total Quantity						0.567 tonne	
	Total Deducted Quantity						0.000 tonne	
	Net Total Quantity						0.567 tonne	
	Say 0.567 tonne @ Rs 2310.22 / tonne						<b>Rs 1309.89</b>	
8	5.22.6 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Thermo - Mechanically Treated bars of grade Fe-500D or more							
	5.37.1	1	29.811			100.0	2981.100	
	5.37.2	1	0.567			120.0	68.040	
	Total Quantity						3049.140 kilogram	
	Total Deducted Quantity						0.000 kilogram	
	Net Total Quantity						3049.140 kilogram	
	Say 3049.140 kilogram @ Rs 99.54 / kilogram						<b>Rs 303511.40</b>	
9	od326207/2021_2022 Extra for providing Epoxy coating for Reinforcement bars							
	5.22.6	1	3049.140				3049.140	
	Total Quantity						3049.140 kg	
	Total Deducted Quantity						0.000 kg	
	Net Total Quantity						3049.140 kg	
	Say 3049.140 kg @ Rs 2.32 / kg						<b>Rs 7074.00</b>	
10	5.9.1 Centering and shuttering including strutting, etc. and removal of form for: Foundations, footings, bases of columns, etc for mass concrete							
	raft slab	3.14	2.500		0.300		2.355	
	Total Quantity						2.355 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						2.355 sqm	

	Say 2.355 sqm @ Rs 339.52 / sqm						<b>Rs 799.57</b>	
11	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.							
	outside alround	1	3.140	1.900	2.500		14.916	
	Inner	1	3.140	1.500	2.500		11.775	
	Total Quantity						26.691 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						26.691 sqm	
	Say 26.691 sqm @ Rs 726.20 / sqm						<b>Rs 19383.00</b>	
12	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)							
	inside wall	1	3.140	1.500	2.500		11.775	
	bottom slab top	1	3.140	1.450	1.450		6.602	
	top slab bottom	1	3.140	0.750	0.750		1.767	
	Total Quantity						20.144 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						20.144 sqm	
	Say 20.144 sqm @ Rs 406.24 / sqm						<b>Rs 8183.30</b>	
13	13.52.2 Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.On concrete work							
	13.7.1	1	20.144				20.144	
	Total Quantity						20.144 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						20.144 sqm	
	Say 20.144 sqm @ Rs 225.70 / sqm						<b>Rs 4546.50</b>	
14	22.23.1 Providing and applying integral crystalline slurry of hydrophilic in nature forwaterproofing treatment to the RCC structures like retaining walls of the basement,water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 partsintegral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 partsintegral crystalline slurry : 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducingpermeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable							

	of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage. For vertical surface two coats @0.70 kg per sqm							
	Inner wall	1	3.140	1.500	2.500		11.775	
	Total Quantity						11.775 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						11.775 sqm	
	Say 11.775 sqm @ Rs 577.44 / sqm						<b>Rs 6799.36</b>	
15	<p>22.23.2</p> <p>Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage &amp; water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage. For horizontal surface one coat @1.10 kg per sqm.</p>							
	bottom slab top	1	3.140	0.750	0.750		1.767	
	Total Quantity						1.767 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						1.767 sqm	
	Say 1.767 sqm @ Rs 445.03 / sqm						<b>Rs 786.37</b>	
16	<p>19.16</p> <p>Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufactures permanent identification mark to be visible even after fixing including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size) Complete as per design</p>							
		1	7.000				7.000	
	Total Quantity						7.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						7.000 No	
	Say 7.000 No @ Rs 551.84 / No						<b>Rs 3862.88</b>	



17	100.36.1 Filling water with 5000 litre tankers fitted in lorry and conveying water from a distance of 5 km (average) to the reservoir site and pumping the water into the reservoir of height not less than 3 m using 5 HP diesel engine pump set , hire for tanker lorry, tools and other appliances and cost of water etc. complete. "(Ref. No. 000, Technical Circular)"		1	3.14*2*2/4		2.500		7.851	
		Total Quantity						7.851 Kilo litre	
		Total Deducted Quantity						0.000 Kilo litre	
		Net Total Quantity						7.851 Kilo litre	
		Say 7.851 Kilo litre @ Rs 186.40 / Kilo litre						<b>Rs 1463.43</b>	
Sl No	Description	No	L	B	D	CF	Quantity	Remark	
<b>1111. RCC PLAT FORM FOR VARIOUS MECHANICAL ITEMS AND MOTORS AND PIPE LAYING WORKS (Cost Index:37.29 %)</b>									
1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil								
	FOR BLOWER	15	1.000	0.750	0.500		5.625		
	For pressure and activated carbon filter	2	13.000	3.500	0.500		45.500		
		Total Quantity						51.125 cum	
		Total Deducted Quantity						0.000 cum	
		Net Total Quantity						51.125 cum	
		Say 51.125 cum @ Rs 216.71 / cum						<b>Rs 11079.30</b>	
2	4.1.8 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)								
	Blower	15	1.000	0.7500	0.100		1.126		
	For pressure and activated carbon filter	2	13.000	3.500	0.100		9.100		
		Total Quantity						10.226 cum	
		Total Deducted Quantity						0.000 cum	
		Net Total Quantity						10.226 cum	
		Say 10.226 cum @ Rs 6900.33 / cum						<b>Rs 70562.77</b>	
3	5.1.2								

	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and 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							
	Blower	15	0.900	0.650	1.000		8.775	
	For pressure and activated carbon filter	2	13.000	3.500	1.000		91.000	
	Total Quantity						99.775 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						99.775 cum	
	Say 99.775 cum @ Rs 9199.05 / cum						<b>Rs 917835.21</b>	
4	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete							
	Blower for PCC	15*2	1.000		0.100		3.000	
		15*2	0.750		0.100		2.251	
	For platform	15*2	0.900		1.000		27.000	
		15*2	0.650		1.000		19.500	
	For pressure and activated carbon filter	2*2	13.000		1.000		52.000	
		2*2	3.000		1.000		12.000	
	Total Quantity						115.751 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						115.751 sqm	
	Say 115.751 sqm @ Rs 339.52 / sqm						<b>Rs 39299.78</b>	
5	5.22.6 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth levelThermo - Mechanically Treated bars of grade Fe-500D or more							
	5.1.2	1	99.750			80.0	7980.000	
	Total Quantity						7980.000 kilogram	
	Total Deducted Quantity						0.000 kilogram	
	Net Total Quantity						7980.000 kilogram	
	Say 7980.000 kilogram @ Rs 99.54 / kilogram						<b>Rs 794329.20</b>	
6	100.1.1 Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidatingeach							

	deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m : All kinds of soil (Ref. Item No. 2.10.1 of DSR)							
	For pipe laying at various components	1	200.000	0.700	1.000		140.000	
	Total Quantity						140.000 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						140.000 cum	
	Say 140.000 cum @ Rs 562.48 / cum						<b>Rs 78747.20</b>	
7	18.73.5 Providing and laying Double Flanged ( Screwed / Welded ) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS: 8329 :300 mm dia Ductile Iron Double Flanged							
		1	100.000				100.000	
	Total Quantity						100.000 metre	
	Total Deducted Quantity						0.000 metre	
	Net Total Quantity						100.000 metre	
	Say 100.000 metre @ Rs 6301.47 / metre						<b>Rs 630147.00</b>	
8	18.72.19 Providing and laying S & S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS : 8329:300 mm dia Ductile iron Class K-9 pipes							
		1	200.000				200.000	
	Total Quantity						200.000 metre	
	Total Deducted Quantity						0.000 metre	
	Net Total Quantity						200.000 metre	
	Say 200.000 metre @ Rs 4592.97 / metre						<b>Rs 918594.00</b>	
9	18.70.5 Providing push - on-joints to Centrifugally (Spun) Cast Iron Pipes or Ductile Iron Pipes including testing of joints and including the cost of rubber gasket:300 mm dia pipe							
		1	40.000				40.000	
	Total Quantity						40.000 joint	
	Total Deducted Quantity						0.000 joint	
	Net Total Quantity						40.000 joint	
	Say 40.000 joint @ Rs 417.77 / joint						<b>Rs 16710.80</b>	
10	18.83.7 Labour for cutting C.I. pipe with steel saw.300 mm diameter C.I. pipe							

		1	10.000				10.000	
	Total Quantity						10.000 Each Cut	
	Total Deducted Quantity						0.000 Each Cut	
	Net Total Quantity						10.000 Each Cut	
	Say 10.000 Each Cut @ Rs 651.51 / Each Cut						<b>Rs 6515.10</b>	
Sl No	Description	No	L	B	D	CF	Quantity	Remark
<b>1212 TREATED WATER CHANNEL (Cost Index:37.29 %)</b>								
1	2.8.1 Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.All kinds of soil							
	Channel	1	30.000	0.900	0.300		8.100	
	Total Quantity						8.100 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						8.100 cum	
	Say 8.100 cum @ Rs 300.67 / cum						<b>Rs 2435.43</b>	
2	4.1.8 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)							
	Channel	1	30.000	0.900	0.100		2.700	
	Total Quantity						2.700 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						2.700 cum	
	Say 2.700 cum @ Rs 6900.33 / cum						<b>Rs 18630.89</b>	
3	5.37.1 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work upto plinth level							
	Base slab	1	30.000	0.700	0.200		4.200	
	Side wall	2	30.000	0.100	1.000		6.000	

## PRICE

EST NO:

		2	0.500	0.100	1.000		0.100	
	Total Quantity						10.300 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						10.300 cum	
	Say 10.300 cum @ Rs 10009.95 / cum						<b>Rs 103102.49</b>	
4	od326203/2021_2022 Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level							
	As per Item No.3	1	10.300	80.000			824.000	
	Total Quantity						824.000 kg	
	Total Deducted Quantity						0.000 kg	
	Net Total Quantity						824.000 kg	
	Say 824.000 kg @ Rs 83.10 / kg						<b>Rs 68474.40</b>	
5	4.12 Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .							
	Asper item no 1	1	10.300			340.0	3502.001	
	Total Quantity						3502.001 kg	
	Total Deducted Quantity						0.000 kg	
	Net Total Quantity						3502.001 kg	
	Say 3502.001 kg @ Rs 1.37 / kg						<b>Rs 4797.74</b>	
6	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.							
	Outside alround	2	30.000		1.200		72.000	
		2	0.700		1.200		1.680	
	Inside	2	30.000		1.000		60.000	
		2	0.500		1.000		1.000	
	Total Quantity						134.680 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						134.680 sqm	
	Say 134.680 sqm @ Rs 726.20 / sqm						<b>Rs 97804.62</b>	
7	22.23.1 Providing and applying integral crystalline slurry of hydrophilic in nature forwaterproofing treatment to the RCC structures like retaining walls of the basement,water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5							

	partsintegral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 partsintegral crystalline slurry : 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducingpermeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against anyleakage.For vertical surface two coats @0.70 kg per sqm							
	Inside	2	30.000		1.000		60.000	
		2	0.500		1.000		1.000	
	Total Quantity						61.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						61.000 sqm	
	Say 61.000 sqm @ Rs 577.44 / sqm						<b>Rs 35223.84</b>	
8	22.23.2 Providing and applying integral crystalline slurry of hydrophilic in nature forwaterproofing treatment to the RCC structures like retaining walls of the basement,water tanks, roof slabs, podiums, reservior, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 partsintegral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 partsintegral crystalline slurry : 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducingpermeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against anyleakage.For horizontal surface one coat @1.10 kg per sqm.							
	Base	1	30.000	0.500	1.000		15.000	
	Total Quantity						15.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						15.000 sqm	
	Say 15.000 sqm @ Rs 445.03 / sqm						<b>Rs 6675.45</b>	
9	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)							
	inside	2	30.000		1.000		60.000	
		2	0.500		1.000		1.000	
	Base	1	30.000	0.500			15.000	
	Outside	2	30.000		1.200		72.000	
		2	0.700		1.200		1.680	

								Total Quantity	149.680 sqm
								Total Deducted Quantity	0.000 sqm
								Net Total Quantity	149.680 sqm
								Say 149.680 sqm @ Rs 406.24 / sqm	<b>Rs 60806.00</b>
10	13.52.2	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On concrete work							
	Outside	2	30.000		1.200			72.000	
		2	0.700		1.200			1.680	
								Total Quantity	73.680 sqm
								Total Deducted Quantity	0.000 sqm
								Net Total Quantity	73.680 sqm
								Say 73.680 sqm @ Rs 225.70 / sqm	<b>Rs 16629.58</b>
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>1313. SLUDGE STORAGE YARD (Cost Index:37.29 %)</b>									
1	2.8.1	Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil							
	Coloumn	6	1.200	1.200	1.500		12.960		
	For DR packing long wall	2	5.000	0.400	0.450		1.800		
	Short wall	2	3.800	0.400	0.450		1.368		
								Total Quantity	16.128 cum
								Total Deducted Quantity	0.000 cum
								Net Total Quantity	16.128 cum
								Say 16.128 cum @ Rs 300.67 / cum	<b>Rs 4849.21</b>
2	2.26.1	Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials. All kinds of soil							
	Coloumn	6	1.200	1.200	1.100		9.505		
								Total Quantity	9.505 cum
								Total Deducted Quantity	0.000 cum
								Net Total Quantity	9.505 cum

	Say 9.505 cum @ Rs 107.70 / cum						<b>Rs 1023.69</b>	
3	4.1.8 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)							
	Coloumn	6	1.200	1.200	0.200		1.728	
	For ramp	1	3.600	1.500	0.200		1.080	
	Total Quantity						2.808 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						2.808 cum	
	Say 2.808 cum @ Rs 6900.33 / cum						<b>Rs 19376.13</b>	
4	od326204/2021_2022 Dry rubble masonry with hard stone in foundation and plinth including cost of all materials, labour etc upto plinth level (Modified the item 7.1.1)							
	long wall	2	6.000	0.400	0.450		2.161	
	short wall	4	2.900	0.400	0.450		2.088	
	Total Quantity						4.249 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						4.249 cum	
	Say 4.249 cum @ Rs 4009.71 / cum						<b>Rs 17037.26</b>	
5	5.37.1 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work upto plinth level							
	column raft	6	1.000	1.000	0.400		2.401	
	column	6	0.200	0.200	2.000		0.481	
	plinth beam	3	6.000	0.400	0.450		3.241	
		2	6.400	0.400	0.450		2.305	
	ramp	0.5	3.500	1.500	0.450		1.182	
	Total Quantity						9.610 cum	
	Total Deducted Quantity						0.000 cum	



		Net Total Quantity					9.610 cum	
		Say 9.610 cum @ Rs 10009.95 / cum					<b>Rs 96195.62</b>	
6	5.3 Reinforced cement concrete work in beams, suspended floors, roofs, having slope up to 15 <sup>0</sup> landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (Zone III) : 3 graded stone aggregate 20 mm nominal size).							
	lintel	1	6.000	0.200	0.200		0.241	
		2	6.400	0.200	0.200		0.513	
		Total Quantity					0.754 cum	
		Total Deducted Quantity					0.000 cum	
		Net Total Quantity					0.754 cum	
		Say 0.754 cum @ Rs 11636.97 / cum					<b>Rs 8774.28</b>	
7	5.37.2 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately. All work above plinth level upto floor V level							
	column	6	0.200	0.200	3.900		0.937	
	beam	3	6.000	0.200	0.400		1.441	
		2	6.400	0.200	0.400		1.025	
		Total Quantity					3.403 cum	
		Total Deducted Quantity					0.000 cum	
		Net Total Quantity					3.403 cum	
		Say 3.403 cum @ Rs 11682.76 / cum					<b>Rs 39756.43</b>	
8	od326205/2021_2022 Laterate masonry with neatly dressed laterate stone of size 40X20X15cm or nearest size in cement mortar 1:6 for superstructure above plinth level up to floor two level including all cost of materials, labour charges etc							
	LONG WALL	1	6.000	0.200	3.900		4.681	
	SHORT WALL	4	2.900	0.200	3.900		9.048	
		Total Quantity					13.729 cum	

		Total Deducted Quantity					0.000 cum	
		Net Total Quantity					13.729 cum	
		Say 13.729 cum @ Rs 6174.53 / cum					<b>Rs 84770.12</b>	
9	5.22.6 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth levelThermo - Mechanically Treated bars of grade Fe-500D or more							
	as per item no5	1	9.610	120.000			1153.200	
	as per item no 6	1	0.754	80.000			60.320	
	as per item no 7	1	3.400	120.000			408.000	
		Total Quantity					1621.520 kilogram	
		Total Deducted Quantity					0.000 kilogram	
		Net Total Quantity					1621.520 kilogram	
		Say 1621.520 kilogram @ Rs 99.54 / kilogram					<b>Rs 161406.10</b>	
10	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete							
	Raft slab	6	4.000		0.400		9.601	
		Total Quantity					9.601 sqm	
		Total Deducted Quantity					0.000 sqm	
		Net Total Quantity					9.601 sqm	
		Say 9.601 sqm @ Rs 339.52 / sqm					<b>Rs 3259.73</b>	
11	5.9.5 Centering and shuttering including strutting, etc. and removal of form for:Lintels, beams, plinth beams, girders bressumers and cantilevers							
	PLINTH BEAM OUTSIDE	4	6.400		0.450		11.521	
	PLINTH BEAM INSIDE	6	6.000		0.450		16.201	
	LINTEL OUTSIDE	3	6.400		0.200		3.841	
	LINTEL OUTSIDE SIDE	3	6.200		0.200		3.721	
	BEAM OUTSIDE	4	6.400		0.400		10.241	
	BEAM INTSIDE SIDE	6	6.000		0.400		14.401	
	BEAM BOTTOM	3	6.000	0.200			3.601	
		4	2.900	0.200			2.320	
		Total Quantity					65.847 sqm	

	Total Deducted Quantity							0.000 sqm
	Net Total Quantity							65.847 sqm
	Say 65.847 sqm @ Rs 657.96 / sqm							<b>Rs 43324.69</b>
12	5.9.6 Centering and shuttering including strutting, etc. and removal of form for:Columns, Pillars, Piers, Abutments, Posts and Struts							
	COLUMN	6	0.800		5.900		28.321	
	Total Quantity							28.321 sqm
	Total Deducted Quantity							0.000 sqm
	Net Total Quantity							28.321 sqm
	Say 28.321 sqm @ Rs 874.47 / sqm							<b>Rs 24765.86</b>
13	2.25 Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.							
	INSIDE	2	2.900	6.000	0.450		15.660	
	Total Quantity							15.660 cum
	Total Deducted Quantity							0.000 cum
	Net Total Quantity							15.660 cum
	Say 15.660 cum @ Rs 261.81 / cum							<b>Rs 4099.94</b>
14	13.1.1 12 mm cement plaster of mix:1:4 ( 1 cement : 4 fine sand)							
	BUILDING OUTSIDE	1	19.200		4.950		95.040	
	BUILDING INSIDE	1	18.800		4.500		84.601	
	BEAM INSIDE	1	6.000		1.000		6.000	
	Total Quantity							185.641 sqm
	Total Deducted Quantity							0.000 sqm
	Net Total Quantity							185.641 sqm
	Say 185.641 sqm @ Rs 318.03 / sqm							<b>Rs 59039.41</b>
15	11.41.2 Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20 mm thick cement mortar 1:4(1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete.Size of Tile 600 x 600 mm.							
	INSIDE	1	6.000	6.200			37.200	

	SKIRTING STORE ROOM	1	18.800		0.100		1.881		
	Total Quantity						39.081 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						39.081 sqm		
	Say 39.081 sqm @ Rs 1788.41 / sqm						<b>Rs 69892.85</b>		
16	13.1.2 12 mm cement plaster of mix:1:6 (1 cement : 6 fine sand).								
	DOOR	1	1.500	0.200	2.400		-0.720		
	GF -COLUMN	6	1.200		3.700		26.640		
	GF-ROOF CEILING	1	10.000	7.000			70.000		
	GF- BEAM SIDE	6	7.000		0.200		8.400		
		6	10.000		0.200		12.000		
	FIRST FLOOR CEILING-BUILDING OUTSIDE	1	36.400		4.450		161.980		
	FIRST FLOOR CEILING-BUILDING INSIDE	1	34.000		4.000		136.000		
	FIRST FLOOR CEILING-ROOF CEILING	1	10.000	7.000			70.000		
	FIRST FLOOR CEILING-BEAM SIDE	6	7.000		0.200		8.400		
		6	10.000		0.200		12.000		
	SUNSHADE	1	38.800	0.675			26.190		
	Total Quantity						531.610 sqm		
	Total Deducted Quantity						-0.720 sqm		
	Net Total Quantity						530.890 sqm		
	Say 530.890 sqm @ Rs 303.00 / sqm						<b>Rs 160859.67</b>		
17	13.43.1 Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface:Water thinnable cement primer								
	AS PER ITEM NO 15	1	530.890				530.890		
	Total Quantity						530.890 sqm		
	Total Deducted Quantity						0.000 sqm		

	Net Total Quantity						530.890 sqm	
	Say 530.890 sqm @ Rs 71.53 / sqm						<b>Rs 37974.56</b>	
18	13.82.2 Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound) content less than 50 grams/ litre, of approved brand and manufacture including applying additional coats wherever required, to achieve even shade and colour.Two coats							
	AS PER ITEM NO 15	1				530.89	530.890	
	Total Quantity						530.890 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						530.890 sqm	
	Say 530.890 sqm @ Rs 127.34 / sqm						<b>Rs 67603.53</b>	
19	10.3 Providing and fixing in position collapsible steel shutters with vertical channels 20x10x2 mm and braced with flat iron diagonals 20x5 mm size, with top and bottom rail of T-iron 40x40x6 mm, with 40 mm dia steel pulleys, complete with bolts, nuts,locking arrangement, stoppers, handles, including applying a priming coat of approved steel primer .							
	FOR ENTRANCE	1	1.500			2.4	3.600	
	Total Quantity						3.600 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						3.600 sqm	
	Say 3.600 sqm @ Rs 10333.89 / sqm						<b>Rs 37202.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>14FOUNDATIONS-GENERATOR (Cost Index:37.29 %)</b>								
1	2.8.1 Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.All kinds of soil							
		1	6.200	4.200	0.200		5.209	
	Total Quantity						5.209 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						5.209 cum	
	Say 5.209 cum @ Rs 300.67 / cum						<b>Rs 1566.19</b>	
2	4.1.8 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)							

## PRICE

EST NO:

		1	6.200	4.200	0.200		5.209	
	Total Quantity						5.209 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						5.209 cum	
	Say 5.209 cum @ Rs 6900.33 / cum						<b>Rs 35943.82</b>	
3	5.37.1 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work upto plinth level							
	FOUNDATION RAFT	1	6.000	4.000	0.400		9.601	
	Total Quantity						9.601 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						9.601 cum	
	Say 9.601 cum @ Rs 10009.95 / cum						<b>Rs 96105.53</b>	
4	5.22.6 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Thermo - Mechanically Treated bars of grade Fe-500D or more							
	AS PER ITEM NO 3	1	9.600			120.0	1152.000	
	Total Quantity						1152.000 kilogram	
	Total Deducted Quantity						0.000 kilogram	
	Net Total Quantity						1152.000 kilogram	
	Say 1152.000 kilogram @ Rs 99.54 / kilogram						<b>Rs 114670.08</b>	
5	5.9.1 Centering and shuttering including strutting, etc. and removal of form for: Foundations, footings, bases of columns, etc for mass concrete							
	RAFT SLAB	1	20.000		0.400		8.000	
	Total Quantity						8.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						8.000 sqm	
	Say 8.000 sqm @ Rs 339.52 / sqm						<b>Rs 2716.16</b>	
6	13.52.2							

	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On concrete work							
	OUTSIDE WALL AROUND	1	20.000		0.400		8.000	
	Total Quantity						8.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						8.000 sqm	
	Say 8.000 sqm @ Rs 225.70 / sqm						<b>Rs 1805.60</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>15FILTER FOUNDATION (Cost Index:37.29 %)</b>								
1	2.8.1 Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.All kinds of soil	1	15.200	10.700	0.750		121.980	
	Total Quantity						121.980 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						121.980 cum	
	Say 121.980 cum @ Rs 300.67 / cum						<b>Rs 36675.73</b>	
2	4.1.8 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)	1	15.200	10.700	0.100		16.264	
	Total Quantity						16.264 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						16.264 cum	
	Say 16.264 cum @ Rs 6900.33 / cum						<b>Rs 112226.97</b>	
3	5.37.1 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in							

	-charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work upto plinth level							
	FOUNDATION RAFT	1	15.000	10.500	0.750		118.125	
	Total Quantity						118.125 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						118.125 cum	
	Say 118.125 cum @ Rs 10009.95 / cum						<b>Rs 1182425.34</b>	
4	5.22.6 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth levelThermo - Mechanically Treated bars of grade Fe-500D or more							
	AS PER ITEM NO 3	1	118.130			120.0	14175.600	
	Total Quantity						14175.600 kilogram	
	Total Deducted Quantity						0.000 kilogram	
	Net Total Quantity						14175.600 kilogram	
	Say 14175.600 kilogram @ Rs 99.54 / kilogram						<b>Rs 1411039.22</b>	
5	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete							
	RAFT SLAB	1	51.000		0.750		38.250	
	Total Quantity						38.250 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						38.250 sqm	
	Say 38.250 sqm @ Rs 339.52 / sqm						<b>Rs 12986.64</b>	
6	13.52.2 Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.On concrete work							
	OUT SIDE WALL AROUND	1	51.000		0.750		38.250	
	Total Quantity						38.250 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						38.250 sqm	
	Say 38.250 sqm @ Rs 225.70 / sqm						<b>Rs 8633.03</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>16PUMP HOUSE (Cost Index:37.29 %)</b>								



1	2.8.1 Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.All kinds of soil								
		4	3.200	0.600	0.600		4.608		
		Total Quantity					4.608 cum		
		Total Deducted Quantity					0.000 cum		
		Net Total Quantity					4.608 cum		
		Say 4.608 cum @ Rs 300.67 / cum						<b>Rs 1385.49</b>	
2	7.1.1 Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) up to plinth level with:Cement mortar 1:6 (1 cement : 6 coarse sand)								
	FOUNDATION	4	3.200	0.600	0.600		4.608		
	BASEMENT	4	3.200	0.400	0.450		2.305		
		Total Quantity					6.913 cum		
		Total Deducted Quantity					0.000 cum		
		Net Total Quantity					6.913 cum		
		Say 6.913 cum @ Rs 7295.11 / cum						<b>Rs 50431.10</b>	
3	5.3 Reinforced cement concrete work in beams, suspended floors, roofs, having slope up to 15 <sup>0</sup> landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement, with1:1.5:3 (1 cement : 1.5 coarse sand (Zone III) : 3 graded stone aggregate 20 mm nominal size).								
	ROOF SLAB	1	3.700	3.700	0.150		2.054		
		Total Quantity					2.054 cum		
		Total Deducted Quantity					0.000 cum		
		Net Total Quantity					2.054 cum		
		Say 2.054 cum @ Rs 11636.97 / cum						<b>Rs 23902.34</b>	
4	od326205/2021_2022 Laterate masonry with neatly dressed laterate stone of size 40X20X15cm or nearest size in cement mortar 1:6 for superstructuree above plinth level up to floor two level including all cost of materials, labour charges etc								
	WALL	4	3.200	0.200	2.400		6.145		
	DOR	1	1.000	0.200	2.400		-0.480		
		Total Quantity					6.145 cum		

							Total Deducted Quantity	-0.480 cum
							Net Total Quantity	5.665 cum
							Say 5.665 cum @ Rs 6174.53 / cum	<b>Rs 34978.71</b>
5	5.22.6 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Thermo - Mechanically Treated bars of grade Fe-500D or more							
	AS PER ITEM NO 3	1	2.050	120.000			246.000	
							Total Quantity	246.000 kilogram
							Total Deducted Quantity	0.000 kilogram
							Net Total Quantity	246.000 kilogram
							Say 246.000 kilogram @ Rs 99.54 / kilogram	<b>Rs 24486.84</b>
6	5.9.3 Centering and shuttering including strutting, etc. and removal of form for: Suspended floors, roofs, landings, balconies and access platform							
	ROOF SLAB	1	3.000	3.000			9.000	
	SLAB EDGE	1	14.200		0.300		4.260	
							Total Quantity	13.260 sqm
							Total Deducted Quantity	0.000 sqm
							Net Total Quantity	13.260 sqm
							Say 13.260 sqm @ Rs 826.01 / sqm	<b>Rs 10952.89</b>
7	2.25 Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.							
	Inside Total	1	3.000	3.000	0.450		4.050	
							Total Quantity	4.050 cum
							Total Deducted Quantity	0.000 cum
							Net Total Quantity	4.050 cum
							Say 4.050 cum @ Rs 261.81 / cum	<b>Rs 1060.33</b>
8	13.1.1 12 mm cement plaster of mix:1:4 ( 1 cement : 4 fine sand)							
	Building outside	1	13.600		2.400		32.640	
	Building inside	1	12.000		2.400		28.800	
	Door	1	1.000		2.400		-2.400	
							Total Quantity	61.440 sqm

		Total Deducted Quantity				-2.400 sqm	
		Net Total Quantity				59.040 sqm	
		Say 59.040 sqm @ Rs 318.03 / sqm				<b>Rs 18776.49</b>	
9	13.17 6 mm cement plaster 1:3 ( 1 cement : 3 fine sand) finished with a floating coat of neat cement and thick coat of Lime wash on top of walls when dry for bearing of R.C.C. slabs and beams.						
	Roof ceiling	1	3.000	3.000			9.000
	Slab edge	1	14.200		0.300		4.260
		Total Quantity				13.260 sqm	
		Total Deducted Quantity				0.000 sqm	
		Net Total Quantity				13.260 sqm	
		Say 13.260 sqm @ Rs 359.49 / sqm				<b>Rs 4766.84</b>	
10	11.41.2 Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20 mm thick cement mortar 1:4(1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600 x 600 mm.						
	Inside	1	3.000	3.000			9.000
		Total Quantity				9.000 sqm	
		Total Deducted Quantity				0.000 sqm	
		Net Total Quantity				9.000 sqm	
		Say 9.000 sqm @ Rs 1788.41 / sqm				<b>Rs 16095.69</b>	
11	13.43.1 Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface:Water thinnable cement primer						
	Building outside	1	13.600		2.400		32.640
	Building inside	1	12.000		2.400		28.800
	Roof ceiling	1	3.000	3.000			9.000
	Slab edge	1	14.200		0.300		4.260
	Door	1	1.000		2.400		-2.400
		Total Quantity				74.700 sqm	
		Total Deducted Quantity				-2.400 sqm	
		Net Total Quantity				72.300 sqm	
		Say 72.300 sqm @ Rs 71.53 / sqm				<b>Rs 5171.62</b>	
12	13.82.2 Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound) content less than 50						

	grams/ litre, of approved brand and manufacture including applying additional coats wherever required, to achieve even shade and colour.Two coats							
	Quantity Item No. 11	1	72.300				72.300	
	Total Quantity						72.300 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						72.300 sqm	
	Say 72.300 sqm @ Rs 127.34 / sqm						<b>Rs 9206.68</b>	
13	10.3 Providing and fixing in position collapsible steel shutters with vertical channels 20x10x2 mm and braced with flat iron diagonals 20x5 mm size, with top and bottom rail of T-iron 40x40x6 mm, with 40 mm dia steel pulleys, complete with bolts, nuts,locking arrangement, stoppers, handles, including applying a priming coat of approved steel primer .							
	For Entrance	1	1.000		2.400		2.400	
	Total Quantity						2.400 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						2.400 sqm	
	Say 2.400 sqm @ Rs 10333.89 / sqm						<b>Rs 24801.34</b>	
Sl No	Description	No	L	B	D	CF	Quantity	Remark
<b>17INTERNAL ROADS, WALKWAYS&amp; STORM WATER DRAINS (Cost Index:37.29 %)</b>								
1	2.8.1 Earth work in excavation by mechanical (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.All kinds of soil							
	For 7M wide road	1	180.000	7.000			1260.000	
	For 5M wide road	1	80.000	5.000			400.000	
	For 3M wide road	1	60.000	3.000			180.000	
	Walkways	1	270.000	1.500			405.000	
	Total Quantity						2245.000 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						2245.000 cum	
	Say 2245.000 cum @ Rs 300.67 / cum						<b>Rs 675004.15</b>	
2	2.27 Supplying and filling in plinth with Jamuna sand under floors, including watering, ramming consolidating and dressing complete.							
	For 7M wide road	1	180.000	7.000	0.250		315.000	

	For 5M wide road	1	80.000	5.000	0.250		100.000	
	For 3M wide road	1	60.000	3.000	0.250		45.000	
	Total Quantity						460.000 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						460.000 cum	
	Say 460.000 cum @ Rs 2327.75 / cum						<b>Rs 1070765.00</b>	
3	od326202/2021_2022 Providing and laying factory made chamfered edge Cement Concrete paver blocks medium traffic roads/parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 40mm thick compacted bed of sand, and 75mm thick 6mm brocken stones compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.							
	For 7M wide road	1	180.000	7.000			1260.000	
	For 5M wide road	1	80.000	5.000			400.000	
	For 3M wide road	1	60.000	3.000			180.000	
	Total Quantity						1840.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						1840.000 sqm	
	Say 1840.000 sqm @ Rs 10438.17 / sqm						<b>Rs 19206232.80</b>	
4	16.91.2 Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge. 80 mm thick C.C. paver block of M-30 grade with approved color design and pattern.							
	Walk ways	1	270.000	1.500			405.000	
	Total Quantity						405.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						405.000 sqm	
	Say 405.000 sqm @ Rs 1135.87 / sqm						<b>Rs 460027.35</b>	
5	16.63 Providing, laying and making kerb channel 30 cm wide and 50 mm thick with cement concrete 1:3:6 ( 1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75 mm bed of dry brick							

	ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including finishing the top smooth etc. complete and as per direction Engineer - in-Charge.							
	Kerb stone	1	260.000	0.300			78.000	
	Total Quantity						78.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						78.000 sqm	
	Say 78.000 sqm @ Rs 575.66 / sqm						<b>Rs 44901.48</b>	
6	<p>16.69</p> <p>Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature jointed with cement mortar 1:3 ( 1 cement : 3 coarse sand) , including making joints with or without grooves ( thickness of joints except at sharp curve shall not to more than 5 mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge ( length of finished kerb edging shall be measured for payment ). ( Precast C.C. kerb stone shall be approved by Engineer-in-Charge)</p>							
	Kerb stone	1	260.000	0.200	0.300		15.600	
	Total Quantity						15.600 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						15.600 cum	
	Say 15.600 cum @ Rs 9983.11 / cum						<b>Rs 155736.52</b>	
7	<p>16.59.1</p> <p style="text-align: center;">Kerala Water Authority</p> <p>Manufacturing, supplying and fixing retro reflective sign boards made up of 2 mmthick aluminium sheet, face to be fully covered with high intensity encapsulatedtype heat activated retro reflective sheeting conforming to type - IV of ASTM-D4956-01 in blue and silver white or other colour combination including subjectmatter, message (bi-lingual), symbols and borders etc. as per IRC: 67- 2001, pastedon substrate by an adhesive backing which shall be activated by applying heatand pressure conforming to class-2 of ASTM-D-4956-01 and fixing the same withsuitable sized aluminium alloy rivets @ 20 cm c/c to back support frame of M.S.angle iron of size 25x25x3 mm along with theft resistant measures, mounted andfixed with 2 Nos M.S. angles of size 35x35x5 mm to a vertical post made up to M.S.Tee section ISMT 50x50x6 mm welded with base plate of size 100x100x 5 mm at thebottom end and including making holes in pipes, angles flats, providing &amp; fixingM.S. message plate of required size, steel work to be painted with two or morecoats of synthetic enamel paint of required shade and of approved brand &amp;manufacture over priming coat of zinc chromate yellow primer (vertical MS-Teesupport to be painted in black and white colours). Backside of aluminium sheet tobe painted with two or more coats of epoxy paint over and including appropriatepriming coat including all leads and lifts etc. complete as per drawing , specification and direction of Engineer-in-Charge.Mandatory / Regulatory sign boards of 900 mm diametre with support length of 3750 mm</p>							
	For Internal walkways	5					5.000	
	Total Quantity						5.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						5.000 No	

	Say 5.000 No @ Rs 7147.95 / No						<b>Rs 35739.75</b>	
8	<p>16.59.2 Manufacturing, supplying and fixing retro reflective sign boards made up of 2 mmthick aluminium sheet, face to be fully covered with high intensity encapsulatedtype heat activated retro reflective sheeting conforming to type - IV of ASTM-D4956-01 in blue and silver white or other colour combination including subjectmatter, message (bi-lingual), symbols and borders etc. as per IRC: 67- 2001, pastedon substrate by an adhesive backing which shall be activated by applying heatand pressure conforming to class-2 of ASTM-D-4956-01 and fixing the same withsuitable sized aluminium alloy rivets @ 20 cm c/c to back support frame of M.S.angle iron of size 25x25x3 mm along with theft resistant measures, mounted andfixed with 2 Nos M.S. angles of size 35x35x5 mm to a vertical post made up to M.S.Tee section ISMT 50x50x6 mm welded with base plate of size 100x100x 5 mm at thebottom end and including making holes in pipes, angles flats, providing &amp; fixingM.S. message plate of required size, steel work to be painted with two or morecoats of synthetic enamel paint of required shade and of approved brand &amp;manufacture over priming coat of zinc chromate yellow primer (vertical MS-Teesupport to be painted in black and white colours). Backside of aluminium sheet tobe painted with two or more coats of epoxy paint over and including appropriatepriming coat including all leads and lifts etc. complete as per drawing , specification and direction of Engineer-in-Charge.Cautionary / warning sign boards of equilateral triangular shape having each side of 900 mm with support length of 3650 mm</p>							
	For Internal walkways	5					5.000	
	Total Quantity						5.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						5.000 No	
	Say 5.000 No @ Rs 5404.15 / No						<b>Rs 27020.75</b>	
9	<p>2.7.1 Earth work in excavation by mechanical means (Hydraulic excavator )/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.Ordinary rock</p>							
	<b>STORM WATER DRAIN</b>							
	SWD along roads	1	320.000	0.700	0.600		134.400	
	SWD along walkways	1	270.000	0.500	0.400		54.000	
	Total Quantity						188.400 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						188.400 cum	
	Say 188.400 cum @ Rs 420.04 / cum						<b>Rs 79135.54</b>	
10	<p>5.37.1 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement</p>							

	including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work upto plinth level							
	SWD along roads							
	Base slab	1	320.000	0.700	0.100		22.401	
	Side wall	2	320.000	0.100	0.500		32.000	
	SWD along walkways Base slab	1	270.000	0.500	0.100		13.500	
	Side wall	2	270.000	0.100	0.300		16.200	
	Total Quantity						84.101 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						84.101 cum	
	Say 84.101 cum @ Rs 10009.95 / cum						<b>Rs 841846.80</b>	
11	5.22.6 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Thermo - Mechanically Treated bars of grade Fe-500D or more							
	Quantity item No.10	1	84.100	80.000			6728.000	
	Total Quantity						6728.000 kilogram	
	Total Deducted Quantity						0.000 kilogram	
	Net Total Quantity						6728.000 kilogram	
	Say 6728.000 kilogram @ Rs 99.54 / kilogram						<b>Rs 669705.12</b>	
12	4.12 Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .							
	Quantity as per Item No.1	1	84.100	340.000			28594.000	
	Total Quantity						28594.000 kg	
	Total Deducted Quantity						0.000 kg	
	Net Total Quantity						28594.000 kg	
	Say 28594.000 kg @ Rs 1.37 / kg						<b>Rs 39173.78</b>	
13	5.9.2 Centering and shuttering including strutting, etc. and removal of form for: Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.							
	SWD along roads wall out side	2	320.000		0.600		384.000	



	wall inside	2	320.000		0.500		320.000	
	SWD along walkways wall out side	2	270.000		0.400		216.000	
	SWD along walkways wall in side	2	270.000		0.300		162.000	
	Total Quantity						1082.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						1082.000 sqm	
	Say 1082.000 sqm @ Rs 726.20 / sqm						<b>Rs 785748.40</b>	
Sl No	Description	No	L	B	D	CF	Quantity	Remark
<b>18CENTRIFUGE BUILDING (Cost Index:37.29 %)</b>								
1	2.8.1 Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.All kinds of soil							
	Column	6	1.200	1.200	1.500		12.960	
	Total Quantity						12.960 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						12.960 cum	
	Say 12.960 cum @ Rs 300.67 / cum						<b>Rs 3896.68</b>	
2	2.26.1 Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials.All kinds of soil							
	Column	6	1.200	1.200	1.100		9.505	
	Total Quantity						9.505 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						9.505 cum	
	Say 9.505 cum @ Rs 107.70 / cum						<b>Rs 1023.69</b>	
3	4.1.8 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)							
	Column	6	1.200	1.200	0.200		1.728	
	For plinth beam	2	6.100	0.300	0.100		0.366	
		2	7.900	0.300	0.100		0.475	

	Plinth inside	1	9.700	6.700	0.100		6.499		
	Total Quantity						9.068 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						9.068 cum		
	Say 9.068 cum @ Rs 6900.33 / cum						<b>Rs 62572.19</b>		
4	5.37.1 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work upto plinth level								
	Column Raft	6	1.000	1.000	0.400		2.401		
	Column	6	0.300	0.300	2.000		1.080		
	Plinth beam	3	7.600	0.300	0.450		3.079		
		3	9.700	0.300	0.450		3.929		
	Total Quantity						10.489 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						10.489 cum		
	Say 10.489 cum @ Rs 10009.95 / cum						<b>Rs 104994.37</b>		
5	5.3 Reinforced cement concrete work in beams, suspended floors, roofs, having slope up to 15 <sup>0</sup> landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (Zone III) : 3 graded stone aggregate 20 mm nominal size).								
	Lintel first floor	2	7.600	0.200	0.200		0.609		
		2	10.000	0.200	0.200		0.800		
	Sunshade first floor	1	38.800	0.600	0.075		1.746		
	Total Quantity						3.155 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						3.155 cum		
	Say 3.155 cum @ Rs 11636.97 / cum						<b>Rs 36714.64</b>		
6	5.37.2 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work,								

	using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work above plinth level upto floor V level							
	Ground floor column	6	0.300	0.300	3.500		1.891	
	Beam	3	7.600	0.300	0.200		1.368	
		3	9.700	0.300	0.200		1.746	
	Slab	1	10.600	7.600	0.300		24.168	
	FIRST column	6	0.300	0.300	3.550		1.917	
	Beam	3	7.600	0.300	0.200		1.368	
		3	9.700	0.300	0.200		1.746	
	Slab	1	10.600	7.600	0.150		12.084	
	Total Quantity						46.288 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						46.288 cum	
	Kerala Water Authority						Say 46.288 cum @ Rs 11682.76 / cum	
	PRICE						<b>Rs 540771.59</b>	
7	od326205/2021_2022 Laterate masonry with neatly dressed laterate stone of size 40X20X15cm or nearest size in cement mortar 1:6 for superstructure above plinth level up to floor two level including all cost of materials, labour charges etc							
	First floor long wall	2	9.700	0.200	3.550		13.774	
	Short wall	2	7.000	0.200	3.550		9.941	
	Door	1	1.500	0.200	2.400		-0.720	
	Total Quantity						23.715 cum	
	Total Deducted Quantity						-0.720 cum	
	Net Total Quantity						22.995 cum	
	Say 22.995 cum @ Rs 6174.53 / cum						<b>Rs 141983.32</b>	
8	5.22.6 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Thermo - Mechanically Treated bars of grade Fe-500D or more							
	Quantity item No.4	1	10.490	120.000			1258.800	
	Quantity item No.5	1	3.150	80.000			252.000	

	Quantity item No.6	1	46.290	120.000			5554.800		
	Total Quantity						7065.600 kilogram		
	Total Deducted Quantity						0.000 kilogram		
	Net Total Quantity						7065.600 kilogram		
	Say 7065.600 kilogram @ Rs 99.54 / kilogram						<b>Rs 703309.82</b>		
9	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete								
	Raft slab	6	4.000		0.400		9.601		
	Total Quantity						9.601 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						9.601 sqm		
	Say 9.601 sqm @ Rs 339.52 / sqm						<b>Rs 3259.73</b>		
10	5.9.5 Centering and shuttering including strutting, etc. and removal of form for:Lintels, beams, plinth beams, girders bressumers and cantilevers								
	Plinth beam out side	1	36.400		0.450		16.380		
	Plinth beam in side	2	10.000		0.450		9.000		
		4	7.000		0.450		12.600		
	Lintel out side	1	36.400		0.200		7.280		
	Lintel in side	1	34.000		0.200		6.801		
	Ground floor -Beam outside	1	36.400		0.450		16.380		
	Beam inside	4	10.000		0.450		18.000		
		4	7.000		0.450		12.600		
	Beam bottom	3	9.700	0.300			8.730		
		3	7.000	0.300			6.301		
	First floor beam outside	1	36.400		0.450		16.380		
	Beam inside	4	10.000		0.450		18.000		
		4	7.000		0.450		12.600		
	Beam bottom	3	9.700	0.300			8.730		
		3	7.000	0.300			6.301		
	Total Quantity						176.083 sqm		
	Total Deducted Quantity						0.000 sqm		

	Net Total Quantity						176.083 sqm	
	Say 176.083 sqm @ Rs 657.96 / sqm						<b>Rs 115855.57</b>	
11	5.9.6 Centering and shuttering including strutting, etc. and removal of form for:Columns, Pillars, Piers, Abutments, Posts and Struts							
	Column	6	1.200		9.050		65.161	
	Total Quantity						65.161 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						65.161 sqm	
	Say 65.161 sqm @ Rs 874.47 / sqm						<b>Rs 56981.34</b>	
12	5.9.3 Centering and shuttering including strutting, etc. and removal of form for:Suspended floors, roofs, landings, balconies and access platform							
	Ground floor slab	1	9.700	6.700			64.990	
	First floor	1	9.700	6.700			64.990	
	Sunshade	1	38.800	0.600			23.280	
	slab edge-GF+FF	2	36.400	0.450			32.760	
	Total Quantity						186.020 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						186.020 sqm	
	Say 186.020 sqm @ Rs 826.01 / sqm						<b>Rs 153654.38</b>	
13	2.25 Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.							
	Inside	1	9.700	6.700	0.350		22.747	
	Total Quantity						22.747 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						22.747 cum	
	Say 22.747 cum @ Rs 261.81 / cum						<b>Rs 5955.39</b>	
14	13.1.1 12 mm cement plaster of mix:1:4 ( 1 cement : 4 fine sand)							
	First floor -Building outside	1	36.400		4.450		161.980	
	First floor -Building inside	1	34.000		4.000		136.000	

	Door	1	1.500	0.200	2.400		-0.720	
	Total Quantity						297.980 sqm	
	Total Deducted Quantity						-0.720 sqm	
	Net Total Quantity						297.260 sqm	
	Say 297.260 sqm @ Rs 318.03 / sqm						<b>Rs 94537.60</b>	
15	13.17 6 mm cement plaster 1:3 ( 1 cement : 3 fine sand) finished with a floating coat of neat cement and thick coat of Lime wash on top of walls when dry for bearing of R.C.C. slabs and beams.							
	Ground floor - Column 6	6	1.200		3.700		26.640	
	Roof ceiling	1	10.000	7.000			70.000	
	Beam side	6	7.000		0.200		8.400	
	First floor - ceiling	1	10.000	7.000			70.000	
	Beam side	6	7.000		0.200		8.400	
		6	10.000		0.200		12.000	
	Sunshade	1	38.800	0.67500			26.190	
	Total Quantity						221.630 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						221.630 sqm	
	Say 221.630 sqm @ Rs 359.49 / sqm						<b>Rs 79673.77</b>	
16	11.41.2 Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20 mm thick cement mortar 1:4(1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600 x 600 mm.							
	First Floor - Inside	1	10.000	7.000			70.000	
	Skirting store room	1	34.000		0.100		3.401	
	Total Quantity						73.401 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						73.401 sqm	
	Say 73.401 sqm @ Rs 1788.41 / sqm						<b>Rs 131271.08</b>	
17	13.8.1 15 mm cement plaster on rough side of single or half brick wall finished with a floating coat of neat cement of mix:1:3 ( 1 Cement : 3 fine sand)							
	Ground floor - column	6	1.200		3.700		26.640	

## PRICE

EST NO:

	Roof ceiling	1	10.000	7.000			70.000	
	Beam side	6	7.000		0.200		8.400	
		6	10.000		0.200		12.000	
	First floor ceiling - Building outside	1	36.400		4.450		161.980	
	Building inside	1	34.000		4.000		136.000	
	Roof ceiling	1	10.000	7.000			70.000	
	Beam side	6	7.000		0.200		8.400	
		6	10.000		0.200		12.000	
	Sunshade	1	38.800	0.6750			26.190	
	Door	1	1.500	0.200	2.400		-0.720	
							Total Quantity	531.610 sqm
							Total Deducted Quantity	-0.720 sqm
							Net Total Quantity	530.890 sqm
							Say 530.890 sqm @ Rs 458.07 / sqm	<b>Rs 243184.78</b>
18	11.43 Fixing glazed/ Ceramic/ Vitrified floor tiles with cement based high polymer modified quick-set tile adhesive ( Water based) conforming to IS : 15477, in average 3 mm thickness.							
	As per item no. 17	1	530.890				530.890	
							Total Quantity	530.890 sqm
							Total Deducted Quantity	0.000 sqm
							Net Total Quantity	530.890 sqm
							Say 530.890 sqm @ Rs 699.84 / sqm	<b>Rs 371538.06</b>
19	13.82.2 Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound) content less than 50 grams/ litre, of approved brand and manufacture including applying additional coats wherever required, to achieve even shade and colour.Two coats							
	AS per item NO.17	1	530.890				530.890	
							Total Quantity	530.890 sqm
							Total Deducted Quantity	0.000 sqm
							Net Total Quantity	530.890 sqm
							Say 530.890 sqm @ Rs 127.34 / sqm	<b>Rs 67603.53</b>
20	10.3 Providing and fixing in position collapsible steel shutters with vertical channels 20x10x2 mm and braced with flat iron diagonals 20x5 mm size, with top and bottom rail of T-iron 40x40x6 mm, with 40 mm dia steel pulleys, complete with bolts, nuts,locking arrangement, stoppers, handles, including applying a							

	priming coat of approved steel primer .							
	For entrance	1	1.500		2.400		3.600	
	Total Quantity						3.600 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						3.600 sqm	
	Say 3.600 sqm @ Rs 10333.89 / sqm						<b>Rs 37202.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>1919. LAND SCAPING (Cost Index:37.29 %)</b>								
1	od342769/2021_2022 Trenching in ordinary soil up to a depth of 60 cm including removal and stacking of serviceable materials and then disposing of surplus soil, by spreading and neatly leveling within a lead of 50 m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or / and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure).							
	Lawn Area	1	750.000		0.600		450.000	
	Total Quantity						450.000 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						450.000 cum	
	Say 450.000 cum @ Rs 77.80 / cum						<b>Rs 35010.00</b>	
2	od342772/2021_2022 Supplying and stacking of good earth at site including royalty and carriage upto 5 km complete (earth measured in stacks will be reduced by 20% for payment).							
	50% excavated earth	1	0.500		450.000		225.000	
	Total Quantity						225.000 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						225.000 cum	
	Say 225.000 cum @ Rs 564.25 / cum						<b>Rs 126956.25</b>	
3	od342801/2021_2022 Supplying and stacking at site dump manure from approved source, including carriage upto 5 km complete (manure measured in stacks will be reduced by 8% for payment)							
	50% of excavated earth	1	0.500		450.000		225.000	
	Total Quantity						225.000 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						225.000 cum	
	Say 225.000 cum @ Rs 354.87 / cum						<b>Rs 79845.75</b>	



4	od342805/2021_2022 Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge							
	Lawn area	1	750.000		0.600		450.000	
	Total Quantity						450.000 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						450.000 cum	
	Say 450.000 cum @ Rs 36.23 / cum						<b>Rs 16303.50</b>	
5	od342856/2021_2022 Spreading of sludge, dump manure and/or good earth in required thickness as per direction of officer-in-charge (cost of sludge, dump manure and/ or good earth to be paid separately).							
	lawn area	1	750.000		0.600		450.000	
	Total Quantity						450.000 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						450.000 cum	
	Say 450.000 cum @ Rs 52.51 / cum						<b>Rs 23629.50</b>	
6	od342860/2021_2022 Providing and laying Neelgiri/Mexican grass turf with earth 50mm to 60mm thickness of existing ground prepared with proper level and ramming with tools wooden (Dhurmos) and then rolling the surface with light roller make the surface smoothen and light watering with sprinkler and maintenance for 30 days or more till the grass establish properly, as per direction of officer-in-charge.							
	lawn area	1	750.000				750.000	
	Total Quantity						750.000 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						750.000 cum	
	Say 750.000 cum @ Rs 345.96 / cum						<b>Rs 259470.00</b>	
7	od342863/2021_2022 Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any, with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately) :Holes 45 cm dia, and 45 cm deep							
	LS	1	600.000				600.000	
	Total Quantity						600.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						600.000 No	
	Say 600.000 No @ Rs 22.73 / No						<b>Rs 13638.00</b>	

8	od342865/2021_2022 Providing and fixing M.S. flat iron tree guard 60 cm dia and 2 m high, above ground consisting 4 nos 25 x 6 mm, 2.25 m long and 8 nos 25 x 3 mm 2 m long verticals M.S. flats, riveted to 3 nos 25 x 6 mm M.S. flat iron rings in two halves, fixing together at site with required six numbers of 8 mm dia and 30 mm long bolts, including painting two coats with synthetic enamel paint of approved brand and manufacture over a coat of primer. One name plate of 1 mm thick M.S. sheet of size 250x100 mm shall be welded to the tree guard near the middle height and lettered CPWD / PWD/any other approved name. The tree guard shall be suitably fixed to the ground by embedding four legs of tree guard in pits of suitable dia and to a depth of 25 cm, refilling the pits with soil and ramming, complete in all respect as per satisfaction and direction of Officer-in-charge.							
	ls	50					50.000	
	Total Quantity						50.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						50.000 No	
	Say 50.000 No @ Rs 5151.50 / No						<b>Rs 257575.00</b>	
9	od342885/2021_2022 Supply and stacking of Azadirachta indica ( Neem ) plant of height 120-130cm in big polybag of size 25 cm as per direction of the officer-in-charge.							
	LS	50					50.000	
	Total Quantity						50.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						50.000 No	
	Say 50.000 No @ Rs 101.81 / No						<b>Rs 5090.50</b>	
10	od342888/2021_2022 Supply and stacking of Delonix regia (Gulmohar) plant of height 150-165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge							
	LS	50					50.000	
	Total Quantity						50.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						50.000 No	
	Say 50.000 No @ Rs 101.81 / No						<b>Rs 5090.50</b>	
11	od342889/2021_2022 Supply and stacking of Ficus benjamina (green) plant of height 120-135 cm. with 6-8 branches and lush green foliage in g. bags of size 25 cm as per direction of the officer-in-charge.							
	LS	50					50.000	
	Total Quantity						50.000 No	
	Total Deducted Quantity						0.000 No	

	Net Total Quantity						50.000 No	
	Say 50.000 No @ Rs 169.67 / No						<b>Rs 8483.50</b>	
12	od342899/2021_2022 Supply and stacking of Plumeria acutifolia plant of height 150-165 cm. with 3-4 branches in big size HDPE bag as per direction of the officer-in-charge.							
	LS	100					100.000	
	Total Quantity						100.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						100.000 No	
	Say 100.000 No @ Rs 339.34 / No						<b>Rs 33934.00</b>	
13	od342914/2021_2022 Supply and stacking of Lagerstroemia flosreginae plant of height 150-165 cm.in big poly bag of size 25 cm as per direction of the officer-in-charge.							
	LS	100					100.000	
	Total Quantity						100.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						100.000 No	
	Say 100.000 No @ Rs 203.61 / No						<b>Rs 20361.00</b>	
14	od342916/2021_2022 Plantation of Trees, Shrubs, and Hedge at site i/c watering and removal of unserveiceable material's as per direction of officer in charge (excluding cast of plant & water)							
	LS	600					600.000	
	Total Quantity						600.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						600.000 No	
	Say 600.000 No @ Rs 7.21 / No						<b>Rs 4326.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>2020. Receiving chamber, screen channel and grit chamber and parshall flume (Cost Index:37.29 %)</b>								
1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil							
	Foundation , Columns and beams							
	For Column - C1	5	3.200	1.300	1.500		31.201	
	For Column - C2	6	1.100	1.100	1.100	1.5	11.980	

							Total Quantity	43.181 cum
							Total Deducted Quantity	0.000 cum
							Net Total Quantity	43.181 cum
							Say 43.181 cum @ Rs 216.71 / cum	<b>Rs 9357.75</b>
2	2.26.1	Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials.All kinds of soil						
	For column C1	5	3.200	1.300	1.100			22.881
	For column C2	6	1.100	1.100	1.100			7.987
							Total Quantity	30.868 cum
							Total Deducted Quantity	0.000 cum
							Net Total Quantity	30.868 cum
							Say 30.868 cum @ Rs 107.70 / cum	<b>Rs 3324.48</b>
3	4.1.8	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)						
	For Column - C1	5	3.200	1.300	0.200			4.160
	For Column - C2	6	1.100	1.100	0.200			1.453
							Total Quantity	5.613 cum
							Total Deducted Quantity	0.000 cum
							Net Total Quantity	5.613 cum
							Say 5.613 cum @ Rs 6900.33 / cum	<b>Rs 38731.55</b>
4	5.37.1	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work upto plinth level						
	Column - C1 Raft	5	3.000	1.100	0.400			6.601
	Column - C2 Raft	6	1.100	1.100	0.400			2.905
	Column - C1	10	0.300	0.300	2.000			1.800
	Column - C2	6	0.300	0.300	2.000			1.080

	Plinth beams	5	1.900	0.300	0.450		1.283		
		2	11.320	0.300	0.450		3.057		
		2	8.050	0.300	0.450		2.174		
		3	3.550	0.300	0.450		1.438		
		2	6.200	0.300	0.450		1.674		
	Total Quantity						22.012 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						22.012 cum		
	Say 22.012 cum @ Rs 10009.95 / cum						<b>Rs 220339.02</b>		
5	5.37.2 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in-charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work above plinth level upto floor V level								
	Column - C1	2	0.300	0.300	1.200		0.216		
		4	0.300	0.300	0.700		0.252		
	Column - C2	6	0.300	0.300	0.700		0.378		
	Beams B1	5	1.900	0.300	0.300		0.855		
		2	3.800	0.300	0.300		0.684		
		2	8.050	0.300	0.300		1.449		
		3	3.550	0.300	0.300		0.959		
		2	6.200	0.300	0.300		1.116		
	Total Quantity						5.909 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						5.909 cum		
	Say 5.909 cum @ Rs 11682.76 / cum						<b>Rs 69033.43</b>		
6	5.22.6 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Thermo - Mechanically Treated bars of grade Fe-500D or more								
	Quantity as per item no. 4	1	22.010	120.000			2641.201		

	Quantity as per item no. 5	1	5.910	121.000			715.110	
	Total Quantity						3356.311 kilogram	
	Total Deducted Quantity						0.000 kilogram	
	Net Total Quantity						3356.311 kilogram	
	Say 3356.311 kilogram @ Rs 99.54 / kilogram						<b>Rs 334087.20</b>	
7	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete							
	Column C1 Raft	5	8.200		0.400		16.400	
	Column C2 Raft	6	4.400		0.400		10.561	
	Total Quantity						26.961 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						26.961 sqm	
	Say 26.961 sqm @ Rs 339.52 / sqm						<b>Rs 9153.80</b>	
8	5.9.5 Centering and shuttering including strutting, etc. and removal of form for:Lintels, beams, plinth beams, girders bressumers and cantilevers							
	Plinth beams - PB1	10	1.900		0.450		8.550	
		4	11.320		0.450		20.376	
		4	8.050		0.450		14.491	
		6	3.550		0.450		9.585	
		4	6.200		0.450		11.160	
	Beams B1 sides	10	1.900		0.300		5.700	
		4	3.800		0.300		4.560	
		4	8.050		0.300		9.660	
		6	3.550		0.300		6.390	
		4	6.200		0.300		7.440	
	Beams B1 bottom	5	1.900	0.300			2.850	
		2	3.800	0.300			2.280	
		2	8.050	0.300			4.830	
		3	3.550	0.300			3.195	
		2	6.200	0.300			3.720	
	Total Quantity						114.787 sqm	

		Total Deducted Quantity					0.000 sqm	
		Net Total Quantity					114.787 sqm	
		Say 114.787 sqm @ Rs 657.96 / sqm					<b>Rs 75525.25</b>	
9	5.9.6 Centering and shuttering including strutting, etc. and removal of form for:Columns, Pillars, Piers, Abutments, Posts and Struts							
	Columns - C1	4	1.200		2.000		9.600	
		2	1.200		3.200		7.680	
		4	1.200		2.700		12.960	
	Columns - C2	6	1.200		2.700		19.440	
		Total Quantity					49.680 sqm	
		Total Deducted Quantity					0.000 sqm	
		Net Total Quantity					49.680 sqm	
		Say 49.680 sqm @ Rs 874.47 / sqm					<b>Rs 43443.67</b>	
10	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)							
	Columns C1	2	1.200		1.200		2.880	
		4	1.200		0.700		3.360	
	Columns C2	6	1.200		0.700		5.040	
	Plinth Beam PB 1	10	1.900		0.450		8.550	
		4	11.320		0.450		20.376	
		4	8.050		0.450		14.491	
		6	3.550		0.450		9.585	
		4	6.200		0.450		11.160	
	Beam B1 sides	10	1.900		0.300		5.700	
		4	3.800		0.300		4.560	
		4	8.050		0.300		9.660	
		6	3.550		0.300		6.390	
		4	6.200		0.300		7.440	
	Beams B1 bottom	5	1.900	0.300			2.850	
		2	3.800	0.300			2.280	
		2	8.050	0.300			4.830	
		3	3.550	0.300			3.195	
		2	6.200	0.300			3.720	

		Total Quantity					126.067 sqm	
		Total Deducted Quantity					0.000 sqm	
		Net Total Quantity					126.067 sqm	
		Say 126.067 sqm @ Rs 406.24 / sqm					<b>Rs 51213.46</b>	
11	13.52.2	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On concrete work						
	Qty as per item no.12	1	9.050		1.600		14.481	
		Total Quantity					14.481 sqm	
		Total Deducted Quantity					0.000 sqm	
		Net Total Quantity					14.481 sqm	
		Say 14.481 sqm @ Rs 225.70 / sqm					<b>Rs 3268.36</b>	
12	5.34.1	Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately. Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).						
	Base Slab - Grit chamber	1	5.600	9.500	0.200		10.640	
	Screen channel	1	7.000	2.900	0.200		4.061	
	Receiving chamber	1	4.400	2.900	0.200		2.552	
	Parshall flume with Distribution chamber	1	5.600	2.260	0.200		2.532	
	Wall - Distribution channel - Right	1	9.050	0.200	1.400		2.535	
	Grit chamber - Long	2	8.050	0.250	1.400		5.635	
	Grit chamber - short	3	3.650	0.250	1.400		3.833	
	Distribution Channel - Left	1	9.550	0.200	1.400		2.674	
	Screen Channel	4	7.000	0.150	1.000		4.200	
	Receiving Chamber - Long	2	4.400	0.200	2.500		4.400	
	Receiving Chamber - Short	2	1.500	0.200	2.500		1.501	
	Parshall Flume with Distribution Chamber - Long Wall	2	5.600	0.200	1.400		3.136	



	Parshall Flume with Distribution Chamber - Short Wall	2	1.860	0.200	1.400		1.042		
		1	3.000	0.200	1.400		0.841		
	Total Quantity						49.582 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						49.582 cum		
	Say 49.582 cum @ Rs 83.13 / cum							<b>Rs 4121.75</b>	
13	5.22.5 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Hard drawn steel wire fabric								
	Qty as per item no. 12	1	49.580	120.000			5949.600		
	Total Quantity						5949.600 kilogram		
	Total Deducted Quantity						0.000 kilogram		
	Net Total Quantity						5949.600 kilogram		
	Say 5949.600 kilogram @ Rs 109.83 / kilogram							<b>Rs 653444.57</b>	
14	4.12 Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .								
	Qty as per item no. 1	1	49.580	340.000			16857.200		
	Total Quantity						16857.200 kg		
	Total Deducted Quantity						0.000 kg		
	Net Total Quantity						16857.200 kg		
	Say 16857.200 kg @ Rs 1.37 / kg							<b>Rs 23094.36</b>	
15	5.9.2 Centering and shuttering including strutting, etc. and removal of form for: Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.								
	Distribution Channel - Left Outside	1	9.050		1.600		14.481		
	Distribution Channel - Left Inside	1	8.650		1.400		12.110		
	Grit Chamber - Long L&R Outside	2	7.650		1.600		24.481		
	Grit Chamber - Long U&D Outside	2	4.150		1.600		13.281		
	Grit Chamber - Inside	8	3.650		1.400		40.880		

PRICE

EST NO:

	Distribution Channel - Right Outside	1	9.550		1.600		15.281		
	Distribution Channel - Right Inside	1	9.150		1.400		12.810		
	Screen Channel Outside	2	7.000		1.200		16.800		
	Screen Channel Inside	6	7.000		1.000		42.000		
	Receiving Chamber Outside	1	12.600		2.700		34.020		
	Receiving Chamber Inside	1	11.000		2.500		27.500		
	Parshall Flume with Distribution Chamber - Long Wall Outside	2	5.600		1.400		15.680		
	Parshall Flume with Distribution Chamber - Long Wall Inside	2	5.200		1.400		14.560		
		2	3.000		1.400		8.400		
	Parshall Flume with Distribution Chamber - Short Wall Outside	1	2.260		1.400		3.164		
	Parshall Flume with Distribution Chamber - Short Wall Inside	3	1.860		1.400		7.812		
	Total Quantity						303.260 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						303.260 sqm		
	Say 303.260 sqm @ Rs 726.20 / sqm						<b>Rs 220227.41</b>		
16	5.9.3 Centering and shuttering including strutting, etc. and removal of form for:Suspended floors, roofs, landings, balconies and access platform								
	Grit Chamber	1	5.600	9.500			53.200		
	Screen Channel	1	7.000	2.900			20.300		
	Receiving Chamber	1	4.400	2.900			12.760		
	Parshall Flume with Distribution Chamber	1	5.600	2.260			12.656		
	Edge	11	6.000			0.2	13.201		

		Total Quantity					112.117 sqm	
		Total Deducted Quantity					0.000 sqm	
		Net Total Quantity					112.117 sqm	
		Say 112.117 sqm @ Rs 826.01 / sqm					<b>Rs 92609.76</b>	
17	22.23.1	<p>Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage &amp; water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage. For vertical surface two coats @ 0.70 kg per sqm</p>						
	Distribution Channel - Left Inside	1	8.650		1.400		12.110	
	Grit Chamber Inside	8	3.650		1.400		40.880	
	Distribution Channel - Right Inside	1	9.150		1.400		12.810	
	Screen Channel	6	7.000		1.000		42.000	
	Receiving Chamber Inside	1	11.000		2.500		27.500	
	Parshall Flume with Distribution Chamber - Long wall inside	2	5.200		1.400		14.560	
		2	3.000		1.400		8.400	
	Parshall Flume with Distribution Chamber - Short wall inside	3	1.860		1.400		7.812	
		Total Quantity					166.072 sqm	
		Total Deducted Quantity					0.000 sqm	
		Net Total Quantity					166.072 sqm	
		Say 166.072 sqm @ Rs 577.44 / sqm					<b>Rs 95896.62</b>	
18	22.23.2	<p>Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage &amp; water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5</p>						

	partsintegral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 partsintegral crystalline slurry : 1 part water) for horizontal surfaces and applying thesame from negative (internal) side with the help of synthetic fiber brush. The materialshall meet the requirements as specified in ACI-212-3R-2010 i.e by reducingpermeability of concrete by more than 90% compared with control concrete as perDIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystallineslurry shall be capable of self-healing of cracks up to a width of 0.50mm. The workshall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against anyleakage.For horizontal surface one coat @1.10 kg per sqm.								
	Distribution Channel - Left	1	7.650	0.500			3.825		
	Grit Chamber	2	3.650	3.650			26.645		
	Distribution Channel - Right	1	7.650	0.750			5.738		
	Screen Channel	2	7.000	0.450			6.300		
	Screen Channel	1	7.000	0.400			2.801		
	Receiving Chamber	1	4.000	1.500			6.000		
	Parshall Flume with distribution chamber - Base inside	1	5.200	1.860			9.672		
	Total Quantity						60.981 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						60.981 sqm		
	Say 60.981 sqm @ Rs 445.03 / sqm						<b>Rs 27138.37</b>		
19	13.7.2 12 mm cement plaster finished with a floating coat of neat cement of mix:1:4 ( 1 cement : 4 fine sand)								
	Wall - Distribution Channel -Left inside	1	8.650		1.400		12.110		
	Grit Chamber inside	8	3.650		1.400		40.880		
	Distribution Channel - Right inside	1	9.150		1.400		12.810		
	Screen Channel	6	7.000		1.000		42.000		
	Receiving Chamber inside	1	11.000		2.500		27.500		
	Parshall flume with Distribution chamber with long wall inside	2	5.200		1.400		14.560		
		2	3.000		1.400		8.400		

	Screen channel with short wall inside	3	1.860		1.400		7.812	
	Base- Distribution Channel -Left	1	7.650	0.500			3.825	
	Grit Chamber	2	3.650	3.650			26.645	
	Distribution Channel - Right	1	7.650	0.750			5.738	
	Screen channel	2	7.000	0.450			6.300	
	Screen channel	1	7.000	0.400			2.801	
	Receiving Chamber	1	4.000	1.500			6.000	
	Parshall flume with Distribution chamber base inside	1	5.200	1.860			9.672	
							Total Quantity	227.053 sqm
							Total Deducted Quantity	0.000 sqm
							Net Total Quantity	227.053 sqm
							Say 227.053 sqm @ Rs 391.21 / sqm	<b>Rs 88825.40</b>
20	13.52.1 Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On steel work							
	Distribution channel - Left outside	1	9.050		1.600		14.481	
	Grit chamber Long L&R Outside	2	7.650		1.600		24.481	
	Grit chamber Long U&D Outside	2	4.150		1.600		13.281	
	Distribution channel - Right Out side	1	9.550		1.600		15.281	
	Screen Channel outside	2	7.000		1.200		16.800	
	Receiving chamber outside	1	12.600		2.700		34.020	
	Parshall flume with distribution chamber Long wall outside	2	5.600		1.400		15.680	

PRICE

EST NO:

Parshall flume with distribution chamber short wall outside	1	2.260	1.400	3.164	
Total Quantity				137.188 sqm	
Total Deducted Quantity				0.000 sqm	
Net Total Quantity				137.188 sqm	
Say 137.188 sqm @ Rs 226.12 / sqm				<b>Rs 31020.95</b>	
Total				<b>58051644.15</b>	
Centage @				<b>10.0%</b>	
Centage Amount				<b>5805164.41</b>	
Provision for GST payments (in %) @				<b>18.0%</b>	
Amount reserved for GST payments				<b>10449295.95</b>	
Total & Centage				<b>74306104.51</b>	
Lumpsum for round off				<b>0.00</b>	
<b>GRAND TOTAL Rs</b>				<b>74306104.51</b>	
				<b>Rounded Grand Total Rs 7,43,06,105</b>	
<b>Rupees Seven Crore Forty Three Lakh Six Thousand One Hundred and Five Only</b>					

Kerala Water Authority

PRICE

PRICE

EST NO:

General Abstract

**DESIGN OF COTREATMENT UNIT FOR SEPTAGE WITH STP AT THIRUVALLA  
MUNICIPALITY IN PATHANAMTHITTA DIST.**

(Dsor year: 2018)

SI No	Heading Description	Amount
1	Receiving Chamber	24990.70
2	DILUTION CHAMBER	1012392.65
3	OIL AND GREASE TRAP	69303.12
4	SCREEN CHAMBER	51749.31
5	Other Ancillary units	1491734.20
Total		<b>2650169.97</b>
Centage @		<b>10.0%</b>
Centage Amount		<b>265017.00</b>
Provision for GST payments (in %) @		<b>18.0%</b>
Amount reserved for GST payments		<b>477030.59</b>
Total & Centage		<b>3392217.56</b>
Lumpsum for round off		<b>7782.44</b>
<b>GRAND TOTAL Rs</b>		<b>3400000.00</b>
<b>Rounded Grand Total Rs</b>		<b>34,00,000</b>
<b>Rupees Thirty Four Lakh Only</b>		

Kerala Water Authority  
**PRICE**

## Detailed Estimate

**DESIGN OF COTREATMENT UNIT FOR SEPTAGE WITH STP AT THIRUVALLA MUNICIPALITY IN PATHANAMTHITTA DIST.**

(Dsr year: 2018)

SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>1Receiving Chamber (Cost Index:37.29 %)</b>									
1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil								
		1	1.000	0.280	0.400		0.113		
		Total Quantity						0.113 cum	
		Total Deducted Quantity						0.000 cum	
		Net Total Quantity						0.113 cum	
		Say 0.113 cum @ Rs 216.71 / cum						<b>Rs 24.49</b>	
2	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)								
		1	1.000	0.280	0.100		0.029		
		Total Quantity						0.029 cum	
		Total Deducted Quantity						0.000 cum	
		Net Total Quantity						0.029 cum	
		Say 0.029 cum @ Rs 7459.93 / cum						<b>Rs 216.34</b>	
3	5.37.2 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work above plinth level upto floor V level								
	base slab	1	1.000	0.280	0.300		0.084		



	side walls	1	$2*(1+0.28)$	0.250	1.350		0.865	
	top slab	1	1.000	0.280	0.300		0.084	
	Total Quantity						1.033 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						1.033 cum	
	Say 1.033 cum @ Rs 11682.76 / cum						<b>Rs 12068.29</b>	
4	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.							
	base slab	1	1.000	0.280			0.280	
	side walls	1	$2*(1+0.28)$	0.250			0.640	
	top slab	1	1.000	0.280			0.280	
	Total Quantity						1.200 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						1.200 sqm	
	Say 1.200 sqm @ Rs 726.20 / sqm						<b>Rs 871.44</b>	
5	5.22.6 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth levelThermo - Mechanically Treated bars of grade Fe-500D or more @100 kg/m3							
	qty vide 5.37.2	1	1.030		100.0		103.000	
	Total Quantity						103.000 kilogram	
	Total Deducted Quantity						0.000 kilogram	
	Net Total Quantity						103.000 kilogram	
	Say 103.000 kilogram @ Rs 99.54 / kilogram						<b>Rs 10252.62</b>	
6	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)							
		1	$(1*0.28)+(1+0.28)*2$	1.350			3.834	
	Total Quantity						3.834 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						3.834 sqm	
	Say 3.834 sqm @ Rs 406.24 / sqm						<b>Rs 1557.52</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>2DILUTION CHAMBER (Cost Index:37.29 %)</b>								

1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil							
		1	5.000	5.000	0.600		15.000	
		Total Quantity					15.000 cum	
		Total Deducted Quantity					0.000 cum	
		Net Total Quantity					15.000 cum	
		Say 15.000 cum @ Rs 216.71 / cum					<b>Rs 3250.65</b>	
2	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)							
		1	5.000	5.000	0.100		2.500	
		Total Quantity					2.500 cum	
		Total Deducted Quantity					0.000 cum	
		Net Total Quantity					2.500 cum	
		Say 2.500 cum @ Rs 7459.93 / cum					<b>Rs 18649.83</b>	
3	5.37.2 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work above plinth level upto floor V level							
	base slab	1	5.000	5.000	0.300		7.500	
	side walls	1	2*(5+5)	0.250	4.950		24.750	
	top slab	1	5.000	5.000	0.300		7.500	
		Total Quantity					39.750 cum	
		Total Deducted Quantity					0.000 cum	
		Net Total Quantity					39.750 cum	
		Say 39.750 cum @ Rs 11682.76 / cum					<b>Rs 464389.71</b>	
4	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including							

	attached pilasters, buttereses, plinth and string courses etc.							
	base slab	1	5.000	5.000			25.000	
	side walls	1	2*(5+5)	0.250			5.000	
	top slab	1	5.000	5.000			25.000	
	Total Quantity						55.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						55.000 sqm	
	Say 55.000 sqm @ Rs 726.20 / sqm						<b>Rs 39941.00</b>	
5	5.22.6 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Thermo - Mechanically Treated bars of grade Fe-500D or more							
	@100 kg/m3							
	qty vide 5.37,2	1	39.750			100.0	3975.000	
	Total Quantity						3975.000 kilogram	
	Total Deducted Quantity						0.000 kilogram	
	Net Total Quantity						3975.000 kilogram	
	Say 3975.000 kilogram @ Rs 99.54 / kilogram						<b>Rs 395671.50</b>	
6	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)							
		1	$(5*5)+(5+5)*2$	4.950			222.750	
	Total Quantity						222.750 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						222.750 sqm	
	Say 222.750 sqm @ Rs 406.24 / sqm						<b>Rs 90489.96</b>	
Sl No	Description	No	L	B	D	CF	Quantity	Remark
<b>3OIL AND GREASE TRAP (Cost Index:37.29 %)</b>								
1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed. All kinds of soil							
		1	1.800	0.800	0.600		0.865	
	Total Quantity						0.865 cum	
	Total Deducted Quantity						0.000 cum	

		Net Total Quantity					0.865 cum	
		Say 0.865 cum @ Rs 216.71 / cum						<b>Rs 187.45</b>
2	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)							
		1	1.800	0.800	0.100		0.145	
		Total Quantity					0.145 cum	
		Total Deducted Quantity					0.000 cum	
		Net Total Quantity					0.145 cum	
		Say 0.145 cum @ Rs 7459.93 / cum						<b>Rs 1081.69</b>
3	5.37.2 Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work above plinth level upto floor V level							
	base slab	1	1.800	0.800	0.300		0.433	
	side walls	1	2*(1.8+0.8)	0.250	1.500		1.951	
	top slab	1	1.800	0.800	0.300		0.433	
		Total Quantity					2.817 cum	
		Total Deducted Quantity					0.000 cum	
		Net Total Quantity					2.817 cum	
		Say 2.817 cum @ Rs 11682.76 / cum						<b>Rs 32910.33</b>
4	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.							
	base slab	1	1.800	0.800			1.441	
	side walls	1	2*(1.8+0.8)	0.250			1.300	
	top slab	1	1.800	0.800			1.441	
		Total Quantity					4.182 sqm	

Total Deducted Quantity							0.000 sqm	
Net Total Quantity							4.182 sqm	
Say 4.182 sqm @ Rs 726.20 / sqm							<b>Rs 3036.97</b>	
5	5.22.6 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Thermo - Mechanically Treated bars of grade Fe-500D or more							
@ 100 kg/m3								
qty vide 5.37,2	1	2.817			100.0	281.701		
Total Quantity							281.701 kilogram	
Total Deducted Quantity							0.000 kilogram	
Net Total Quantity							281.701 kilogram	
Say 281.701 kilogram @ Rs 99.54 / kilogram							<b>Rs 28040.52</b>	
6	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)							
	1	(1.8*0.8)+(1.8+0.8)*2	1.500			9.960		
Total Quantity							9.960 sqm	
Total Deducted Quantity							0.000 sqm	
Net Total Quantity							9.960 sqm	
Say 9.960 sqm @ Rs 406.24 / sqm							<b>Rs 4046.15</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>4SCREEN CHAMBER (Cost Index:37.29 %)</b>								
1	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed. All kinds of soil							
	1	1.500	0.600	0.600			0.540	
Total Quantity							0.540 cum	
Total Deducted Quantity							0.000 cum	
Net Total Quantity							0.540 cum	
Say 0.540 cum @ Rs 216.71 / cum							<b>Rs 117.02</b>	
2	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)							

		1	1.500	0.600	0.100		0.090	
	Total Quantity						0.090 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						0.090 cum	
	Say 0.090 cum @ Rs 7459.93 / cum						<b>Rs 671.39</b>	
3	<p>5.37.2            Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.All work above plinth level upto floor V level</p>							
	base slab	1	1.500	0.600	0.300		0.270	
	side walls	1	2*(1.5+0.6)	0.250	1.500		1.576	
	top slab	1	1.500	0.600	0.300		0.270	
	Total Quantity						2.116 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						2.116 cum	
	Say 2.116 cum @ Rs 11682.76 / cum						<b>Rs 24720.72</b>	
4	<p>5.22.6            Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth levelThermo - Mechanically Treated bars of grade Fe-500D or more</p>							
	@ 100 kg/m3							
	qty vide5.37,2	1	2.116			100.0	211.601	
	Total Quantity						211.601 kilogram	
	Total Deducted Quantity						0.000 kilogram	
	Net Total Quantity						211.601 kilogram	
	Say 211.601 kilogram @ Rs 99.54 / kilogram						<b>Rs 21062.76</b>	
5	<p>5.9.2            Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.</p>							
	base slab	1	1.500	0.600			0.900	

## PRICE

EST NO:

	side walls	1	$2*(1.5+0.6)$	0.250			1.050	
	top slab	1	1.500	0.600			0.900	
	Total Quantity						2.850 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						2.850 sqm	
	Say 2.850 sqm @ Rs 726.20 / sqm						<b>Rs 2069.67</b>	
6	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)							
		1	$(1.5*0.6)+(1.5+0.6)*2$	1.500			7.650	
	Total Quantity						7.650 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						7.650 sqm	
	Say 7.650 sqm @ Rs 406.24 / sqm						<b>Rs 3107.74</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>5Other Ancillary units (Cost Index:37.29 %)</b>								
1	od316060/2021_2022 Other Ancillary Units							
	Space for co-composting	1					1.000	
	Total Quantity						1.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						1.000 sqm	
	Say 1.000 sqm @ Rs 1263712.00 / sqm						<b>Rs 1263712.00</b>	
2	od316710/2021_2022 Supplying and erection of 10 HP submersible pump set							
		1					1.000	
	Total Quantity						1.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						1.000 No	
	Say 1.000 No @ Rs 228022.20 / No						<b>Rs 228022.20</b>	
Total							<b>2650169.97</b>	
Centage @							<b>10.0%</b>	
Centage Amount							<b>265017.00</b>	

PRICE

EST NO:

Provision for GST payments (in %) @	<b>18.0%</b>
Amount reserved for GST payments	<b>477030.59</b>
Total & Centage	<b>3392217.56</b>
Lumpsum for round off	<b>7782.44</b>
<b>GRAND TOTAL Rs</b>	<b>3400000.00</b>
<b>Rounded Grand Total Rs 34,00,000</b>	
<b>Rupees Thirty Four Lakh Only</b>	



Kerala Water Authority

**PRICE**



PRICE

EST NO:

General Abstract

PILE FOUNDATION FOR STP AT THIRUVALLA MUNICIPALITY

(Dsor year: 2018)

SI No	Heading Description	Amount
1	1. PILE FOUNDATION	51161501.15
	Total	<b>51161501.15</b>
	Centage @	<b>10.0%</b>
	Centage Amount	<b>5116150.12</b>
	Provision for GST payments (in %) @	<b>18.0%</b>
	Amount reserved for GST payments	<b>9209070.21</b>
	Total & Centage	<b>65486721.48</b>
	Lumpsum for round off	<b>13278.52</b>
	<b>GRAND TOTAL Rs</b>	<b>65500000.00</b>
		<b>Rounded Grand Total Rs 6,55,00,000</b>
		<b>Rupees Six Crore Fifty Five Lakh Only</b>

Kerala Water Authority

**PRICE**

## Detailed Estimate

PILE FOUNDATION FOR STP AT THIRUVALLA MUNICIPALITY

(Dsr year: 2018)

SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>11. PILE FOUNDATION (Cost Index:37.29 %)</b>									
1	20.2A.1 Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by Crawler mounted, telescopic boom hydraulic piling Rig all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tube well boring machine shall not be used. 600 mm dia piles								
	60mm dia	113				56.0	6328.000		
	Total Quantity						6328.000 metre		
	Total Deducted Quantity						0.000 metre		
	Net Total Quantity						6328.000 metre		
	Say 6328.000 metre @ Rs 5036.28 / metre						<b>Rs 31869579.84</b>		
2	20.6.2.1 Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of engineer -in-Charge. Single pile above 50 tonne and upto 100 tonne capacity Initial test								
		15					15.000		
	Total Quantity						15.000 per test		
	Total Deducted Quantity						0.000 per test		
	Net Total Quantity						15.000 per test		
	Say 15.000 per test @ Rs 71758.05 / per test						<b>Rs 1076370.75</b>		
3	5.22.6 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Thermo - Mechanically Treated bars of grade Fe-500D or more								
	600 mm dia 113*3.14/4*(0.6)*2	113	3.14/4	0.6*0.6	56.000	100.0	178829.28 1		
	Total Quantity						178829.281 kilogram		
	Total Deducted Quantity						0.000 kilogram		

PRICE

EST NO:

	Net Total Quantity						178829.281 kilogram
	Say 178829.281 kilogram @ Rs 99.54 / kilogram						<b>Rs 17800666.63</b>
4	od324456/2021_2022 Extra for providing Epoxy coating for Reinforcement bars						
5.22.6	1	178829.28	1			178829.28 1	
	Total Quantity						178829.281 kg
	Total Deducted Quantity						0.000 kg
	Net Total Quantity						178829.281 kg
	Say 178829.281 kg @ Rs 2.32 / kg						<b>Rs 414883.93</b>
	Total						<b>51161501.15</b>
	Centage @						<b>10.0%</b>
	Centage Amount						<b>5116150.12</b>
	Provision for GST payments (in %) @						<b>18.0%</b>
	Amount reserved for GST payments						<b>9209070.21</b>
	Total & Centage						<b>65486721.48</b>
	Lumpsum for round off						<b>13278.52</b>
	<b>GRAND TOTAL Rs</b>						<b>65500000.00</b>
	<b>Rounded Grand Total Rs 6,55,00,000</b>						
	<b>Rupees Six Crore Fifty Five Lakh Only</b>						

Kerala Water Authority  
**PRICE**

## General Abstract

**NETWORK DESIGN AND ALLIED COMPONENTS FOR 5 MLD CAPACITY OF  
STP AT THIRUVALLA MUNICIPALITY IN PATHANAMTHITTA DIST.**

(Dsr year: 2018)

SI No	Heading Description	Amount
1	1.APP:A Construction of No.I well -7.0M DIA	11647370.95
2	2App B - Construction of Pump House at Top of the well	4909137.30
3	3. APP C -Construction of Grit Chamber	3610075.32
4	4. APP D-Construction of well II &III- 5m dia	19214114.64
5	5 APP E - Laying Gravity sewer main & Construction of manhole	333480168.01
6	6 APP F-Laying Pumping Main	21485236.96
7	7 APP G-Additional provision for headerpipes,valves,MH covers etc in pump house-3 pump houses	3000000.00
8	8 APP H-Supply ,erection,trial run and commissioning of pumpsets	1940256.81
9	9 APP I-Supplying and providing blower arrangement for aeration suitable to collection well and all installation charge and electrical fittings-2 Nos	300000.00
10	10 APP J-Supply and erection of 65kva diesel/petrol generator set-2 Nos	1050000.00
11	11 APP K- installations,earthing,cabbling,control panel,electric connections,KSEB Documentations and supporting structures	2000000.00
12	12 APP L-Road restoration charges	170401830.00
13	13.APP M -Supply ,erection trail run & commissioning of Pump sets at Lifting stations	1000000.00
Total		<b>574038190.00</b>
Centage @		<b>10.0%</b>
Centage Amount		<b>57403819.00</b>
Provision for GST payments (in %) @		<b>18.0%</b>
Amount reserved for GST payments		<b>103326874.20</b>
Total & Centage		<b>734768883.19</b>
Lumpsum for round off		<b>231116.81</b>
<b>GRAND TOTAL Rs</b>		<b>735000000.00</b>
<b>Rounded Grand Total Rs 73,50,00,000</b>		
<b>Rupees Seventy Three Crore Fifty Lakh Only</b>		

## Detailed Estimate

**NETWORK DESIGN AND ALLIED COMPONENTS FOR 5 MLD CAPACITY OF  
STP AT THIRUVALLA MUNICIPALITY IN PATHANAMTHITTA DIST.**

(Dsor year: 2018)

Sl No	Description	No	L	B	D	CF	Quantity	Remark	
<b>11.APP:A Construction of No.I well -7.0M DIA (Cost Index:37.29 %)</b>									
1	2.3.1 Banking excavated earth in layers not exceeding 20 cm in depth, breaking clods, watering, rolling each layer with 1/2 tonne roller, or wooden or steel rammers, and rolling every 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up, in embankments for roads, flood banks, marginal banks, and guide banks etc., lead up to 50 m and lift up to 1.5 m :All kinds of soil								
		1	30.000	20.000	0.300		180.000		
		Total Quantity						180.000 cum	
		Total Deducted Quantity						0.000 cum	
		Net Total Quantity						180.000 cum	
		Say 180.000 cum @ Rs 560.83 / cum						<b>Rs 100949.40</b>	
2	2.1.1 Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5m in width as well as 10 sqm on plan including disposal of excavated earth up to 50 m and lift up to 1.5 m, disposed soil to be levelled and neatly dressed:All Kinds of soil								
		1	12.000	12.000			144.000		
		Total Quantity						144.000 sqm	
		Total Deducted Quantity						0.000 sqm	
		Net Total Quantity						144.000 sqm	
		Say 144.000 sqm @ Rs 110.31 / sqm						<b>Rs 15884.64</b>	
3	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil								
	Construction of Well kerb -I	1	12.000	12.000	1.500		216.000		
		Total Quantity						216.000 cum	
		Total Deducted Quantity						0.000 cum	
		Net Total Quantity						216.000 cum	

	Say 216.000 cum @ Rs 216.71 / cum						<b>Rs 46809.36</b>	
4	od281259/2021_2022 Fabricating MS kerb of size using 8mm thick MS plate including cost of MS plate and 10mm dia anger bar welded to the kerb and conveyance charges of MS plate ,all fabrication charges ,charges of painting outer side of the steel work with two or more coated delux multi surface paint to give an even shade over an under coat of primer errection tying anger bar with reinforcement placing in position etc. complete							
	For KERB							
	WELL No.1	1	3.140	8.000			25.120	
	Total Quantity						25.120 kg	
	Total Deducted Quantity						0.000 kg	
	Net Total Quantity						25.120 kg	
	Say 25.120 kg @ Rs 10277.91 / kg						<b>Rs 258181.10</b>	
5	od282498/2021_2022 Sinking wells of dia 7m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead 50m etc. complete total depth 1.5 to 3m.							
	Total depth 1.5 m to 3 m							
		1	1.500				1.500	
	Total Quantity						1.500 per metre	
	Total Deducted Quantity						0.000 per metre	
	Net Total Quantity						1.500 per metre	
	Say 1.500 per metre @ Rs 39820.55 / per metre						<b>Rs 59730.83</b>	
6	od282509/2021_2022 Sinking wells of dia 7m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead 50m etc. complete total depth 3 to 4.5m.							
	Depth 3m to 4.5m							
		1	1.500				1.500	
	Total Quantity						1.500 per metre	
	Total Deducted Quantity						0.000 per metre	
	Net Total Quantity						1.500 per metre	
	Say 1.500 per metre @ Rs 42551.93 / per metre						<b>Rs 63827.90</b>	
7	od282511/2021_2022 Sinking wells of dia7m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead 50m etc. complete total depth 4.5 to 6m.							
	Depth 4.5m to 6 m							

		1	1.500				1.500		
	Total Quantity						1.500 per metre		
	Total Deducted Quantity						0.000 per metre		
	Net Total Quantity						1.500 per metre		
	Say 1.500 per metre @ Rs 45279.87 / per metre						<b>Rs 67919.81</b>		
8	od282512/2021_2022 Sinking wells of dia 7m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead 50m etc. complete total depth 6 to 7.5m.								
	Depth 6 m to 7.5 m								
		1	1.500				1.500		
	Total Quantity						1.500 per metre		
	Total Deducted Quantity						0.000 per metre		
	Net Total Quantity						1.500 per metre		
	Say 1.500 per metre @ Rs 48011.27 / per metre						<b>Rs 72016.91</b>		
9	od282513/2021_2022 Sinking wells of dia 7m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead 50m etc. complete total depth 7.5 to 9m.								
	Depth 7.5m to 9m								
		1	1.500				1.500		
	Total Quantity						1.500 per metre		
	Total Deducted Quantity						0.000 per metre		
	Net Total Quantity						1.500 per metre		
	Say 1.500 per metre @ Rs 50742.65 / per metre						<b>Rs 76113.98</b>		
10	od282514/2021_2022 Centering and shuttering including strutting etc. and removal of form for well steining (including 20% extra for circular works)								
	Well work								
	Upto ground level outer	1	3.14*7.9		9.000		223.255		
	Upto ground level inner	1	3.14*7		9.000		197.820		
	Above ground level outer	1	3.14*7.9		1.000		24.806		

	Above ground level inner	1	3.14*7		1.000		21.980		
	Cover slab	1	3.14/4	8*8			50.240		
	Cover side	1	3.140	8.000	0.200		5.025		
	Total Quantity						523.126 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						523.126 sqm		
	Say 523.126 sqm @ Rs 303.38 / sqm							<b>Rs 158705.97</b>	
11	5.7 Reinforced cement concrete work in well - steining excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (Zone - III) : 3 graded stone aggregate 20 mm nominal size)								
	For Kerb	1	3.14*8	$(0.05+0.55)/2$	0.300		2.261		
	Up to ground level	1	3.14/4	$(7.9*7.9-7*7)$	9.000		94.742		
	Above ground level	1	3.14*7.45	0.500	1.000		11.697		
	Well top slab	1	3.14/4	8*8	0.200		10.049		
	Beam	2	7.900	0.300	1.000		4.740		
	column	4	0.300	0.500	2.900		1.740		
	Total Quantity						125.229 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						125.229 cum		
	Say 125.229 cum @ Rs 8665.06 / cum							<b>Rs 1085116.80</b>	
12	5.22.4 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Hot rolled deformed bars								
	@120kg/m3								
	Total qty of well	2	183.300			120.0	43992.000		
	Item No 15	2	89.037			100.0	17807.400		
	Total Quantity						61799.400 kilogram		
	Total Deducted Quantity						0.000 kilogram		
	Net Total Quantity						61799.400 kilogram		
	Say 61799.400 kilogram @ Rs 99.54 / kilogram							<b>Rs 6151512.28</b>	
13	4.1.8 Providing and laying in position cement concrete of specified grade excluding the cost of centering and								



	shuttering - All work up to plinth level:1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)						
	PCC for bottom plugging - top	1	3.14/4	7.700	7.700	0.2	9.309
	Bottom portion like cap of hemisphere	1	0.166*3.14*6	3*5.5*5.5+.3			28.476
	foundation of step	1	1.600	1.400	0.150		0.336
	Total Quantity						38.121 cum
	Total Deducted Quantity						0.000 cum
	Net Total Quantity						38.121 cum
	Say 38.121 cum @ Rs 6900.33 / cum						<b>Rs 263047.48</b>
14	4.1.3 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:2:4 (cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)						
	For bottom plugging						
		1	3.14/4	7.250	7.250	0.2	8.253
	Total Quantity						8.253 cum
	Total Deducted Quantity						0.000 cum
	Net Total Quantity						8.253 cum
	Say 8.253 cum @ Rs 8091.05 / cum						<b>Rs 66775.44</b>
15	5.1.2 Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and 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)						
	For counter wt.	1	3.14/4	7.45*7.45	1.000		43.570
	Total Quantity						43.570 cum
	Total Deducted Quantity						0.000 cum
	Net Total Quantity						43.570 cum
	Say 43.570 cum @ Rs 9199.05 / cum						<b>Rs 400802.61</b>
16	4.15 Extra for laying concrete in or under water and or liquid mud including cost of pumping or bailing out water and removing slush etc. complete. Note for item No. 4.15 : - The quantity will be calculated by multiplying the depth measured from the sub-soil water level upto centre of gravity of concrete under sub-soil water level with quantity of concrete in cum executed under the sub-soil water. The depth of centre of gravity shall be reconed correct to 0.10 m 0.05 m or more shall be taken as 0.10 m and less than 0.05 m ignored.						

	For bottom plugging							
		1	3.14/4	7.9*7.9	0.200		9.799	total outer dia of well
		1	3.14/4	7.35*7.35	0.800		33.927	b=(10.2+10.9)/2
	BOTTOM PLUGGING							
	PCC for bottom plugging-Top	1	3.14/4	7.700	7.700	0.2	9.309	
	Bottom portion like cap of hemisphere	1	0.166*3.14*0.6	3*5.5*5.5+0.3			28.476	
	Total Quantity						81.511 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						81.511 cum	
	Say 81.511 cum @ Rs 947.10 / cum						<b>Rs 77199.07</b>	
17	5.9.5 Centering and shuttering including strutting, etc. and removal of form for:Lintels, beams, plinth beams, girders bressumers and cantilevers							
	Well slab bottom beam	2	7.500	2.300			34.500	
	Kerala Water Authority Total Quantity						34.500 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						34.500 sqm	
	Say 34.500 sqm @ Rs 657.96 / sqm						<b>Rs 22699.62</b>	
18	5.9.3 Centering and shuttering including strutting, etc. and removal of form for:Suspended floors, roofs, landings, balconies and access platform							
	columns	4	1.300		1.200		6.240	
	Total Quantity						6.240 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						6.240 sqm	
	Say 6.240 sqm @ Rs 826.01 / sqm						<b>Rs 5154.30</b>	
19	19.16 Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and							

	chemical resistance test as per specifications and having manufactures permanent identification mark to be visible even after fixing including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 ( 1cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size)Complete as per design						
	Total depth of well 9m/30	1	9/.25				36.000
	Total Quantity						36.000 No
	Total Deducted Quantity						0.000 No
	Net Total Quantity						36.000 No
	Say 36.000 No @ Rs 551.84 / No						<b>Rs 19866.24</b>
20	<p>14.72</p> <p>Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven story hight made with 40 mm dia. M.S. tube 1.5 m centre to centre, horizontal &amp; vertical tubes joining with cup &amp; lock system with M.S. tubes, M.S. tube challies, M.S. clamps and M.S. staricase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration as approved and removing it there after. The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required location with essential safety features for the workmen etc. complete as per directions and approval of Engineer- in Charge. The elevational area of the scaffolding shall be measured for payment purpose. The payment will be made once irrespective of duration of scaffolding. Note:- This item to be used for maintenance work judicially, necessary deduction for scaffolding in the existing item to be done .</p>						
	For various work	1	3.140	7.000	9.000		197.820
	Total Quantity						197.820 sqm
	Total Deducted Quantity						0.000 sqm
	Net Total Quantity						197.820 sqm
	Say 197.820 sqm @ Rs 307.46 / sqm						<b>Rs 60821.74</b>
21	<p>13.7.1</p> <p>12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)</p>						
	bottom of well	1	3.14/4	7*7			38.465
	inside of steining	1	3.140	7.000	9.000		197.820
	well top	1	3.14/4	7.700	10.900		65.886
	beam	2	7.000		2.000		28.000
	column	4	0.900		9.000		32.400
	well above ground outer	1	3.140	7.500	1.000		23.550
	Total Quantity						386.121 sqm
	Total Deducted Quantity						0.000 sqm
	Net Total Quantity						386.121 sqm

	Say 386.121 sqm @ Rs 406.24 / sqm						<b>Rs 156857.80</b>	
22	13.52.2 Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On concrete work							
	Total qty same as above	1	386.121				386.121	
	Total Quantity						386.121 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						386.121 sqm	
	Say 386.121 sqm @ Rs 225.70 / sqm						<b>Rs 87147.51</b>	
23	2.25 Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.							
		1	3.14/4	8*8	-1.800		-90.432	
		1	12.000	12.000	1.800		259.200	
	Total Quantity						168.768 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						168.768 cum	
	Say 168.768 cum @ Rs 261.81 / cum						<b>Rs 44185.15</b>	
24	od282701/2021_2022 Removal of excess earth by lorry for minimum mechanical conveyance and less cost of earth							
	Total Qty	1	150.000				150.000	
	Total Quantity						150.000 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						150.000 cum	
	Say 150.000 cum @ Rs 143.06 / cum						<b>Rs 21459.00</b>	
25	100.7.1 Bailing out water with 5 HP engine and pumpset including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete. NEW DATA (Prepared based on PHED SDB - Item No.1070)							
		5	5*.746	120.000	9.000		20142.000	
	Total Quantity						20142.000 Kwh	
	Total Deducted Quantity						0.000 Kwh	

	Net Total Quantity						20142.000 Kwh	
	Say 20142.000 Kwh @ Rs 37.41 / Kwh						<b>Rs 753512.22</b>	
26	100.7.2 Bailing out water with engine and pumpset above 5 HP upto 10 HP including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete. NEW DATA (Prepared based on PHED SDB - Item No.1070)							
		7	10*.746	80.000	9.000		37598.400	
	Total Quantity						37598.400 Kwh	
	Total Deducted Quantity						0.000 Kwh	
	Net Total Quantity						37598.400 Kwh	
	Say 37598.400 Kwh @ Rs 18.67 / Kwh						<b>Rs 701962.13</b>	
27	100.7.3 Bailing out water with engine and pumpset above 10 HP upto 20 HP including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete. NEW DATA (Prepared based on PHED SDB - Item No.1070)							
		7	20*.746	80.000	9.000		75196.800	
	Total Quantity						75196.800 Kwh	
	Total Deducted Quantity						0.000 Kwh	
	Net Total Quantity						75196.800 Kwh	
	Say 75196.800 Kwh @ Rs 9.34 / Kwh						<b>Rs 702338.11</b>	
28	100.98.1008 Engaging Coolie							
	Bailing out and controlling traffic							
		1	120.000				120.000	
	Total Quantity						120.000 Day	
	Total Deducted Quantity						0.000 Day	
	Net Total Quantity						120.000 Day	
	Say 120.000 Day @ Rs 889.78 / Day						<b>Rs 106773.60</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>22App B - Construction of Pump House at Top of the well (Cost Index:37.29 %)</b>								
1	5.2.2 Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. up tot floor five level excluding cost of centering, shuttering, finishing and reinforcement :1:1.5:3( 1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)							

		WELL						
	Colomn pump house above wells II &III	4*2	0.300	0.300	4.500		3.240	
	Column pump house above well I	4	0.300	0.300	4.500		1.620	
							Total Quantity	4.860 cum
							Total Deducted Quantity	0.000 cum
							Net Total Quantity	4.860 cum
							Say 4.860 cum @ Rs 11091.38 / cum	<b>Rs 53904.11</b>
2	5.3 Reinforced cement concrete work in beams, suspended floors, roofs, having slope up to 15 <sup>0</sup> landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (Zone III) : 3 graded stone aggregate 20 mm nominal size).							
		WELL						
	Pump house lintel	2	3.14*7.2	0.200	0.150		1.357	
	Sunshade alround	2	3.14*8	0.600	0.075		2.261	
	Beam - Top pump house	2	7.400	0.300	1.000		4.440	
	PH Roof slab	2	3.140	7.6*7.6	0.120		43.528	
	STP WELL -II&III	2*1	3.14*5.2	0.200	0.150		0.980	
	Sunshade alround	2*1	3.14*6	0.600	0.075		1.696	
	Beam - Top pump house	2*2	5.400	0.300	1.000		6.480	
	PH Roof slab	1*2	3.140	5.6*5.6	0.1200		23.633	
							Total Quantity	84.375 cum
							Total Deducted Quantity	0.000 cum
							Net Total Quantity	84.375 cum
							Say 84.375 cum @ Rs 11636.97 / cum	<b>Rs 981869.34</b>
3	5.9.3 Centering and shuttering including strutting, etc. and removal of form for:Suspended floors, roofs, landings, balconies and access platform							
		WELL I						
	Sunshade alround WELLI	2	3.14*8	0.675			33.913	
	PH Roof slab	2	3.14/4	7.8*7.8			95.519	

	WELL II&III-Sunshade alround	1*2	3.14*6.1	0.675			25.858	
	PH Roof slab	1*2	3.14/4	6*6			56.520	
	Total Quantity						211.810 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						211.810 sqm	
	Say 211.810 sqm @ Rs 826.01 / sqm						<b>Rs 174957.18</b>	
4	5.9.5 Centering and shuttering including strutting, etc. and removal of form for:Lintels, beams, plinth beams, girders bressumers and cantilevers							
	WELL I							
	PH Lintel inner side	2	3.14*7		0.150		6.594	
	Outer	2	3.14*7.4		0.050		2.324	
	Beam top of PH	2	7.400		2.300		34.040	
	WELL- I I &IIPH Lintel inner side	1*2	3.14*5		0.150		4.710	
	Outer	1*2	3.14*5.4		0.050		1.696	
	Beam top of PH	2*2	5.400		2.300		49.680	
	Kerala Water Authority Total Quantity						99.044 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						99.044 sqm	
	Say 99.044 sqm @ Rs 657.96 / sqm						<b>Rs 65166.99</b>	
5	5.9.6 Centering and shuttering including strutting, etc. and removal of form for:Columns, Pillars, Piers, Abutments, Posts and Struts							
	Column PH above well	4	1.200		4.500		21.600	
	well II&III Column PH above well	4*2	1.200		4.500		43.200	
	Total Quantity						64.800 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						64.800 sqm	
	Say 64.800 sqm @ Rs 874.47 / sqm						<b>Rs 56665.66</b>	
6	5.22.4 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth levelHot rolled deformed bars							

		@ 100 kg/m3						
	Same as item 1 & 2	1	89.235	1.000		100.0	8923.500	
	Total Quantity						8923.500 kilogram	
	Total Deducted Quantity						0.000 kilogram	
	Net Total Quantity						8923.500 kilogram	
	Say 8923.500 kilogram @ Rs 99.54 / kilogram						<b>Rs 888245.19</b>	
7	6.3.1 Brick work with common burnt clay machine moulded perforated bricks of class designation 12.5 conforming to IS: 2222 in superstructure above plinth level up to floor five level in cement mortar 1:6 (1 cement : 6 coarse sand):With F.P.S. ( non modular ) bricks(from floor 2 level up to floor 5 level)							
	Well I							
	Well I side wall	2	3.14*7.2	0.200	4.500		40.695	
	Parapet total sunshade new wall	2	3.14*8.6	0.100	0.100		0.541	
	Parapet	2	3.14*7.6	0.100	0.450		2.148	
	Inside partition and WC pannel board, operator room etc.	7*2	3.200	0.200	2.400		21.505	
	Well II&III side wall	1	3.14*5.2	0.200	4.500		14.696	
	Parapet	1	3.14*5.6	0.100	0.450		0.792	
	Parapet	1	3.14*5.6	0.100	0.450		0.792	
	Inside partition and WC pannel board etc.	7	3.200	0.200	2.400		10.753	
	Window	6*2	1.000	0.200	1.500		-3.600	
	Door	2*2	1.500	0.200	2.200		-2.640	
	Ventilator over window and door	8*2	1.000	0.200	0.500		-1.600	
	Lintel	1*2	3.14*11.8	0.200	0.150		-2.223	
	Window	6	1.000	0.200	1.500		-1.800	
	Door	2	1.500	0.200	2.200		-1.320	
	Ventilator over window & door	8	1.000	0.200	0.500		-0.800	
	Lintel	1	3.14*10.4	0.200	0.150		-0.979	
	Total Quantity						91.922 cum	
	Total Deducted Quantity						-14.962 cum	
	Net Total Quantity						76.960 cum	



	Say 76.960 cum @ Rs 9204.26 / cum						<b>Rs 708359.85</b>	
8	<p>9.1.1 Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia &amp; length (hold fast lugs or dash fastener shall be paid for separately).Second class teak wood</p>							
	Well I and Well II&III							
	Door vertical	6*2	0.100	0.050	2.100		0.127	
	Horizontal	6*2	1.500	0.100	0.050		0.091	
	Window vertical	18*3	1.500	0.100	0.050		0.406	
	Horizontal	18*2	1.000	0.100	0.050		0.181	
	Ventilator vertical	16*3	0.450	0.100	0.050		0.109	
	Ventilator horizontal	16*2	1.000	0.100	0.050		0.161	
	Total Quantity						1.075 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						1.075 cum	
	Say 1.075 cum @ Rs 155159.05 / cum						<b>Rs 166795.98</b>	
9	<p>9.5.1.1 Providing and fixing panelled or panelled and glazed shutters for shutters for doors, windows and clerestory windows, including ISI marked M.S. pressed butt hinges bright finished of required size with necessary screws, excluding panelling which will be paid for separately, all complete as per direction of Engineer - in-charge.Second class teak woodProviding and fixing panelled or panelled and glazed shutters for doors, windowsand clerestory windows fixing with butt hinges of required size with necessaryscrews, excluding panelling which will be paid for separately, all complete as perdirection of Engineer-in-charge. (Note:- Butt hinges and necessary screws shallbe paid separately)Second class teak wood35 mm thick shutters</p>							
	Well -I and Well II &III							
	Door	6	1.300		2.000		15.601	
	Window	18*2	0.350		1.300		16.380	
	Ventilator	16*2	0.350		0.250		2.800	
	Total Quantity						34.781 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						34.781 sqm	
	Say 34.781 sqm @ Rs 4306.58 / sqm						<b>Rs 149787.16</b>	
10	<p>13.9.1 Cement plaster 1:3 ( 1 cement : 3 coarse sand) finished with a floating coat of neat cement.12 mm cement plaster</p>							

		Well I							
	Ceiling	1*2	3.14/4	7*7			76.930		
	Beam Vertical PH	2*2	7.000		2.000		56.000		
	Sunshade	1*2	3.14*8	1.275			64.056		
	Roof parapet	1*2	3.14*7.5	1.300			61.231		
	Wall out side PH	1*2	3.14*7.4		4.500		209.124		
	Wall out inside PH	1*2	3.14*7		4.500		197.820		
	Inside walls	(7*2)*2	3.000		2.400		201.600		
	Ceiling	1	3.14/4	5*5			19.625		
	Beam Vertical PH	2	5.000		2.000		20.000		
	Sunshade	1	3.14*6	1.275			24.021		
	Roof parapet	1	3.14*5.5	1.300			22.451		
	Wall outside PH	1	3.14*5.4		4.500		76.303		
	Wall out inside PH	1	3.14*5		4.500		70.650		
	Inside walls	(7*2)	3.000		2.400		100.800		
		Door & Window							
	Door-well I	2*2	1.500		2.100	1.25	-15.750		
	Window-well I	6*2	1.000		1.500	1.25	-22.500		
	Ventilator-well I	8*2	1.000		0.450	1.25	-9.000		
	Door- well II&III	2	1.500		2.100	1.25	-7.875		
	Window-well II&III	6	1.000		1.500	1.25	-11.250		
	Ventilator-well II&III	8	1.000		0.450	1.25	-4.500		
		Total Quantity					1200.611 sqm		
		Total Deducted Quantity					-70.875 sqm		
		Net Total Quantity					1129.736 sqm		
		Say 1129.736 sqm @ Rs 417.29 / sqm					<b>Rs 471427.54</b>		
11	13.9.2 Cement plaster 1:3 ( 1 cement : 3 coarse sand) finished with a floating coat of neat cement.20 mm cement plaster								
		WELL II&III							
	PH Roof slab top	1*2	3.14/4	5.6*5.6			49.236		
	PH Floor	1*2	3.14/4	5*5			39.250		
		Well I							

	PH Roof slab top	1	3.14/4	7.6*7.6			45.342		
	PH Floor	1	3.14/4	7*7			38.465		
	Total Quantity						172.293 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						172.293 sqm		
	Say 172.293 sqm @ Rs 549.09 / sqm							<b>Rs 94604.36</b>	
12	13.60.1 Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade:Two or more coats on new work								
	Same as item number 10 & 11	2	1302.100				2604.200		
	Total Quantity						2604.200 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						2604.200 sqm		
	Say 2604.200 sqm @ Rs 153.28 / sqm							<b>Rs 399171.78</b>	
13	13.48.2 Finishing with Deluxe Multi surface paint system for interiors and exteriors using primer as per manufacturers specifications:Painting wood work with Deluxe Multi Surface Paint of required shade. Two or more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied @ 0.75 ltr/10 sqm of approved brand and manufacture								
	Well I AND Well II & III								
	Door vertical	6	1.500		2.100	2.25	42.526		
	Window	18	1.000		1.500	2.25	60.750		
	Ventilator	16	1.000		0.450	2.25	16.200		
	Total Quantity						119.476 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						119.476 sqm		
	Say 119.476 sqm @ Rs 155.21 / sqm							<b>Rs 18543.87</b>	
14	11.53 Providing and fixing Glass mosaaic tiles at finished plain wall surface of size 20 mm x 20 mm x 4 mm in all colour, design, fixing in customize design as per direction of Engineer-in-charge. The glass mosaaic tiles to be fixed on the wall surface with the help of approved adhesive applied at the rate of 2.5 kg per sqm and grouting of the same. The rate is inclusive of all operation, material and required pattern approved by Engineer-in-charge.								
	Well II,III& Well I	(2*2)*2	3.14/4	.5*.5			-1.570		
	Openings	(2*6)*2	3.14/4	.3*.3			-1.695		

## PRICE

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	WELLI	1	3.14/4	7*7			38.465	
	Well 1I &III	2	3.14/4	5*5			39.250	
	Total Quantity						77.715 sqm	
	Total Deducted Quantity						-3.265 sqm	
	Net Total Quantity						74.450 sqm	
	Say 74.450 sqm @ Rs 3873.98 / sqm						<b>Rs 288417.81</b>	
15	<p>11.37A Providing and fixing 1st quality ceramic glazed floor tiles conforming to IS :15622 (thickness to be specified by the manufacturer ) of approved make in allcolours, shades except burgundy, bottle green, black of any size as approvedby Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thickbed of cement Mortar 1:3 (1 cement: 3 coarse sand) and jointing with grey cementslurry @ 3.3kg per sqm including pointing in white cement mixed with pigmentof matching shade complete.</p>							
	For WC Wall total length- size WC- 1.5x2.10x2.4	2*2	7.200			2.400	69.120	
	Floor	2*2	1.500	2.100			12.601	
	Total Quantity						81.721 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						81.721 sqm	
	Say 81.721 sqm @ Rs 1105.87 / sqm						<b>Rs 90372.80</b>	
16	<p>17.2.1 Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:W.C. pan with ISI marked white solid plastic seat and lid</p>							
	Two WC	2*2					4.000	
	Total Quantity						4.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						4.000 No	
	Say 4.000 No @ Rs 6270.31 / No						<b>Rs 25081.24</b>	
17	<p>17.7.3 Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps</p>							
		2*2					4.000	
	Total Quantity						4.000 No	

		Total Deducted Quantity						0.000 No
		Net Total Quantity						4.000 No
		Say 4.000 No @ Rs 3393.05 / No						<b>Rs 13572.20</b>
18	10.6.3	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters.80x0.90 mm M.S. laths with 0.90 mm thick to cover						
		WELL II,III & WELL1						
		2*2	1.800		2.500		18.000	
		Total Quantity						18.000 sqm
		Total Deducted Quantity						0.000 sqm
		Net Total Quantity						18.000 sqm
		Say 18.000 sqm @ Rs 3163.44 / sqm						<b>Rs 56941.92</b>
19	9.120.2	Providing and fixing factory made panel PVC door shutter consisting of frame made out of M.S. tubes of 19 gauge thickness and sized of 19 mm x 19 mm for styles and 15x15 mm for top & bottom rails. M.S. frame shall have a coat of steel primers of approved make and manufacture. M.S. frame covered with 5 mm thick heat moulded PVC 'C' channel of size 30 mm thickness, 70 mm width out of which 50 mm shall be flat and 20 mm shall be tapered in 45 degree angle on both side forming styles and 5mm thick, 95 mm wide PVC sheet out of which 75 mm shall be tapered in 45 degree on th inner side to form top and bottom rail and 115 mm wide PVC sheet out of which 75 mm shall be flat and 20 mm shall be tapered on both sides to form lock rail. Top, bottom and lock rails shall be provided both side of the panel. 10 mm (5 mmx2) thick, 20 mm wide cross PVC sheet be provided as gap insert for top rail & bottom rail. paneling of 5 mm thick both side PVC sheet to be fitted in the M.S. frame welded /sealed to the styles & rails with 7 mm (5 mm + 2 mm ) thick x 15 mm wide PVC sheet beading on inner side, and joined together with solvent cement adhesive. An additional 5 mm thick PVC strip of 20 mm width is to be stuck on the interior side of the 'C' Channel using PVC solvent adhesive etc. complete as per direction of Engineer -in-charge, manufacture's specification & drawing.30 mm thick pre laminated PVC door shutters						
		2*2	0.800		2.100		6.721	
		Total Quantity						6.721 sqm
		Total Deducted Quantity						0.000 sqm
		Net Total Quantity						6.721 sqm
		Say 6.721 sqm @ Rs 2888.31 / sqm						<b>Rs 19412.33</b>
20	od283445/2021_2022	Providing, supplying Syntex tank and laying PVC pipes, taps valves etc for plumbing arrangements to the						

WC, including all material and labour charge including KWA water supply connection								
Well		2					2.000	
Total Quantity							2.000 No	
Total Deducted Quantity							0.000 No	
Net Total Quantity							2.000 No	
Say 2.000 No @ Rs 92920.00 / No							<b>Rs 185840.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>33. APP C -Construction of Grit Chamber (Cost Index:37.29 %)</b>								
1	100.98.1000 Engaging Bandhani							
		2*2	2.000				8.000	
Total Quantity							8.000 Day	
Total Deducted Quantity							0.000 Day	
Net Total Quantity							8.000 Day	
Say 8.000 Day @ Rs 983.89 / Day							<b>Rs 7871.12</b>	
2	100.8.1 Fencing one side of trenches, 1.50 m height with two rows of 10 cm plastic caution tape in vertical casuarina pole (girth 15cm to 24cm) fixed at 2 m intervals. (Data Prepared based on PWD SDB - Item No.1009)							
		(2*2)*2	12.000				96.000	
Total Quantity							96.000 metre	
Total Deducted Quantity							0.000 metre	
Net Total Quantity							96.000 metre	
Say 96.000 metre @ Rs 28.24 / metre							<b>Rs 2711.04</b>	
3	2.8.1 Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.All kinds of soil							
Grit chamber								
well 1		1	4.300	2.050	1.500		13.223	
Well II&III		1*2	4.300	2.050	1.500		26.445	
Total Quantity							39.668 cum	
Total Deducted Quantity							0.000 cum	
Net Total Quantity							39.668 cum	

	Say 39.668 cum @ Rs 300.67 / cum						<b>Rs 11926.98</b>
4	od283528/2021_2022 Earthwork in excavation by mechanical means/ manual means in foundation trenches or drains(not exceeding 1.5 meter in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 3 mtr including getting out the excavated soil and disposa of surplus excavated soil as directed within a lead of 50mtr. All kinds of soil						
	Grid chamber						
	WELL I	1	4.300	2.050	1.500		13.223
	Well II&III	1*2	4.300	2.050	1.500		26.445
	Total Quantity						39.668 cum
	Total Deducted Quantity						0.000 cum
	Net Total Quantity						39.668 cum
	Say 39.668 cum @ Rs 408.37 / cum						<b>Rs 16199.22</b>
5	od283592/2021_2022 Earthwork in excavation by mechanical means/ manual means in foundation trenches or drains(not exceeding 1.5 meter in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 4.5 mtr including getting out the excavated soil and disposa of surplus excavated soil as directed within a lead of 50mtr. All kinds of soil						
	Grid chamber						
	well I zone	1	4.300	2.050	1.500		13.223
	Well II&IIIzone	1*2	4.300	2.050	1.500		26.445
	Total Quantity						39.668 cum
	Total Deducted Quantity						0.000 cum
	Net Total Quantity						39.668 cum
	Say 39.668 cum @ Rs 516.07 / cum						<b>Rs 20471.46</b>
6	od283597/2021_2022 Earthwork in excavation by mechanical means/ manual means in foundation trenches or drains(not exceeding 1.5 meter in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 6 mtr including getting out the excavated soil and disposa of surplus excavated soil as directed within a lead of 50mtr. All kinds of soil						
	Grid chamber						
	well I	1	4.300	2.050	1.500		13.223
	Well I&III	1*2	4.300	2.050	1.500		26.445
	Total Quantity						39.668 cum
	Total Deducted Quantity						0.000 cum
	Net Total Quantity						39.668 cum

	Say 39.668 cum @ Rs 623.78 / cum						<b>Rs 24744.11</b>	
7	od283601/2021_2022 Earthwork in excavation by mechanical means/ manual means in foundation trenches or drains(not exceeding 1.5 meter in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 7.5 mtr including getting out the excavated soil and disposa of surplus excavated soil as directed within a lead of 50mtr. All kinds of soil							
	Grit chamber							
	well I	1	4.300	2.050	0.150		1.323	
	Well II&III	1*2	4.300	2.050	1.200		21.156	
	Total Quantity						22.479 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						22.479 cum	
	Say 22.479 cum @ Rs 731.48 / cum						<b>Rs 16442.94</b>	
8	100.6.1 Providing steel sheet shoring to the sides of the trenches to depths of above 4.00 m but not exceeding 6.00m using 6 mm M.S. sheet 0.50 M wide stiffen on edges with 50 mm x 50mm x 6 mm M.S. angles driving down vertically on either side one after another in lines and levels with suitable pile driving equipments and accessories to a maximum depth of 0.50 M below the bottom of the proposed excavation 0.5 M above ground level suitably braced by horizontal walling pieces at 75 x 150 mm x 8 mm angles on either side at intervals not exceeding 1.50M and horizontal screw jack type struts at 1.50M intervals and maintaining the shoring till the pipes are laid and works are completed, dismantling, cleaning and restacking for reuse including all labour, hire charges and conveyance for equipments, tools and plants and sundries etc. complete.							
	Grit Chamber							
	well I	2	4.300		6.150		52.890	
		2	2.050		6.150		25.215	
	Well II&III	2*2	4.300		7.200		123.840	
		2*2	2.050		7.200		59.040	
	Total Quantity						260.985 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						260.985 sqm	
	Say 260.985 sqm @ Rs 758.53 / sqm						<b>Rs 197964.95</b>	
9	4.1.8 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)							
	Grit chamber							



	Well I	1	4.300	2.050	0.200		1.763	
	Well II&III	1*2	4.300	2.050	0.200		3.526	
	Total Quantity						5.289 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						5.289 cum	
	Say 5.289 cum @ Rs 6900.33 / cum						<b>Rs 36495.85</b>	
10	4.1.3 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:2:4 (cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)							
	Grit chamber Settling portion							
	well I	1	2.000	1.250	0.150		0.375	
	Well II&III	1*2	2.000	1.250	0.150		0.750	
	Total Quantity						1.125 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						1.125 cum	
	Say 1.125 cum @ Rs 8091.05 / cum						<b>Rs 9102.43</b>	
11	5.1.2 Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and 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)							
	Grit chamber							
	well I	1	4.100	1.850	0.200		1.518	
	Well II&III	1*2	4.100	1.850	0.200		3.035	
	Total Quantity						4.553 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						4.553 cum	
	Say 4.553 cum @ Rs 9199.05 / cum						<b>Rs 41883.27</b>	
12	5.2.2 Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. up tot floor five level excluding cost of centering, shuttering, finishing and reinforcement :1:1.5:3( 1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)							
	Man hole opening							
	well I,II&III	3	3.14/4	.56*.56	0.150		-0.110	
	Grit chamber							

	well I	1	10.300	0.200	5.750		11.845		
	well I Intermediate wall	1	1.250	0.200	5.750		1.438		
	Well II&III	2	10.300	0.200	6.800		28.016		
	well II&III Intermediate wall	2	1.250	0.200	6.800		3.400		
	well I top slab	1	4.100	1.850	0.150		1.138		
	Well II&III top slab	2	4.100	1.850	0.150		2.276		
	Total Quantity						48.113 cum		
	Total Deducted Quantity						-0.110 cum		
	Net Total Quantity						48.003 cum		
	Say 48.003 cum @ Rs 11091.38 / cum							<b>Rs 532419.51</b>	
13	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete								
	Well I	2	4.100		0.200		1.640		
	Well II&III	2*2	1.850		0.200		1.481		
	Total Quantity						3.121 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						3.121 sqm		
	Say 3.121 sqm @ Rs 339.52 / sqm							<b>Rs 1059.64</b>	
14	5.9.2 Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.								
	Well I outer side wall	1	3.9*2		6.800		53.040		
		1	1.65*2		6.800		22.440		
	Inner total	1	11.600		6.800		78.880		
	well II&III outer	1*2	3.9*2		5.750		89.700		
		1*2	1.65*2		5.750		37.950		
	Inner total	1*2	11.600		5.750		133.400		
	Total Quantity						415.410 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						415.410 sqm		
	Say 415.410 sqm @ Rs 726.20 / sqm							<b>Rs 301670.74</b>	
15	5.22.4								

	Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Hot rolled deformed bars						
	Total qty of Grit chamber , Reinforcement at 100kg/m3						
		3	31.194			100.0	9358.200
	Total Quantity						9358.200 kilogram
	Total Deducted Quantity						0.000 kilogram
	Net Total Quantity						9358.200 kilogram
	Say 9358.200 kilogram @ Rs 99.54 / kilogram						<b>Rs 931515.23</b>
16	19.16 Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufactures permanent identification mark to be visible even after fixing including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 ( 1cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size) Complete as per design						
	Well total I&II	1*2	6.8/.3				45.334
	well	1	5.75/.3				19.167
	Total Quantity						64.501 No
	Total Deducted Quantity						0.000 No
	Net Total Quantity						64.501 No
	Say 64.501 No @ Rs 551.84 / No						<b>Rs 35594.23</b>
17	13.9.1 Cement plaster 1:3 ( 1 cement : 3 coarse sand) finished with a floating coat of neat cement.12 mm cement plaster						
	Well I &II total Inside area	1*2	11.600		6.800		157.760
	well I total Inside area	1	11.600		5.750		66.700
	Bottom total	2*2	2.000		1.250		10.000
		2	1.300		1.250		3.250
	Add 20%	1	164.000			0.2	32.801
	Total Quantity						270.511 sqm
	Total Deducted Quantity						0.000 sqm
	Net Total Quantity						270.511 sqm
	Say 270.511 sqm @ Rs 417.29 / sqm						<b>Rs 112881.54</b>

18	13.52.2 Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On concrete work							
	Well II&III total inside area	1*2	11.600		6.800		157.760	
	well I total Inside area	1	11.600		5.750		66.700	
	Bottom total	2 *2	2.000		1.250		10.000	
		2	1.300		1.250		3.250	
	Add 20%	1	164.000			0.2	32.801	
							Total Quantity	270.511 sqm
							Total Deducted Quantity	0.000 sqm
							Net Total Quantity	270.511 sqm
							Say 270.511 sqm @ Rs 225.70 / sqm	<b>Rs 61054.33</b>
19	100.7.1 Bailing out water with 5 HP engine and pumpset including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete. NEW DATA (Prepared based on PHED SDB - Item No.1070)							
		2*3	5*.746	30.000	12.000		8056.801	
							Total Quantity	8056.801 Kwh
							Total Deducted Quantity	0.000 Kwh
							Net Total Quantity	8056.801 Kwh
							Say 8056.801 Kwh @ Rs 37.41 / Kwh	<b>Rs 301404.93</b>
20	100.7.2 Bailing out water with engine and pumpset above 5 HP upto 10 HP including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete. NEW DATA (Prepared based on PHED SDB - Item No.1070)							
		2*3	10*.746	15.000	8.000		5371.201	
							Total Quantity	5371.201 Kwh
							Total Deducted Quantity	0.000 Kwh
							Net Total Quantity	5371.201 Kwh
							Say 5371.201 Kwh @ Rs 18.67 / Kwh	<b>Rs 100280.32</b>
21	100.98.1007 Engaging Beldar							
		2*3	30.000				180.000	

						Total Quantity	180.000 Day
						Total Deducted Quantity	0.000 Day
						Net Total Quantity	180.000 Day
						Say 180.000 Day @ Rs 889.78 / Day	<b>Rs 160160.40</b>
22	100.52.S.1 Sub Data for providing Earth filled cement bags including cutting of the Earth, filling, conveying and placing in position.						
		1*3				50.0	150.000
						Total Quantity	150.000 cum
						Total Deducted Quantity	0.000 cum
						Net Total Quantity	150.000 cum
						Say 150.000 cum @ Rs 3785.10 / cum	<b>Rs 567765.00</b>
23	od283709/2021_2022 Structural steelwork in a single section for providing girder over the grit champer with 80mm dia 4mm thick MS circular sectio fixing of RCC column and providing necessary arrangements for fixing pully for ease f desilting, fixed with or without connection plate, including hoisitng, fixing in position and applying a priming coat of approved steel primer all complete						
		3					3.000
						Total Quantity	3.000 kg
						Total Deducted Quantity	0.000 kg
						Net Total Quantity	3.000 kg
						Say 3.000 kg @ Rs 7303.92 / kg	<b>Rs 21911.76</b>
24	od283713/2021_2022 Providing grating size 1.25*.95 mtr to the grid champer with fabrication MS flat size 50*8 mm thick with 50mm C/C and connected 12mm dia MS bar across the flat and welded bend necessary angle ease to place and removal etc and painting with antifungal paint prime coat placing etc						
		3					3.000
						Total Quantity	3.000 kg
						Total Deducted Quantity	0.000 kg
						Net Total Quantity	3.000 kg
						Say 3.000 kg @ Rs 10753.21 / kg	<b>Rs 32259.63</b>
25	100.31.2.5 Conveying and fixing C.I. sluice valves (with cap) by providing complete with bolts, nuts, rubber insertions etc. excluding the cost of valve (the tail pieces if required will be paid separately) : 200 mm diameter. Class II" Data derived from item no.18.31.4.2of DAR						

	One valve for each grit	3						3.000	
	Total Quantity							3.000 Nos	
	Total Deducted Quantity							0.000 Nos	
	Net Total Quantity							3.000 Nos	
	Say 3.000 Nos @ Rs 1751.20 / Nos							<b>Rs 5253.60</b>	
26	od283722/2021_2022 Supplying 200mm sluice valve								
		3						3.000	
	Total Quantity							3.000 No	
	Total Deducted Quantity							0.000 No	
	Net Total Quantity							3.000 No	
	Say 3.000 No @ Rs 12075.83 / No							<b>Rs 36227.49</b>	
27	100.41.33 Supplying and fixing 500mm dia CI manhole cover with frame( medium duty) charges including all cost, labour charges etc complete.								
	one for each Grit	3						3.000	
	Total Quantity							3.000 Nos	
	Total Deducted Quantity							0.000 Nos	
	Net Total Quantity							3.000 Nos	
	Say 3.000 Nos @ Rs 7601.20 / Nos							<b>Rs 22803.60</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>44. APP D-Construction of well II &amp;III- 5m dia (Cost Index:37.29 %)</b>									
1	2.3.1 Banking excavated earth in layers not exceeding 20 cm in depth, breaking clods, watering, rolling each layer with 1/2 tonne roller, or wooden or steel rammers, and rolling every 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up, in embankments for roads, flood banks, marginal banks, and guide banks etc., lead up to 50 m and lift up to 1.5 m :All kinds of soil								
	Collection well II &III	2	30.000	20.000			1200.000		
	Total Quantity							1200.000 cum	
	Total Deducted Quantity							0.000 cum	
	Net Total Quantity							1200.000 cum	
	Say 1200.000 cum @ Rs 560.83 / cum							<b>Rs 672996.00</b>	
2	2.1.1 Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5m in width as well as 10 sqm on plan including disposal of excavated earth up to 50 m and lift up to 1.5 m, disposed soil to be								

	levelled and neatly dressed:All Kinds of soil						
	WELL II&III	2	10.000	10.000			200.000
	Total Quantity						200.000 sqm
	Total Deducted Quantity						0.000 sqm
	Net Total Quantity						200.000 sqm
	Say 200.000 sqm @ Rs 110.31 / sqm						<b>Rs 22062.00</b>
3	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil						
	well II& III -5m Inner dia						
	Construction of well kerb-II& III	2	10.000	10.000	1.500		300.000
	Total Quantity						300.000 cum
	Total Deducted Quantity						0.000 cum
	Net Total Quantity						300.000 cum
	Say 300.000 cum @ Rs 216.71 / cum						<b>Rs 65013.00</b>
4	od307779/2021_2022 Fabricating MS Kerb of size using 8 MM thick MS plate including cost of MS plate and 10mm dia anger bar welded to the kerb and conveyance charges of MS plate ,all fabrication charges ,charges of painting outer side of steel work with two or more coat delux multi surface paint over an under coat of primer erection tying anger bar with reinforcement placing in position etc. complete						
	For Kerb						
	Collection well II &III	2	3.140	6.000			37.680
	Total Quantity						37.680 per metre
	Total Deducted Quantity						0.000 per metre
	Net Total Quantity						37.680 per metre
	Say 37.680 per metre @ Rs 10277.91 / per metre						<b>Rs 387271.65</b>
5	od308224/2021_2022 Sinking well (in or under water) of dia 5m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead of 50m etc. complete total depth 1.5 to 3m.						
		2	1.500				3.000
	Total Quantity						3.000 metre
	Total Deducted Quantity						0.000 metre

		Net Total Quantity						3.000 metre
		Say 3.000 metre @ Rs 23285.54 / metre						<b>Rs 69856.62</b>
6	od308274/2021_2022 Sinking well (in or under water) of dia 5m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead of 50m etc. complete total depth 3 to 4.5m.							
		2	1.500				3.000	
		Total Quantity						3.000 metre
		Total Deducted Quantity						0.000 metre
		Net Total Quantity						3.000 metre
		Say 3.000 metre @ Rs 24873.59 / metre						<b>Rs 74620.77</b>
7	od308399/2021_2022 Sinking well (in or under water) of dia5m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead of 50m etc. complete total depth 4.5 to 6m.							
		2	1.500				3.000	
		Total Quantity						3.000 metre
		Total Deducted Quantity						0.000 metre
		Net Total Quantity						3.000 metre
		Say 3.000 metre @ Rs 26459.64 / metre						<b>Rs 79378.92</b>
8	od308403/2021_2022 Sinking well (in or under water) of dia 5.0m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead of 50m etc. complete total depth 6 to 7.5m.							
		2	1.500				3.000	
		Total Quantity						3.000 metre
		Total Deducted Quantity						0.000 metre
		Net Total Quantity						3.000 metre
		Say 3.000 metre @ Rs 28047.69 / metre						<b>Rs 84143.07</b>
9	od308408/2021_2022 Sinking well (in or under water) of dia 5m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead of 50m etc. complete total depth 7.5 to 9m.							



		2	1.500				3.000	
	Total Quantity						3.000 metre	
	Total Deducted Quantity						0.000 metre	
	Net Total Quantity						3.000 metre	
	Say 3.000 metre @ Rs 29635.75 / metre						<b>Rs 88907.25</b>	
10	5.7 Reinforced cement concrete work in well - steining excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (Zone - III) : 3 graded stone aggregate 20 mm nominal size)							
	For kerb	1*2	3.14*6.1	$(.05+.50)/2$	0.300		3.161	
	Upto ground level wall	1*2	3.14*6.1	0.500	10.000		191.540	
	Above ground level	1*2	3.14*5.7	0.500	1.000		17.898	
	Cover slab	1*2	3.14/4	6.100	6.100	0.2	11.684	
	Beam	2*2	6.100	0.300	1.000		7.320	
	Column-last steining to well cover slab	4*2	0.500	0.300	2.900		3.480	
	Total Quantity						235.083 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						235.083 cum	
	Say 235.083 cum @ Rs 8665.06 / cum						<b>Rs 2037008.30</b>	
11	od329072/2021_2022 Centering and shuttering including strutting, etc. and removal of form for Wellsteining (including 20% extra for circular works)							
	well work							
	Up to ground level outer	1*2	3.14*6		8.000		301.440	
	Up to ground level inner	1*2	3.14*5		8.000		251.201	
	Above ground level outer	1*2	3.14*6		1.000		37.680	
	Above ground level inner	1	3.14*5		1.000		15.701	
	Cover slab bottom	1*2	3.140	6.1*6.1			233.679	
	Cover slab side	1*2	3.140	6.100	0.200		7.662	
	Column	4*2	1.600		2.800		35.840	

		Total Quantity					883.203 sqm	
		Total Deducted Quantity					0.000 sqm	
		Net Total Quantity					883.203 sqm	
		Say 883.203 sqm @ Rs 303.38 / sqm					<b>Rs 267946.13</b>	
12	5.22.4	Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Hot rolled deformed bars						
		@ 120 kg/m <sup>3</sup>						
	Total quantity	1*2	235.083			100.0	47016.600	
	Qty item 16	1*2	143.590			100.0	28718.000	
		Total Quantity					75734.600 kilogram	
		Total Deducted Quantity					0.000 kilogram	
		Net Total Quantity					75734.600 kilogram	
		Say 75734.600 kilogram @ Rs 99.54 / kilogram					<b>Rs 7538622.08</b>	
13	4.1.8	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)						
		Bottom plugging						
	PCC for bottom plugging-Top	1*2	3.14/4	6.000	6.000	0.2	11.304	
	Bottom portion like cap of hemisphere	1*2	0.166*3.14/4	3*6.25*6.25	4*0.6	5+0.3	73.488	
	Foundation of step	1*2	1.600	1.400	0.150		0.672	
		Total Quantity					85.464 cum	
		Total Deducted Quantity					0.000 cum	
		Net Total Quantity					85.464 cum	
		Say 85.464 cum @ Rs 6900.33 / cum					<b>Rs 589729.80</b>	
14	4.1.3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:2:4 (cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)						
		Bottom plugging						
		1*2	3.14/4	5.500	5.500	0.2	9.499	
		Total Quantity					9.499 cum	
		Total Deducted Quantity					0.000 cum	

	Net Total Quantity						9.499 cum	
	Say 9.499 cum @ Rs 8091.05 / cum						<b>Rs 76856.88</b>	
15	5.1.2 Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and 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)							
	Counter weight	2	3.14/4	5.5*5.5			47.493	$b=(10.2+10.9)/2$
	Total Quantity						47.493 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						47.493 cum	
	Say 47.493 cum @ Rs 9199.05 / cum						<b>Rs 436890.48</b>	
16	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)							
	For bottom plugging							
		1*2	3.14/4	6*6	0.200		11.305	Total outer dia of well
		1*2	3.14/4	5.5*5.5	1.000		47.493	$b=(10.2+10.9)/2$
	Bottom plugging							
	PCC for bottom plugging-Top	1*2	3.14/4	6.000	6.000	0.2	11.304	
	Bottom portion like cap of hemisphere	1*2	0.166*3.14*0.6	3*6.25*6.25+0.3			73.488	
	Total Quantity						143.590 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						143.590 cum	
	Say 143.590 cum @ Rs 7459.93 / cum						<b>Rs 1071171.35</b>	
17	5.9.3 Centering and shuttering including strutting, etc. and removal of form for:Suspended floors, roofs, landings, balconies and access platform							
	well slab bottom beam	2*2	6.100	2.300	1.000		56.120	
	Total Quantity						56.120 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						56.120 sqm	

	Say 56.120 sqm @ Rs 826.01 / sqm						<b>Rs 46355.68</b>	
18	5.9.5 Centering and shuttering including strutting, etc. and removal of form for: Lintels, beams, plinth beams, girders bressumers and cantilevers							
	Column	4*2	1.600		1.150		14.720	
	Total Quantity						14.720 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						14.720 sqm	
	Say 14.720 sqm @ Rs 657.96 / sqm						<b>Rs 9685.17</b>	
19	19.16 Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufactures permanent identification mark to be visible even after fixing including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 ( 1cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size)Complete as per design							
	Total step	1*2	10/0.3				66.667	
	Total Quantity						66.667 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						66.667 No	
	Say 66.667 No @ Rs 551.84 / No						<b>Rs 36789.52</b>	
20	14.72 Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven story hight made with 40 mm dia. M.S. tube 1.5 m centre to centre, horizontal & vertical tubes joining with cup & lock system with M.S. tubes, M.S. tube challies, M.S. clamps and M.S. staricase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration as approved and removing it there after. The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required location with essential safety features for the workmen etc. complete as per directions and approval of Engineer- in Charge. The elevational area of the scaffolding shall be measured for payment purpose. The payment will be made once irrespective of duration of scaffolding. Note:- This item to be used for maintenance work judicially, necessary deduction for scaffolding in the existing item to be done .							
	for various work	1	3.140	6.000	8.000		150.720	
	Total Quantity						150.720 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						150.720 sqm	
	Say 150.720 sqm @ Rs 307.46 / sqm						<b>Rs 46340.37</b>	

## PRICE

EST NO:

21	13.7.1 12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 ( 1 cement : 3 fine sand)							
	BOTTOM OF WELL	1*2	3.14/4	5*5			39.250	
	INSIDE OF STEINING	1*2	3.140	5.000	10.000		314.000	
	WELL TOP	1*2	3.14/4	5.300	12.300		102.349	
	BEAM	2*4	12.100		2.000		193.600	
	COLUMN	4*2	0.900		10.000		72.000	
	WELL ABOVE GROUND OUTER	1*2	3.140	12.100	1.000		75.988	
	Total Quantity						797.187 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						797.187 sqm	
	Say 797.187 sqm @ Rs 406.24 / sqm						<b>Rs 323849.25</b>	
22	13.52.2 Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On concrete work							
	QTY SAME AS ABOVE	1*2	797.187				1594.374	
	Total Quantity						1594.374 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						1594.374 sqm	
	Say 1594.374 sqm @ Rs 225.70 / sqm						<b>Rs 359850.21</b>	
23	2.25 Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.							
		1*2	3.14/4	5.5*5.5	1.800		-85.486	
		1*2	5.400	5.400	1.800		104.977	
	Total Quantity						104.977 cum	
	Total Deducted Quantity						-85.486 cum	
	Net Total Quantity						19.491 cum	
	Say 19.491 cum @ Rs 261.81 / cum						<b>Rs 5102.94</b>	
24	od308632/2021_2022 Removal of excess earth by lorry for minimum mechanical conveyance and less cost of earth							
		1*2	150.000				300.000	

		Total Quantity					300.000 cum
		Total Deducted Quantity					0.000 cum
		Net Total Quantity					300.000 cum
		Say 300.000 cum @ Rs 143.06 / cum					<b>Rs 42918.00</b>
25	100.7.1 Bailing out water with 5 HP engine and pumpset including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete. NEW DATA (Prepared based on PHED SDB - Item No.1070)						
		6*2	5*0.746	100.000	8.000		35808.000
		Total Quantity					35808.000 Kwh
		Total Deducted Quantity					0.000 Kwh
		Net Total Quantity					35808.000 Kwh
		Say 35808.000 Kwh @ Rs 37.41 / Kwh					<b>Rs 1339577.28</b>
26	100.7.2 Bailing out water with engine and pumpset above 5 HP upto 10 HP including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete. NEW DATA (Prepared based on PHED SDB - Item No.1070)						
		8*2	10*0.746	90.000	8.000		85939.200
		Total Quantity					85939.200 Kwh
		Total Deducted Quantity					0.000 Kwh
		Net Total Quantity					85939.200 Kwh
		Say 85939.200 Kwh @ Rs 18.67 / Kwh					<b>Rs 1604484.86</b>
27	100.7.3 Bailing out water with engine and pumpset above 10 HP upto 20 HP including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete. NEW DATA (Prepared based on PHED SDB - Item No.1070)						
		8*2	20*0.746	90.000	8.000		171878.40 0
		Total Quantity					171878.400 Kwh
		Total Deducted Quantity					0.000 Kwh
		Net Total Quantity					171878.400 Kwh
		Say 171878.400 Kwh @ Rs 9.34 / Kwh					<b>Rs 1605344.26</b>
28	100.98.1008 Engaging Coolie						

		2*130					260.000	
	Total Quantity						260.000 Day	
	Total Deducted Quantity						0.000 Day	
	Net Total Quantity						260.000 Day	
	Say 260.000 Day @ Rs 889.78 / Day						<b>Rs 231342.80</b>	
Sl No	Description	No	L	B	D	CF	Quantity	Remark
<b>55 APP E - Laying Gravity sewer main &amp; Construction of manhole (Cost Index:37.29 %)</b>								
1	16.83 Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.							
	Tiled Road	1	7000.000	1.000		0.15	1050.000	
	manhole 1.2 mtr dia	1279	2.000	1.000		0.15	383.700	
	manhole 1.5 mtr dia	26	2.300	1.300		0.15	11.661	
	manhole 1.8 mtr dia	3	2.600	1.600		0.15	1.872	
	manhole 2.25mtr dia	29	3.050	2.050		0.15	27.199	
	Total Quantity						1474.432 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						1474.432 sqm	
	Say 1474.432 sqm @ Rs 112.10 / sqm						<b>Rs 165283.83</b>	
2	15.3 Demolishing R.C.C. work manually / by mechanical means including stacking of steel bars and disposal of unserviceable material with in 50 metres lead as per direction of Engineer -in-Charge.							
	15% of total qty of cutting							
	Concrete road	1	10000.000	1.000	0.150	0.15	225.000	
	Manhole 1.2 mtr dia	1279	2.000	1.000	0.150	0.15	57.555	
	Manhole 1.5 mtr dia	26	2.300	1.300	0.150	0.15	1.750	
	Manhole 1.8 mtr dia	3	2.600	1.600	0.150	0.15	0.281	
	Manhole 2.25 mtr dia	29	3.050	2.050	0.150	0.15	4.080	
	Total Quantity						288.666 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						288.666 cum	
	Say 288.666 cum @ Rs 3021.00 / cum						<b>Rs 872059.99</b>	
3	15.43.2							

	Dismantling manually / by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer -in-Charge:Bituminous road						
	BMBC Tar and road	1	13000.000	1.000		0.7	9100.000
	manhole 1.2 m dia	1279	2.000	1.000		0.7	1790.600
	manhole 1.5 m dia	26	2.300	1.300		0.7	54.418
	manhole 1.8 m dia	3	2.600	1.600		0.7	8.736
	MANHOLE 2.25M	29	3.050	2.050			181.323
	Total Quantity						11135.077 sqm
	Total Deducted Quantity						0.000 sqm
	Net Total Quantity						11135.077 sqm
	Say 11135.077 sqm @ Rs 365.47 / sqm						<b>Rs 4069536.59</b>
4	<p>100.1.1 Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :</p> <p>All kinds of soil (Ref. Item No. 2.10.1 of DSR)</p>						
	PIPE LINE	1	28621.000	2.000	1.500		85863.000
	MANHOLE PORTION	1324	1.000	1.000	1.500		-1986.000
	Total Quantity						85863.000 cum
	Total Deducted Quantity						-1986.000 cum
	Net Total Quantity						83877.000 cum
	Say 83877.000 cum @ Rs 562.48 / cum						<b>Rs 47179134.96</b>
5	<p>100.1.2 Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth exceeding 1.5m but not exceeding 3 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m: 1.50m to 3.0m</p> <p>All kinds of soil (Ref. Item No. 2.11 of DSR)</p>						
	PIPE LINE	1	10444.000	2.000	1.500		31332.000
	MAN HOLE	1324	1.000	1.000	1.500		-1986.000
	Total Quantity						31332.000 cum
	Total Deducted Quantity						-1986.000 cum



	Net Total Quantity						29346.000 cum	
	Say 29346.000 cum @ Rs 670.18 / cum						<b>Rs 19667102.28</b>	
6	<p>100.1.3 Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth exceeding 3m in depth but not exceeding 4.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m : 3.0m to 4.50m All kinds of soil (Ref. Item No. 2.12 of DSR)</p>							
	pipe line	1	3502.000	2.000	1.500		10506.000	
	manhole	1324	1.000	1.000	1.500		-1986.000	
	Total Quantity						10506.000 cum	
	Total Deducted Quantity						-1986.000 cum	
	Net Total Quantity						8520.000 cum	
	Say 8520.000 cum @ Rs 777.89 / cum						<b>Rs 6627622.80</b>	
7	<p>100.1.4 Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth exceeding 4.5m in depth but not exceeding 6 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m : 4.5m to 6.0m All kinds of soil. (Ref. Item No. 2.12 of DSR)</p>							
	PIPE LINE	1	464.000	2.000	1.500		1392.000	
	Total Quantity						1392.000 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						1392.000 cum	
	Say 1392.000 cum @ Rs 885.59 / cum						<b>Rs 1232741.28</b>	
8	<p>100.8.1 Fencing one side of trenches, 1.50 m height with two rows of 10 cm plastic caution tape in vertical casuarina pole (girth 15cm to 24cm) fixed at 2 m intervals. (Data Prepared based on PWD SDB - Item No.1009)</p>							
	Total length	2	10000.000				20000.000	
	Total Quantity						20000.000 metre	
	Total Deducted Quantity						0.000 metre	
	Net Total Quantity						20000.000 metre	
	Say 20000.000 metre @ Rs 28.24 / metre						<b>Rs 564800.00</b>	

9	100.8.2 Fencing 1.50m high with two rows of casuarina poles (girth 15cm to 24cm) tied with coir yarn on vertical casuarina pole (girth 15cm to 24cm) fixed at 1.5m intervals. NEW DATA (Prepared based on PWD SDB - Item No.1009)						
	Total length	2	19000.000				38000.000
						Total Quantity	38000.000 metre
						Total Deducted Quantity	0.000 metre
						Net Total Quantity	38000.000 metre
						Say 38000.000 metre @ Rs 97.20 / metre	<b>Rs 3693600.00</b>
10	2.16.1 Close timbering in trenches including strutting, shoring and packing cavities (wherever required) complete (Measurements to be taken of the face area timbered).Depth not exceeding 1.5m						
		2	20000.000		1.300		52000.000
						Total Quantity	52000.000 sqm
						Total Deducted Quantity	0.000 sqm
						Net Total Quantity	52000.000 sqm
						Say 52000.000 sqm @ Rs 154.86 / sqm	<b>Rs 8052720.00</b>
11	2.16.2 Close timbering in trenches including strutting, shoring and packing cavities (wherever required) complete (Measurements to be taken of the face area timbered).Depth exceeding 1.5 m but not exceeding 3 m						
		2	5000.000		0.690		6900.000
						Total Quantity	6900.000 sqm
						Total Deducted Quantity	0.000 sqm
						Net Total Quantity	6900.000 sqm
						Say 6900.000 sqm @ Rs 168.25 / sqm	<b>Rs 1160925.00</b>
12	2.16.3 Close timbering in trenches including strutting, shoring and packing cavities (wherever required) complete (Measurements to be taken of the face area timbered).Depth exceeding 3 m but not exceeding 4.5 m						
		2	3621.000		0.450		3258.900
						Total Quantity	3258.900 sqm
						Total Deducted Quantity	0.000 sqm
						Net Total Quantity	3258.900 sqm
						Say 3258.900 sqm @ Rs 198.52 / sqm	<b>Rs 646956.83</b>
13	100.10.7 Laying HDPE pipes (IS : 4984)on land portion including conveying within initial lead and aligning the pipes, electro-fusion welding using automatic or semi automatic electrofusion machines, testing the pipe						

	line thus fabricated to suit the hydraulic working pressure and after testing , aligning the pipeline, lowering the pipe in position into the trenches already made, testing the line to suitable pressure with potable water before back filling and leveling the trenches including all labour charge, hire for appliances etc. complete but excluding cost of pipe and fittings. 200 mm OD HDPE pipe NEW DATA							
	Main sewer line	1	27594.000				27594.000	
	Connection chamber to manhole	2*640	3.000				3840.000	
	Main sewer lines 1.2.m dia MH	1261	1.200				-1513.200	
	Total Quantity						31434.000 metre	
	Total Deducted Quantity						-1513.200 metre	
	Net Total Quantity						29920.800 metre	
	Say 29920.800 metre @ Rs 323.87 / metre						<b>Rs 9690449.50</b>	
14	100.98.140 Supply of PE Pipe, PE100, PN8, 200mm dia, conforming to IS 4984/2016.							
	200mm dia HDPE	1	29920.800				29920.800	
	Total Quantity						29920.800 metre	
	Total Deducted Quantity						0.000 metre	
	Net Total Quantity						29920.800 metre	
	Say 29920.800 metre @ Rs 1056.95 / metre						<b>Rs 31624789.56</b>	
15	100.10.9 Laying HDPE pipes (IS : 4984)on land portion including conveying within initial lead and aligning the pipes, electro-fusion welding using automatic or semi automatic electrofusion machines, testing the pipe line thus fabricated to suit the hydraulic working pressure and after testing , aligning the pipeline, lowering the pipe in position into the trenches already made, testing the line to suitable pressure with potable water before back filling and leveling the trenches including all labour charge, hire for appliances etc. complete but excluding cost of pipe and fittings. 250 mm OD HDPE pipe NEW DATA							
	Main sewer line	1	512.000				512.000	
	Connection chamber to manhole	2*30	3.000				180.000	
	Main sewer lines 1.5.m dia MH	30	1.500				-45.000	
	Total Quantity						692.000 metre	
	Total Deducted Quantity						-45.000 metre	

	Net Total Quantity						647.000 metre	
	Say 647.000 metre @ Rs 447.36 / metre						<b>Rs 289441.92</b>	
16	100.98.142 Supply of PE Pipe, PE100, PN8, 250mm dia, conforming to IS 4984/2016.							
	250 MM DIA HDPE	1	647.000				647.000	
	Total Quantity						647.000 metre	
	Total Deducted Quantity						0.000 metre	
	Net Total Quantity						647.000 metre	
	Say 647.000 metre @ Rs 1644.70 / metre						<b>Rs 1064120.90</b>	
17	100.10.11 Laying HDPE pipes (IS : 4984)on land portion including conveying within initial lead and aligning the pipes, electro-fusion welding using automatic or semi automatic electrofusion machines, testing the pipe line thus fabricated to suit the hydraulic working pressure and after testing , aligning the pipeline, lowering the pipe in position into the trenches already made, testing the line to suitable pressure with potable water before back filling and leveling the trenches including all labour charge, hire for appliances etc. complete but excluding cost of pipe and fittings. 315 mm OD HDPE pipe NEW DATA							
	Main sewer line	1	55.000				55.000	
	Connection chamber to manhole	2*4	3.000				24.000	
	Main sewer lines 1.8.m dia MH	4	1.800				-7.200	
	Total Quantity						79.000 metre	
	Total Deducted Quantity						-7.200 metre	
	Net Total Quantity						71.800 metre	
	Say 71.800 metre @ Rs 588.29 / metre						<b>Rs 42239.22</b>	
18	100.98.144 Supply of PE Pipe, PE100, PN8, 315mm dia, conforming to IS 4984/2016.							
	315 MMDIA HDPE	1	71.800				71.800	
	Total Quantity						71.800 metre	
	Total Deducted Quantity						0.000 metre	
	Net Total Quantity						71.800 metre	
	Say 71.800 metre @ Rs 2625.00 / metre						<b>Rs 188475.00</b>	
19	100.10.13 Laying HDPE pipes (IS : 4984)on land portion including conveying within initial lead and aligning the pipes, electro-fusion welding using automatic or semi automatic electrofusion machines, testing the pipe							

	line thus fabricated to suit the hydraulic working pressure and after testing , aligning the pipeline, lowering the pipe in position into the trenches already made, testing the line to suitable pressure with potable water before back filling and leveling the trenches including all labour charge, hire for appliances etc. complete but excluding cost of pipe and fittings. 400 mm OD HDPE pipe NEW DATA							
	Main sewer line	1	460.000				460.000	
	Connection chamber to manhole	2*29	3.000				174.000	
	Main sewer lines 2.25.m dia MH	29	2.250				-65.250	
	Total Quantity						634.000 metre	
	Total Deducted Quantity						-65.250 metre	
	Net Total Quantity						568.750 metre	
	Say 568.750 metre @ Rs 739.44 / metre						<b>Rs 420556.50</b>	
20	100.98.166 Supply of PE Pipe, PE100, PN10, 400mm dia, conforming to IS 4984/2016.							
	400 MM DIA HDPE	1	568.750				568.750	
	Total Quantity						568.750 metre	
	Total Deducted Quantity						0.000 metre	
	Net Total Quantity						568.750 metre	
	Say 568.750 metre @ Rs 5279.35 / metre						<b>Rs 3002630.31</b>	
21	4.1.5 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)							
	Bedding 200mmHDPE	1	27594.000	0.600	0.100		1655.640	
	Bedding 250mm DIA HDPE	1	512.000	0.600	0.100		30.720	
	Bedding 315mm diaHDPE	1	55.000	0.600	0.100		3.301	
	Bedding 400mm HDPE	1	460.000	0.600	0.100		27.600	
	Total Quantity						1717.261 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						1717.261 cum	
	Say 1717.261 cum @ Rs 7459.93 / cum						<b>Rs 12810646.85</b>	

22	100.7.1 Bailing out water with 5 HP engine and pumpset including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete. NEW DATA (Prepared based on PHED SDB - Item No.1070)							
	For pipe laying work and manhole work	5	5*0.746	8.000	1.000	180.0	26856.000	
	Total Quantity						26856.000 Kwh	
	Total Deducted Quantity						0.000 Kwh	
	Net Total Quantity						26856.000 Kwh	
	Say 26856.000 Kwh @ Rs 37.41 / Kwh						<b>Rs 1004682.96</b>	
23	100.7.2 Bailing out water with engine and pumpset above 5 HP upto 10 HP including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete. NEW DATA (Prepared based on PHED SDB - Item No.1070)							
	For pipe laying work and manhole work	5	10*0.746	8.000	1.000	90.0	26856.000	
	Total Quantity						26856.000 Kwh	
	Total Deducted Quantity						0.000 Kwh	
	Net Total Quantity						26856.000 Kwh	
	Say 26856.000 Kwh @ Rs 18.67 / Kwh						<b>Rs 501401.52</b>	
24	100.7.3 Bailing out water with engine and pumpset above 10 HP upto 20 HP including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete. NEW DATA (Prepared based on PHED SDB - Item No.1070)							
	For manhole & pipe laying	6	20*0.746	8.000		90.0	64454.400	
	Total Quantity						64454.400 Kwh	
	Total Deducted Quantity						0.000 Kwh	
	Net Total Quantity						64454.400 Kwh	
	Say 64454.400 Kwh @ Rs 9.34 / Kwh						<b>Rs 602004.10</b>	
25	100.98.1008 Engaging Coolie							
	Bailing out spring water and controlling traffic							
		7	180.000				1260.000	
	Total Quantity						1260.000 Day	

	Total Deducted Quantity						0.000 Day	
	Net Total Quantity						1260.000 Day	
	Say 1260.000 Day @ Rs 889.78 / Day						<b>Rs 1121122.80</b>	
26	2.6.1 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil							
	MANHOLES 1.20 m dia	805	2.000	2.000	1.500		4830.000	
	MANHOLES 1.50 m dia	10	2.000	2.000	1.500		60.000	
	CONNECTION DRAIN CHAMBER							
	TOTAL MANHOLES X 2 NOS SIZE 0.6 X 0.6 X 0.45	2*1337	1.200	1.200	0.650		2502.864	
	Bedding portion							
	200mm	1	27594.000	0.600	0.100	0.5	827.820	
	250MM	1	512.000	0.750	0.100	0.5	19.201	
	315mm	1	55.000	1.200	0.100	0.5	3.301	
	400mm	1	460.000	1.500	0.100	0.5	34.500	
	Total Quantity						8277.686 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						8277.686 cum	
	Say 8277.686 cum @ Rs 216.71 / cum						<b>Rs 1793857.33</b>	
27	od322627/2021_2022 Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, disposed earth to be levelled and neatly dressed for manhole.Second depth 1.5m to 3m							
	Man hole 200mm dia	322	2.000	2.000	1.500		1932.000	
	Man hole 250mm dia	7	2.000	2.000	1.500		42.000	
	Man hole 400mm dia	20	2.000	2.000	1.500		120.000	
	CONNECTION DRAIN CHAMBER							
	TOTAL MANHOLES X 2 NOS SIZE 0.6 X 0.6 X 0.45	2*1337	1.200	1.200	0.650		2502.864	

		Bedding portion							
	200mm	1	27594.000	0.600	0.100	0.5	827.820		
	250MM	1	512.000	0.750	0.100	0.5	19.201		
	315mm	1	55.000	1.200	0.100	0.5	3.301		
	400mm	1	460.000	1.500	0.100	0.5	34.500		
							Total Quantity	5481.686 cum	
							Total Deducted Quantity	0.000 cum	
							Net Total Quantity	5481.686 cum	
							Say 5481.686 cum @ Rs 324.42 / cum	<b>Rs 1778368.57</b>	
28	od286715/2021_2022 :Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, disposed earth to be levelled and neatly dressed for manhole. Third Depth 3m to 4.5m								
	MANHOLES 1.20 m dia	132	2.000	2.000	1.500		792.000		
	MANHOLES 1.50 m dia	8	2.000	2.000	1.500		48.000		
	manhole 1.8m dia	1	2.000	2.000	1.500		6.000		
	manhole 2.25m dia	8	2.000	2.000	1.500		48.000		
		Bedding portion							
	200mm	1	27594.000	0.600	0.100	0.2	331.128		
	250MM	1	528.000	0.750	0.100	0.2	7.921		
	315mm	1	55.000	1.200	0.100	0.2	1.321		
	400mm	1	444.000	1.500	0.100	0.2	13.321		
							Total Quantity	1247.691 cum	
							Total Deducted Quantity	0.000 cum	
							Net Total Quantity	1247.691 cum	
							Say 1247.691 cum @ Rs 432.12 / cum	<b>Rs 539152.23</b>	
29	od286738/2021_2022 :Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, disposed earth to be levelled and neatly dressed for manhole. Third Depth 4.5m to 6m								
	MANHOLES 1.20 m dia	20	2.000	2.000	1.500		120.000		
	MANHOLES 1.50 m dia	1	2.000	2.000	1.500		6.000		



	manhole 1.8m dia	2	2.000	2.000	1.500		12.000		
	manhole 2.25m dia	1	2.000	2.000	1.500		6.000		
	Bedding portion								
	200mm	1	27594.000	0.600	0.100	0.2	331.128		
	250MM	1	528.000	0.750	0.100	0.2	7.921		
	315mm	1	55.000	1.200	0.100	0.2	1.321		
	400mm	1	444.000	1.500	0.100	0.2	13.321		
	Total Quantity						497.691 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						497.691 cum		
	Say 497.691 cum @ Rs 432.12 / cum						<b>Rs 215062.23</b>		
30	<p>100.6.1            Providing steel sheet shoring to the sides of the trenches to depths of above 4.00 m but not exceeding 6.00m using 6 mm M.S. sheet 0.50 M wide stiffen on edges with 50 mm x 50mm x 6 mm M.S. angles driving down vertically on either side one after another in lines and levels with suitable pile driving equipments and accessories to a maximum depth of 0.50 M below the bottom of the proposed excavation 0.5 M above ground level suitably braced by horizontal walling pieces at 75 x 150 mm x 8 mm angles on either side at intervals not exceeding 1.50M and horizontal screw jack type struts at 1.50M intervals and maintaining the shoring till the pipes are laid and works are completed, dismantling, cleaning and restacking for reuse including all labour, hire charges and conveyance for equipments, tools and plants and sundries etc. complete.</p>								
	manholes 1.2m For manhole earth work excavation total area	1	4*2	1.000	400.000		3200.000		
	manholes 1.50m For manhole earth work excavation total area-total ht of manhole	1	4*2.30	1.000	34.000		312.800		
	manholes 1.80m For manhole earth work excavation total area-total ht of manhole forth depth well zone	1	4*2.60	1.000	15.000		156.000		

	manholes 2.25 m For manhole earth work excavation total area- total ht of manholeforth depth well zoneorth depth STP well zone	1	4*2.85	1.000	33.000		376.200		
	Total Quantity						4045.000 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						4045.000 sqm		
	Say 4045.000 sqm @ Rs 758.53 / sqm							<b>Rs 3068253.85</b>	
31	4.1.8 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)								
	manholes 1.2 m dia	1279	2.000	2.000	0.200		1023.200		
	manholes 1.5 m dia	26	2.300	2.300	0.200		27.508		
	manholes 1.8 m dia	3	2.600	2.600	0.200		4.057		
	manholes 2.25 m dia	29	3.050	3.050	0.200		53.955		
	Connection drain chamber / sewer line chamber								
	Total manhole 1337 X 2 Nos.	2	1.200	1.200	0.150	1337.0	577.584		
	Total Quantity						1686.304 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						1686.304 cum		
	Say 1686.304 cum @ Rs 6900.33 / cum							<b>Rs 11636054.08</b>	
32	5.1.2 Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and 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)								
	manholes 1.2 m dia-MAT	1279	1.800	1.800	0.150		621.594		
	manholes 1.5 m dia-MAT	26	2.100	2.100	0.150		17.199		
	manholes 1.8 m dia-MAT	3	2.400	2.400	0.150		2.592		
	manholes 2.25 m dia-MAT	29	2.850	2.850	0.150		35.333		

	manholes 1.2 m dia-COVER SLAB	1279	3.14/4	1.8*1.8	0.300		975.903	
	manholes 1.5 m dia-COVER SLAB	26	3.14/4	2.1*2.1	0.300		27.003	
	manholes 1.8 m dia-COVER SLAB	3	3.14/4	2.4*2.4	0.300		4.070	
	manholes 2.25 m dia-COVER SLAB	29	3.14/4	2.85*2.85	0.300		55.473	
Connection Drain chamber /Sewer line chamber								
	Manholes Total 1337*2 nos. MAT concrete	2*1337	1.000	1.000	0.100		267.401	
	Cover slab	2*1337	0.900	0.900	0.100		216.595	
	Side wall	2*1337	(2*0.6+2*0.8)	0.450	0.100		336.924	
Manhole cover opening deduction								
	Manhole 1.2 m cover opening	1279	3.14/4	0.5*0.5	0.300		-75.301	
	Manhole 1.5 m cover opening	26	3.14*4	0.5*0.5	0.300		-24.491	
	Manhole 1.8 m cover opening	3	3.14*4	0.5*0.5	0.300		-2.825	
	Manhole 2.25 m cover opening	29	3.14*4	0.5*0.5	0.300		-27.317	
Connection drain chamber /sewer line chamber								
	Pipe hole 110MM size	2*1324	3.140	0.110	0.110		-100.608	
Total Quantity							2560.087 cum	
Total Deducted Quantity							-230.542 cum	
Net Total Quantity							2329.545 cum	
Say 2329.545 cum @ Rs 9199.05 / cum							<b>Rs 21429600.93</b>	
33	5.9.1 Centering and shuttering including strutting, etc. and removal of form for: Foundations, footings, bases of columns, etc for mass concrete							
MANHOLE 1.2 M DIA-MAT								
		1279	4*1.8	1.000	0.150		1381.321	
MANHOLE 1.5 M DIA								
		26	4*2.1	1.000	0.150		32.760	

Man holes 1.8 m Dia MAT									
		3	4*2.4	1.000	0.150		4.320		
Manholes 2.25m Dia MAT									
		29	4*2.85	1.000	0.150		49.590		
Connection Drain chamber / Sewer line chamber									
	Total manhole1337*2 nos.	2	2.400	1.000	0.100	1337.0	641.760		
	Total Quantity						2109.751 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						2109.751 sqm		
	Say 2109.751 sqm @ Rs 339.52 / sqm						<b>Rs 716302.66</b>		
34	4.1.3 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:2:4 (cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)								
MANHOLE PIPE CHANNEL & SLANTED PORTION									
	1 . 2 M DIA MANHOLES	1279	3.14/4	1.6*1.6	0.250		642.570		
	1 . 5 M DIA MANHOLES	26	3.14/4	1.9*1.9	0.300		22.105		
	1 . 8 M DIA MANHOLES	3	3.14/4	2.2*2.2	0.350		3.990		
	2 . 2 5 M DIA MANHOLES	29	3.14/4	2.65*2.65	0.400		63.947		
	1.2m Dia hole pipe portion	1279	3.14/4	0.15*0.15	1/3		-7.530		
	Channel portion	1279	1.600	$\frac{(1.6+0.15)}{2}$	0.080		-143.248		
	1.5 m Dia hole pipe portion	26	3.14/4	0.15*0.15	1/3		-15.307		
	Channel portion	26	1.900	$\frac{(1.9+0.15)}{2}$	0.110		-5.569		
	1.8 m Dia hole pipe portion	3	3.14/4	0.15*0.15	1/3		-0.017		
	Channel portion	3	2.200	$\frac{(2.2+0.15)}{2}$	0.140		-1.085		

	2.25m Dia hole pipe portion	29	3.14/4	0.15*0.15	1/3		-0.170		
	Channel portion	29	2.650	(2.65+0.15)/2	0.170		-18.290		
	Total Quantity						732.612 cum		
	Total Deducted Quantity						-191.216 cum		
	Net Total Quantity						541.396 cum		
	Say 541.396 cum @ Rs 8091.05 / cum							<b>Rs 4380462.11</b>	
35	5.7 Reinforced cement concrete work in well - steining excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (Zone - III) : 3 graded stone aggregate 20 mm nominal size)								
	MANHOLES DIA 1.2M DIA-SIDE WALL-STEINING-TOTAL								
		1	1.000	(1.6*1.6-1.2*1.2)	2131.250		2387.001		
	MANHOLE 1.5 M DIA -SIDE WALL-STEINING-TOTAL								
		1	3.14/4	(1.9*1.9-1.5*1.5)	58.448		62.400		
	MANHOLES DIA1.8 M DIA-SIDE WALL-STEINING-TOTAL								
	MANHOLES DIA1.8 M DIA-SIDE WALL-STEINING-TOTAL	1	3.14/4	(2.2*2.2-1.8*1.8)	14.247		17.895		
	MANHOLE DIA2.25M DIA-SIDE WALL-STEINING-TOTAL	1	3.14/4	(2.65*2.65-2.25*2.25)	82.860		127.489		
	Total Quantity						2594.785 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						2594.785 cum		
	Say 2594.785 cum @ Rs 8665.06 / cum							<b>Rs 22483967.71</b>	
36	od287220/2021_2022 Centering and shuttering including strutting, propping etc. and removal of form for etc. for cover slab (Including 20% extra for circular works): Foundations, footings, bases of columns, etc for mass concrete								
	MANHOLE 1.2M DIA -COVER SLAB								
	MANHOLE DIA1.2M -COVER SLAB	1279	3.140	1.800	0.300		2168.673		

MANHOLE DIA1.2M - OPENING INCOVER SLAB	1279	3.140	0.560	0.300		674.699	
MANHOLE 1.5M DIA -COVER SLAB							
MANHOLE 1.5M DIA- COVER SLAB	26	3.140	2.100	0.300		51.434	
MANHOLE 1.5M DIA- OPENING INCOVER SLAB	26	3.140	0.560	0.300		13.716	
MANHOLE 1.8M DIA -COVER SLAB							
MANHOLE 1.8M DIA - COVER SLAB	3	3.140	2.400	0.300		6.783	
MANHOLE 1.8M DIA - OPENING IN COVER SLAB	3	3.140	0.560	0.300		1.583	
MANHOLE 2.25M DIA -COVER SLAB							
MANHOLE 2.25M DIA -COVER SLAB	29	3.140	2.850	0.300		77.857	
MANHOLE 2.25M DIA -OPENING INCOVER SLAB	29	3.140	0.560	0.300		15.299	
CONNECTION DRAIN CHAMBER/SEWER LINE CHAMBER							
MANHOLES TOTAL 1337X 2 NOS-MAT CONCRETE	2*1337	4*1	0.100			1069.601	
COVER SLAB	2*1337	4*0.9	0.100			962.641	
SIDE WALL TOTAL	2*1337	(4*0.8+4*0 .6)	0.450			6738.481	
Total Quantity						11780.767 sqm	
Total Deducted Quantity						0.000 sqm	
Net Total Quantity						11780.767 sqm	
Say 11780.767 sqm @ Rs 407.42 / sqm						<b>Rs 4799720.09</b>	
37	od287240/2021_2022 Centering and shuttering including strutting propping etc. and removal of form etc. well steining (Including 20% extra for circular works) 						
Man hole 1.2 &1.5 dia							
Man hole 1.2 dia side wall steining -TOTAL	1	3.140	1.600	2131.250		10707.401	

	INSIDE AREA	1	3.140	1.200	2131.250		8030.550		
	Man hole 1.5 dia side wall steining inside area	1	3.140	1.900	58.448		348.701		
	INSIDE AREA	1	3.140	1.500	58.448		275.291		
	MANHOLE 1.8M DIA-SIDE WALL STEINING								
	Man hole 1.8 dia side wall steining - Total	1	3.140	2.200	14.240		98.370		
	INSIDE AREA	1	3.140	1.800	14.240		80.485		
	MANHOLE 2.25M DIA-SIDE WALL STEINING								
	Man hole 2.25 dia side wall steining - Total	1	3.140	2.650	32.270		268.519		
	INSIDE AREA	1	3.140	2.250	32.270		227.988		
	Total Quantity						20037.305 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						20037.305 sqm		
	Say 20037.305 sqm @ Rs 303.38 / sqm						<b>Rs 6078917.59</b>		
38	5.22.4 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Hot rolled deformed bars								
	MANHOLE COVER AND BOTTOM ITEM NO.32	1	2329.545	1.000	1.000	80.0	186363.60 0		
	MANHOLE SIDE WALL ITEM NO.35	1	2594.785	1.000	1.000	80.0	207582.80 0		
	Total Quantity						393946.400 kilogram		
	Total Deducted Quantity						0.000 kilogram		
	Net Total Quantity						393946.400 kilogram		
	Say 393946.400 kilogram @ Rs 99.54 / kilogram						<b>Rs 39213424.66</b>		
39	13.9.1 Cement plaster 1:3 ( 1 cement : 3 coarse sand) finished with a floating coat of neat cement.12 mm cement plaster								
	MANHOLE 1.2 M DIA	1279	3.14/4	1.2*1.2	1.000		1445.782		
	CHANNEL	1279	3.14*2/3*0.15	1.200	1.000		481.928		
	MANHOLE 1.50M DIA	26	3.14/4	1.5*1.5	1.000		45.923		

## PRICE

EST NO:

	CHANNEL	26	3.14*2/3*0 .2	1.500	1.000		16.328		
	MANHOLE 1.80M DIA	3	3.14/4	1.8*1.8	1.000		7.631		
	CHANNEL	3	3.14*2/3*0 .25	1.800	1.000		2.826		
	MANHOLE 2.25M DIA	29	3.14/4	2.25*2.25	1.000		115.248		
	CHANNEL	29	3.14*2/3*0 .3	2.250	1.000		40.978		
	Total Quantity						2156.644 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						2156.644 sqm		
	Say 2156.644 sqm @ Rs 417.29 / sqm							<b>Rs 899945.97</b>	
40	<p>19.16 Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufactures permanent identification mark to be visible even after fixing including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 ( 1cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size)Complete as per design</p>								
	TOTAL MANHOLE 1337	1	8022.000	1.000			8022.000		
	Total Quantity						8022.000 No		
	Total Deducted Quantity						0.000 No		
	Net Total Quantity						8022.000 No		
	Say 8022.000 No @ Rs 551.84 / No							<b>Rs 4426860.48</b>	
41	<p>19.21.1 Making connection of drain or sewer line with existing manhole including breaking into and making good the walls, floors with cement concrete 1:2:4 mix( 1 cement:2 coarse sand: 4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3 ( 1 cement: 3 coarse sand) finished with a floating coat of neat cement and making necessary channels for the drain etc. complete.For pipes 100 to 250 mm diameter</p>								
		10					10.000		
	Total Quantity						10.000 No		
	Total Deducted Quantity						0.000 No		
	Net Total Quantity						10.000 No		
	Say 10.000 No @ Rs 743.08 / No							<b>Rs 7430.80</b>	



42	od289046/2021_2022 Conveying from casting yard and fixing the RCC cover slab of various size dia, 25cm thick including cost of 5kg cement/E							
	Total cover slab	1337					1337.000	
	Total Quantity						1337.000 tonne	
	Total Deducted Quantity						0.000 tonne	
	Net Total Quantity						1337.000 tonne	
	Say 1337.000 tonne @ Rs 9901.01 / tonne						<b>Rs 13237650.37</b>	
43	100.41.33 Supplying and fixing 500mm dia CI manhole cover with frame( medium duty) charges including all cost, labour charges etc complete.							
	MANHOLE COVER TOTAL							
		1337					1337.000	
	Total Quantity						1337.000 Nos	
	Total Deducted Quantity						0.000 Nos	
	Net Total Quantity						1337.000 Nos	
	Say 1337.000 Nos @ Rs 7601.20 / Nos						<b>Rs 10162804.40</b>	
44	2.25 Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.							
	MANHOLE EARTH WORK TOTAL	1	15504.000	1.000	1.000		15504.000	
	MANHOLE 1.2m DIA	1	3.14/4	1.6*1.6	2131.250		4282.961	
	MANHOLE 1.5m DIA	1	3.14/4	1.9*1.9	58.448		165.633	
	MANHOLE 1.8mDIA	1	3.14/4	2.2*2.2	14.240		54.104	
	MANHOLE 2.25 mDIA	1	3.14/4	2.65*2.65	32.270		177.894	
	Total Quantity						20184.592 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						20184.592 cum	
	Say 20184.592 cum @ Rs 261.81 / cum						<b>Rs 5284528.03</b>	
45	od289079/2021_2022 Removal of excess earth by lorry for minimum mechanical conveyance and less cost of earth							
	MANHOLE 1.2M FOUNDATION	1279	2.000	2.000	0.200		1023.200	

## PRICE

EST NO:

	MANHOLE 1.5M FOUNDATION	26	2.300	2.300	0.200		27.508		
	MANHOLE 1.8M FOUNDATION	3	2.600	2.600	0.200		4.057		
	MANHOLE 2.25 M FOUNDATION	29	2.900	2.900	0.200		48.779		
	MANHOLE 01.2M DIA-MAT	1279	1.800	1.800	0.150		621.594		
	MANHOLE 1.5M DIA-MAT	26	2.100	2.100	0.150		17.199		
	MANHOLE 1.8M DIA-MAT	3	2.400	2.400	0.150		2.592		
	MANHOLE 2.25M DIA-MAT	29	2.700	2.700	0.150		31.712		
	MANHOLE 1.2 M DIA-COVER SLAB	1279	3.14/4	1.8*1.8	0.300		975.903		
	MANHOLE 1.5M DIA-COVER SLAB	26	3.14/4	2.1*2.1	0.300		27.003		
	MANHOLE 1.8M DIA-COVER SLAB	3	3.14/4	2.4*2.4	0.300		4.070		
	MANHOLE 2.25M DIA-COVER SLAB	29	3.14/4	2.7*2.7	0.300		49.788		
	Total Quantity						2833.405 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						2833.405 cum		
	Say 2833.405 cum @ Rs 270.63 / cum						<b>Rs 766804.40</b>		
46	od289058/2021_2022 Providing protection works to the Electric post by using 3nos of Kattadi poles and removing the same after completion of work.								
	@	10				200.0	2000.000		
	Total Quantity						2000.000 No		
	Total Deducted Quantity						0.000 No		
	Net Total Quantity						2000.000 No		
	Say 2000.000 No @ Rs 1156.02 / No						<b>Rs 2312040.00</b>		
47	od289092/2021_2022 Providing protection works to avoid damages to the water supply lines etc. by using earth filled gunny bags and as temporary bund								

		1				2000.0	2000.000		
	Total Quantity						2000.000 No		
	Total Deducted Quantity						0.000 No		
	Net Total Quantity						2000.000 No		
	Say 2000.000 No @ Rs 3780.59 / No						<b>Rs 7561180.00</b>		
48	16.84	Laying old cement concrete interlocking paver blocks of any design/ shape laid in required line, level, curvature, colour and pattern over and including 50 mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. (Old CC paver blocks shall be supplied by the department free of cost.)							
	Tiled Road	1	7000.000	1.000	1.000	0.15	1050.000		
	manhole 1.2 mtr dia	1279	2.000	1.000	1.000	0.15	383.700		
	manhole 1.5 mtr dia	26	2.300	1.300	1.000	0.15	11.661		
	manhole 1.8 mtr dia	3	2.600	1.600	1.000	0.15	1.872		
	manhole 2.25mtr dia	29	3.050	2.050	1.000	0.15	27.199		
	Add 25 % for damage	1	1474.430			0.25	368.608		
	Total Quantity						1843.040 sqm		
	Total Deducted Quantity						0.000 sqm		
	Net Total Quantity						1843.040 sqm		
	Say 1843.040 sqm @ Rs 386.40 / sqm						<b>Rs 712150.66</b>		
49	5.1.3	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level:1:2:4 ( 1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)							
	15% of total qty of cutting								
	Concrete road	1	10000.000	1.000	0.150	0.15	225.000		
	Manhole 1.2 mtr dia	1279	2.000	1.000	0.150	0.15	57.555		
	Manhole 1.5 mtr dia	26	2.300	1.300	0.150	0.15	1.750		
	Manhole 1.8 mtr dia	3	2.600	1.600	0.150	0.15	0.281		
	Manhole 2.25 mtr dia	29	3.050	2.050	0.150	0.15	4.080		
	Add for wastage	1	50.000				50.000		
	Total Quantity						338.666 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						338.666 cum		
	Say 338.666 cum @ Rs 8696.15 / cum						<b>Rs 2945090.34</b>		

50	od289098/2021_2022 Supplying, conveying and laying 20/25mm dia PVC best quality Pipe, 10kg/cm <sup>2</sup> ,including specials for diverting near manholes							
	N O O F C O N N E C T I O N S	1500	2.000				3000.000	
	Total Quantity						3000.000 metre	
	Total Deducted Quantity						0.000 metre	
	Net Total Quantity						3000.000 metre	
	Say 3000.000 metre @ Rs 73.03 / metre						<b>Rs 219090.00</b>	
51	16.79 Providing , laying spreading and compacting graded stone aggregate ( size range 53 mm to 0.075 mm) to wet mix macadam (WMM) specification including premixing the material with water at OMC in mechanical mix plant, carriage of mixed material by tipper to site, for all leads & lifts, laying in uniform layers with mechanical paver finisher in sub - base / base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achieve the desired density, complete as per specifications and directions of Engineer - in- Charge.							
	BMBC Tar and road	1	13000.000	1.000	0.300	0.7	2730.000	
	manhole 1.2 m dia	1279	2.000	1.000	0.300	0.7	537.180	
	manhole 1.5 m dia	26	2.300	1.300	0.300	0.7	16.326	
	manhole 1.8 m dia	3	2.600	1.600	0.300	0.7	2.621	
	MANHOLE 2.25M	29	3.050	2.050	0.300		54.397	
	Total Quantity						3340.524 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						3340.524 cum	
	Say 3340.524 cum @ Rs 3148.13 / cum						<b>Rs 10516403.82</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>66 APP F-Laying Pumping Main (Cost Index:37.29 %)</b>								
1	15.43.2 Dismantling manually / by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer -in-Charge:Bituminous road							
	Well I to STP	1	3525.000	0.700			2467.500	
	Well II to STP	1	813.000	0.700			569.100	
	Well III to STP	1	1462.000	0.700			1023.400	
	Total Quantity						4060.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						4060.000 sqm	

	Say 4060.000 sqm @ Rs 365.47 / sqm						<b>Rs 1483808.20</b>	
2	<p>100.1.1 Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :</p> <p>All kinds of soil (Ref. Item No. 2.10.1 of DSR)</p>							
	Well I to STP	1	3525.000	0.700	1.300		3207.750	
	Well II to STP	1	813.000	0.700	1.300		739.830	
	Well III to STP	1	1462.000	0.700	1.300		1330.420	
	Total Quantity						5278.000 cum	
	Total Deducted Quantity						0.000 cum	
	Net Total Quantity						5278.000 cum	
	Say 5278.000 cum @ Rs 562.48 / cum						<b>Rs 2968769.44</b>	
3	<p>100.8.1 Fencing one side of trenches, 1.50 m height with two rows of 10 cm plastic caution tape in vertical casuarina pole (girth 15cm to 24cm) fixed at 2 m intervals. (Data Prepared based on PWD SDB - Item No.1009)</p>							
	Well I to STP	2	2000.000				4000.000	
	Well II to STP	2	400.000				800.000	
	Well III to STP	2	1000.000				2000.000	
	Total Quantity						6800.000 metre	
	Total Deducted Quantity						0.000 metre	
	Net Total Quantity						6800.000 metre	
	Say 6800.000 metre @ Rs 28.24 / metre						<b>Rs 192032.00</b>	
4	<p>100.8.2 Fencing 1.50m high with two rows of casuarina poles (girth 15cm to 24cm) tied with coir yarn on vertical casuarina pole (girth 15cm to 24cm) fixed at 1.5m intervals. NEW DATA (Prepared based on PWD SDB - Item No.1009)</p>							
	Well I to STP	2	1525.000				3050.000	
	Well II to STP	2	411.000				822.000	
	Well III to STP	2	462.000				924.000	
	Total Quantity						4796.000 metre	
	Total Deducted Quantity						0.000 metre	
	Net Total Quantity						4796.000 metre	

	Say 4796.000 metre @ Rs 97.20 / metre						<b>Rs 466171.20</b>	
5	2.16.1 Close timbering in trenches including strutting, shoring and packing cavities (wherever required) complete (Measurements to be taken of the face area timbered).Depth not exceeding 1.5m							
	Well I to STP	2	3525.000		1.200	0.6	5076.000	
	Well II STP	2	813.000		1.200	0.6	1170.720	
	Well III to STP	2	1462.000		1.200	0.6	2105.280	
	Total Quantity						8352.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						8352.000 sqm	
	Say 8352.000 sqm @ Rs 154.86 / sqm						<b>Rs 1293390.72</b>	
6	100.7.1 Bailing out water with 5 HP engine and pumpset including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete. NEW DATA (Prepared based on PHED SDB - Item No.1070)							
		5	5*0.746	8.000		28.0	4177.600	
	Total Quantity						4177.600 Kwh	
	Total Deducted Quantity						0.000 Kwh	
	Net Total Quantity						4177.600 Kwh	
	Say 4177.600 Kwh @ Rs 37.41 / Kwh						<b>Rs 156284.02</b>	
7	100.98.1008 Engaging Coolie							
	For controlling traffic and bailing out	1				100.0	100.000	
	Total Quantity						100.000 Day	
	Total Deducted Quantity						0.000 Day	
	Net Total Quantity						100.000 Day	
	Say 100.000 Day @ Rs 889.78 / Day						<b>Rs 88978.00</b>	
8	100.14.2 Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials : 150 mm dia Ductile Iron Class K-9 Pipes Data derived from 18.72.16 in DAR							
	Well III to STP	1	1462.000				1462.000	
	Total Quantity						1462.000 metre	

## PRICE

EST NO:

	Total Deducted Quantity						0.000 metre
	Net Total Quantity						1462.000 metre
	Say 1462.000 metre @ Rs 88.76 / metre						<b>Rs 129767.12</b>
9	100.98.116 Supply of DI K9 Pipe Conforming to IS 8329/2000, 150mm Dia.						
	150 mmDI k9	1	1462.000				1462.000
	Total Quantity						1462.000 metre
	Total Deducted Quantity						0.000 metre
	Net Total Quantity						1462.000 metre
	Say 1462.000 metre @ Rs 1673.35 / metre						<b>Rs 2446437.70</b>
10	100.14.3 Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials : 200 mm dia Ductile Iron Class K-9 Pipes Data derived from 18.72.17 in DAR						
	Well II to STP	1	813.000				813.000
	Well I to STP	1	613.000				613.000
	Total Quantity						1426.000 metre
	Total Deducted Quantity						0.000 metre
	Net Total Quantity						1426.000 metre
	Say 1426.000 metre @ Rs 123.63 / metre						<b>Rs 176296.38</b>
11	100.98.117 Supply of DI K9 Pipe Conforming to IS 8329/2000, 200mm Dia.						
	200 MMDIK9	1	1426.000				1426.000
	Total Quantity						1426.000 metre
	Total Deducted Quantity						0.000 metre
	Net Total Quantity						1426.000 metre
	Say 1426.000 metre @ Rs 2100.55 / metre						<b>Rs 2995384.30</b>
12	100.14.4 Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials : 250 mm dia Ductile Iron Class K-9 Pipes Data derived from 18.72.18 in DAR						
	WELL1 TO STP	1	2912.000				2912.000
	Total Quantity						2912.000 metre
	Total Deducted Quantity						0.000 metre

		Net Total Quantity						2912.000 metre
		Say 2912.000 metre @ Rs 165.09 / metre						<b>Rs 480742.08</b>
13	100.98.118 Supply of DI K9 Pipe Conforming to IS 8329/2000, 250mm Dia.							
		1	2912.000				2912.000	
		Total Quantity						2912.000 metre
		Total Deducted Quantity						0.000 metre
		Net Total Quantity						2912.000 metre
		Say 2912.000 metre @ Rs 2811.20 / metre						<b>Rs 8186214.40</b>
14	4.1.3 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:2:4 (cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)							
	To support delivery pipe	3*6	1.000	1.000	1.000		18.000	
	Header pipe	3*6	1.000	1.000	1.000		18.000	
		Total Quantity						36.000 cum
		Total Deducted Quantity						0.000 cum
		Net Total Quantity						36.000 cum
		Say 36.000 cum @ Rs 8091.05 / cum						<b>Rs 291277.80</b>
15	5.9.1 Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete							
	To support delivery pipe	2*6	6.000		1.000		72.000	
	Header pipe	2*6	12.000		1.000		144.000	
		Total Quantity						216.000 sqm
		Total Deducted Quantity						0.000 sqm
		Net Total Quantity						216.000 sqm
		Say 216.000 sqm @ Rs 339.52 / sqm						<b>Rs 73336.32</b>
16	5.22.4 Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth levelHot rolled deformed bars							
	A n c h o r block @ 50 kg / m <sup>3</sup>	1	36.000				36.000	
		Total Quantity						36.000 kilogram



Total Deducted Quantity							0.000 kilogram	
Net Total Quantity							36.000 kilogram	
Say 36.000 kilogram @ Rs 99.54 / kilogram							<b>Rs 3583.44</b>	
17	od310719/2021_2022 Supplying, conveying and laying 20/25mm dia PVC best quality Pipe, 10kg/cm2,including specials for diverting near manholes							
		2	100.000				200.000	
Total Quantity							200.000 metre	
Total Deducted Quantity							0.000 metre	
Net Total Quantity							200.000 metre	
Say 200.000 metre @ Rs 68.52 / metre							<b>Rs 13704.00</b>	
18	18.59.3 Providing and fixing C.I double acting air valve of approved quality with bolts, nuts, rubber insertion etc. complete ( The tail pieces, tapers etc. if required will be paid separately):100 mm dia							
		4					4.000	
Total Quantity							4.000 Nos	
Total Deducted Quantity							0.000 Nos	
Net Total Quantity							4.000 Nos	
Say 4.000 Nos @ Rs 9764.96 / Nos							<b>Rs 39059.84</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>77 APP G-Additional provision for headerpipes,valves,MH covers etc in pump house-3 pump houses</b>								
Lump-Sum Total							<b>Rs 300000.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>88 APP H-Supply ,erection,trial run and commissioning of pumpsets (Cost Index:37.29 %)</b>								
1	od310845/2021_2022 Supply, erection, testing, and commissioning of new generation non clog Submersible motor pump set having suitable discharge and head, including all accessories such as cost of the panel board with an ammeter, voltmeter, phase indicating lamps, change over switch, main switch, cost of soft starter, cable from panel board to starter, starter to motor, capacitors suction pipe, foot valve, Non return valve, suction and delivery pipes of required length, pressure gauge, earthing and wiring materials, cables etc. complete							
	well1	3	23.000				69.000	
Total Quantity							69.000 Hp	
Total Deducted Quantity							0.000 Hp	
Net Total Quantity							69.000 Hp	
Say 69.000 Hp @ Rs 18961.49 / Hp							<b>Rs 1308342.81</b>	

2	od310846/2021_2022 Supply, erection, testing, and commissioning of new generation non clog Submersible motor pump set having suitable discharge and head, including all accessories such as cost of the panel board with an ammeter, voltmeter, phase indicating lamps, change over switch, main switch, cost of soft starter, cable from panel board to starter, starter to motor, capacitors suction pipe, foot valve, Non return valve, suction and delivery pipes of required length, pressure gauge, earthing and wiring materials, cables etc. complete.								
	well II(4.5HP)	3	4.500					13.500	
	WELL III(5.5HP)	3	5.500					16.500	
	Total Quantity							30.000 Hp	
	Total Deducted Quantity							0.000 Hp	
	Net Total Quantity							30.000 Hp	
	Say 30.000 Hp @ Rs 21063.80 / Hp							<b>Rs 631914.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>99 APP I-Supplying and providing blower arrangement for aeration suitable to collection well and all installation charge and electrical fittings-2 Nos</b>									
Lump-Sum Total							<b>Rs 300000.00</b>		
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>1010 APP J-Supply and erection of 65kva diesel/petrol generator set-2 Nos</b>									
Lump-Sum Total							<b>Rs 1050000.00</b>		
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>1111 APP K- installations,earthing,cablling,control panel,electric connections,KSEB Documentations and supporting structures</b>									
Lump-Sum Total							<b>Rs 2000000.00</b>		
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>1212 APP L-Road restoration charges (Cost Index:37.29 %)</b>									
1	od310848/2021_2022 Shoulder Cutting								
Asper order No,GO(Ms)No.59/2020PWD Dtd30-07-2020 TvpmPW(H)D,Excluding GST									
		1	5000.000				5000.000		
	Total Quantity							5000.000 sqm	
	Total Deducted Quantity							0.000 sqm	
	Net Total Quantity							5000.000 sqm	
	Say 5000.000 sqm @ Rs 1587.49 / sqm							<b>Rs 7937450.00</b>	
2	od310849/2021_2022 Concrete road surface								
Asper order No,GO(Ms)No.59/2020PWD Dtd30-07-2020 TvpmPW(H)D,Excluding GST									

		1	10000.000				10000.000	
	Total Quantity						10000.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						10000.000 sqm	
	Say 10000.000 sqm @ Rs 4887.00 / sqm						<b>Rs 48870000.00</b>	
3	od310850/2021_2022 100mm thick interlocking tiled road surface							
	Asper order No,GO(Ms)No.59/2020PWD Dtd30-07-2020 TvpmPW(H)D,Excluding GST							
		1	7000.000				7000.000	
	Total Quantity						7000.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						7000.000 sqm	
	Say 7000.000 sqm @ Rs 3747.10 / sqm						<b>Rs 26229700.00</b>	
4	od310853/2021_2022 Tar road cut restoration charge							
	Asper order No,GO(Ms)No.59/2020PWD Dtd30-07-2020 TvpmPW(H)D,Excluding GST							
		1	13000.000				13000.000	
	Total Quantity						13000.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						13000.000 sqm	
	Say 13000.000 sqm @ Rs 3086.87 / sqm						<b>Rs 40129310.00</b>	
5	od310854/2021_2022 BM & BC road surface restoration charge							
	Asper order No,GO(Ms)No.59/2020PWD Dtd30-07-2020 TvpmPW(H)D,Excluding GST							
		1	13000.000				13000.000	
	Total Quantity						13000.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						13000.000 sqm	
	Say 13000.000 sqm @ Rs 3633.49 / sqm						<b>Rs 47235370.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>1313.APP M -Supply ,erection trail run &amp; commissioning of Pump sets at Lifting stations</b>								
Lump-Sum Total							<b>Rs 100000.00</b>	
Total							<b>574038190.00</b>	
Centage @							<b>10.0%</b>	

PRICE

EST NO:

Centage Amount	<b>57403819.00</b>
Provision for GST payments (in %) @	<b>18.0%</b>
Amount reserved for GST payments	<b>103326874.20</b>
Total & Centage	<b>734768883.19</b>
Lumpsum for round off	<b>231116.81</b>
<b>GRAND TOTAL Rs</b>	<b>735000000.00</b>
<b>Rounded Grand Total Rs 73,50,00,000</b>	
<b>Rupees Seventy Three Crore Fifty Lakh Only</b>	



Kerala Water Authority

**PRICE**

PRICE

EST NO:

General Abstract

**SUPPLY OF PUMPS AND OTHER MATERIALS FOR MBBR IN THIRUVALLA  
MUNICIPALITY**

(Dsr year: 2018)

SI No	Heading Description	Amount
1	<b>1. SUPPLY OF PUMPS &amp; OTHER MATERIALS FOR MBBR</b>	21352192.70
2	<b>Supply A nd Fitting Diesel Generator</b>	3716800.00
3	<b>Providing Solar Panel System</b>	2000000.00
4	<b>INSIDE ELECTRICAL WORKS,PANNEL BOARD AND COMPOUND LIGHTING ARRANGEMENTS</b>	2000000.00
5	<b>TRANSFORMER CONTROL ROOM &amp; GENERATOR ROOM</b>	500000.00
6	<b>INSTALLATION OF TRANSFORMER AND ELECTRICAL INSTALLATION WORKS</b>	6000000.00
7	<b>MISCELLANEOUSITEMS</b>	6053571.00
	Total	<b>41622563.70</b>
	Centage @	<b>0.0%</b>
	Centage Amount	<b>0.00</b>
	Provision for GST payments (in %) @	<b>12.0%</b>
	Amount reserved for GST payments	<b>4994707.64</b>
	Total & Centage	<b>46617271.34</b>
	Lumpsum for round off	<b>82728.66</b>
	<b>GRAND TOTAL Rs</b>	<b>46700000.00</b>
	<b>Rounded Grand Total Rs</b>	<b>4,67,00,000</b>
	<b>Rupees Four Crore Sixty Seven Lakh Only</b>	

## Detailed Estimate

**SUPPLY OF PUMPS AND OTHER MATERIALS FOR MBBR IN THIRUVALLA  
MUNICIPALITY**

(Dsr year: 2018)

SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>11. SUPPLY OF PUMPS &amp; OTHER MATERIALS FOR MBBR (Cost Index:37.29 %)</b>									
1	od324490/2021_2022 Supply , erection , testing and commissioning of new generation non clog submersible motor pump set having suitable discharge and head including all accessories such as cost of pannel board with ammeter ,volt meter ,phase indicating lamps ,change over switch ,main switch, cost of soft starter ,cable from pannel board to starter , starter to motor ,capacitors suction pipe ,foot valve , non return valve ,suction and delivery pipe of required length , pressure gauge ,earthing and wiring material etc.								
	Equalisation tank to MBBR-dis 57.87 lps-23m head	1	36.000				36.000	One for stand by	
	Pressure filter-dis 57.87 lps-44m head	1	67.000				67.000		
	Kerala Water Authority Total Quantity						103.000 No		
	Total Deducted Quantity						0.000 No		
	Net Total Quantity						103.000 No		
	Say 103.000 No @ Rs 580.75 / No						<b>Rs 59817.25</b>		
2	od324492/2021_2022 Mixing equipment -Supply,erection,testing znd commissionig of direct driven floating mixers of approximately 4HP or as required with the rotation arm for rated continuous duty mixing and efficiencycomplete with 3 phase motor,including rotory paddles,gear box,cables,wall mooring and anchoring system with all electro mechanical equipments etc complete for the denitrification tank of the proposed 5MLD STP.Electrical control panel shall be supplied with the pump as per the specification in the electrical BOQ or directed as per the department officers-Capacity 400 m3/hr,Motor4 HP three phase								
	Mixing equipment	1					1.000		
	Total Quantity						1.000 No		
	Total Deducted Quantity						0.000 No		
	Net Total Quantity						1.000 No		
	Say 1.000 No @ Rs 139380.00 / No						<b>Rs 139380.00</b>		
3	od324493/2021_2022 Filter feed pump- Supplying and fixing of mono block centrifugal pump,for rated continuous duty and best								

	efficiency CI construction ,CI Impeller,complete with 3 phase motor,FRP motorncover,presure gauge,operation on 415+/-10% volts,50 Hz,AC power supply etc including sluice valves,presure gauges,NRVs with DI/I/Pipes connecting common delivery suitable for complete in all respects as required by the standard specifications and shall suit following capacities complete with all accessories as per technical specification .Pumps shall have dry run protection \$high/low level alarm.Electrical control panel shall be supplied with the pump as per specification in the electrical BOQ.Capacity 250m/hrHead-30m						
	Filter feed pump	1					1.000
	Total Quantity						1.000 No
	Total Deducted Quantity						0.000 No
	Net Total Quantity						1.000 No
	Say 1.000 No @ Rs 871125.00 / No						<b>Rs 871125.00</b>
4	od324494/2021_2022 Air blower- Supply,erection,testing and commisioning of twin lobe air blower for indoor application complete with acoustic canopy,air filter ,motor of 1500 rpm,pulleys,presure gauge ,pressure relief valve,acoustic hood,suction silencer with suitable flanges ,common motor and compressor base frame with motor belt tightening specification as directed by engineer in charge Capacity-1800 m/hr Pressure -0.6kg/sqcm Motor :3 phase with IP68 Protection (2W+1S)^n						
	3 NOS Standby	6					6.000
	Total Quantity						6.000 No
	Total Deducted Quantity						0.000 No
	Net Total Quantity						6.000 No
	Say 6.000 No @ Rs 574942.50 / No						<b>Rs 3449655.00</b>
5	od324496/2021_2022 Bubble Diffuser for Equalisation tank Supplying at site ,erection ,testing \$commissioning of coarse bubble diffuser (retrievable type using rope and pulley) for the aeration system of the equailisation tank with diffusers of sufficient size and length made of EPDM make with SS tee 1mmx1mm.SS lifting hook 8mm,SS foundation bolt 6mm,SS C clamp suitable for 1mm OD hose.PP Rope,PPswivel nut .PPsleeve,Slicone washer,SShose clamp,RCC block complete at a minimum rating of 95m/hras per technical specification / directed by engineer in charge						
	Bubble Diffuser for Equalisation tank	3					3.000
	Total Quantity						3.000 No
	Total Deducted Quantity						0.000 No
	Net Total Quantity						3.000 No
	Say 3.000 No @ Rs 80724.25 / No						<b>Rs 242172.75</b>
6	od324497/2021_2022 Air grid pipe Supply and erection of air pipes(HDPE)into valves and other accessories as required for blowers to varioustanks as a complete unit						

	Air grid pipe	1					1.000		
	Total Quantity						1.000 set		
	Total Deducted Quantity						0.000 set		
	Net Total Quantity						1.000 set		
	Say 1.000 set @ Rs 174225.00 / set						<b>Rs 174225.00</b>		
7	od324498/2021_2022 Supply MBBR Media (size dia 25x4mm,hole numbers:64.Efficient surface area -1200m2/m3.density 0.96-0.98 g/cc,packing numbers >2,10000/m3.porosity >85%membrane forming ,Time-3-15 days,lifespan>15 years ,BOD Oxidation efficiency:2500-20,000 rpm,CODoxidation efficiency:2500-20,000 ppm,COD oxidation efficiency:2500-25000ppm								
	Supply MBBR Media	1	250.000				250.000		
	Total Quantity						250.000 cum		
	Total Deducted Quantity						0.000 cum		
	Net Total Quantity						250.000 cum		
	Say 250.000 cum @ Rs 34845.00 / cum						<b>Rs 8711250.00</b>		
8	od324499/2021_2022 Gas chlorinator system Supply at site,erection,testing and commissioning of electronic chlorine dosing system with all wetted parts in PP construction suitable for pumping chlorine gas including booster pumps,valves,suctions and delivery lines using heavy duty PVC tubes,gas line diffusers,emergency repairskit,FRP motor cover etccomplete with all accessories,Capacity500 gm to 1 kg/hr with 2 Nos of chlorine tonners								
	Gas chlorinator system	2					2.000		
	Total Quantity						2.000 set		
	Total Deducted Quantity						0.000 set		
	Net Total Quantity						2.000 set		
	Say 2.000 set @ Rs 464600.00 / set						<b>Rs 929200.00</b>		
9	od324500/2021_2022 Electromagnetic flow meter Supply ,installation,testing and commissioning of electro magnetic/ ultra sonic D/F permanent conduit flow meter with flow recorder,digital flow indicator,flow integrator with sensors,7 digit totaliser,transmittal and digital display arrangements and all accessories including housing arrangements,internal data logger, to save up to 2000 lines of data etc complete to fix as per the specifications.Flow range 0f 10 to 600 LPS, one displayshall be installed at the main control centre								
	Electromagnetic flow mete	2					2.000		
	Total Quantity						2.000 No		
	Total Deducted Quantity						0.000 No		
	Net Total Quantity						2.000 No		



	Say 2.000 No @ Rs 87112.50 / No						<b>Rs 174225.00</b>
10	od324501/2021_2022 Lifting mechanism for air grid Supply,installation &commissioning of the manually operating chain pulley mechanism to lift the equipment from height not less than 5m including all equipments, foundation etc						
	Lifting mechanism for air grid	5					5.000
	Total Quantity						5.000 No
	Total Deducted Quantity						0.000 No
	Net Total Quantity						5.000 No
	Say 5.000 No @ Rs 11615.00 / No						<b>Rs 58075.00</b>
11	od324502/2021_2022 SS GATES Supplying at site,installation testing and commissioning of all materials,fabricating,fixing and commissioning of spindle operated open channel sluice gates/shutter of DI make with a peak flow of 145LPS and velocity less than 1 m/s at the inlet & outlet of screen channel to suit the channel sizes as per the drawings,tender specifications and as directed by engineer in charge						
	SS GATES	8					8.000
	Total Quantity						8.000 No
	Total Deducted Quantity						0.000 No
	Net Total Quantity						8.000 No
	Say 8.000 No @ Rs 17422.50 / No						<b>Rs 139380.00</b>
12	od324503/2021_2022 SLUDGE THICKENER MECHANISM Supplying all materials,fabricating,fixing and commissioning of Bridge mounted central driven type sludge thickening mechanism for the full diameter of sludge thickener tank as per drawing including all feed well,drive and rake mechanism with removable scrapers with sufficient 3 phase motor and gears etc as per tender specification and as directed by engineer in charge						
	SLUDGE THICKENER MECHANISM	1					1.000
	Total Quantity						1.000 No
	Total Deducted Quantity						0.000 No
	Net Total Quantity						1.000 No
	Say 1.000 No @ Rs 313605.00 / No						<b>Rs 313605.00</b>
13	od324504/2021_2022 Poly Electrolyte dosing system Supplying and fixing of electronic dosing pump with all wetted parts in PP construction suitable for pumping poly electrolyte solution including cost of suitable agitators,control gears, valve,suction and delivery lines using heavy duty PVC tubes,HD,FRP motor cover etc and complete with all accessories to prepare 5% solution of 0.2kg/hr						

	Poly Electrolyte dosing system	2					2.000	
	Total Quantity						2.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						2.000 No	
	Say 2.000 No @ Rs 92920.00 / No						<b>Rs 185840.00</b>	
14	od324505/2021_2022 High Pressure Jet Pump Supply and commissioning of portable high pressure water pumps(along with 500 litre water tanks to supply water to all pumps)all mounted on a suitable medium vehicle platform for clearing wells,pumps and other equipments using high pressure gauges,safety arrangements etccomplete as per standards							
	High Pressure Jet Pump	1					1.000	
	Total Quantity						1.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						1.000 No	
	Say 1.000 No @ Rs 34845.00 / No						<b>Rs 34845.00</b>	
15	od324506/2021_2022 Portable Hoist-500 kg Supply and commissioningof portable monkey type hoist with capacity up to 500 kgwith lifting height of 6m,5 HPMotor415V50HZall mounted on a suitable medium vehicle platform for easy shifting of equipments and materials whenever required with complete setas per standards							
	Portable Hoist	1					1.000	
	Total Quantity						1.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						1.000 No	
	Say 1.000 No @ Rs 104535.00 / No						<b>Rs 104535.00</b>	
16	od324507/2021_2022 Wheel Barrow Supply of three wheel type wheel barrow of capacity 200 ltrs							
		1					1.000	
	Total Quantity						1.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						1.000 No	
	Say 1.000 No @ Rs 29037.50 / No						<b>Rs 29037.50</b>	
17	od324508/2021_2022 Plate Settler  Supplying and fixing SS plate SS306 for using plate settler (size 100 cmx90 cmx2,5mm) suitable for use in the water and wastetreatment plants to improve the quantity and qualityof sewerage treatment plants to improve the quantity and quality of sewerage treatmentas per the direction							

## PRICE

EST NO:

	of engineers							
	Total for secondary clarifier channel	1	1570.000				1570.000	
							Total Quantity	1570.000 No
							Total Deducted Quantity	0.000 No
							Net Total Quantity	1570.000 No
							Say 1570.000 No @ Rs 795.51 / No	<b>Rs 1248950.70</b>
18	od324509/2021_2022 Aluminum Ladder Supply, installation of aluminium with caging on each elevated structures of required height as per the drawing or as directed by engineer in charge							
		1	8.000				8.000	
							Total Quantity	8.000 No
							Total Deducted Quantity	0.000 No
							Net Total Quantity	8.000 No
							Say 8.000 No @ Rs 6969.00 / No	<b>Rs 55752.00</b>
19	od324510/2021_2022 FRP Ladder Supply installation of FRP ladders with caging on each elevated structures of required height as per the drawings or as directed by engineer in charge							
		1	3.000				3.000	
							Total Quantity	3.000 No
							Total Deducted Quantity	0.000 No
							Net Total Quantity	3.000 No
							Say 3.000 No @ Rs 34845.00 / No	<b>Rs 104535.00</b>
20	od324511/2021_2022 Monorail crane Supply, installation and commissioning in position mechanically operated mono rail crane of load bearing capacity of 2 tonnes suitable for operation on 415+/-10% volts.50 HZ, AC power supply etc with 6m lift & span upto 20m complete in all respects as required by standards complete with all accessories as per specification							
		1					1.000	
							Total Quantity	1.000 No
							Total Deducted Quantity	0.000 No
							Net Total Quantity	1.000 No
							Say 1.000 No @ Rs 406525.00 / No	<b>Rs 406525.00</b>
21	od324512/2021_2022 Pressure sand filter Supply at site erection and commissioning of pressure sand filter vertical type pressure vessel fabricated with MS construction with epoxy coating inside and anti corrosive treatment							

	outside,2 coats of paint outside withstand a minimum test pressure of 7 kg/cm with an operating pressure of 3.5 kg/cm complete with valves and dual filter media including graded pabble and sand and antracite.frontal piping.butterflyvalves.internals.pressure gauges.strainers.supporting structures etc and all other accessories tested twice complete as per specification or as directed by engineer in charge							
		3					3.000	
	Total Quantity						3.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						3.000 No	
	Say 3.000 No @ Rs 522675.00 / No						<b>Rs 1568025.00</b>	
22	od324513/2021_2022 Activated carbon filter Supply at site erection and commissioning of activated carbon filter vertical type pressure vessel fabricated with MS construction with epoxy coating inside and anti corrosive treatment outside,2 coats of paint outside withstand a minimum test pressure of 7 kg/cm with an operating pressure of 3.5 kg/cm complete with valves and filter media including activated carbon of approved grade and quality.frontal piping.butterflyvalves.internals.pressure gauges.strainers.supporting structures.backwash arrangement etc and all other accessories tested twice complete as per specification or as directed by engineer in charge.The scope shall include complete piping with MS fabricated pipes and specials including valves Flow rate-250 m/hr Dia-3m Height-2.5m							
		3					3.000	
	Total Quantity						3.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						3.000 No	
	Say 3.000 No @ Rs 551712.50 / No						<b>Rs 1655137.50</b>	
23	od324514/2021_2022 Centrifuge system Supply at site.installation and commissioning of filter press/centrifuge system.Filter press shall be automated recessed type press with SS fabricated structure pipe button surface and SS flat parallel bar with PP cloth.Filter operations to be mechanical .Outlet cake consistency should not be more than 35% moisture.The capacity of the filter press should be 1 cum/hr.The filter press unit shall be mounted on a platform and all around drain system to be provided to prevent the filtrate water contaminating the entire surroundings as per the specifications							
		2					2.000	
	Total Quantity						2.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						2.000 No	
	Say 2.000 No @ Rs 348450.00 / No						<b>Rs 696900.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>2Supply A nd Fitting Diesel Generator (Cost Index:37.29 %)</b>								

1	od324488/2021_2022 500 KVA Diesel generator providing,installing,testing and commissioning of silent type ,Diesel generating set along with having prime power rating 250 KVA,415 volts at 1500 RPM,0.8 lagging power factor at 415V suitable for 50 HZ,3Phase system& for 0.85 load factor								
		1						1.000	
Total Quantity								1.000 No	
Total Deducted Quantity								0.000 No	
Net Total Quantity								1.000 No	
Say 1.000 No @ Rs 3716800.00 / No								<b>Rs 3716800.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>3Providing Solar Panel System</b>									
Lump-Sum Total								<b>Rs 2000000.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>4INSIDE ELECTRICAL WORKS,PANNEL BOARD AND COMPOUND LIGHTING ARRANGEMENTS</b>									
Lump-Sum Total								<b>Rs 2000000.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>5TRANSFORMER CONTROL ROOM &amp; GENERATOR ROOM</b>									
Lump-Sum Total								<b>Rs 500000.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>6INSTALLATION OF TRANSFORMER AND ELECTRICAL INSTALLATION WORKS</b>									
Lump-Sum Total								<b>Rs 6000000.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>7MISCELLANEOUSITEMS</b>									
Lump-Sum Total								<b>Rs 6053571.00</b>	
Total								<b>41622563.70</b>	
Centage @								<b>0.0%</b>	
Centage Amount								<b>0.00</b>	
Provision for GST payments (in %) @								<b>12.0%</b>	
Amount reserved for GST payments								<b>4994707.64</b>	
Total & Centage								<b>46617271.34</b>	
Lumpsum for round off								<b>82728.66</b>	
<b>GRAND TOTAL Rs</b>								<b>46700000.00</b>	
<b>Rounded Grand Total Rs 4,67,00,000</b>									
<b>Rupees Four Crore Sixty Seven Lakh Only</b>									

## General Abstract

**SEWERAGE SCHEME TO THIRUVALLA MUNICIPALITY - CONSTRUCTION OF 5  
MLD CAPACITY SEWAGE TREATMENT PLANT AND LAYING SEWERAGE NET  
WORK TO THIRUVALLA MUNICIPALITY - O & M**

(Dsor year: 2018)

SI No	Heading Description	Amount
1	STP-Providing skilled and experienced personnals for the monitoring of the day to day operation and maintenance of the all systems for STP	5242615.45
2	STP-Periodical cleaning STP units	7480.00
3	STP-Upkeep of Civil structures, maintaining Landscaping etc.	140355.08
4	STP-Annual Chemicals charges	535276.00
5	STP-Major repairs and maintenance of Electro Mechanical work (Break down maintainence).	60000.00
6	STP-Others	2755965.00
7	STP-Annual Operation and Maintenance for 9 years (2nd year to 9th year)	77001078.71
8	Sewer- Operation and maintenance for one year	8374881.97
9	Sewer-O&M for 2nd year to 10th Year	93746209.39
	Total	<b>187863861.60</b>
	Centage @	<b>10.0%</b>
	Centage Amount	<b>18786386.16</b>
	Provision for GST payments (in %) @	<b>18.0%</b>
	Amount reserved for GST payments	<b>33815495.09</b>
	Total & Centage	<b>240465742.85</b>
	Lumpsum for round off	<b>0.00</b>
	<b>GRAND TOTAL Rs</b>	<b>240465742.85</b>
	<b>Rounded Grand Total Rs</b>	<b>24,04,65,743</b>
	<b>Rupees Twenty Four Crore Four Lakh Sixty Five Thousand Seven Hundred and Forty Three Only</b>	

## Detailed Estimate

**SEWERAGE SCHEME TO THIRUVALLA MUNICIPALITY - CONSTRUCTION OF 5  
MLD CAPACITY SEWAGE TREATMENT PLANT AND LAYING SEWERAGE NET  
WORK TO THIRUVALLA MUNICIPALITY - O & M**

(Dsor year: 2018)

Sl No	Description	No	L	B	D	CF	Quantity	Remark
<b>1STP-Providing skilled and experienced personnels for the monitoring of the day to day operation and maintenance of the all systems for STP (Cost Index:37.29 %)</b>								
1	od341341/2021_2022 Plant Manager							
		1	365.000				365.000	
							Total Quantity	365.000 Day
							Total Deducted Quantity	0.000 Day
							Net Total Quantity	365.000 Day
							Say 365.000 Day @ Rs 1563.28 / Day	<b>Rs 570597.20</b>
2	100.98.1030 Engaging Operator ( pile/ Special Machine)							
		3	365.000				1095.000	
							Total Quantity	1095.000 Day
							Total Deducted Quantity	0.000 Day
							Net Total Quantity	1095.000 Day
							Say 1095.000 Day @ Rs 1176.85 / Day	<b>Rs 1288650.75</b>
3	100.98.1032 Engaging Technician							
								Process Chemist(Call on duty)
	Single shift	1	365.000				365.000	
								Instrumentation technician(General shift)
		1	365.000				365.000	
							Total Quantity	730.000 Day
							Total Deducted Quantity	0.000 Day
							Net Total Quantity	730.000 Day
							Say 730.000 Day @ Rs 1235.82 / Day	<b>Rs 902148.60</b>
4	100.98.1009							

	Engaging Fitter ( grade 1)							
	Mechanic(General shift)	1	365.000				365.000	
	Total Quantity						365.000 Day	
	Total Deducted Quantity						0.000 Day	
	Net Total Quantity						365.000 Day	
	Say 365.000 Day @ Rs 1176.85 / Day						<b>Rs 429550.25</b>	
5	100.98.1008 Engaging Coolie							
	Sweeper/Cleaner(General shift)	3	365.000				1095.000	
	Total Quantity						1095.000 Day	
	Total Deducted Quantity						0.000 Day	
	Net Total Quantity						1095.000 Day	
	Say 1095.000 Day @ Rs 889.78 / Day						<b>Rs 974309.10</b>	
6	100.98.1036 Supply of Security Guard without gun.							
	Security guards							
		1*3	365.000				1095.000	
	Total Quantity						1095.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						1095.000 No	
	Say 1095.000 No @ Rs 983.89 / No						<b>Rs 1077359.55</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>2STP-Periodical cleaning STP units (Cost Index:37.29 %)</b>								
1	2.31 Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared							
		2	250.000				500.000	
	Total Quantity						500.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						500.000 sqm	
	Say 500.000 sqm @ Rs 14.96 / sqm						<b>Rs 7480.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark



3STP-Upkeep of Civil structures, maintaining Landscaping etc. (Cost Index:37.29 %)								
1	od341334/2021_2022 Maintaining the garden as per the direction of department officers							
	For each month for a year							
		1	12.000				12.000	
	Total Quantity						12.000 Month	
	Total Deducted Quantity						0.000 Month	
	Net Total Quantity						12.000 Month	
	Say 12.000 Month @ Rs 5264.39 / Month						<b>Rs 63172.68</b>	
2	13.99.1 Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade :One or more coats on old work							
		1	100.000				100.000	
	Total Quantity						100.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						100.000 sqm	
	Say 100.000 sqm @ Rs 95.28 / sqm						<b>Rs 9528.00</b>	
3	13.51.2 Painting with silicon & acrylic emulsion based water thinnable sealer of approved brand and manufacture on wet or patchy portion of plastered surfaces:Two coats							
	P a i n t i n g Area:2200m2. Two painting within O& M Period. Area= 2x2200/10=440m2 / year	1	440.000				440.000	
	Total Quantity						440.000 sqm	
	Total Deducted Quantity						0.000 sqm	
	Net Total Quantity						440.000 sqm	
	Say 440.000 sqm @ Rs 153.76 / sqm						<b>Rs 67654.40</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
4STP-Annual Chemicals charges (Cost Index:37.29 %)								
1	od341336/2021_2022 Supply of liquid chlorine in Tonne Cylinders (5 PPM dosage)							
		4	5.000	365.000			7300.000	
	Total Quantity						7300.000 kg	

							Total Deducted Quantity	0.000 kg	
							Net Total Quantity	7300.000 kg	
							Say 7300.000 kg @ Rs 26.45 / kg	<b>Rs 193085.00</b>	
2	od341337/2021_2022 Supply and delivery of Hydrated lime as per specification (7 PPM dosage)								
		4	7.000	365.000			10220.000		
							Total Quantity	10220.000 kg	
							Total Deducted Quantity	0.000 kg	
							Net Total Quantity	10220.000 kg	
							Say 10220.000 kg @ Rs 14.05 / kg	<b>Rs 143591.00</b>	
3	od341342/2021_2022 Supply and delivery of Alum at (7 PPM dosage) as per specification								
		4	7.000	365.000			10220.000		
							Total Quantity	10220.000 kg	
							Total Deducted Quantity	0.000 kg	
							Net Total Quantity	10220.000 kg	
							Say 10220.000 kg @ Rs 13.75 / kg	<b>Rs 140525.00</b>	
4	od341344/2021_2022 Other Chemicals								
		1					1.000		
							Total Quantity	1.000 L.S	
							Total Deducted Quantity	0.000 L.S	
							Net Total Quantity	1.000 L.S	
							Say 1.000 L.S @ Rs 58075.00 / L.S	<b>Rs 58075.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>5STP-Major repairs and maintenance of Electro Mechanical work (Break down maintenance). (Cost Index:37.29 %)</b>									
1	od341350/2021_2022 Repairs to Motor and Pumps, rewinding of motors and its assembly and putting into use for the break down maintenance for the pumps of the following considering the salvage values of the components.								
		1					1.000		
							Total Quantity	1.000 set	
							Total Deducted Quantity	0.000 set	
							Net Total Quantity	1.000 set	
							Say 1.000 set @ Rs 60000.00 / set	<b>Rs 60000.00</b>	

SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>6STP-Others (Cost Index:37.29 %)</b>									
1	od341340/2021_2022 Testing and calibration of electrical meters and relays,ammeter and voltmeters,cranes and hoists,testing of ELCB,testing of earth pit,testing and cathodic protection of MS line,environmental monitoring,sludge testing,transformer testing and other inspection charges payable to inspecting agencies excluding the Govt.agencies.								
		1					1.000		
		Total Quantity						1.000 No	
		Total Deducted Quantity						0.000 No	
		Net Total Quantity						1.000 No	
		Say 1.000 No @ Rs 5000.00 / No						<b>Rs 5000.00</b>	
2	od341348/2021_2022 Attending the repairs in the valves,actuators,electro magnetic flow meters and connected works								
		1					1.000		
		Total Quantity						1.000 No	
		Total Deducted Quantity						0.000 No	
		Net Total Quantity						1.000 No	
		Say 1.000 No @ Rs 5000.00 / No						<b>Rs 5000.00</b>	
3	od341349/2021_2022 Attending repairs in the E.O.T crane including changing of spare if any during servicing								
		1					1.000		
		Total Quantity						1.000 No	
		Total Deducted Quantity						0.000 No	
		Net Total Quantity						1.000 No	
		Say 1.000 No @ Rs 4000.00 / No						<b>Rs 4000.00</b>	
4	od341351/2021_2022 Transformer air filtration and topup oil in transformer,replacement of tap changing mechanism,replacement of dial thermometer,replacement of terminal bushes(HT),painting of the transformer etc.								
		1					1.000		
		Total Quantity						1.000 No	
		Total Deducted Quantity						0.000 No	
		Net Total Quantity						1.000 No	
		Say 1.000 No @ Rs 5000.00 / No						<b>Rs 5000.00</b>	
5	od341352/2021_2022								

	Attending emergency repair works in starter like replacement of fixed contacts,moving contacts,auxiliary contacts,replacement of over load relays,replacement of timer,no volt coil,repair work in switches like replacement of fixed contacts,moving contacts,fuse carrier sets.HRC fuse base and carriers,replacement of isolator,isolator bridges,repair of oil circuit breaker and air circuit breaker like replacement of fixed contacts,moving contacts,replacement of operating mechanism sets,tripping mechanism sets,no volt coils control circuit etc.						
		1					1.000
	Total Quantity						1.000 No
	Total Deducted Quantity						0.000 No
	Net Total Quantity						1.000 No
	Say 1.000 No @ Rs 5000.00 / No						<b>Rs 5000.00</b>
6	od341353/2021_2022 Hire charges of Tools and Plants required for the day to day operation of the Plant and equipment s						
		1					1.000
	Total Quantity						1.000 No
	Total Deducted Quantity						0.000 No
	Net Total Quantity						1.000 No
	Say 1.000 No @ Rs 5000.00 / No						<b>Rs 5000.00</b>
7	od341354/2021_2022 Supply and maintenance of emergency personal and fire fighting equipment s including periodical check up,refilling and getting sanction from concerned departments,license renewal etc except renewal of Factories and Boilers and Electrical Inspectorate						
		1					1.000
	Total Quantity						1.000 No
	Total Deducted Quantity						0.000 No
	Net Total Quantity						1.000 No
	Say 1.000 No @ Rs 5000.00 / No						<b>Rs 5000.00</b>
8	od341355/2021_2022 Repair and maintenance of control/instrumentation cabling,communication cabling,instrumentation cabling etc for the proper upkeep of SCADA and telemetry system including repair of all faulty components whenever necessary						
		1					1.000
	Total Quantity						1.000 No
	Total Deducted Quantity						0.000 No
	Net Total Quantity						1.000 No
	Say 1.000 No @ Rs 6000.00 / No						<b>Rs 6000.00</b>

9	od341356/2021_2022 Maintenance of SCADA system like Hardware including servers, printers, monitors etc for control room Scada, office stationary items. software for control room Scada, ups for control room including batteries, interface to regional telemetry system, etc including replacing of all faulty components whenever necessary							
		1					1.000	
	Total Quantity						1.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						1.000 No	
	Say 1.000 No @ Rs 8000.00 / No						<b>Rs 8000.00</b>	
10	od341357/2021_2022 Replacement of Catridge one time between 5 to 10 years							
		1					1.000	
	Total Quantity						1.000 L.S	
	Total Deducted Quantity						0.000 L.S	
	Net Total Quantity						1.000 L.S	
	Say 1.000 L.S @ Rs 40000.00 / L.S						<b>Rs 40000.00</b>	
11	od341347/2021_2022 Vehicle hire charges							
		12					12.000	
	Total Quantity						12.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						12.000 No	
	Say 12.000 No @ Rs 167256.00 / No						<b>Rs 2007072.00</b>	
12	od341358/2021_2022 Generator Fuel charges							
		1	100.000				100.000	
	Total Quantity						100.000 hour	
	Total Deducted Quantity						0.000 hour	
	Net Total Quantity						100.000 hour	
	Say 100.000 hour @ Rs 6608.93 / hour						<b>Rs 660893.00</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>7STP-Annual Operation and Maintenance for 9 years (2nd year to 9th year) (Cost Index:37.29 %)</b>								
1	od341346/2021_2022 Annual Operation and Maintenance for 9 years (2nd year to 9th year)							

	2 nd Year - Add 5 % to 1st year	1	1.050				1.050	
	3rd Year - Add 10 % to 1st year	1	1.100				1.100	
	4th Year - Add 15 % to 1st year	1	1.150				1.150	
	5th Year - Add 20 % to 1st year	1	1.200				1.200	
	6th Year - Add 25 % to 1st year	1	1.250				1.250	
	7th Year - Add 30 % to 1st year	1	1.300				1.300	
	8th Year - Add 35 % to 1st year	1	1.350				1.350	
	9th Year - Add 40 % to 1st year	1	1.400				1.400	
	10th Year - Add 45 % to 1st year	1	1.450				1.450	
	Total Quantity						11.250 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						11.250 No	
	Say 11.250 No @ Rs 6844540.33 / No						<b>Rs 77001078.71</b>	
SI No	Description	No	L	B	D	CF	Quantity	Remark
<b>8Sewer- Operation and maintenance for one year (Cost Index:37.29 %)</b>								
1	od341335/2021_2022 Labour for operation the well and connected works(Operator,Work assistant,fitter,electrician,Technician etc ) as per the direction of departmental officers.							
		1					1.000	
	Total Quantity						1.000 No	
	Total Deducted Quantity						0.000 No	
	Net Total Quantity						1.000 No	
	Say 1.000 No @ Rs 5904684.86 / No						<b>Rs 5904684.86</b>	
2	od341339/2021_2022 Annul maintenance( Day today if needed) of electrical, civil ,mechanical and other connected items and including replacement damaged of electrical , mechanical and civil, Including painting of items as per the direction of departmental officials							
		1					1.000	

PRICE

EST NO:

								Total Quantity	1.000 No
								Total Deducted Quantity	0.000 No
								Net Total Quantity	1.000 No
								Say 1.000 No @ Rs 929618.54 / No	<b>Rs 929618.54</b>
3	od341343/2021_2022 Consumable Cotton waste ,Lubricants (oil and Grease)soap ,chemicals,Glass ware,safety equipment & Devices, Cleaning etc.. for wet well and pumping station								
		1							1.000
								Total Quantity	1.000 No
								Total Deducted Quantity	0.000 No
								Net Total Quantity	1.000 No
								Say 1.000 No @ Rs 120000.00 / No	<b>Rs 120000.00</b>
4	od341345/2021_2022 Sewer line,well maintenance - Sewer cleaners including necessary accessories required for cleaning of sewer lines with safety equipment.								
		1							1.000
								Total Quantity	1.000 No
								Total Deducted Quantity	0.000 No
								Net Total Quantity	1.000 No
								Say 1.000 No @ Rs 1253322.57 / No	<b>Rs 1253322.57</b>
5	od341347/2021_2022 Vehicle hire charges								
		1							1.000
								Total Quantity	1.000 No
								Total Deducted Quantity	0.000 No
								Net Total Quantity	1.000 No
								Say 1.000 No @ Rs 167256.00 / No	<b>Rs 167256.00</b>
SI No	Description	No	L	B	D	CF	Quantity	Remark	
<b>9Sewer-O&amp;M for 2nd year to 10th Year (Cost Index:37.29 %)</b>									
1	od341338/2021_2022 Operation and Maintenance for 9 years (2nd year to 10th year)								
	2 nd Year - Add 5 % to 1st year	1	1.050				1.050		
	3rd Year - Add 10 % to 1st year	1	1.100				1.100		

4th Year - Add 15 % to 1st year	1	1.150				1.150	
5th Year - Add 20 % to 1st year	1	1.200				1.200	
6th Year - Add 25 % to 1st year	1	1.250				1.250	
7th Year - Add 30 % to 1st year	1	1.300				1.300	
8th Year - Add 35 % to 1st year	1	1.350				1.350	
9th Year - Add 40 % to 1st year	1	1.400				1.400	
10th Year - Add 45 % to 1st year	1	1.450				1.450	
Total Quantity						11.250 No	
Total Deducted Quantity						0.000 No	
Net Total Quantity						11.250 No	
Say 11.250 No @ Rs 8332996.39 / No						<b>Rs 93746209.39</b>	
Total						<b>187863861.60</b>	
Kerala Water Authority Centage @						<b>10.0%</b>	
Centage Amount						<b>18786386.16</b>	
Provision for GST payments (in %) @						<b>18.0%</b>	
Amount reserved for GST payments						<b>33815495.09</b>	
Total & Centage						<b>240465742.85</b>	
Lumpsum for round off						<b>0.00</b>	
<b>GRAND TOTAL Rs</b>						<b>240465742.85</b>	
<b>Rounded Grand Total Rs 24,04,65,743</b>							
<b>Rupees Twenty Four Crore Four Lakh Sixty Five Thousand Seven Hundred and Forty Three Only</b>							



# **DATA ANALYSIS**

## **MBBR**

## Site clearing and Levelling

1 Specification Code: 2.31

**2.31**

Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 100 sqm LABOUR:				
0114	Beldar	Day	1.08	558.00	602.64
0115	Coolie	Day	0.6	558.00	334.80
TOTAL					937.44
Add Water Charges @ 1%					9.37
TOTAL					946.81
Add CPOH @ 15%					142.02
TOTAL					1088.83
Cost of 100.0 sqm					1088.83
Kerala Water Authority Cost per sqm					10.89
Say					10.9

	Cost index	<b>37.29%</b>			4.06
	Total with Cost index				14.96

2 Specification Code: 2.33.1

**2.33**

Felling trees of the girth (measured at a height of 1 m above ground level) including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable material.

**2.33.1**

Beyond 30 cm girth up to and including 60 cm girth

Code	Description	Unit	Quantity	Rate	Amount
------	-------------	------	----------	------	--------

	Details of cost for one tree of 15cm dia and average height 3m LABOUR: quantity of wood- $3.14/4 \times 0.15 \times 0.15 \times 3 = 0.053$ cum. Add 20% for branches = 0.011cum. Total = 0.064 cum. Labour for cutting in trees removing the roots from the soil and then filling in Pit and depressions				
0114	Beldar	Day	0.33	558.00	184.14
0115	Coolie	Day	0.17	558.00	94.86
9999	Sundries-	L.S	2.73	2.00	5.46

	TOTAL	284.46
	Add Water Charges @ 1%	2.84
	TOTAL	287.30
	Add CPOH @ 15%	43.09
	TOTAL	330.39
	Cost of 1.0 each	330.39
	Say	330.4

	Cost index <b>37.29%</b>				123.21
	Total with Cost index				453.61

**3** Specification Code: 2.33.2

**2.33** Felling trees of the girth (measured at a height of 1 m above ground level) including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable material.

**2.33.2** Beyond 60 cm girth up to and including 120 cm girth

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for a tree of average girth 90cm, average dia .0.3m and length 5m LABOUR: quantity of wood- (22x0.3x0.3x5)/7x4 = 0.35 cum 20% branches = 0.07 cum Total = 0.42 cum Labour for cutting the trees and removing in roots from the soil filling in pit and the depresions				
0114	Beldar	Day	1.5	558.00	837.00
0115	Coolie	Day	0.75	558.00	418.50
9999	Sundries-	L.S	5.46	2.00	10.92
TOTAL					1266.42
Add Water Charges @ 1%					12.66
TOTAL					1279.08
Add CPOH @ 15%					191.86
TOTAL					1470.94
Cost of 1.0 each					1470.94
Say					1470.95

	Cost index <b>37.29%</b>				548.52
	Total with Cost index				2019.47

## 2.EQUALIZATION TANK

4 Specification Code: 2.6.1

### 2.6

Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5

m, disposed earth to be levelled and neatly dressed.

**2.6.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60
TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

	Cost index	<b>37.29%</b>			58.86
	Total with Cost index				216.71

5 Specification Code: 2.26.1

**2.26** Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials.

**2.26.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum LABOUR:				
0128	Mate	Day	0.1	617.00	61.70
0114	Beldar	Day	1.1	558.00	613.80
TOTAL					675.50
Add Water Charges @ 1%					6.75
TOTAL					682.25
Add CPOH @ 15%					102.34
TOTAL					784.59
Cost of 10.0 cum					784.59
Kerala Water Authority Cost per cum					78.46
Say					78.45

	Cost index	<b>37.29%</b>			29.25
	Total with Cost index				107.7

**6** Specification Code: 4.1.5

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5** 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				

0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL		4678.18
Add Water Charges @ 1%		46.78
TOTAL		4724.96
Add CPOH @ 15%		708.74
TOTAL		5433.70
Cost of 1.0 cum		5433.70
Say		5433.7

	Cost index	37.29%			2026.23
	Total with Cost index				7459.93

7 Specification Code: 5.37.2

5.37

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

5.37.2

All work above plinth level upto floor V level

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Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44



7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-Extra labour for lifting up to floor five level 0.75x 2.5 = 1.88	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL				7326.36
Add Water Charges @ 1%				73.26
TOTAL				7399.62
Add CPOH @ 15%				1109.94
TOTAL				8509.56
Cost of 1.0 cum				8509.56
Say				8509.55

	Cost index	<b>37.29%</b>			3173.21
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	Total with Cost index				11682.76
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**8** Specification Code: 5.37.1

**5.37**

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.1** All work upto plinth level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44

7318	Plasticizer / super plasticizer 0.50% of cement Production Cost, carriage to site pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.0	2.00	26.00

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TOTAL		6277.32
Add Water Charges @ 1%		62.77
TOTAL		6340.09
Add CPOH @ 15%		951.01
TOTAL		7291.10
Cost of 1.0 cum		7291.10
Say		7291.1

Cost index	<b>37.29%</b>			2718.85
Total with Cost index				10009.95

9 Specification Code: 5.34.1

**5.34**

Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.

**5.34.1**

Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum. Cement for M-30 mix = 0.340 t Cement for M-25 mix = 0.330 t Difference = 0.010 t				
0367	Portland Cement	tonne	0.01	4940.00	49.40
2209	Carriage of Cement Plasticizer for M-30 mix = 1.70 kg Plasticizer for M-25 mix = 1.65 kg Difference = 0.05 kg	tonne	0.01	92.24	0.92
7318	Plasticizer / super plasticizer	kilogram	0.05	36.00	1.80
TOTAL					52.12
Add Water Charges @ 1%					.52
TOTAL					52.64
Add CPOH @ 15%					7.90
TOTAL					60.54
Cost of 1.0 cum					60.54
Say					60.55

	Cost index	<b>37.29%</b>			22.58
	Total with Cost index				83.13

10 Specification Code: od326203/2021\_2022

od326203/2021\_2022 :Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level

Details of cost for 1 Quintel<br>Epoxy coated deformed twisted steel bar =1q,waistage = 5%,Total steel= 1.05q

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Epoxy coated deformed twisted steel bar	quintal	1.05000	5500.00	5775.00	
2205	Steel	tonne	0.10500	92.24	9.69	
9999	Sundries	L.S	26.00000	2.00	52.00	
MR	Blacksmith	Day	1.00000	487.00	487.00	
MR	Beldar	Day	1.00000	368.00	368.00	
MR	Bhisti	Day	0.90000	407.00	366.30	
9999	Sundries	L.S	26.91000	2.00	53.82	
TOTAL					7111.81	
Add Water Charges @ 1%					71.12	
Add CPOH @ 15%					1077.44	
cost for 100.0 kg					7111.81	
Kerala Water Authority cost for one kg					82.60	
say					82.60	
Cost index 37.29 %					.50	
Total with Cost index					83.1	

11 Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for footing size 2.7mx2.7mx 1.00m  Contact area = 10.8sqm  MATERIAL:  Assuming shuttering material will become unserviceable after use of 40 times  Adding for maintenance @ 10% of cost  Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm  Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	860.00	292.40
7326	<p>Corner angle 45x45x5 mm 1.50 m long  Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	240.00	20.40
7327	<p>100 mm channel shoulder 2.5 m long  Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)  Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	76.00	25.84
7329	<p>Single clip  Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	59.00	10.03
7330	<p>M.S. Tube 40 mm dia  Qty taken for cost of using once = <math>10.8 \times 0.85 / 40 = 0.2295</math></p>	metre	0.2295	215.00	49.34
9999	<p>Sundries-Assembly nuts 7 bolts  Qty taken for cost of using once = <math>1040 \times 0.85 / 40 = 22.10</math></p>	L.S	22.1	2.00	44.20
9977	<p>Carriage  LABOUR</p>	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00

PRICE

EST NO:

9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL					2299.41
Add Water Charges @ 1%					22.99
TOTAL					2322.40
Add CPOH @ 15%					348.36
TOTAL					2670.76
Cost of 10.8 sqm					2670.76
Cost per sqm					247.29
Say					247.3

		Cost index	<b>37.29%</b>			92.22
		Total with Cost index				339.52

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12 Specification Code: 5.9.2

**PRICE****SUBHEAD 5.0****REINFORCED CEMENT CONCRETE**

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for 7.9m long and 1.00m high wall Area of contact $2 \times 7.9 \times 1.0 = 15.8$ sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm $2 \times 3 \times 2 \times 2 = 24$ Nos. Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	860.00	438.60
7327	100 mm channel shoulder 2.5 m long $4 \times 2 = 8$ Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) $2 \times 6 \times 2 = 24$ Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	76.00	38.76
7329	Single clip $2 \times 3 \times 2 = 12$ Qty taken for cost of using once = $12 \times 0.85 / 40 = 0.255$	each	0.255	59.00	15.05
7330	M.S. Tube 40 mm dia $2 \times 2 \times 8 \text{m} = 32 \text{m}$ Qty taken for cost of using once = $32 \times 0.85 / 40 = 0.68$	metre	0.68	215.00	146.20
9999	Sundries-Qty taken for cost of using once = $1300 \times 0.85 / 40 = 27.62$	L.S	27.62	2.00	55.24
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00



9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Add CPOH @ 15%					1090.13
Cost of 15.8 Sq. m.					8357.64
Cost per 1 Sq. m.					528.96
Say					528.95

	Cost index	<b>37.29%</b>			197.25
	Total with Cost index				726.2

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13 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64

9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL					2547.60
Add Water Charges @ 1%					25.48
TOTAL					2573.08
Add CPOH @ 15%					385.96
TOTAL					2959.04
Cost of 10.0 sqm					2959.04
Cost per sqm					295.90
Say					295.9

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PRICE

Cost index <b>37.29%</b>					110.34
Total with Cost index					406.24

14 Specification Code: 13.52.2

**13.52** Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2** On concrete work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm PRIMING COAT MATERIAL:				

0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04
0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

TOTAL		1415.47
Add Water Charges @ 1%		14.15
TOTAL		1429.62
Add CPOH @ 15%		214.44
TOTAL		1644.06
Cost of 10.0 sqm		1644.06
Cost per sqm		164.41
Say		164.4

	Cost index	<b>37.29%</b>			61.30
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	Total with Cost index				225.7
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15 Specification Code: 22.23.1

**22.23** Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.1** For vertical surface two coats @ 0.70 kg per sqm

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral crystalline slurry x .70kg / sq.mtr. = 1.40kg) LABOUR	kilogram	1.4	238.00	333.20
9999	Sundries-For application of waterproofing material	L.S	11.55	2.00	23.10
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50
TOTAL					362.10
Add Water Charges @ 1%					3.62
TOTAL					365.72

	Add CPOH @ 15%	54.86
	TOTAL	420.58
	Cost of 1.0 sqm	420.58
	Say	420.6

	Cost index <b>37.29%</b>				156.84
	Total with Cost index				577.44

**16** Specification Code: 22.23.2

**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.2** For horizontal surface one coat @ 1.10 kg per sqm.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry (1 x 1.10kg / sq.mtr. = 1.10kg) LABOUR	kilogram	1.1	238.00	261.80

9999	Sundries-For application of waterproofing material	L.S	5.75	2.00	11.50
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50

TOTAL					279.10
Add Water Charges @ 1%					2.79
TOTAL					281.89
Add CPOH @ 15%					42.28
TOTAL					324.17
Cost of 1.0 sqm					324.17
Cost per sqm					324.17
Say					324.15

Cost index <b>37.29%</b>					120.88
Total with Cost index					445.03

### 3. MBBR TANK - 2Nos.

17 Specification Code: 2.6.1

**2.6** Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

**2.6.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				

0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60

TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

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PRICE

Cost index <b>37.29%</b>					58.86
Total with Cost index					216.71

18 Specification Code: 4.1.5

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5** 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				

0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL				4678.18
Add Water Charges @ 1%				46.78
TOTAL				4724.96
Add CPOH @ 15%				708.74
TOTAL				5433.70
Cost of 1.0 cum				5433.70
Say				5433.7



	Cost index	37.29%			2026.23
	Total with Cost index				7459.93

19 Specification Code: 5.37.1

5.37

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

5.37.1 All work upto plinth level

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Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44

7318	Plasticizer / super plasticizer 0.50% of cement Production Cost, carriage to site pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.0	2.00	26.00

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TOTAL		6277.32
Add Water Charges @ 1%		62.77
TOTAL		6340.09
Add CPOH @ 15%		951.01
TOTAL		7291.10
Cost of 1.0 cum		7291.10
Say		7291.1

Cost index	<b>37.29%</b>			2718.85
Total with Cost index				10009.95

20 Specification Code: 5.34.1

**5.34** Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.

**5.34.1** Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum. Cement for M-30 mix = 0.340 t Cement for M-25 mix = 0.330 t Difference = 0.010 t				
0367	Portland Cement	tonne	0.01	4940.00	49.40
2209	Carriage of Cement Plasticizer for M-30 mix = 1.70 kg Plasticizer for M-25 mix = 1.65 kg Difference = 0.05 kg	tonne	0.01	92.24	0.92
7318	Plasticizer / super plasticizer	kilogram	0.05	36.00	1.80
TOTAL					52.12
Add Water Charges @ 1%					.52
TOTAL					52.64
Add CPOH @ 15%					7.90
TOTAL					60.54
Cost of 1.0 cum					60.54
Say					60.55

	Cost index	<b>37.29%</b>			22.58
	Total with Cost index				83.13

21 Specification Code: od326203/2021\_2022

od326203/2021\_2022 :Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level

Details of cost for 1 Quintal<br>Epoxy coated deformed twisted steel bar =1q,waistage = 5%,Total steel= 1.05q

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Epoxy coated deformed twisted steel bar	quintal	1.05000	5500.00	5775.00	
2205	Steel	tonne	0.10500	92.24	9.69	
9999	Sundries	L.S	26.00000	2.00	52.00	
MR	Blacksmith	Day	1.00000	487.00	487.00	
MR	Beldar	Day	1.00000	368.00	368.00	
MR	Bhisti	Day	0.90000	407.00	366.30	
9999	Sundries	L.S	26.91000	2.00	53.82	
TOTAL					7111.81	
Add Water Charges @ 1%					71.12	
Add CPOH @ 15%					1077.44	
cost for 100.0 kg					7111.81	
Kerala Water Authority cost for one kg					82.60	
say					82.60	
Cost index 37.29 %					.50	
Total with Cost index					83.1	

22 Specification Code: 4.12

#### 4.12

Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for per bag 50 kg. of cement MATERIAL: Approved water proofing materials according to the recommended proportions				

1213	Water proofing materials	kilogram	1.0	35.00	35.00
9988	Carriage and sundries Carriage of water proofing material and labour for mixing	L.S	3.64	2.00	7.28

TOTAL					42.28
Add Water Charges @ 1%					.42
TOTAL					42.70
Add CPOH @ 15%					6.41
TOTAL					49.11
Cost of 50.0 kg					49.11
Cost per kg					.98
Say					1.0

Cost index <b>37.29%</b>					.37
Total with Cost index					1.37

**23** Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for footing size 2.7mx2.7mx 1.00m</p> <p>Contact area = 10.8sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	860.00	292.40
7326	<p>Corner angle 45x45x5 mm 1.50 m long</p> <p>Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	240.00	20.40
7327	<p>100 mm channel shoulder 2.5 m long</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	76.00	25.84
7329	<p>Single clip</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	59.00	10.03
7330	<p>M.S. Tube 40 mm dia</p> <p>Qty taken for cost of using once = <math>10.8 \times 0.85 / 40 = 0.2295</math></p>	metre	0.2295	215.00	49.34
9999	<p>Sundries-Assembly nuts 7 bolts</p> <p>Qty taken for cost of using once = <math>1040 \times 0.85 / 40 = 22.10</math></p>	L.S	22.1	2.00	44.20
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00

PRICE

EST NO:

9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL					2299.41
Add Water Charges @ 1%					22.99
TOTAL					2322.40
Add CPOH @ 15%					348.36
TOTAL					2670.76
Cost of 10.8 sqm					2670.76
Cost per sqm					247.29
Say					247.3

		Cost index	<b>37.29%</b>			92.22
		Total with Cost index				339.52

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24 Specification Code: 5.9.2

**PRICE****SUBHEAD 5.0****REINFORCED CEMENT CONCRETE**

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for 7.9m long and 1.00m high wall Area of contact <math>2 \times 7.9 \times 1.0 = 15.8</math> sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p><math>2 \times 3 \times 2 \times 2 = 24</math> Nos.</p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	860.00	438.60
7327	<p>100 mm channel shoulder 2.5 m long</p> <p><math>4 \times 2 = 8</math></p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p><math>2 \times 6 \times 2 = 24</math></p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	76.00	38.76
7329	<p>Single clip</p> <p><math>2 \times 3 \times 2 = 12</math></p> <p>Qty taken for cost of using once = <math>12 \times 0.85 / 40 = 0.255</math></p>	each	0.255	59.00	15.05
7330	<p>M.S. Tube 40 mm dia</p> <p><math>2 \times 2 \times 8 \text{m} = 32 \text{m}</math></p> <p>Qty taken for cost of using once = <math>32 \times 0.85 / 40 = 0.68</math></p>	metre	0.68	215.00	146.20
9999	<p>Sundries-Qty taken for cost of using once = <math>1300 \times 0.85 / 40 = 27.62</math></p>	L.S	27.62	2.00	55.24
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00



9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Add CPOH @ 15%					1090.13
Cost of 15.8 Sq. m.					8357.64
Cost per 1 Sq. m.					528.96
Say					528.95

	Cost index	<b>37.29%</b>			197.25
	Total with Cost index				726.2

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25 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64

9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL					2547.60
Add Water Charges @ 1%					25.48
TOTAL					2573.08
Add CPOH @ 15%					385.96
TOTAL					2959.04
Cost of 10.0 sqm					2959.04
Cost per sqm					295.90
Say					295.9

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Cost index <b>37.29%</b>					110.34
Total with Cost index					406.24

**26** Specification Code: 13.52.2

**13.52** Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2** On concrete work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm PRIMING COAT MATERIAL:				

0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04
0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

TOTAL		1415.47
Add Water Charges @ 1%		14.15
TOTAL		1429.62
Add CPOH @ 15%		214.44
TOTAL		1644.06
Cost of 10.0 sqm		1644.06
Cost per sqm		164.41
Say		164.4

	Cost index	<b>37.29%</b>			61.30
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	Total with Cost index				225.7
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**27** Specification Code: 22.23.1

**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.1** For vertical surface two coats @ 0.70 kg per sqm

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry x .70kg / sq.mtr. = 1.40kg) LABOUR	kilogram	1.4	238.00	333.20
9999	Sundries-For application of waterproofing material	L.S	11.55	2.00	23.10
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50
TOTAL					362.10
Add Water Charges @ 1%					3.62
TOTAL					365.72

	Add CPOH @ 15%	54.86
	TOTAL	420.58
	Cost of 1.0 sqm	420.58
	Say	420.6

	Cost index 37.29%				156.84
	Total with Cost index				577.44

28 Specification Code: 22.23.2

### 22.23

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.2** For horizontal surface one coat @ 1.10 kg per sqm.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry (1 x 1.10kg / sq.mtr. = 1.10kg) LABOUR	kilogram	1.1	238.00	261.80

9999	Sundries-For application of waterproofing material	L.S	5.75	2.00	11.50
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50

TOTAL					279.10
Add Water Charges @ 1%					2.79
TOTAL					281.89
Add CPOH @ 15%					42.28
TOTAL					324.17
Cost of 1.0 sqm					324.17
Cost per sqm					324.17
Say					324.15

Cost index <b>37.29%</b>					120.88
Total with Cost index					445.03

#### 4. SECONDARY CLARIFIER

**29** Specification Code: 2.6.1

**2.6** Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

**2.6.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				

0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60

TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

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Cost index <b>37.29%</b>					58.86
Total with Cost index					216.71

30 Specification Code: 4.1.5

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5** 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				

0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL	4678.18
Add Water Charges @ 1%	46.78
TOTAL	4724.96
Add CPOH @ 15%	708.74
TOTAL	5433.70
Cost of 1.0 cum	5433.70
Say	5433.7



	Cost index	37.29%			2026.23
	Total with Cost index				7459.93

**31** Specification Code: 5.37.2

**5.37**

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.2**

All work above plinth level upto floor V level

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Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44

7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-Extra labour for lifting up to floor five level 0.75x 2.5 = 1.88	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL				7326.36
Add Water Charges @ 1%				73.26
TOTAL				7399.62
Add CPOH @ 15%				1109.94
TOTAL				8509.56
Cost of 1.0 cum				8509.56
Say				8509.55

	Cost index	<b>37.29%</b>			3173.21
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	Total with Cost index				11682.76
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32 Specification Code: 5.34.1

**5.34**

Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.

**5.34.1**

Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum. Cement for M-30 mix = 0.340 t Cement for M-25 mix = 0.330 t Difference = 0.010 t				
0367	Portland Cement	tonne	0.01	4940.00	49.40
2209	Carriage of Cement Plasticizer for M-30 mix = 1.70 kg Plasticizer for M-25 mix = 1.65 kg Difference = 0.05 kg	tonne	0.01	92.24	0.92
7318	Plasticizer / super plasticizer	kilogram	0.05	36.00	1.80
TOTAL					52.12
Add Water Charges @ 1%					.52
TOTAL					52.64
Add CPOH @ 15%					7.90
TOTAL					60.54
Cost of 1.0 cum					60.54
Say					60.55

	Cost index <b>37.29%</b>				22.58
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	Total with Cost index				83.13
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33 Specification Code: od326203/2021\_2022

od326203/2021\_2022 :Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level

Details of cost for 1 Quintal<br>Epoxy coated deformed twisted steel bar =1q,waistage = 5%,Total steel= 1.05q

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Epoxy coated deformed twisted steel bar	quintal	1.05000	5500.00	5775.00	
2205	Steel	tonne	0.10500	92.24	9.69	
9999	Sundries	L.S	26.00000	2.00	52.00	
MR	Blacksmith	Day	1.00000	487.00	487.00	
MR	Beldar	Day	1.00000	368.00	368.00	
MR	Bhisti	Day	0.90000	407.00	366.30	
9999	Sundries	L.S	26.91000	2.00	53.82	
TOTAL					7111.81	
Add Water Charges @ 1%					71.12	
Add CPOH @ 15%					1077.44	
cost for 100.0 kg					7111.81	
cost for one kg					82.60	
say					82.60	

Cost index **37.29 %** .50

Total with Cost index 83.1

34 Specification Code: 4.12

#### 4.12

Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for per bag 50 kg. of cement MATERIAL: Approved water proofing materials according to the recommended proportions				
1213	Water proofing materials	kilogram	1.0	35.00	35.00
9988	Carriage and sundries Carriage of water proofing material and labour for mixing	L.S	3.64	2.00	7.28

	TOTAL	42.28
	Add Water Charges @ 1%	.42
	TOTAL	42.70
	Add CPOH @ 15%	6.41
	TOTAL	49.11
	Cost of 50.0 kg	49.11
	Cost per kg	.98
	Say	1.0

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	Cost index <b>37.29%</b>				.37
	Total with Cost index				1.37

**35** Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for footing size 2.7mx2.7mx 1.00m</p> <p>Contact area = 10.8sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	860.00	292.40
7326	<p>Corner angle 45x45x5 mm 1.50 m long</p> <p>Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	240.00	20.40
7327	<p>100 mm channel shoulder 2.5 m long</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	76.00	25.84
7329	<p>Single clip</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	59.00	10.03
7330	<p>M.S. Tube 40 mm dia</p> <p>Qty taken for cost of using once = <math>10.8 \times 0.85 / 40 = 0.2295</math></p>	metre	0.2295	215.00	49.34
9999	<p>Sundries-Assembly nuts 7 bolts</p> <p>Qty taken for cost of using once = <math>1040 \times 0.85 / 40 = 22.10</math></p>	L.S	22.1	2.00	44.20
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00

PRICE

EST NO:

9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL					2299.41
Add Water Charges @ 1%					22.99
TOTAL					2322.40
Add CPOH @ 15%					348.36
TOTAL					2670.76
Cost of 10.8 sqm					2670.76
Cost per sqm					247.29
Say					247.3

	Cost index	<b>37.29%</b>			92.22
	Total with Cost index				339.52

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36 Specification Code: 5.9.2

**PRICE****SUBHEAD 5.0****REINFORCED CEMENT CONCRETE**

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for 7.9m long and 1.00m high wall Area of contact <math>2 \times 7.9 \times 1.0 = 15.8</math> sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p><math>2 \times 3 \times 2 \times 2 = 24</math> Nos.</p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	860.00	438.60
7327	<p>100 mm channel shoulder 2.5 m long</p> <p><math>4 \times 2 = 8</math></p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p><math>2 \times 6 \times 2 = 24</math></p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	76.00	38.76
7329	<p>Single clip</p> <p><math>2 \times 3 \times 2 = 12</math></p> <p>Qty taken for cost of using once = <math>12 \times 0.85 / 40 = 0.255</math></p>	each	0.255	59.00	15.05
7330	<p>M.S. Tube 40 mm dia</p> <p><math>2 \times 2 \times 8 \text{m} = 32 \text{m}</math></p> <p>Qty taken for cost of using once = <math>32 \times 0.85 / 40 = 0.68</math></p>	metre	0.68	215.00	146.20
9999	<p>Sundries-Qty taken for cost of using once = <math>1300 \times 0.85 / 40 = 27.62</math></p>	L.S	27.62	2.00	55.24
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	<p>Fitter(grade1)</p>	Day	3.5	738.00	2583.00
0114	<p>Beldar</p>	Day	6.0	558.00	3348.00



9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Add CPOH @ 15%					1090.13
Cost of 15.8 Sq. m.					8357.64
Cost per 1 Sq. m.					528.96
Say					528.95

	Cost index	<b>37.29%</b>			197.25
	Total with Cost index				726.2

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37 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64

9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL					2547.60
Add Water Charges @ 1%					25.48
TOTAL					2573.08
Add CPOH @ 15%					385.96
TOTAL					2959.04
Cost of 10.0 sqm					2959.04
Cost per sqm					295.90
Say					295.9

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PRICE

Cost index <b>37.29%</b>					110.34
Total with Cost index					406.24

38 Specification Code: 13.52.2

**13.52** Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2** On concrete work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm PRIMING COAT MATERIAL:				

0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04
0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

TOTAL		1415.47
Add Water Charges @ 1%		14.15
TOTAL		1429.62
Add CPOH @ 15%		214.44
TOTAL		1644.06
Cost of 10.0 sqm		1644.06
Cost per sqm		164.41
Say		164.4

	Cost index	<b>37.29%</b>			61.30
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	Total with Cost index				225.7
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**39** Specification Code: 22.23.1

**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.1** For vertical surface two coats @ 0.70 kg per sqm

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry x .70kg / sq.mtr. = 1.40kg) LABOUR	kilogram	1.4	238.00	333.20
9999	Sundries-For application of waterproofing material	L.S	11.55	2.00	23.10
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50
TOTAL					362.10
Add Water Charges @ 1%					3.62
TOTAL					365.72

	Add CPOH @ 15%	54.86
	TOTAL	420.58
	Cost of 1.0 sqm	420.58
	Say	420.6

	Cost index <b>37.29%</b>				156.84
	Total with Cost index				577.44

**40** Specification Code: 22.23.2

**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.2** For horizontal surface one coat @ 1.10 kg per sqm.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry (1 x 1.10kg / sq.mtr. = 1.10kg) LABOUR	kilogram	1.1	238.00	261.80

9999	Sundries-For application of waterproofing material	L.S	5.75	2.00	11.50
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50

TOTAL					279.10
Add Water Charges @ 1%					2.79
TOTAL					281.89
Add CPOH @ 15%					42.28
TOTAL					324.17
Cost of 1.0 sqm					324.17
Cost per sqm					324.17
Say					324.15

Cost index <b>37.29%</b>					120.88
Total with Cost index					445.03

## 5. FILTER FEED TANK

41 Specification Code: 2.6.1

**2.6** Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

**2.6.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				

0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60

TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

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PRICE

Cost index <b>37.29%</b>					58.86
Total with Cost index					216.71

42 Specification Code: 4.1.5

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5** 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				

0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL				4678.18
Add Water Charges @ 1%				46.78
TOTAL				4724.96
Add CPOH @ 15%				708.74
TOTAL				5433.70
Cost of 1.0 cum				5433.70
Say				5433.7



	Cost index	37.29%			2026.23
	Total with Cost index				7459.93

43 Specification Code: 5.37.2

5.37

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

5.37.2

All work above plinth level upto floor V level

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Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44

7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-Extra labour for lifting up to floor five level 0.75x 2.5 = 1.88	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL				7326.36
Add Water Charges @ 1%				73.26
TOTAL				7399.62
Add CPOH @ 15%				1109.94
TOTAL				8509.56
Cost of 1.0 cum				8509.56
Say				8509.55

	Cost index	<b>37.29%</b>			3173.21
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	Total with Cost index				11682.76
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44 Specification Code: 5.34.1

**5.34**

Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.

**5.34.1**

Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum. Cement for M-30 mix = 0.340 t Cement for M-25 mix = 0.330 t Difference = 0.010 t				
0367	Portland Cement	tonne	0.01	4940.00	49.40
2209	Carriage of Cement Plasticizer for M-30 mix = 1.70 kg Plasticizer for M-25 mix = 1.65 kg Difference = 0.05 kg	tonne	0.01	92.24	0.92
7318	Plasticizer / super plasticizer	kilogram	0.05	36.00	1.80
TOTAL					52.12
Add Water Charges @ 1%					.52
TOTAL					52.64
Add CPOH @ 15%					7.90
TOTAL					60.54
Cost of 1.0 cum					60.54
Say					60.55

	Cost index <b>37.29%</b>				22.58
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	Total with Cost index				83.13
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45 Specification Code: od326203/2021\_2022

od326203/2021\_2022 :Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level

Details of cost for 1 Quintal<br>Epoxy coated deformed twisted steel bar =1q,waistage = 5%,Total steel= 1.05q

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Epoxy coated deformed twisted steel bar	quintal	1.05000	5500.00	5775.00	
2205	Steel	tonne	0.10500	92.24	9.69	
9999	Sundries	L.S	26.00000	2.00	52.00	
MR	Blacksmith	Day	1.00000	487.00	487.00	
MR	Beldar	Day	1.00000	368.00	368.00	
MR	Bhisti	Day	0.90000	407.00	366.30	
9999	Sundries	L.S	26.91000	2.00	53.82	
TOTAL					7111.81	
Add Water Charges @ 1%					71.12	
Add CPOH @ 15%					1077.44	
cost for 100.0 kg					7111.81	
cost for one kg					82.60	
say					82.60	

	Cost index <b>37.29 %</b>	.50
	Total with Cost index	83.1

46 Specification Code: 4.12

#### 4.12

Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .

Code	Description	Unit	Quantity	Rate	Amount
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PRICE

EST NO:

	Details of cost for per bag 50 kg. of cement MATERIAL: Approved water proofing materials according to the recommended proportions				
1213	Water proofing materials	kilogram	1.0	35.00	35.00
9988	Carriage and sundries Carriage of water proofing material and labour for mixing	L.S	3.64	2.00	7.28

	TOTAL	42.28
	Add Water Charges @ 1%	.42
	TOTAL	42.70
	Add CPOH @ 15%	6.41
	TOTAL	49.11
	Cost of 50.0 kg	49.11
	Cost per kg	.98
	Say	1.0

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**PRICE**

	Cost index <b>37.29%</b>				.37
	Total with Cost index				1.37

47 Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for footing size 2.7mx2.7mx 1.00m</p> <p>Contact area = 10.8sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	860.00	292.40
7326	<p>Corner angle 45x45x5 mm 1.50 m long</p> <p>Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	240.00	20.40
7327	<p>100 mm channel shoulder 2.5 m long</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	76.00	25.84
7329	<p>Single clip</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	59.00	10.03
7330	<p>M.S. Tube 40 mm dia</p> <p>Qty taken for cost of using once = <math>10.8 \times 0.85 / 40 = 0.2295</math></p>	metre	0.2295	215.00	49.34
9999	<p>Sundries-Assembly nuts 7 bolts</p> <p>Qty taken for cost of using once = <math>1040 \times 0.85 / 40 = 22.10</math></p>	L.S	22.1	2.00	44.20
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00

9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL					2299.41
Add Water Charges @ 1%					22.99
TOTAL					2322.40
Add CPOH @ 15%					348.36
TOTAL					2670.76
Cost of 10.8 sqm					2670.76
Cost per sqm					247.29
Say					247.3

		Cost index	<b>37.29%</b>			92.22
		Total with Cost index				339.52

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48 Specification Code: 5.9.2

**PRICE****SUBHEAD 5.0****REINFORCED CEMENT CONCRETE**

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for 7.9m long and 1.00m high wall Area of contact <math>2 \times 7.9 \times 1.0 = 15.8</math> sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p><math>2 \times 3 \times 2 \times 2 = 24</math> Nos.</p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	860.00	438.60
7327	<p>100 mm channel shoulder 2.5 m long</p> <p><math>4 \times 2 = 8</math></p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p><math>2 \times 6 \times 2 = 24</math></p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	76.00	38.76
7329	<p>Single clip</p> <p><math>2 \times 3 \times 2 = 12</math></p> <p>Qty taken for cost of using once = <math>12 \times 0.85 / 40 = 0.255</math></p>	each	0.255	59.00	15.05
7330	<p>M.S. Tube 40 mm dia</p> <p><math>2 \times 2 \times 8 \text{m} = 32 \text{m}</math></p> <p>Qty taken for cost of using once = <math>32 \times 0.85 / 40 = 0.68</math></p>	metre	0.68	215.00	146.20
9999	<p>Sundries-Qty taken for cost of using once = <math>1300 \times 0.85 / 40 = 27.62</math></p>	L.S	27.62	2.00	55.24
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00



9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Add CPOH @ 15%					1090.13
Cost of 15.8 Sq. m.					8357.64
Cost per 1 Sq. m.					528.96
Say					528.95

	Cost index	<b>37.29%</b>			197.25
	Total with Cost index				726.2

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<b>49</b> Specification Code: 13.7.1
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**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:

**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64

9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL					2547.60
Add Water Charges @ 1%					25.48
TOTAL					2573.08
Add CPOH @ 15%					385.96
TOTAL					2959.04
Cost of 10.0 sqm					2959.04
Cost per sqm					295.90
Say					295.9

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Cost index <b>37.29%</b>					110.34
Total with Cost index					406.24

50 Specification Code: 13.52.2

**13.52** Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2** On concrete work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm PRIMING COAT MATERIAL:				

0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04
0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

TOTAL		1415.47
Add Water Charges @ 1%		14.15
TOTAL		1429.62
Add CPOH @ 15%		214.44
TOTAL		1644.06
Cost of 10.0 sqm		1644.06
Cost per sqm		164.41
Say		164.4

	Cost index	<b>37.29%</b>			61.30
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	Total with Cost index				225.7
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51 Specification Code: 22.23.1

**22.23** Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.1** For vertical surface two coats @ 0.70 kg per sqm

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral crystalline slurry x .70kg / sq.mtr. = 1.40kg) LABOUR	kilogram	1.4	238.00	333.20
9999	Sundries-For application of waterproofing material	L.S	11.55	2.00	23.10
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50
TOTAL					362.10
Add Water Charges @ 1%					3.62
TOTAL					365.72

	Add CPOH @ 15%	54.86
	TOTAL	420.58
	Cost of 1.0 sqm	420.58
	Say	420.6

	Cost index 37.29%				156.84
	Total with Cost index				577.44

52 Specification Code: 22.23.2

### 22.23

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.2** For horizontal surface one coat @ 1.10 kg per sqm.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry (1 x 1.10kg / sq.mtr. = 1.10kg) LABOUR	kilogram	1.1	238.00	261.80

9999	Sundries-For application of waterproofing material	L.S	5.75	2.00	11.50
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50

TOTAL					279.10
Add Water Charges @ 1%					2.79
TOTAL					281.89
Add CPOH @ 15%					42.28
TOTAL					324.17
Cost of 1.0 sqm					324.17
Cost per sqm					324.17
Say					324.15

Cost index <b>37.29%</b>					120.88
Total with Cost index					445.03

## 6.TREATED WATER TANK

53 Specification Code: 2.6.1

**2.6** Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

**2.6.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				

0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60

TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

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Cost index <b>37.29%</b>					58.86
Total with Cost index					216.71

54 Specification Code: 4.1.5

**4.1**

Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5**

1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				

0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL		4678.18
Add Water Charges @ 1%		46.78
TOTAL		4724.96
Add CPOH @ 15%		708.74
TOTAL		5433.70
Cost of 1.0 cum		5433.70
Say		5433.7



	Cost index	37.29%			2026.23
	Total with Cost index				7459.93

55 Specification Code: 5.37.2

5.37

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

5.37.2 All work above plinth level upto floor V level

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Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44

7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-Extra labour for lifting up to floor five level 0.75x 2.5 = 1.88	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL				7326.36
Add Water Charges @ 1%				73.26
TOTAL				7399.62
Add CPOH @ 15%				1109.94
TOTAL				8509.56
Cost of 1.0 cum				8509.56
Say				8509.55

	Cost index	<b>37.29%</b>			3173.21
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	Total with Cost index				11682.76
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56 Specification Code: 5.34.1

**5.34**

Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.

**5.34.1**

Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum. Cement for M-30 mix = 0.340 t Cement for M-25 mix = 0.330 t Difference = 0.010 t				
0367	Portland Cement	tonne	0.01	4940.00	49.40
2209	Carriage of Cement Plasticizer for M-30 mix = 1.70 kg Plasticizer for M-25 mix = 1.65 kg Difference = 0.05 kg	tonne	0.01	92.24	0.92
7318	Plasticizer / super plasticizer	kilogram	0.05	36.00	1.80
TOTAL					52.12
Add Water Charges @ 1%					.52
TOTAL					52.64
Add CPOH @ 15%					7.90
TOTAL					60.54
Cost of 1.0 cum					60.54
Say					60.55

	Cost index <b>37.29%</b>				22.58
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	Total with Cost index				83.13
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57 Specification Code: od326203/2021\_2022

od326203/2021\_2022 :Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level

Details of cost for 1 Quintal<br>Epoxy coated deformed twisted steel bar =1q,waistage = 5%,Total steel= 1.05q

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Epoxy coated deformed twisted steel bar	quintal	1.05000	5500.00	5775.00	
2205	Steel	tonne	0.10500	92.24	9.69	
9999	Sundries	L.S	26.00000	2.00	52.00	
MR	Blacksmith	Day	1.00000	487.00	487.00	
MR	Beldar	Day	1.00000	368.00	368.00	
MR	Bhisti	Day	0.90000	407.00	366.30	
9999	Sundries	L.S	26.91000	2.00	53.82	
TOTAL					7111.81	
Add Water Charges @ 1%					71.12	
Add CPOH @ 15%					1077.44	
cost for 100.0 kg					7111.81	
cost for one kg					82.60	
say					82.60	

	Cost index <b>37.29 %</b>	.50
	Total with Cost index	83.1

58 Specification Code: 4.12

#### 4.12

Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for per bag 50 kg. of cement MATERIAL: Approved water proofing materials according to the recommended proportions				
1213	Water proofing materials	kilogram	1.0	35.00	35.00
9988	Carriage and sundries Carriage of water proofing material and labour for mixing	L.S	3.64	2.00	7.28

	TOTAL	42.28
	Add Water Charges @ 1%	.42
	TOTAL	42.70
	Add CPOH @ 15%	6.41
	TOTAL	49.11
	Cost of 50.0 kg	49.11
	Cost per kg	.98
	Say	1.0

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	Cost index <b>37.29%</b>				.37
	Total with Cost index				1.37

**59** Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for footing size 2.7mx2.7mx 1.00m</p> <p>Contact area = 10.8sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	860.00	292.40
7326	<p>Corner angle 45x45x5 mm 1.50 m long</p> <p>Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	240.00	20.40
7327	<p>100 mm channel shoulder 2.5 m long</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	76.00	25.84
7329	<p>Single clip</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	59.00	10.03
7330	<p>M.S. Tube 40 mm dia</p> <p>Qty taken for cost of using once = <math>10.8 \times 0.85 / 40 = 0.2295</math></p>	metre	0.2295	215.00	49.34
9999	<p>Sundries-Assembly nuts 7 bolts</p> <p>Qty taken for cost of using once = <math>1040 \times 0.85 / 40 = 22.10</math></p>	L.S	22.1	2.00	44.20
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00

PRICE

EST NO:

9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL					2299.41
Add Water Charges @ 1%					22.99
TOTAL					2322.40
Add CPOH @ 15%					348.36
TOTAL					2670.76
Cost of 10.8 sqm					2670.76
Cost per sqm					247.29
Say					247.3

	Cost index	<b>37.29%</b>			92.22
	Total with Cost index				339.52

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60 Specification Code: 5.9.2

**PRICE****SUBHEAD 5.0****REINFORCED CEMENT CONCRETE**

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for 7.9m long and 1.00m high wall Area of contact <math>2 \times 7.9 \times 1.0 = 15.8</math> sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p><math>2 \times 3 \times 2 \times 2 = 24</math> Nos.</p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	860.00	438.60
7327	<p>100 mm channel shoulder 2.5 m long</p> <p><math>4 \times 2 = 8</math></p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p><math>2 \times 6 \times 2 = 24</math></p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	76.00	38.76
7329	<p>Single clip</p> <p><math>2 \times 3 \times 2 = 12</math></p> <p>Qty taken for cost of using once = <math>12 \times 0.85 / 40 = 0.255</math></p>	each	0.255	59.00	15.05
7330	<p>M.S. Tube 40 mm dia</p> <p><math>2 \times 2 \times 8 \text{m} = 32 \text{m}</math></p> <p>Qty taken for cost of using once = <math>32 \times 0.85 / 40 = 0.68</math></p>	metre	0.68	215.00	146.20
9999	<p>Sundries-Qty taken for cost of using once = <math>1300 \times 0.85 / 40 = 27.62</math></p>	L.S	27.62	2.00	55.24
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00



9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Add CPOH @ 15%					1090.13
Cost of 15.8 Sq. m.					8357.64
Cost per 1 Sq. m.					528.96
Say					528.95

	Cost index	<b>37.29%</b>			197.25
	Total with Cost index				726.2

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61 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64

9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL					2547.60
Add Water Charges @ 1%					25.48
TOTAL					2573.08
Add CPOH @ 15%					385.96
TOTAL					2959.04
Cost of 10.0 sqm					2959.04
Cost per sqm					295.90
Say					295.9

Kerala Water Authority

PRICE

Cost index <b>37.29%</b>					110.34
Total with Cost index					406.24

62 Specification Code: 13.52.2

**13.52** Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2** On concrete work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm PRIMING COAT MATERIAL:				

0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04
0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

TOTAL		1415.47
Add Water Charges @ 1%		14.15
TOTAL		1429.62
Add CPOH @ 15%		214.44
TOTAL		1644.06
Cost of 10.0 sqm		1644.06
Cost per sqm		164.41
Say		164.4

	Cost index	<b>37.29%</b>			61.30
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	Total with Cost index				225.7
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63 Specification Code: 22.23.1

**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.1** For vertical surface two coats @ 0.70 kg per sqm

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry x .70kg / sq.mtr. = 1.40kg) LABOUR	kilogram	1.4	238.00	333.20
9999	Sundries-For application of waterproofing material	L.S	11.55	2.00	23.10
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50
TOTAL					362.10
Add Water Charges @ 1%					3.62
TOTAL					365.72

	Add CPOH @ 15%	54.86
	TOTAL	420.58
	Cost of 1.0 sqm	420.58
	Say	420.6

	Cost index <b>37.29%</b>				156.84
	Total with Cost index				577.44

**64** Specification Code: 22.23.2

**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.2** For horizontal surface one coat @ 1.10 kg per sqm.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry (1 x 1.10kg / sq.mtr. = 1.10kg) LABOUR	kilogram	1.1	238.00	261.80

9999	Sundries-For application of waterproofing material	L.S	5.75	2.00	11.50
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50

TOTAL					279.10
Add Water Charges @ 1%					2.79
TOTAL					281.89
Add CPOH @ 15%					42.28
TOTAL					324.17
Cost of 1.0 sqm					324.17
Cost per sqm					324.17
Say					324.15

Cost index <b>37.29%</b>					120.88
Total with Cost index					445.03

## 7.SLUDGE SUMP

65 Specification Code: 2.6.1

**2.6** Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

**2.6.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				

0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60

TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

Kerala Water Authority

PRICE

Cost index		<b>37.29%</b>			58.86
Total with Cost index					216.71

66 Specification Code: 2.26.1

**2.26** Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials.

**2.26.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum LABOUR:				
0128	Mate	Day	0.1	617.00	61.70

0114	Beldar	Day	1.1	558.00	613.80
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				TOTAL	675.50
				Add Water Charges @ 1%	6.75
				TOTAL	682.25
				Add CPOH @ 15%	102.34
				TOTAL	784.59
				Cost of 10.0 cum	784.59
				Cost per cum	78.46
				Say	78.45

	Cost index	<b>37.29%</b>			29.25
	Total with Cost index				107.7

<b>67</b> Specification Code: 4.1.5	Kerala Water Authority
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**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5** 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54



0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

				TOTAL	4678.18
				Add Water Charges @ 1%	46.78
				TOTAL	4724.96
				Add CPOH @ 15%	708.74
				TOTAL	5433.70
				Cost of 1.0 cum	5433.70
				Say	5433.7

	Cost index	<b>37.29%</b>			2026.23
	Total with Cost index				7459.93

68 Specification Code: 5.37.2

**5.37**

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in

transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.2** All work above plinth level upto floor V level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00

0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-Extra labour for lifting up to floor five level 0.75x 2.5 = 1.88	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

				TOTAL	7326.36
				Add Water Charges @ 1%	73.26
				TOTAL	7399.62
				Add CPOH @ 15%	1109.94
				TOTAL	8509.56
				Cost of 1.0 cum	8509.56
				Say	8509.55

	Cost index	37.29%			3173.21
	Total with Cost index				11682.76

69 Specification Code: 5.37.1

### 5.37

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per

mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.1** All work upto plinth level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.50% of cement Production Cost, carriage to site pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00

0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.0	2.00	26.00

TOTAL		6277.32
Add Water Charges @ 1%		62.77
TOTAL		6340.09
Add CPOH @ 15%		951.01
TOTAL		7291.10
Cost of 1.0 cum		7291.10
Kerala Water Authority Say		7291.1

PRICE

Cost index <b>37.29%</b>		2718.85
Total with Cost index		10009.95

**70** Specification Code: 5.34.1

**5.34**

Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.

**5.34.1**

Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).

Code	Description	Unit	Quantity	Rate	Amount
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PRICE

EST NO:

	Details of cost for 1 cum. Cement for M-30 mix = 0.340 t Cement for M-25 mix = 0.330 t Difference = 0.010 t				
0367	Portland Cement	tonne	0.01	4940.00	49.40
2209	Carriage of Cement Plasticizer for M-30 mix = 1.70 kg Plasticizer for M-25 mix = 1.65 kg Difference = 0.05 kg	tonne	0.01	92.24	0.92
7318	Plasticizer / super plasticizer	kilogram	0.05	36.00	1.80

	TOTAL	52.12
	Add Water Charges @ 1%	.52
	TOTAL	52.64
	Add CPOH @ 15%	7.90
	TOTAL	60.54
	Cost of 1.0 cum	60.54
	Say	60.55

Kerala Water Authority  
**PRICE**

	Cost index <b>37.29%</b>				22.58
	Total with Cost index				83.13

71 Specification Code: od326203/2021\_2022

od326203/2021\_2022 :Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level

Details of cost for 1 Quintel<br>Epoxy coated deformed twisted steel bar =1q,waistage = 5%,Total steel= 1.05q

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Epoxy coated deformed twisted steel bar	quintal	1.05000	5500.00	5775.00	

2205	Steel	tonne	0.10500	92.24	9.69	
9999	Sundries	L.S	26.00000	2.00	52.00	
MR	Blacksmith	Day	1.00000	487.00	487.00	
MR	Beldar	Day	1.00000	368.00	368.00	
MR	Bhisti	Day	0.90000	407.00	366.30	
9999	Sundries	L.S	26.91000	2.00	53.82	
TOTAL					7111.81	
Add Water Charges @ 1%					71.12	
Add CPOH @ 15%					1077.44	
cost for 100.0 kg					7111.81	
cost for one kg					82.60	
say					82.60	
Cost index <b>37.29 %</b>					.50	
Total with Cost index					83.1	

72 Specification Code: 4.12

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**4.12**

Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for per bag 50 kg. of cement MATERIAL: Approved water proofing materials according to the recommended proportions				
1213	Water proofing materials	kilogram	1.0	35.00	35.00
9988	Carriage and sundries Carriage of water proofing material and labour for mixing	L.S	3.64	2.00	7.28
TOTAL					42.28
Add Water Charges @ 1%					.42

PRICE

EST NO:

	TOTAL	42.70
	Add CPOH @ 15%	6.41
	TOTAL	49.11
	Cost of 50.0 kg	49.11
	Cost per kg	.98
	Say	1.0

	Cost index	37.29%				.37
	Total with Cost index					1.37

73 Specification Code: 5.9.2

**SUBHEAD 5.0****REINFORCED CEMENT CONCRETE**

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 7.9m long and 1.00m high wall Area of contact $2 \times 7.9 \times 1.0 = 15.8$ sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				



PRICE

EST NO:

7319	wall form panel 1250x500 mm 2x3x2x2 = 24 Nos. Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	860.00	438.60
7327	100 mm channel shoulder 2.5 m long 4x2 = 8 Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) 2x6x2 = 24 Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	76.00	38.76
7329	Single clip 2x3x2 = 12 Qty taken for cost of using once = $12 \times 0.85 / 40 = 0.255$	each	0.255	59.00	15.05
7330	M.S. Tube 40 mm dia 2x2x8m = 32m Qty taken for cost of using once = $32 \times 0.85 / 40 = 0.68$	metre	0.68	215.00	146.20
9999	Sundries-Qty taken for cost of using once = $1300 \times 0.85 / 40 = 27.62$	L.S	27.62	2.00	55.24
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Add CPOH @ 15%					1090.13

	Cost of 15.8 Sq. m.	8357.64
	Cost per 1 Sq. m.	528.96
	Say	528.95

	Cost index	<b>37.29%</b>				197.25
	Total with Cost index					726.2

74 Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for footing size 2.7mx2.7mx 1.00m Contact area = 10.8sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	860.00	292.40
7326	Corner angle 45x45x5 mm 1.50 m long Qty taken for cost of using once = $4 \times 0.85 / 40 = 0.085$	each	0.085	240.00	20.40
7327	100 mm channel shoulder 2.5 m long Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70

PRICE

EST NO:

7328	Double clip (bridge clip) Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	76.00	25.84
7329	Single clip Qty taken for cost of using once = $8 \times 0.85 / 40$ $= 0.17$	each	0.17	59.00	10.03
7330	M.S. Tube 40 mm dia Qty taken for cost of using once = $10.8 \times 0.85 / 40 = 0.2295$	metre	0.2295	215.00	49.34
9999	Sundries-Assembly nuts 7 bolts Qty taken for cost of using once = $1040 \times 0.85 / 40 = 22.10$	L.S	22.1	2.00	44.20
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00
9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

<b>PRICE</b>				TOTAL	2299.41
				Add Water Charges @ 1%	22.99
				TOTAL	2322.40
				Add CPOH @ 15%	348.36
				TOTAL	2670.76
				Cost of 10.8 sqm	2670.76
				Cost per sqm	247.29
				Say	247.3

	Cost index	<b>37.29%</b>			92.22
	Total with Cost index				339.52

75 Specification Code: 5.9.3

**SUBHEAD : 5.0****REINFORCED CEMENT CONCRETE****5.9** Centering and shuttering including strutting, etc. and removal of form for:**5.9.3** Suspended floors, roofs, landings, balconies and access platform

Code	Description	Unit	Quantity	Rate	Amount
	<p>Details of cost for a room <math>4.5 \times 3 = 13.50</math> sqm height 3.5 m MATERIAL: Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost 1. Plates (size <math>0.75 \times 0.60</math>) Angle <math>40 \times 40 \times 5</math> mm <math>2 \times 0.75 = 1.5</math> m <math>2 \times 0.60 = 1.20</math> m <math>= 2.70</math> m @ <math>3.00</math> kg/m = <math>8.10</math> kg sheet <math>1.6</math> mm thick <math>0.75 \times 0.60 = 0.45</math> sqm <math>0.45</math> sqm @ <math>12.55</math> kg/sqm = <math>5.65</math> kg Weight of one plate = <math>13.75</math> kg Add for wastage @ 5% = <math>0.69</math> kg Total = <math>14.44</math> kg Total weight of all plates = <math>5 \times 6 \times 14.44 = 433.20</math> kg. Qty taken for cost using once = <math>433.2 \times 0.85 / 40 = 9.2055</math> kg</p>				
10.1	Rate as per item Number 10.1 of SH: Steel Work	kilogram	9.2055	74.70	687.65(A)
7342	Adjustable span ESO+SI (2.35-3.40) Qty taken for cost using once = $5 \times 0.85 / 40 = 0.1063$	each	0.1063	1480.00	157.32

7343	Adjustable telescopic prop 3 m (2.02-3.75m) Qty taken for cost using once = $6 \times 0.85 / 40 = 0.1275$	each	0.1275	955.00	121.76
9999	Sundries - Assembly nut & bolts etc. Qty taken for cost using once = $1040 \times 0.85 / 40 = 22.10$	L.S	22.1	2.00	44.20
9999	Sundries - Carriage LABOUR: Fitter (grade 1)	L.S	130.0	2.00	260.00
0116	Fitter(grade1)	Day	3.0	738.00	2214.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries - Shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries - paper tape etc	L.S	49.7	2.00	99.40

AddWater Charges @ 1% except on A ie on ( 7088.33-687.65=6400.68 )				64.01
TOTAL				7152.34
AddCPOH @ 15% except on A ie on ( 7152.34-687.65=6464.69 )				969.70
TOTAL				8122.27
Cost of 13.5 sqm				8122.27
Cost of 1 sqm				601.65
Say				601.65

	Cost index	<b>37.29%</b>			224.36
	Total with Cost index				826.01

76 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:

**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12
TOTAL					2547.60
Add Water Charges @ 1%					25.48
TOTAL					2573.08
Add CPOH @ 15%					385.96
TOTAL					2959.04
Cost of 10.0 sqm					2959.04
Cost per sqm					295.90
Say					295.9

	Cost index <b>37.29%</b>				110.34
	Total with Cost index				406.24

## 8. SLUDGE THICKNER

77 Specification Code: 2.6.1

## 2.6

Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

## 2.6.1

All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60
TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

	Cost index	37.29%			58.86
	Total with Cost index				216.71

78 Specification Code: 4.1.5

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5** 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90



9999	Sundries-	L.S	13.52	2.00	27.04
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TOTAL					4678.18
Add Water Charges @ 1%					46.78
TOTAL					4724.96
Add CPOH @ 15%					708.74
TOTAL					5433.70
Cost of 1.0 cum					5433.70
Say					5433.7

Cost index		<b>37.29%</b>			2026.23
Total with Cost index					7459.93

79 Specification Code: 5.37.1

### 5.37

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

#### 5.37.1 All work upto plinth level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				

0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.50% of cement Production Cost, carriage to site pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.0	2.00	26.00

TOTAL				6277.32
Add Water Charges @ 1%				62.77
TOTAL				6340.09

	Add CPOH @ 15%	951.01
	TOTAL	7291.10
	Cost of 1.0 cum	7291.10
	Say	7291.1

	Cost index 37.29%				2718.85
	Total with Cost index				10009.95

80 Specification Code: 5.34.1

**5.34**

Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.

**5.34.1**

Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).

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Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum. Cement for M-30 mix = 0.340 t Cement for M-25 mix = 0.330 t Difference = 0.010 t				
0367	Portland Cement	tonne	0.01	4940.00	49.40
2209	Carriage of Cement Plasticizer for M-30 mix = 1.70 kg Plasticizer for M-25 mix = 1.65 kg Difference = 0.05 kg	tonne	0.01	92.24	0.92
7318	Plasticizer / super plasticizer	kilogram	0.05	36.00	1.80
TOTAL					52.12
Add Water Charges @ 1%					.52
TOTAL					52.64

	Add CPOH @ 15%	7.90
	TOTAL	60.54
	Cost of 1.0 cum	60.54
	Say	60.55

	Cost index 37.29%				22.58
	Total with Cost index				83.13

81 Specification Code: od326203/2021\_2022

od326203/2021\_2022 :Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level

Details of cost for 1 Quintel<br>Epoxy coated deformed twisted steel bar =1q,waistage = 5%,Total steel= 1.05q

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Epoxy coated deformed twisted steel bar	quintal	1.05000	5500.00	5775.00	
2205	Steel	tonne	0.10500	92.24	9.69	
9999	Sundries	L.S	26.00000	2.00	52.00	
MR	Blacksmith	Day	1.00000	487.00	487.00	
MR	Beldar	Day	1.00000	368.00	368.00	
MR	Bhisti	Day	0.90000	407.00	366.30	
9999	Sundries	L.S	26.91000	2.00	53.82	
TOTAL					7111.81	
Add Water Charges @ 1%					71.12	
Add CPOH @ 15%					1077.44	
cost for 100.0 kg					7111.81	
cost for one kg					82.60	
say					82.60	

Cost index <b>37.29 %</b>	.50
Total with Cost index	83.1

82 Specification Code: 4.12

**4.12**

Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for per bag 50 kg. of cement MATERIAL: Approved water proofing materials according to the recommended proportions				
1213	Water proofing materials	kilogram	1.0	35.00	35.00
9988	Carriage and sundries Carriage of water proofing material and labour for mixing	L.S	3.64	2.00	7.28
TOTAL					42.28
Add Water Charges @ 1%					.42
TOTAL					42.70
Add CPOH @ 15%					6.41
TOTAL					49.11
Cost of 50.0 kg					49.11
Cost per kg					.98
Say					1.0

Cost index <b>37.29%</b>					.37
Total with Cost index					1.37

83 Specification Code: 5.9.1
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**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for footing size 2.7mx2.7mx 1.00m Contact area = 10.8sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	860.00	292.40
7326	Corner angle 45x45x5 mm 1.50 m long Qty taken for cost of using once = $4 \times 0.85 / 40 = 0.085$	each	0.085	240.00	20.40
7327	100 mm channel shoulder 2.5 m long Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	76.00	25.84
7329	Single clip Qty taken for cost of using once = $8 \times 0.85 / 40$ $= 0.17$	each	0.17	59.00	10.03
7330	M.S. Tube 40 mm dia Qty taken for cost of using once = $10.8 \times 0.85 / 40 = 0.2295$	metre	0.2295	215.00	49.34

PRICE

EST NO:

9999	Sundries-Assembly nuts 7 bolts Qty taken for cost of using once = 1040x0.85/40 = 22.10	L.S	22.1	2.00	44.20
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00
9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL		2299.41
Add Water Charges @ 1%		22.99
TOTAL		2322.40
Add CPOH @ 15%		348.36
TOTAL		2670.76
Cost of 10.8 sqm		2670.76
Kerala Water Authority Cost per sqm		247.29
Say		247.3

	Cost index	37.29%			92.22
	Total with Cost index				339.52

84 Specification Code: 5.9.2

### SUBHEAD 5.0

### REINFORCED CEMENT CONCRETE

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 7.9m long and 1.00m high wall Area of contact $2 \times 7.9 \times 1.0 = 15.8$ sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm $2 \times 3 \times 2 \times 2 = 24$ Nos. Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	860.00	438.60
7327	100 mm channel shoulder 2.5 m long $4 \times 2 = 8$ Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) $2 \times 6 \times 2 = 24$ Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	76.00	38.76
7329	Single clip $2 \times 3 \times 2 = 12$ Qty taken for cost of using once = $12 \times 0.85 / 40 = 0.255$	each	0.255	59.00	15.05
7330	M.S. Tube 40 mm dia $2 \times 2 \times 8 \text{m} = 32 \text{m}$ Qty taken for cost of using once = $32 \times 0.85 / 40 = 0.68$	metre	0.68	215.00	146.20
9999	Sundries-Qty taken for cost of using once = $1300 \times 0.85 / 40 = 27.62$	L.S	27.62	2.00	55.24



9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries-shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Add CPOH @ 15%					1090.13
Cost of 15.8 Sq. m.					8357.64
Cost per 1 Sq. m.					528.96
Say					528.95

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	Cost index	37.29%			197.25
	Total with Cost index				726.2

85 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:

**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				

3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

	TOTAL	2547.60
	Add Water Charges @ 1%	25.48
	TOTAL	2573.08
	Add CPOH @ 15%	385.96
	TOTAL	2959.04
	Cost of 10.0 sqm	2959.04
	Cost per sqm	295.90
	Say	295.9

	Cost index	37.29%			110.34
	Total with Cost index				406.24

86 Specification Code: 13.52.2

**13.52**

Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

## 13.52.2 On concrete work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm PRIMING COAT MATERIAL:				
0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04
0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52
TOTAL					1415.47
Add Water Charges @ 1%					14.15
TOTAL					1429.62
Add CPOH @ 15%					214.44
TOTAL					1644.06

	Cost of 10.0 sqm	1644.06
	Cost per sqm	164.41
	Say	164.4

	Cost index	<b>37.29%</b>				61.30
	Total with Cost index					225.7

**87** Specification Code: 22.23.1

**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.1** For vertical surface two coats @0.70 kg per sqm

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry x .70kg / sq.mtr. = 1.40kg) LABOUR	kilogram	1.4	238.00	333.20

9999	Sundries-For application of waterproofing material	L.S	11.55	2.00	23.10
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50

TOTAL					362.10
Add Water Charges @ 1%					3.62
TOTAL					365.72
Add CPOH @ 15%					54.86
TOTAL					420.58
Cost of 1.0 sqm					420.58
Say					420.6

	Cost index	<b>37.29%</b>			156.84
	Total with Cost index				577.44

**88** Specification Code: 22.23.2

### 22.23

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.2** For horizontal surface one coat @1.10 kg per sqm.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry (1 x 1.10kg / sq.mtr. = 1.10kg) LABOUR	kilogram	1.1	238.00	261.80
9999	Sundries-For application of waterproofing material	L.S	5.75	2.00	11.50
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50
TOTAL					279.10
Add Water Charges @ 1%					2.79
TOTAL					281.89
Add CPOH @ 15%					42.28
TOTAL					324.17
Cost of 1.0 sqm					324.17
Cost per sqm					324.17
Say					324.15

	Cost index <b>37.29%</b>				120.88
	Total with Cost index				445.03

**9. THICKENED SLUDGE SUMP****89** Specification Code: 2.6.1**2.6**

Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5

m, disposed earth to be levelled and neatly dressed.

**2.6.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60
TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

	Cost index <b>37.29%</b>				58.86
	Total with Cost index				216.71

**90** Specification Code: 2.26.1

**2.26** Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials.

**2.26.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum LABOUR:				
0128	Mate	Day	0.1	617.00	61.70
0114	Beldar	Day	1.1	558.00	613.80
TOTAL					675.50
Add Water Charges @ 1%					6.75
TOTAL					682.25
Add CPOH @ 15%					102.34
TOTAL					784.59
Cost of 10.0 cum					784.59
Kerala Water Authority Cost per cum					78.46
Say					78.45

	Cost index	<b>37.29%</b>			29.25
	Total with Cost index				107.7

**91** Specification Code: 4.1.5

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5** 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				



0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL				4678.18
Add Water Charges @ 1%				46.78
TOTAL				4724.96
Add CPOH @ 15%				708.74
TOTAL				5433.70
Cost of 1.0 cum				5433.70
Say				5433.7

	Cost index	37.29%			2026.23
	Total with Cost index				7459.93

92 Specification Code: 5.37.1

**5.37**

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.1** All work upto plinth level

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Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44

7318	Plasticizer / super plasticizer 0.50% of cement Production Cost, carriage to site pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.0	2.00	26.00

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TOTAL		6277.32
Add Water Charges @ 1%		62.77
TOTAL		6340.09
Add CPOH @ 15%		951.01
TOTAL		7291.10
Cost of 1.0 cum		7291.10
Say		7291.1

Cost index	<b>37.29%</b>			2718.85
Total with Cost index				10009.95

93 Specification Code: 5.37.2

**5.37**

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.2**

All work above plinth level upto floor V level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40

0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-Extra labour for lifting up to floor five level $0.75 \times 2.5 = 1.88$	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

Kerala Water Authority				TOTAL	7326.36
				Add Water Charges @ 1%	73.26
				TOTAL	7399.62
				Add CPOH @ 15%	1109.94
				TOTAL	8509.56
				Cost of 1.0 cum	8509.56
				Say	8509.55

	Cost index	<b>37.29%</b>			3173.21
	Total with Cost index				11682.76

94 Specification Code: od326203/2021\_2022

od326203/2021\_2022 :Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level

Details of cost for 1 Quintel<br>Epoxy coated deformed twisted steel bar =1q,waistage = 5%,Total steel= 1.05q

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Epoxy coated deformed twisted steel bar	quintal	1.05000	5500.00	5775.00	
2205	Steel	tonne	0.10500	92.24	9.69	
9999	Sundries	L.S	26.00000	2.00	52.00	
MR	Blacksmith	Day	1.00000	487.00	487.00	
MR	Beldar	Day	1.00000	368.00	368.00	
MR	Bhisti	Day	0.90000	407.00	366.30	
9999	Sundries	L.S	26.91000	2.00	53.82	
TOTAL					7111.81	
Add Water Charges @ 1%					71.12	
Add CPOH @ 15%					1077.44	
cost for 100.0 kg					7111.81	
Kerala Water Authority cost for one kg					82.60	
say					82.60	
Cost index 37.29 %					.50	
Total with Cost index					83.1	

95 Specification Code: 4.12

#### 4.12

Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for per bag 50 kg. of cement MATERIAL: Approved water proofing materials according to the recommended proportions				

1213	Water proofing materials	kilogram	1.0	35.00	35.00
9988	Carriage and sundries Carriage of water proofing material and labour for mixing	L.S	3.64	2.00	7.28

TOTAL					42.28
Add Water Charges @ 1%					.42
TOTAL					42.70
Add CPOH @ 15%					6.41
TOTAL					49.11
Cost of 50.0 kg					49.11
Cost per kg					.98
Say					1.0

Cost index <b>37.29%</b>					.37
Total with Cost index					1.37

**96** Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for footing size 2.7mx2.7mx 1.00m</p> <p>Contact area = 10.8sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	860.00	292.40
7326	<p>Corner angle 45x45x5 mm 1.50 m long</p> <p>Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	240.00	20.40
7327	<p>100 mm channel shoulder 2.5 m long</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	76.00	25.84
7329	<p>Single clip</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	59.00	10.03
7330	<p>M.S. Tube 40 mm dia</p> <p>Qty taken for cost of using once = <math>10.8 \times 0.85 / 40 = 0.2295</math></p>	metre	0.2295	215.00	49.34
9999	<p>Sundries-Assembly nuts 7 bolts</p> <p>Qty taken for cost of using once = <math>1040 \times 0.85 / 40 = 22.10</math></p>	L.S	22.1	2.00	44.20
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00



PRICE

EST NO:

9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL					2299.41
Add Water Charges @ 1%					22.99
TOTAL					2322.40
Add CPOH @ 15%					348.36
TOTAL					2670.76
Cost of 10.8 sqm					2670.76
Cost per sqm					247.29
Say					247.3

	Cost index	<b>37.29%</b>			92.22
	Total with Cost index				339.52

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97 Specification Code: 5.9.2

**PRICE****SUBHEAD 5.0****REINFORCED CEMENT CONCRETE**

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for 7.9m long and 1.00m high wall Area of contact <math>2 \times 7.9 \times 1.0 = 15.8</math> sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p><math>2 \times 3 \times 2 \times 2 = 24</math> Nos.</p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	860.00	438.60
7327	<p>100 mm channel shoulder 2.5 m long</p> <p><math>4 \times 2 = 8</math></p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p><math>2 \times 6 \times 2 = 24</math></p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	76.00	38.76
7329	<p>Single clip</p> <p><math>2 \times 3 \times 2 = 12</math></p> <p>Qty taken for cost of using once = <math>12 \times 0.85 / 40 = 0.255</math></p>	each	0.255	59.00	15.05
7330	<p>M.S. Tube 40 mm dia</p> <p><math>2 \times 2 \times 8 \text{m} = 32 \text{m}</math></p> <p>Qty taken for cost of using once = <math>32 \times 0.85 / 40 = 0.68</math></p>	metre	0.68	215.00	146.20
9999	<p>Sundries-Qty taken for cost of using once = <math>1300 \times 0.85 / 40 = 27.62</math></p>	L.S	27.62	2.00	55.24
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00

9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Add CPOH @ 15%					1090.13
Cost of 15.8 Sq. m.					8357.64
Cost per 1 Sq. m.					528.96
Say					528.95

	Cost index	<b>37.29%</b>			197.25
	Total with Cost index				726.2

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98 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64

9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL					2547.60
Add Water Charges @ 1%					25.48
TOTAL					2573.08
Add CPOH @ 15%					385.96
TOTAL					2959.04
Cost of 10.0 sqm					2959.04
Cost per sqm					295.90
Say					295.9

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Cost index <b>37.29%</b>					110.34
Total with Cost index					406.24

99 Specification Code: 13.52.2

**13.52** Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2** On concrete work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm PRIMING COAT MATERIAL:				

0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04
0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

TOTAL		1415.47
Add Water Charges @ 1%		14.15
TOTAL		1429.62
Add CPOH @ 15%		214.44
TOTAL		1644.06
Cost of 10.0 sqm		1644.06
Cost per sqm		164.41
Say		164.4

	Cost index	<b>37.29%</b>			61.30
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	Total with Cost index				225.7
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**100 Specification Code: 22.23.1**
**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.1 For vertical surface two coats @ 0.70 kg per sqm**

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry x .70kg / sq.mtr. = 1.40kg) LABOUR	kilogram	1.4	238.00	333.20
9999	Sundries-For application of waterproofing material	L.S	11.55	2.00	23.10
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50
TOTAL					362.10
Add Water Charges @ 1%					3.62
TOTAL					365.72

	Add CPOH @ 15%	54.86
	TOTAL	420.58
	Cost of 1.0 sqm	420.58
	Say	420.6

	Cost index <b>37.29%</b>				156.84
	Total with Cost index				577.44

**101** Specification Code: 22.23.2

**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.2** For horizontal surface one coat @ 1.10 kg per sqm.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry (1 x 1.10kg / sq.mtr. = 1.10kg) LABOUR	kilogram	1.1	238.00	261.80

9999	Sundries-For application of waterproofing material	L.S	5.75	2.00	11.50
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50

TOTAL					279.10
Add Water Charges @ 1%					2.79
TOTAL					281.89
Add CPOH @ 15%					42.28
TOTAL					324.17
Cost of 1.0 sqm					324.17
Cost per sqm					324.17
Say					324.15

Cost index <b>37.29%</b>					120.88
Total with Cost index					445.03

## 10. CENTRATE SUMP

**102** Specification Code: 2.6.1

**2.6** Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

**2.6.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				



0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60

TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

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Cost index <b>37.29%</b>					58.86
Total with Cost index					216.71

103 Specification Code: 2.26.1

**2.26** Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials.

**2.26.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum LABOUR:				
0128	Mate	Day	0.1	617.00	61.70

0114	Beldar	Day	1.1	558.00	613.80
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TOTAL					675.50
Add Water Charges @ 1%					6.75
TOTAL					682.25
Add CPOH @ 15%					102.34
TOTAL					784.59
Cost of 10.0 cum					784.59
Cost per cum					78.46
Say					78.45

Cost index <b>37.29%</b>					29.25
Total with Cost index					107.7

Kerala Water Authority					
104 Specification Code: 4.1.5					

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5** 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54

0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

				TOTAL	4678.18
				Add Water Charges @ 1%	46.78
				TOTAL	4724.96
				Add CPOH @ 15%	708.74
				TOTAL	5433.70
				Cost of 1.0 cum	5433.70
				Say	5433.7

	Cost index	<b>37.29%</b>			2026.23
	Total with Cost index				7459.93

**105** Specification Code: 5.37.1

**5.37**

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in

transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.1** All work upto plinth level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.50% of cement Production Cost, carriage to site pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00

0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.0	2.00	26.00

TOTAL		6277.32
Add Water Charges @ 1%		62.77
TOTAL		6340.09
Add CPOH @ 15%		951.01
TOTAL		7291.10
Cost of 1.0 cum		7291.10
Kerala Water Authority Say		7291.1

# PRICE

	Cost index <b>37.29%</b>				2718.85
	Total with Cost index				10009.95

**106** Specification Code: 5.37.2

### 5.37

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in

recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.2** All work above plinth level upto floor V level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00

0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-Extra labour for lifting up to floor five level 0.75x 2.5 = 1.88	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL		7326.36
Add Water Charges @ 1%		73.26
TOTAL		7399.62
Add CPOH @ 15%		1109.94
TOTAL		8509.56
Cost of 1.0 cum		8509.56
Say		8509.55

Kerala Water Authority  
**PRICE**

	Cost index <b>37.29%</b>			3173.21
	Total with Cost index			11682.76

**107** Specification Code: 5.34.1

**5.34** Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.

**5.34.1** Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for 1 cum. Cement for M-30 mix = 0.340 t Cement for M-25 mix = 0.330 t Difference = 0.010 t				
0367	Portland Cement	tonne	0.01	4940.00	49.40
2209	Carriage of Cement Plasticizer for M-30 mix = 1.70 kg Plasticizer for M-25 mix = 1.65 kg Difference = 0.05 kg	tonne	0.01	92.24	0.92
7318	Plasticizer / super plasticizer	kilogram	0.05	36.00	1.80

	TOTAL	52.12
	Add Water Charges @ 1%	.52
	TOTAL	52.64
	Add CPOH @ 15%	7.90
	TOTAL	60.54
	Cost of 1.0 cum	60.54
	Say	60.55

Kerala Water Authority  
**PRICE**

	Cost index <b>37.29%</b>				22.58
	Total with Cost index				83.13

**108** Specification Code: od326206/2021\_2022

od326206/2021\_2022 :Extra for providing Sulphate resistant cement for structure above plinth level

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Sulphate resistant cement	tonne	0.34000	11550.00	3927.00	
MR	Portland cement	tonne	-0.34000	5700.00	-1938.00	



TOTAL	1989.00
Add Water Charges @ 1%	19.89
Add CPOH @ 15%	301.33
cost for one tonne	2310.22
say	2310.22

Cost index 37.29 %	.00
Total with Cost index	2310.22

109 Specification Code: 5.22.6

**5.22**

Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.6**

Thermo - Mechanically Treated bars of grade Fe-500D or more

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82
TOTAL					6241.51
Add Water Charges @ 1%					62.42

PRICE

EST NO:

TOTAL	6303.93
Add CPOH @ 15%	945.59
TOTAL	7249.52
Cost of 100.0 kilogram	7249.52
Cost per kilogram	72.50
Say	72.5

Cost index	37.29%				27.04
Total with Cost index					99.54

110 Specification Code: od326207/2021\_2022

od326207/2021\_2022 :Extra for providing Epoxy coating for Reinforcement bars

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Extra for providing Epoxy coating for Reinforcement bars	kg	1.00000	2.00	2.00	
TOTAL					2.00	
Add Water Charges @ 1%					.02	
Add CPOH @ 15%					.30	
cost for one kg					2.32	
say					2.32	

Cost index	37.29 %	.00
Total with Cost index		2.32

111 Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
	<p>Details of cost for footing size 2.7mx2.7mx 1.00m</p> <p>Contact area = 10.8sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	860.00	292.40
7326	<p>Corner angle 45x45x5 mm 1.50 m long</p> <p>Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	240.00	20.40
7327	<p>100 mm channel shoulder 2.5 m long</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	76.00	25.84
7329	<p>Single clip</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	59.00	10.03
7330	<p>M.S. Tube 40 mm dia</p> <p>Qty taken for cost of using once = <math>10.8 \times 0.85 / 40 = 0.2295</math></p>	metre	0.2295	215.00	49.34
9999	<p>Sundries-Assembly nuts 7 bolts</p> <p>Qty taken for cost of using once = <math>1040 \times 0.85 / 40 = 22.10</math></p>	L.S	22.1	2.00	44.20

9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00
9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL					2299.41
Add Water Charges @ 1%					22.99
TOTAL					2322.40
Add CPOH @ 15%					348.36
TOTAL					2670.76
Cost of 10.8 sqm					2670.76
Cost per sqm					247.29
Say					247.3

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PRICE

	Cost index	37.29%			92.22
	Total with Cost index				339.52

112 Specification Code: 5.9.2

**SUBHEAD 5.0****REINFORCED CEMENT CONCRETE**

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for 7.9m long and 1.00m high wall Area of contact <math>2 \times 7.9 \times 1.0 = 15.8</math> sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p><math>2 \times 3 \times 2 \times 2 = 24</math> Nos.</p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	860.00	438.60
7327	<p>100 mm channel shoulder 2.5 m long</p> <p><math>4 \times 2 = 8</math></p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p><math>2 \times 6 \times 2 = 24</math></p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	76.00	38.76
7329	<p>Single clip</p> <p><math>2 \times 3 \times 2 = 12</math></p> <p>Qty taken for cost of using once = <math>12 \times 0.85 / 40 = 0.255</math></p>	each	0.255	59.00	15.05
7330	<p>M.S. Tube 40 mm dia</p> <p><math>2 \times 2 \times 8 \text{m} = 32 \text{m}</math></p> <p>Qty taken for cost of using once = <math>32 \times 0.85 / 40 = 0.68</math></p>	metre	0.68	215.00	146.20
9999	<p>Sundries-Qty taken for cost of using once = <math>1300 \times 0.85 / 40 = 27.62</math></p>	L.S	27.62	2.00	55.24
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00

9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Add CPOH @ 15%					1090.13
Cost of 15.8 Sq. m.					8357.64
Cost per 1 Sq. m.					528.96
Say					528.95

	Cost index	<b>37.29%</b>			197.25
	Total with Cost index				726.2

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113 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64

9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL					2547.60
Add Water Charges @ 1%					25.48
TOTAL					2573.08
Add CPOH @ 15%					385.96
TOTAL					2959.04
Cost of 10.0 sqm					2959.04
Cost per sqm					295.90
Say					295.9

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PRICE

Cost index <b>37.29%</b>					110.34
Total with Cost index					406.24

114 Specification Code: 13.52.2

**13.52** Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2** On concrete work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm PRIMING COAT MATERIAL:				

0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04
0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

TOTAL		1415.47
Add Water Charges @ 1%		14.15
TOTAL		1429.62
Add CPOH @ 15%		214.44
TOTAL		1644.06
Cost of 10.0 sqm		1644.06
Cost per sqm		164.41
Say		164.4

	Cost index	<b>37.29%</b>			61.30
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	Total with Cost index				225.7
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**115 Specification Code: 22.23.1**
**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.1 For vertical surface two coats @ 0.70 kg per sqm**

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry x .70kg / sq.mtr. = 1.40kg) LABOUR	kilogram	1.4	238.00	333.20
9999	Sundries-For application of waterproofing material	L.S	11.55	2.00	23.10
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50
TOTAL					362.10
Add Water Charges @ 1%					3.62
TOTAL					365.72

	Add CPOH @ 15%	54.86
	TOTAL	420.58
	Cost of 1.0 sqm	420.58
	Say	420.6

	Cost index 37.29%				156.84
	Total with Cost index				577.44

**116** Specification Code: 22.23.2

**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.2** For horizontal surface one coat @ 1.10 kg per sqm.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry (1 x 1.10kg / sq.mtr. = 1.10kg) LABOUR	kilogram	1.1	238.00	261.80

9999	Sundries-For application of waterproofing material	L.S	5.75	2.00	11.50
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50

TOTAL					279.10
Add Water Charges @ 1%					2.79
TOTAL					281.89
Add CPOH @ 15%					42.28
TOTAL					324.17
Cost of 1.0 sqm					324.17
Cost per sqm					324.17
Say					324.15

Cost index		37.29%			120.88
Total with Cost index					445.03

117 Specification Code: 19.16

### SUBHEAD : 19.0

#### DRAINAGE

#### 19.16

Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufactures permanent identification mark to be visible even after fixing including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 ( 1cement: 3 coarse sand: 6 graded

stone aggregate 20 mm nominal size)Complete as per design

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for one no. Details:				
7354	Plastic encapsulated M.S. foor rest 30x20x15 cm	each	1.0	110.00	110.00
9988	Carriage and sundries Cement concrete 1:3:6 (0.30x0.20x15)=0.009 cum)	L.S	1.82	2.00	3.64
4.2.5	Rate as per item Number4.2.5 of SH: Concrete work LABOUR:	cum	0.009	6966.75	62.70(A)
0123	Mason (brick layer) 1st class	Day	0.02	738.00	14.76
0124	Mason (brick layer )2nd class	Day	0.2	679.00	135.80
0114	Beldar	Day	0.05	558.00	27.90
AddWater Charges @ 1% except on A ie on ( 354.8-62.7=292.1 )					2.92
TOTAL					357.72
AddCPOH @ 15% except on A ie on ( 357.72-62.7=295.02 )					44.25
TOTAL					401.95
Cost of 1.0 each					401.95
Cost of 1 each					401.95
Say					401.95

	Cost index	<b>37.29%</b>			149.89
	Total with Cost index				551.84

118 Specification Code: 100.36.1

**100.36.1**

Filling water with 5000 litre tankers fitted in lorry and conveying water from a distance of 5 km (average) to the reservoir site and pumping the water into the reservoir of height not less than 3 m using 5 HP diesel engine pump set , hire for tanker lorry, tools and other appliances and cost of water etc. complete.

"(Ref. No. 000, Technical Circular)"

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 KL.				
KW8	Cost of Potable Water	Kilo litre	1.0	60.00	60.00
100.99.5 9	Rate as per item Number 100.99.59 of SH: KWA Approved Data Charges for conveyance and pumping of water.	Kilo litre	1.0	73.20	73.20
TOTAL					133.20
Add Water Charges @ 1%					1.33
TOTAL					134.53
Add CPOH @ 15%					20.18
TOTAL					154.71
Cost of 1.0 Kilo litre					154.71
Cost per Kilo litre					154.71
Say					154.7

	Cost index	<b>37.29%</b>				31.70
	Total with Cost index					186.4

### 11. RCC PLAT FORM FOR VARIOUS MECHANICAL ITEMS AND MOTORS AND PIPE LAYING WORKS

119 Specification Code: 2.6.1

## 2.6

Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

## 2.6.1 All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60
TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

	Cost index	37.29%			58.86
	Total with Cost index				216.71

120 Specification Code: 4.1.8
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**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.8** 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0293	Stone Aggregate(single size): 40 mm nominal size nominal size (0.70 cum -7.5% for voids i.e. 0.05 =0.65 cum)	cum	0.65	1300.00	845.00
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.24	1350.00	324.00
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	0.65	112.79	73.31
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.24	103.77	24.90
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement	tonne	0.17	4940.00	839.80
2209	Carriage of Cement LABOUR:	tonne	0.17	92.24	15.68
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90

9999	Sundries-	L.S	13.52	2.00	27.04
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TOTAL					4327.24
Add Water Charges @ 1%					43.27
TOTAL					4370.51
Add CPOH @ 15%					655.58
TOTAL					5026.09
Cost of 1.0 cum					5026.09
Say					5026.1

Cost index		<b>37.29%</b>			1874.23
Total with Cost index					6900.33

121 Specification Code: 5.1.2

**5.1:**

Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level:

**5.1.2**

1:1:5:3 (1 cement 1.5 coarse sand :3 graded stone aggregate 20 mm nominal size

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75



2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement (0.2833 cum)	tonne	0.4	4940.00	1976.00
2209	Carriage of Cement	tonne	0.4	92.24	36.90
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	14.3	2.00	28.60

	TOTAL	5768.78
	Add Water Charges @ 1%	57.69
	TOTAL	5826.47
	Add CPOH @ 15%	873.97
	TOTAL	6700.44
	Cost of 1.0 cum	6700.44
	Say	6700.45

	Cost index	37.29%			2498.60
	Total with Cost index				9199.05

122 Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for footing size 2.7mx2.7mx 1.00m</p> <p>Contact area = 10.8sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	860.00	292.40
7326	<p>Corner angle 45x45x5 mm 1.50 m long</p> <p>Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	240.00	20.40
7327	<p>100 mm channel shoulder 2.5 m long</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	76.00	25.84
7329	<p>Single clip</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	59.00	10.03
7330	<p>M.S. Tube 40 mm dia</p> <p>Qty taken for cost of using once = <math>10.8 \times 0.85 / 40 = 0.2295</math></p>	metre	0.2295	215.00	49.34
9999	<p>Sundries-Assembly nuts 7 bolts</p> <p>Qty taken for cost of using once = <math>1040 \times 0.85 / 40 = 22.10</math></p>	L.S	22.1	2.00	44.20
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00

9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL					2299.41
Add Water Charges @ 1%					22.99
TOTAL					2322.40
Add CPOH @ 15%					348.36
TOTAL					2670.76
Cost of 10.8 sqm					2670.76
Cost per sqm					247.29
Say					247.3

	Cost index	<b>37.29%</b>			92.22
	Total with Cost index				339.52

Kerala Water Authority

123 Specification Code: 5.22.6

**5.22**

Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.6**

Thermo - Mechanically Treated bars of grade Fe-500D or more

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69

9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in postion	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82

TOTAL					6241.51
Add Water Charges @ 1%					62.42
TOTAL					6303.93
Add CPOH @ 15%					945.59
TOTAL					7249.52
Cost of 100.0 kilogram					7249.52
Cost per kilogram					72.50
Say					72.5

Kerala Water Authority

PRICE

Cost index		37.29%			27.04
Total with Cost index					99.54

124 Specification Code: 100.1.1

**SUBHEAD : 100.0****KWA APPROVED DATA****100.1.1**

Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :

All kinds of soil

(Ref. Item No. 2.10.1 of DSR)

Code	Description	Unit	Quantity	Rate	Amount
	Details of Cost For 100 m3 Materials				
2.8.1	Rate as per item Number 2.8.1 of SH: Earth Work (DSR)	cum	100.0	219.00	21900.00(A)
2.25	Rate as per item Number 2.25 of SH: Earth Work (DSR)	cum	100.0	190.70	19070.00(A)
TOTAL					40970.00
Cost of 100.0 cum					40970.00
Cost of 1 cum					409.70
Say					409.7

Kerala Water Authority  
**PRICE**

	Cost index	37.29%			152.78
	Total with Cost index				562.48

125 Specification Code: 18.73.5

**SUBHEAD : 18.0**

**WATER SUPPLY**

**18.73** Providing and laying Double Flanged ( Screwed / Welded ) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS: 8329 :

**18.73.5** 300 mm dia Ductile Iron Double Flanged

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 5 metre MATERIAL: 300 mm dia cast iron pipes double flanged Weight of 1m pipe = 76.400 kg Weight of 5m pipes 76.400x5 = 382.00 kg				
7690	Ductile Iron Pipe Class K-9 flanges and welding 300 mm dia	metre	5.0	3790.00	18950.00
2324	Carriage of Spun iron S & S pipes 300 mm dia Labour for laying	100 meter	5.0	1080.08	54.00
18.23	Rate as per item Number 18.23 of SH: Water Supply	quintal	3.82	229.40	876.31(A)

	Add Water Charges @ 1% except on A ie on ( 19880.31-876.31=19004.0 )	190.04
	TOTAL	20070.35
	Add CPOH @ 15% except on A ie on ( 20070.35-876.31=19194.04 )	2879.11
	TOTAL	22949.50
	Cost of 5.0 metre	22949.50
	Cost of 1 metre	4589.90
	Say	4589.9

	Cost index 37.29%				1711.57
	Total with Cost index				6301.47

126 Specification Code: 18.72.19

**SUBHEAD : 18.0**

**WATER SUPPLY**

**18.72** Providing and laying S & S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS : 8329:

**18.72.19** 300 mm dia Ductile iron Class K-9 pipes

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 metre. MATERIAL: 300mm dia. cast iron pipes (in 5.5 m lengths) Weight of 1 m pipe = 60.490 kg Weight of 10m pipes 60.490x10 = 604.90 kg				
7655	Ductile Iron class K - 9 pipe Conforming to I.S. 8329 - 300 mm dia	metre	10.0	2750.00	27500.00
2324	Carriage of Spun iron S & S pipes 300 mm dia Labour for laying	100 meter	10.0	1080.08	108.01
18.23	Rate as per item Number 18.23 of SH: Water Supply	quintal	6.049	229.40	1387.64(A)
Add Water Charges @ 1% except on A ie on ( 28995.65-1387.64=27608.01 )					276.08
TOTAL					29271.73
Add CPOH @ 15% except on A ie on ( 29271.73-1387.64=27884.09 )					4182.61
TOTAL					33454.50
Cost of 10.0 metre					33454.50
Cost of 1 metre					3345.45
Say					3345.45

	Cost index <b>37.29%</b>				1247.52
	Total with Cost index				4592.97

**127** Specification Code: 18.70.5

**18.70** Providing push - on-joints to Centrifugally (Spun) Cast Iron Pipes or Ductile Iron Pipes including testing of joints and including the cost of rubber gasket:

**18.70.5** 300 mm dia pipe

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 50 joints MATERIAL:				
7671	Rubber Gaskets conforming to I.S. 5382 of S.B.R quality 300 mm dia LABOUR:	each	50.0	110.00	5500.00
0116	Fitter(grade1)	Day	3.0	738.00	2214.00
0117	Assistant Fitter or 2nd class fitter	Day	3.0	679.00	2037.00
0114	Beldar	Day	6.0	558.00	3348.00
TOTAL					13099.00
Add Water Charges @ 1%					130.99
TOTAL					13229.99
Add CPOH @ 15%					1984.50
TOTAL					15214.49
Cost of 50.0 joint					15214.49
Cost per joint					304.29
Say					304.3

	Cost index <b>37.29%</b>				113.47
	Total with Cost index				417.77



128 Specification Code: 18.83.7

**18.83** Labour for cutting C.I. pipe with steel saw.

**18.83.7** 300 mm diameter C.I. pipe

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for one cut LABOUR:				
0116	Fitter(grade1)	Day	0.3	738.00	221.40
0114	Beldar	Day	0.3	558.00	167.40
9999	Sundries-	L.S	9.88	2.00	19.76
TOTAL					408.56
Add Water Charges @ 1%					4.09
TOTAL					412.65
Add CPOH @ 15%					61.90
TOTAL					474.55
Kerala Water Authority					
Cost of 1.0 Each Cut					474.55
Cost per Each Cut					474.55
Say					474.55

	Cost index <b>37.29%</b>				176.96
	Total with Cost index				651.51

## 12 TREATED WATER CHANNEL

129 Specification Code: 2.8.1

**2.8** Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as

directed, within a lead of 50 m.

**2.8.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.04125	7000.00	288.75
0018	Hire and running charges of loader LABOUR:	Day	0.04125	5000.00	206.25
0128	Mate	Day	0.4	617.00	246.80
0115	Coolie	Day	2.05	558.00	1143.90
TOTAL					1885.70
Add Water Charges @ 1%					18.86
TOTAL					1904.56
Add CPOH @ 15%					285.68
TOTAL					2190.24
Cost of 10.0 cum					2190.24
Cost per cum					219.02
Say					219.0

	Cost index <b>37.29%</b>				81.67
	Total with Cost index				300.67

**130** Specification Code: 4.1.8

**4.1**

Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

## 4.1.8 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0293	Stone Aggregate(single size): 40 mm nominal size (0.70 cum -7.5% for voids i.e. 0.05 =0.65 cum)	cum	0.65	1300.00	845.00
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.24	1350.00	324.00
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	0.65	112.79	73.31
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.24	103.77	24.90
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement	tonne	0.17	4940.00	839.80
2209	Carriage of Cement LABOUR:	tonne	0.17	92.24	15.68
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04
TOTAL					4327.24
Add Water Charges @ 1%					43.27

	TOTAL	4370.51
	Add CPOH @ 15%	655.58
	TOTAL	5026.09
	Cost of 1.0 cum	5026.09
	Say	5026.1

	Cost index	37.29%				1874.23
	Total with Cost index					6900.33

131 Specification Code: 5.37.1

5.37

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

5.37.1 All work upto plinth level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50

0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.50% of cement Production Cost, carriage to site pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.0	2.00	26.00

TOTAL				6277.32
Add Water Charges @ 1%				62.77
TOTAL				6340.09
Add CPOH @ 15%				951.01
TOTAL				7291.10

PRICE

EST NO:

Cost of 1.0 cum	7291.10
Say	7291.1

Cost index	37.29%				2718.85
Total with Cost index					10009.95

132 Specification Code: od326203/2021\_2022

od326203/2021\_2022 :Epoxy coated steel reinforcement for RCC work including straightening ,cutting ,bending ,placing in position and binding all complete up to plinth level  
 Details of cost for 1 Quintel<br>Epoxy coated deformed twisted steel bar =1q,waistage = 5%,Total steel= 1.05q

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Epoxy coated deformed twisted steel bar	quintal	1.05000	5500.00	5775.00	
2205	Steel	tonne	0.10500	92.24	9.69	
9999	Sundries	L.S	26.00000	2.00	52.00	
MR	Blacksmith	Day	1.00000	487.00	487.00	
MR	Beldar	Day	1.00000	368.00	368.00	
MR	Bhisti	Day	0.90000	407.00	366.30	
9999	Sundries	L.S	26.91000	2.00	53.82	
TOTAL					7111.81	
Add Water Charges @ 1%					71.12	
Add CPOH @ 15%					1077.44	
cost for 100.0 kg					7111.81	
cost for one kg					82.60	
say					82.60	

Cost index	37.29 %	.50
Total with Cost index		83.1

133 Specification Code: 4.12

**4.12**

Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for per bag 50 kg. of cement MATERIAL: Approved water proofing materials according to the recommended proportions				
1213	Water proofing materials	kilogram	1.0	35.00	35.00
9988	Carriage and sundries Carriage of water proofing material and labour for mixing	L.S	3.64	2.00	7.28
TOTAL					42.28
Add Water Charges @ 1%					.42
TOTAL					42.70
Add CPOH @ 15%					6.41
TOTAL					49.11
Cost of 50.0 kg					49.11
Cost per kg					.98
Say					1.0

	Cost index	<b>37.29%</b>				.37
	Total with Cost index					1.37

134 Specification Code: 5.9.2

**SUBHEAD 5.0**  
**REINFORCED CEMENT CONCRETE**

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 7.9m long and 1.00m high wall Area of contact $2 \times 7.9 \times 1.0 = 15.8$ sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm $2 \times 3 \times 2 \times 2 = 24$ Nos. Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	860.00	438.60
7327	100 mm channel shoulder 2.5 m long $4 \times 2 = 8$ Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) $2 \times 6 \times 2 = 24$ Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	76.00	38.76
7329	Single clip $2 \times 3 \times 2 = 12$ Qty taken for cost of using once = $12 \times 0.85 / 40 = 0.255$	each	0.255	59.00	15.05



7330	M.S. Tube 40 mm dia 2x2x8m = 32m Qty taken for cost of using once = $32 \times 0.85 / 40 = 0.68$	metre	0.68	215.00	146.20
9999	Sundries-Qty taken for cost of using once = $1300 \times 0.85 / 40 = 27.62$	L.S	27.62	2.00	55.24
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Kerala Water Authority Add CPOH @ 15%					1090.13
PRICE Cost of 15.8 Sq. m.					8357.64
Cost per 1 Sq. m.					528.96
Say					528.95

	Cost index <b>37.29%</b>				197.25
	Total with Cost index				726.2

135 Specification Code: 22.23.1

**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 :

2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.1** For vertical surface two coats @0.70 kg per sqm

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry x .70kg / sq.mtr. = 1.40kg) LABOUR	kilogram	1.4	238.00	333.20
9999	Sundries-For application of waterproofing material	L.S	11.55	2.00	23.10
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50
TOTAL					362.10
Add Water Charges @ 1%					3.62
TOTAL					365.72
Add CPOH @ 15%					54.86
TOTAL					420.58
Cost of 1.0 sqm					420.58
Say					420.6

	Cost index <b>37.29%</b>				156.84
	Total with Cost index				577.44

**136** Specification Code: 22.23.2

**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.2** For horizontal surface one coat @ 1.10 kg per sqm.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral crystalline slurry (1 x 1.10kg / sq.mtr. = 1.10kg) LABOUR	kilogram	1.1	238.00	261.80
9999	Sundries-For application of waterproofing material	L.S	5.75	2.00	11.50
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50
TOTAL					279.10
Add Water Charges @ 1%					2.79

	TOTAL	281.89
	Add CPOH @ 15%	42.28
	TOTAL	324.17
	Cost of 1.0 sqm	324.17
	Cost per sqm	324.17
	Say	324.15

	Cost index	37.29%			120.88
	Total with Cost index				445.03

137 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:

**13.7.1** 1:3 ( 1 cement : 3 fine sand)

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Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43

0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL					2547.60
Add Water Charges @ 1%					25.48
TOTAL					2573.08
Add CPOH @ 15%					385.96
TOTAL					2959.04
Cost of 10.0 sqm					2959.04
Cost per sqm					295.90
Say					295.9

Cost index		<b>37.29%</b>			110.34
Total with Cost index					406.24

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<b>138</b> Specification Code: 13.52.2
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**13.52**

Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2**

On concrete work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm PRIMING COAT MATERIAL:				
0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04

0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

				TOTAL	1415.47
				Add Water Charges @ 1%	14.15
				TOTAL	1429.62
				Add CPOH @ 15%	214.44
				TOTAL	1644.06
				Cost of 10.0 sqm	1644.06
				Cost per sqm	164.41
				Say	164.4

	Cost index	<b>37.29%</b>			61.30
	Total with Cost index				225.7

### 13. SLUDGE STORAGE YARD

139 Specification Code: 2.8.1

**2.8** Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.

**2.8.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.04125	7000.00	288.75
0018	Hire and running charges of loader LABOUR:	Day	0.04125	5000.00	206.25
0128	Mate	Day	0.4	617.00	246.80
0115	Coolie	Day	2.05	558.00	1143.90
TOTAL					1885.70
Add Water Charges @ 1%					18.86
TOTAL					1904.56
Add CPOH @ 15%					285.68
TOTAL					2190.24
Cost of 10.0 cum					2190.24
Cost per cum					219.02
Say					219.0

	Cost index <b>37.29%</b>				81.67
	Total with Cost index				300.67

140 Specification Code: 2.26.1

**2.26** Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials.

**2.26.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum LABOUR:				
0128	Mate	Day	0.1	617.00	61.70
0114	Beldar	Day	1.1	558.00	613.80
TOTAL					675.50
Add Water Charges @ 1%					6.75
TOTAL					682.25
Add CPOH @ 15%					102.34
TOTAL					784.59
Kerala Water Authority Cost of 10.0 cum					784.59
PRICE Cost per cum					78.46
Say					78.45

	Cost index	<b>37.29%</b>			29.25
	Total with Cost index				107.7

141 Specification Code: 4.1.8

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.8** 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for 1 cum MATERIAL:				
0293	Stone Aggregate(single size): 40 mm nominal size nominal size (0.70 cum -7.5% for voids i.e. 0.05 =0.65 cum)	cum	0.65	1300.00	845.00
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.24	1350.00	324.00
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	0.65	112.79	73.31
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.24	103.77	24.90
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement	tonne	0.17	4940.00	839.80
2209	Carriage of Cement LABOUR:	tonne	0.17	92.24	15.68
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL				4327.24
Add Water Charges @ 1%				43.27
TOTAL				4370.51
Add CPOH @ 15%				655.58

TOTAL	5026.09
Cost of 1.0 cum	5026.09
Say	5026.1

Cost index <b>37.29%</b>	1874.23
Total with Cost index	6900.33

142 Specification Code: od326204/2021\_2022

od326204/2021\_2022 :Dry rubble masonry with hard stone in foundation and plinth including cost of all materials, labour etc upto plinth level (Modified the item 7.1.1)

*Details of cost for 1 cum*

Code	Description	Unit	Quantity	Rate	Amount	Remarks
1157	Stone for masonry work	cum	1.05000	1100.00	1155.00	
1154	Through and bond stone size 24 x 24 x 39cm	100 nos	7.00000	5000.00	350.00	
2215	Soling stone & masonry stone	cum	1.21000	122.08	147.72	
MR	Mason (For plain stone work)	Day	1.07000	448.00	479.36	
MR	Beldar	Day	1.07000	368.00	393.76	
MR	Coolie	Day	0.71000	368.00	261.28	
MR	Bhisti	Day	0.09000	407.00	36.63	
9999	Sundries	L.S	4.42000	2.00	8.84	
TOTAL					2832.59	
Add Water Charges @ 1%					28.33	
Add CPOH @ 15%					429.14	
cost for one cum					3290.05	
say					3290.05	

Cost index <b>37.29 %</b>	719.66
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Total with Cost index	4009.71
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143 Specification Code: 5.37.1
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**5.37**

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.1** All work upto plinth level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44

7318	Plasticizer / super plasticizer 0.50% of cement Production Cost, carriage to site pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.0	2.00	26.00

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TOTAL		6277.32
Add Water Charges @ 1%		62.77
TOTAL		6340.09
Add CPOH @ 15%		951.01
TOTAL		7291.10
Cost of 1.0 cum		7291.10
Say		7291.1

Cost index	<b>37.29%</b>			2718.85
Total with Cost index				10009.95

144 Specification Code: 5.3
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**5.3**

Reinforced cement concrete work in beams, suspended floors, roofs, having slope up to 15<sup>0</sup> landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (Zone III) : 3 graded stone aggregate 20 mm nominal size).

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum. MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement (0.2225 cum)	tonne	0.4	4940.00	1976.00
2209	Carriage of Cement LABOUR:	tonne	0.4	92.24	36.90
0155	Mason (average)	Day	0.24	709.00	170.16
0114	Beldar	Day	2.75	558.00	1534.50
0101	Bhisti	Day	0.9	617.00	555.30
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.08	800.00	64.00
0012	Vibrator (Needle type 40 mm)	Day	0.08	370.00	29.60

9999	Sundries-Extra labour for lifting material upto floor V level: Coolie (2.5x0.75)	L.S	14.3	2.00	28.60
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL					7297.65
Add Water Charges @ 1%					72.98
TOTAL					7370.63
Add CPOH @ 15%					1105.59
TOTAL					8476.22
Cost of 1.0 cum					8476.22
Cost per cum					8476.22
Say					8476.2

	Cost index	37.29%			3160.77
	Total with Cost index				11636.97

145 Specification Code: 5.37.2

**5.37** Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is

payable/recoverable separately.

**5.37.2** All work above plinth level upto floor V level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30

0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-Extra labour for lifting up to floor five level 0.75x 2.5 = 1.88	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL					7326.36
Add Water Charges @ 1%					73.26
TOTAL					7399.62
Add CPOH @ 15%					1109.94
TOTAL					8509.56
Cost of 1.0 cum					8509.56
Say					8509.55

Cost index <b>37.29%</b>					3173.21
Total with Cost index					11682.76

**146** Specification Code: od326205/2021\_2022

od326205/2021\_2022 :Laterate masonry with neatly dressed laterate stone of size 40X20X15cm or nearest size in cement mortar 1:6 for superstructuree above plinth level up to<br>floor two level including all cost of materials, labour charges etc

*Details of cost for 1 cum*

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Laterite stone 40 x 20 x 15 cm	Nos	78.00000	46.00	3588.00	
MR	Cement Mortar 1:6	cum	0.08740	3217.50	281.21	
9999	Sundries	L.S	2.73000	2.00	5.46	
MR	Mason 1st class	Day	0.53000	487.00	258.11	



MR	Mason 2nd class	Day	0.53000	448.00	237.44	
MR	Coolie	Day	1.90000	368.00	699.20	
MR	Bhishti	Day	0.45000	407.00	183.15	
9999	Sundries	L.S	22.36000	2.00	44.72	
TOTAL					5297.29	
Add Water Charges @ 1%					52.97	
Add CPOH @ 15%					802.54	
cost for one cum					6152.80	
say					6152.80	
Cost index <b>37.29 %</b>					21.73	
Total with Cost index					6174.53	

147 Specification Code: 5.22.6

**5.22** Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.6** Thermo - Mechanically Treated bars of grade Fe-500D or more

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in postion	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00

9999	Sundries-	L.S	26.91	2.00	53.82
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TOTAL					6241.51
Add Water Charges @ 1%					62.42
TOTAL					6303.93
Add CPOH @ 15%					945.59
TOTAL					7249.52
Cost of 100.0 kilogram					7249.52
Cost per kilogram					72.50
Say					72.5

Cost index <b>37.29%</b>					27.04
Total with Cost index					99.54

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148 Specification Code: 5.9.1					

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for footing size 2.7mx2.7mx 1.00m Contact area = 10.8sqm <b>MATERIAL:</b> Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				

7319	wall form panel 1250x500 mm Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	860.00	292.40
7326	Corner angle 45x45x5 mm 1.50 m long Qty taken for cost of using once = $4 \times 0.85 / 40 = 0.085$	each	0.085	240.00	20.40
7327	100 mm channel shoulder 2.5 m long Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	76.00	25.84
7329	Single clip Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	59.00	10.03
7330	M.S. Tube 40 mm dia Qty taken for cost of using once = $10.8 \times 0.85 / 40 = 0.2295$	metre	0.2295	215.00	49.34
9999	Sundries-Assembly nuts 7 bolts Qty taken for cost of using once = $1040 \times 0.85 / 40 = 22.10$	L.S	22.1	2.00	44.20
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00
9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL				2299.41
Add Water Charges @ 1%				22.99
TOTAL				2322.40
Add CPOH @ 15%				348.36

	TOTAL	2670.76
	Cost of 10.8 sqm	2670.76
	Cost per sqm	247.29
	Say	247.3

	Cost index	37.29%				92.22
	Total with Cost index					339.52

149 Specification Code: 5.9.5

**SUBHEAD : 5.0**

**REINFORCED CEMENT CONCRETE**

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.5** Lintels, beams, plinth beams, girders bressumers and cantilevers

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Code	Description	Unit	Quantity	Rate	Amount
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PRICE

	<p>Details of cost for a beam of 6 m clear span, 0.50 m deep 0.30 m wide and height 3.5 m from floor cubical contents</p> <p><math>6.60 \times 0.5 \times 0.3 = 0.99 \text{ cum}</math></p> <p><math>1 \times 1.30 \times 6.00 = 7.80 \text{ sqm}</math></p> <p>MATERIAL:</p> <p>Assuming shuttering will become unserviceable after use of 40 times</p> <p>Add maintenance charges @ 10% of cost of material</p> <p>Less salvage value of material after full use @25% of cost of material</p> <p>1. Steel plats for side and bottom (plate size 1.20 x 0.50 m)</p> <p>Angle 40x40x5mm</p> <p><math>2 \times 1.20 = 2.40 \text{ m}</math></p> <p><math>3 \times 0.50 = 1.50 \text{ m}</math></p> <p>Total 3.90 m @ 3.00 kg/m = 11.70 kg</p> <p>sheet 1.6 mm thick 1.20 m x 0.50 m = 0.60 sqm</p> <p><math>0.60 \text{ sqm} @ 12.55 \text{ kg/sqm.} = 7.53 \text{ kg.}</math></p> <p>Weight of one plate = 19.23 kg.</p> <p>Add for wastage 5% 0.96 kg.</p> <p>Total = 20.19 kg</p> <p>Total weight of all plates</p> <p><math>3 \times 5 \times 20.19 = 302.85 \text{ kg}</math></p> <p>Qty taken for cost of using once = <math>302.85 \times 85/40 = 6.4356 \text{ kg}</math></p>				
10.1	Rate as per item Number 10.1 of SH: Steel Work	kilogram	6.4356	74.70	480.74(A)
7343	Adjustable telescopic prop 3 m (2.02-3.75m) Qty taken for using once = $6 \times 0.85/40 = 0.1275 \text{ m}$	each	0.1275	955.00	121.76
7344	Beam clamp 300-380 mm (450-1070 mm) Qty taken for cost of using once = $5 \times 0.85/40 = 0.1063 \text{ m}$	each set	0.1063	355.00	37.74

9999	Sundries - Assembly nut & bolts etc. Qty taken for cost of using once = 1040x0.85/40 = 22.10	L.S	22.1	2.00	44.20
9999	Sundries - Carriage LABOUR:	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	1.25	738.00	922.50
0114	Beldar	Day	2.5	558.00	1395.00
9999	Sundries - Shuttering oil	L.S	39.0	2.00	78.00
9999	Sundries - paper tape etc	L.S	24.61	2.00	49.22

AddWater Charges @ 1% except on A ie on ( 3285.16-480.74=2804.42 )				28.04
TOTAL				3313.20
AddCPOH @ 15% except on A ie on ( 3313.2-480.74=2832.46 )				424.87
TOTAL				3738.15
Kerala Water Authority			Cost of 7.8 sqm	3738.15
PRICE			Cost of 1 sqm	479.25
Say				479.25

Cost index	<b>37.29%</b>				178.71
Total with Cost index					657.96

150 Specification Code: 5.9.6

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.6** Columns, Pillars, Piers, Abutments, Posts and Struts

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for 4.5 sqm.          Size of column 450x450mm and 2.5 m high          Area of contact = <math>4 \times 0.45 \times 2.5 = 4.5</math> sqm          MATERIAL: Assuming shuttering will become unserviceable after use of 40 times          Add maintenance charges @ 10 % of cost of material          Less salvage value of material after full use @ 25% of cost of material</p>				
7331	<p>Wall form panel 1250x450xmm          Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	860.00	146.20
7332	<p>Corner angle 45x45x5 mm 2.50 long          Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	255.00	21.68
7333	<p>Column clamp 450x1070 mm          Qty taken for cost of using once = <math>5 \times 0.85 / 40 = 0.1063</math></p>	each	0.1063	965.00	102.58
7334	<p>Prop 2 m (2-3.5m)          Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	635.00	53.98
9999	<p>Sundries-Qty taken for cost of using once = <math>1300 \times 0.85 / 40 = 27.62</math></p>	L.S	27.62	2.00	55.24
9977	<p>Carriage          LABOUR</p>	L.S	52.0	2.00	104.00
0116	<p>Fitter(grade1)</p>	Day	1.0	738.00	738.00
0114	<p>Beldar</p>	Day	2.0	558.00	1116.00
9999	<p>Sundries-Shuttering oil</p>	L.S	39.0	2.00	78.00
9999	<p>Sundries-Carriage</p>	L.S	26.0	2.00	52.00

TOTAL				2467.68
Add Water Charges @ 1%				24.68
TOTAL				2492.36

	Add CPOH @ 15%	373.85
	TOTAL	2866.21
	Cost of 4.5 sqm	2866.21
	Cost per sqm	636.94
	Say	636.95

	Cost index 37.29%				237.52
	Total with Cost index				874.47

151 Specification Code: 2.25

**2.25** Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. LABOUR:				
0128	Mate	Day	0.2	617.00	123.40
0115	Coolie	Day	2.5	558.00	1395.00
0101	Bhisti	Day	0.2	617.00	123.40
	TOTAL				1641.80
	Add Water Charges @ 1%				16.42
	TOTAL				1658.22
	Add CPOH @ 15%				248.73
	TOTAL				1906.95
	Cost of 10.0 cum				1906.95
	Cost per cum				190.69
	Say				190.7



	Cost index	37.29%			71.11
	Total with Cost index				261.81

152 Specification Code: 13.1.1

**13.1** 12 mm cement plaster of mix:

**13.1.1** 1:4 ( 1 cement : 4 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:4(1 cement: 4 fine sand)				
3.4	Rate as per item Number3.4 of SH: Mortars	cum	0.144	3528.85	508.15
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-	L.S	12.61	2.00	25.22
TOTAL					1994.54
Add Water Charges @ 1%					19.95
TOTAL					2014.49
Add CPOH @ 15%					302.17
TOTAL					2316.66
Cost of 10.0 sqm					2316.66
Cost per sqm					231.67
Say					231.65

	Cost index <b>37.29%</b>				86.38
	Total with Cost index				318.03

**153** Specification Code: 11.41.2

**11.41** Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20 mm thick cement mortar 1:4(1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete.

**11.41.2** Size of Tile 600 x 600 mm.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 sqm. MATERIAL: Vitrified floor tiles 60x60 cm size = 1.00 sqm Add for wastage & breakage @ 2.5 % = 0.025 sqm Total = 1.025 sqm				
8621	Vitrified floor tile 60x60 cm	sqm	1.025	659.72	676.21
9977	Carriage of tiles 20 mm thick cement mortar 1:4 ( 1 cement : 4 coarse sand)	L.S	6.24	2.00	12.48
3.9	Rate as per item Number 3.9 of SH: Mortars 20 mm thick cement mortar 1:4(1 cement: coarse sand)	cum	0.024	4010.35	96.25
9999	Sundries-Mortar for pointing in white cement Cement for slurry over bed @ 3.3 kg per sqm	L.S	3.64	2.00	7.28
0367	Portland Cement LABOUR:	tonne	0.0033	4940.00	16.30

0123	Mason (brick layer) 1st class	Day	0.2	738.00	147.60
0115	Coolie	Day	0.2	558.00	111.60
9988	Carriage and sundries of cement etc	L.S	26.91	2.00	53.82

TOTAL					1121.54
Add Water Charges @ 1%					11.22
TOTAL					1132.76
Add CPOH @ 15%					169.91
TOTAL					1302.67
Cost of 1.0 sqm					1302.67
Cost per sqm					1302.67
Say					1302.65

Cost index <b>37.29%</b>				485.76
Total with Cost index				1788.41

**154** Specification Code: 13.1.2

**13.1** 12 mm cement plaster of mix:

**13.1.2** 1:6 (1 cement : 6 fine sand).

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm. MATERIAL: Cement mortar 1 : 6 (1 cement: 6 fine sand)				
3.6	Rate as per item Number 3.6 of SH: Mortars LABOUR:	cum	0.144	2874.65	413.95
0155	Mason (average)	Day	0.67	709.00	475.03

0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries	L.S	12.61	2.00	25.22

TOTAL					1900.34
Add Water Charges @ 1%					19.00
TOTAL					1919.34
Add CPOH @ 15%					287.90
TOTAL					2207.24
Cost of 10.0 sqm					2207.24
Cost per sqm					220.72
Say					220.7

Cost index <b>37.29%</b>					82.30
Total with Cost index					303.0

PRICE

**155** Specification Code: 13.43.1

**13.43** Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface:

**13.43.1** Water thinnable cement primer

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL:				
0808	Water thinnable cement primer for interior wall surface, having VOC content less than 50 gms/litre	Litre	0.7	50.00	35.00
9999	Sundries-Brushes, putty etc. LABOUR:	L.S	7.15	2.00	14.30

0131	Painter	Day	0.4	679.00	271.60
0115	Coolie	Day	0.2	558.00	111.60
9988	Carriage and sundries	L.S	8.06	2.00	16.12

TOTAL					448.62
Add Water Charges @ 1%					4.49
TOTAL					453.11
Add CPOH @ 15%					67.97
TOTAL					521.08
Cost of 10.0 sqm					521.08
Cost per sqm					52.11
Say					52.1

	Cost index	<b>37.29%</b>			19.43
	Total with Cost index				71.53

# PRICE

**156** Specification Code: 13.82.2

**13.82**

Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound) content less than 50 grams/ litre, of approved brand and manufacture including applying additional coats wherever required, to achieve even shade and colour.

**13.82.2**

Two coats

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL:				
0803	Acrylic emulsion, having VOC content less than 50 gm/litre	Litre	0.84	94.00	78.96

9999	Sundries-For filling holes and cracks with putty etc	L.S	1.43	2.00	2.86
9977	Carriage of material LABOUR:	L.S	6.76	2.00	13.52
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

TOTAL		798.42
Add Water Charges @ 1%		7.98
TOTAL		806.40
Add CPOH @ 15%		120.96
TOTAL		927.36
Cost of 10.0 sqm		927.36
Kerala Water Authority Cost per sqm		92.74
Say		92.75

	Cost index	<b>37.29%</b>				34.59
	Total with Cost index					127.34

157 Specification Code: 10.3

**SUBHEAD : 10.0**

**STEEL WORK**

**10.3**

Providing and fixing in position collapsible steel shutters with vertical channels 20x10x2 mm and braced with flat iron diagonals 20x5 mm size, with top and bottom rail of T-iron 40x40x6 mm, with 40 mm dia steel pulleys, complete with bolts, nuts, locking arrangement, stoppers, handles, including applying a priming

coat of approved steel primer .

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for a gate 2.4m x1.5 m = 3.6 sqm. MATERIAL: M.S. channels 18 Nos. on both sides 20x10x2mm @ 0.56kg/m 2x18x2.4 = 86.40 m + Add wastage @ 10% = 8.64 Total = 95.04 m 95.04 m @ 56 kg /m = 53.22kg = 0.53 q				
1007	Structural steel such as tees, angles, channels and R.S. joists M.S. Tee - 40x40x6 mm for bottom - 1.570 m + for top = 1.725 m = 3.295 m Say 3.3 m 3.3 @ 3.5kg/m = 11.55 kg+ Add wastage @ 10% = 1.155 kg Total = 12.705 kg. Say 0.13 qtl	quintal	0.53	4600.00	2438.00
1007	Structural steel such as tees, angles, channels and R.S. joists 20mmx5mm flat iron diagonals 4 Nos. 4x32x0.5334= 68.275 m 68.275 m @ 0.8kg/m = 54.62 kg+ Add wastage @ 10% = 5.46 kg Total = 60.08kg = 0.60 qtl	quintal	0.13	4600.00	598.00
1008	Flats up to 10 mm in thickness	quintal	0.6	4500.00	2700.00
2205	Carriage of Steel Carriage of steel (0.053+0.013+0.060= 0.126 tonne)	tonne	0.126	92.24	11.62
9999	Sundries - Cost of rivets fixing hooks and washers	L.S	269.1	2.00	538.20

9999	Sundries - Cost of locking arrangements and handles.	L.S	67.34	2.00	134.68
4013	Pulley 40 mm dia Priming coat- Channel-36x0.076x2.4 = 6.57 sqm.+ Tee 0.16x3.3 = 0.53 sqm. + Flats - 0.05x68 = 3.40 sqm. Total = 10.50sqm	each	10.0	30.00	300.00
13.50.3	Rate as per item Number 13.50.3 of SH: Finishing LABOUR:	sqm	10.5	44.00	462.00(A)
0116	Fitter(grade1)	Day	3.0	738.00	2214.00
0102	Blacksmith 1st class	Day	6.0	738.00	4428.00
0103	Blacksmith 2nd class	Day	6.0	679.00	4074.00
0123	Mason (brick layer) 1st class	Day	0.5	738.00	369.00
0124	Mason (brick layer )2nd class	Day	0.5	679.00	339.50
0114	Beldar	Day	8.0	558.00	4464.00
9999	Sundries -	L.S	161.46	2.00	322.92

Add Water Charges @ 1% except on A ie on ( 23393.92-462.0=22931.92 )		229.32
TOTAL		23623.24
Add CPOH @ 15% except on A ie on ( 23623.24-462.0=23161.24 )		3474.19
TOTAL		27097.38
Cost of 3.6 sqm		27097.38
Cost of 1 sqm		7527.05
Say		7527.05

	Cost index	<b>37.29%</b>			2806.84
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	Total with Cost index				10333.89
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## FOUNDATIONS-GENERATOR

158 Specification Code: 2.8.1

**2.8** Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.

**2.8.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.04125	7000.00	288.75
0018	Hire and running charges of loader LABOUR:	Day	0.04125	5000.00	206.25
0128	Mate	Day	0.4	617.00	246.80
0115	Coolie	Day	2.05	558.00	1143.90
TOTAL					1885.70
Add Water Charges @ 1%					18.86
TOTAL					1904.56
Add CPOH @ 15%					285.68
TOTAL					2190.24
Cost of 10.0 cum					2190.24
Cost per cum					219.02
Say					219.0

	Cost index	37.29%			81.67
	Total with Cost index				300.67

159 Specification Code: 4.1.8

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.8** 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0293	Stone Aggregate(single size): 40 mm nominal size nominal size (0.70 cum -7.5% for voids i.e. 0.05 =0.65 cum)	cum	0.65	1300.00	845.00
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.24	1350.00	324.00
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	0.65	112.79	73.31
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.24	103.77	24.90
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement	tonne	0.17	4940.00	839.80
2209	Carriage of Cement LABOUR:	tonne	0.17	92.24	15.68
0155	Mason (average)	Day	0.1	709.00	70.90

0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL		4327.24
Add Water Charges @ 1%		43.27
TOTAL		4370.51
Add CPOH @ 15%		655.58
TOTAL		5026.09
Cost of 1.0 cum		5026.09
Say		5026.1

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	Cost index	<b>37.29%</b>		1874.23
	Total with Cost index			6900.33

160 Specification Code: 5.37.1

**5.37**

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

## 5.37.1 All work upto plinth level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.50% of cement Production Cost, carriage to site pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90

9999	Sundries-	L.S	13.0	2.00	26.00
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TOTAL					6277.32
Add Water Charges @ 1%					62.77
TOTAL					6340.09
Add CPOH @ 15%					951.01
TOTAL					7291.10
Cost of 1.0 cum					7291.10
Say					7291.1

	Cost index	<b>37.29%</b>			2718.85
	Total with Cost index				10009.95

161 Specification Code: 5.22.6	Kerala Water Authority
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**5.22** Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.6** Thermo - Mechanically Treated bars of grade Fe-500D or more

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69

9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in postion	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82

TOTAL					6241.51
Add Water Charges @ 1%					62.42
TOTAL					6303.93
Add CPOH @ 15%					945.59
TOTAL					7249.52
Cost of 100.0 kilogram					7249.52
Cost per kilogram					72.50
Say					72.5

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PRICE

Cost index		<b>37.29%</b>			27.04
Total with Cost index					99.54

162 Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for footing size 2.7mx2.7mx 1.00m</p> <p>Contact area = 10.8sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	860.00	292.40
7326	<p>Corner angle 45x45x5 mm 1.50 m long</p> <p>Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	240.00	20.40
7327	<p>100 mm channel shoulder 2.5 m long</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p>Qty taken for cost of using once = <math>16 \times 0.85 / 40 = 0.34</math></p>	each	0.34	76.00	25.84
7329	<p>Single clip</p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	59.00	10.03
7330	<p>M.S. Tube 40 mm dia</p> <p>Qty taken for cost of using once = <math>10.8 \times 0.85 / 40 = 0.2295</math></p>	metre	0.2295	215.00	49.34
9999	<p>Sundries-Assembly nuts 7 bolts</p> <p>Qty taken for cost of using once = <math>1040 \times 0.85 / 40 = 22.10</math></p>	L.S	22.1	2.00	44.20
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00

9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL					2299.41
Add Water Charges @ 1%					22.99
TOTAL					2322.40
Add CPOH @ 15%					348.36
TOTAL					2670.76
Cost of 10.8 sqm					2670.76
Cost per sqm					247.29
Say					247.3

Cost index		<b>37.29%</b>			92.22
Total with Cost index					339.52

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<b>163</b> Specification Code: 13.52.2
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**13.52**

Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2**

On concrete work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm PRIMING COAT MATERIAL:				
0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04



PRICE

EST NO:

0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

				TOTAL	1415.47
				Add Water Charges @ 1%	14.15
				TOTAL	1429.62
				Add CPOH @ 15%	214.44
				TOTAL	1644.06
				Cost of 10.0 sqm	1644.06
				Cost per sqm	164.41
				Say	164.4

	Cost index	<b>37.29%</b>			61.30
	Total with Cost index				225.7

#### FILTER FOUNDATION

164 Specification Code: 2.8.1

**2.8**

Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.

**2.8.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.04125	7000.00	288.75
0018	Hire and running charges of loader LABOUR:	Day	0.04125	5000.00	206.25
0128	Mate	Day	0.4	617.00	246.80
0115	Coolie	Day	2.05	558.00	1143.90
TOTAL					1885.70
Add Water Charges @ 1%					18.86
TOTAL					1904.56
Add CPOH @ 15%					285.68
TOTAL					2190.24
Cost of 10.0 cum					2190.24
Cost per cum					219.02
Say					219.0

	Cost index <b>37.29%</b>				81.67
	Total with Cost index				300.67

165 Specification Code: 4.1.8
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**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.8** 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0293	Stone Aggregate(single size): 40 mm nominal size nominal size (0.70 cum -7.5% for voids i.e. 0.05 =0.65 cum)	cum	0.65	1300.00	845.00
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.24	1350.00	324.00
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	0.65	112.79	73.31
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.24	103.77	24.90
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement	tonne	0.17	4940.00	839.80
2209	Carriage of Cement LABOUR:	tonne	0.17	92.24	15.68
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90

9999	Sundries-	L.S	13.52	2.00	27.04
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TOTAL					4327.24
Add Water Charges @ 1%					43.27
TOTAL					4370.51
Add CPOH @ 15%					655.58
TOTAL					5026.09
Cost of 1.0 cum					5026.09
Say					5026.1

Cost index		<b>37.29%</b>			1874.23
Total with Cost index					6900.33

166 Specification Code: 5.37.1

### 5.37

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

#### 5.37.1 All work upto plinth level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				

0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.50% of cement Production Cost, carriage to site pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.0	2.00	26.00

TOTAL				6277.32
Add Water Charges @ 1%				62.77
TOTAL				6340.09

	Add CPOH @ 15%	951.01
	TOTAL	7291.10
	Cost of 1.0 cum	7291.10
	Say	7291.1

	Cost index 37.29%				2718.85
	Total with Cost index				10009.95

167 Specification Code: 5.22.6

**5.22** Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.6** Thermo - Mechanically Treated bars of grade Fe-500D or more

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82

TOTAL	6241.51
Add Water Charges @ 1%	62.42
TOTAL	6303.93
Add CPOH @ 15%	945.59
TOTAL	7249.52
Cost of 100.0 kilogram	7249.52
Cost per kilogram	72.50
Say	72.5

Cost index	37.29%			27.04
Total with Cost index				99.54

168 Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for footing size 2.7mx2.7mx 1.00m Contact area = 10.8sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	860.00	292.40

7326	Corner angle 45x45x5 mm 1.50 m long Qty taken for cost of using once = $4 \times 0.85 / 40 = 0.085$	each	0.085	240.00	20.40
7327	100 mm channel shoulder 2.5 m long Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	76.00	25.84
7329	Single clip Qty taken for cost of using once = $8 \times 0.85 / 40$ $= 0.17$	each	0.17	59.00	10.03
7330	M.S. Tube 40 mm dia Qty taken for cost of using once = $10.8 \times 0.85 / 40 = 0.2295$	metre	0.2295	215.00	49.34
9999	Sundries-Assembly nuts 7 bolts Qty taken for cost of using once = $1040 \times 0.85 / 40 = 22.10$	L.S	22.1	2.00	44.20
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00
9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL				2299.41
Add Water Charges @ 1%				22.99
TOTAL				2322.40
Add CPOH @ 15%				348.36
TOTAL				2670.76
Cost of 10.8 sqm				2670.76
Cost per sqm				247.29



Say	247.3
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Cost index	37.29%	92.22
Total with Cost index		339.52

**169** Specification Code: 13.52.2

**13.52** Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2** On concrete work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm PRIMING COAT MATERIAL:				
0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04
0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86

0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

TOTAL					1415.47
Add Water Charges @ 1%					14.15
TOTAL					1429.62
Add CPOH @ 15%					214.44
TOTAL					1644.06
Cost of 10.0 sqm					1644.06
Cost per sqm					164.41
Say					164.4

	Cost index	37.29%			61.30
	Total with Cost index				225.7

## PUMP HOUSE

170 Specification Code: 2.8.1

**2.8** Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.

**2.8.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. MACHINERY:				

0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.04125	7000.00	288.75
0018	Hire and running charges of loader LABOUR:	Day	0.04125	5000.00	206.25
0128	Mate	Day	0.4	617.00	246.80
0115	Coolie	Day	2.05	558.00	1143.90

TOTAL					1885.70
Add Water Charges @ 1%					18.86
TOTAL					1904.56
Add CPOH @ 15%					285.68
TOTAL					2190.24
Cost of 10.0 cum					2190.24
Cost per cum					219.02
Say					219.0

Kerala Water Authority

PRICE

Cost index <b>37.29%</b>					81.67
Total with Cost index					300.67

171 Specification Code: 7.1.1

**7.1** Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) up to plinth level with:

**7.1.1** Cement mortar 1:6 (1 cement : 6 coarse sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL				

1157	Stone for masonry work	cum	1.0	1100.00	1100.00
1154	Through and bond stone size 24 x 24 x 39cm CARRIAGE:	100 nos	7.0	5000.00	350.0
2215	Carriage of Soling stone & masonry stone 7.00x24cmx39cm = 0.16 cum 1.00 cum + 0.16 cum. = 1.16 cum Cement mortar 1:6 (1 cement : 6 Coarse sand)	cum	1.16	122.08	141.61
3.11	Rate as per item Number 3.11 of SH: Mortars LABOUR:	cum	0.33	3356.15	1107.53
0125	Mason (for plain stone work) 2nd class	Day	1.07	679.00	726.53
0114	Beldar	Day	1.07	558.00	597.06
0115	Coolie	Day	0.71	558.00	396.18
0101	Bhisti	Day	0.09	617.00	55.53
9999	Sundries-Cement concrete 1:6:12	L.S	45.76	2.00	91.52
9999	Sundries-	L.S	4.42	2.00	8.84

TOTAL				4574.80
Add Water Charges @ 1%				45.75
TOTAL				4620.55
Add CPOH @ 15%				693.08
TOTAL				5313.63
Cost of 1.0 cum				5313.63
Cost per cum				5313.63
Say				5313.65

	Cost index	<b>37.29%</b>			1981.46
	Total with Cost index				7295.11

172 Specification Code: 5.3

**5.3**

Reinforced cement concrete work in beams, suspended floors, roofs, having slope up to 15<sup>0</sup> landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (Zone III) : 3 graded stone aggregate 20 mm nominal size).

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum. MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement (0.2225 cum)	tonne	0.4	4940.00	1976.00
2209	Carriage of Cement LABOUR:	tonne	0.4	92.24	36.90
0155	Mason (average)	Day	0.24	709.00	170.16
0114	Beldar	Day	2.75	558.00	1534.50
0101	Bhisti	Day	0.9	617.00	555.30
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.08	800.00	64.00
0012	Vibrator (Needle type 40 mm)	Day	0.08	370.00	29.60

PRICE

EST NO:

9999	Sundries-Extra labour for lifting material upto floor V level: Coolie (2.5x0.75)	L.S	14.3	2.00	28.60
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL		7297.65
Add Water Charges @ 1%		72.98
TOTAL		7370.63
Add CPOH @ 15%		1105.59
TOTAL		8476.22
Cost of 1.0 cum		8476.22
Cost per cum		8476.22
Say		8476.2

	Cost index	37.29%		3160.77
	Total with Cost index			11636.97

173 Specification Code: od326205/2021\_2022

od326205/2021\_2022 :Laterate masonry with neatly dressed laterate stone of size 40X20X15cm or nearest size in cement mortar 1:6 for superstructuree above plinth level up to<br>floor two level including all cost of materials, labour charges etc

Details of cost for 1 cum

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Laterite stone 40 x 20 x 15 cm	Nos	78.00000	46.00	3588.00	
MR	Cement Mortar 1:6	cum	0.08740	3217.50	281.21	
9999	Sundries	L.S	2.73000	2.00	5.46	

MR	Mason 1st class	Day	0.53000	487.00	258.11	
MR	Mason 2nd class	Day	0.53000	448.00	237.44	
MR	Coolie	Day	1.90000	368.00	699.20	
MR	Bhishti	Day	0.45000	407.00	183.15	
9999	Sundries	L.S	22.36000	2.00	44.72	
TOTAL					5297.29	
Add Water Charges @ 1%					52.97	
Add CPOH @ 15%					802.54	
cost for one cum					6152.80	
say					6152.80	
Cost index <b>37.29 %</b>					21.73	
Total with Cost index					6174.53	

174 Specification Code: 5.22.6

## 5.22

Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

### 5.22.6

Thermo - Mechanically Treated bars of grade Fe-500D or more

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00

PRICE

EST NO:

0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82

TOTAL					6241.51
Add Water Charges @ 1%					62.42
TOTAL					6303.93
Add CPOH @ 15%					945.59
TOTAL					7249.52
Cost of 100.0 kilogram					7249.52
Cost per kilogram					72.50
Say					72.5

	Cost index	<b>37.29%</b>			27.04
	Total with Cost index				99.54

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175 Specification Code: 5.9.3

# PRICE

**SUBHEAD : 5.0**

## REINFORCED CEMENT CONCRETE

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.3** Suspended floors, roofs, landings, balconies and access platform

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for a room 4.5x3 = 13.50 sqm height 3.5 m</p> <p>MATERIAL:</p> <p>Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost</p> <p>1. Plates (size 0.75x0.60) Angle 40x40x5 mm 2x0.75 = 1.5 m 2x0.60 = 1.20 m = 2.70 m @ 3.00 kg/m = 8.10 kg sheet 1.6 mm thick 0.75x0.60 = 0.45 sqm 0.45 sqm @ 12.55 kg/sqm = 5.65 kg Weight of one plate = 13.75 kg Add for wastage @ 5% = 0.69 kg Total = 14.44 kg Total weight of all plates = 5x6x14.44= 433.20 kg. Qty taken for cost using once = 433.2x0.85/40 = 9.2055 kg</p>				
10.1	Rate as per item Number 10.1 of SH: Steel Work	kilogram	9.2055	74.70	687.65(A)
7342	Adjustable span ESO+SI (2.35-3.40) Qty taken for cost using once = 5x0.85/40 = 0.1063	each	0.1063	1480.00	157.32
7343	Adjustable telescopic prop 3 m (2.02-3.75m) Qty taken for cost using once = 6x0.85/40 = 0.1275	each	0.1275	955.00	121.76
9999	Sundries - Assembly nut & bolts etc. Qty taken for cost using once = 1040x0.85/40 = 22.10	L.S	22.1	2.00	44.20
9999	Sundries - Carriage LABOUR: Fitter (grade 1)	L.S	130.0	2.00	260.00

0116	Fitter(grade1)	Day	3.0	738.00	2214.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries - Shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries - paper tape etc	L.S	49.7	2.00	99.40

AddWater Charges @ 1% except on A ie on ( 7088.33-687.65=6400.68 )		64.01
TOTAL		7152.34
AddCPOH @ 15% except on A ie on ( 7152.34-687.65=6464.69 )		969.70
TOTAL		8122.27
Cost of 13.5 sqm		8122.27
Cost of 1 sqm		601.65
Say		601.65

	Kerala Water Authority Cost index <b>37.29%</b>			224.36
	Total with Cost index			826.01

**176** Specification Code: 2.25

**2.25** Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. LABOUR:				
0128	Mate	Day	0.2	617.00	123.40
0115	Coolie	Day	2.5	558.00	1395.00
0101	Bhisti	Day	0.2	617.00	123.40

PRICE

EST NO:

TOTAL	1641.80
Add Water Charges @ 1%	16.42
TOTAL	1658.22
Add CPOH @ 15%	248.73
TOTAL	1906.95
Cost of 10.0 cum	1906.95
Cost per cum	190.69
Say	190.7

Cost index	37.29%				71.11
Total with Cost index					261.81

177 Specification Code: 13.1.1

13.1 12 mm cement plaster of mix:

13.1.1 1:4 ( 1 cement : 4 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:4(1 cement: 4 fine sand)				
3.4	Rate as per item Number3.4 of SH: Mortars	cum	0.144	3528.85	508.15
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-	L.S	12.61	2.00	25.22
TOTAL					1994.54
Add Water Charges @ 1%					19.95

	TOTAL	2014.49
	Add CPOH @ 15%	302.17
	TOTAL	2316.66
	Cost of 10.0 sqm	2316.66
	Cost per sqm	231.67
	Say	231.65

	Cost index	37.29%			86.38
	Total with Cost index				318.03

178 Specification Code: 13.17

**13.17**

6 mm cement plaster 1:3 ( 1 cement : 3 fine sand) finished with a floating coat of neat cement and thick coat of Lime wash on top of walls when dry for bearing of R.C.C. slabs and beams.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand)				
3.3	Rate as per item Number 3.3 of SH: Mortars LABOUR:	cum	0.072	4183.05	301.18
0155	Mason (average)	Day	0.51	709.00	361.59
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Extra for removing burrs, cleaning with wire brushes, pock making with pointed tool etc. complete	L.S	13.39	2.00	26.78
9999	Sundries-Scaffolding and sundries.	L.S	11.7	2.00	23.40

0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12
0776	Satna lime	quintal	0.01	370.00	3.70
9999	Sundries-Indigo gum etc.	L.S	2.08	2.00	4.16
9999	Sundries-Sundries, ladder etc.	L.S	0.52	2.00	1.04
0141	White Washer	Day	0.07	617.00	43.19
0115	Coolie	Day	0.07	558.00	39.06
9999	Sundries-	L.S	2.73	2.00	5.46

TOTAL					2254.55
Add Water Charges @ 1%					22.55
TOTAL					2277.10
Kerala Water Authority Add CPOH @ 15%					341.57
TOTAL					2618.67
Cost of 10.0 sqm					2618.67
Cost per sqm					261.87
Say					261.85

	Cost index	<b>37.29%</b>			97.64
	Total with Cost index				359.49

**179** Specification Code: 11.41.2

**11.41** Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20 mm thick

cement mortar 1:4(1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete.

**11.41.2** Size of Tile 600 x 600 mm.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 sqm. MATERIAL: Vitrified floor tiles 60x60 cm size = 1.00 sqm Add for wastage & breakage @ 2.5 % = 0.025 sqm Total = 1.025 sqm				
8621	Vitrified floor tile 60x60 cm	sqm	1.025	659.72	676.21
9977	Carriage of tiles 20 mm thick cement mortar 1:4 ( 1 cement : 4 coarse sand)	L.S	6.24	2.00	12.48
3.9	Rate as per item Number 3.9 of SH: Mortars 20 mm thick cement mortar 1:4(1 cement: coarse sand)	cum	0.024	4010.35	96.25
9999	Sundries-Mortar for pointing in white cement Cement for slurry over bed @ 3.3 kg per sqm	L.S	3.64	2.00	7.28
0367	Portland Cement LABOUR:	tonne	0.0033	4940.00	16.30
0123	Mason (brick layer) 1st class	Day	0.2	738.00	147.60
0115	Coolie	Day	0.2	558.00	111.60
9988	Carriage and sundries of cement etc	L.S	26.91	2.00	53.82
TOTAL					1121.54
Add Water Charges @ 1%					11.22
TOTAL					1132.76

	Add CPOH @ 15%	169.91
	TOTAL	1302.67
	Cost of 1.0 sqm	1302.67
	Cost per sqm	1302.67
	Say	1302.65

	Cost index 37.29%				485.76
	Total with Cost index				1788.41

180 Specification Code: 13.43.1

**13.43** Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface:

**13.43.1** Water thinnable cement primer

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL:				
0808	Water thinnable cement primer for interior wall surface, having VOC content less than 50 gms/litre	Litre	0.7	50.00	35.00
9999	Sundries-Brushes, putty etc. LABOUR:	L.S	7.15	2.00	14.30
0131	Painter	Day	0.4	679.00	271.60
0115	Coolie	Day	0.2	558.00	111.60
9988	Carriage and sundries	L.S	8.06	2.00	16.12
	TOTAL				448.62
	Add Water Charges @ 1%				4.49
	TOTAL				453.11

	Add CPOH @ 15%	67.97
	TOTAL	521.08
	Cost of 10.0 sqm	521.08
	Cost per sqm	52.11
	Say	52.1

	Cost index 37.29%				19.43
	Total with Cost index				71.53

181 Specification Code: 13.82.2

13.82

Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound) content less than 50 grams/ litre, of approved brand and manufacture including applying additional coats wherever required, to achieve even shade and colour.

13.82.2

Two coats

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL:				
0803	Acrylic emulsion, having VOC content less than 50 gm/litre	Litre	0.84	94.00	78.96
9999	Sundries-For filling holes and cracks with putty etc	L.S	1.43	2.00	2.86
9977	Carriage of material LABOUR:	L.S	6.76	2.00	13.52
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Brushes, sand paper etc.	L.S	10.79	2.00	21.58



9999	Sundries-	L.S	6.76	2.00	13.52
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TOTAL					798.42
Add Water Charges @ 1%					7.98
TOTAL					806.40
Add CPOH @ 15%					120.96
TOTAL					927.36
Cost of 10.0 sqm					927.36
Cost per sqm					92.74
Say					92.75

	Cost index	<b>37.29%</b>			34.59
	Total with Cost index				127.34

182 Specification Code: 10.3	Kerala Water Authority
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# PRICE

**SUBHEAD : 10.0**  
**STEEL WORK**

**10.3**

Providing and fixing in position collapsible steel shutters with vertical channels 20x10x2 mm and braced with flat iron diagonals 20x5 mm size, with top and bottom rail of T-iron 40x40x6 mm, with 40 mm dia steel pulleys, complete with bolts, nuts, locking arrangement, stoppers, handles, including applying a priming coat of approved steel primer .

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for a gate 2.4m x1.5 m = 3.6 sqm.</p> <p>MATERIAL:</p> <p>M.S. channels 18 Nos. on both sides 20x10x2mm @ 0.56kg/m 2x18x2.4 = 86.40 m + Add wastage @ 10% = 8.64 Total = 95.04 m 95.04 m @ 56 kg /m = 53.22kg = 0.53 q</p>				
1007	<p>Structural steel such as tees, angles, channels and R.S. joists M.S. Tee - 40x40x6 mm for bottom - 1.5 70 m + for top = 1.725 m = 3.295 m Say 3.3 m 3.3 @ 3.5kg/m = 11.55 kg+ Add wastage @ 10% = 1.155 kg Total = 12.705 kg. Say 0.13 qtl</p>	quintal	0.53	4600.00	2438.00
1007	<p>Structural steel such as tees, angles, channels and R.S. joists 20mmx5mm flat iron diagonals 4 Nos. 4x32x0.5334= 68.275 m 68.275 m @ 0.8kg/m = 54.62 kg+ Add wastage @ 10% = 5.46 kg Total = 60.08kg = 0.60 qtl</p>	quintal	0.13	4600.00	598.00
1008	Flats up to 10 mm in thickness	quintal	0.6	4500.00	2700.00
2205	<p>Carriage of Steel Carriage of steel (0.053+0.013+0.060= 0.126 tonne)</p>	tonne	0.126	92.24	11.62
9999	Sundries - Cost of rivets fixing hooks and washers	L.S	269.1	2.00	538.20
9999	Sundries - Cost of locking arrangements and handles.	L.S	67.34	2.00	134.68

4013	Pulley 40 mm dia Priming coat- Channel-36x0.076x2.4 = 6.57 sqm.+ Tee 0.16x3.3 = 0.53 sqm. + Flats - 0.05x68 = 3.40 sqm. Total = 10.50sqm	each	10.0	30.00	300.00
13.50.3	Rate as per item Number13.50.3 of SH: Finishing LABOUR:	sqm	10.5	44.00	462.00(A)
0116	Fitter(grade1)	Day	3.0	738.00	2214.00
0102	Blacksmith 1st class	Day	6.0	738.00	4428.00
0103	Blacksmith 2nd class	Day	6.0	679.00	4074.00
0123	Mason (brick layer) 1st class	Day	0.5	738.00	369.00
0124	Mason (brick layer )2nd class	Day	0.5	679.00	339.50
0114	Beldar	Day	8.0	558.00	4464.00
9999	Sundries -	L.S	161.46	2.00	322.92

Kerala Water Authority		AddWater Charges @ 1% except on A ie on ( 23393.92-462.0=22931.92 )	229.32
PRICE		TOTAL	23623.24
		AddCPOH @ 15% except on A ie on ( 23623.24-462.0=23161.24 )	3474.19
		TOTAL	27097.38
		Cost of 3.6 sqm	27097.38
		Cost of 1 sqm	7527.05
		Say	7527.05

	Cost index	<b>37.29%</b>			2806.84
	Total with Cost index				10333.89

## INTERNEL ROADS, WALKWAYS&amp;amp; STORM WATER DRAINS

183 Specification Code: 2.8.1

**2.8** Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.

**2.8.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.04125	7000.00	288.75
0018	Hire and running charges of loader LABOUR:	Day	0.04125	5000.00	206.25
0128	Mate	Day	0.4	617.00	246.80
0115	Coolie	Day	2.05	558.00	1143.90
TOTAL					1885.70
Add Water Charges @ 1%					18.86
TOTAL					1904.56
Add CPOH @ 15%					285.68
TOTAL					2190.24
Cost of 10.0 cum					2190.24
Cost per cum					219.02
Say					219.0

	Cost index	<b>37.29%</b>				81.67
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	Total with Cost index				300.67
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184 Specification Code: 2.27

**2.27**

Supplying and filling in plinth with Jamuna sand under floors, including watering, ramming consolidating and dressing complete.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum MATERIAL:				
6501	Sand zone V (jamina)	cum	10.0	1225.00	12250.00
2335	Carriage of Jamuna sand LABOUR:	cum	10.0	103.77	1037.70
0114	Beldar	Day	0.89	558.00	496.62
0115	Coolie	Day	1.07	558.00	597.06
0101	Bhisti	Day	0.35	617.00	215.95
Kerala Water Authority TOTAL					14597.33
Add Water Charges @ 1%					145.97
TOTAL					14743.30
Add CPOH @ 15%					2211.49
TOTAL					16954.79
Cost of 10.0 cum					16954.79
Cost per cum					1695.48
Say					1695.5

	Cost index <b>37.29%</b>				632.25
	Total with Cost index				2327.75

185 Specification Code: od326202/2021\_2022

od326202/2021\_2022 :Providing and laying factory made chamfered edge Cement Concrete paver blocks medium traffic roads/parking etc, of required strength, thickness & size/<br>shape, made by table vibratory method using PU mould, laid in required colour & pattern over 40mm thick compacted bed of sand, and 75mm thick 6mm<br>brocken stones compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by<br>using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all<br>as per direction of Engineer-in-Charge.

Details of cost for 10 sqm

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Coloured interlocking cc paver block (m40) (10 cm thick)	sqm	10.00000	600.00	6000.00	
MR	Fine sand	cum	0.40000	760.00	304.00	
MR	Stone aggregate (6 mm)	cum	0.75000	1300.00	975.00	
2261	Fine sand (1 part badarpur sand : 2 parts jamuna sand	cum	0.65000	103.77	67.45	
2202	Stone aggregate below 40 mm nominal size	cum	0.80000	103.77	83.02	
MR	Mason ( Brick layer) 1st class	Day	0.75000	487.00	365.25	
MR	Mason ( Brick layer) 2nd class	Day	0.75000	448.00	336.00	
MR	Beldar	Day	1.20000	368.00	441.60	
MR	Coolie	Day	0.75000	368.00	276.00	
9999	Sundries	L.S	30.00000	2.00	60.00	
TOTAL					8908.32	
Add Water Charges @ 1%					89.08	
Add CPOH @ 15%					1349.61	
cost for one sqm					10347.01	
say					10347.01	
Cost index 37.29 %					91.16	
Total with Cost index					10438.17	

186 Specification Code: 16.91.2

**16.91**

Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.

**16.91.2**

80 mm thick C.C. paver block of M-30 grade with approved color design and pattern.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10.00 sqm. MATERIALS :				
8785	Interlocking C.C. paver block (80 mm thick, M-30)	sqm	10.0	470.00	4700.00
0982	Coarse sand (zone III)	cum	0.5	1350.00	675.00
2203	Carriage of Coarse sand	cum	0.5	103.77	51.89
0983	Fine sand (zone IV)	cum	0.15	900.00	135.00
2261	Carriage of Fine sand (1 part badarpur sand : 2 parts jamuna sand Labour for Laying	cum	0.15	103.77	15.57
0123	Mason (brick layer) 1st class	Day	0.5	738.00	369.00
0124	Mason (brick layer )2nd class	Day	0.5	679.00	339.50
0114	Beldar	Day	1.0	558.00	558.00
0115	Coolie	Day	0.5	558.00	279.00
TOTAL					7122.96
Add Water Charges @ 1%					71.23
TOTAL					7194.19
Add CPOH @ 15%					1079.13

	TOTAL	8273.32
	Cost of 10.0 sqm	8273.32
	Cost per sqm	827.33
	Say	827.35

	Cost index	37.29%				308.52
	Total with Cost index					1135.87

187 Specification Code: 16.63

**SUBHEAD : 16.0**

**ROAD WORK**

**16.63**

Providing, laying and making kerb channel 30 cm wide and 50 mm thick with cement concrete 1:3:6 ( 1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75 mm bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including finishing the top smooth etc. complete and as per direction Engineer - in-Charge.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost of 10 sqm MATERIAL:				
0287	Brick Aggregate (single size):40 mm nominal size	cum	1.0	650.00	650.00
2260	Carriage of Brick aggregate	cum	1.0	112.79	112.79
6501	Sand zone V (jamina)	cum	0.08	1225.00	98.00
2335	Carriage of Jamuna sand LABOUR: for spreading, ramming and consolidation	cum	0.08	103.77	8.30
0114	Beldar	Day	0.35	558.00	195.30



0115	Coolie	Day	0.26	558.00	145.08
0101	Bhisti Cement concrete - 1:3:6	Day	0.18	617.00	111.06
4.1.6	Rate as per item Number 4.1.6 of SH: Concrete work	cum	0.5	5318.35	2659.18(A)

Add Water Charges @ 1% except on A ie on ( 3979.71-2659.18=1320.53 )					13.21
TOTAL					3992.92
Add CPOH @ 15% except on A ie on ( 3992.92-2659.18=1333.7401 )					200.06
TOTAL					4193.00
Cost of 10.0 sqm					4193.00
Cost of 1 sqm					419.30
Say					419.3

## Kerala Water Authority

	Cost index	37.29%			156.36
	Total with Cost index				575.66

188 Specification Code: 16.69

**16.69**

Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature jointed with cement mortar 1:3 ( 1 cement : 3 coarse sand ) , including making joints with or without grooves ( thickness of joints except at sharp curve shall not to more than 5 mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge ( length of finished kerb edging shall be measured for payment ). ( Precast C.C. kerb stone shall be approved by Engineer-in-Charge)

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for 100 metre i.e MATERIAL: 100x0.375x0.20 = 7.50 cum No. of kerb stones = 100/0.405 = 247 Nos Precast C.C. Kerb stone M-25 = 247 x 0.40x0.375x0.20 = 7.41 cum				
8686	Precast C.C. Kerb stone M-25 Mortar 1:3 for fixing joints = 246x[(0.115+0.20)/2]x 0.375 x 0.005 = 0.073 cum CM 1:3 ( 1 cement : 3 coarse sand )	cum	7.41	5500.00	40755.00
3.8	Rate as per item Number 3.8 of SH: Mortars Labour for fixing of kerb stone	cum	0.073	4664.55	340.51
0123	Mason (brick layer) 1st class	Day	2.5	738.00	1845.00
0124	Mason (brick layer )2nd class	Day	2.5	679.00	1697.50
0114	Beldar	Day	2.5	558.00	1395.00
0115	Coolie	Day	1.65	558.00	920.70

	TOTAL	46953.71
	Add Water Charges @ 1%	469.54
	TOTAL	47423.25
	Add CPOH @ 15%	7113.49
	TOTAL	54536.74
	Cost of 7.5 cum	54536.74
	Cost per cum	7271.57
	Say	7271.55

	Cost index <b>37.29%</b>				2711.56
	Total with Cost index				9983.11

189 Specification Code: 16.59.1

**SUBHEAD : 16.0****ROAD WORK****16.59**

Manufacturing, supplying and fixing retro reflective sign boards made up of 2 mm thick aluminium sheet, face to be fully covered with high intensity encapsulated type heat activated retro reflective sheeting conforming to type - IV of ASTM-D4956-01 in blue and silver white or other colour combination including subject matter, message (bi-lingual), symbols and borders etc. as per IRC: 67-2001, pasted on substrate by an adhesive backing which shall be activated by applying heat and pressure conforming to class-2 of ASTM-D-4956-01 and fixing the same with suitable sized aluminium alloy rivets @ 20 cm c/c to back support frame of M.S. angle iron of size 25x25x3 mm along with theft resistant measures, mounted and fixed with 2 Nos M.S. angles of size 35x35x5 mm to a vertical post made up to M.S. Tee section ISMT 50x50x6 mm welded with base plate of size 100x100x 5 mm at the bottom end and including making holes in pipes, angles flats, providing & fixing M.S. message plate of required size, steel work to be painted with two or more coats of synthetic enamel paint of required shade and of approved brand & manufacture over priming coat of zinc chromate yellow primer (vertical MS-Tee support to be painted in black and white colours). Backside of aluminium sheet to be painted with two or more coats of epoxy paint over and including appropriate priming coat including all leads and lifts etc. complete as per drawing, specification and direction of Engineer-in-Charge.

**16.59.1**

Mandatory / Regulatory sign boards of 900 mm diameter with support length of 3750 mm

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for one no of 0.636 sqm <b>MATERIAL:</b> $3.14/4 \times (0.90 \times 0.90) = 0.636$ sqm Aluminium sheet 2 mm thick ass 10% wastage = 0.064 i.e. 0.700 sqm @ $5.60$ kg / sqm = 3.92 kg				

2704	Aluminium Strip 40 mm wide and 2 mm thick	kilogram	3.92	240.00	940.80
2302	Carriage of G.I. Sheet and accessories 3.92kg or 0.00392 MT High intensity retro reflective sheet = 0.70 sqm High intensity sheet for lettering / sign and boarder etc. Taking 40% = 0.28 sqm Total = 0.70 + 0.28 = 0.98	tonne	0.00392	92.24	0.36
8690	High intensity retro- reflective sheet Supporting frame 25x25x3 mm for 900 mm dia board: 3.14 D = 3.141 x 0.90 = 2.83 metre @ 1.10kg /m = 3.11 kg Angle iron 35x35x5 mm for fixing the support frame with vertical Tee -iron support post = 2x0.05 = 0.10 m @ 2.6 kg/m = 0.26kg Vertical post of M.S. tee of section ISNT 50x50x6 mm = 3.75 metre @ 4.50 kg/m = 16.88 kg Base plate to be welded at bottom end of tee (As hold fast ) (100x100x5mm) x 7850/69) = 0.39 kg Total 3.11 +0.26 +16.88 +0.39 = 20.64 kg Total = 20.64 +1.03 = 21.67 kg.	sqm	0.98	1300.00	1274.00
10.2	Rate as per item Number10.2 of SH: Steel Work LABOUR:	kg	21.67	88.35	1914.54(A)
0128	Mate	Day	0.01	617.00	6.17
0114	Beldar	Day	0.25	558.00	139.50

9999	Sundries - Cost of material for drilling holes, nut bolts & rivets, Fabrication etc. Painting with synthetic enamel paint on steel work support frame 25x25x3 mm = 2.83 x 0.10 = 0.283 sqm Fixing angle 35x35x5 mm = 2x0.50x0.14= 0.01 sqm Vertical post Tee 50x50x6 mm = 3.75 x 0.20 = 0.750 sqm Baseplate area = 2x[0.10x0.10] = 0.02 4x0.10x0.005 = 0.002 Total = 1069 sqm	L.S	65.0	2.00	130.00
13.61.1	Rate as per item Number13.61.1 of SH: Finishing Painting with epoxy paint on back side of aluminium sheet.	sqm	1.07	105.50	112.89(A)
13.52.1	Rate as per item Number13.52.1 of SH: Finishing	sqm	0.636	164.70	104.75(A)
9999	Sundries - and hold Fast etc	L.S	78.0	2.00	156.00

AddWater Charges @ 1% except on A ie on ( 4779.01-2132.1802=2646.8298 )		26.47
TOTAL		4805.48
AddCPOH @ 15% except on A ie on ( 4805.48-2132.1802=2673.2998 )		400.99
TOTAL		5206.45
Cost of 1.0 each		5206.45
Say		5206.45

Cost index	<b>37.29%</b>				1941.50
Total with Cost index					7147.95

190 Specification Code: 16.59.2

**SUBHEAD : 16.0****ROAD WORK****16.59**

Manufacturing, supplying and fixing retro reflective sign boards made up of 2 mm thick aluminium sheet, face to be fully covered with high intensity encapsulated type heat activated retro reflective sheeting conforming to type - IV of ASTM-D4956-01 in blue and silver white or other colour combination including subject matter, message (bi-lingual), symbols and borders etc. as per IRC: 67-2001, pasted on substrate by an adhesive backing which shall be activated by applying heat and pressure conforming to class-2 of ASTM-D-4956-01 and fixing the same with suitable sized aluminium alloy rivets @ 20 cm c/c to back support frame of M.S. angle iron of size 25x25x3 mm along with theft resistant measures, mounted and fixed with 2 Nos M.S. angles of size 35x35x5 mm to a vertical post made up to M.S. Tee section ISMT 50x50x6 mm welded with base plate of size 100x100x 5 mm at the bottom end and including making holes in pipes, angles flats, providing & fixing M.S. message plate of required size, steel work to be painted with two or more coats of synthetic enamel paint of required shade and of approved brand & manufacture over priming coat of zinc chromate yellow primer (vertical MS-Tee support to be painted in black and white colours). Backside of aluminium sheet to be painted with two or more coats of epoxy paint over and including appropriate priming coat including all leads and lifts etc. complete as per drawing, specification and direction of Engineer-in-Charge.

**16.59.2**

Cautionary / warning sign boards of equilateral triangular shape having each side of 900 mm with support length of 3650 mm

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 board of 0.35 sqm <b>MATERIAL:</b> Area of aluminium sheet 2 mm thick = $1/2 \times (0.90 \times 0.78) = 0.35 \text{ sqm}$ add 10% wastage = 0.04 Total = 0.39 sqm @ 5.60 kg/sqm = 2.18 kg				

2704	Aluminium Strip 40 mm wide and 2 mm thick	kilogram	2.18	240.00	523.20
2302	Carriage of G.I. Sheet and accessories Carriage of 2.18kg or 0.00218 MT High intensity retro reflective sheet = 0.39 sqm High intensity sheet for lettering / sign / symbol / border etc. Taking 40% area = 0.16sqm Total = 0.39 + 0.16 = 0.55 sqm	tonne	0.00218	92.24	0.20
8690	High intensity retro- reflective sheet Angle iron frame 25x25x3mm 3x0.90=2.70 metre @ 1.10kg/m=2.97kg Angle iron 35x35x5 mm for fixing the support frame to Tee- iron support post 2x0.05=0.10m @ 2.6kg/m = 0.26kg Vertical post of M.S. tee of section ISNT 50x50x6mm = 1x3.65 = 3.65m @ 4.50kg/m = 16.43kg Base plate 100x100x5mm connected to bottom end of vertical tee. 0.10x0.10x0.005x7850kg = 0.39kg Total = 2.97 + 0.26 + 16.43 + 0.39 = 20.05kg Add wastage @5% = 1.00 Total = 20.05 + 1.00 = 21.05kg	sqm	0.55	1300.00	715.00
10.2	Rate as per item Number10.2 of SH: Steel Work LABOUR:	kg	21.05	88.35	1859.77(A)
0128	Mate	Day	0.01	617.00	6.17
0114	Beldar	Day	0.25	558.00	139.50

9999	Sundries - Cost of material for drilling holes, nut bolts & rivets, Fabrication etc. Painting with synthetic enamel paint on angle iron support frame 25x25x3mm = 1x2.7x0.10=0.27 sqm Angle 35x35x5mm = 2x0.50x0.14 = 0.014 sqm Tee 50x50x6mm = 1x3.65x0.20 = 0.73 sqm Base plate to be welded at bottom end of Tee 100x100x5mm = 0.022 sqm Total = 1.036 sqm	L.S	65.0	2.00	130.00
13.61.1	Rate as per item Number 13.61.1 of SH: Finishing Painting with epoxy paint on back side of aluminium sheet 0.35 sqm	sqm	1.036	105.50	109.30(A)
13.52.1	Rate as per item Number 13.52.1 of SH: Finishing	sqm	0.35	164.70	57.65(A)
9999	Sundries - and hold fast etc	L.S	65.0	2.00	130.00

Add Water Charges @ 1% except on A ie on ( 3670.79-2026.7201=1644.07 )	16.44
TOTAL	3687.23
Add CPOH @ 15% except on A ie on ( 3687.23-2026.7201=1660.5099 )	249.08
TOTAL	3936.30
Cost of 1.0 each	3936.30
Cost of 1 each	3936.30
Say	3936.3



	Cost index	37.29%			1467.85
	Total with Cost index				5404.15

191 Specification Code: 2.7.1

## 2.7

Earth work in excavation by mechanical means (Hydraulic excavator )/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

### 2.7.1 Ordinary rock

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.063	7000.00	441.00
0017	Hire and running charges of tipper	Day	0.063	1700.00	107.10
0132	Rock Excavator	Day	0.705	558.00	393.39
0133	Rock Breaker	Day	1.59	558.00	887.22
0134	Rock Hole Driller	Day	0.355	558.00	198.09
0114	Beldar	Day	0.5	558.00	279.00
0115	Coolie	Day	0.55	558.00	306.90
9999	Sundries-	L.S	10.79	2.00	21.58
TOTAL					2634.28
Add Water Charges @ 1%					26.34
TOTAL					2660.62
Add CPOH @ 15%					399.09
TOTAL					3059.71
Cost of 10.0 cum					3059.71
Cost per cum					305.97

Say	305.95
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Cost index	<b>37.29%</b>				114.09
Total with Cost index					420.04

**192** Specification Code: 5.37.1

**5.37**

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.1**

All work upto plinth level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10

0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.50% of cement Production Cost, carriage to site pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.0	2.00	26.00

TOTAL				6277.32
Add Water Charges @ 1%				62.77
TOTAL				6340.09
Add CPOH @ 15%				951.01
TOTAL				7291.10
Cost of 1.0 cum				7291.10
Say				7291.1

	Cost index	<b>37.29%</b>			2718.85
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	Total with Cost index				10009.95
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193 Specification Code: 5.22.6

**5.22**

Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.6**

Thermo - Mechanically Treated bars of grade Fe-500D or more

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82
TOTAL					6241.51
Add Water Charges @ 1%					62.42
TOTAL					6303.93
Add CPOH @ 15%					945.59
TOTAL					7249.52
Cost of 100.0 kilogram					7249.52
Cost per kilogram					72.50

Say	72.5
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Cost index	<b>37.29%</b>	27.04
Total with Cost index		99.54

**194** Specification Code: 4.12

**4.12**

Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for per bag 50 kg. of cement MATERIAL: Approved water proofing materials according to the recommended proportions				
1213	Water proofing materials	kilogram	1.0	35.00	35.00
9988	Carriage and sundries Carriage of water proofing material and labour for mixing	L.S	3.64	2.00	7.28
TOTAL					42.28
Add Water Charges @ 1%					.42
TOTAL					42.70
Add CPOH @ 15%					6.41
TOTAL					49.11
Cost of 50.0 kg					49.11
Cost per kg					.98
Say					1.0

	Cost index	37.29%				.37
	Total with Cost index					1.37

195 Specification Code: 5.9.2

### SUBHEAD 5.0

### REINFORCED CEMENT CONCRETE

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 7.9m long and 1.00m high wall Area of contact $2 \times 7.9 \times 1.0 = 15.8$ sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm $2 \times 3 \times 2 \times 2 = 24$ Nos. Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	860.00	438.60
7327	100 mm channel shoulder 2.5 m long $4 \times 2 = 8$ Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) $2 \times 6 \times 2 = 24$ Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	76.00	38.76

7329	Single clip 2x3x2 = 12 Qty taken for cost of using once = $12 \times 0.85 / 40 = 0.255$	each	0.255	59.00	15.05	
7330	M.S. Tube 40 mm dia 2x2x8m = 32m Qty taken for cost of using once = $32 \times 0.85 / 40 = 0.68$	metre	0.68	215.00	146.20	
9999	Sundries-Qty taken for cost of using once = $1300 \times 0.85 / 40 = 27.62$	L.S	27.62	2.00	55.24	
9977	Carriage LABOUR	L.S	78.0	2.00	156.00	
0116	Fitter(grade1)	Day	3.5	738.00	2583.00	
0114	Beldar	Day	6.0	558.00	3348.00	
9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00	
9999	Sundries-	L.S	52.0	2.00	104.00	
Kerala Water Authority					TOTAL	7195.55
					Add Water Charges @ 1%	71.96
					TOTAL	7267.51
					Add CPOH @ 15%	1090.13
					Cost of 15.8 Sq. m.	8357.64
					Cost per 1 Sq. m.	528.96
					Say	528.95

	Cost index <b>37.29%</b>				197.25
	Total with Cost index				726.2

## CENTRIFUGE BUILDING

196 Specification Code: 2.8.1

**2.8** Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.

**2.8.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.04125	7000.00	288.75
0018	Hire and running charges of loader LABOUR:	Day	0.04125	5000.00	206.25
0128	Mate	Day	0.4	617.00	246.80
0115	Coolie	Day	2.05	558.00	1143.90
TOTAL					1885.70
Add Water Charges @ 1%					18.86
TOTAL					1904.56
Add CPOH @ 15%					285.68
TOTAL					2190.24
Cost of 10.0 cum					2190.24
Cost per cum					219.02
Say					219.0

	Cost index	<b>37.29%</b>			81.67
	Total with Cost index				300.67



197 Specification Code: 2.26.1

**2.26** Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials.

**2.26.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum LABOUR:				
0128	Mate	Day	0.1	617.00	61.70
0114	Beldar	Day	1.1	558.00	613.80
TOTAL					675.50
Add Water Charges @ 1%					6.75
TOTAL					682.25
Add CPOH @ 15%					102.34
TOTAL					784.59
Kerala Water Authority					
Cost of 10.0 cum					784.59
Cost per cum					78.46
Say					78.45

	Cost index <b>37.29%</b>				29.25
	Total with Cost index				107.7

198 Specification Code: 4.1.8

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.8** 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0293	Stone Aggregate(single size): 40 mm nominal size nominal size (0.70 cum -7.5% for voids i.e. 0.05 =0.65 cum)	cum	0.65	1300.00	845.00
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.24	1350.00	324.00
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	0.65	112.79	73.31
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.24	103.77	24.90
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement	tonne	0.17	4940.00	839.80
2209	Carriage of Cement LABOUR:	tonne	0.17	92.24	15.68
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL				4327.24
Add Water Charges @ 1%				43.27
TOTAL				4370.51

	Add CPOH @ 15%	655.58
	TOTAL	5026.09
	Cost of 1.0 cum	5026.09
	Say	5026.1

	Cost index	37.29%				1874.23
	Total with Cost index					6900.33

199 Specification Code: 5.37.1

### 5.37

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

#### 5.37.1 All work upto plinth level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00

2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.50% of cement Production Cost, carriage to site pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.0	2.00	26.00

TOTAL		6277.32
Add Water Charges @ 1%		62.77
TOTAL		6340.09
Add CPOH @ 15%		951.01
TOTAL		7291.10
Cost of 1.0 cum		7291.10
Say		7291.1

	Cost index	37.29%			2718.85
	Total with Cost index				10009.95

**200** Specification Code: 5.3

**5.3**

Reinforced cement concrete work in beams, suspended floors, roofs, having slope up to 15<sup>0</sup> landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (Zone III) : 3 graded stone aggregate 20 mm nominal size).

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum. MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement (0.2225 cum)	tonne	0.4	4940.00	1976.00
2209	Carriage of Cement LABOUR:	tonne	0.4	92.24	36.90
0155	Mason (average)	Day	0.24	709.00	170.16
0114	Beldar	Day	2.75	558.00	1534.50
0101	Bhisti	Day	0.9	617.00	555.30

0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.08	800.00	64.00
0012	Vibrator (Needle type 40 mm)	Day	0.08	370.00	29.60
9999	Sundries-Extra labour for lifting material upto floor V level: Coolie (2.5x0.75)	L.S	14.3	2.00	28.60
0115	Coolie	Day	1.88	558.00	1049.04

				TOTAL	7297.65
				Add Water Charges @ 1%	72.98
				TOTAL	7370.63
				Add CPOH @ 15%	1105.59
				TOTAL	8476.22
				Cost of 1.0 cum	8476.22
				Cost per cum	8476.22
Kerala Water Authority				Say	8476.2

# PRICE

	Cost index	<b>37.29%</b>			3160.77
	Total with Cost index				11636.97

**201** Specification Code: 5.37.2

**5.37**

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of

concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.2** All work above plinth level upto floor V level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53

PRICE

EST NO:

0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-Extra labour for lifting up to floor five level 0.75x 2.5 = 1.88	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL		7326.36
Add Water Charges @ 1%		73.26
TOTAL		7399.62
Add CPOH @ 15%		1109.94
TOTAL		8509.56
Cost of 1.0 cum		8509.56
Say		8509.55

Kerala Water Authority

	Cost index	37.29%		3173.21
	Total with Cost index			11682.76

202 Specification Code: od326205/2021\_2022

od326205/2021\_2022 :Laterite masonry with neatly dressed laterite stone of size 40X20X15cm or nearest size in cement mortar 1:6 for superstructure above plinth level up to floor two level including all cost of materials, labour charges etc

*Details of cost for 1 cum*

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Laterite stone 40 x 20 x 15 cm	Nos	78.00000	46.00	3588.00	
MR	Cement Mortar 1:6	cum	0.08740	3217.50	281.21	



9999	Sundries	L.S	2.73000	2.00	5.46	
MR	Mason 1st class	Day	0.53000	487.00	258.11	
MR	Mason 2nd class	Day	0.53000	448.00	237.44	
MR	Coolie	Day	1.90000	368.00	699.20	
MR	Bhishti	Day	0.45000	407.00	183.15	
9999	Sundries	L.S	22.36000	2.00	44.72	
TOTAL					5297.29	
Add Water Charges @ 1%					52.97	
Add CPOH @ 15%					802.54	
cost for one cum					6152.80	
say					6152.80	
Cost index <b>37.29 %</b>					21.73	
Total with Cost index					6174.53	

**203** Specification Code: 5.22.6

**5.22**

Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.6**

Thermo - Mechanically Treated bars of grade Fe-500D or more

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in position	L.S	26.0	2.00	52.00

0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82

TOTAL					6241.51
Add Water Charges @ 1%					62.42
TOTAL					6303.93
Add CPOH @ 15%					945.59
TOTAL					7249.52
Cost of 100.0 kilogram					7249.52
Cost per kilogram					72.50
Say					72.5

Cost index <b>37.29%</b>					27.04
Total with Cost index					99.54

**204** Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for footing size 2.7mx2.7mx 1.00m Contact area = 10.8sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				

PRICE

EST NO:

7319	wall form panel 1250x500 mm Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	860.00	292.40
7326	Corner angle 45x45x5 mm 1.50 m long Qty taken for cost of using once = $4 \times 0.85 / 40 = 0.085$	each	0.085	240.00	20.40
7327	100 mm channel shoulder 2.5 m long Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	76.00	25.84
7329	Single clip Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	59.00	10.03
7330	M.S. Tube 40 mm dia Qty taken for cost of using once = $10.8 \times 0.85 / 40 = 0.2295$	metre	0.2295	215.00	49.34
9999	Sundries-Assembly nuts 7 bolts Qty taken for cost of using once = $1040 \times 0.85 / 40 = 22.10$	L.S	22.1	2.00	44.20
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00
9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL				2299.41
Add Water Charges @ 1%				22.99
TOTAL				2322.40
Add CPOH @ 15%				348.36

	TOTAL	2670.76
	Cost of 10.8 sqm	2670.76
	Cost per sqm	247.29
	Say	247.3

	Cost index	37.29%				92.22
	Total with Cost index					339.52

205 Specification Code: 5.9.5

**SUBHEAD : 5.0**

**REINFORCED CEMENT CONCRETE**

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.5** Lintels, beams, plinth beams, girders bressumers and cantilevers

Kerala Water Authority

Code	Description	Unit	Quantity	Rate	Amount
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PRICE

	<p>Details of cost for a beam of 6 m clear span, 0.50 m deep 0.30 m wide and height 3.5 m from floor cubical contents</p> <p><math>6.60 \times 0.5 \times 0.3 = 0.99 \text{ cum}</math></p> <p><math>1 \times 1.30 \times 6.00 = 7.80 \text{ sqm}</math></p> <p><b>MATERIAL:</b></p> <p>Assuming shuttering will become unserviceable after use of 40 times</p> <p>Add maintenance charges @ 10% of cost of material</p> <p>Less salvage value of material after full use @25% of cost of material</p> <p>1. Steel plats for side and bottom (plate size 1.20 x 0.50 m)</p> <p>Angle 40x40x5mm</p> <p><math>2 \times 1.20 = 2.40 \text{ m}</math></p> <p><math>3 \times 0.50 = 1.50 \text{ m}</math></p> <p>Total 3.90 m @ 3.00 kg/m = 11.70 kg</p> <p>sheet 1.6 mm thick 1.20 m x 0.50 m = 0.60 sqm</p> <p>0.60 sqm @ 12.55 kg/sqm. = 7.53 kg. Weight of one plate = 19.23 kg.</p> <p>Add for wastage 5% 0.96 kg.</p> <p>Total = 20.19 kg</p> <p>Total weight of all plates</p> <p><math>3 \times 5 \times 20.19 = 302.85 \text{ kg}</math></p> <p>Qty taken for cost of using once = <math>302.85 \times 85/40 = 6.4356 \text{ kg}</math></p>				
10.1	Rate as per item Number 10.1 of SH: Steel Work	kilogram	6.4356	74.70	480.74(A)
7343	Adjustable telescopic prop 3 m (2.02-3.75m) Qty taken for using once = $6 \times 0.85/40 = 0.1275 \text{ m}$	each	0.1275	955.00	121.76
7344	Beam clamp 300-380 mm (450-1070 mm) Qty taken for cost of using once = $5 \times 0.85/40 = 0.1063 \text{ m}$	each set	0.1063	355.00	37.74

9999	Sundries - Assembly nut & bolts etc. Qty taken for cost of using once = 1040x0.85/40 = 22.10	L.S	22.1	2.00	44.20
9999	Sundries - Carriage LABOUR:	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	1.25	738.00	922.50
0114	Beldar	Day	2.5	558.00	1395.00
9999	Sundries - Shuttering oil	L.S	39.0	2.00	78.00
9999	Sundries - paper tape etc	L.S	24.61	2.00	49.22

AddWater Charges @ 1% except on A ie on ( 3285.16-480.74=2804.42 )				28.04
TOTAL				3313.20
AddCPOH @ 15% except on A ie on ( 3313.2-480.74=2832.46 )				424.87
TOTAL				3738.15
Kerala Water Authority			Cost of 7.8 sqm	3738.15
PRICE			Cost of 1 sqm	479.25
Say				479.25

Cost index	<b>37.29%</b>				178.71
Total with Cost index					657.96

**206** Specification Code: 5.9.6

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.6** Columns, Pillars, Piers, Abutments, Posts and Struts

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for 4.5 sqm.          Size of column 450x450mm and 2.5 m high          Area of contact = <math>4 \times 0.45 \times 2.5 = 4.5</math> sqm          MATERIAL: Assuming shuttering will become unserviceable after use of 40 times          Add maintenance charges @ 10 % of cost of material          Less salvage value of material after full use @ 25% of cost of material</p>				
7331	<p>Wall form panel 1250x450xmm          Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	860.00	146.20
7332	<p>Corner angle 45x45x5 mm 2.50 long          Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	255.00	21.68
7333	<p>Column clamp 450x1070 mm          Qty taken for cost of using once = <math>5 \times 0.85 / 40 = 0.1063</math></p>	each	0.1063	965.00	102.58
7334	<p>Prop 2 m (2-3.5m)          Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	635.00	53.98
9999	<p>Sundries-Qty taken for cost of using once = <math>1300 \times 0.85 / 40 = 27.62</math></p>	L.S	27.62	2.00	55.24
9977	<p>Carriage          LABOUR</p>	L.S	52.0	2.00	104.00
0116	<p>Fitter(grade1)</p>	Day	1.0	738.00	738.00
0114	<p>Beldar</p>	Day	2.0	558.00	1116.00
9999	<p>Sundries-Shuttering oil</p>	L.S	39.0	2.00	78.00
9999	<p>Sundries-Carriage</p>	L.S	26.0	2.00	52.00

TOTAL				2467.68
Add Water Charges @ 1%				24.68
TOTAL				2492.36

	Add CPOH @ 15%	373.85
	TOTAL	2866.21
	Cost of 4.5 sqm	2866.21
	Cost per sqm	636.94
	Say	636.95

	Cost index	37.29%				237.52
	Total with Cost index					874.47

207 Specification Code: 5.9.3

**SUBHEAD : 5.0**

**REINFORCED CEMENT CONCRETE**

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.3** Suspended floors, roofs, landings, balconies and access platform

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for a room 4.5x3 = 13.50 sqm height 3.5 m</p> <p>MATERIAL:</p> <p>Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost</p> <p>1. Plates (size 0.75x0.60) Angle 40x40x5 mm 2x0.75 = 1.5 m 2x0.60 = 1.20 m = 2.70 m @ 3.00 kg/m = 8.10 kg sheet 1.6 mm thick 0.75x0.60 = 0.45 sqm 0.45 sqm @ 12.55 kg/sqm = 5.65 kg Weight of one plate = 13.75 kg Add for wastage @ 5% = 0.69 kg Total = 14.44 kg Total weight of all plates = 5x6x14.44= 433.20 kg. Qty taken for cost using once = 433.2x0.85/40 = 9.2055 kg</p>				
10.1	Rate as per item Number 10.1 of SH: Steel Work	kilogram	9.2055	74.70	687.65(A)
7342	Adjustable span ESO+SI (2.35-3.40) Qty taken for cost using once = 5x0.85/40 = 0.1063	each	0.1063	1480.00	157.32
7343	Adjustable telescopic prop 3 m (2.02-3.75m) Qty taken for cost using once = 6x0.85/40 = 0.1275	each	0.1275	955.00	121.76
9999	Sundries - Assembly nut & bolts etc. Qty taken for cost using once = 1040x0.85/40 = 22.10	L.S	22.1	2.00	44.20
9999	Sundries - Carriage LABOUR: Fitter (grade 1)	L.S	130.0	2.00	260.00

0116	Fitter(grade1)	Day	3.0	738.00	2214.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries - Shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries - paper tape etc	L.S	49.7	2.00	99.40

AddWater Charges @ 1% except on A ie on ( 7088.33-687.65=6400.68 )		64.01
TOTAL		7152.34
AddCPOH @ 15% except on A ie on ( 7152.34-687.65=6464.69 )		969.70
TOTAL		8122.27
Cost of 13.5 sqm		8122.27
Cost of 1 sqm		601.65
Say		601.65

	Kerala Water Authority Cost index <b>37.29%</b>			224.36
	Total with Cost index			826.01

**208** Specification Code: 2.25

**2.25** Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. LABOUR:				
0128	Mate	Day	0.2	617.00	123.40
0115	Coolie	Day	2.5	558.00	1395.00
0101	Bhisti	Day	0.2	617.00	123.40

PRICE

EST NO:

TOTAL	1641.80
Add Water Charges @ 1%	16.42
TOTAL	1658.22
Add CPOH @ 15%	248.73
TOTAL	1906.95
Cost of 10.0 cum	1906.95
Cost per cum	190.69
Say	190.7

Cost index	37.29%				71.11
Total with Cost index					261.81

209 Specification Code: 13.1.1

13.1 12 mm cement plaster of mix:

13.1.1 1:4 ( 1 cement : 4 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:4(1 cement: 4 fine sand)				
3.4	Rate as per item Number3.4 of SH: Mortars	cum	0.144	3528.85	508.15
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-	L.S	12.61	2.00	25.22
TOTAL					1994.54
Add Water Charges @ 1%					19.95

TOTAL	2014.49
Add CPOH @ 15%	302.17
TOTAL	2316.66
Cost of 10.0 sqm	2316.66
Cost per sqm	231.67
Say	231.65

Cost index	37.29%				86.38
Total with Cost index					318.03

210 Specification Code: 13.17

**13.17** 6 mm cement plaster 1:3 ( 1 cement : 3 fine sand) finished with a floating coat of neat cement and thick coat of Lime wash on top of walls when dry for bearing of R.C.C. slabs and beams.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand)				
3.3	Rate as per item Number 3.3 of SH: Mortars LABOUR:	cum	0.072	4183.05	301.18
0155	Mason (average)	Day	0.51	709.00	361.59
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Extra for removing burrs, cleaning with wire brushes, pock making with pointed tool etc. complete	L.S	13.39	2.00	26.78
9999	Sundries-Scaffolding and sundries.	L.S	11.7	2.00	23.40

0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12
0776	Satna lime	quintal	0.01	370.00	3.70
9999	Sundries-Indigo gum etc.	L.S	2.08	2.00	4.16
9999	Sundries-Sundries, ladder etc.	L.S	0.52	2.00	1.04
0141	White Washer	Day	0.07	617.00	43.19
0115	Coolie	Day	0.07	558.00	39.06
9999	Sundries-	L.S	2.73	2.00	5.46

				TOTAL	2254.55
				Add Water Charges @ 1%	22.55
				TOTAL	2277.10
				Kerala Water Authority Add CPOH @ 15%	341.57
				TOTAL	2618.67
				Cost of 10.0 sqm	2618.67
				Cost per sqm	261.87
				Say	261.85

	Cost index	37.29%			97.64
	Total with Cost index				359.49

211 Specification Code: 11.41.2

**11.41** Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20 mm thick

cement mortar 1:4(1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete.

**11.41.2** Size of Tile 600 x 600 mm.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 sqm. MATERIAL: Vitrified floor tiles 60x60 cm size = 1.00 sqm Add for wastage & breakage @ 2.5 % = 0.025 sqm Total = 1.025 sqm				
8621	Vitrified floor tile 60x60 cm	sqm	1.025	659.72	676.21
9977	Carriage of tiles 20 mm thick cement mortar 1:4 ( 1 cement : 4 coarse sand)	L.S	6.24	2.00	12.48
3.9	Rate as per item Number 3.9 of SH: Mortars 20 mm thick cement mortar 1:4(1 cement: coarse sand)	cum	0.024	4010.35	96.25
9999	Sundries-Mortar for pointing in white cement Cement for slurry over bed @ 3.3 kg per sqm	L.S	3.64	2.00	7.28
0367	Portland Cement LABOUR:	tonne	0.0033	4940.00	16.30
0123	Mason (brick layer) 1st class	Day	0.2	738.00	147.60
0115	Coolie	Day	0.2	558.00	111.60
9988	Carriage and sundries of cement etc	L.S	26.91	2.00	53.82
TOTAL					1121.54
Add Water Charges @ 1%					11.22
TOTAL					1132.76

	Add CPOH @ 15%	169.91
	TOTAL	1302.67
	Cost of 1.0 sqm	1302.67
	Cost per sqm	1302.67
	Say	1302.65

	Cost index	37.29%			485.76
	Total with Cost index				1788.41

212 Specification Code: 13.8.1

**13.8** 15 mm cement plaster on rough side of single or half brick wall finished with a floating coat of neat cement of mix:

**13.8.1** 1:3 ( 1 Cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1 : 3 ( 1 cement : 3 fine sand)				
3.3	Rate as per item Number 3.3 of SH: Mortars LABOUR:	cum	0.172	4183.05	719.48
0155	Mason (average)	Day	0.8	709.00	567.20
0115	Coolie	Day	0.88	558.00	491.04
0101	Bhisti	Day	0.99	617.00	610.83
9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84

0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL					2872.62
Add Water Charges @ 1%					28.73
TOTAL					2901.35
Add CPOH @ 15%					435.20
TOTAL					3336.55
Cost of 10.0 sqm					3336.55
Cost per sqm					333.66
Say					333.65

Cost index <b>37.29%</b>					124.42
Total with Cost index					458.07

**213** Specification Code: 11.43

**11.43** Fixing glazed/ Ceramic/ Vitrified floor tiles with cement based high polymer modified quick-set tile adhesive ( Water based) conforming to IS : 15477, in average 3 mm thickness.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 sqm MATERIAL:				
8731	High polymer modified quickset tile adhesive	kg	5.0	9.00	45.00
9999	Sundries-Mortar for pointing in white cement LABOUR:	L.S	40.43	2.00	80.86
0123	Mason (brick layer) 1st class	Day	0.2	738.00	147.60



0115	Coolie	Day	0.2	558.00	111.60
9988	Carriage and sundries of cement etc	L.S	26.91	2.00	53.82

TOTAL					438.88
Add Water Charges @ 1%					4.39
TOTAL					443.27
Add CPOH @ 15%					66.49
TOTAL					509.76
Cost of 1.0 sqm					509.76
Cost per sqm					509.76
Say					509.75

	Cost index	<b>37.29%</b>			190.09
	Total with Cost index				699.84

214 Specification Code: 13.82.2

**13.82**

Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound) content less than 50 grams/ litre, of approved brand and manufacture including applying additional coats wherever required, to achieve even shade and colour.

**13.82.2** Two coats

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL:				
0803	Acrylic emulsion, having VOC content less than 50 gm/litre	Litre	0.84	94.00	78.96
9999	Sundries-For filling holes and cracks with putty etc	L.S	1.43	2.00	2.86

9977	Carriage of material LABOUR:	L.S	6.76	2.00	13.52
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

TOTAL					798.42
Add Water Charges @ 1%					7.98
TOTAL					806.40
Add CPOH @ 15%					120.96
TOTAL					927.36
Cost of 10.0 sqm					927.36
Cost per sqm					92.74
Say					92.75

Kerala Water Authority  
**PRICE**

	Cost index	37.29%			34.59
	Total with Cost index				127.34

215 Specification Code: 10.3

**SUBHEAD : 10.0**

**STEEL WORK**

**10.3**

Providing and fixing in position collapsible steel shutters with vertical channels 20x10x2 mm and braced with flat iron diagonals 20x5 mm size, with top and bottom rail of T-iron 40x40x6 mm, with 40 mm dia steel pulleys, complete with bolts, nuts, locking arrangement, stoppers, handles, including applying a priming coat of approved steel primer .

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for a gate 2.4m x1.5 m = 3.6 sqm. MATERIAL: M.S. channels 18 Nos. on both sides 20x10x2mm @ 0.56kg/m 2x18x2.4 = 86.40 m + Add wastage @ 10% = 8.64 Total = 95.04 m 95.04 m @ 56 kg /m = 53.22kg = 0.53 q				
1007	Structural steel such as tees, angles, channels and R.S. joists M.S. Tee - 40x40x6 mm for bottom - 1.5 70 m + for top = 1.725 m = 3.295 m Say 3.3 m 3.3 @ 3.5kg/m = 11.55 kg+ Add wastage @ 10% = 1.155 kg Total = 12.705 kg. Say 0.13 qtl	quintal	0.53	4600.00	2438.00
1007	Structural steel such as tees, angles, channels and R.S. joists 20mmx5mm flat iron diagonals 4 Nos. 4x32x0.5334= 68.275 m 68.275 m @ 0.8kg/m = 54.62 kg+ Add wastage @ 10% = 5.46 kg Total = 60.08kg = 0.60 qtl	quintal	0.13	4600.00	598.00
1008	Flats up to 10 mm in thickness	quintal	0.6	4500.00	2700.00
2205	Carriage of Steel Carriage of steel (0.053+0.013+0.060= 0.126 tonne)	tonne	0.126	92.24	11.62
9999	Sundries - Cost of rivets fixing hooks and washers	L.S	269.1	2.00	538.20
9999	Sundries - Cost of locking arrangements and handles.	L.S	67.34	2.00	134.68

4013	Pulley 40 mm dia Priming coat- Channel-36x0.076x2.4 = 6.57 sqm.+ Tee 0.16x3.3 = 0.53 sqm. + Flats - 0.05x68 = 3.40 sqm. Total = 10.50sqm	each	10.0	30.00	300.00
13.50.3	Rate as per item Number13.50.3 of SH: Finishing LABOUR:	sqm	10.5	44.00	462.00(A)
0116	Fitter(grade1)	Day	3.0	738.00	2214.00
0102	Blacksmith 1st class	Day	6.0	738.00	4428.00
0103	Blacksmith 2nd class	Day	6.0	679.00	4074.00
0123	Mason (brick layer) 1st class	Day	0.5	738.00	369.00
0124	Mason (brick layer )2nd class	Day	0.5	679.00	339.50
0114	Beldar	Day	8.0	558.00	4464.00
9999	Sundries -	L.S	161.46	2.00	322.92

Kerala Water Authority		AddWater Charges @ 1% except on A ie on ( 23393.92-462.0=22931.92 )	229.32
TOTAL			23623.24
		AddCPOH @ 15% except on A ie on ( 23623.24-462.0=23161.24 )	3474.19
TOTAL			27097.38
Cost of 3.6 sqm			27097.38
Cost of 1 sqm			7527.05
Say			7527.05

	Cost index <b>37.29%</b>			2806.84
	Total with Cost index			10333.89

## 19. LAND SCAPING &amp; AFFORESTATION (DSR for horticulture)

216 Specification Code: od342769/2021\_2022

od342769/2021\_2022 :Trenching in ordinary soil up to a depth of 60 cm including removal and stacking of serviceable materials and then disposing of surplus soil, by spreading and neatly leveling within a lead of 50 m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or / and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure).

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Lawn area (800sqm)	cum	1.00000	66.98	66.98	
TOTAL					66.98	
Add Water Charges @ 1%					.67	
Add CPOH @ 15%					10.15	
cost for one cum					77.80	
say					77.80	

Kerala Water Authority Cost index	37.29 %	.00
Total with Cost index		77.8

217 Specification Code: od342772/2021\_2022

od342772/2021\_2022 :Supplying and stacking of good earth at site including royalty and carriage upto 5 km complete (earth measured in stacks will be reduced by 20% for payment).

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	50% of excavated earth	cum	1.00000	485.79	485.79	
TOTAL					485.79	
Add Water Charges @ 1%					4.86	
Add CPOH @ 15%					73.60	
cost for one cum					564.25	
say					564.25	

Cost index <b>37.29 %</b>	.00
Total with Cost index	564.25

**218** Specification Code: od342801/2021\_2022

od342801/2021\_2022 :Supplying and stacking at site dump manure from approved source, including carriage upto 5 km  
complete (manure measured in stacks will be reduced by 8% for payment)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	50% Excavated earth	cum	1.00000	305.53	305.53	
TOTAL					305.53	
Add Water Charges @ 1%					3.06	
Add CPOH @ 15%					46.29	
cost for one cum					354.87	
say					354.87	

Cost index <b>37.29 %</b>	.00
Total with Cost index	354.87

**219** Specification Code: od342805/2021\_2022

od342805/2021\_2022 :Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Lawn area	cum	1.00000	31.19	31.19	
TOTAL					31.19	
Add Water Charges @ 1%					.31	
Add CPOH @ 15%					4.73	
cost for one cum					36.23	
say					36.23	

Cost index <b>37.29 %</b>	.00
Total with Cost index	36.23

**220** Specification Code: od342856/2021\_2022

od342856/2021\_2022 :Spreading of sludge, dump manure and/or good earth in required thickness as per direction of<br>officer-in-charge (cost of sludge, dump manure and/ or good earth to be paid separately).

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Lawn area	cum	1.00000	45.21	45.21	
TOTAL					45.21	
Add Water Charges @ 1%					.45	
Add CPOH @ 15%					6.85	
cost for one cum					52.51	
say					52.51	

Cost index <b>37.29 %</b>	.00
Total with Cost index	52.51

**221** Specification Code: od342860/2021\_2022

od342860/2021\_2022 :Providing and laying Neelgiri/Mexican grass turf with earth 50mm to 60mm thickness of existing<br>ground prepared with proper level and ramming with tools wooden (Dhurmos) and than rolling<br>the surface with light roller make the surface smoothen and light watering with sprinkler and<br>maintenance for 30 days or more till the grass establish properly, as per direction of officer-incharge.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Lawn area	cum	1.00000	297.86	297.86	
TOTAL					297.86	
Add Water Charges @ 1%					2.98	
Add CPOH @ 15%					45.13	

cost for one cum	345.96
say	345.96

Cost index <b>37.29 %</b>	.00
Total with Cost index	345.96

**222** Specification Code: od342863/2021\_2022

od342863/2021\_2022 :Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure<br>or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% :<br>1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including<br>removal of rubbish and surplus earth, if any, with all leads and lifts (cost of manure, sludge or extra<br>good earth if needed to be paid for separately) :Holes 45 cm dia, and 45 cm deep

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	LS	No	1.00000	19.57	19.57	
TOTAL					19.57	
Add Water Charges @ 1%					.20	
Add CPOH @ 15%					2.96	
cost for one No					22.73	
say					22.73	

Cost index <b>37.29 %</b>	.00
Total with Cost index	22.73

**223** Specification Code: od342865/2021\_2022

od342865/2021\_2022 :Providing and fixing M.S. flat iron tree guard 60 cm dia and 2 m high, above ground consisting 4<br>nos 25 x 6 mm, 2.25 m long and 8 nos 25 x 3 mm 2 m long verticals M.S. flats, riveted to 3 nos 25 x<br>6 mm M.S. flat iron rings in two halves, fixing together at site with required six numbers of 8 mm<br>dia and 30 mm long bolts, including painting two coats with synthetic enamel paint of approved<br>brand and manufacture over a coat of primer. One name plate of 1 mm thick M.S. sheet of size<br>250x100 mm shall be welded to the tree guard near the middle height and lettered CPWD / PWD/<br>any other approved name. The tree guard shall be suitably fixed to the



ground by embedding four<br>legs of tree guard in pits of suitable dia and to a depth of 25 cm, refilling the pits with soil and<br>ramming, complete in all respect as per satisfaction and direction of Officer-in-charge.<br>

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	LS	No	1.00000	4435.21	4435.21	
TOTAL					4435.21	
Add Water Charges @ 1%					44.35	
Add CPOH @ 15%					671.93	
cost for one No					5151.50	
say					5151.50	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		5151.5

**224** Specification Code: od342885/2021\_2022

od342885/2021\_2022 :Supply and stacking of Azadirachta indica ( Neem ) plant of height 120130cm in big polybag of size<br>25 cm as per direction of the officer-in-charge.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	LS	No	1.00000	87.65	87.65	
TOTAL					87.65	
Add Water Charges @ 1%					.88	
Add CPOH @ 15%					13.28	
cost for one No					101.81	
say					101.81	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		101.81

**225** Specification Code: od342888/2021\_2022

od342888/2021\_2022 :Supply and stacking of Delonix regia (Gulmohar) plant of height 150-165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	LS	No	1.00000	87.65	87.65	
TOTAL					87.65	
Add Water Charges @ 1%					.88	
Add CPOH @ 15%					13.28	
cost for one No					101.81	
say					101.81	

Cost index <b>37.29 %</b>	.00
Total with Cost index	101.81

**226** Specification Code: od342889/2021\_2022

### Kerala Water Authority

od342889/2021\_2022 :Supply and stacking of Ficus benjamina (green) plant of height 120-135 cm. with 6-8 branches and lush green foliage in g. bags of size 25 cm as per direction of the officer-in-charge.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	LS	No	1.00000	146.08	146.08	
TOTAL					146.08	
Add Water Charges @ 1%					1.46	
Add CPOH @ 15%					22.13	
cost for one No					169.67	
say					169.67	

Cost index <b>37.29 %</b>	.00
Total with Cost index	169.67

**227** Specification Code: od342899/2021\_2022

od342899/2021\_2022 :Supply and stacking of Plumeria acutifolia plant of height 150-165 cm. with 3-4 branches in big size<br>HDPE bag as per direction of the officer-in-charge.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	LS	No	1.00000	292.16	292.16	
TOTAL					292.16	
Add Water Charges @ 1%					2.92	
Add CPOH @ 15%					44.26	
cost for one No					339.34	
say					339.34	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		339.34

**228** Specification Code: od342914/2021\_2022

### Kerala Water Authority

od342914/2021\_2022 :Supply and stacking of Lagerstroemia flosreginae plant of height 150-165 cm.in big poly bag of size<br>25 cm as per direction of the officer-in-charge.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	LS	No	1.00000	175.30	175.30	
TOTAL					175.30	
Add Water Charges @ 1%					1.75	
Add CPOH @ 15%					26.56	
cost for one No					203.61	
say					203.61	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		203.61

**229** Specification Code: od342916/2021\_2022

od342916/2021\_2022 :Plantation of Trees, Shrubs, and Hedge at site i/c watering and removal of unserveiceable<br>material's as per direction of officer in charge (excluding cast of plant & water)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	LS	No	1.00000	6.21	6.21	
TOTAL					6.21	
Add Water Charges @ 1%					.06	
Add CPOH @ 15%					.94	
cost for one No					7.21	
say					7.21	
Cost index <b>37.29 %</b>					.00	
Total with Cost index					7.21	

## 20. Receiving chamber, screen channel and grit chamber and parshall flume

230 Specification Code: 2.6.1

### 2.6

Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

#### 2.6.1

All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00

0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60

TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

Cost index		<b>37.29%</b>			58.86
Total with Cost index					216.71

231 Specification Code: 2.26.1

**2.26**

Extra for every additional lift 1.5 m or part there of in excavation / banking excavated or stacked materials.

**2.26.1**

All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum LABOUR:				
0128	Mate	Day	0.1	617.00	61.70
0114	Beldar	Day	1.1	558.00	613.80
TOTAL					675.50
Add Water Charges @ 1%					6.75
TOTAL					682.25

	Add CPOH @ 15%	102.34
	TOTAL	784.59
	Cost of 10.0 cum	784.59
	Cost per cum	78.46
	Say	78.45

	Cost index	37.29%				29.25
	Total with Cost index					107.7

232 Specification Code: 4.1.8

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.8** 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0293	Stone Aggregate(single size): 40 mm nominal size nominal size (0.70 cum -7.5% for voids i.e. 0.05 =0.65 cum)	cum	0.65	1300.00	845.00
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.24	1350.00	324.00
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	0.65	112.79	73.31
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.24	103.77	24.90

0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement	tonne	0.17	4940.00	839.80
2209	Carriage of Cement LABOUR:	tonne	0.17	92.24	15.68
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

				TOTAL	4327.24
				Add Water Charges @ 1%	43.27
				TOTAL	4370.51
				Add CPOH @ 15%	655.58
				TOTAL	5026.09
				Cost of 1.0 cum	5026.09
				Say	5026.1

	Cost index	<b>37.29%</b>			1874.23
	Total with Cost index				6900.33

**233** Specification Code: 5.37.1

**5.37**

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per

mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.1** All work upto plinth level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.50% of cement Production Cost, carriage to site pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00



0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.0	2.00	26.00

TOTAL		6277.32
Add Water Charges @ 1%		62.77
TOTAL		6340.09
Add CPOH @ 15%		951.01
TOTAL		7291.10
Cost of 1.0 cum		7291.10
Kerala Water Authority Say		7291.1

# PRICE

	Cost index <b>37.29%</b>				2718.85
	Total with Cost index				10009.95

**234** Specification Code: 5.37.2

### 5.37

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in

recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.2** All work above plinth level upto floor V level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00

0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-Extra labour for lifting up to floor five level 0.75x 2.5 = 1.88	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL					7326.36
Add Water Charges @ 1%					73.26
TOTAL					7399.62
Add CPOH @ 15%					1109.94
TOTAL					8509.56
Cost of 1.0 cum					8509.56
Say					8509.55

Kerala Water Authority  
**PRICE**

	Cost index	<b>37.29%</b>			3173.21
	Total with Cost index				11682.76

**235** Specification Code: 5.22.6

**5.22** Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.6** Thermo - Mechanically Treated bars of grade Fe-500D or more

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82

	TOTAL	6241.51
	Add Water Charges @ 1%	62.42
	TOTAL	6303.93
	Add CPOH @ 15%	945.59
	TOTAL	7249.52
	Cost of 100.0 kilogram	7249.52
	Cost per kilogram	72.50
	Say	72.5

	Cost index	37.29%			27.04
	Total with Cost index				99.54

236 Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for footing size 2.7mx2.7mx 1.00m Contact area = 10.8sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	860.00	292.40
7326	Corner angle 45x45x5 mm 1.50 m long Qty taken for cost of using once = $4 \times 0.85 / 40 = 0.085$	each	0.085	240.00	20.40
7327	100 mm channel shoulder 2.5 m long Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	76.00	25.84
7329	Single clip Qty taken for cost of using once = $8 \times 0.85 / 40$ $= 0.17$	each	0.17	59.00	10.03
7330	M.S. Tube 40 mm dia Qty taken for cost of using once = $10.8 \times 0.85 / 40 = 0.2295$	metre	0.2295	215.00	49.34
9999	Sundries-Assembly nuts 7 bolts Qty taken for cost of using once = $1040 \times 0.85 / 40 = 22.10$	L.S	22.1	2.00	44.20

9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00
9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL					2299.41
Add Water Charges @ 1%					22.99
TOTAL					2322.40
Add CPOH @ 15%					348.36
TOTAL					2670.76
Cost of 10.8 sqm					2670.76
Cost per sqm					247.29
Say					247.3

Kerala Water Authority

PRICE

	Cost index	37.29%			92.22
	Total with Cost index				339.52

237 Specification Code: 5.9.5

**SUBHEAD : 5.0****REINFORCED CEMENT CONCRETE****5.9** Centering and shuttering including strutting, etc. and removal of form for:**5.9.5** Lintels, beams, plinth beams, girders bressumers and cantilevers

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for a beam of 6 m clear span, 0.50 m deep 0.30 m wide and height 3.5 m from floor cubical contents</p> <p><math>6.60 \times 0.5 \times 0.3 = 0.99 \text{ cum}</math></p> <p><math>1 \times 1.30 \times 6.00 = 7.80 \text{ sqm}</math></p> <p>MATERIAL:</p> <p>Assuming shuttering will become unserviceable after use of 40 times</p> <p>Add maintenance charges @ 10% of cost of material</p> <p>Less salvage value of material after full use @25% of cost of material</p> <p>1. Steel plats for side and bottom (plate size 1.20 x 0.50 m)</p> <p>Angle 40x40x5mm</p> <p><math>2 \times 1.20 = 2.40 \text{ m}</math></p> <p><math>3 \times 0.50 = 1.50 \text{ m}</math></p> <p>Total 3.90 m @ 3.00 kg/m = 11.70 kg</p> <p>sheet 1.6 mm thick 1.20 m x 0.50 m = 0.60 sqm</p> <p><math>0.60 \text{ sqm} @ 12.55 \text{ kg/sqm.} = 7.53 \text{ kg.}</math></p> <p>Weight of one plate = 19.23 kg.</p> <p>Add for wastage 5% 0.96 kg.</p> <p>Total = 20.19 kg</p> <p>Total weight of all plates</p> <p><math>3 \times 5 \times 20.19 = 302.85 \text{ kg}</math></p> <p>Qty taken for cost of using once = <math>302.85 \times 85/40 = 6.4356 \text{ kg}</math></p>				
10.1	Rate as per item Number 10.1 of SH: Steel Work	kilogram	6.4356	74.70	480.74(A)
7343	Adjustable telescopic prop 3 m (2.02-3.75m) Qty taken for using once = $6 \times 0.85/40 = 0.1275 \text{ m}$	each	0.1275	955.00	121.76
7344	Beam clamp 300-380 mm (450-1070 mm) Qty taken for cost of using once = $5 \times 0.85/40 = 0.1063 \text{ m}$	each set	0.1063	355.00	37.74

9999	Sundries - Assembly nut & bolts etc. Qty taken for cost of using once = 1040x0.85/40 = 22.10	L.S	22.1	2.00	44.20
9999	Sundries - Carriage LABOUR:	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	1.25	738.00	922.50
0114	Beldar	Day	2.5	558.00	1395.00
9999	Sundries - Shuttering oil	L.S	39.0	2.00	78.00
9999	Sundries - paper tape etc	L.S	24.61	2.00	49.22

AddWater Charges @ 1% except on A ie on ( 3285.16-480.74=2804.42 )				28.04
TOTAL				3313.20
AddCPOH @ 15% except on A ie on ( 3313.2-480.74=2832.46 )				424.87
TOTAL				3738.15
Kerala Water Authority			Cost of 7.8 sqm	3738.15
PRICE			Cost of 1 sqm	479.25
Say				479.25

Cost index	37.29%				178.71
Total with Cost index					657.96

238 Specification Code: 5.9.6

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.6** Columns, Pillars, Piers, Abutments, Posts and Struts

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for 4.5 sqm.          Size of column 450x450mm and 2.5 m high          Area of contact = <math>4 \times 0.45 \times 2.5 = 4.5</math> sqm          MATERIAL: Assuming shuttering will become unserviceable after use of 40 times          Add maintenance charges @ 10 % of cost of material          Less salvage value of material after full use @ 25% of cost of material</p>				
7331	<p>Wall form panel 1250x450xmm          Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	860.00	146.20
7332	<p>Corner angle 45x45x5 mm 2.50 long          Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	255.00	21.68
7333	<p>Column clamp 450x1070 mm          Qty taken for cost of using once = <math>5 \times 0.85 / 40 = 0.1063</math></p>	each	0.1063	965.00	102.58
7334	<p>Prop 2 m (2-3.5m)          Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	635.00	53.98
9999	<p>Sundries-Qty taken for cost of using once = <math>1300 \times 0.85 / 40 = 27.62</math></p>	L.S	27.62	2.00	55.24
9977	<p>Carriage          LABOUR</p>	L.S	52.0	2.00	104.00
0116	<p>Fitter(grade1)</p>	Day	1.0	738.00	738.00
0114	<p>Beldar</p>	Day	2.0	558.00	1116.00
9999	<p>Sundries-Shuttering oil</p>	L.S	39.0	2.00	78.00
9999	<p>Sundries-Carriage</p>	L.S	26.0	2.00	52.00

TOTAL					2467.68
Add Water Charges @ 1%					24.68
TOTAL					2492.36

	Add CPOH @ 15%	373.85
	TOTAL	2866.21
	Cost of 4.5 sqm	2866.21
	Cost per sqm	636.94
	Say	636.95

	Cost index	37.29%				237.52
	Total with Cost index					874.47

239 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:

**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand)				
3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66

9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12
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TOTAL					2547.60
Add Water Charges @ 1%					25.48
TOTAL					2573.08
Add CPOH @ 15%					385.96
TOTAL					2959.04
Cost of 10.0 sqm					2959.04
Cost per sqm					295.90
Say					295.9

Cost index <b>37.29%</b>					110.34
Total with Cost index					406.24

240 Specification Code: 13.52.2					
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**13.52** Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2** On concrete work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm PRIMING COAT MATERIAL:				
0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04
0131	Painter	Day	0.25	679.00	169.75

0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

				TOTAL	1415.47
				Add Water Charges @ 1%	14.15
				TOTAL	1429.62
				Add CPOH @ 15%	214.44
				TOTAL	1644.06
				Cost of 10.0 sqm	1644.06
				Cost per sqm	164.41
				Say	164.4

	Cost index	<b>37.29%</b>			61.30
	Total with Cost index				225.7

241 Specification Code: 5.34.1

**5.34**

Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately.

**5.34.1**

Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum. Cement for M-30 mix = 0.340 t Cement for M-25 mix = 0.330 t Difference = 0.010 t				
0367	Portland Cement	tonne	0.01	4940.00	49.40
2209	Carriage of Cement Plasticizer for M-30 mix = 1.70 kg Plasticizer for M-25 mix = 1.65 kg Difference = 0.05 kg	tonne	0.01	92.24	0.92
7318	Plasticizer / super plasticizer	kilogram	0.05	36.00	1.80
TOTAL					52.12
Add Water Charges @ 1%					.52
Kerala Water Authority TOTAL					52.64
Add CPOH @ 15%					7.90
TOTAL					60.54
Cost of 1.0 cum					60.54
Say					60.55

	Cost index <b>37.29%</b>				22.58
	Total with Cost index				83.13

**242** Specification Code: 5.22.5

**5.22**

Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.5**

Hard drawn steel wire fabric

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Hard drawn steel wire fabric 100kg/7.75 kg = 12.903 sqm Wastage 5% = 0.64 sqm Total = 13.548 sqm				
1021	Hard drawn steel wire fabric	sqm	13.548	430.00	5825.64
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For cutting and laying in position	L.S	26.0	2.00	52.00
0103	Blacksmith 2nd class	Day	0.2	679.00	135.80
0114	Beldar	Day	1.5	558.00	837.00
9999	Sundries-and binding wire	L.S	13.52	2.00	27.04
TOTAL					6887.17
Add Water Charges @ 1%					68.87
TOTAL					6956.04
Add CPOH @ 15%					1043.41
TOTAL					7999.45
Cost of 100.0 kilogram					7999.45
Cost per kilogram					79.99
Say					80.0

	Cost index	<b>37.29%</b>			29.83
	Total with Cost index				109.83

243 Specification Code: 4.12

**4.12**

Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification .

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for per bag 50 kg. of cement MATERIAL: Approved water proofing materials according to the recommended proportions				
1213	Water proofing materials	kilogram	1.0	35.00	35.00
9988	Carriage and sundries Carriage of water proofing material and labour for mixing	L.S	3.64	2.00	7.28
TOTAL					42.28
Add Water Charges @ 1%					.42
TOTAL					42.70
Add CPOH @ 15%					6.41
TOTAL					49.11
Cost of 50.0 kg					49.11
Cost per kg					.98
Say					1.0

	Cost index	<b>37.29%</b>				.37
	Total with Cost index					1.37

244 Specification Code: 5.9.2

**SUBHEAD 5.0**

### REINFORCED CEMENT CONCRETE

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 7.9m long and 1.00m high wall Area of contact $2 \times 7.9 \times 1.0 = 15.8$ sqm <b>MATERIAL:</b> Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm $2 \times 3 \times 2 \times 2 = 24$ Nos. Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	860.00	438.60
7327	100 mm channel shoulder 2.5 m long $4 \times 2 = 8$ Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) $2 \times 6 \times 2 = 24$ Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	76.00	38.76
7329	Single clip $2 \times 3 \times 2 = 12$ Qty taken for cost of using once = $12 \times 0.85 / 40 = 0.255$	each	0.255	59.00	15.05



7330	M.S. Tube 40 mm dia 2x2x8m = 32m Qty taken for cost of using once = $32 \times 0.85 / 40 = 0.68$	metre	0.68	215.00	146.20
9999	Sundries-Qty taken for cost of using once = $1300 \times 0.85 / 40 = 27.62$	L.S	27.62	2.00	55.24
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Kerala Water Authority Add CPOH @ 15%					1090.13
PRICE Cost of 15.8 Sq. m.					8357.64
Cost per 1 Sq. m.					528.96
Say					528.95

	Cost index	<b>37.29%</b>			197.25
	Total with Cost index				726.2

245 Specification Code: 5.9.3

**SUBHEAD : 5.0**

**REINFORCED CEMENT CONCRETE**

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

### 5.9.3 Suspended floors, roofs, landings, balconies and access platform

Code	Description	Unit	Quantity	Rate	Amount
	<p>Details of cost for a room 4.5x3 = 13.50 sqm height 3.5 m</p> <p>MATERIAL:</p> <p>Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost</p> <p>1. Plates (size 0.75x0.60) Angle 40x40x5 mm 2x0.75 = 1.5 m 2x0.60 = 1.20 m = 2.70 m @ 3.00 kg/m = 8.10 kg sheet 1.6 mm thick 0.75x0.60 = 0.45 sqm 0.45 sqm @ 12.55 kg/sqm = 5.65 kg Weight of one plate = 13.75 kg Add for wastage @ 5% = 0.69 kg Total = 14.44 kg Total weight of all plates = 5x6x14.44= 433.20 kg. Qty taken for cost using once = 433.2x0.85/40 = 9.2055 kg</p>				
10.1	Rate as per item Number10.1 of SH: Steel Work	kilogram	9.2055	74.70	687.65(A)
7342	Adjustable span ESO+SI (2.35-3.40) Qty taken for cost using once = 5x0.85/40 =0.1063	each	0.1063	1480.00	157.32
7343	Adjustable telescopic prop 3 m (2.02-3.75m) Qty taken for cost using once = 6x0.85/40 = 0.1275	each	0.1275	955.00	121.76

9999	Sundries - Assembly nut & bolts etc. Qty taken for cost using once = 1040x0.85/40 = 22.10	L.S	22.1	2.00	44.20
9999	Sundries - Carriage LABOUR: Fitter (grade 1)	L.S	130.0	2.00	260.00
0116	Fitter(grade1)	Day	3.0	738.00	2214.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries - Shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries - paper tape etc	L.S	49.7	2.00	99.40

AddWater Charges @ 1% except on A ie on ( 7088.33-687.65=6400.68 )		64.01
TOTAL		7152.34
AddCPOH @ 15% except on A ie on ( 7152.34-687.65=6464.69 )		969.70
TOTAL		8122.27
Kerala Water Authority PRICE		Cost of 13.5 sqm
		8122.27
		Cost of 1 sqm
		601.65
		Say
		601.65

	Cost index	<b>37.29%</b>				224.36
	Total with Cost index					826.01

246 Specification Code: 22.23.1

**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1

(3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.1** For vertical surface two coats @0.70 kg per sqm

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry x .70kg / sq.mtr. = 1.40kg) LABOUR	kilogram	1.4	238.00	333.20
9999	Sundries-For application of waterproofing material	L.S	11.55	2.00	23.10
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50
TOTAL					362.10
Add Water Charges @ 1%					3.62
TOTAL					365.72
Add CPOH @ 15%					54.86
TOTAL					420.58
Cost of 1.0 sqm					420.58
Say					420.6

	Cost index	<b>37.29%</b>			156.84
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	Total with Cost index				577.44
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**247** Specification Code: 22.23.2

**22.23**

Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer in-charge. The product performance shall carry guarantee for 10 years against any leakage.

**22.23.2** For horizontal surface one coat @ 1.10 kg per sqm.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 .00 sqm MATERIAL :				
0351	Integral cystalline slurry (1 x 1.10kg / sq.mtr. = 1.10kg) LABOUR	kilogram	1.1	238.00	261.80
9999	Sundries-For application of waterproofing material	L.S	5.75	2.00	11.50
9999	Sundries-	L.S	1.15	2.00	2.30
9999	Sundries-of material and tools cost etc..	L.S	1.75	2.00	3.50
TOTAL					279.10
Add Water Charges @ 1%					2.79
TOTAL					281.89

	Add CPOH @ 15%	42.28
	TOTAL	324.17
	Cost of 1.0 sqm	324.17
	Cost per sqm	324.17
	Say	324.15

	Cost index	37.29%				120.88
	Total with Cost index					445.03

248 Specification Code: 13.7.2

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:

**13.7.2** 1:4 ( 1 cement : 4 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1 : 4 ( 1 cement : 4 fine sand)				
3.4	Rate as per item Number 3.4 of SH: Mortars LABOUR:	cum	0.144	3528.85	508.15
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43

0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL					2453.39
Add Water Charges @ 1%					24.53
TOTAL					2477.92
Add CPOH @ 15%					371.69
TOTAL					2849.61
Cost of 10.0 sqm					2849.61
Cost per sqm					284.96
Say					284.95

Cost index		<b>37.29%</b>			106.26
Total with Cost index					391.21

Kerala Water Authority

249 Specification Code: 13.52.1

**13.52**

Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.1**

On steel work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL:				
4202	Red oxide Zinc chromate primer	Litre	0.75	110.00	82.50
9999	Sundries-Putty	L.S	2.73	2.00	5.46
9977	Carriage LABOUR:	L.S	0.39	2.00	0.78
0131	Painter	Day	0.25	679.00	169.75

0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	5.46	2.00	10.92
9999	Sundries-EPOXY PAINTING MATERIAL:	L.S	10.66	2.00	21.32
7239	Epoxy paint	Litre	1.25	230.00	287.50
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	6.76	2.00	13.52
9999	Sundries-	L.S	8.06	2.00	16.12

	TOTAL	1418.21
	Add Water Charges @ 1%	14.18
	TOTAL	1432.39
	Add CPOH @ 15%	214.86
	TOTAL	1647.25
	Cost of 10.0 sqm	1647.25
	Cost per sqm	164.72
	Say	164.7

	Cost index <b>37.29%</b>				61.42
	Total with Cost index				226.12



# **DATA ANALYSIS COTREATMENT**

## Receiving Chamber

1 Specification Code: 2.6.1

## 2.6

Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

## 2.6.1

All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60
TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

	Cost index	37.29%			58.86
	Total with Cost index				216.71

2 Specification Code: 4.1.5

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5** 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04
TOTAL					4678.18
Add Water Charges @ 1%					46.78

	TOTAL	4724.96
	Add CPOH @ 15%	708.74
	TOTAL	5433.70
	Cost of 1.0 cum	5433.70
	Say	5433.7

	Cost index	37.29%				2026.23
	Total with Cost index					7459.93

**3** Specification Code: 5.37.2

**5.37**

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.2** All work above plinth level upto floor V level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50

0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-Extra labour for lifting up to floor five level 0.75x 2.5 = 1.88	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL				7326.36
Add Water Charges @ 1%				73.26
TOTAL				7399.62

PRICE

EST NO:

	Add CPOH @ 15%	1109.94
	TOTAL	8509.56
	Cost of 1.0 cum	8509.56
	Say	8509.55

	Cost index	37.29%				3173.21
	Total with Cost index					11682.76

4 Specification Code: 5.9.2

**SUBHEAD 5.0****REINFORCED CEMENT CONCRETE**

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 7.9m long and 1.00m high wall Area of contact $2 \times 7.9 \times 1.0 = 15.8$ sqm <b>MATERIAL:</b> Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				

PRICE

EST NO:

7319	wall form panel 1250x500 mm 2x3x2x2 = 24 Nos. Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	860.00	438.60
7327	100 mm channel shoulder 2.5 m long 4x2 = 8 Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) 2x6x2 = 24 Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	76.00	38.76
7329	Single clip 2x3x2 = 12 Qty taken for cost of using once = $12 \times 0.85 / 40 = 0.255$	each	0.255	59.00	15.05
7330	M.S. Tube 40 mm dia 2x2x8m = 32m Qty taken for cost of using once = $32 \times 0.85 / 40 = 0.68$	metre	0.68	215.00	146.20
9999	Sundries-Qty taken for cost of using once = $1300 \times 0.85 / 40 = 27.62$	L.S	27.62	2.00	55.24
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Add CPOH @ 15%					1090.13

	Cost of 15.8 Sq. m.	8357.64
	Cost per 1 Sq. m.	528.96
	Say	528.95

	Cost index <b>37.29%</b>				197.25
	Total with Cost index				726.2

5 Specification Code: 5.22.6

**5.22** Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.6** Thermo - Mechanically Treated bars of grade Fe-500D or more

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82
TOTAL					6241.51
Add Water Charges @ 1%					62.42



	TOTAL	6303.93
	Add CPOH @ 15%	945.59
	TOTAL	7249.52
	Cost of 100.0 kilogram	7249.52
	Cost per kilogram	72.50
	Say	72.5

	Cost index	37.29%				27.04
	Total with Cost index					99.54

6 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:

**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Kerala Water Authority

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43

0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL					2547.60
Add Water Charges @ 1%					25.48
TOTAL					2573.08
Add CPOH @ 15%					385.96
TOTAL					2959.04
Cost of 10.0 sqm					2959.04
Cost per sqm					295.90
Say					295.9

	Cost index	<b>37.29%</b>			110.34
	Total with Cost index				406.24

Kerala Water Authority

**DILUTION CHAMBER**

7 Specification Code: 2.6.1

**PRICE****2.6**

Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

**2.6.1**

All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00

0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60

TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

	Kerala Water Authority Cost index <b>37.29%</b>			58.86
	Total with Cost index			216.71

**8** Specification Code: 4.1.5

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5** 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.7	1350.00	945.00

0297	Stone Aggregate(single size): 10 mm nominal size nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL				4678.18
Add Water Charges @ 1%				46.78
TOTAL				4724.96
Add CPOH @ 15%				708.74
TOTAL				5433.70
Cost of 1.0 cum				5433.70
Say				5433.7

	Cost index	<b>37.29%</b>			2026.23
	Total with Cost index				7459.93

## 9 Specification Code: 5.37.2

## 5.37

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

## 5.37.2

All work above plinth level upto floor V level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40

0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-Extra labour for lifting up to floor five level $0.75 \times 2.5 = 1.88$	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

Kerala Water Authority				TOTAL	7326.36
				Add Water Charges @ 1%	73.26
				TOTAL	7399.62
				Add CPOH @ 15%	1109.94
				TOTAL	8509.56
				Cost of 1.0 cum	8509.56
				Say	8509.55

	Cost index	<b>37.29%</b>			3173.21
	Total with Cost index				11682.76

10 Specification Code: 5.9.2

**SUBHEAD 5.0****REINFORCED CEMENT CONCRETE**

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 7.9m long and 1.00m high wall Area of contact $2 \times 7.9 \times 1.0 = 15.8$ sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm $2 \times 3 \times 2 \times 2 = 24$ Nos. Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	860.00	438.60
7327	100 mm channel shoulder 2.5 m long $4 \times 2 = 8$ Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) $2 \times 6 \times 2 = 24$ Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	76.00	38.76
7329	Single clip $2 \times 3 \times 2 = 12$ Qty taken for cost of using once = $12 \times 0.85 / 40 = 0.255$	each	0.255	59.00	15.05

7330	M.S. Tube 40 mm dia 2x2x8m = 32m Qty taken for cost of using once = $32 \times 0.85 / 40 = 0.68$	metre	0.68	215.00	146.20
9999	Sundries-Qty taken for cost of using once = $1300 \times 0.85 / 40 = 27.62$	L.S	27.62	2.00	55.24
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Kerala Water Authority Add CPOH @ 15%					1090.13
PRICE Cost of 15.8 Sq. m.					8357.64
Cost per 1 Sq. m.					528.96
Say					528.95

	Cost index <b>37.29%</b>				197.25
	Total with Cost index				726.2

11 Specification Code: 5.22.6

**5.22** Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.6** Thermo - Mechanically Treated bars of grade Fe-500D or more



Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in postion	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82
TOTAL					6241.51
Add Water Charges @ 1%					62.42
TOTAL					6303.93
Add CPOH @ 15%					945.59
TOTAL					7249.52
Cost of 100.0 kilogram					7249.52
Cost per kilogram					72.50
Say					72.5

	Cost index	<b>37.29%</b>			27.04
	Total with Cost index				99.54

12 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:

**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12
TOTAL					2547.60
Add Water Charges @ 1%					25.48
TOTAL					2573.08
Add CPOH @ 15%					385.96
TOTAL					2959.04
Cost of 10.0 sqm					2959.04
Cost per sqm					295.90
Say					295.9

	Cost index	37.29%			110.34
	Total with Cost index				406.24

## OIL AND GREASE TRAP

13 Specification Code: 2.6.1

**2.6** Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

**2.6.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60
TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85

Say	157.85
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Cost index	37.29%	58.86
Total with Cost index		216.71

<b>14</b> Specification Code: 4.1.5
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**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5** 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90

0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL					4678.18
Add Water Charges @ 1%					46.78
TOTAL					4724.96
Add CPOH @ 15%					708.74
TOTAL					5433.70
Cost of 1.0 cum					5433.70
Say					5433.7

	Cost index	<b>37.29%</b>			2026.23
	Total with Cost index				7459.93

**15** Specification Code: 5.37.2

**5.37**

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

**5.37.2**

All work above plinth level upto floor V level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90

9999	Sundries-Extra labour for lifting up to floor five level 0.75x 2.5 = 1.88	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL					7326.36
Add Water Charges @ 1%					73.26
TOTAL					7399.62
Add CPOH @ 15%					1109.94
TOTAL					8509.56
Cost of 1.0 cum					8509.56
Say					8509.55

	Cost index	37.29%			3173.21
	Total with Cost index				11682.76

16 Specification Code: 5.9.2

### SUBHEAD 5.0

### REINFORCED CEMENT CONCRETE

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for 7.9m long and 1.00m high wall Area of contact <math>2 \times 7.9 \times 1.0 = 15.8</math> sqm</p> <p>MATERIAL:</p> <p>Assuming shuttering material will become unserviceable after use of 40 times</p> <p>Adding for maintenance @ 10% of cost</p> <p>Taking salvage value after full use of material @ 25% of cost</p>				
7319	<p>wall form panel 1250x500 mm</p> <p><math>2 \times 3 \times 2 \times 2 = 24</math> Nos.</p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	860.00	438.60
7327	<p>100 mm channel shoulder 2.5 m long</p> <p><math>4 \times 2 = 8</math></p> <p>Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	910.00	154.70
7328	<p>Double clip (bridge clip)</p> <p><math>2 \times 6 \times 2 = 24</math></p> <p>Qty taken for cost of using once = <math>24 \times 0.85 / 40 = 0.51</math></p>	each	0.51	76.00	38.76
7329	<p>Single clip</p> <p><math>2 \times 3 \times 2 = 12</math></p> <p>Qty taken for cost of using once = <math>12 \times 0.85 / 40 = 0.255</math></p>	each	0.255	59.00	15.05
7330	<p>M.S. Tube 40 mm dia</p> <p><math>2 \times 2 \times 8 \text{m} = 32 \text{m}</math></p> <p>Qty taken for cost of using once = <math>32 \times 0.85 / 40 = 0.68</math></p>	metre	0.68	215.00	146.20
9999	<p>Sundries-Qty taken for cost of using once = <math>1300 \times 0.85 / 40 = 27.62</math></p>	L.S	27.62	2.00	55.24
9977	<p>Carriage LABOUR</p>	L.S	78.0	2.00	156.00
0116	<p>Fitter(grade1)</p>	Day	3.5	738.00	2583.00
0114	<p>Beldar</p>	Day	6.0	558.00	3348.00



9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Add CPOH @ 15%					1090.13
Cost of 15.8 Sq. m.					8357.64
Cost per 1 Sq. m.					528.96
Say					528.95

	Cost index	<b>37.29%</b>			197.25
	Total with Cost index				726.2

Kerala Water Authority

17 Specification Code: 5.22.6

**5.22**

Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.6**

Thermo - Mechanically Treated bars of grade Fe-500D or more

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69

9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in postion	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82

TOTAL					6241.51
Add Water Charges @ 1%					62.42
TOTAL					6303.93
Add CPOH @ 15%					945.59
TOTAL					7249.52
Cost of 100.0 kilogram					7249.52
Cost per kilogram					72.50
Say					72.5

Kerala Water Authority

PRICE

Cost index		37.29%			27.04
Total with Cost index					99.54

18 Specification Code: 13.7.1

13.7 12 mm cement plaster finished with a floating coat of neat cement of mix:

13.7.1 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				

3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

	TOTAL	2547.60
	Add Water Charges @ 1%	25.48
	TOTAL	2573.08
	Add CPOH @ 15%	385.96
	TOTAL	2959.04
	Cost of 10.0 sqm	2959.04
	Cost per sqm	295.90
	Say	295.9

	Cost index	37.29%			110.34
	Total with Cost index				406.24

### SCREEN CHAMBER

19 Specification Code: 2.6.1

**2.6**

Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm

on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

**2.6.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60
Kerala Water Authority TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

	Cost index <b>37.29%</b>				58.86
	Total with Cost index				216.71

**20** Specification Code: 4.1.5

4.1 Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

4.1.5 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04
TOTAL					4678.18
Add Water Charges @ 1%					46.78
TOTAL					4724.96

	Add CPOH @ 15%	708.74
	TOTAL	5433.70
	Cost of 1.0 cum	5433.70
	Say	5433.7

	Cost index	37.29%				2026.23
	Total with Cost index					7459.93

21 Specification Code: 5.37.2

### 5.37

Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS: 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in -charge. Note:- Cement content considered in this item is @330 kg/cum. Excess /less cement used as per design mix is payable/recoverable separately.

#### 5.37.2 All work above plinth level upto floor V level

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1.00 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00

2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement	tonne	0.33	4940.00	1630.20
2209	Carriage of Cement	tonne	0.33	92.24	30.44
7318	Plasticizer / super plasticizer 0.5% of cement Production Cost, carriage to site, pumping to respective floors and laying in position	kilogram	1.65	36.00	59.40
0004	Production cost of concrete by batch mix plant	cum	1.0	350.00	350.00
0029	Carriage of concrete by transit mixer	cum per km	10.0	30.00	300.00
0009	Pumping charges of concrete including Hire charges of pump, piping work & accessories etc. Labour for pouring, consolidating and curing	cum	1.0	210.00	210.00
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-Extra labour for lifting up to floor five level 0.75x 2.5 = 1.88	L.S	13.0	2.00	26.00
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL				7326.36
Add Water Charges @ 1%				73.26
TOTAL				7399.62
Add CPOH @ 15%				1109.94

TOTAL	8509.56
Cost of 1.0 cum	8509.56
Say	8509.55

Cost index <b>37.29%</b>	3173.21
Total with Cost index	11682.76

22 Specification Code: 5.22.6

**5.22** Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.6** Thermo - Mechanically Treated bars of grade Fe-500D or more

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82
TOTAL					6241.51



PRICE

EST NO:

Add Water Charges @ 1%	62.42
TOTAL	6303.93
Add CPOH @ 15%	945.59
TOTAL	7249.52
Cost of 100.0 kilogram	7249.52
Cost per kilogram	72.50
Say	72.5

Cost index	37.29%				27.04
Total with Cost index					99.54

23 Specification Code: 5.9.2

Kerala Authority  
**SUBHEAD 5.0**  
**REINFORCED CEMENT CONCRETE**  
**PRICE**

5.9

Centering and shuttering including strutting, etc. and removal of form for:

5.9.2

Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 7.9m long and 1.00m high wall Area of contact $2 \times 7.9 \times 1.0 = 15.8$ sqm MATERIAL: Assuming shuttering material will become unserviceable after us of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				

PRICE

EST NO:

7319	wall form panel 1250x500 mm 2x3x2x2 = 24 Nos. Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	860.00	438.60
7327	100 mm channel shoulder 2.5 m long 4x2 = 8 Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) 2x6x2 = 24 Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	76.00	38.76
7329	Single clip 2x3x2 = 12 Qty taken for cost of using once = $12 \times 0.85 / 40 = 0.255$	each	0.255	59.00	15.05
7330	M.S. Tube 40 mm dia 2x2x8m = 32m Qty taken for cost of using once = $32 \times 0.85 / 40 = 0.68$	metre	0.68	215.00	146.20
9999	Sundries-Qty taken for cost of using once = $1300 \times 0.85 / 40 = 27.62$	L.S	27.62	2.00	55.24
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Add CPOH @ 15%					1090.13

	Cost of 15.8 Sq. m.	8357.64
	Cost per 1 Sq. m.	528.96
	Say	528.95

	Cost index <b>37.29%</b>				197.25
	Total with Cost index				726.2

24 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:

**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number 3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12
TOTAL					2547.60

PRICE

EST NO:

Add Water Charges @ 1%	25.48
TOTAL	2573.08
Add CPOH @ 15%	385.96
TOTAL	2959.04
Cost of 10.0 sqm	2959.04
Cost per sqm	295.90
Say	295.9

Cost index <b>37.29%</b>	110.34
Total with Cost index	406.24

## Other Ancillary units

25 Specification Code: od316060/2021\_2022

Kerala Water Authority

od316060/2021_2022 :Other Ancillary Units
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Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Space for co-composting	sqm	200.00000	2800.00	560000.00	
MR	Shed for SDB @50%	sqm	240.00000	2200.00	528000.00	
TOTAL					1088000.00	
Add Water Charges @ 1%					10880.00	
Add CPOH @ 15%					164832.00	
cost for one sqm					1263712.00	
say					1263712.00	

Cost index <b>37.29 %</b>	.00
Total with Cost index	1263712.0

26 Specification Code: od316710/2021\_2022

od316710/2021\_2022 :Supplying and erection of 10 HP submersible pump set

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supply an Electrically operated brand new submersible pumpset (approved brand) for erection in the bore well of size 200 mm diameter with accessories from reputed brand such as Kirloskar. /Jyothi/ Decan/LUBI make capable of 350 Lpm discharge against a total head of 90 m with delivary head size 65 mm suitable to couple electrical motor Ac. 400/440V, 50 cycle .The pump shaft should be stainless steel with bronz impeller the cost including all taxes and duties, and conveyance charge.	No	1.00000	60000.00	60000.00	
MR	Supply of best quality 4Sqmm,3 core copper cable of ISI mark.	metre	140.00000	140.00	19600.00	
MR	Supply of 80mm GI/UPVC CLASS B PIPE make by Zenith / Tata /UPVC	metre	66.00000	800.00	52800.00	
MR	Supply of brand new star delta type Auto transformer starter suitable for 15 HP motorSupply of 2 nos Sluice Valve of size 80 mm best quality ISI Mark with two numbers MS flange IR sheet, nut, bolt etc. complete	No	1.00000	8500.00	8500.00	
MR	Supply of 2 nos Sluice Valve of size 80 mm best quality ISI Mark with two numbers MS flange IR sheet, nut, bolt etc. complete	No	2.00000	6000.00	12000.00	
MR	Supply of 80 mm Reflex Valve ISI Mark best quality with two numbers MS flange IR sheet, nut, bolt etc. complete	No	1.00000	6000.00	6000.00	
MR	Supplying and fitting cost of MS pannel board of size 1.5 m x 1m, main switch 100am , volt meter, ammeter, suitable size cappaciter ,Fuse unit 3Nos,Single phase priventer 1 no, pilot lamp 1set etc best quality with I S I mark as per the direction	No	1.00000	10000.00	10000.00	

MR	Erection charges of pump and motor in the bore well coupled with using Nilon rope required length,erecting to relavant rule neat and good condition and trial running the pumpset etc complete.	set	1.00000	8500.00	8500.00	
MR	Fabricating and supplying 80 mm GI Pumping main from top of the tube well to 110 mm pvc existing distribution line including providing Tee joint,3 Nos of 80 mm G I bent ,5 Nos MS flange for fitting controll valves and fountation to the top of the well mouth using 80 mm GI pipe suitable to proper horizontal alignment , welding together to water tight joint including earth work excavation cost of all materials , labour charges ,hire charges of welding machine, cutting / grinding machine etc.	set	1.00000	13917.00	13917.00	
MR	Supplying and fitting 100AMPS ELCB system of reputed brand as per direction from KSEB rules	No	1.00000	5000.00	5000.00	
TOTAL					196317.00	
Add Water Charges @ 1%					1963.17	
Add CPOH @ 15%					29742.03	
cost for one No					228022.20	
say					228022.20	
Cost index 37.29 %					.00	
Total with Cost index					228022.2	

# **DATA ANALYSIS PILE**

## 1. PILE FOUNDATION

1 Specification Code: 20.2A.1

**SUBHEAD : 20.0****PILE WORK**

Boring, providing and installation bored cast-in-situ reinforced cement concrete piles of grade M-25 of specified diameter and length below pile cap, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by Crawler mounted, telescopic boom hydraulic piling Rig all complete, including removal of excavated earth with all its lifts and leads (length of pile for payment shall be measured up to bottom of pile cap). Note: Truck Mounted rotary/TMR/Tube well boring machine shall not be used.

**20.2A****20.2A.1** 600 mm dia piles

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 20 m length of pile MATERIAL: Concrete 3.14/4x0.60x20 = 5.65 cum				
5.33.1	Rate as per item Number 5.33.1 of SH: Reinforced Cement Concrete	cum	5.65	6942.65	39225.97(A)
7183	Bentonite	tonne	0.33	2960.00	976.80
9999	Sundries - MACHINERY:	L.S	317.43	2.00	634.86
0024	Hire and running charges of hydraulic piling with power unit etc. including complete accessories and shifting at site	Day	0.75	30000.00	22500.00
0025	Hire and running charges of light crane	Day	0.06	3000.00	180.00
0026	Hire and running charges of bentonite pump	Day	0.38	3500.00	1330.00
0017	Hire and running charges of tipper	Day	0.3	1700.00	510.00
0018	Hire and running charges of loader LABOUR: Work supervisor	Day	0.3	5000.00	1500.00
0130	Mistry	Day	0.12	738.00	88.56



0114	Beldar	Day	3.0	558.00	1674.00
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AddWater Charges @ 1% except on A ie on ( 68620.19-39225.97=29394.22 )		293.94
TOTAL		68914.13
AddCPOH @ 15% except on A ie on ( 68914.13-39225.97=29688.162 )		4453.22
TOTAL		73367.00
Cost of 20.0 metre		73367.00
Cost of 1 metre		3668.35
Say		3668.35

Cost index	<b>37.29%</b>			1367.93
Total with Cost index				5036.28

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2 Specification Code: 20.6.2.1

**20.6**

Vertical load testing of piles in accordance with IS 2911( Part IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of engineer -in-Charge.

**20.6.2**

Single pile above 50 tonne and upto 100 tonne capacity

**20.6.2.1**

Initial test

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 test				

7247	Vertical load testing (INITIAL) of piles in accordance with IS : 2911(Part -IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. compete as per specification & above 50MT and up to 100 MT 50 tonne	per test	1.0	45000.00	45000.00
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				TOTAL	45000.00
				Add Water Charges @ 1%	450.00
				TOTAL	45450.00
				Add CPOH @ 15%	6817.50
				TOTAL	52267.50
				Cost of 1.0 per test	52267.50
				Say	52267.5

## Kerala Water Authority

	Cost index	37.29%			19490.55
	Total with Cost index				71758.05

3 Specification Code: 5.22.6

**5.22** Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.6** Thermo - Mechanically Treated bars of grade Fe-500D or more

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00 q Add 5% wastage = 0.05 Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, bending binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82

	TOTAL	6241.51
	Add Water Charges @ 1%	62.42
	TOTAL	6303.93
	Add CPOH @ 15%	945.59
	TOTAL	7249.52
	Cost of 100.0 kilogram	7249.52
	Cost per kilogram	72.50
	Say	72.5

	Cost index <b>37.29%</b>				27.04
	Total with Cost index				99.54

4 Specification Code: od324456/2021\_2022

od324456/2021\_2022 :Extra for providing Epoxy coating for Reinforcement bars

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Extra for providing Epoxy coating for Reinforcement bars	kg	1.00000	2.00	2.00	
TOTAL					2.00	
Add Water Charges @ 1%					.02	
Add CPOH @ 15%					.30	
cost for one kg					2.32	
say					2.32	
Cost index <b>37.29 %</b>					.00	
Total with Cost index					2.32	

Kerala Water Authority  
**PRICE**

# **DATA ANALYSIS NETWORK**

## 1.APP:A Construction of No.I well -7.0M DIA

1 Specification Code: 2.3.1

**2.3**

Banking excavated earth in layers not exceeding 20 cm in depth, breaking clods, watering, rolling each layer with 1/2 tonne roller, or wooden or steel rammers, and rolling every 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up, in embankments for roads, flood banks, marginal banks, and guide banks etc., lead up to 50 m and lift up to 1.5 m :

**2.3.1**

All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. LABOUR:				
0114	Beldar	Day	2.2	558.00	1227.60
0115	Coolie	Day	3.6	558.00	2008.80
0101	Bhisti Roller charges (One roller does 1850 sqm. of consolidation per day)	Day	0.4	617.00	246.80
0003	Hire charges of Diesel Road Roller- 8 to 10 tonne	Day	0.008	3000.00	24.00
0113	Chowkidar	Day	0.008	558.00	4.46
9999	Sundries-	L.S	2.73	2.00	5.46
TOTAL					3517.12
Add Water Charges @ 1%					35.17
TOTAL					3552.29
Add CPOH @ 15%					532.84
TOTAL					4085.13
Cost of 10.0 cum					4085.13
Cost per cum					408.51
Say					408.5

	Cost index	<b>37.29%</b>			152.33
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	Total with Cost index				560.83
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**2** Specification Code: 2.1.1

**2.1** Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5m in width as well as 10 sqm on plan including disposal of excavated earth up to 50 m and lift up to 1.5 m, disposed soil to be levelled and neatly dressed:

**2.1.1** All Kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 100 sqm and average depth 15 cm LABOUR:				
0114	Beldar	Day	6.8	558.00	3794.40
0115	Coolie	Day	5.6	558.00	3124.80
TOTAL					6919.20
Add Water Charges @ 1%					69.19
TOTAL					6988.39
Add CPOH @ 15%					1048.26
TOTAL					8036.65
Cost of 100.0 sqm					8036.65
Cost per sqm					80.37
Say					80.35

	Cost index <b>37.29%</b>				29.96
	Total with Cost index				110.31

**3** Specification Code: 2.6.1

**2.6** Earth work in excavation by mechanical means (Hydraulic excavator)/manual

means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

**2.6.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60
TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63
Add CPOH @ 15%					205.89
TOTAL					1578.52
Cost of 10.0 cum					1578.52
Cost per cum					157.85
Say					157.85

	Cost index <b>37.29%</b>				58.86
	Total with Cost index				216.71



4 Specification Code: od281259/2021\_2022

od281259/2021\_2022 :Fabricating MS kerb of size using 8mm thick MS plate including cost of MS plate and 10mm dia anger bar welded to the kerb and conveyance charges of MS plate ,all fabrication charges ,charges of painting outer side of the steel work with two or more coated delux multi surface paint to give an even shade over an under coat of primer errection tying anger bar with reinforcement placing in position etc. complete

100.37.8.1 ,materails required 8mm MS plate outer side - 1mx 0.3m =0.3m<sup>2</sup>, 8mm MS plate inner side -1 mx 0.67m= 0.67m<sup>2</sup> ,total 0.97m<sup>2</sup> at 62.8kg/m<sup>2</sup> = 60.924kg .Add 5% of wastage =60.92x 1.05 =63.96kg ,10mm TMT rod -L =0.97m at 0.50c/c = 3Nos. =6m @ 0.62kg/m =3.72kg, Details of cost for 1m kerb

Code	Description	Unit	Quantity	Rate	Amount	Remarks
1010	Mild steel plates	quintal	0.63960	4800.00	3070.08	
5.22.1	Rate as per item number 5.22.1 of SH: Reinforced Cement Concrete	kg	3.72000	71.30	265.24	
100.37.1	Rate as per item number 100.37.1 of SH: KWA Approved Data	cm	167.00000	2.30	384.10	
100.37.3	Rate as per item number 100.37.3 of SH: KWA Approved Data	cm	167.00000	8.80	1469.60	
100.37.2	Rate as per item number 100.37.2 of SH: KWA Approved Data	cm	167.00000	1.65	275.55	
100.37.4	Rate as per item number 100.37.4 of SH: KWA Approved Data	kg	63.96000	10.15	649.19	
0115	Coolie	Day	0.10000	558.00	55.80	
0131	Painter	Day	1.00000	679.00	679.00	
9999	Sundries	L.S	10.00000	2.00	20.00	
TOTAL					6868.56	
Add Water Charges @ 1%					38.25	
Add CPOH @ 15%					579.47	
cost for one kg					7486.28	
say					7486.28	
Cost index <b>37.29 %</b>					2791.63	
Total with Cost index					10277.91	

5 Specification Code: od282498/2021\_2022

od282498/2021\_2022 :Sinking wells of dia 7m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead 50m etc. complete total depth 1.5 to 3m.

Details of cost For 3m, For depth upto 1.5m -3.00m  
Quantity for 3.0m=3.14/4x 8x8x3=150.72 m3  
Rate of lead with cost index =115.93x1.3989=162.17

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.3.9.12	Rate as per item number 100.3.9.12 of SH: KWA Approved Data	cum	150.72000	435.50	65638.56	
MR	EXtra for the additional lead of 50m or part thereof over initial lead vide item 1.2.2 carriage of DSR including cost index 115.93x1.3989=162.17	cum	150.72000	162.17	24442.26	
9999	Sundries	L.S	300.00000	2.00	600.00	
TOTAL					90680.82	
Add Water Charges @ 1%					250.42	
Add CPOH @ 15%					3793.90	
cost for 3.0 per metre					90680.82	
cost for one per metre					31575.05	
say					31575.05	

Cost index <b>37.29 %</b>	8245.50
Total with Cost index	39820.55

6 Specification Code: od282509/2021\_2022

od282509/2021\_2022 :Sinking wells of dia 7m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead 50m etc. complete total depth 3 to 4.5m.

Details of cost For 3m, For depth upto 3m -4.5m  
quantity for 3m =3.14/4x8x8x3= 150.72m3  
rate for lead with CI 115.93x1.3989 =162.174

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.3.9.13	Rate as per item number 100.3.9.13 of SH: KWA Approved Data	cum	150.72000	475.10	71607.07	
MR	Extra for additional lead 50m or part thereof over initial lead vide item 1.2.2 carriage of DSR including cost index	cum	150.72000	162.17	24442.26	
9999	Sundries	L.S	300.00000	2.00	600.00	
TOTAL					96649.33	
Add Water Charges @ 1%					250.42	
Add CPOH @ 15%					3793.90	
cost for 3.0 per metre					96649.33	
cost for one per metre					33564.55	
say					33564.55	
Cost index <b>37.29 %</b>					8987.38	
Total with Cost index					42551.93	

7 Specification Code: od282511/2021\_2022

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od282511/2021\_2022 :Sinking wells of dia7m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead 50m etc. complete total depth 4.5 to 6m.

*Details of cost for 3m ,For depth upto 4.5m-6m ,Qty for 3m = 3.14x8x8x3=150.72m<sup>3</sup>, rate for lead with CI  
115.93x1.3989=162.174*

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.3.9.14	Rate as per item number 100.3.9.14 of SH: KWA Approved Data	cum	150.72000	514.65	77568.05	
MR	Extra for additional lead 50m or part thereof over initial lead vide item 1.2.2 carriage of DSR including cost index 115.93x1.3989=162.174	cum	150.72000	162.17	24442.26	
9999	Sundries	L.S	300.00000	2.00	600.00	
TOTAL					102610.31	

Add Water Charges @ 1%	250.42
Add CPOH @ 15%	3793.90
cost for 3.0 per metre	102610.31
cost for one per metre	35551.54
say	35551.54

Cost index <b>37.29 %</b>	9728.33
Total with Cost index	45279.87

**8** Specification Code: od282512/2021\_2022

od282512/2021\_2022 :Sinking wells of dia 7m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead 50m etc. complete total depth 6 to 7.5m.

*Details of for 3m, for depth upto 6m -7.5m Qty for 3m =  $3.14/4 \times 8 \times 83 = 150.72m^3$  Rate for lead with CI  $115.93 \times 1.3989 = 162.174$*

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.3.9.15	Rate as per item number 100.3.9.15 of SH: KWA Approved Data	cum	150.72000	554.25	83536.56	
MR	Extra for the additional lead for 50m or part thereof over initial lead vide item 1.2.2 carriage of DSR including cost index $115.93 \times 1.3989 = 162.174$	cum	150.72000	162.17	24442.26	
9999	Sundries	L.S	300.00000	2.00	600.00	
TOTAL					108578.82	
Add Water Charges @ 1%					250.42	
Add CPOH @ 15%					3793.90	
cost for 3.0 per metre					108578.82	
cost for one per metre					37541.05	
say					37541.05	

Cost index <b>37.29 %</b>	10470.22
Total with Cost index	48011.27

9 Specification Code: od282513/2021\_2022

od282513/2021\_2022 :Sinking wells of dia 7m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead 50m etc. complete total depth 7.5 to 9m.

DEtails of cost for 3M,For depth upto 7.5m-9m ,Qty for 3m = $3.14/4 \times 8 \times 8 \times 3 = 150.72m^3$ ,rate for lead with CI  $115.93 \times 1.3989 = 162.174$

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.3.9.16	Rate as per item number 100.3.9.16 of SH: KWA Approved Data	cum	150.72000	593.85	89505.07	
MR	Extra for additional lead 50m or part thereof over initial lead vide item 1.2.2 carriage for DSR including cost index $115.93 \times 1.3989 = 162.174$	cum	150.72000	162.17	24442.26	
9999	Sundries	L.S	300.00000	2.00	600.00	
TOTAL					114547.33	
Add Water Charges @ 1%					250.42	
Add CPOH @ 15%					3793.90	
cost for 3.0 per metre					114547.33	
cost for one per metre					39530.55	
say					39530.55	

Cost index **37.29 %** 11212.10

Total with Cost index 50742.65

10 Specification Code: od282514/2021\_2022

od282514/2021\_2022 :Centering and shuttering including strutting etc. and removal of form for well stening (including 20% extra for circular works)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
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5.9.12	Rate as per item number 5.9.12 of SH: Reinforced Cement Concrete	sqm	1.20000	184.15	220.98	
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TOTAL					220.98
cost for one sqm					220.98
say					220.98

Cost index <b>37.29 %</b>					82.40
Total with Cost index					303.38

11 Specification Code: 5.7					
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**SUBHEAD : 5.0****REINFORCED CEMENT CONCRETE**

**5.7** Reinforced cement concrete work in well - steining excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (Zone - III) : 3 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
4.1.2	Rate as per item Number 4.1.2 of SH: Concrete work LABOUR	cum	1.0	6259.65	6259.65(A)
0115	Coolie Extra labour involved coolie	Day	0.08	558.00	44.64
Add Water Charges @ 1% except on A ie on ( 6304.29-6259.65=44.6401 )					.45
TOTAL					6304.74
Add CPOH @ 15% except on A ie on ( 6304.74-6259.65=45.0901 )					6.76
TOTAL					6311.50

	Cost of 1.0 cum	6311.50
	Cost of 1 cum	6311.50
	Say	6311.5

	Cost index	37.29%				2353.56
	Total with Cost index					8665.06

12 Specification Code: 5.22.4

**5.22** Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.4** Hot rolled deformed bars

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00q Wastage 5% = 0.05q Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, cutting, bending, binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-and binding wire	L.S	26.91	2.00	53.82

TOTAL	6241.51
Add Water Charges @ 1%	62.42
TOTAL	6303.93
Add CPOH @ 15%	945.59
TOTAL	7249.52
Cost of 100.0 kilogram	7249.52
Cost per kilogram	72.50
Say	72.5

Cost index	37.29%			27.04
Total with Cost index				99.54

13 Specification Code: 4.1.8

**4.1**

Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.8**

1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0293	Stone Aggregate(single size): 40 mm nominal size nominal size (0.70 cum -7.5% for voids i.e. 0.05 =0.65 cum)	cum	0.65	1300.00	845.00
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.24	1350.00	324.00



2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	0.65	112.79	73.31
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.24	103.77	24.90
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement	tonne	0.17	4940.00	839.80
2209	Carriage of Cement LABOUR:	tonne	0.17	92.24	15.68
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

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				TOTAL	4327.24
				Add Water Charges @ 1%	43.27
				TOTAL	4370.51
				Add CPOH @ 15%	655.58
				TOTAL	5026.09
				Cost of 1.0 cum	5026.09
				Say	5026.1

	Cost index	<b>37.29%</b>			1874.23
	Total with Cost index				6900.33

14 Specification Code: 4.1.3

## 4.1

Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

## 4.1.3

1:2:4 (cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.67	1350.00	904.50
0297	Stone Aggregate(single size): 10 mm nominal size nominal size	cum	0.22	1350.00	297.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.89	103.77	92.36
0982	Coarse sand (zone III)	cum	0.445	1350.00	600.75
2203	Carriage of Coarse sand	cum	0.445	103.77	46.18
0367	Portland Cement (0.2225 cum)	tonne	0.32	4940.00	1580.80
2209	Carriage of Cement	tonne	0.32	92.24	29.52
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	14.3	2.00	28.60
TOTAL					5073.95
Add Water Charges @ 1%					50.74
TOTAL					5124.69

	Add CPOH @ 15%	768.70
	TOTAL	5893.39
	Cost of 1.0 cum	5893.39
	Say	5893.4

	Cost index	37.29%				2197.65
	Total with Cost index					8091.05

15 Specification Code: 5.1.2

**5.1:** Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level:

**5.1.2** 1:1:5:3 (1 cement 1.5 coarse sand :3 graded stone aggregate 20 mm nominal size

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Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement (0.2833 cum)	tonne	0.4	4940.00	1976.00
2209	Carriage of Cement	tonne	0.4	92.24	36.90

0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	14.3	2.00	28.60

TOTAL				5768.78
Add Water Charges @ 1%				57.69
TOTAL				5826.47
Add CPOH @ 15%				873.97
TOTAL				6700.44
Cost of 1.0 cum				6700.44
Say				6700.45

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	Cost index	37.29%		2498.60
	Total with Cost index			9199.05

**16** Specification Code: 4.15

**4.15** Extra for laying concrete in or under water and or liquid mud including cost of pumping or bailing out water and removing slush etc. complete. Note for item No. 4.15 : - The quantity will be calculated by multiplying the depth measured from the sub-soil water level upto centre of gravity of concrete under sub-soil water level with quantity of concrete in cum executed under the sub-soil water. The depth of centre of gravity shall be reconed correct to 0.10 m 0.05 m or more shall be taken as 0.10 m and less than 0.05 m ignored.

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for 14 cum per 0.3m depth Quantity of concrete = 14 cum pumping hours = 3 hrs. or 0.375 day .				
0011	Hire charges of Pump set of capacity 4000 litres/hour	Day	0.375	700.00	262.50
0114	Beldar	Day	4.0	558.00	2232.00

TOTAL					2494.50
Add Water Charges @ 1%					24.95
TOTAL					2519.45
Add CPOH @ 15%					377.92
TOTAL					2897.37
Cost of 4.2 cum					2897.37
Cost per cum					689.85
Say					689.85

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	Cost index	<b>37.29%</b>			257.25
	Total with Cost index				947.1

17 Specification Code: 5.9.5

**SUBHEAD : 5.0**

**REINFORCED CEMENT CONCRETE**

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.5** Lintels, beams, plinth beams, girders bressumers and cantilevers

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for a beam of 6 m clear span, 0.50 m deep 0.30 m wide and height 3.5 m from floor cubical contents</p> <p><math>6.60 \times 0.5 \times 0.3 = 0.99 \text{ cum}</math></p> <p><math>1 \times 1.30 \times 6.00 = 7.80 \text{ sqm}</math></p> <p><b>MATERIAL:</b></p> <p>Assuming shuttering will become unserviceable after use of 40 times</p> <p>Add maintenance charges @ 10% of cost of material</p> <p>Less salvage value of material after full use @25% of cost of material</p> <p>1. Steel plats for side and bottom (plate size 1.20 x 0.50 m)</p> <p>Angle 40x40x5mm</p> <p><math>2 \times 1.20 = 2.40 \text{ m}</math></p> <p><math>3 \times 0.50 = 1.50 \text{ m}</math></p> <p>Total 3.90 m @ 3.00 kg/m = 11.70 kg</p> <p>sheet 1.6 mm thick 1.20 m x 0.50 m = 0.60 sqm</p> <p><math>0.60 \text{ sqm} @ 12.55 \text{ kg/sqm.} = 7.53 \text{ kg.}</math></p> <p>Weight of one plate = 19.23 kg.</p> <p>Add for wastage 5% 0.96 kg.</p> <p>Total = 20.19 kg</p> <p>Total weight of all plates</p> <p><math>3 \times 5 \times 20.19 = 302.85 \text{ kg}</math></p> <p>Qty taken for cost of using once = <math>302.85 \times 85/40 = 6.4356 \text{ kg}</math></p>				
10.1	Rate as per item Number 10.1 of SH: Steel Work	kilogram	6.4356	74.70	480.74(A)
7343	Adjustable telescopic prop 3 m (2.02-3.75m) Qty taken for using once = $6 \times 0.85/40 = 0.1275 \text{ m}$	each	0.1275	955.00	121.76
7344	Beam clamp 300-380 mm (450-1070 mm) Qty taken for cost of using once = $5 \times 0.85/40 = 0.1063 \text{ m}$	each set	0.1063	355.00	37.74

9999	Sundries - Assembly nut & bolts etc. Qty taken for cost of using once = 1040x0.85/40 = 22.10	L.S	22.1	2.00	44.20
9999	Sundries - Carriage LABOUR:	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	1.25	738.00	922.50
0114	Beldar	Day	2.5	558.00	1395.00
9999	Sundries - Shuttering oil	L.S	39.0	2.00	78.00
9999	Sundries - paper tape etc	L.S	24.61	2.00	49.22

AddWater Charges @ 1% except on A ie on ( 3285.16-480.74=2804.42 )				28.04
TOTAL				3313.20
AddCPOH @ 15% except on A ie on ( 3313.2-480.74=2832.46 )				424.87
TOTAL				3738.15
Kerala Water Authority Cost of 7.8 sqm				3738.15
PRICE Cost of 1 sqm				479.25
Say				479.25

Cost index	37.29%			178.71
Total with Cost index				657.96

18 Specification Code: 5.9.3

**SUBHEAD : 5.0**

**REINFORCED CEMENT CONCRETE**

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.3** Suspended floors, roofs, landings, balconies and access platform

Code	Description	Unit	Quantity	Rate	Amount
	<p>Details of cost for a room 4.5x3 = 13.50 sqm height 3.5 m</p> <p>MATERIAL:</p> <p>Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost</p> <p>1. Plates (size 0.75x0.60) Angle 40x40x5 mm</p> <p>2x0.75 = 1.5 m 2x0.60 = 1.20 m = 2.70 m @ 3.00 kg/m = 8.10 kg sheet 1.6 mm thick</p> <p>0.75x0.60 = 0.45 sqm 0.45 sqm @ 12.55 kg/sqm = 5.65 kg Weight of one plate = 13.75 kg Add for wastage @ 5% = 0.69 kg Total = 14.44 kg Total weight of all plates = 5x6x14.44= 433.20 kg. Qty taken for cost using once = 433.2x0.85/40 = 9.2055 kg</p>				
10.1	Rate as per item Number10.1 of SH: Steel Work	kilogram	9.2055	74.70	687.65(A)
7342	Adjustable span ESO+SI (2.35-3.40) Qty taken for cost using once = 5x0.85/40 =0.1063	each	0.1063	1480.00	157.32
7343	Adjustable telescopic prop 3 m (2.02-3.75m) Qty taken for cost using once = 6x0.85/40 = 0.1275	each	0.1275	955.00	121.76
9999	Sundries - Assembly nut & bolts etc. Qty taken for cost using once = 1040x0.85/40 = 22.10	L.S	22.1	2.00	44.20



9999	Sundries - Carriage LABOUR: Fitter (grade 1)	L.S	130.0	2.00	260.00
0116	Fitter(grade1)	Day	3.0	738.00	2214.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries - Shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries - paper tape etc	L.S	49.7	2.00	99.40

AddWater Charges @ 1% except on A ie on ( 7088.33-687.65=6400.68 )		64.01
TOTAL		7152.34
AddCPOH @ 15% except on A ie on ( 7152.34-687.65=6464.69 )		969.70
TOTAL		8122.27
Cost of 13.5 sqm		8122.27
Cost of 1 sqm		601.65
Kerala Water Authority		Say 601.65

# PRICE

	Cost index <b>37.29%</b>				224.36
	Total with Cost index				826.01

19 Specification Code: 19.16

## SUBHEAD : 19.0

### DRAINAGE

#### 19.16

Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per

standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufactures permanent identification mark to be visible even after fixing including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 ( 1cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size)Complete as per design

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for one no. Details:				
7354	Plastic encapsulated M.S. foor rest 30x20x15 cm	each	1.0	110.00	110.00
9988	Carriage and sundries Cement concrete 1:3:6 (0.30x0.20x15)=0.009 cum)	L.S	1.82	2.00	3.64
4.2.5	Rate as per item Number4.2.5 of SH: Concrete work LABOUR:	cum	0.009	6966.75	62.70(A)
0123	Mason (brick layer) 1st class	Day	0.02	738.00	14.76
0124	Mason (brick layer )2nd class	Day	0.2	679.00	135.80
0114	Beldar	Day	0.05	558.00	27.90
AddWater Charges @ 1% except on A ie on ( 354.8-62.7=292.1 )					2.92
TOTAL					357.72
AddCPOH @ 15% except on A ie on ( 357.72-62.7=295.02 )					44.25
TOTAL					401.95
Cost of 1.0 each					401.95
Cost of 1 each					401.95
Say					401.95

	Cost index	<b>37.29%</b>				149.89
	Total with Cost index					551.84

**20** Specification Code: 14.72

**14.72**

Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven story high made with 40 mm dia. M.S. tube 1.5 m centre to centre, horizontal & vertical tubes joining with cup & lock system with M.S. tubes, M.S. tube challies, M.S. clamps and M.S. staricase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration as approved and removing it there after. The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required location with essential safety features for the workmen etc. complete as per directions and approval of Engineer- in Charge. The elevational area of the scaffolding shall be measured for payment purpose. The payment will be made once irrespective of duration of scaffolding. Note:- This item to be used for maintenance work judicially, necessary deduction for scaffolding in the existing item to be done.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for area 22.5m x 9.0m = 202.5 sqm				
14.72X	Rate as per item Number 14.72X of SH: Repairs to Buildings 40 mm dia. M.S. pipe = 3,765.42 kg 25 mm box spigot = 123.98 kg Nuts and bolts = 37.80 kg Clamps = 120 Nos. @ 1.00 kg. each = 120.00 kg Challies = 90 Nos. @ 15.00 kg. each = 1,350.00 kg Cup locks = 1314 Nos. @ 0.50 kg each = 657.00 kg Total = 6054.20 kg. say 6.054 MT	each	1.0	7676.50	7676.50

2205	Carriage of Steel	tonne	6.054	92.24	558.42
0116	Fitter(grade1)	Day	15.5	738.00	11439.00
0114	Beldar	Day	31.0	558.00	17298.00
9999	Sundries-	L.S	1035.0	2.00	2070.00

TOTAL					39041.92
Add Water Charges @ 1%					390.42
TOTAL					39432.34
Add CPOH @ 15%					5914.85
TOTAL					45347.19
Cost of 202.5 sqm					45347.19
Cost per sqm					223.94
Say					223.95

	Cost index	37.29%			83.51
	Total with Cost index				307.46

21 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:

**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03

0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL		2547.60
Add Water Charges @ 1%		25.48
TOTAL		2573.08
Add CPOH @ 15%		385.96
TOTAL		2959.04
Cost of 10.0 sqm		2959.04
Kerala Water Authority Cost per sqm		295.90
Say		295.9

	Cost index	<b>37.29%</b>				110.34
	Total with Cost index					406.24

**22** Specification Code: 13.52.2

**13.52** Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2** On concrete work

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for 10 sqm PRIMING COAT MATERIAL:				
0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04
0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

	TOTAL	1415.47
	Add Water Charges @ 1%	14.15
	TOTAL	1429.62
	Add CPOH @ 15%	214.44
	TOTAL	1644.06
	Cost of 10.0 sqm	1644.06
	Cost per sqm	164.41
	Say	164.4

	Cost index <b>37.29%</b>				61.30
	Total with Cost index				225.7

23 Specification Code: 2.25

**2.25** Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. LABOUR:				
0128	Mate	Day	0.2	617.00	123.40
0115	Coolie	Day	2.5	558.00	1395.00
0101	Bhisti	Day	0.2	617.00	123.40
TOTAL					1641.80
Add Water Charges @ 1%					16.42
TOTAL					1658.22
Add CPOH @ 15%					248.73
TOTAL					1906.95
Cost of 10.0 cum					1906.95
Cost per cum					190.69
Say					190.7

	Cost index <b>37.29%</b>				71.11
	Total with Cost index				261.81

24 Specification Code: od282701/2021\_2022

od282701/2021\_2022 :Removal of excess earth by lorry for minimum mechanical conveyance and less cost of earth

Code	Description	Unit	Quantity	Rate	Amount	Remarks
2241	Good earth	cum	1.00000	129.71	129.71	
0979	Royalty for good earth	cum	-1.00000	40.00	-40.00	
TOTAL					89.71	
Add Water Charges @ 1%					.90	
Add CPOH @ 15%					13.59	
cost for one cum					104.20	
say					104.20	

Cost index <b>37.29 %</b>	38.86
Total with Cost index	143.06

Kerala Water Authority

25 Specification Code: 100.7.1

**100.7.1**

Bailing out water with 5 HP engine and pumpset including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete.

NEW DATA (Prepared based on PHED SDB - Item No.1070)

Code	Description	Unit	Quantity	Rate	Amount
0011	Hire charges of Pump set of capacity 4000 litres/hour Hire charges of Engine (Per Day) charges for cost of service of operating staff, cost of lubricating oil, diesel / petrol / kerosene oil, other consumables for running the plant and machinery and all the taxes.	Day	1.0	700.00	700.00
TOTAL					700.00



Add Water Charges @ 1%	7.00
TOTAL	707.00
Add CPOH @ 15%	106.05
TOTAL	813.05
Cost of 29.84 Kwh	813.05
Cost per Kwh	27.25
Say	27.25

Cost index	37.29%				10.16
Total with Cost index					37.41

26 Specification Code: 100.7.2

**100.7.2**

Bailing out water with engine and pumpset above 5 HP upto 10 HP including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete.  
NEW DATA (Prepared based on PHED SDB - Item No.1070)

Code	Description	Unit	Quantity	Rate	Amount
0011	Hire charges of Pump set of capacity 4000 litres/hour Hire charges of Engine (Per Day) charges for cost of service of operating staff, cost of lubricating oil, diesel / petrol / kerosene oil, other consumables for running the plant and machinery and all the taxes.	Day	1.0	700.00	700.00
TOTAL					700.00
Add Water Charges @ 1%					7.00
TOTAL					707.00

	Add CPOH @ 15%	106.05
	TOTAL	813.05
	Cost of 59.68 Kwh	813.05
	Cost per Kwh	13.62
	Say	13.6

	Cost index	37.29%				5.07
	Total with Cost index					18.67

27 Specification Code: 100.7.3

**100.7.3**

Bailing out water with engine and pumpset above 10 HP upto 20 HP including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete.  
NEW DATA (Prepared based on PHED SDB - Item No.1070

Kerala Water Authority

Code	Description	Unit	Quantity	Rate	Amount
0011	Hire charges of Pump set of capacity 4000 litres/hour Hire charges of Engine (Per Day) charges for cost of service of operating staff, cost of lubricating oil, diesel / petrol / kerosene oil, other consumables for running the plant and machinery and all the taxes.	Day	1.0	700.00	700.00
TOTAL					700.00
Add Water Charges @ 1%					7.00
TOTAL					707.00
Add CPOH @ 15%					106.05
TOTAL					813.05

PRICE

EST NO:

	Cost of 119.36 Kwh	813.05
	Cost per Kwh	6.81
	Say	6.8

	Cost index <b>37.29%</b>				2.54
	Total with Cost index				9.34

28 Specification Code: 100.98.1008

**100.98.1008** Engaging Coolie

Code	Description	Unit	Quantity	Rate	Amount
0115	Coolie	Day	1.0	558.00	558.00
TOTAL					558.00
Add Water Charges @ 1%					5.58
TOTAL					563.58
Add CPOH @ 15%					84.54
TOTAL					648.12
Cost of 1.0 Day					648.12
Cost per Day					648.12
Say					648.1

	Cost index <b>37.29%</b>				241.68
	Total with Cost index				889.78

## 2App B - Construction of Pump House at Top of the well

29 Specification Code: 5.2.2

**5.2:** Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. up to floor five level excluding cost of centering, shuttering, finishing and reinforcement :

**5.2.2** 1:1.5:3( 1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 9.18 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	5.2326	1350.00	7064.01
0297	Stone Aggregate(single size): 10 mm nominal size	cum	2.5704	1350.00	3470.04
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	7.803	103.77	809.72
0982	Coarse sand (zone III)	cum	3.9015	1350.00	5267.03
2203	Carriage of Coarse sand	cum	3.9015	103.77	404.86
0367	Portland Cement (0.2833 cum)	tonne	3.672	4940.00	18139.68
2209	Carriage of Cement LABOUR:	tonne	3.672	92.24	338.71
0114	Beldar	Day	11.29	558.00	6299.82
0115	Coolie	Day	7.53	558.00	4201.74
0101	Bhisti	Day	8.26	617.00	5096.42
0123	Mason (brick layer) 1st class	Day	0.92	738.00	678.96
0124	Mason (brick layer )2nd class	Day	0.92	679.00	624.68
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.64	800.00	512.00
0012	Vibrator (Needle type 40 mm)	Day	0.64	370.00	236.80

9999	Sundries-	L.S	131.82	2.00	263.64
9999	Sundries-Extra labour for lifting of material up to floor V level: 0.75x9. 18x2.5	L.S	420.03	2.00	840.06
0115	Coolie	Day	17.21	558.00	9603.18

TOTAL					63851.35
Add Water Charges @ 1%					638.51
TOTAL					64489.86
Add CPOH @ 15%					9673.48
TOTAL					74163.34
Cost of 9.18 cum					74163.34
Cost per cum					8078.79
Say					8078.8

Kerala Water Authority

Cost index <b>37.29%</b>					3012.58
Total with Cost index					11091.38

**30** Specification Code: 5.3

**5.3**

Reinforced cement concrete work in beams, suspended floors, roofs, having slope up to 15<sup>0</sup> landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (Zone III) : 3 graded stone aggregate 20 mm nominal size).

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum. MATERIAL:				

0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement (0.2225 cum)	tonne	0.4	4940.00	1976.00
2209	Carriage of Cement LABOUR:	tonne	0.4	92.24	36.90
0155	Mason (average)	Day	0.24	709.00	170.16
0114	Beldar	Day	2.75	558.00	1534.50
0101	Bhisti	Day	0.9	617.00	555.30
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.08	800.00	64.00
0012	Vibrator (Needle type 40 mm)	Day	0.08	370.00	29.60
9999	Sundries-Extra labour for lifting material upto floor V level: Coolie (2.5x0.75)	L.S	14.3	2.00	28.60
0115	Coolie	Day	1.88	558.00	1049.04

TOTAL				7297.65
Add Water Charges @ 1%				72.98
TOTAL				7370.63
Add CPOH @ 15%				1105.59
TOTAL				8476.22
Cost of 1.0 cum				8476.22

PRICE

EST NO:

	Cost per cum	8476.22
	Say	8476.2

	Cost index	37.29%				3160.77
	Total with Cost index					11636.97

31 Specification Code: 5.9.3

**SUBHEAD : 5.0**

**REINFORCED CEMENT CONCRETE**

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.3** Suspended floors, roofs, landings, balconies and access platform

Code	Description	Unit	Quantity	Rate	Amount
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**PRICE**

	<p>Details of cost for a room 4.5x3 = 13.50 sqm height 3.5 m</p> <p>MATERIAL:</p> <p>Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost</p> <p>1. Plates (size 0.75x0.60) Angle 40x40x5 mm 2x0.75 = 1.5 m 2x0.60 = 1.20 m = 2.70 m @ 3.00 kg/m = 8.10 kg sheet 1.6 mm thick 0.75x0.60 = 0.45 sqm 0.45 sqm @ 12.55 kg/sqm = 5.65 kg Weight of one plate = 13.75 kg Add for wastage @ 5% = 0.69 kg Total = 14.44 kg Total weight of all plates = 5x6x14.44= 433.20 kg. Qty taken for cost using once = 433.2x0.85/40 = 9.2055 kg</p>				
10.1	Rate as per item Number 10.1 of SH: Steel Work	kilogram	9.2055	74.70	687.65(A)
7342	Adjustable span ESO+SI (2.35-3.40) Qty taken for cost using once = 5x0.85/40 =0.1063	each	0.1063	1480.00	157.32
7343	Adjustable telescopic prop 3 m (2.02-3.75m) Qty taken for cost using once = 6x0.85/40 = 0.1275	each	0.1275	955.00	121.76
9999	Sundries - Assembly nut & bolts etc. Qty taken for cost using once = 1040x0.85/40 = 22.10	L.S	22.1	2.00	44.20
9999	Sundries - Carriage LABOUR: Fitter (grade 1)	L.S	130.0	2.00	260.00



PRICE

EST NO:

0116	Fitter(grade1)	Day	3.0	738.00	2214.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries - Shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries - paper tape etc	L.S	49.7	2.00	99.40

AddWater Charges @ 1% except on A ie on ( 7088.33-687.65=6400.68 )		64.01
TOTAL		7152.34
AddCPOH @ 15% except on A ie on ( 7152.34-687.65=6464.69 )		969.70
TOTAL		8122.27
Cost of 13.5 sqm		8122.27
Cost of 1 sqm		601.65
Say		601.65

	Cost index	37.29%		224.36
	Total with Cost index			826.01

32 Specification Code: 5.9.5

**SUBHEAD : 5.0****REINFORCED CEMENT CONCRETE****5.9** Centering and shuttering including strutting, etc. and removal of form for:**5.9.5** Lintels, beams, plinth beams, girders bressumers and cantilevers

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for a beam of 6 m clear span, 0.50 m deep 0.30 m wide and height 3.5 m from floor cubical contents</p> <p><math>6.60 \times 0.5 \times 0.3 = 0.99 \text{ cum}</math></p> <p><math>1 \times 1.30 \times 6.00 = 7.80 \text{ sqm}</math></p> <p>MATERIAL:</p> <p>Assuming shuttering will become unserviceable after use of 40 times</p> <p>Add maintenance charges @ 10% of cost of material</p> <p>Less salvage value of material after full use @25% of cost of material</p> <p>1. Steel plats for side and bottom (plate size 1.20 x 0.50 m)</p> <p>Angle 40x40x5mm</p> <p><math>2 \times 1.20 = 2.40 \text{ m}</math></p> <p><math>3 \times 0.50 = 1.50 \text{ m}</math></p> <p>Total 3.90 m @ 3.00 kg/m = 11.70 kg</p> <p>sheet 1.6 mm thick 1.20 m x 0.50 m = 0.60 sqm</p> <p><math>0.60 \text{ sqm} @ 12.55 \text{ kg/sqm.} = 7.53 \text{ kg.}</math></p> <p>Weight of one plate = 19.23 kg.</p> <p>Add for wastage 5% 0.96 kg.</p> <p>Total = 20.19 kg</p> <p>Total weight of all plates</p> <p><math>3 \times 5 \times 20.19 = 302.85 \text{ kg}</math></p> <p>Qty taken for cost of using once = <math>302.85 \times 85/40 = 6.4356 \text{ kg}</math></p>				
10.1	Rate as per item Number 10.1 of SH: Steel Work	kilogram	6.4356	74.70	480.74(A)
7343	Adjustable telescopic prop 3 m (2.02-3.75m) Qty taken for using once = $6 \times 0.85/40 = 0.1275 \text{ m}$	each	0.1275	955.00	121.76
7344	Beam clamp 300-380 mm (450-1070 mm) Qty taken for cost of using once = $5 \times 0.85/40 = 0.1063 \text{ m}$	each set	0.1063	355.00	37.74

9999	Sundries - Assembly nut & bolts etc. Qty taken for cost of using once = 1040x0.85/40 = 22.10	L.S	22.1	2.00	44.20
9999	Sundries - Carriage LABOUR:	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	1.25	738.00	922.50
0114	Beldar	Day	2.5	558.00	1395.00
9999	Sundries - Shuttering oil	L.S	39.0	2.00	78.00
9999	Sundries - paper tape etc	L.S	24.61	2.00	49.22

AddWater Charges @ 1% except on A ie on ( 3285.16-480.74=2804.42 )				28.04
TOTAL				3313.20
AddCPOH @ 15% except on A ie on ( 3313.2-480.74=2832.46 )				424.87
TOTAL				3738.15
Kerala Water Authority			Cost of 7.8 sqm	3738.15
PRICE			Cost of 1 sqm	479.25
Say				479.25

Cost index	<b>37.29%</b>				178.71
Total with Cost index					657.96

**33** Specification Code: 5.9.6

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.6** Columns, Pillars, Piers, Abutments, Posts and Struts

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for 4.5 sqm.          Size of column 450x450mm and 2.5 m high          Area of contact = <math>4 \times 0.45 \times 2.5 = 4.5</math> sqm          MATERIAL: Assuming shuttering will become unserviceable after use of 40 times          Add maintenance charges @ 10 % of cost of material          Less salvage value of material after full use @ 25% of cost of material</p>				
7331	<p>Wall form panel 1250x450xmm          Qty taken for cost of using once = <math>8 \times 0.85 / 40 = 0.17</math></p>	each	0.17	860.00	146.20
7332	<p>Corner angle 45x45x5 mm 2.50 long          Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	255.00	21.68
7333	<p>Column clamp 450x1070 mm          Qty taken for cost of using once = <math>5 \times 0.85 / 40 = 0.1063</math></p>	each	0.1063	965.00	102.58
7334	<p>Prop 2 m (2-3.5m)          Qty taken for cost of using once = <math>4 \times 0.85 / 40 = 0.085</math></p>	each	0.085	635.00	53.98
9999	<p>Sundries-Qty taken for cost of using once = <math>1300 \times 0.85 / 40 = 27.62</math></p>	L.S	27.62	2.00	55.24
9977	<p>Carriage          LABOUR</p>	L.S	52.0	2.00	104.00
0116	<p>Fitter(grade1)</p>	Day	1.0	738.00	738.00
0114	<p>Beldar</p>	Day	2.0	558.00	1116.00
9999	<p>Sundries-Shuttering oil</p>	L.S	39.0	2.00	78.00
9999	<p>Sundries-Carriage</p>	L.S	26.0	2.00	52.00

TOTAL					2467.68
Add Water Charges @ 1%					24.68
TOTAL					2492.36

	Add CPOH @ 15%	373.85
	TOTAL	2866.21
	Cost of 4.5 sqm	2866.21
	Cost per sqm	636.94
	Say	636.95

	Cost index	37.29%			237.52
	Total with Cost index				874.47

34 Specification Code: 5.22.4

**5.22** Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.4** Hot rolled deformed bars

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00q Wastage 5% = 0.05q Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, cutting, bending, binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00

9999	Sundries-and binding wire	L.S	26.91	2.00	53.82
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TOTAL					6241.51
Add Water Charges @ 1%					62.42
TOTAL					6303.93
Add CPOH @ 15%					945.59
TOTAL					7249.52
Cost of 100.0 kilogram					7249.52
Cost per kilogram					72.50
Say					72.5

Cost index		<b>37.29%</b>			27.04
Total with Cost index					99.54

### Kerala Water Authority

35 Specification Code: 6.3.1

# PRICE

**6.3** Brick work with common burnt clay machine moulded perforated bricks of class designation 12.5 conforming to IS: 2222 in superstructure above plinth level up to floor five level in cement mortar 1:6 (1 cement : 6 coarse sand):

**6.3.1** With F.P.S. ( non modular ) bricks(from floor 2 level up to floor 5 level)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
7901	Machine moulded perforated common burnt clay FPS (non modular) bricks of class designation 12.5	1000 nos	494.0	4700.00	2321.8
2201	Carriage of Bricks Cement mortar 1:6	1000 nos	494.0	276.72	136.69969

3.11	Rate as per item Number 3.11 of SH: Mortars	cum	0.25	3356.15	839.04
9999	Sundries-LABOUR:	L.S	2.73	2.00	5.46
0123	Mason (brick layer) 1st class	Day	0.47	738.00	346.86
0124	Mason (brick layer )2nd class	Day	0.47	679.00	319.13
0115	Coolie	Day	1.8	558.00	1004.40
0101	Bhisti	Day	0.2	617.00	123.40
9999	Sundries-Scaffolding Extra labour element required for lifting of materials (above floor two level upto floor five level	L.S	22.36	2.00	44.72
0115	Coolie	Day	1.13	558.00	630.54

				TOTAL	5772.05
				Add Water Charges @ 1%	57.72
				TOTAL	5829.77
				Add CPOH @ 15%	874.47
				TOTAL	6704.24
				Cost of 1.0 cum	6704.24
				Say	6704.25

	Cost index	37.29%			2500.01
	Total with Cost index				9204.26

**36** Specification Code: 9.1.1

**9.1**

Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).

## 9.1.1 Second class teak wood

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for chowkhat of a door 206.75x117.5 cm MATERIAL: Superior class teakwood such as Dandeli Balarshah or Malabar 2x206.75x9.5x7.0cm = 0.028cum + 1x117.5x9.5x7.0cm = 0.008 cum. = 0.036 cum + Add for wastage @ 5% = 0.002 cum. Grand Total = 0.038 cum = 38 cudm				
1189	Second class teak wood in scantling	10 cud m	38.0	776.00	2948.8
2204	Carriage of Timber LABOUR:	cum	0.038	118.59	4.51
0156	Carpenter (average)	Day	0.72	709.00	510.48
0114	Beldar	Day	0.07	558.00	39.06
TOTAL					3502.85
Add Water Charges @ 1%					35.03
TOTAL					3537.88
Add CPOH @ 15%					530.68
TOTAL					4068.56
Cost of 0.036 cum					4068.56
Cost per cum					113015.56
Say					113015.55

	Cost index	37.29%			42143.50
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	Total with Cost index				155159.0 5
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37 Specification Code: 9.5.1.1

### SUBHEAD 9.0

### WOOD AND PVC WORK

9.5  
Providing and fixing panelled or panelled and glazed shutters for shutters for doors, windows and clerestory windows, including ISI marked M.S. pressed butt hinges bright finished of required size with necessary screws, excluding panelling which will be paid for separately, all complete as per direction of Engineer - in-charge.

9.5.1  
Second class teak wood

9.5.1.1  
Providing and fixing panelled or panelled and glazed shutters for doors, windows and clerestory windows fixing with butt hinges of required size with necessary screws, excluding panelling which will be paid for separately, all complete as per direction of Engineer-in-charge. (Note:- Butt hinges and necessary screws shall be paid separately) Second class teak wood 35 mm thick shutters

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for shutters of a Door (1/3rd glazed and 2/3rd panelled) 200x108cm = 2.16sqm)</p> <p>MATERIAL:</p> <p>Teak wood</p> <p>Styles 4x200x10.0x3.5cm = 0.028 cum +</p> <p>Rails</p> <p>Top rails 1x110.5x3.5cm = 0.004 cum. +</p> <p>Bottom rails 1x110.5x20x3.5cm = 0.008cum +</p> <p>Lock rails 1x110.5x15x3.5cm = 0.006cum+</p> <p>Beading 2x186. 1x1. 9x1.2cm = 0.001cum.</p> <p>Total = 0.047 cum +</p> <p>Add for wastage @ 10% = 0.005cum</p> <p>Grand Total = 0.051 cum = 51 cudm</p>				
1190	Second class teak wood in planks	10 cud m	51.0	791.00	4034.1
2204	Carriage of Timber	cum	0.051	118.59	6.05
0156	Carpenter (average)	Day	1.83	709.00	1297.47
0114	Beldar	Day	0.76	558.00	424.08
9999	Sundries-	L.S	35.88	2.00	71.76
TOTAL					5833.46
Add Water Charges @ 1%					58.33
TOTAL					5891.79
Add CPOH @ 15%					883.77
Cost of 2.16 Sq. m.					6775.56
Cost per 1 Sq. m.					3136.83
Say					3136.85

	Cost index	<b>37.29%</b>			1169.73
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	Total with Cost index				4306.58
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38 Specification Code: 13.9.1

**13.9** Cement plaster 1:3 ( 1 cement : 3 coarse sand) finished with a floating coat of neat cement.

**13.9.1** 12 mm cement plaster

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 coarse sand)				
3.8	Rate as per item Number 3.8 of SH: Mortars LABOUR:	cum	0.144	4664.55	671.70
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12
TOTAL					2616.94
Add Water Charges @ 1%					26.17
TOTAL					2643.11
Add CPOH @ 15%					396.47
TOTAL					3039.58

	Cost of 10.0 sqm	3039.58
	Cost per sqm	303.96
	Say	303.95

	Cost index <b>37.29%</b>				113.34
	Total with Cost index				417.29

**39** Specification Code: 13.9.2

**13.9** Cement plaster 1:3 ( 1 cement : 3 coarse sand) finished with a floating coat of neat cement.

**13.9.2** 20 mm cement plaster

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1 : 3 ( 1 cement : 3 coarse sand)				
3.8	Rate as per item Number 3.8 of SH: Mortars LABOUR:	cum	0.224	4664.55	1044.86
0155	Mason (average)	Day	0.94	709.00	666.46
0115	Coolie	Day	1.02	558.00	569.16
0101	Bhisti	Day	1.1	617.00	678.70
9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66

9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12
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TOTAL					3443.25
Add Water Charges @ 1%					34.43
TOTAL					3477.68
Add CPOH @ 15%					521.65
TOTAL					3999.33
Cost of 10.0 sqm					3999.33
Cost per sqm					399.93
Say					399.95

Cost index <b>37.29%</b>					149.14
Total with Cost index					549.09

40 Specification Code: 13.60.1					
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**13.60** Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade:

**13.60.1** Two or more coats on new work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL:				
0835	Plastic emulsion paint	Litre	1.21	200.00	242.00
9999	Sundries-Materials for filling in holes and cracks (putty etc.)	L.S	6.76	2.00	13.52
9977	Carriage of material LABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66

0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

TOTAL					961.46
Add Water Charges @ 1%					9.61
TOTAL					971.07
Add CPOH @ 15%					145.66
TOTAL					1116.73
Cost of 10.0 sqm					1116.73
Cost per sqm					111.67
Say					111.65

	Cost index	<b>37.29%</b>			41.63
	Total with Cost index				153.28

41 Specification Code: 13.48.2

**13.48**

Finishing with Deluxe Multi surface paint system for interiors and exteriors using primer as per manufacturers specifications:

**13.48.2**

Painting wood work with Deluxe Multi Surface Paint of required shade. Two or more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied @ 0.75 ltr/10 sqm of approved brand and manufacture

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL:				
8504	Multi surface paint	Litre	0.9	255.00	229.50
8509	Special primer (C.W)	Litre	0.75	140.00	105.00

9977	Carriage of material LABOUR:	L.S	1.56	2.00	3.12
0131	Painter	Day	0.6	679.00	407.40
0115	Coolie	Day	0.3	558.00	167.40
0101	Bhisti	Day	0.05	617.00	30.85
9999	Sundries-Brushes, sand paper etc.	L.S	7.02	2.00	14.04
9999	Sundries-	L.S	8.06	2.00	16.12

TOTAL					973.43
Add Water Charges @ 1%					9.73
TOTAL					983.16
Add CPOH @ 15%					147.47
TOTAL					1130.63
Cost of 10.0 sqm					1130.63
Cost per sqm					113.06
Say					113.05

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**PRICE**

	Cost index	<b>37.29%</b>			42.16
	Total with Cost index				155.21

**42** Specification Code: 11.53

**11.53**

Providing and fixing Glass mosaic tiles at finished plain wall surface of size 20 mm x 20 mm x 4 mm in all colour, design, fixing in customize design as per direction of Engineer-in-charge. The glass mosaic tiles to be fixed on the wall surface with the help of approved adhesive applied at the rate of 2.5 kg per sqm and grouting of the same. The rate is inclusive of all operation, material and required pattern approved by Engineer-in-charge.

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for 8.00 sqm. Glass mosaic tiles (10mm x 10mm x 4mm) Add for wastage 2.5% = 0.2 sqm Total = 8.20 sqm MATERIAL:				
1242	Glass mosaic tiles (20 mm x 20 mm x 4 mm).	sqm	8.2	2049.00	16801.80
1243	Tile fixing chemical adhesive	kg	20.0	8.70	174.00
1244	Cement Polymer Grout Compound	kg	10.0	16.00	160.00
1245	Acid for cleaning tiles	Litre	4.0	18.00	72.00
9999	Sundries-Carriage of tiles (8x6.24 = 49.92) LABOUR:	L.S	49.92	2.00	99.84
0123	Mason (brick layer) 1st class	Day	1.6	738.00	1180.80
0115	Coolie	Day	1.6	558.00	892.80
9999	Sundries-including carriage of adhesive etc.	L.S	26.91	2.00	53.82

	TOTAL	19435.06
	Add Water Charges @ 1%	194.35
	TOTAL	19629.41
	Add CPOH @ 15%	2944.41
	TOTAL	22573.82
	Cost of 8.0 sqm	22573.82
	Cost per sqm	2821.73
	Say	2821.75

	Cost index <b>37.29%</b>				1052.23
	Total with Cost index				3873.98

43 Specification Code: 11.37A



**SUBHEAD 11.0****FLOORING**

11.37A

Providing and fixing 1st quality ceramic glazed floor tiles conforming to IS :15622 (thickness to be specified by the manufacturer ) of approved make in allcolours, shades except burgundy, bottle green, black of any size as approvedby Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thickbed of cement Mortar 1:3 (1 cement: 3 coarse sand) and jointing with grey cementslurry @ 3.3kg per sqm including pointing in white cement mixed with pigmentof matching shade complete.

Code	Description	Unit	Quantity	Rate	Amount
	Detail of Cost for 1.00 Sqm Material				
7801	Ceramic Glazed Tiles 1st quality 300 x 300 mm in all shades and designs of White, Ivory, grey, Fume Red brown etc.	sqm	1.025	209.10	214.33
9999	Sundries-Carriage of Tiles	L.S	6.24	2.00	12.48
3.8	Rate as per item Number 3.8 of SH: Water Authority Mortars Cement mortar 1:3 (1 Cement:3 Coarse Sand)	cum	0.014	4664.55	65.30
9999	Sundries-Mortar for pointing in white cement	L.S	3.64	2.00	7.28
0367	Portland Cement Cement for slurry over bed @3.3 Kg/Sqm Labour	tonne	0.0033	4940.00	16.30
0123	Mason (brick layer) 1st class	Day	0.25	738.00	184.50
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Sundries including carriage of Cement etc	L.S	26.91	2.00	53.82
<b>TOTAL</b>					<b>693.51</b>
Add Water Charges @ 1%					<b>6.94</b>

	TOTAL	700.45
	Add CPOH @ 15%	105.07
	Cost of 1 Sq. m.	805.52
	Cost per 1 Sq. m.	805.52
	Say	805.5

	Cost index	37.29%				300.37
	Total with Cost index					1105.87

44 Specification Code: 17.2.1

**17.2** Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required:

**17.2.1** W.C. pan with ISI marked white solid plastic seat and lid

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for one pan MATERIAL:				
1875	White plastic seat (solid) with lid C.P. brass hinges and rubber buffers	each	1.0	400.00	400.00
1955	Vitreous china pedestal type water closet	each	1.0	1000.00	1000.00
7358	Flushing Cistern P.V.C. 10 ltrs capacity (low level) (white) (with fittings, accessories and flush pipe)	each	1.0	575.00	575.00
9999	Sundries-Cement, sand and grit etc.	L.S	26.91	2.00	53.82
9977	Carriage of materials LABOUR:	L.S	26.91	2.00	53.82

0116	Fitter(grade1)	Day	1.25	738.00	922.50
0123	Mason (brick layer) 1st class	Day	0.5	738.00	369.00
0114	Beldar	Day	1.0	558.00	558.00

TOTAL					3932.14
Add Water Charges @ 1%					39.32
TOTAL					3971.46
Add CPOH @ 15%					595.72
TOTAL					4567.18
Cost of 1.0 each					4567.18
Cost per each					4567.18
Say					4567.2

	Cost index	<b>37.29%</b>			1703.11
	Total with Cost index				6270.31

PRICE

**45** Specification Code: 17.7.3

**17.7** Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:

**17.7.3** White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for one no. MATERIAL:				
3229	Vitreous china flat back wash basin 550x400 mm	each	1.0	545.00	545.00
1885	15 mm C.P.brass tap	each	2.0	207.00	414.00

1951	C.P. brass waste 32 mm	each	1.0	80.00	80.00
1309	C.I. bracket for wash basin and sinks	pair	1.0	88.00	88.00
9999	Sundries-Red lead, white lead and gasket	L.S	16.12	2.00	32.24
9999	Sundries-Cement , sand and grit etc.	L.S	13.39	2.00	26.78
9999	Sundries-Painting of brackets, fittings etc.	L.S	26.91	2.00	53.82
9977	Carriage of materialsLABOUR:	L.S	13.52	2.00	27.04
0116	Fitter(grade1)	Day	0.33	738.00	243.54
0123	Mason (brick layer) 1st class	Day	0.33	738.00	243.54
0114	Beldar	Day	0.67	558.00	373.86

				TOTAL	2127.82
				Add Water Charges @ 1%	21.28
				TOTAL	2149.10
				Add CPOH @ 15%	322.37
				TOTAL	2471.47
				Cost of 1.0 each	2471.47
				Cost per each	2471.47
				Say	2471.45

	Cost index	<b>37.29%</b>			921.60
	Total with Cost index				3393.05

**46** Specification Code: 10.6.3

**10.6**

Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm

long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters.

**10.6.3** 80x0.90 mm M.S. laths with 0.90 mm thick to cover

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for a rolling shutter of size 3mx2.5 m = 7.5 sqm. MATERIAL:				
7044	Rolling shutters of 80x0.90 mm laths	sqm	7.5	1300.00	9750.00
7046	Top cover of Rolling shutters 0.90 mm thick	metre	2.5	450.00	1125.00
0975	27.5 cm long wire spring grade no 2 for rolling shutters	each	1.0	300.00	300.00
9977	Carriage	L.S	53.82	2.00	107.64
0116	Fitter(grade1)	Day	2.55	738.00	1881.90
0114	Beldar	Day	2.55	558.00	1422.90
0123	Mason (brick layer) 1st class	Day	0.12	738.00	88.56
0124	Mason (brick layer )2nd class	Day	0.12	679.00	81.48
9999	Sundries-	L.S	60.58	2.00	121.16
TOTAL					14878.64
Add Water Charges @ 1%					148.79
TOTAL					15027.43
Add CPOH @ 15%					2254.11
TOTAL					17281.54
Cost of 7.5 sqm					17281.54
Cost per sqm					2304.21
Say					2304.2

	Cost index <b>37.29%</b>				859.24
	Total with Cost index				3163.44

47 Specification Code: 9.120.2

**9.120**

Providing and fixing factory made panel PVC door shutter consisting of frame made out of M.S. tubes of 19 gauge thickness and sized of 19 mm x 19 mm for styles and 15x15 mm for top & bottom rails. M.S. frame shall have a coat of steel primers of approved make and manufacture. M.S. frame covered with 5 mm thick heat moulded PVC 'C' channel of size 30 mm thickness, 70 mm width out of which 50 mm shall be flat and 20 mm shall be tapered in 45 degree angle on both side forming styles and 5mm thick, 95 mm wide PVC sheet out of which 75 mm shall be tapered in 45 degree on th inner side to form top and bottom rail and 115 mm wide PVC sheet out of which 75 mm shall be flat and 20 mm shall be tapered on both sides to form lock rail. Top, bottom and lock rails shall be provided both side of the panel. 10 mm (5 mmx2) thick, 20 mm wide cross PVC sheet be provided as gap insert for top rail & bottom rail. paneling of 5 mm thick both side PVC sheet to be fitted in the M.S. frame welded /sealed to the styles & rails with 7 mm (5 mm + 2 mm ) thick x 15 mm wide PVC sheet beading on inner side, and joined together with solvent cement adhesive. An additional 5 mm thick PVC strip of 20 mm width is to be stuck on the interior side of the 'C' Channel using PVC solvent adhesive etc. complete as per direction of Engineer -in-charge, manufacture's specification & drawing.

**9.120.2** 30 mm thick pre laminated PVC door shutters

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for one door shutter 2.20x1.08 m = 2.38 sqm MATERIAL:				
8004	Factory made PVC rigid foam panelled shutter as per IS: 4020 i/c carriage	sqm	2.38	1547.45	3682.93
8100	Powder coated M.S. butt hinges 100 mm X58 mm X 1.9 mm	10 nos	4.0	123.00	49.2
0637	Bright finished or black enameled mild steel screws 40 mm	100 nos	48.0	60.00	28.8

PRICE

EST NO:

0640	Bright finished or black enameled mild steel screws 20 mm LABOUR:	100 nos	8.0	30.00	2.4
0156	Carpenter (average)	Day	0.4	709.00	283.60
0114	Beldar	Day	0.4	558.00	223.20
9999	Sundries-	L.S	20.36	2.00	40.72

TOTAL					4310.85
Add Water Charges @ 1%					43.11
TOTAL					4353.96
Add CPOH @ 15%					653.09
TOTAL					5007.05
Cost of 2.38 sqm					5007.05
Cost per sqm					2103.80
Say					2103.8

Kerala Water Authority

Cost index <b>37.29%</b>					784.51
Total with Cost index					2888.31

48 Specification Code: od283445/2021\_2022

od283445/2021\_2022 :Providing, supplying Syntex tank and laying PVC pipes, taps valves etc for plumbing arrangements to the WC, including all material and labour charge including KWA water supply connection

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	WELL	No	1.00000	80000.00	80000.00	
TOTAL					80000.00	
Add Water Charges @ 1%					800.00	
Add CPOH @ 15%					12120.00	

PRICE

EST NO:

cost for one No	92920.00
say	92920.00

Cost index <b>37.29 %</b>	.00
Total with Cost index	92920.0

### 3. APP C -Construction of Grit Chamber

49 Specification Code: 100.98.1000

#### 100.98.1000 Engaging Bandhani

Code	Description	Unit	Quantity	Rate	Amount
0100	Bandhani	Day	1.0	617.00	617.00
TOTAL					617.00
Add Water Charges @ 1%					6.17
TOTAL					623.17
Add CPOH @ 15%					93.48
TOTAL					716.65
Cost of 1.0 Day					716.65
Cost per Day					716.65
Say					716.65

Cost index <b>37.29%</b>				267.24
Total with Cost index				983.89

50 Specification Code: 100.8.1

### SUBHEAD 100.0



## KWA APPROVED DATA

100.8.1

Fencing one side of trenches, 1.50 m height with two rows of 10 cm plastic caution tape in vertical casuarina pole (girth 15cm to 24cm) fixed at 2 m intervals.

(Data Prepared based on PWD SDB - Item No.1009)

Code	Description	Unit	Quantity	Rate	Amount
	Details of Cost for 10m Pole required for vertical Post = 6x1.65=9.90m				
KW14	Casuarina Pole girth 15cm to 24cm. Hire Charges of Casurania pole ( 25% of cost as hire ) Quantity is taken as 1/4 of 9.9	metre	2.475	22.13	54.77
9999	Sundries-Carriage of Casurania pole	L.S	3.0	2.00	6.00
KW15	Red Coloured Fluorescent caution tape	metre	21.2	1.28	27.14
0114	Beldar Labour	Day	0.2	558.00	111.60
TOTAL					199.51
Add Water Charges @ 1%					2.00
TOTAL					201.51
Add CPOH @ 15%					30.23
Costof 10m					231.74
Cost per m					23.17
Say					23.15

	Cost index	37.29%			5.09
	Total with Cost index				28.24

51 Specification Code: 2.8.1

**2.8** Earth work in excavation by mechanical means (Hydraulic excavator) /manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.

**2.8.1** All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.04125	7000.00	288.75
0018	Hire and running charges of loader LABOUR:	Day	0.04125	5000.00	206.25
0128	Mate	Day	0.4	617.00	246.80
0115	Coolie	Day	2.05	558.00	1143.90
TOTAL					1885.70
Add Water Charges @ 1%					18.86
TOTAL					1904.56
Add CPOH @ 15%					285.68
TOTAL					2190.24
Cost of 10.0 cum					2190.24
Cost per cum					219.02
Say					219.0

	Cost index	<b>37.29%</b>			81.67
	Total with Cost index				300.67

52 Specification Code: od283528/2021\_2022

od283528/2021\_2022 :Earthwork in excavation by mechanical means/ manual means in foundation trenches or drains(not exceeding 1.5 meter in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 3 mtr including getting out the excavated soil and dispoa of surplus excavated soil as directed within a lead of 50mtr. All kinds of soil

*Details of cost for 10 cum machinery*

Code	Description	Unit	Quantity	Rate	Amount	Remarks
2.8.1	Rate as per item number 2.8.1 of SH: Earth Work	cum	1.00000	219.00	219.00	
2.26.1	Rate as per item number 2.26.1 of SH: Earth Work	cum	1.00000	78.45	78.45	
TOTAL					297.45	
cost for one cum					297.45	
say					297.45	

Cost index	37.29 %	110.92
Total with Cost index		408.37

53 Specification Code: od283592/2021\_2022

od283592/2021\_2022 :Earthwork in excavation by mechanical means/ manual means in foundation trenches or drains(not exceeding 1.5 meter in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 4.5 mtr including getting out the excavated soil and dispoa of surplus excavated soil as directed within a lead of 50mtr. All kinds of soil

*Details of cost for 1 cum machinery*

Code	Description	Unit	Quantity	Rate	Amount	Remarks
2.8.1	Rate as per item number 2.8.1 of SH: Earth Work	cum	1.00000	219.00	219.00	
2.26.1	Rate as per item number 2.26.1 of SH: Earth Work	cum	2.00000	78.45	156.90	

TOTAL	375.90
cost for one cum	375.90
say	375.90

Cost index <b>37.29 %</b>	140.17
Total with Cost index	516.07

**54** Specification Code: od283597/2021\_2022

od283597/2021\_2022 :Earthwork in excavation by mechanical means/ manual means in foundation trenches or drains(not exceeding 1.5 meter in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 6 mtr including getting out the excavated soil and dispoa of surplus excavated soil as directed within a lead of 50mtr. All kinds of soil

*Details of cost for 1cum machinery*

Code	Description	Unit	Quantity	Rate	Amount	Remarks
2.8.1	Rate as per item number 2.8.1 of SH: Earth Work	cum	1.00000	219.00	219.00	
2.26.1	Rate as per item number 2.26.1 of SH: Earth Work	cum	3.00000	78.45	235.35	
TOTAL					454.35	
cost for one cum					454.35	
say					454.35	

Cost index <b>37.29 %</b>	169.43
Total with Cost index	623.78

**55** Specification Code: od283601/2021\_2022

od283601/2021\_2022 :Earthwork in excavation by mechanical means/ manual means in foundation trenches or drains(not exceeding 1.5 meter in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 7.5 mtr including getting out the excavated soil and dispoa of surplus excavated soil as directed within a lead of 50mtr. All kinds of soil

Details of cost for 1cum machinery
------------------------------------

Code	Description	Unit	Quantity	Rate	Amount	Remarks
2.8.1	Rate as per item number 2.8.1 of SH: Earth Work	cum	1.00000	219.00	219.00	
2.26.1	Rate as per item number 2.26.1 of SH: Earth Work	cum	4.00000	78.45	313.80	
TOTAL					532.80	
cost for one cum					532.80	
say					532.80	

Cost index <b>37.29 %</b>	198.68
Total with Cost index	731.48

56 Specification Code: 100.6.1
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**SUBHEAD : 100.0****KWA APPROVED DATA**

100.6.1

Providing steel sheet shoring to the sides of the trenches to depths of above 4.00 m but not exceeding 6.00m using 6 mm M.S. sheet 0.50 M wide stiffen on edges with 50 mm x 50mm x 6 mm M.S. angles driving down vertically on either side one after another in lines and levels with suitable pile driving equipments and accessories to a maximum depth of 0.50 M below the bottom of the proposed excavation 0.5 M above ground level suitably braced by horizontal walling pieces at 75 x 150 mm x 8 mm angles on either side at intervals not exceeding 1.50M and horizontal screw jack type struts at 1.50M intervals and maintaining the shoring till the pipes are laid and works are completed, dismantling, cleaning and restacking for reuse including all labour, hire charges and conveyance for equipments, tools and plants and sundries etc. complete.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 m2.				
100.6.S.2	Rate as per item Number100.6.S.2 of SH: KWA Approved Data Hire charges of MS sheet (1/20 of cost)	sqm	1.0	160.85	160.85(A)

## PRICE

EST NO:

100.6.S.3	Rate as per item Number100.6.S.3 of SH: KWA Approved Data Hire charges of MS angles (1/20 of cost)	sqm	1.0	33.05	33.05(A)
100.6.S.4	Rate as per item Number100.6.S.4 of SH: KWA Approved Data Hire charges of walling pieces (1/25 of cost)	sqm	1.0	19.50	19.50(A)
100.6.S.5	Rate as per item Number100.6.S.5 of SH: KWA Approved Data Fabricating MS sheet o.5 m wide 7 m long stiffened on 3 edges (1/20 cost as per sub data)	sqm	1.0	62.05	62.05(A)
100.6.S.6	Rate as per item Number100.6.S.6 of SH: KWA Approved Data Driving down the sheet pile and shoring.	sqm	1.0	160.70	160.70(A)
100.6.S.7	Rate as per item Number100.6.S.7 of SH: KWA Approved Data Dismantling the sheet pile after use, cleaning and stacking properly.	sqm	1.0	80.35	80.35(A)
100.6.S.8	Rate as per item Number100.6.S.8 of SH: KWA Approved Data Labour charges for rectifying the damages of sheet piles during driving down & Protective Measures.	sqm	1.0	36.00	36.00(A)
TOTAL					552.50
AddWater Charges @ 1% except on A ie on ( 552.5-552.5=0.0 )					.00
TOTAL					552.50
AddCPOH @ 15% except on A ie on ( 552.5-552.5=0.0 )					.00
Cost of 1 m2					552.50
Cost per 1 m2					552.50
Say					552.5

	Cost index	37.29%			206.03
	Total with Cost index				758.53

57 Specification Code: 4.1.8

**4.1**

Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.8**

1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0293	Stone Aggregate(single size): 40 mm nominal size nominal size (0.70 cum -7.5% for voids i.e. 0.05 =0.65 cum)	cum	0.65	1300.00	845.00
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.24	1350.00	324.00
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	0.65	112.79	73.31
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.24	103.77	24.90
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement	tonne	0.17	4940.00	839.80
2209	Carriage of Cement LABOUR:	tonne	0.17	92.24	15.68
0155	Mason (average)	Day	0.1	709.00	70.90

0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL				4327.24
Add Water Charges @ 1%				43.27
TOTAL				4370.51
Add CPOH @ 15%				655.58
TOTAL				5026.09
Cost of 1.0 cum				5026.09
Say				5026.1

Kerala Water Authority

	Cost index	<b>37.29%</b>		1874.23
	Total with Cost index			6900.33

58 Specification Code: 4.1.3

**4.1**

Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.3**

1:2:4 (cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.67	1350.00	904.50



0297	Stone Aggregate(single size): 10 mm nominal size nominal size	cum	0.22	1350.00	297.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.89	103.77	92.36
0982	Coarse sand (zone III)	cum	0.445	1350.00	600.75
2203	Carriage of Coarse sand	cum	0.445	103.77	46.18
0367	Portland Cement (0.2225 cum)	tonne	0.32	4940.00	1580.80
2209	Carriage of Cement	tonne	0.32	92.24	29.52
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	14.3	2.00	28.60

<b>PRICE</b>				TOTAL	5073.95
				Add Water Charges @ 1%	50.74
				TOTAL	5124.69
				Add CPOH @ 15%	768.70
				TOTAL	5893.39
				Cost of 1.0 cum	5893.39
				Say	5893.4

	Cost index	<b>37.29%</b>			2197.65
	Total with Cost index				8091.05

59 Specification Code: 5.1.2

**5.1:** Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level:

**5.1.2** 1:1:5:3 (1 cement 1.5 coarse sand :3 graded stone aggregate 20 mm nominal size

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement (0.2833 cum)	tonne	0.4	4940.00	1976.00
2209	Carriage of Cement	tonne	0.4	92.24	36.90
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	14.3	2.00	28.60
TOTAL					5768.78
Add Water Charges @ 1%					57.69

	TOTAL	5826.47
	Add CPOH @ 15%	873.97
	TOTAL	6700.44
	Cost of 1.0 cum	6700.44
	Say	6700.45

	Cost index	37.29%				2498.60
	Total with Cost index					9199.05

60 Specification Code: 5.2.2

**5.2:** Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. up to floor five level excluding cost of centering, shuttering, finishing and reinforcement :

**5.2.2** 1:1.5:3( 1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 9.18 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size	cum	5.2326	1350.00	7064.01
0297	Stone Aggregate(single size): 10 mm nominal size	cum	2.5704	1350.00	3470.04
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	7.803	103.77	809.72
0982	Coarse sand (zone III)	cum	3.9015	1350.00	5267.03
2203	Carriage of Coarse sand	cum	3.9015	103.77	404.86

0367	Portland Cement (0.2833 cum)	tonne	3.672	4940.00	18139.68
2209	Carriage of Cement LABOUR:	tonne	3.672	92.24	338.71
0114	Beldar	Day	11.29	558.00	6299.82
0115	Coolie	Day	7.53	558.00	4201.74
0101	Bhisti	Day	8.26	617.00	5096.42
0123	Mason (brick layer) 1st class	Day	0.92	738.00	678.96
0124	Mason (brick layer )2nd class	Day	0.92	679.00	624.68
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.64	800.00	512.00
0012	Vibrator (Needle type 40 mm)	Day	0.64	370.00	236.80
9999	Sundries-	L.S	131.82	2.00	263.64
9999	Sundries-Extra labour for lifting of material up to floor V level: 0.75x9. 18x2.5	L.S	420.03	2.00	840.06
0115	Coolie	Day	17.21	558.00	9603.18

TOTAL				63851.35
Add Water Charges @ 1%				638.51
TOTAL				64489.86
Add CPOH @ 15%				9673.48
TOTAL				74163.34
Cost of 9.18 cum				74163.34
Cost per cum				8078.79
Say				8078.8

	Cost index	<b>37.29%</b>			3012.58
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	Total with Cost index				11091.38
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61 Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for footing size 2.7mx2.7mx 1.00m Contact area = 10.8sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	860.00	292.40
7326	Corner angle 45x45x5 mm 1.50 m long Qty taken for cost of using once = $4 \times 0.85 / 40 = 0.085$	each	0.085	240.00	20.40
7327	100 mm channel shoulder 2.5 m long Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	76.00	25.84
7329	Single clip Qty taken for cost of using once = $8 \times 0.85 / 40$ $= 0.17$	each	0.17	59.00	10.03

7330	M.S. Tube 40 mm dia Qty taken for cost of using once = $10.8 \times 0.85 / 40 = 0.2295$	metre	0.2295	215.00	49.34
9999	Sundries-Assembly nuts 7 bolts Qty taken for cost of using once = $1040 \times 0.85 / 40 = 22.10$	L.S	22.1	2.00	44.20
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00
9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

				TOTAL	2299.41
				Add Water Charges @ 1%	22.99
				TOTAL	2322.40
				Add CPOH @ 15%	348.36
				TOTAL	2670.76
				Cost of 10.8 sqm	2670.76
				Cost per sqm	247.29
				Say	247.3

	Cost index	37.29%			92.22
	Total with Cost index				339.52

62 Specification Code: 5.9.2

**SUBHEAD 5.0**  
**REINFORCED CEMENT CONCRETE**

## 5.9

Centering and shuttering including strutting, etc. and removal of form for:

## 5.9.2

Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 7.9m long and 1.00m high wall Area of contact $2 \times 7.9 \times 1.0 = 15.8$ sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm $2 \times 3 \times 2 \times 2 = 24$ Nos. Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	860.00	438.60
7327	100 mm channel shoulder 2.5 m long $4 \times 2 = 8$ Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) $2 \times 6 \times 2 = 24$ Qty taken for cost of using once = $24 \times 0.85 / 40 = 0.51$	each	0.51	76.00	38.76
7329	Single clip $2 \times 3 \times 2 = 12$ Qty taken for cost of using once = $12 \times 0.85 / 40 = 0.255$	each	0.255	59.00	15.05
7330	M.S. Tube 40 mm dia $2 \times 2 \times 8 \text{m} = 32 \text{m}$ Qty taken for cost of using once = $32 \times 0.85 / 40 = 0.68$	metre	0.68	215.00	146.20

9999	Sundries-Qty taken for cost of using once = 1300x0.85/40 = 27.62	L.S	27.62	2.00	55.24
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	3.5	738.00	2583.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries- shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries-	L.S	52.0	2.00	104.00
TOTAL					7195.55
Add Water Charges @ 1%					71.96
TOTAL					7267.51
Add CPOH @ 15%					1090.13
Costof 15.8 Sq. m.					8357.64
Cost per 1 Sq. m.					528.96
Kerala Water Authority Say					528.95

# PRICE

	Cost index <b>37.29%</b>				197.25
	Total with Cost index				726.2

63 Specification Code: 5.22.4

**5.22** Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.4** Hot rolled deformed bars

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00q Wastage 5% = 0.05q Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, cutting, bending, binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-and binding wire	L.S	26.91	2.00	53.82

Kerala Water Authority		TOTAL	6241.51
Add Water Charges @ 1%			62.42
TOTAL			6303.93
Add CPOH @ 15%			945.59
TOTAL			7249.52
Cost of 100.0 kilogram			7249.52
Cost per kilogram			72.50
Say			72.5

Cost index	37.29%			27.04
Total with Cost index				99.54

64 Specification Code: 19.16

**SUBHEAD : 19.0****DRAINAGE****19.16**

Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufactures permanent identification mark to be visible even after fixing including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 ( 1cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size)Complete as per design

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for one no. Details:				
7354	Plastic encapsulated M.S. foot rest 30x20x15 cm	each	1.0	110.00	110.00
9988	Carriage and sundries Cement concrete 1:3:6 (0.30x0.20x15)=0.009 cum)	L.S	1.82	2.00	3.64
4.2.5	Rate as per item Number4.2.5 of SH: Concrete work LABOUR:	cum	0.009	6966.75	62.70(A)
0123	Mason (brick layer) 1st class	Day	0.02	738.00	14.76
0124	Mason (brick layer )2nd class	Day	0.2	679.00	135.80
0114	Beldar	Day	0.05	558.00	27.90
AddWater Charges @ 1% except on A ie on ( 354.8-62.7=292.1 )					2.92
<b>TOTAL</b>					<b>357.72</b>

AddCPOH @ 15% except on A ie on ( 357.72-62.7=295.02 )	44.25
TOTAL	401.95
Cost of 1.0 each	401.95
Cost of 1 each	401.95
Say	401.95

Cost index	37.29%				149.89
Total with Cost index					551.84

65 Specification Code: 13.9.1

**13.9** Cement plaster 1:3 ( 1 cement : 3 coarse sand) finished with a floating coat of neat cement.

**13.9.1** 12 mm cement plaster

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 coarse sand)				
3.8	Rate as per item Number3.8 of SH: Mortars LABOUR:	cum	0.144	4664.55	671.70
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84

0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL					2616.94
Add Water Charges @ 1%					26.17
TOTAL					2643.11
Add CPOH @ 15%					396.47
TOTAL					3039.58
Cost of 10.0 sqm					3039.58
Cost per sqm					303.96
Say					303.95

Cost index <b>37.29%</b>					113.34
Total with Cost index					417.29

**66** Specification Code: 13.52.2

**13.52** Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2** On concrete work

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm PRIMING COAT MATERIAL:				
0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04

PRICE

EST NO:

9977	Carriage LABOUR:	L.S	0.52	2.00	1.04
0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

Kerala Water Authority

				TOTAL	1415.47
				Add Water Charges @ 1%	14.15
				TOTAL	1429.62
				Add CPOH @ 15%	214.44
				TOTAL	1644.06
				Cost of 10.0 sqm	1644.06
				Cost per sqm	164.41
				Say	164.4

	Cost index	<b>37.29%</b>			61.30
	Total with Cost index				225.7

67 Specification Code: 100.7.1

**100.7.1**

Bailing out water with 5 HP engine and pumpset including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete.  
NEW DATA (Prepared based on PHED SDB - Item No.1070)

Code	Description	Unit	Quantity	Rate	Amount
0011	Hire charges of Pump set of capacity 4000 litres/hour Hire charges of Engine (Per Day) charges for cost of service of operating staff, cost of lubricating oil, diesel / petrol / kerosene oil, other consumables for running the plant and machinery and all the taxes.	Day	1.0	700.00	700.00
TOTAL					700.00
Add Water Charges @ 1%					7.00
TOTAL					707.00
Add CPOH @ 15%					106.05
TOTAL					813.05
Cost of 29.84 Kwh					813.05
Cost per Kwh					27.25
Say					27.25

	Cost index	<b>37.29%</b>			10.16
	Total with Cost index				37.41

68 Specification Code: 100.7.2

**100.7.2** Bailing out water with engine and pumpset above 5 HP upto 10 HP including

conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete.  
NEW DATA (Prepared based on PHED SDB - Item No.1070)

Code	Description	Unit	Quantity	Rate	Amount
0011	Hire charges of Pump set of capacity 4000 litres/hour Hire charges of Engine (Per Day) charges for cost of service of operating staff, cost of lubricating oil, diesel / petrol / kerosene oil, other consumables for running the plant and machinery and all the taxes.	Day	1.0	700.00	700.00
TOTAL					700.00
Add Water Charges @ 1%					7.00
TOTAL					707.00
Add CPOH @ 15%					106.05
TOTAL					813.05
Cost of 59.68 Kwh					813.05
Cost per Kwh					13.62
Say					13.6

	Cost index	<b>37.29%</b>			5.07
	Total with Cost index				18.67

69 Specification Code: 100.98.1007

**100.98.1007** Engaging Beldar

Code	Description	Unit	Quantity	Rate	Amount
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PRICE

EST NO:

0114	Beldar	Day	1.0	558.00	558.00

				TOTAL	558.00
				Add Water Charges @ 1%	5.58
				TOTAL	563.58
				Add CPOH @ 15%	84.54
				TOTAL	648.12
				Cost of 1.0 Day	648.12
				Cost per Day	648.12
				Say	648.1

	Cost index	37.29%			241.68
	Total with Cost index				889.78

Kerala Water Authority

70 Specification Code: 100.52.S.1

SUBHEAD : 100.0

KWA APPROVED DATA

**100.52.S.1** Sub Data for providing Earth filled cement bags including cutting of the Earth, filling, conveying and placing in position.

Code	Description	Unit	Quantity	Rate	Amount
	Details of Cost for Each.				
KW17	Empty bag for Earth Filling.	each	1.0	1.28	1.28



2.6.1	Rate as per item Number 2.6.1 of SH: Earth Work Earth work excavation for filling the earth	cum	0.025	157.85	3.95(A)
0114	Beldar Beldar for filling the earth in cement bag and tying	Day	0.025	558.00	13.95
9999	Sundries - Cost of coir yarn	L.S	1.0	2.00	2.00
0114	Beldar Beldar for conveying the earth filled cement bags near to the site and tying	Day	0.025	558.00	13.95
0114	Beldar Beldar for conveying and placing the bag in position	Day	0.025	558.00	13.95
0115	Coolie for assisting	Day	0.02	558.00	11.16

Add Water Charges @ 1% except on A ie on ( 60.24-3.95=56.29 )		.56
TOTAL		60.80
Add CPOH @ 15% except on A ie on ( 60.8-3.95=56.85 )		8.53
TOTAL		69.33
Cost of 0.025 cum		69.33
Cost of 1 cum		2773.20
Say		2773.2

	Cost index	37.29%			1011.90
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	Total with Cost index				3785.1
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71 Specification Code: od283709/2021\_2022

od283709/2021\_2022 :Structural steelwork in a single section for providing girder over the grit champer with 80mm dia 4mm thick MS circular sectio fixing of RCC column and providing necessary arrangements for fixing pully for ease f desilting, fixed with or without connection plate, including hoisitng, fixing in position and applying a priming coat of approved steel primer all compete

Materials 80mm dia 4mm thick circular section at 8.36 KG/m length 7.5 mtr = 62.70

Code	Description	Unit	Quantity	Rate	Amount	Remarks
10.1	Rate as per item number 10.1 of SH: Steel Work	kilogram	62.70000	74.70	4683.69	
0125	Mason (for plain stone work) 2nd class	Day	0.10000	679.00	67.90	
0115	Coolie	Day	0.10000	558.00	55.80	
MR	Pully carrying 100 KG	No	1.00000	500.00	500.00	
9999	Sundries	L.S	30.00000	2.00	60.00	
TOTAL					5367.39	
Add Water Charges @ 1%					6.84	
Add CPOH @ 15%					103.58	
cost for one kg					5477.81	
say					5477.81	

Cost index <b>37.29 %</b>	1826.11
Total with Cost index	7303.92

72 Specification Code: od283713/2021\_2022

od283713/2021\_2022 :Providing grating size 1.25\*.95 mtr to the grid champer with fabrication MS flat size 50\*8 mm thick with 50mm C/C and connected 12mm dia MS bar across the flat and welded bend necessary angle ease to place and removal etc and painting with antifungal paint prime coat placing etc

Size of 1.25 \* .95 mtr grating MS flat size 50\*8 mm thick 12 nos, 21.5 mtr @ 3.1 KG/ mtr = 66.65 + 5% wastage = 69.98 KG

Code	Description	Unit	Quantity	Rate	Amount	Remarks
10.20	Rate as per item number 10.20 of SH: Steel Work	kg	69.98000	111.50	7802.77	
0115	Coolie	Day	0.01000	558.00	5.58	
9999	Sundries	L.S	10.00000	2.00	20.00	
TOTAL					7828.35	
Add Water Charges @ 1%					.26	
Add CPOH @ 15%					3.88	
cost for one kg					7832.48	
say					7832.48	
Cost index 37.29 %					2920.73	
Total with Cost index					10753.21	

73 Specification Code: 100.31.2.5

Kerala Water Authority

**PRICE**  
**SUBHEAD : 100.0**  
**KWA APPROVED DATA**

Conveying and fixing C.I. sluice valves (with cap) by providing complete with bolts, nuts, rubber insertions etc. excluding the cost of valve (the tail pieces if required will be paid separately) :

**100.31.2.5**

200 mm diameter. Class II"

Data derived from item no.18.31.4.2of DAR

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sluice valves				
	Labour				

PRICE

EST NO:

2309	Carriage of Cast iron fittings Carriage of sluice valves wt.=150.50x10 = 1505kg = 1.505t. say 1.5t Carriage of Cast Iron Fittings	tonne	1.5	92.24	138.36
18.24	Rate as per item Number18.24 of SH: Water Supply	quintal	15.05	426.70	6421.84(A)
18.30.5	Rate as per item Number18.30.5 of SH: Water Supply Providing flanged joints to Sluice valves with bots,nuts and rubber insertion etc.	no	20.0	308.65	6173.00(A)

AddWater Charges @ 1% except on A ie on ( 12733.2-12594.84=138.36015 )					1.38	
TOTAL					12734.58	
AddCPOH @ 15% except on A ie on ( 12734.58-12594.84=139.74016 )					20.96	
TOTAL					12755.50	
Kerala Water Authority					Cost of 10.0 no	12755.50
<b>PRICE</b>					Costof each	1275.55
					Say	1275.55

	Cost index	<b>37.29%</b>				475.65
	Total with Cost index					1751.2

74 Specification Code: od283722/2021\_2022

od283722/2021\_2022 :Supplying 200mm sluice valve

Code	Description	Unit	Quantity	Rate	Amount	Remarks
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1943	C.I.Sluice valve (with caps) class I : 200 mm dia	No	1.00000	7500.00	7500.00	
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MR	Conveyance	L.S	1.00000	100.00	100.00	
TOTAL					7600.00	
Add Water Charges @ 1%					76.00	
Add CPOH @ 15%					1151.40	
cost for one No					8827.40	
say					8827.40	

Cost index <b>37.29 %</b>					3248.43	
Total with Cost index					12075.83	

75 Specification Code: 100.41.33

**100.41.33** Supplying and fixing 500mm dia CI manhole cover with frame( medium duty) charges including all cost, labour charges etc complete.

Code	Description	Unit	Quantity	Rate	Amount
	Details of Cost For 1 No.				
	Materials				
1356	500 mm dia cover with frame (medium duty)	each	1.0	4400.00	4400.00
9999	Sundries-Carriage of CI Man hole cover Labour	L.S	25.0	2.00	50.00
0155	Mason (average)	Day	0.25	709.00	177.25
0115	Coolie	Day	0.25	558.00	139.50
TOTAL					4766.75
Add Water Charges @ 1%					47.67
TOTAL					4814.42
Add CPOH @ 15%					722.16
TOTAL					5536.58
Cost of 1.0 no					5536.58

	Cost of each	5536.58
	Say	5536.6

	Cost index	37.29%			2064.60
	Total with Cost index				7601.2

#### 4. APP D-Construction of well II & III- 5m dia

76 Specification Code: 2.3.1

### 2.3

Banking excavated earth in layers not exceeding 20 cm in depth, breaking clods, watering, rolling each layer with 1/2 tonne roller, or wooden or steel rammers, and rolling every 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up, in embankments for roads, flood banks, marginal banks, and guide banks etc., lead up to 50 m and lift up to 1.5 m :

#### 2.3.1

All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. LABOUR:				
0114	Beldar	Day	2.2	558.00	1227.60
0115	Coolie	Day	3.6	558.00	2008.80
0101	Bhisti Roller charges (One roller does 1850 sqm. of consolidation per day)	Day	0.4	617.00	246.80
0003	Hire charges of Diesel Road Roller- 8 to 10 tonne	Day	0.008	3000.00	24.00
0113	Chowkidar	Day	0.008	558.00	4.46
9999	Sundries-	L.S	2.73	2.00	5.46
TOTAL					3517.12

Add Water Charges @ 1%	35.17
TOTAL	3552.29
Add CPOH @ 15%	532.84
TOTAL	4085.13
Cost of 10.0 cum	4085.13
Cost per cum	408.51
Say	408.5

Cost index	37.29%			152.33
Total with Cost index				560.83

77 Specification Code: 2.1.1

**2.1** Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5m in width as well as 10 sqm on plan including disposal of excavated earth up to 50 m and lift up to 1.5 m, disposed soil to be levelled and neatly dressed:

**2.1.1** All Kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 100 sqm and average depth 15 cm LABOUR:				
0114	Beldar	Day	6.8	558.00	3794.40
0115	Coolie	Day	5.6	558.00	3124.80
TOTAL					6919.20
Add Water Charges @ 1%					69.19
TOTAL					6988.39
Add CPOH @ 15%					1048.26
TOTAL					8036.65

	Cost of 100.0 sqm	8036.65
	Cost per sqm	80.37
	Say	80.35

	Cost index <b>37.29%</b>				29.96
	Total with Cost index				110.31

78 Specification Code: 2.6.1

**2.6**

Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

**2.6.1**

All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60
TOTAL					1359.04
Add Water Charges @ 1%					13.59
TOTAL					1372.63



PRICE

EST NO:

Add CPOH @ 15%	205.89
TOTAL	1578.52
Cost of 10.0 cum	1578.52
Cost per cum	157.85
Say	157.85

Cost index 37.29%	58.86
Total with Cost index	216.71

79 Specification Code: od307779/2021\_2022

od307779/2021\_2022 :Fabricating MS Kerb of size using 8 MM thick MS plate including cost of MS plate and 10mm dia anger bar welded to the kerb and conveyance charges of MS plate ,all fabrication charges ,charges of painting outer side of steel work with two or more coat delux multi surface paint over an under coat of primer erection tying anger bar with reinforcement placing in position etc. complete

100.37.8.1 Materials required 8 mm MS plate outer side 1X 0.3m =0.3m<sup>2</sup> 8 mm MS plate Inner side 1X 0.67m =0.67m<sup>2</sup> Total 0.97m<sup>2</sup> at 62.8kg/m<sup>2</sup> = 60.924kg add 5% wastage =60.92 X1.05 =63.96 kg , 10MM TMT rod L = 0.97m @ 0.50 C/C =3 Nos.=6m@0.62kg/m =3.72kg DEtails of cost for 1m length kerb

Code	Description	Unit	Quantity	Rate	Amount	Remarks
1010	Mild steel plates	quintal	0.63960	4800.00	3070.08	
5.22.1	Rate as per item number 5.22.1 of SH: Reinforced Cement Concrete	kg	3.72000	71.30	265.24	
100.37.1	Rate as per item number 100.37.1 of SH: KWA Approved Data	cm	167.00000	2.30	384.10	
100.37.3	Rate as per item number 100.37.3 of SH: KWA Approved Data	cm	167.00000	8.80	1469.60	
100.37.2	Rate as per item number 100.37.2 of SH: KWA Approved Data	cm	167.00000	1.65	275.55	
100.37.4	Rate as per item number 100.37.4 of SH: KWA Approved Data	kg	63.96000	10.15	649.19	
0115	Coolie	Day	0.10000	558.00	55.80	

0131	Painter	Day	1.00000	679.00	679.00	
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9999	Sundries	L.S	10.00000	2.00	20.00	
TOTAL					6868.56	
Add Water Charges @ 1%					38.25	
Add CPOH @ 15%					579.47	
cost for one per metre					7486.28	
say					7486.28	

Cost index <b>37.29 %</b>					2791.63	
Total with Cost index					10277.91	

**80** Specification Code: od308224/2021\_2022

od308224/2021\_2022 :Sinking well (in or under water) of dia 5m inside all kinds of soil to lines and levels and plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour for the same including dumping the spoil beyond the initial lead of 50m etc. complete total depth 1.5 to 3m.

Details of Cost For 3m, For depth upto 1.50m -3.00m Quantity for 3.0m =  $3.14/4 \times 6.1 \times 6.1 \times 3 = 87.63m^3$

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.3.9.12	Rate as per item number 100.3.9.12 of SH: KWA Approved Data	cum	87.63000	435.50	38162.87	
MR	Extra for additional lead of 50 m or part thereof over initial lead- vide item 1.2.2 carriage of DSR- including cost index- $115.93 \times 1.3989 = 162.1745$	cum	87.63000	162.17	14210.96	
9999	Sundries	L.S	300.00000	2.00	600.00	
TOTAL					52973.83	
Add Water Charges @ 1%					148.11	
Add CPOH @ 15%					2243.86	
cost for 3.0 metre					52973.83	
cost for one metre					18455.27	
say					18455.27	

Cost index <b>37.29 %</b>	4830.27
Total with Cost index	23285.54

81 Specification Code: od308274/2021\_2022

od308274/2021\_2022 :Sinking well (in or under water) of dia 5m inside all kinds of soil to lines and levels and  
plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour  
for the same including dumping the spoil beyond the initial lead of 50m etc. complete total depth 3 to 4.5m.

Details of Cost For 3m, For depth upto 3m -4.5m  
Quantity for 3.0m =  $3.14/4 \times 6.1 \times 6.1 \times 3 = 87.63m^3$

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.3.9.13	Rate as per item number 100.3.9.13 of SH: KWA Approved Data	cum	87.63000	475.10	41633.01	
MR	Extra for additional lead of 50 m or part thereof over initial lead- vide item 1.2.2 carriage of DSR- including cost index $115.93 \times 1.3989 = 162.1745$	cum	87.63000	162.17	14210.96	
9999	Sundries	L.S	300.00000	2.00	600.00	
TOTAL					56443.97	
Add Water Charges @ 1%					148.11	
Add CPOH @ 15%					2243.86	
cost for 3.0 metre					56443.97	
cost for one metre					19611.98	
say					19611.98	

Cost index <b>37.29 %</b>	5261.61
Total with Cost index	24873.59

82 Specification Code: od308399/2021\_2022

od308399/2021\_2022 :Sinking well (in or under water) of dia5m inside all kinds of soil to lines and levels

and  
plumb by scooping out earth from inside and below the steining using necessary appliances including hire and labour  
for the same including dumping the spoil beyond the initial lead of 50m etc. complete total depth 4.5 to 6m.

Details of Cost For 3m, For depth upto 4.5m -6m  
Quantity for 3.0m =  $3.14/4 \times 6.1 \times 6.1 \times 3 = 87.63m^3$

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.3.9.14	Rate as per item number 100.3.9.14 of SH: KWA Approved Data	cum	87.63000	514.65	45098.78	
MR	Extra for additional lead of 50m or part therof over initial lead - vide item 1.2.2 carriage of DSR - including cost index - $115.93 \times 1.3989 = 162.1745$	cum	87.63000	162.17	14210.96	
9999	Sundries	L.S	300.00000	2.00	600.00	
TOTAL					59909.74	
Add Water Charges @ 1%					148.11	
Add CPOH @ 15%					2243.86	
cost for 3.0 metre					59909.74	
cost for one metre					20767.24	
Kerala Water Authority say					20767.24	

Cost index	37.29 %	5692.40
Total with Cost index		26459.64

83 Specification Code: od308403/2021\_2022

od308403/2021\_2022 :Sinking well (in or under water) of dia 5.0m inside all kinds of soil to lines and levels  
and  
plumb by scooping out earth from inside and below the steining using necessary appliances including hire  
and labour  
for the same including dumping the spoil beyond the initial lead of 50m etc. complete total depth 6 to 7.5m.

Details of Cost For 3m, For depth upto 6m -7.5m  
Quantity for 3.0m =  $3.14/4 \times 6.1 \times 6.1 \times 3 = 87.63m^3$

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.3.9.15	Rate as per item number 100.3.9.15 of SH: KWA Approved Data	cum	87.63000	554.25	48568.93	
MR	Extra for additional lead of 50m or part	cum	87.63000	162.17	14210.96	

	therof over initial lead - vide item 1.2.2 carriage of DSR - including cost index - 115.93x1.3989=					
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9999	Sundries	L.S	300.00000	2.00	600.00	
TOTAL					63379.89	
Add Water Charges @ 1%					148.11	
Add CPOH @ 15%					2243.86	
cost for 3.0 metre					63379.89	
cost for one metre					21923.95	
say					21923.95	

Cost index <b>37.29 %</b>					6123.74	
Total with Cost index					28047.69	

**84** Specification Code: od308408/2021\_2022

od308408/2021\_2022 :Sinking well (in or under water) of dia 5m inside all kinds of soil to lines and levels and<br>plumb by scooping out earth from inside and below the steining using necessary appliances including hire and lbour<br>for the same including dumping the spoil beyond the initial lead of 50m etc. complete total depth 7.5 to 9m.

*Details of Cost For 3m, For depth upto 7.5m -9m<br>Quantity for 3.0m = 3.14/4x6.1X6.1x3=87.63m3<br>*

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.3.9.16	Rate as per item number 100.3.9.16 of SH: KWA Approved Data	cum	87.63000	593.85	52039.08	
MR	Extra for additional lead of 50m or part therof over initial lead - vide item 1.2.2 carriage of DSR - including cost index - 115.93x1.3989=162.1745	cum	87.63000	162.17	14210.96	
9999	Sundries	L.S	300.00000	2.00	600.00	
TOTAL					66850.04	
Add Water Charges @ 1%					148.11	
Add CPOH @ 15%					2243.86	
cost for 3.0 metre					66850.04	

cost for one metre	23080.67
say	23080.67

Cost index <b>37.29 %</b>	6555.08
Total with Cost index	29635.75

85 Specification Code: 5.7

**SUBHEAD : 5.0**

**REINFORCED CEMENT CONCRETE**

**5.7** Reinforced cement concrete work in well - steining excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (Zone - III) : 3 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
4.1.2	Rate as per item Number 4.1.2 of SH: Concrete work LABOUR	cum	1.0	6259.65	6259.65(A)
0115	Coolie Extra labour involved coolie	Day	0.08	558.00	44.64
Add Water Charges @ 1% except on A ie on ( 6304.29-6259.65=44.6401 )					.45
TOTAL					6304.74
Add CPOH @ 15% except on A ie on ( 6304.74-6259.65=45.0901 )					6.76
TOTAL					6311.50
Cost of 1.0 cum					6311.50
Cost of 1 cum					6311.50
Say					6311.5

	Cost index <b>37.29%</b>				2353.56
	Total with Cost index				8665.06

**86** Specification Code: od329072/2021\_2022

od329072/2021\_2022 :Centering and shuttering including strutting, etc. and removal of form for Wellstening<br>(including 20% extra for circular works)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
5.9.12	Rate as per item number 5.9.12 of SH: Reinforced Cement Concrete	sqm	1.20000	184.15	220.98	
TOTAL					220.98	
cost for one sqm					220.98	
say					220.98	

Kerala Water Authority

	Cost index <b>37.29 %</b>	82.40
	Total with Cost index	303.38

**87** Specification Code: 5.22.4

**5.22** Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.4** Hot rolled deformed bars

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00q Wastage 5% = 0.05q Total = 1.05q				

1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, cutting, bending, binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-and binding wire	L.S	26.91	2.00	53.82

TOTAL		6241.51
Add Water Charges @ 1%		62.42
TOTAL		6303.93
Add CPOH @ 15%		945.59
TOTAL		7249.52
Kerala Water Authority PRICE Cost of 100.0 kilogram		7249.52
Cost per kilogram		72.50
Say		72.5

Cost index	37.29%				27.04
Total with Cost index					99.54

88 Specification Code: 4.1.8

4.1

Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

4.1.8

1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)



Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0293	Stone Aggregate(single size): 40 mm nominal size nominal size (0.70 cum -7.5% for voids i.e. 0.05 =0.65 cum)	cum	0.65	1300.00	845.00
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.24	1350.00	324.00
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	0.65	112.79	73.31
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.24	103.77	24.90
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement	tonne	0.17	4940.00	839.80
2209	Carriage of Cement LABOUR:	tonne	0.17	92.24	15.68
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL				4327.24
Add Water Charges @ 1%				43.27
TOTAL				4370.51

	Add CPOH @ 15%	655.58
	TOTAL	5026.09
	Cost of 1.0 cum	5026.09
	Say	5026.1

	Cost index	37.29%			1874.23
	Total with Cost index				6900.33

89 Specification Code: 4.1.3

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.3** 1:2:4 (cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.67	1350.00	904.50
0297	Stone Aggregate(single size): 10 mm nominal size nominal size	cum	0.22	1350.00	297.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.89	103.77	92.36
0982	Coarse sand (zone III)	cum	0.445	1350.00	600.75
2203	Carriage of Coarse sand	cum	0.445	103.77	46.18
0367	Portland Cement (0.2225 cum)	tonne	0.32	4940.00	1580.80
2209	Carriage of Cement	tonne	0.32	92.24	29.52

0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	14.3	2.00	28.60

TOTAL					5073.95
Add Water Charges @ 1%					50.74
TOTAL					5124.69
Add CPOH @ 15%					768.70
TOTAL					5893.39
Cost of 1.0 cum					5893.39
Say					5893.4

Kerala Water Authority

PRICE

Cost index		37.29%			2197.65
Total with Cost index					8091.05

90 Specification Code: 5.1.2

**5.1:** Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level:

**5.1.2** 1:1:5:3 (1 cement 1.5 coarse sand :3 graded stone aggregate 20 mm nominal size

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL				

0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75
2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement (0.2833 cum)	tonne	0.4	4940.00	1976.00
2209	Carriage of Cement	tonne	0.4	92.24	36.90
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	14.3	2.00	28.60

TOTAL				5768.78
Add Water Charges @ 1%				57.69
TOTAL				5826.47
Add CPOH @ 15%				873.97
TOTAL				6700.44
Cost of 1.0 cum				6700.44
Say				6700.45

	Cost index <b>37.29%</b>			2498.60
	Total with Cost index			9199.05

91 Specification Code: 4.1.5

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5** 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04
TOTAL					4678.18
Add Water Charges @ 1%					46.78

PRICE

EST NO:

	TOTAL	4724.96
	Add CPOH @ 15%	708.74
	TOTAL	5433.70
	Cost of 1.0 cum	5433.70
	Say	5433.7

	Cost index	37.29%				2026.23
	Total with Cost index					7459.93

92 Specification Code: 5.9.3

**SUBHEAD : 5.0****REINFORCED CEMENT CONCRETE****5.9** Centering and shuttering including strutting, etc. and removal of form for:**5.9.3** Suspended floors, roofs, landings, balconies and access platform

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for a room 4.5x3 = 13.50 sqm height 3.5 m</p> <p>MATERIAL:</p> <p>Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost</p> <p>1. Plates (size 0.75x0.60) Angle 40x40x5 mm 2x0.75 = 1.5 m 2x0.60 = 1.20 m = 2.70 m @ 3.00 kg/m = 8.10 kg sheet 1.6 mm thick 0.75x0.60 = 0.45 sqm 0.45 sqm @ 12.55 kg/sqm = 5.65 kg Weight of one plate = 13.75 kg Add for wastage @ 5% = 0.69 kg Total = 14.44 kg Total weight of all plates = 5x6x14.44= 433.20 kg. Qty taken for cost using once = 433.2x0.85/40 = 9.2055 kg</p>				
10.1	Rate as per item Number 10.1 of SH: Steel Work	kilogram	9.2055	74.70	687.65(A)
7342	Adjustable span ESO+SI (2.35-3.40) Qty taken for cost using once = 5x0.85/40 = 0.1063	each	0.1063	1480.00	157.32
7343	Adjustable telescopic prop 3 m (2.02-3.75m) Qty taken for cost using once = 6x0.85/40 = 0.1275	each	0.1275	955.00	121.76
9999	Sundries - Assembly nut & bolts etc. Qty taken for cost using once = 1040x0.85/40 = 22.10	L.S	22.1	2.00	44.20
9999	Sundries - Carriage LABOUR: Fitter (grade 1)	L.S	130.0	2.00	260.00

PRICE

EST NO:

0116	Fitter(grade1)	Day	3.0	738.00	2214.00
0114	Beldar	Day	6.0	558.00	3348.00
9999	Sundries - Shuttering oil	L.S	78.0	2.00	156.00
9999	Sundries - paper tape etc	L.S	49.7	2.00	99.40

AddWater Charges @ 1% except on A ie on ( 7088.33-687.65=6400.68 )		64.01
TOTAL		7152.34
AddCPOH @ 15% except on A ie on ( 7152.34-687.65=6464.69 )		969.70
TOTAL		8122.27
Cost of 13.5 sqm		8122.27
Cost of 1 sqm		601.65
Say		601.65

	Cost index	37.29%		224.36
	Total with Cost index			826.01

93 Specification Code: 5.9.5

**SUBHEAD : 5.0****REINFORCED CEMENT CONCRETE****5.9** Centering and shuttering including strutting, etc. and removal of form for:**5.9.5** Lintels, beams, plinth beams, girders bressumers and cantilevers

Code	Description	Unit	Quantity	Rate	Amount
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	<p>Details of cost for a beam of 6 m clear span, 0.50 m deep 0.30 m wide and height 3.5 m from floor cubical contents</p> <p><math>6.60 \times 0.5 \times 0.3 = 0.99 \text{ cum}</math></p> <p><math>1 \times 1.30 \times 6.00 = 7.80 \text{ sqm}</math></p> <p><b>MATERIAL:</b></p> <p>Assuming shuttering will become unserviceable after use of 40 times</p> <p>Add maintenance charges @ 10% of cost of material</p> <p>Less salvage value of material after full use @25% of cost of material</p> <p>1. Steel plats for side and bottom (plate size 1.20 x 0.50 m)</p> <p>Angle 40x40x5mm</p> <p><math>2 \times 1.20 = 2.40 \text{ m}</math></p> <p><math>3 \times 0.50 = 1.50 \text{ m}</math></p> <p>Total 3.90 m @ 3.00 kg/m = 11.70 kg</p> <p>sheet 1.6 mm thick 1.20 m x 0.50 m = 0.60 sqm</p> <p>0.60 sqm @ 12.55 kg/sqm. = 7.53 kg.</p> <p>Weight of one plate = 19.23 kg.</p> <p>Add for wastage 5% 0.96 kg.</p> <p>Total = 20.19 kg</p> <p>Total weight of all plates</p> <p><math>3 \times 5 \times 20.19 = 302.85 \text{ kg}</math></p> <p>Qty taken for cost of using once = <math>302.85 \times 85/40 = 6.4356 \text{ kg}</math></p>				
10.1	Rate as per item Number 10.1 of SH: Steel Work	kilogram	6.4356	74.70	480.74(A)
7343	Adjustable telescopic prop 3 m (2.02-3.75m) Qty taken for using once = $6 \times 0.85/40 = 0.1275 \text{ m}$	each	0.1275	955.00	121.76
7344	Beam clamp 300-380 mm (450-1070 mm) Qty taken for cost of using once = $5 \times 0.85/40 = 0.1063 \text{ m}$	each set	0.1063	355.00	37.74

9999	Sundries - Assembly nut & bolts etc. Qty taken for cost of using once = 1040x0.85/40 = 22.10	L.S	22.1	2.00	44.20
9999	Sundries - Carriage LABOUR:	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	1.25	738.00	922.50
0114	Beldar	Day	2.5	558.00	1395.00
9999	Sundries - Shuttering oil	L.S	39.0	2.00	78.00
9999	Sundries - paper tape etc	L.S	24.61	2.00	49.22

AddWater Charges @ 1% except on A ie on ( 3285.16-480.74=2804.42 )				28.04
TOTAL				3313.20
AddCPOH @ 15% except on A ie on ( 3313.2-480.74=2832.46 )				424.87
TOTAL				3738.15
Kerala Water Authority			Cost of 7.8 sqm	3738.15
PRICE			Cost of 1 sqm	479.25
Say				479.25

Cost index	37.29%				178.71
Total with Cost index					657.96

94 Specification Code: 19.16

### SUBHEAD : 19.0

### DRAINAGE

#### 19.16

Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded

legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufactures permanent identification mark to be visible even after fixing including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 ( 1cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size)Complete as per design

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for one no. Details:				
7354	Plastic encapsulated M.S. foot rest 30x20x15 cm	each	1.0	110.00	110.00
9988	Carriage and sundries Cement concrete 1:3:6 (0.30x0.20x15)=0.009 cum)	L.S	1.82	2.00	3.64
4.2.5	Rate as per item Number 4.2.5 of SH: Concrete work LABOUR:	cum	0.009	6966.75	62.70(A)
0123	Mason (brick layer) 1st class	Day	0.02	738.00	14.76
0124	Mason (brick layer )2nd class	Day	0.2	679.00	135.80
0114	Beldar	Day	0.05	558.00	27.90
Add Water Charges @ 1% except on A ie on ( 354.8-62.7=292.1 )					2.92
TOTAL					357.72
Add CPOH @ 15% except on A ie on ( 357.72-62.7=295.02 )					44.25
TOTAL					401.95
Cost of 1.0 each					401.95
Cost of 1 each					401.95
Say					401.95

	Cost index	37.29%			149.89
	Total with Cost index				551.84

95 Specification Code: 14.72

14.72

Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven story high made with 40 mm dia. M.S. tube 1.5 m centre to centre, horizontal & vertical tubes joining with cup & lock system with M.S. tubes, M.S. tube challies, M.S. clamps and M.S. staricase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration as approved and removing it there after. The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required location with essential safety features for the workmen etc. complete as per directions and approval of Engineer- in Charge. The elevational area of the scaffolding shall be measured for payment purpose. The payment will be made once irrespective of duration of scaffolding. Note:- This item to be used for maintenance work judicially, necessary deduction for scaffolding in the existing item to be done .

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for area 22.5m x 9.0m = 202.5 sqm				
14.72X	Rate as per item Number 14.72X of SH: Repairs to Buildings 40 mm dia. M.S. pipe = 3,765.42 kg 25 mm box spigot = 123.98 kg Nuts and bolts = 37.80 kg Clamps = 120 Nos. @ 1.00 kg. each = 120.00 kg Challies = 90 Nos. @ 15.00 kg. each = 1,350.00 kg Cup locks = 1314 Nos. @ 0.50 kg each = 657.00 kg Total = 6054.20 kg. say 6.054 MT	each	1.0	7676.50	7676.50

2205	Carriage of Steel	tonne	6.054	92.24	558.42
0116	Fitter(grade1)	Day	15.5	738.00	11439.00
0114	Beldar	Day	31.0	558.00	17298.00
9999	Sundries-	L.S	1035.0	2.00	2070.00

TOTAL					39041.92
Add Water Charges @ 1%					390.42
TOTAL					39432.34
Add CPOH @ 15%					5914.85
TOTAL					45347.19
Cost of 202.5 sqm					45347.19
Cost per sqm					223.94
Say					223.95

	Cost index	37.29%			83.51
	Total with Cost index				307.46

96 Specification Code: 13.7.1

**13.7** 12 mm cement plaster finished with a floating coat of neat cement of mix:

**13.7.1** 1:3 ( 1 cement : 3 fine sand)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 fine sand				
3.3	Rate as per item Number3.3 of SH: Mortars MATERIAL:	cum	0.144	4183.05	602.36
0155	Mason (average)	Day	0.67	709.00	475.03

0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries.	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12

TOTAL		2547.60
Add Water Charges @ 1%		25.48
TOTAL		2573.08
Add CPOH @ 15%		385.96
TOTAL		2959.04
Cost of 10.0 sqm		2959.04
Kerala Water Authority Cost per sqm		295.90
Say		295.9

	Cost index	<b>37.29%</b>				110.34
	Total with Cost index					406.24

**97** Specification Code: 13.52.2

**13.52** Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.

**13.52.2** On concrete work

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for 10 sqm PRIMING COAT MATERIAL:				
0821	Distemper primer	Litre	0.84	70.00	58.80
9999	Sundries-Putty	L.S	13.52	2.00	27.04
9977	Carriage LABOUR:	L.S	0.52	2.00	1.04
0131	Painter	Day	0.25	679.00	169.75
0115	Coolie	Day	0.25	558.00	139.50
9999	Sundries-Brushes, sand paper etc.	L.S	2.73	2.00	5.46
9999	Sundries-EPOXY PAINTING  MATERIAL:	L.S	8.06	2.00	16.12
7239	Epoxy paint	Litre	1.21	230.00	278.30
9999	Sundries-Materials for filling in holes and cracks	L.S	6.76	2.00	13.52
9977	Carriage of materialLABOUR:	L.S	1.43	2.00	2.86
0131	Painter	Day	0.54	679.00	366.66
0115	Coolie	Day	0.54	558.00	301.32
9999	Sundries-Putty, brushes, sand paper etc.	L.S	10.79	2.00	21.58
9999	Sundries-	L.S	6.76	2.00	13.52

	TOTAL	1415.47
	Add Water Charges @ 1%	14.15
	TOTAL	1429.62
	Add CPOH @ 15%	214.44
	TOTAL	1644.06
	Cost of 10.0 sqm	1644.06
	Cost per sqm	164.41
	Say	164.4

	Cost index <b>37.29%</b>				61.30
	Total with Cost index				225.7

98 Specification Code: 2.25

**2.25** Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. LABOUR:				
0128	Mate	Day	0.2	617.00	123.40
0115	Coolie	Day	2.5	558.00	1395.00
0101	Bhisti	Day	0.2	617.00	123.40
TOTAL					1641.80
Add Water Charges @ 1%					16.42
TOTAL					1658.22
Add CPOH @ 15%					248.73
TOTAL					1906.95
Cost of 10.0 cum					1906.95
Cost per cum					190.69
Say					190.7

	Cost index <b>37.29%</b>				71.11
	Total with Cost index				261.81



99 Specification Code: od308632/2021\_2022

od308632/2021\_2022 :Removal of excess earth by lorry for minimum mechanical conveyance and less cost of earth

Code	Description	Unit	Quantity	Rate	Amount	Remarks
2241	Good earth	cum	1.00000	129.71	129.71	
0979	Royalty for good earth	cum	-1.00000	40.00	-40.00	
TOTAL					89.71	
Add Water Charges @ 1%					.90	
Add CPOH @ 15%					13.59	
cost for one cum					104.20	
say					104.20	

Cost index <b>37.29 %</b>	38.86
Total with Cost index	143.06

Kerala Water Authority

100 Specification Code: 100.7.1

**100.7.1**

Bailing out water with 5 HP engine and pumpset including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete.

NEW DATA (Prepared based on PHED SDB - Item No.1070)

Code	Description	Unit	Quantity	Rate	Amount
0011	Hire charges of Pump set of capacity 4000 litres/hour Hire charges of Engine (Per Day) charges for cost of service of operating staff, cost of lubricating oil, diesel / petrol / kerosene oil, other consumables for running the plant and machinery and all the taxes.	Day	1.0	700.00	700.00
TOTAL					700.00

Add Water Charges @ 1%	7.00
TOTAL	707.00
Add CPOH @ 15%	106.05
TOTAL	813.05
Cost of 29.84 Kwh	813.05
Cost per Kwh	27.25
Say	27.25

Cost index	37.29%			10.16
Total with Cost index				37.41

**101** Specification Code: 100.7.2

**100.7.2**

Bailing out water with engine and pumpset above 5 HP upto 10 HP including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete.  
NEW DATA (Prepared based on PHED SDB - Item No.1070)

Code	Description	Unit	Quantity	Rate	Amount
0011	Hire charges of Pump set of capacity 4000 litres/hour Hire charges of Engine (Per Day) charges for cost of service of operating staff, cost of lubricating oil, diesel / petrol / kerosene oil, other consumables for running the plant and machinery and all the taxes.	Day	1.0	700.00	700.00
TOTAL					700.00
Add Water Charges @ 1%					7.00
TOTAL					707.00

	Add CPOH @ 15%	106.05
	TOTAL	813.05
	Cost of 59.68 Kwh	813.05
	Cost per Kwh	13.62
	Say	13.6

	Cost index	37.29%				5.07
	Total with Cost index					18.67

102 Specification Code: 100.7.3

**100.7.3**

Bailing out water with engine and pumpset above 10 HP upto 20 HP including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete.  
NEW DATA (Prepared based on PHED SDB - Item No.1070

Kerala Water Authority

Code	Description	Unit	Quantity	Rate	Amount
0011	Hire charges of Pump set of capacity 4000 litres/hour Hire charges of Engine (Per Day) charges for cost of service of operating staff, cost of lubricating oil, diesel / petrol / kerosene oil, other consumables for running the plant and machinery and all the taxes.	Day	1.0	700.00	700.00
TOTAL					700.00
Add Water Charges @ 1%					7.00
TOTAL					707.00
Add CPOH @ 15%					106.05
TOTAL					813.05

PRICE

EST NO:

	Cost of 119.36 Kwh	813.05
	Cost per Kwh	6.81
	Say	6.8

	Cost index <b>37.29%</b>				2.54
	Total with Cost index				9.34

103 Specification Code: 100.98.1008

**100.98.1008** Engaging Coolie

Code	Description	Unit	Quantity	Rate	Amount
0115	Coolie	Day	1.0	558.00	558.00
TOTAL					558.00
Add Water Charges @ 1%					5.58
TOTAL					563.58
Add CPOH @ 15%					84.54
TOTAL					648.12
Cost of 1.0 Day					648.12
Cost per Day					648.12
Say					648.1

	Cost index <b>37.29%</b>				241.68
	Total with Cost index				889.78

## 5 APP E - Laying Gravity sewer main &amp; Construction of manhole

104 Specification Code: 16.83

## 16.83

Taking out existing CC interlocking paver blocks from footpath/ central verge, including removal of rubbish etc., disposal of unserviceable material to the dumping ground, for which payment shall be made separately and stacking of serviceable material within 50 metre lead as per direction of Engineer-in-Charge.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm LABOUR:				
0114	Beldar	Day	0.25	558.00	139.50
0115	Coolie	Day	1.0	558.00	558.00
9999	Sundries-	L.S	2.7	2.00	5.40
TOTAL					702.90
Add Water Charges @ 1%					7.03
TOTAL					709.93
Add CPOH @ 15%					106.49
TOTAL					816.42
Cost of 10.0 sqm					816.42
Cost per sqm					81.64
Say					81.65

	Cost index	37.29%			30.45
	Total with Cost index				112.1

105 Specification Code: 15.3

## 15.3

Demolishing R.C.C. work manually / by mechanical means including stacking of steel bars and disposal of unserviceable material with in 50 metres lead as per direction of Engineer -in-Charge.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum LABOUR:				
0114	Beldar	Day	2.65	558.00	1478.70
0115	Coolie	Day	0.72	558.00	401.76
9999	Sundries-	L.S	7.02	2.00	14.04
TOTAL					1894.50
Add Water Charges @ 1%					18.95
TOTAL					1913.45
Add CPOH @ 15%					287.02
TOTAL					2200.47
Cost of 1.0 cum					2200.47
Say					2200.45

Kerala Water Authority

	Cost index	<b>37.29%</b>			820.55
	Total with Cost index				3021.0

106 Specification Code: 15.43.2

**15.43** Dismantling manually / by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer -in-Charge:

**15.43.2** Bituminous road

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for 36 sqm consider a road 6 metres wide and 6 metres length wise 30 cm average depth = 10.80 cubic metre LABOUR: For cutting road taking out soling and metalling including sorting and screening				
0114	Beldar	Day	9.6	558.00	5356.80
0115	Coolie	Day	4.8	558.00	2678.40
9999	Sundries-Labour for stacking of serviceable material and disposal of unserviceable material within 50 metre lead	L.S	107.64	2.00	215.28

	TOTAL	8250.48
	Add Water Charges @ 1%	82.50
	TOTAL	8332.98
	Add CPOH @ 15%	1249.95
	TOTAL	9582.93
	Cost of 36.0 sqm	9582.93
	Cost per sqm	266.19
	Say	266.2

	Cost index <b>37.29%</b>				99.27
	Total with Cost index				365.47

107 Specification Code: 100.1.1

**SUBHEAD : 100.0**

**KWA APPROVED DATA**

**100.1.1**

Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m,

including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :

All kinds of soil

(Ref. Item No. 2.10.1 of DSR)

Code	Description	Unit	Quantity	Rate	Amount
	Details of Cost For 100 m3				
	Materials				
2.8.1	Rate as per item Number 2.8.1 of SH: Earth Work (DSR)	cum	100.0	219.00	21900.00(A)
2.25	Rate as per item Number 2.25 of SH: Earth Work (DSR)	cum	100.0	190.70	19070.00(A)
TOTAL					40970.00
Cost of 100.0 cum					40970.00
Cost of 1 cum					409.70
Say					409.7

	Cost index	37.29%			152.78
	Total with Cost index				562.48

108 Specification Code: 100.1.2

**SUBHEAD : 100.0**

**KWA APPROVED DATA**



**100.1.2**

Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth exceeding 1.5m but not exceeding 3 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m: 1.50m to 3.0m

All kinds of soil

(Ref. Item No. 2.11 of DSR)

Code	Description	Unit	Quantity	Rate	Amount
	Details of Cost For 100 m3				
	Materials				
2.8.1	Rate as per item Number 2.8.1 of SH: Earth Work	cum	100.0	219.00	21900.00(A)
2.25	Rate as per item Number 2.25 of SH: Earth Work	cum	100.0	190.70	19070.00(A)
2.26.1	Rate as per item Number 2.26.1 of SH: Earth Work	cum	100.0	78.45	7845.00
TOTAL					48815.00
Cost of 100.0 cum					48815.00
Cost of 1 cum					488.15
Say					488.15

	Cost index	<b>37.29%</b>			182.03
	Total with Cost index				670.18

**109** Specification Code: 100.1.3

**SUBHEAD : 100.0**

**KWA APPROVED DATA****100.1.3**

Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth exceeding 3m in depth but not exceeding 4.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m : 3.0m to 4.50m

All kinds of soil

(Ref. Item No. 2.12 of DSR)

Code	Description	Unit	Quantity	Rate	Amount
	(Ref. Item No. 2.12 of DSR) Details of Cost For 100 m3  Materials				
2.8.1	Rate as per item Number 2.8.1 of SH: Earth Work (DSR)	cum	100.0	219.00	21900.00(A)
2.25	Rate as per item Number 2.25 of SH: Earth Work (DSR)	cum	100.0	190.70	19070.00(A)
2.26.1	Rate as per item Number 2.26.1 of SH: Earth Work (DSR)- Extra for addl. Lift	cum	100.0	78.45	7845.00
2.26.1	Rate as per item Number 2.26.1 of SH: Earth Work (DSR)- Extra for addl. Lift	cum	100.0	78.45	7845.00(A)
<b>TOTAL</b>					<b>56660.00</b>

	Cost of 100.0 cum	56660.00
	Cost of 1 cum	566.60
	Say	566.6

	Cost index	37.29%				211.29
	Total with Cost index					777.89

110 Specification Code: 100.1.4

**SUBHEAD : 100.0**

**KWA APPROVED DATA**

**100.1.4**

Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth exceeding 4.5m in depth but not exceeding 6 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m : 4.5m to 6.0m

All kinds of soil.

(Ref. Item No. 2.12 of DSR)

Code	Description	Unit	Quantity	Rate	Amount
	Details of Cost For 100 m3				
	Materials				
2.8.1	Rate as per item Number 2.8.1 of SH: Earth Work (DSR)	cum	100.0	219.00	21900.00(A)

PRICE

EST NO:

2.25	Rate as per item Number 2.25 of SH: Earth Work (DSR)	cum	100.0	190.70	19070.00(A)
2.26.1	Rate as per item Number 2.26.1 of SH: Earth Work (DSR)- Extra for addl. Lift 1.5 m to 3 m	cum	100.0	78.45	7845.00
2.26.1	Rate as per item Number 2.26.1 of SH: Earth Work (DSR)- Extra for addl. Lift 3 m to 4.5 m	cum	100.0	78.45	7845.00(A)
2.26.1	Rate as per item Number 2.26.1 of SH: Earth Work (DSR)- Extra for addl. Lift 4.5 m to 6.0 m	cum	100.0	78.45	7845.00

TOTAL					64505.00	
Kerala Water Authority					Cost of 100.0 cum	64505.00
PRICE					Cost of 1 cum	645.05
					Say	645.05

	Cost index	37.29%			240.54
	Total with Cost index				885.59

111 Specification Code: 100.8.1

**SUBHEAD 100.0****KWA APPROVED DATA**

100.8.1

Fencing one side of trenches, 1.50 m height with two rows of 10 cm plastic caution tape in vertical

casuarina pole (girth 15cm to 24cm) fixed at 2 m intervals.  
(Data Prepared based on PWD SDB - Item No.1009)

Code	Description	Unit	Quantity	Rate	Amount
	Details of Cost for 10m  Pole required for vertical Post = 6x1.65=9.90m				
KW14	Casuarina Pole girth 15cm to 24cm. Hire Charges of Casurania pole ( 25% of cost as hire ) Quantity is taken as 1/4 of 9.9	metre	2.475	22.13	54.77
9999	Sundries-Carriage of Casurania pole	L.S	3.0	2.00	6.00
KW15	Red Coloured Flourescent caution tape	metre	21.2	1.28	27.14
0114	Beldar Labour	Day	0.2	558.00	111.60
TOTAL					199.51
Add Water Charges @ 1%					2.00
TOTAL					201.51
Add CPOH @ 15%					30.23
Costof 10m					231.74
Cost per m					23.17
Say					23.15

	Cost index	37.29%			5.09
	Total with Cost index				28.24

112 Specification Code: 100.8.2

**SUBHEAD 100.0**

## KWA APPROVED DATA

100.8.2

Fencing 1.50m high with two rows of casuarina poles (girth 15cm to 24cm) tied with coir yarn on vertical casuarina pole (girth 15cm to 24cm) fixed at 1.5m intervals.

NEW DATA (Prepared based on PWD SDB - Item No.1009

Code	Description	Unit	Quantity	Rate	Amount
	Details of Cost For 10 m				
	Materials Poles required for vertical Post = 8x1.65=13.20 m; Poles required for Horizontal = 2x10=20.00 m; Total Length required = 20.00+13.20= 33.20m;				
KW14	Casuarina Pole girth 15cm to 24cm. Hire Charges of Casurania pole ( 25% of cost as hire ) Quantity taken as 1/4 of 33.2	metre	8.3	22.13	183.68
9999	Sundries-Carriage of Casurania pole	L.S	10.0	2.00	20.00
KW16	Coir yarn	kg	0.3	170.21	51.06
0114	Beldar Labour	Day	0.75	558.00	418.50
TOTAL					673.24
Add Water Charges @ 1%					6.73
TOTAL					679.97
Add CPOH @ 15%					102.00
Costof 10m					781.97
Cost per m					78.20
Say					78.2

	Cost index	37.29%			19.00
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	Total with Cost index				97.2
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113 Specification Code: 2.16.1

**2.16** Close timbering in trenches including strutting, shoring and packing cavities (wherever required) complete (Measurements to be taken of the face area timbered).

**2.16.1** Depth not exceeding 1.5m

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for a trench 30m long and 1.5 m deep. Area = $2 \times 30 \times 1.5 = 90$ sqm. MATERIAL: The material can based four times on the same work and after use of material credit is give @ 75% of cost poling boards of				
1198	Second class kail wood in planks Second class kail wood in planks $90 \times 0.038 = 3.42$ cum = 3420 cudm Qty taken for cost of using once after deducting for credit = $3420 \times 1/4 \times 1/4 = 213.75$ cudm Wallings 100mmx 100 mm of	10 cud m	213.75	260.00	5557.5
1197	Second class kail wood in scantling $4 \times 30 \times 0.10 \times 1.10 = 1.20$ cum = 1200 cudm Qty taken for cost of using once after deducting for credit = $1200 \times 1/4 \times 1/4 = 75$ cudm	10 cud m	75.0	260.00	1950.0

0302	Safeda ballies 125 mm diameter long 2x17x1.50 = 51 m Qty taken for cost of using once after deducting for credit =51x1/4x 1/4=3.1875m CARRIAGE: Poling boards = 3.42 cum Walling = 1.20 cum. Balli struts : 3.14/4x(0.125)3x51= 0.63cum Total of carriage = 5.25x1/4 = 1.3125 cum	metre	3.1875	40.00	127.50
2204	Carriage of Timber	cum	1.3125	118.59	155.65
0112	Carpenter 2nd class	Day	0.5	679.00	339.50
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82

TOTAL					8741.97
Add Water Charges @ 1%					87.42
TOTAL					8829.39
Add CPOH @ 15%					1324.41
TOTAL					10153.80
Cost of 90.0 sqm					10153.80
Cost per sqm					112.82
Say					112.8

	Cost index	<b>37.29%</b>			42.06
	Total with Cost index				154.86

114 Specification Code: 2.16.2

**2.16** Close timbering in trenches including strutting, shoring and packing cavities



(wherever required) complete (Measurements to be taken of the face area timbered).

**2.16.2** Depth exceeding 1.5 m but not exceeding 3 m

Code	Description	Unit	Quantity	Rate	Amount
	<p>Details of cost for a trenches 30 m long and 1.5m deep  <math>\text{Area} = 2 \times 30 \times 1.5 = 90 \text{ sqm}</math>  <b>MATERIAL:</b>            The Material can be used four times on the same work and after use of material credit is given @ 75% of cost            Poling boards of</p>				
1198	<p>Second class kail wood in planks  <math>90 \times 0.038 = 3.42 \text{ cum} = 3420 \text{ cudm}</math>            qty taken for cost of using once after deducting for credit = <math>3420 \times 1/4 \times 1/4 = 213.75 \text{ cudm}</math>            Walings 100 mm x 100 mm of</p>	10 cud m	213.75	260.00	5557.5
1197	<p>Second class kail wood in scantling  <math>4 \times 30 \times 0.10 \times 0.10 = 1.20 \text{ cum} = 1200 \text{ cudm}</math>            Qty taken for cost of using once after deducting for credit = <math>1200 \times 1/4 \times 1/4 = 75 \text{ cudm}</math></p>	10 cud m	75.0	260.00	1950.0

PRICE

EST NO:

0302	Safeda ballies 125 mm diameter and 1.50m long $2 \times 17 \times 1.50 = 51\text{m}$ Qty taken for cost of using once after deducting for credit= $51 \times 1/4 \times 1/4 = 3.1875\text{m}$ CARRIAGE: Poling boards = 3.42 cum Waling = 1.20 cum Balli struts : $3.14/4 \times (0.125) \times 3 \times 51 = 0.63$ cum Total of carriage = $5.25 \times 4 = 1.3125$ cum	metre	3.1875	40.00	127.50
2204	Carriage of Timber	cum	1.3125	118.59	155.65
0112	Carpenter 2nd class	Day	0.75	679.00	509.25
0114	Beldar	Day	2.0	558.00	1116.00
9999	Sundries-	L.S	40.43	2.00	80.86

TOTAL					9496.76
Add Water Charges @ 1%					94.97
TOTAL					9591.73
Add CPOH @ 15%					1438.76
TOTAL					11030.49
Cost of 90.0 sqm					11030.49
Cost per sqm					122.56
Say					122.55

Cost index		<b>37.29%</b>			45.70
Total with Cost index					168.25

115 Specification Code: 2.16.3

**2.16** Close timbering in trenches including strutting, shoring and packing cavities (wherever required) complete (Measurements to be taken of the face area timbered).

**2.16.3** Depth exceeding 3 m but not exceeding 4.5 m

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for a trench 30 m long and 1.5m deep $\text{Area} = 2 \times 30 \times 1.5 = 90 \text{ sqm.}$ <b>MATERIAL:</b> The Material can be used for times on the same work and after use of material credit is given @ 75% of cost Poling boards of				
1198	Second class kail wood in planks $90 \times 0.038 = 3.42 \text{ cum} = 340 \text{ cudm}$ Qty taken for cost of using once after deducting for credit = $3420 \times 1/4 \times 1/4 = 213.75 \text{ cudm}$ Wallings 100mm x 100mm of	10 cud m	213.75	260.00	5557.5
1197	Second class kail wood in scantling $4 \times 30 \times 0.10 \times 0.10 = 1.20 \text{ cum} = 1200 \text{ dm}^3$ Qty taken for cost of using once after deducting for credit = $1200 \times 1/4 \times 1/4 = 75 \text{ cudm}$	10 cud m	75.0	260.00	1950.0

0302	Safeda ballies 125 mm diameter and 1.5m long $2 \times 17 \times 1.5 = 51\text{m}$ Qty taken for cost of using once after deducting for credit = $51 \times 1/4 \times 1/4 =$ 3.1875 m CARRIAGE: Poling boards = 3.42 cum Walling - = 1.20 cum. Balli struts: $3.14/4 \times (0.125) \times 3 \times 51 = 0.63$ cum Total of carriage = $5.25 \times 1/4 = 1.3125$ cum.	metre	3.1875	40.00	127.50
2204	Carriage of Timber LABOUR:	cum	1.3125	118.59	155.65
0112	Carpenter 2nd class	Day	1.5	679.00	1018.50
0114	Beldar	Day	4.0	558.00	2232.00
9999	Sundries-	L.S	80.73	2.00	161.46

Kerala Water Authority		TOTAL	11202.61
		Add Water Charges @ 1%	112.03
		TOTAL	11314.64
		Add CPOH @ 15%	1697.20
		TOTAL	13011.84
		Cost of 90.0 sqm	13011.84
		Cost per sqm	144.58
		Say	144.6

	Cost index	<b>37.29%</b>				53.92
	Total with Cost index					198.52

116 Specification Code: 100.10.7

**100.10.7**

Laying HDPE pipes (IS : 4984) on land portion including conveying within initial lead and aligning the pipes, electro-fusion welding using automatic or semi automatic electrofusion machines, testing the pipe line thus fabricated to suit the hydraulic working pressure and after testing , aligning the pipeline, lowering the pipe in position into the trenches already made, testing the line to suitable pressure with potable water before back filling and leveling the trenches including all labour charge, hire for appliances etc. complete but excluding cost of pipe and fittings.

200 mm OD HDPE pipe

NEW DATA

Code	Description	Unit	Quantity	Rate	Amount
	Details of Cost For 100m Labour				
0116	Fitter(grade1)	Day	11.5	738.00	8487.00
9999	Sundries-Electric energy charges	L.S	300.0	2.00	600.00
9999	Sundries-Hire for fushion welding machine	L.S	600.0	2.00	1200.00
0160	Technician	Day	1.5	775.00	1162.50
0157	Operator (Pile/Special machine)	Day	1.5	738.00	1107.00
0115	Coolie for assisting fitter & operator	Day	11.5	558.00	6417.00
0115	Coolie for changing the pipe from electrofusion machine to the trench	Day	1.5	558.00	837.00
9999	Sundries-Conveyance charge ,Testing the pipe line,providing caution board etc.	L.S	250.0	2.00	500.00
TOTAL					20310.50

PRICE

EST NO:

Add Water Charges @ 1%	203.10
TOTAL	20513.60
Add CPOH @ 15%	3077.04
TOTAL	23590.64
Cost of 100.0 metre	23590.64
Cost per metre	235.91
Say	235.9

Cost index	37.29%			87.97
Total with Cost index				323.87

117 Specification Code: 100.98.140

Kerala Water Authority

SUBHEAD 100.0

KWA APPROVED DATA

PRICE

100.98.140

Supply of PE Pipe, PE100, PN8, 200mm dia, conforming to IS 4984/2016.

Code	Description	Unit	Quantity	Rate	Amount
KW140	PE Pipe, PE100, PN8, 200mm dia, conforming to IS 4984/2016	metre	1.0	910.00	910.00
TOTAL					910.00
Add Water Charges @ 1%					9.10
TOTAL					919.10
Add CPOH @ 15%					137.87
Cost of 1.0 metre					1056.97
Cost of 1 metre					1056.97

Say	1056.95
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	Cost index	37.29%				.00
	Total with Cost index					1056.95

118 Specification Code: 100.10.9

**100.10.9**

Laying HDPE pipes (IS : 4984) on land portion including conveying within initial lead and aligning the pipes, electro-fusion welding using automatic or semi automatic electrofusion machines, testing the pipe line thus fabricated to suit the hydraulic working pressure and after testing , aligning the pipeline, lowering the pipe in position into the trenches already made, testing the line to suitable pressure with potable water before back filling and leveling the trenches including all labour charge, hire for appliances etc. complete but excluding cost of pipe and fittings.

250 mm OD HDPE pipe

NEW DATA

Kerala Water Authority

Code	Description	Unit	Quantity	Rate	Amount
	Details of Cost For 100m Labour				
0116	Fitter(grade1) for aligning the pipe	Day	17.0	738.00	12546.00
9999	Sundries-Electric energy charges	L.S	350.0	2.00	700.00
9999	Sundries-Hire for fushion welding machine	L.S	600.0	2.00	1200.00
0160	Technician	Day	1.7	775.00	1317.50
0157	Operator (Pile/Special machine)	Day	1.7	738.00	1254.60

PRICE

EST NO:

0115	Coolie for changing the pipe from electrofusion machine to the trench	Day	17.0	558.00	9486.00
0115	Coolie Conveyance charge ,Testing the pipe line,providing caution board etc.	Day	1.7	558.00	948.60
9999	Sundries-Conveyance charge ,Testing the pipe line,providing caution board etc.	L.S	300.0	2.00	600.00

TOTAL		28052.70
Add Water Charges @ 1%		280.53
TOTAL		28333.23
Add CPOH @ 15%		4249.98
TOTAL		32583.21
Kerala Water Authority Cost of 100.0 metre		32583.21
PRICE Cost per metre		325.83
Say		325.85

	Cost index	<b>37.29%</b>			121.51
	Total with Cost index				447.36

119 Specification Code: 100.98.142

**SUBHEAD 100.0**

**KWA APPROVED DATA**

100.98.142

Supply of PE Pipe, PE100, PN8, 250mm dia, conforming to IS 4984/2016.



Code	Description	Unit	Quantity	Rate	Amount
KW142	PE Pipe, PE100, PN8, 250mm dia, conforming to IS 4984/2016	metre	1.0	1416.00	1416.00
TOTAL					1416.00
Add Water Charges @ 1%					14.16
TOTAL					1430.16
Add CPOH @ 15%					214.52
Costof 1.0 metre					1644.68
Cost of 1 metre					1644.68
Say					1644.7

	Cost index	<b>37.29%</b>			.00
	Total with Cost index				1644.7

**120** Specification Code: 100.10.11

**100.10.11**

Laying HDPE pipes (IS : 4984) on land portion including conveying within initial lead and aligning the pipes, electro-fusion welding using automatic or semi automatic electrofusion machines, testing the pipe line thus fabricated to suit the hydraulic working pressure and after testing , aligning the pipeline, lowering the pipe in position into the trenches already made, testing the line to suitable pressure with potable water before back filling and leveling the trenches including all labour charge, hire for appliances etc. complete but excluding cost of pipe and fittings.

315 mm OD HDPE pipe

NEW DATA

Code	Description	Unit	Quantity	Rate	Amount
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	Details of Cost For 100m Labour				
0116	Fitter(grade1) for aligning the pipe	Day	23.5	738.00	17343.00
9999	Sundries-Electric energy charges	L.S	350.0	2.00	700.00
9999	Sundries-Hire for fushion welding machine	L.S	600.0	2.00	1200.00
0160	Technician	Day	1.9	775.00	1472.50
0157	Operator (Pile/Special machine)	Day	1.9	738.00	1402.20
0115	Coolie for assisting fitter & operator	Day	23.5	558.00	13113.00
0115	Coolie for changing the pipe from electrofusion machnie to the trench	Day	1.9	558.00	1060.20
9999	Sundries-Conveyance charge ,Testing the pipe line,providing caution board etc.	L.S	300.0	2.00	600.00

	TOTAL	36890.90
	Add Water Charges @ 1%	368.91
	TOTAL	37259.81
	Add CPOH @ 15%	5588.97
	TOTAL	42848.78
	Cost of 100.0 metre	42848.78
	Cost per metre	428.49
	Say	428.5

	Cost index	<b>37.29%</b>				159.79
	Total with Cost index					588.29

121 Specification Code: 100.98.144

**SUBHEAD 100.0**

**KWA APPROVED DATA**

100.98.144

Supply of PE Pipe, PE100, PN8, 315mm dia, conforming to IS 4984/2016.

Code	Description	Unit	Quantity	Rate	Amount
KW144	PE Pipe, PE100, PN8, 315mm dia, conforming to IS 4984/2016	metre	1.0	2260.00	2260.00
TOTAL					2260.00
Add Water Charges @ 1%					22.60
TOTAL					2282.60
Add CPOH @ 15%					342.39
Costof 1.0 metre					2624.99
Cost of 1 metre					2624.99
Say					2625.0

	Cost index	<b>37.29%</b>				.00
	Total with Cost index					2625.0

122 Specification Code: 100.10.13

**100.10.13**

Laying HDPE pipes (IS : 4984)on land portion including conveying within initial lead and aligning the pipes, electro-fusion welding using automatic or semi

automatic electrofusion machines, testing the pipe line thus fabricated to suit the hydraulic working pressure and after testing , aligning the pipeline, lowering the pipe in position into the trenches already made, testing the line to suitable pressure with potable water before back filling and leveling the trenches including all labour charge, hire for appliances etc. complete but excluding cost of pipe and fittings.

400 mm OD HDPE pipe

NEW DATA

Code	Description	Unit	Quantity	Rate	Amount
	Details of Cost For 100m Labour				
0116	Fitter(grade1) for aligning the pipe	Day	30.5	738.00	22509.00
9999	Sundries-Electric energy charges	L.S	400.0	2.00	800.00
9999	Sundries-Hire for fushion welding machine	L.S	600.0	2.00	1200.00
0160	Technician	Day	2.0	775.00	1550.00
0157	Operator (Pile/Special machine)	Day	2.0	738.00	1476.00
0115	Coolie for assisting fitter & operator	Day	30.5	558.00	17019.00
0115	Coolie for changing the pipe from electrofusion machine to the trench	Day	2.0	558.00	1116.00
9999	Sundries-Conveyance charge ,Testing the pipe line,providing caution board etc.	L.S	350.0	2.00	700.00
TOTAL					46370.00

PRICE

EST NO:

Add Water Charges @ 1%	463.70
TOTAL	46833.70
Add CPOH @ 15%	7025.06
TOTAL	53858.76
Cost of 100.0 metre	53858.76
Cost per metre	538.59
Say	538.6

Cost index	37.29%				200.84
Total with Cost index					739.44

123 Specification Code: 100.98.166

Kerala Water Authority

SUBHEAD 100.0

KWA APPROVED DATA

PRICE

100.98.166

Supply of PE Pipe, PE100, PN10, 400mm dia, conforming to IS 4984/2016.

Code	Description	Unit	Quantity	Rate	Amount
KW166	PE Pipe, PE100, PN10, 400mm dia, conforming to IS 4984/2016	metre	1.0	4545.29	4545.29
TOTAL					4545.29
Add Water Charges @ 1%					45.45
TOTAL					4590.74
Add CPOH @ 15%					688.61
Cost of 1.0 metre					5279.35
Cost of 1 metre					5279.35

Say	5279.35
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Cost index	37.29%				.00
Total with Cost index					5279.35

124 Specification Code: 4.1.5

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.5** 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.7	1350.00	945.00
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.24	1350.00	324.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.94	103.77	97.54
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement (0.15674 cum)	tonne	0.22	4940.00	1086.80
2209	Carriage of Cement LABOUR:	tonne	0.22	92.24	20.29
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90

PRICE

EST NO:

0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	13.52	2.00	27.04

TOTAL					4678.18
Add Water Charges @ 1%					46.78
TOTAL					4724.96
Add CPOH @ 15%					708.74
TOTAL					5433.70
Cost of 1.0 cum					5433.70
Say					5433.7

	Cost index	<b>37.29%</b>			2026.23
	Total with Cost index				7459.93

**125** Specification Code: 100.7.1

**100.7.1**

Bailing out water with 5 HP engine and pumpset including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete.

NEW DATA (Prepared based on PHED SDB - Item No.1070)

Code	Description	Unit	Quantity	Rate	Amount

PRICE

EST NO:

0011	Hire charges of Pump set of capacity 4000 litres/hour Hire charges of Engine (Per Day) charges for cost of service of operating staff, cost of lubricating oil, diesel / petrol / kerosene oil, other consumables for running the plant and machinery and all the taxes.	Day	1.0	700.00	700.00
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TOTAL		700.00
Add Water Charges @ 1%		7.00
TOTAL		707.00
Add CPOH @ 15%		106.05
TOTAL		813.05
Cost of 29.84 Kwh		813.05
Cost per Kwh		27.25
Say		27.25

Kerala Water Authority

Cost index	37.29%	10.16
Total with Cost index		37.41

126 Specification Code: 100.7.2

**100.7.2**

Bailing out water with engine and pumpset above 5 HP upto 10 HP including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete.  
NEW DATA (Prepared based on PHED SDB - Item No.1070)

Code	Description	Unit	Quantity	Rate	Amount



PRICE

EST NO:

0011	Hire charges of Pump set of capacity 4000 litres/hour Hire charges of Engine (Per Day) charges for cost of service of operating staff, cost of lubricating oil, diesel / petrol / kerosene oil, other consumables for running the plant and machinery and all the taxes.	Day	1.0	700.00	700.00
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				TOTAL	700.00
				Add Water Charges @ 1%	7.00
				TOTAL	707.00
				Add CPOH @ 15%	106.05
				TOTAL	813.05
				Cost of 59.68 Kwh	813.05
				Cost per Kwh	13.62
				Say	13.6

Kerala Water Authority

	Cost index	37.29%			5.07
	Total with Cost index				18.67

127 Specification Code: 100.7.3

**100.7.3**

Bailing out water with engine and pumpset above 10 HP upto 20 HP including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete.  
NEW DATA (Prepared based on PHED SDB - Item No.1070)

Code	Description	Unit	Quantity	Rate	Amount

PRICE

EST NO:

0011	Hire charges of Pump set of capacity 4000 litres/hour Hire charges of Engine (Per Day) charges for cost of service of operating staff, cost of lubricating oil, diesel / petrol / kerosene oil, other consumables for running the plant and machinery and all the taxes.	Day	1.0	700.00	700.00
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				TOTAL	700.00
				Add Water Charges @ 1%	7.00
				TOTAL	707.00
				Add CPOH @ 15%	106.05
				TOTAL	813.05
				Cost of 119.36 Kwh	813.05
				Cost per Kwh	6.81
				Say	6.8

Kerala Water Authority

	Cost index	37.29%			2.54
	Total with Cost index				9.34

128 Specification Code: 100.98.1008

**100.98.1008** Engaging Coolie

Code	Description	Unit	Quantity	Rate	Amount
0115	Coolie	Day	1.0	558.00	558.00
				TOTAL	558.00
				Add Water Charges @ 1%	5.58
				TOTAL	563.58

	Add CPOH @ 15%	84.54
	TOTAL	648.12
	Cost of 1.0 Day	648.12
	Cost per Day	648.12
	Say	648.1

	Cost index	37.29%			241.68
	Total with Cost index				889.78

129 Specification Code: 2.6.1

**2.6**

Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.

**2.6.1**

All kinds of soil

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. Average output of Hydraulic Excavator per hour = 30cum MACHINERY:				
0020	Hydraulic Excavator (3D) with driver and fuel	Day	0.041	7000.00	287.00
0018	Hire and running charges of loader LABOUR:	Day	0.041	5000.00	205.00
0128	Mate Beldar/	Day	0.32	617.00	197.44
0115	Coolie	Day	1.2	558.00	669.60
				TOTAL	1359.04

Add Water Charges @ 1%	13.59
TOTAL	1372.63
Add CPOH @ 15%	205.89
TOTAL	1578.52
Cost of 10.0 cum	1578.52
Cost per cum	157.85
Say	157.85

Cost index	<b>37.29%</b>			58.86
Total with Cost index				216.71

**130** Specification Code: od322627/2021\_2022

od322627/2021\_2022 :Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over<br>areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth,<br>disposed earth to be levelled and neatly dressed for manhole.Second depth 1.5m to 3m

Code	Description	Unit	Quantity	Rate	Amount	Remarks
2.6.1	Rate as per item number 2.6.1 of SH: Earth Work	cum	1.00000	157.85	157.85	
2.26.1	Rate as per item number 2.26.1 of SH: Earth Work	cum	1.00000	78.45	78.45	
TOTAL					236.30	
cost for one cum					236.30	
say					236.30	

Cost index	<b>37.29 %</b>	88.12
Total with Cost index		324.42

131 Specification Code: od286715/2021\_2022

od286715/2021\_2022 ::Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over<br>areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth,<br>disposed earth to be levelled and neatly dressed for manhole. Third Depth 3m to 4.5m

Code	Description	Unit	Quantity	Rate	Amount	Remarks
2.6.1	Rate as per item number 2.6.1 of SH: Earth Work	cum	1.00000	157.85	157.85	
2.26.1	Rate as per item number 2.26.1 of SH: Earth Work	cum	2.00000	78.45	156.90	
TOTAL					314.75	
cost for one cum					314.75	
say					314.75	

Cost index	<b>37.29 %</b>	117.37
Total with Cost index		432.12

Kerala Water Authority

132 Specification Code: od286738/2021\_2022

od286738/2021\_2022 ::Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over<br>areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth,<br>disposed earth to be levelled and neatly dressed for manhole. Third Depth 4.5m to 6m

Code	Description	Unit	Quantity	Rate	Amount	Remarks
2.6.1	Rate as per item number 2.6.1 of SH: Earth Work	cum	1.00000	157.85	157.85	
2.26.1	Rate as per item number 2.26.1 of SH: Earth Work	cum	2.00000	78.45	156.90	
TOTAL					314.75	
cost for one cum					314.75	
say					314.75	

Cost index <b>37.29 %</b>	117.37
Total with Cost index	432.12

133 Specification Code: 100.6.1

**SUBHEAD : 100.0**

**KWA APPROVED DATA**

100.6.1

Providing steel sheet shoring to the sides of the trenches to depths of above 4.00 m but not exceeding 6.00m using 6 mm M.S. sheet 0.50 M wide stiffen on edges with 50 mm x 50mm x 6 mm M.S. angles driving down vertically on either side one after another in lines and levels with suitable pile driving equipments and accessories to a maximum depth of 0.50 M below the bottom of the proposed excavation 0.5 M above ground level suitably braced by horizontal walling pieces at 75 x 150 mm x 8 mm angles on either side at intervals not exceeding 1.50M and horizontal screw jack type struts at 1.50M intervals and maintaining the shoring till the pipes are laid and works are completed, dismantling, cleaning and restacking for reuse including all labour, hire charges and conveyance for equipments, tools and plants and sundries etc. complete.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 m2.				
100.6.S.2	Rate as per item Number100.6.S.2 of SH: KWA Approved Data Hire charges of MS sheet (1/20 of cost)	sqm	1.0	160.85	160.85(A)
100.6.S.3	Rate as per item Number100.6.S.3 of SH: KWA Approved Data Hire charges of MS angles (1/20 of cost)	sqm	1.0	33.05	33.05(A)
100.6.S.4	Rate as per item Number100.6.S.4 of SH: KWA Approved Data Hire charges of walling pieces (1/25 of cost)	sqm	1.0	19.50	19.50(A)

100.6.S.5	Rate as per item Number100.6.S.5 of SH: KWA Approved Data Fabricating MS sheet 0.5 m wide 7 m long stiffened on 3 edges (1/20 cost as per sub data)	sqm	1.0	62.05	62.05(A)
100.6.S.6	Rate as per item Number100.6.S.6 of SH: KWA Approved Data Driving down the sheet pile and shoring.	sqm	1.0	160.70	160.70(A)
100.6.S.7	Rate as per item Number100.6.S.7 of SH: KWA Approved Data Dismantling the sheet pile after use, cleaning and stacking properly.	sqm	1.0	80.35	80.35(A)
100.6.S.8	Rate as per item Number100.6.S.8 of SH: KWA Approved Data Labour charges for rectifying the damages of sheet piles during driving down & Protective Measures.	sqm	1.0	36.00	36.00(A)
TOTAL					552.50
Add Water Charges @ 1% except on A ie on ( 552.5-552.5=0.0 )					.00
TOTAL					552.50
Add CPOH @ 15% except on A ie on ( 552.5-552.5=0.0 )					.00
Cost of 1 m2					552.50
Cost per 1 m2					552.50
Say					552.5

	Cost index	<b>37.29%</b>			206.03
	Total with Cost index				758.53

134 Specification Code: 4.1.8

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.8** 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0293	Stone Aggregate(single size): 40 mm nominal size nominal size (0.70 cum -7.5% for voids i.e. 0.05 =0.65 cum)	cum	0.65	1300.00	845.00
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.24	1350.00	324.00
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	0.65	112.79	73.31
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.24	103.77	24.90
0982	Coarse sand (zone III)	cum	0.47	1350.00	634.50
2203	Carriage of Coarse sand	cum	0.47	103.77	48.77
0367	Portland Cement	tonne	0.17	4940.00	839.80
2209	Carriage of Cement LABOUR:	tonne	0.17	92.24	15.68
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90



9999	Sundries-	L.S	13.52	2.00	27.04
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TOTAL					4327.24
Add Water Charges @ 1%					43.27
TOTAL					4370.51
Add CPOH @ 15%					655.58
TOTAL					5026.09
Cost of 1.0 cum					5026.09
Say					5026.1

Cost index		<b>37.29%</b>			1874.23
Total with Cost index					6900.33

135 Specification Code: 5.1.2

**5.1:**

Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level:

**5.1.2**

1:1:5:3 (1 cement 1.5 coarse sand :3 graded stone aggregate 20 mm nominal size

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.57	1350.00	769.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.28	1350.00	378.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.85	103.77	88.20
0982	Coarse sand (zone III)	cum	0.425	1350.00	573.75

2203	Carriage of Coarse sand	cum	0.425	103.77	44.10
0367	Portland Cement (0.2833 cum)	tonne	0.4	4940.00	1976.00
2209	Carriage of Cement	tonne	0.4	92.24	36.90
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	14.3	2.00	28.60

TOTAL					5768.78
Add Water Charges @ 1%					57.69
TOTAL					5826.47
Add CPOH @ 15%					873.97
TOTAL					6700.44
Cost of 1.0 cum					6700.44
Say					6700.45

	Cost index	<b>37.29%</b>			2498.60
	Total with Cost index				9199.05

**136** Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for footing size 2.7mx2.7mx 1.00m Contact area = 10.8sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	860.00	292.40
7326	Corner angle 45x45x5 mm 1.50 m long Qty taken for cost of using once = $4 \times 0.85 / 40 = 0.085$	each	0.085	240.00	20.40
7327	100 mm channel shoulder 2.5 m long Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	76.00	25.84
7329	Single clip Qty taken for cost of using once = $8 \times 0.85 / 40$ $= 0.17$	each	0.17	59.00	10.03
7330	M.S. Tube 40 mm dia Qty taken for cost of using once = $10.8 \times 0.85 / 40 = 0.2295$	metre	0.2295	215.00	49.34
9999	Sundries-Assembly nuts 7 bolts Qty taken for cost of using once = $1040 \times 0.85 / 40 = 22.10$	L.S	22.1	2.00	44.20
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00

9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL					2299.41
Add Water Charges @ 1%					22.99
TOTAL					2322.40
Add CPOH @ 15%					348.36
TOTAL					2670.76
Cost of 10.8 sqm					2670.76
Cost per sqm					247.29
Say					247.3

Cost index		<b>37.29%</b>			92.22
Total with Cost index					339.52

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137 Specification Code: 4.1.3

**4.1**

Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.3**

1:2:4 (cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.67	1350.00	904.50
0297	Stone Aggregate(single size): 10 mm nominal size nominal size	cum	0.22	1350.00	297.00

2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.89	103.77	92.36
0982	Coarse sand (zone III)	cum	0.445	1350.00	600.75
2203	Carriage of Coarse sand	cum	0.445	103.77	46.18
0367	Portland Cement (0.2225 cum)	tonne	0.32	4940.00	1580.80
2209	Carriage of Cement	tonne	0.32	92.24	29.52
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	14.3	2.00	28.60

				TOTAL	5073.95
				Add Water Charges @ 1%	50.74
				TOTAL	5124.69
				Add CPOH @ 15%	768.70
				TOTAL	5893.39
				Cost of 1.0 cum	5893.39
				Say	5893.4

	Cost index	<b>37.29%</b>			2197.65
	Total with Cost index				8091.05

138 Specification Code: 5.7

**SUBHEAD : 5.0**

**REINFORCED CEMENT CONCRETE****5.7**

Reinforced cement concrete work in well - steining excluding the cost of centering, shuttering, finishing and reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand (Zone - III) : 3 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
4.1.2	Rate as per item Number 4.1.2 of SH: Concrete work LABOUR	cum	1.0	6259.65	6259.65(A)
0115	Coolie Extra labour involved coolie	Day	0.08	558.00	44.64
Add Water Charges @ 1% except on A ie on ( 6304.29-6259.65=44.6401 )					.45
TOTAL					6304.74
Add CPOH @ 15% except on A ie on ( 6304.74-6259.65=45.0901 )					6.76
TOTAL					6311.50
Cost of 1.0 cum					6311.50
Cost of 1 cum					6311.50
Say					6311.5

	Cost index	<b>37.29%</b>			2353.56
	Total with Cost index				8665.06

139 Specification Code: od287220/2021\_2022

od287220/2021\_2022 :Centering and shuttering including strutting, propping etc. and removal of form for etc. for cover<br>slab (Including 20% extra for circular works):<br>Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount	Remarks
5.9.1	Rate as per item number 5.9.1 of SH: Reinforced Cement Concrete	sqm	1.20000	247.30	296.76	
TOTAL					296.76	
cost for one sqm					296.76	
say					296.76	

Cost index <b>37.29 %</b>	110.66
Total with Cost index	407.42

**140** Specification Code: od287240/2021\_2022

od287240/2021\_2022 :Centering and shuttering including strutting propping etc. and removal of form etc. well steining<br>( Including 20% extra for circular works)<br>

Code	Description	Unit	Quantity	Rate	Amount	Remarks
5.9.12	Rate as per item number 5.9.12 of SH: Reinforced Cement Concrete	sqm	1.20000	184.15	220.98	
TOTAL					220.98	
cost for one sqm					220.98	
say					220.98	

Cost index <b>37.29 %</b>	82.40
Total with Cost index	303.38

**141** Specification Code: 5.22.4

**5.22**

Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

## 5.22.4 Hot rolled deformed bars

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00q Wastage 5% = 0.05q Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, cutting, bending, binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-and binding wire	L.S	26.91	2.00	53.82
TOTAL					6241.51
Add Water Charges @ 1%					62.42
TOTAL					6303.93
Add CPOH @ 15%					945.59
TOTAL					7249.52
Cost of 100.0 kilogram					7249.52
Cost per kilogram					72.50
Say					72.5

	Cost index	37.29%			27.04
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	Total with Cost index				99.54
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142 Specification Code: 13.9.1

**13.9** Cement plaster 1:3 ( 1 cement : 3 coarse sand) finished with a floating coat of neat cement.

**13.9.1** 12 mm cement plaster

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Cement mortar 1:3 ( 1 cement : 3 coarse sand)				
3.8	Rate as per item Number 3.8 of SH: Mortars LABOUR:	cum	0.144	4664.55	671.70
0155	Mason (average)	Day	0.67	709.00	475.03
0115	Coolie	Day	0.75	558.00	418.50
0101	Bhisti	Day	0.92	617.00	567.64
9999	Sundries-Scaffolding and sundries	L.S	12.61	2.00	25.22
0367	Portland Cement	tonne	0.02	4940.00	98.80
2209	Carriage of Cement	tonne	0.02	92.24	1.84
0155	Mason (average)	Day	0.27	709.00	191.43
0115	Coolie	Day	0.27	558.00	150.66
9999	Sundries-Scaffolding and sundries.	L.S	8.06	2.00	16.12
TOTAL					2616.94
Add Water Charges @ 1%					26.17
TOTAL					2643.11
Add CPOH @ 15%					396.47
TOTAL					3039.58

	Cost of 10.0 sqm	3039.58
	Cost per sqm	303.96
	Say	303.95

	Cost index	<b>37.29%</b>				113.34
	Total with Cost index					417.29

143 Specification Code: 19.16

**SUBHEAD : 19.0**

**DRAINAGE**

**19.16**

Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS:1786, having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufactures permanent identification mark to be visible even after fixing including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 ( 1cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size)Complete as per design

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for one no. Details:				
7354	Plastic encapsulated M.S. foot rest 30x20x15 cm	each	1.0	110.00	110.00
9988	Carriage and sundries Cement concrete 1:3:6 (0.30x0.20x15)=0.009 cum)	L.S	1.82	2.00	3.64

4.2.5	Rate as per item Number 4.2.5 of SH: Concrete work LABOUR:	cum	0.009	6966.75	62.70(A)
0123	Mason (brick layer) 1st class	Day	0.02	738.00	14.76
0124	Mason (brick layer) 2nd class	Day	0.2	679.00	135.80
0114	Beldar	Day	0.05	558.00	27.90

Add Water Charges @ 1% except on A ie on ( 354.8-62.7=292.1 )					2.92
TOTAL					357.72
Add CPOH @ 15% except on A ie on ( 357.72-62.7=295.02 )					44.25
TOTAL					401.95
Cost of 1.0 each					401.95
Cost of 1 each					401.95
Say					401.95

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PRICE

	Cost index	37.29%			149.89
	Total with Cost index				551.84

144 Specification Code: 19.21.1

**SUBHEAD : 19.0****DRAINAGE****19.21**

Making connection of drain or sewer line with existing manhole including breaking into and making good the walls, floors with cement concrete 1:2:4 mix ( 1 cement:2 coarse sand: 4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3 ( 1 cement: 3 coarse sand) finished with a floating coat of neat cement and making necessary channels for the drain etc. complete.

**19.21.1** For pipes 100 to 250 mm diameter

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for one connection <b>MATERIAL:</b> coarse sand: 4 grade stone aggregate 20 mm nominal size) =0.30x0.30x0.23 m = 0.0207 cum Less pipe: 1/2x3.14x0.23x0.23x0.23 = 0.0096 cum = 0.0111 cum say 0.01 cum				
4.1.3	Rate as per item Number4.1.3 of SH: Concrete work 12 mm cement plaster 1:3 ( 1 cement: 3 coarsed sand) finished with a floating coat of neat cement 2x0.35x0.35=0.25 sqm	cum	0.01	5893.40	58.93(A)
13.9.1	Rate as per item Number13.9.1 of SH: Finishing <b>LABOUR:</b> ( for cutting holes average size 30x30 cm in 23 cm thick wall and making channel etc.)	sqm	0.25	303.95	75.99(A)
0123	Mason (brick layer) 1st class	Day	0.12	738.00	88.56
0124	Mason (brick layer )2nd class	Day	0.12	679.00	81.48
0114	Beldar	Day	0.25	558.00	139.50
9999	Sundries - Add for delay sundries etc	L.S	20.15	2.00	40.30
AddWater Charges @ 1% except on A ie on ( 484.76-134.92=349.84 )					3.50
TOTAL					488.26
AddCPOH @ 15% except on A ie on ( 488.26-134.92=353.34 )					53.00
TOTAL					541.25
Cost of 1.0 each					541.25

PRICE

EST NO:

Say	541.25
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Cost index	<b>37.29%</b>				201.83
Total with Cost index					743.08

**145** Specification Code: od289046/2021\_2022

od289046/2021\_2022 :Conveying from casting yard and fixing the RCC cover slab of various size dia, 25cm thick including cost of 5kg cement/E

Code	Description	Unit	Quantity	Rate	Amount	Remarks
0367	Portland Cement	tonne	1.00000	4940.00	4940.00	
0155	Mason (average)	Day	1.00000	709.00	709.00	
0115	Coolie	Day	1.00000	558.00	558.00	
9999	Sundries	L.S	1.00000	2.00	2.00	
TOTAL					6209.00	
Add Water Charges @ 1%					62.09	
Add CPOH @ 15%					940.66	
cost for one tonne					7211.75	
say					7211.75	

Cost index	<b>37.29 %</b>	2689.26
Total with Cost index		9901.01

**146** Specification Code: 100.41.33

**100.41.33**

Supplying and fixing 500mm dia CI manhole cover with frame( medium duty) charges including all cost, labour charges etc complete.

Code	Description	Unit	Quantity	Rate	Amount
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Details of Cost For 1 No.					
Materials					
1356	500 mm dia cover with frame (medium duty)	each	1.0	4400.00	4400.00
9999	Sundries-Carriage of CI Man hole cover Labour	L.S	25.0	2.00	50.00
0155	Mason (average)	Day	0.25	709.00	177.25
0115	Coolie	Day	0.25	558.00	139.50

TOTAL					4766.75
Add Water Charges @ 1%					47.67
TOTAL					4814.42
Add CPOH @ 15%					722.16
TOTAL					5536.58
Cost of 1.0 no					5536.58
Cost of each					5536.58
Kerala Water Authority Say					5536.6

**PRICE**

Cost index <b>37.29%</b>					2064.60
Total with Cost index					7601.2

**147** Specification Code: 2.25

**2.25** Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 cum. LABOUR:				

0128	Mate	Day	0.2	617.00	123.40
0115	Coolie	Day	2.5	558.00	1395.00
0101	Bhisti	Day	0.2	617.00	123.40

TOTAL					1641.80
Add Water Charges @ 1%					16.42
TOTAL					1658.22
Add CPOH @ 15%					248.73
TOTAL					1906.95
Cost of 10.0 cum					1906.95
Cost per cum					190.69
Say					190.7

Cost index <b>37.29%</b>					71.11
Total with Cost index					261.81

148 Specification Code: od289079/2021\_2022

od289079/2021\_2022 :Removal of excess earth by lorry for minimum mechanical conveyance and less cost of earth

Code	Description	Unit	Quantity	Rate	Amount	Remarks
2241	Good earth	cum	1.00000	129.71	129.71	
0979	Royalty for good earth	cum	1.00000	40.00	40.00	
TOTAL					169.71	
Add Water Charges @ 1%					1.70	
Add CPOH @ 15%					25.71	
cost for one cum					197.12	
say					197.12	

Cost index <b>37.29 %</b>	73.51
Total with Cost index	270.63

**149** Specification Code: od289058/2021\_2022

od289058/2021\_2022 :Providing protection works to the Electric post by using 3nos of Kattadi poles and removing the same after completion of work.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	25 to 40cm dia Kattadi poles 6m long (25%)	No	1.00000	56.25	56.25	
9999	Sundries	L.S	1.00000	2.00	2.00	
100.98.16	Rate as per item number 100.98.16 of SH: KWA Approved Data	kg	1.00000	197.70	197.70	
0115	Coolie	Day	1.00000	558.00	558.00	
TOTAL					813.95	
Add Water Charges @ 1%					6.16	
Add CPOH @ 15%					93.36	
cost for one No					913.47	
say					913.47	

Cost index <b>37.29 %</b>	242.55
Total with Cost index	1156.02

**150** Specification Code: od289092/2021\_2022

od289092/2021\_2022 :Providing protection works to avoid damages to the water supply lines etc. by using earth filled gunny bags and as temporary bund

Code	Description	Unit	Quantity	Rate	Amount	Remarks
KW17	Empty bag for Earth Filling.	No	1.00000	1.28	1.28	
2.6.1	Rate as per item number 2.6.1 of SH: Earth	cum	1.00000	157.85	157.85	



	Work					
0114	Beldar	Day	1.00000	558.00	558.00	
9999	Sundries	L.S	1.00000	2.00	2.00	
0114	Beldar	Day	1.00000	558.00	558.00	
0114	Beldar	Day	1.00000	558.00	558.00	
0115	Coolie	Day	1.00000	558.00	558.00	
TOTAL					2393.13	
Add Water Charges @ 1%					22.35	
Add CPOH @ 15%					338.64	
cost for one No					2754.13	
say					2754.13	
Cost index <b>37.29 %</b>					1026.46	
Total with Cost index					3780.59	

**151** Specification Code: 16.84

**16.84**

Laying old cement concrete interlocking paver blocks of any design/ shape laid in required line, level, curvature, colour and pattern over and including 50 mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. (Old CC paver blocks shall be supplied by the department free of cost.)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL: Beading layer 50mm thick				
0982	Coarse sand (zone III) Qty = 10x 0.05 = 0.50 cum	cum	0.5	1350.00	675.00
2203	Carriage of Coarse sand	cum	0.5	103.77	51.89
0983	Fine sand (zone IV)	cum	0.15	900.00	135.00

2261	Carriage of Fine sand (1 part badarpur sand : 2 parts jamuna sand LABOUR:	cum	0.15	103.77	15.57
0123	Mason (brick layer) 1st class	Day	0.5	738.00	369.00
0124	Mason (brick layer )2nd class	Day	0.5	679.00	339.50
0114	Beldar	Day	1.0	558.00	558.00
0115	Coolie	Day	0.5	558.00	279.00

TOTAL		2422.96
Add Water Charges @ 1%		24.23
TOTAL		2447.19
Add CPOH @ 15%		367.08
TOTAL		2814.27
Cost of 10.0 sqm		2814.27
Cost per sqm		281.43
Say		281.45

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**PRICE**

	Cost index	37.29%			104.95
	Total with Cost index				386.4

**152** Specification Code: 5.1.3

**5.1:** Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level:

**5.1.3** 1:2:4 ( 1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
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	Details of cost for 1 cum MATERIAL				
0295	Stone Aggregate(single size):20 mm nominal size	cum	0.67	1350.00	904.50
0297	Stone Aggregate(single size): 10 mm nominal size	cum	0.22	1350.00	297.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.89	103.77	92.36
0982	Coarse sand (zone III)	cum	0.445	1350.00	600.75
2203	Carriage of Coarse sand	cum	0.445	103.77	46.18
0367	Portland Cement (0.2225 of cement)	tonne	0.32	4940.00	1580.80
2209	Carriage of Cement	tonne	0.32	92.24	29.52
0155	Mason (average)	Day	0.17	709.00	120.53
0114	Beldar	Day	2.0	558.00	1116.00
0101	Bhisti	Day	0.9	617.00	555.30
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	14.3	2.00	28.60

	TOTAL	5453.44
	Add Water Charges @ 1%	54.53
	TOTAL	5507.97
	Add CPOH @ 15%	826.20
	TOTAL	6334.17
	Cost of 1.0 cum	6334.17
	Say	6334.15

	Cost index	<b>37.29%</b>				2362.00
	Total with Cost index					8696.15

153 Specification Code: od289098/2021\_2022

od289098/2021\_2022 :Supplying, conveying and laying 20/25mm dia PVC best quality Pipe, 10kg/cm2,including<br>specials for diverting near manholes

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Rate as per item number 100.98.230 of SH: KWA Approved Data	metre	1.00000	31.55	31.55	
100.9.2	Rate as per item number 100.9.2 of SH: KWA Approved Data	metre	1.00000	26.50	26.50	
TOTAL					58.05	
Add Water Charges @ 1%					.32	
Add CPOH @ 15%					4.78	
cost for one metre					63.15	
say					63.15	

	Cost index	<b>37.29 %</b>	9.88
	Total with Cost index		73.03

154 Specification Code: 16.79

### SUBHEAD : 16.0

#### ROAD WORK

#### 16.79

Providing , laying spreading and compacting graded stone aggregate ( size range 53 mm to 0.075 mm) to wet mix macadam (WMM) specification including premixing the material with water at OMC in mechanical mix plant, carriage of mixed material by tipper to site, for all leads & lifts, laying in uniform layers with mechanical paver finisher in sub - base / base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achieve the desired density, complete as per specifications and directions of Engineer - in-

Charge.

Code	Description	Unit	Quantity	Rate	Amount
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# PRICE

	<p>Details of cost for 225 cum ( 495 tonne)  (A) Material conforming to table.....  45 mm to 22.4 mm Q 30% = 89.10 cum  Qty for 0292, 0293, 0294, 0295 codes = 89.10/4 = 22.275 cum  Qty for 2206,2202 codes = 89.10/2 = 44.55 cum  22.4 mm to 2.36 mm @ 40% = 118.80 cum  Qty for 0.294, 0295 codes = 118.80/4 = 29.70 cum  Qty for 1179 code = 118.80/2 = 59.40 cum  2.36 mm to 75 micron @ 30% = 89.10 cum  Qty for 2903, 2904 codes = 89.10/2 =</p>				
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	44.55 cum				
0292	Stone Aggregate(single size):50 mm nominal size	cum	22.275	1000.00	22275.00
0293	Stone Aggregate(single size): 40 mm nominal size	cum	22.275	1300.00	28957.50
0294	Stone Aggregate(single size):25 mm nominal size	cum	22.275	1350.00	30071.25
0295	Stone Aggregate(single size):20 mm nominal size	cum	22.275	1350.00	30071.25
2206	Carriage of Stone aggregate 40 mm nominal size and above	cum	44.55	112.79	5024.79
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	44.55	103.77	4622.95
0294	Stone Aggregate(single size):25 mm nominal size	cum	29.7	1350.00	40095.00

0295	Stone Aggregate(single size):20 mm nominal size	cum	29.7	1350.00	40095.00
1179	Crushed stone 2.36 mm to 12.5 mm size	cum	59.4	900.00	53460.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	118.8	103.77	12327.88
2903	Stone chippings/ screenings 4.75 mm nominal size	cum	44.55	1400.00	62370.00
2904	Stone chippings/ screenings 150 micron nominal size	cum	44.55	1400.00	62370.00
2203	Carriage of Coarse sand (B) Machinery	cum	89.1	103.77	9245.91
0059	Wet Mix Plant 60 TPH @ 75 tonne capacity	hour	6.6	800.00	5280.00
0070	Generator 100 KVA/125	hour	6.0	250.00	1500.00



0057	Water Tanker 5 to 6 KL Capacity 5 km lead with one trip per hour	hour	3.0	150.00	450.00
0052	Front end loader 1 cum bucket capacity (incl POL) Tipper 10 tonne capacity ( taking lead = 10 km) = 495 x 10 = 4950 t. km	hour	6.0	900.00	5400.00
0053	Tipper -5 cum Add 10% of cost of carriage to cover loading and unloading $X \times 10/100 = 14850.00 \times 10/100$	tonne km	4950.0	3.00	14850.00(X)
0065	Paver finisher Mechanical 100 TPH	hour	6.0	800.00	4800.00
0054	Vibratory roller 8 to 10 tonne (C) Labour	hour	3.9	600.00	2340.00
0128	Mate	Day	0.48	617.00	296.16
0139	Skilled Beldar (for floor rubbing etc.)	Day	2.0	617.00	1234.00
0114	Beldar	Day	10.0	558.00	5580.00

Tagged TOTAL	442716.7(Y)
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Add Water Charges @ 1%	4427.17
TOTAL	447143.86
Add CPOH @ 15%	67071.58
TOTAL	515936.25
Cost of 225.0 cum	515936.25
Cost of 1 cum	2293.05
Say	2293.05

Cost index	37.29%	855.08
Total with Cost index		3148.13

#### 6 APP F-Laying Pumping Main

155 Specification Code: 15.43.2

Kerala Water Authority

**15.43**

Dismantling manually / by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer -in-Charge:

**15.43.2**

Bituminous road

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 36 sqm consider a road 6 metres wide and 6 metres length wise 30 cm average depth = 10.80 cubic metre LABOUR: For cutting road taking out soling and metalling including sorting and screening				
0114	Beldar	Day	9.6	558.00	5356.80
0115	Coolie	Day	4.8	558.00	2678.40

9999	Sundries-Labour for stacking of serviceable material and disposal of unserviceable material within 50 metre lead	L.S	107.64	2.00	215.28
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				TOTAL	8250.48
				Add Water Charges @ 1%	82.50
				TOTAL	8332.98
				Add CPOH @ 15%	1249.95
				TOTAL	9582.93
				Cost of 36.0 sqm	9582.93
				Cost per sqm	266.19
				Say	266.2

	Cost index	37.29%			99.27
	Total with Cost index				365.47

156 Specification Code: 100.1.1

**SUBHEAD : 100.0**

**KWA APPROVED DATA**

**100.1.1**

Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :

All kinds of soil

(Ref. Item No. 2.10.1 of DSR)

Code	Description	Unit	Quantity	Rate	Amount
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	Details of Cost For 100 m3				
	Materials				
2.8.1	Rate as per item Number 2.8.1 of SH: Earth Work (DSR)	cum	100.0	219.00	21900.00(A)
2.25	Rate as per item Number 2.25 of SH: Earth Work (DSR)	cum	100.0	190.70	19070.00(A)

				TOTAL	40970.00
				Cost of 100.0 cum	40970.00
				Cost of 1 cum	409.70
				Say	409.7

## Kerala Water Authority

	Cost index	37.29%			152.78
	Total with Cost index				562.48

157 Specification Code: 100.8.1

**SUBHEAD 100.0****KWA APPROVED DATA**

100.8.1

Fencing one side of trenches, 1.50 m height with two rows of 10 cm plastic caution tape in vertical casuarina pole (girth 15cm to 24cm) fixed at 2 m intervals.

(Data Prepared based on PWD SDB - Item No.1009)

Code	Description	Unit	Quantity	Rate	Amount
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	Details of Cost for 10m Pole required for vertical Post = 6x1.65=9.90m				
KW14	Casuarina Pole girth 15cm to 24cm. Hire Charges of Casurania pole ( 25% of cost as hire ) Quantity is taken as 1/4 of 9.9	metre	2.475	22.13	54.77
9999	Sundries-Carriage of Casurania pole	L.S	3.0	2.00	6.00
KW15	Red Coloured Fluorescent caution tape	metre	21.2	1.28	27.14
0114	Beldar Labour	Day	0.2	558.00	111.60
TOTAL					199.51
Add Water Charges @ 1%					2.00
TOTAL					201.51
Add CPOH @ 15%					30.23
Costof 10m					231.74
Cost per m					23.17
Say					23.15

	Cost index <b>37.29%</b>				5.09
	Total with Cost index				28.24

158 Specification Code: 100.8.2

**SUBHEAD 100.0**

**KWA APPROVED DATA**

100.8.2

Fencing 1.50m high with two rows of casuarina poles (girth 15cm to 24cm) tied with coir yarn on

vertical casuarina pole (girth 15cm to 24cm) fixed at 1.5m intervals.

NEW DATA (Prepared based on PWD SDB - Item No.1009

Code	Description	Unit	Quantity	Rate	Amount
	Details of Cost For 10 m				
	Materials Poles required for vertical Post = 8x1.65=13.20 m; Poles required for Horizontal = 2x10=20.00 m; Total Length required = 20.00+13.20= 33.20m;				
KW14	Casuarina Pole girth 15cm to 24cm. Hire Charges of Casurania pole ( 25% of cost as hire ) Quantity taken as 1/4 of 33.2	metre	8.3	22.13	183.68
9999	Sundries-Carriage of Casurania pole	L.S	10.0	2.00	20.00
KW16	Coir yarn	kg	0.3	170.21	51.06
0114	Beldar Labour	Day	0.75	558.00	418.50
TOTAL					673.24
Add Water Charges @ 1%					6.73
TOTAL					679.97
Add CPOH @ 15%					102.00
Cost of 10m					781.97
Cost per m					78.20
Say					78.2

	Cost index	37.29%			19.00
	Total with Cost index				97.2

159 Specification Code: 2.16.1

**2.16** Close timbering in trenches including strutting, shoring and packing cavities (wherever required) complete (Measurements to be taken of the face area timbered).

**2.16.1** Depth not exceeding 1.5m

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for a trench 30m long and 1.5 m deep. Area = $2 \times 30 \times 1.5 = 90$ sqm. MATERIAL: The material can be used four times on the same work and after use of material credit is given @ 75% of cost poling boards of				
1198	Second class kail wood in planks Second class kail wood in planks $90 \times 0.038 = 3.42$ cum = 3420 cudm Qty taken for cost of using once after deducting for credit = $3420 \times 1/4 \times 1/4 = 213.75$ cudm Wallings 100mm x 100 mm of	10 cud m	213.75	260.00	5557.5
1197	Second class kail wood in scantling $4 \times 30 \times 0.10 \times 1.10 = 1.20$ cum = 1200 cudm Qty taken for cost of using once after deducting for credit = $1200 \times 1/4 \times 1/4 = 75$ cudm	10 cud m	75.0	260.00	1950.0

0302	Safeda ballies 125 mm diameter long 2x17x1.50 = 51 m Qty taken for cost of using once after deducting for credit =51x1/4x 1/4=3.1875m CARRIAGE: Poling boards = 3.42 cum Walling = 1.20 cum. Balli struts : 3.14/4x(0.125)3x51= 0.63cum Total of carriage = 5.25x1/4 = 1.3125 cum	metre	3.1875	40.00	127.50
2204	Carriage of Timber	cum	1.3125	118.59	155.65
0112	Carpenter 2nd class	Day	0.5	679.00	339.50
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-	L.S	26.91	2.00	53.82

TOTAL		8741.97
Add Water Charges @ 1%		87.42
TOTAL		8829.39
Add CPOH @ 15%		1324.41
TOTAL		10153.80
Cost of 90.0 sqm		10153.80
Cost per sqm		112.82
Say		112.8

	Cost index	37.29%			42.06
	Total with Cost index				154.86

160 Specification Code: 100.7.1

**100.7.1** Bailing out water with 5 HP engine and pumpset including conveyance to the



site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. complete.

NEW DATA (Prepared based on PHED SDB - Item No.1070)

Code	Description	Unit	Quantity	Rate	Amount
0011	Hire charges of Pump set of capacity 4000 litres/hour Hire charges of Engine (Per Day) charges for cost of service of operating staff, cost of lubricating oil, diesel / petrol / kerosene oil, other consumables for running the plant and machinery and all the taxes.	Day	1.0	700.00	700.00
TOTAL					700.00
Add Water Charges @ 1%					7.00
TOTAL					707.00
Add CPOH @ 15%					106.05
TOTAL					813.05
Cost of 29.84 Kwh					813.05
Cost per Kwh					27.25
Say					27.25

	Cost index	<b>37.29%</b>			10.16
	Total with Cost index				37.41

**161** Specification Code: 100.98.1008

**100.98.1008** Engaging Coolie

Code	Description	Unit	Quantity	Rate	Amount
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PRICE

EST NO:

0115	Coolie	Day	1.0	558.00	558.00

				TOTAL	558.00
				Add Water Charges @ 1%	5.58
				TOTAL	563.58
				Add CPOH @ 15%	84.54
				TOTAL	648.12
				Cost of 1.0 Day	648.12
				Cost per Day	648.12
				Say	648.1

		Cost index	37.29%		241.68
		Total with Cost index			889.78

Kerala Water Authority

162 Specification Code: 100.14.2

SUBHEAD : 100.0

## KWA APPROVED DATA

100.14.2

Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials :

150 mm dia Ductile Iron Class K-9 Pipes

Data derived from 18.72.16 in DAR

Code	Description	Unit	Quantity	Rate	Amount
	Details for 10metre Materials 150mm dia. pipes (in 5.5m lengths). Weight of 1m pipe = 26.27kg; Weight of 10m pipes - 26.27x10 = 262.70kg.				

PRICE

EST NO:

2321	Carriage of Spun iron S & S pipes 150 mm dia Labour for laying	100 meter	10.0	378.03	37.80
18.23	Rate as per item Number 18.23 of SH: Water Supply	quintal	2.627	229.40	602.63(A)

Add Water Charges @ 1% except on A ie on ( 640.43-602.63=37.799995 )					.38
TOTAL					640.81
Add CPOH @ 15% except on A ie on ( 640.81-602.63=38.179996 )					5.73
TOTAL					646.50
Cost of 10.0 metre					646.50
Cost of 1 metre					64.65
Say					64.65

	Cost index	37.29%			24.11
	Total with Cost index				88.76

163 Specification Code: 100.98.116

**100.98.116** Supply of DI K9 Pipe Conforming to IS 8329/2000, 150mm Dia.

Code	Description	Unit	Quantity	Rate	Amount
KW116	DI K9 Pipe Conforming to IS 8329/2000, 150mm Dia.	metre	1.0	1440.68	1440.68
TOTAL					1440.68
Add Water Charges @ 1%					14.41
TOTAL					1455.09

Add CPOH @ 15%	218.26
TOTAL	1673.35
Cost of 1.0 metre	1673.35
Cost per metre	1673.35
Say	1673.35

Cost index	37.29%				.00
Total with Cost index					1673.35

164 Specification Code: 100.14.3

**SUBHEAD : 100.0**

**KWA APPROVED DATA**

Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials :

**100.14.3**

200 mm dia Ductile Iron Class K-9 Pipes  
Data derived from 18.72.17 in DAR

Code	Description	Unit	Quantity	Rate	Amount
	Details for 10metre Materials 200mm dia. pipes (in 5.5m lengths). Weight of 1m pipe = 36.15kg; Weight of 10m pipes - 36.15x10 = 361.50kg.				
2322	Carriage of Spun iron S & S pipes 200 mm dia Labour for laying	100 meter	10.0	614.93	61.49
18.23	Rate as per item Number 18.23 of SH: Water Supply	quintal	3.615	229.40	829.28(A)
Add Water Charges @ 1% except on A ie					.61

PRICE

EST NO:

on ( 890.77-829.28=61.48997 )	
TOTAL	891.38
AddCPOH @ 15% except on A ie on ( 891.38-829.28=62.09997 )	9.31
TOTAL	900.50
Cost of 10.0 metre	900.50
Cost of 1 metre	90.05
Say	90.05

Cost index	<b>37.29%</b>				33.58
Total with Cost index					123.63

165 Specification Code: 100.98.117

**100.98.117** Supply of DI K9 Pipe Conforming to IS 8329/2000, 200mm Dia.

Code	Description	Unit	Quantity	Rate	Amount
KW117	DI K9 Pipe Conforming to IS 8329/2000, 200mm Dia.	metre	1.0	1808.47	1808.47
TOTAL					1808.47
Add Water Charges @ 1%					18.08
TOTAL					1826.55
Add CPOH @ 15%					273.98
TOTAL					2100.53
Cost of 1.0 metre					2100.53
Cost per metre					2100.53
Say					2100.55

	Cost index	37.29%			.00
	Total with Cost index				2100.55

166 Specification Code: 100.14.4

**SUBHEAD : 100.0**

**KWA APPROVED DATA**

**100.14.4** Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials :  
250 mm dia Ductile Iron Class K-9 Pipes  
Data derived from 18.72.18 in DAR

Code	Description	Unit	Quantity	Rate	Amount
	Details for 10metre Materials 250mm dia. pipes (in 5.5m lengths). Weight of 1m pipe = 48.00kg; Weight of 10m pipes - 48.00x10 = 480.00kg.				
2323	Carriage of Spun iron S & S pipes 250 mm dia Labour for laying	100 meter	10.0	873.84	87.38
18.23	Rate as per item Number 18.23 of SH: Water Supply	quintal	4.8	229.40	1101.12(A )
Add Water Charges @ 1% except on A ie on ( 1188.5-1101.12=87.380005 )					.87
TOTAL					1189.37
Add CPOH @ 15% except on A ie on ( 1189.37-1101.12=88.25001 )					13.24
TOTAL					1202.50

	Cost of 10.0 metre	1202.50
	Cost of 1 metre	120.25
	Say	120.25

	Cost index	<b>37.29%</b>				44.84
	Total with Cost index					165.09

**167** Specification Code: 100.98.118

**100.98.118** Supply of DI K9 Pipe Conforming to IS 8329/2000, 250mm Dia.

Code	Description	Unit	Quantity	Rate	Amount
KW118	DI K9 Pipe Conforming to IS 8329/2000, 250mm Dia.	metre	1.0	2420.34	2420.34
TOTAL					2420.34
Add Water Charges @ 1%					24.20
TOTAL					2444.54
Add CPOH @ 15%					366.68
TOTAL					2811.22
Cost of 1.0 metre					2811.22
Cost per metre					2811.22
Say					2811.2

	Cost index	<b>37.29%</b>				.00
	Total with Cost index					2811.2

168 Specification Code: 4.1.3

**4.1** Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:

**4.1.3** 1:2:4 (cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 cum MATERIAL:				
0295	Stone Aggregate(single size):20 mm nominal size nominal size	cum	0.67	1350.00	904.50
0297	Stone Aggregate(single size): 10 mm nominal size nominal size	cum	0.22	1350.00	297.00
2202	Carriage of Stone aggregate below 40 mm nominal size	cum	0.89	103.77	92.36
0982	Coarse sand (zone III)	cum	0.445	1350.00	600.75
2203	Carriage of Coarse sand	cum	0.445	103.77	46.18
0367	Portland Cement (0.2225 cum)	tonne	0.32	4940.00	1580.80
2209	Carriage of Cement	tonne	0.32	92.24	29.52
0155	Mason (average)	Day	0.1	709.00	70.90
0114	Beldar	Day	1.63	558.00	909.54
0101	Bhisti	Day	0.7	617.00	431.90
0002	Hire charges of Concrete Mixer 0.25 to 0.40 cum with Hopper	Day	0.07	800.00	56.00
0012	Vibrator (Needle type 40 mm)	Day	0.07	370.00	25.90
9999	Sundries-	L.S	14.3	2.00	28.60
TOTAL					5073.95
Add Water Charges @ 1%					50.74



	TOTAL	5124.69
	Add CPOH @ 15%	768.70
	TOTAL	5893.39
	Cost of 1.0 cum	5893.39
	Say	5893.4

	Cost index	37.29%				2197.65
	Total with Cost index					8091.05

169 Specification Code: 5.9.1

**5.9** Centering and shuttering including strutting, etc. and removal of form for:

**5.9.1** Foundations, footings, bases of columns, etc for mass concrete

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for footing size 2.7mx2.7mx 1.00m Contact area = 10.8sqm MATERIAL: Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost				
7319	wall form panel 1250x500 mm Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	860.00	292.40
7326	Corner angle 45x45x5 mm 1.50 m long Qty taken for cost of using once = $4 \times 0.85 / 40 = 0.085$	each	0.085	240.00	20.40

## PRICE

EST NO:

7327	100 mm channel shoulder 2.5 m long Qty taken for cost of using once = $8 \times 0.85 / 40 = 0.17$	each	0.17	910.00	154.70
7328	Double clip (bridge clip) Qty taken for cost of using once = $16 \times 0.85 / 40 = 0.34$	each	0.34	76.00	25.84
7329	Single clip Qty taken for cost of using once = $8 \times 0.85 / 40$ $= 0.17$	each	0.17	59.00	10.03
7330	M.S. Tube 40 mm dia Qty taken for cost of using once = $10.8 \times 0.85 / 40 = 0.2295$	metre	0.2295	215.00	49.34
9999	Sundries-Assembly nuts 7 bolts Qty taken for cost of using once = $1040 \times 0.85 / 40 = 22.10$	L.S	22.1	2.00	44.20
9977	Carriage LABOUR	L.S	78.0	2.00	156.00
0116	Fitter(grade1)	Day	0.75	738.00	553.50
0114	Beldar	Day	1.5	558.00	837.00
9999	Sundries-Suttering oil	L.S	52.0	2.00	104.00
9999	Sundries-	L.S	26.0	2.00	52.00

TOTAL		2299.41
Add Water Charges @ 1%		22.99
TOTAL		2322.40
Add CPOH @ 15%		348.36
TOTAL		2670.76
Cost of 10.8 sqm		2670.76
Cost per sqm		247.29
Say		247.3

	Cost index <b>37.29%</b>				92.22
	Total with Cost index				339.52

170 Specification Code: 5.22.4

**5.22** Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level

**5.22.4** Hot rolled deformed bars

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 1 quintal MATERIAL: Deformed twisted steel bars = 1.00q Wastage 5% = 0.05q Total = 1.05q				
1005	Twisted steel/deformed bars	quintal	1.05	4600.00	4830.00
2205	Carriage of Steel	tonne	0.105	92.24	9.69
9999	Sundries-Cover block LABOUR: For straightening, cutting, bending, binding and placing in position	L.S	26.0	2.00	52.00
0102	Blacksmith 1st class	Day	1.0	738.00	738.00
0114	Beldar	Day	1.0	558.00	558.00
9999	Sundries-and binding wire	L.S	26.91	2.00	53.82
TOTAL					6241.51
Add Water Charges @ 1%					62.42
TOTAL					6303.93
Add CPOH @ 15%					945.59
TOTAL					7249.52

PRICE

EST NO:

Cost of 100.0 kilogram	7249.52
Cost per kilogram	72.50
Say	72.5

Cost index	<b>37.29%</b>				27.04
Total with Cost index					99.54

**171** Specification Code: od310719/2021\_2022

od310719/2021\_2022 :Supplying, conveying and laying 20/25mm dia PVC best quality Pipe,  
10kg/cm2,including<br>specials for diverting near manholes

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.98.23 0	Rate as per item number 100.98.230 of SH: KWA Approved Data	metre	1.15000	27.95	32.14	
100.9.2	Rate as per item number 100.9.2 of SH: KWA Approved Data	metre	1.00000	26.50	26.50	
TOTAL					58.64	
cost for one metre					58.64	
say					58.64	

Cost index	<b>37.29 %</b>	9.88
Total with Cost index		68.52

**172** Specification Code: 18.59.3

**SUBHEAD : 18.0**

**WATER SUPPLY**

**18.59**

Providing and fixing C.I double acting air valve of approved quality with bolts, nuts, rubber insertion etc. complete ( The tail pieces, tapers etc. if required will be

paid separately):

**18.59.3** 100 mm dia

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for one no. MATERIAL:				
7417	Double acting air valve 100 mm	each	10.0	5910.00	59100.00
9977	Carriage of air valves	L.S	26.0	2.00	52.00
9999	Sundries - Labour for laying double acting air valve Providing flanged joints to double acting air valves with bolts, nuts and rubber insertion etc.	L.S	52.0	2.00	104.00
18.30.2	Rate as per item Number 18.30.2 of SH: Water Supply	no	10.0	230.05	2300.50(A )
Add Water Charges @ 1% except on A ie on ( 61556.5-2300.5=59256.0 )					592.56
TOTAL					62149.06
Add CPOH @ 15% except on A ie on ( 62149.06-2300.5=59848.56 )					8977.28
TOTAL					71126.50
Cost of 10.0 no					71126.50
Cost of each					7112.65
Say					7112.65

	Cost index	<b>37.29%</b>			2652.31
	Total with Cost index				9764.96

7 APP G-Additional provision for headerpipes,valves,MH covers etc in pump house-3 pump houses  
8 APP H-Supply ,erection,trial run and commissioning of pumpsets

173 Specification Code: od310845/2021\_2022

od310845/2021\_2022 :Supply, erection, testing, and commissioning of new generation non clog Submersible motor<br>pump set having suitable discharge and head, including all accessories such as cost of the panel board with an<br>ammeter, voltmeter, phase indicating lamps, change over switch, main switch, cost of soft starter, cable from panel<br>board to starter, starter to motor, capacitors suction pipe, foot valve, Non return valve, suction and delivery pipes of<br>required length, pressure gauge, earthing and wiring materials, cables etc. complete

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	As per KWA /HO/SP-333/20214 dtd.10.3.2016 of the Managing Director KWA submersible motor pump set 11HP to100 HP	Hp	1.00000	16325.00	16325.00	
TOTAL					16325.00	
Add Water Charges @ 1%					163.25	
Add CPOH @ 15%					2473.24	
Kerala Water Authority cost for one Hp					18961.49	
say					18961.49	
Cost index 37.29 %					.00	
Total with Cost index					18961.49	

174 Specification Code: od310846/2021\_2022

od310846/2021\_2022 :Supply, erection, testing, and commissioning of new generation non clog Submersible motor<br>pump set having suitable discharge and head, including all accessories such as cost of the panel board with an<br>ammeter, voltmeter, phase indicating lamps, change over switch, main switch, cost of soft starter, cable from panel<br>board to starter, starter to motor, capacitors suction pipe, foot valve, Non return valve, suction and delivery pipes of<br>required length, pressure gauge, earthing and wiring materials, cables etc. complete.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
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PRICE

EST NO:

MR	AS per KWA /HO/SP-333/2014 dtd.18.3.2016 of the Managing Director KWA Submersible motor pump set up to 10HP	Hp	1.00000	18135.00	18135.00	
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TOTAL					18135.00
Add Water Charges @ 1%					181.35
Add CPOH @ 15%					2747.45
cost for one Hp					21063.80
say					21063.80

Cost index <b>37.29 %</b>					.00
Total with Cost index					21063.8

9 APP I-Supplying and providing blower arrangement for aeration suitable to collection well and all installation charge and electrical fittings-2 Nos10 APP J-Supply and erection of 65kva diesel/petrol generator set-2 Nos11 APP K- installations,earthing,cabbling,control panel,electric connections,KSEB Documentations and supporting structures12 APP L-Road restoration charges

175 Specification Code: od310848/2021\_2022

Kerala Water Authority

od310848/2021_2022 :Shoulder Cutting
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Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Restoration charge - As per order No.GO(Ms)No.59/2020/PWD Dtd.30-07-2020 Tvpm PW(H)D, Excluding GST	sqm	1.00000	1366.76	1366.76	
TOTAL					1366.76	
Add Water Charges @ 1%					13.67	
Add CPOH @ 15%					207.06	
cost for one sqm					1587.49	
say					1587.49	

Cost index <b>37.29 %</b>					.00
Total with Cost index					1587.49

176 Specification Code: od310849/2021\_2022

od310849/2021\_2022 :Concrete road surface

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Restoration charge - As per order No.GO(Ms)No.59/2020/PWD Dtd.30-07-2020 Tvpm PW(H)D, Excluding GST	sqm	1.00000	4887.00	4887.00	
TOTAL					4887.00	
cost for one sqm					4887.00	
say					4887.00	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		4887.0

177 Specification Code: od310850/2021\_2022

od310850/2021\_2022 :100mm thick interlocking tiled road surface

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Restoration charge - As per order No.GO(Ms)No.59/2020/PWD Dtd.30-07-2020 Tvpm PW(H)D, Excluding GST	sqm	1.00000	3747.10	3747.10	
TOTAL					3747.10	
cost for one sqm					3747.10	
say					3747.10	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		3747.1



178 Specification Code: od310853/2021\_2022

od310853/2021\_2022 :Tar road cut restoration charge

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Restoration charge - As per order No. GO (Ms) No.59/2020/PWD dtd.30.07.2020 Tvpm PW(H)D, Excluding GST	sqm	1.00000	3086.87	3086.87	
TOTAL					3086.87	
cost for one sqm					3086.87	
say					3086.87	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		3086.87

179 Specification Code: od310854/2021\_2022

od310854/2021\_2022 :BM & BC road surface restoration charge

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Restoration charge - As per order No.GO(Ms)No.59/2020/PWD Dtd.30-07-2020 Tvpm PW(H)D, Excluding GST	sqm	1.00000	3633.49	3633.49	
TOTAL					3633.49	
cost for one sqm					3633.49	
say					3633.49	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		3633.49

PRICE

EST NO:

13.APP M -Supply ,erection trail run & commissioning of Pump sets at Lifting stations



Kerala Water Authority

PRICE

**DATA ANALYSIS  
SUPPLY OF  
PUMPS AND  
OTHER  
MATERIALS**

## 1. SUPPLY OF PUMPS &amp; OTHER MATERIALS FOR MBBR

1 Specification Code: od324490/2021\_2022

od324490/2021\_2022 :Supply , erection , testing and commissioning of new generation non clog submersible motor pump set having suitable discharge and head including all accessories such as cost of pannel board with ammeter ,volt meter ,phase indicating lamps ,change over switch ,main switch, cost of soft starter ,cable from pannel board to starter , starter to motor ,capacitors suction pipe ,foot valve , non return valve ,suction and delivery pipe of required length , pressure gauge ,earthing and wiring material etc.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supply , erection , testing and commissioning of new generation non clog submersible motor pump	Nos	1.00000	500.00	500.00	
TOTAL					500.00	
Add Water Charges @ 1%					5.00	
Add CPOH @ 15%					75.75	
cost for one No					580.75	
say					580.75	

Cost index <b>37.29 %</b>					.00	
Total with Cost index					580.75	

2 Specification Code: od324492/2021\_2022

od324492/2021\_2022 :Mixing equipment -Supply,erection,testing znd commissionig of direct driven floating mixers of approximately 4HP or as required with the rotation arm for rated continuous duty mixing and efficiencycomplete with 3 phase motor,including rotory paddles,gear box,cables,wall mooring and anchoring system with all electro mechanical equipments etc complete for the denitrification tank of the proposed 5MLD STP.Electrical control panel shall be supplied with the pump as per the specification in the electrical BOQ or directed as per the department officers-Capacity 400 m3/hr,Motor4 HP three phase

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Mixing equipment	No	1.00000	120000.00	120000.00	
TOTAL					120000.00	
Add Water Charges @ 1%					1200.00	
Add CPOH @ 15%					18180.00	

## PRICE

EST NO:

cost for one No	139380.00
say	139380.00

Cost index <b>37.29 %</b>	.00
Total with Cost index	139380.0

**3** Specification Code: od324493/2021\_2022

od324493/2021\_2022 :Filter feed pump- Supplying and fixing of mono block centrifugal pump,for rated continuous duty and best efficiency CI construction ,CI Impeller,complete with 3 phase motor,FRP motorncover,presure gauge,operation on 415+/-10% volts,50 Hz,AC power supply etc including sluice valves,presure gauges,NRVs with DI/I/Pipes connecting common delivery suitable for complete in all respects as required by the standard specifications and shall suit following capacities complete with all accessories as per technical specification .Pumps shall have dry run protection \$high/low level alarm.Electrical control panel shall be supplied with the pump as per specification in the electrical BOQ.Capacity 250m/hrHead-30m

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supplying and fixing of mono block centrifugal pump	No	1.00000	750000.00	750000.00	
TOTAL					750000.00	
Add Water Charges @ 1%					7500.00	
Add CPOH @ 15%					113625.00	
cost for one No					871125.00	
say					871125.00	

Cost index <b>37.29 %</b>	.00
Total with Cost index	871125.0

**4** Specification Code: od324494/2021\_2022

od324494/2021\_2022 :Air blower- Supply,erection,testing and commisioning of twin lobe air blower for indoor application complete with acoustic canopy,air filter ,motor of 1500 rpm,pulleys,presure gauge ,presure relief valve,acoustic hood,suction silencer with suitable flanges ,common motor and compressor base frame with motor

PRICE

EST NO:

belt tightening specification as directed by engineer in charge<br>Capacity-1800 m/hr<br>Pressure - 0.6kg/sqcm<br>Motor :3 phase with IP68 Protection (2W+1S)^n

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supply ,erection,testing and commissioning of twin lobe air blower	No	1.00000	495000.00	495000.00	
TOTAL					495000.00	
Add Water Charges @ 1%					4950.00	
Add CPOH @ 15%					74992.50	
cost for one No					574942.50	
say					574942.50	

Cost index <b>37.29 %</b>	.00
Total with Cost index	574942.5

5 Specification Code: od324496/2021\_2022

### Kerala Water Authority

od324496/2021\_2022 :Bubble Diffuser for Equalisation tank<br>Supplying at site ,erection ,testing \$commissioning of coarse bubble diffuser (retrievable type using rope and pulley) for the aeration system of the equalisation tank with diffusers of sufficient size and length made of EPDM make with SS tee 1mmx1mm.SS lifting hook 8mm,SS foundation bolt 6mm,SS C clamp suitable for 1mm OD hose.PP Rope,PPswivel nut .PPsleeve,Slicone washer,SShose clamp,RCC block complete at a minimum rating of 95m/hras per technical specification / directed by engineer in charge

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supplying at site,erection,testing and commissioning of coarse bubble diffuser	No	1.00000	69500.00	69500.00	
TOTAL					69500.00	
Add Water Charges @ 1%					695.00	
Add CPOH @ 15%					10529.25	
cost for one No					80724.25	
say					80724.25	

Cost index <b>37.29 %</b>	.00
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Total with Cost index	80724.25
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6 Specification Code: od324497/2021_2022
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od324497/2021_2022 :Air grid pipe Supply and erection of air pipes(HDPE)into valves and other accessories as required for blowers to varioustanks as a complete unit
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Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supply and installation of air pipes (HDPE)into valves and other accessories as required for the blowers to various tanks as a complete unit	set	1.00000	150000.00	150000.00	
TOTAL					150000.00	
Add Water Charges @ 1%					1500.00	
Add CPOH @ 15%					22725.00	
cost for one set					174225.00	
say					174225.00	

Cost index	37.29 %	.00
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Total with Cost index	174225.0
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7 Specification Code: od324498/2021_2022
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od324498/2021_2022 :Supply MBBR Media (size dia 25x4mm,hole numbers:64.Efficient surface area - 1200m2/m3.density 0.96-0.98 g/cc,packing numbers >2,10000/m3.porosity >85%membrane forming ,Time-3-15 days,lifespan>15 years ,BOD Oxidation efficiency:2500-20,000 rpm,CODoxidation efficiency:2500-20,000 ppm,COD oxidation efficiency:2500-25000ppm
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Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	MBBR Media	cum	1.00000	30000.00	30000.00	
TOTAL					30000.00	
Add Water Charges @ 1%					300.00	

## PRICE

EST NO:

Add CPOH @ 15%	4545.00
cost for one cum	34845.00
say	34845.00

Cost index <b>37.29 %</b>	.00
Total with Cost index	34845.0

8 Specification Code: od324499/2021\_2022

od324499/2021\_2022 :Gas chlorinator system<br>Supply at site,erection,testing and commissioning of electronic chlorine dosing system with all wetted parts in PP construction suitable for pumping chlorine gas including booster pumps,valves,suctions and delivery lines using heavy duty PVC tubes,gas line diffusers,emergency repairskit,FRP motor cover etccomplete with all accessories,Capacity500 gm to 1 kg/hr with 2 Nos of chlorine tonners

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supply at site,erection,testing and commissioning of electronic chlorine dosing system	set	1.00000	400000.00	400000.00	
TOTAL					400000.00	
Add Water Charges @ 1%					4000.00	
Add CPOH @ 15%					60600.00	
cost for one set					464600.00	
say					464600.00	

Cost index <b>37.29 %</b>	.00
Total with Cost index	464600.0

9 Specification Code: od324500/2021\_2022

od324500/2021\_2022 :Electromagnetic flow meter<br>Supply ,installation,testing and commissioning of electro magnetic/ ultra sonic D/F permanent conduit flow meter with flow recorder,digital flow indicator,flow integrator with sensors,7 digit totaliser,transmittal and digital display arrangements and all accessories including housing arrangements,internal data logger, to save up to 2000 lines of data etc complete to fix as per the specifications.Flow



range Of 10 to 600 LPS, one display shall be installed at the main control centre

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Electromagnetic flow meter ,installation,testing and commissioning of electro magnetic/ ultra sonic D/F permanent conduit flow meter	No	1.00000	75000.00	75000.00	
TOTAL					75000.00	
Add Water Charges @ 1%					750.00	
Add CPOH @ 15%					11362.50	
cost for one No					87112.50	
say					87112.50	
Cost index <b>37.29 %</b>					.00	
Total with Cost index					87112.5	

10 Specification Code: od324501/2021\_2022

Kerala Water Authority

od324501/2021\_2022 :Lifting mechanism for air grid  
Supply,installation &commissioning of the manually operating chain pulley mechanism to lift the equipment from height not less than 5m including all equipments, foundation etc

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Lifting mechanism for air grid Supply,installation &commissioning of the manually operating chain pulley mechanism to lift the equipment	No	1.00000	10000.00	10000.00	
TOTAL					10000.00	
Add Water Charges @ 1%					100.00	
Add CPOH @ 15%					1515.00	
cost for one No					11615.00	
say					11615.00	
Cost index <b>37.29 %</b>					.00	

Total with Cost index	11615.0
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11 Specification Code: od324502/2021\_2022

od324502/2021\_2022 :SS GATES<br>Supplying at site,installation testing and commissioning of all materials,fabricating,fixing and commissioning of spindle operated open channel sluice gates/shutter of DI make with a peakflow of 145LPS and velocity less than1 m/s at the inlet & outlet of screen channel to suit the channel sizes as per the drawings,tender specifications and as directed by engineer in charge

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	SS GATES Supplying at site,installation testing and commissioning of all materials,	No	1.00000	15000.00	15000.00	
TOTAL					15000.00	
Add Water Charges @ 1%					150.00	
Add CPOH @ 15%					2272.50	
cost for one No					17422.50	
say					17422.50	

Cost index	37.29 %	.00
Total with Cost index		17422.5

12 Specification Code: od324503/2021\_2022

od324503/2021\_2022 :SUDGE THICKENER MECHANISM<br>Supplying all materials,fabricating,fixing and commissioning of Bridge mounted central driven type sludge thickening mechanism for the full diameter of sludge thickener tank as per drawing including all feed well,drive and rake mechanism with removable scrappers with sufficient 3 phase motor and gears etc as per tender specification and as directed by engineer in charge

Code	Description	Unit	Quantity	Rate	Amount	Remarks
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MR	SUDGE THICKENER MECHANISM Supplying all materials,fabricating,fixing and commissioning of Bridge mounted central driven type sludge thickening mechanism for the full diameter of sludge thickener tank	No	1.00000	270000.00	270000.00	
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				TOTAL	270000.00
				Add Water Charges @ 1%	2700.00
				Add CPOH @ 15%	40905.00
				cost for one No	313605.00
				say	313605.00

				Cost index	37.29 %	.00
				Total with Cost index		313605.0

13 Specification Code: od324504/2021\_2022

od324504/2021\_2022 :Poly Electrolyte dosing system  
Supplying and fixing of electronic dosing pump with all wetted parts in PP construction suitable for pumping poly electrolyte solution including cost of suitable agitators,control gears, valve,suction and delivery lines using heavyduty PVC tubes,HD,FRP motor cover etc and complete with all accessoriesto prepare 5% solution of 0.2kg/hr

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Poly Electrolyte dosing system Supplying and fixing of electronic dosing pump with all wetted parts in PP construction suitable for pumping poly electrolyte solution including cost of suitable agitators,control gears, valve,suction and delivery lines using heavyduty PVC tubes	No	1.00000	80000.00	80000.00	
					TOTAL	80000.00
					Add Water Charges @ 1%	800.00
					Add CPOH @ 15%	12120.00
					cost for one No	92920.00
					say	92920.00

Cost index <b>37.29 %</b>	.00
Total with Cost index	92920.0

14 Specification Code: od324505/2021\_2022

od324505/2021\_2022 :High Pressure Jet Pump<br>Supply and commissioning of portable high pressure water pumps(along with 500 litre water tanks to supply water to all pumps)all mounted on a suitable medium vehicle platform for clearing wells,pumps and other equipments using high pressure gauges,safety arrangements etccomplete as per standards

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	High Pressure Jet Pump Supply and commissioning of portable high pressure water pumps	No	1.00000	30000.00	30000.00	
TOTAL					30000.00	
Add Water Charges @ 1%					300.00	
Add CPOH @ 15%					4545.00	
cost for one No					34845.00	
say					34845.00	

Cost index <b>37.29 %</b>	.00
Total with Cost index	34845.0

15 Specification Code: od324506/2021\_2022

od324506/2021\_2022 :Portable Hoist-500 kg<br>Supply and commissioningof portable monkey type hoist with capacity up to 500 kgwith lifting height of 6m,5 HPMotor415V50HZall mounted on a suitable medium vehicle platform for easy shifting of equipments and materials whenever required with complete setas per standards

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Portable Hoist-500 kg Supply and commissioningof portable monkey type hoist with capacity up to 500 kg	No	1.00000	90000.00	90000.00	

PRICE

EST NO:

TOTAL	90000.00
Add Water Charges @ 1%	900.00
Add CPOH @ 15%	13635.00
cost for one No	104535.00
say	104535.00

Cost index <b>37.29 %</b>	.00
Total with Cost index	104535.0

**16** Specification Code: od324507/2021\_2022

od324507/2021\_2022 :Wheel Barrow<br>Supply of three wheel type wheel barrow of capacity 200 ltrs

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Wheel Barrow Supply of three wheel type wheel barrow of capacity 200 ltrs	No	1.00000	25000.00	25000.00	
TOTAL					25000.00	
Add Water Charges @ 1%					250.00	
Add CPOH @ 15%					3787.50	
cost for one No					29037.50	
say					29037.50	

Cost index <b>37.29 %</b>	.00
Total with Cost index	29037.5

**17** Specification Code: od324508/2021\_2022

od324508/2021\_2022 :Plate Settler <br>Supplying and fixing SS plate SS306 for using plate settler (size 100 cmx90 cmx2,5mm) suitable for use in the water and wastetreatment plants to improve the quantity and qualityof sewerage treatment plants to improve the quantity and quality of sewerage treatentas per the direction of engineers

PRICE

EST NO:

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Size100 cmx90 cmx2.5mm ss plate20 kg/m2=0.9m2	kg	0.90000	265.00	238.50	
MR	5% for wastages	L.S	0.05000	238.50	11.93	
9999	Sundries	L.S	20.00000	2.00	40.00	
0116	Fitter(grade1)	Day	0.25000	738.00	184.50	
0115	Coolie	Day	0.12000	558.00	66.96	
9999	Sundries	L.S	12.50000	2.00	25.00	
TOTAL					566.89	
Add Water Charges @ 1%					5.67	
Add CPOH @ 15%					85.88	
cost for one No					658.44	
say					658.44	
Cost index <b>37.29 %</b>					137.07	
Total with Cost index					795.51	

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18 Specification Code: od324509/2021\_2022

PRICE

od324509/2021\_2022 :Aluminum Ladder<br>Supply, installation of aluminium with caging on each elevated structures of required height as per the drawing or as directed by engineer in charge

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supply, installation of aluminium with caging on each elevated structures of required height as per the drawing or as directed by engineer in charge	No	1.00000	6000.00	6000.00	
TOTAL					6000.00	
Add Water Charges @ 1%					60.00	
Add CPOH @ 15%					909.00	
cost for one No					6969.00	
say					6969.00	

Cost index <b>37.29 %</b>	.00
Total with Cost index	6969.0

19 Specification Code: od324510/2021\_2022

od324510/2021\_2022 :FRP Ladder<br>Supply installation of FRP ladders with caging on each elevated structures of required height as per the drawings or as directed by engineer in charge

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supply installation of FRP ladders with caging on each elevated structures of required height as per the drawings or as directed by engineer in charge	No	1.00000	30000.00	30000.00	
TOTAL					30000.00	
Add Water Charges @ 1%					300.00	
Add CPOH @ 15%					4545.00	
cost for one No					34845.00	
say					34845.00	
Cost index <b>37.29 %</b>					.00	
Total with Cost index					34845.0	

20 Specification Code: od324511/2021\_2022

od324511/2021\_2022 :Monorail crane<br>Supply,installation and commissioning in position mechanically operated mono rail craneof load bearing capacity of2 tonnes suitable for operation on 415+/-10% volts.50 HZ,AC power supplyetc with 6m lift &spanupto 20m complete in all respects as required by standards complete with all accessories as per specification

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	 Supply,installation and commissioning in position mechanically operated mono rail craneof load bearing capacity of2 tonnes	No	1.00000	350000.00	350000.00	

PRICE

EST NO:

TOTAL	350000.00
Add Water Charges @ 1%	3500.00
Add CPOH @ 15%	53025.00
cost for one No	406525.00
say	406525.00

Cost index <b>37.29 %</b>	.00
Total with Cost index	406525.0

21 Specification Code: od324512/2021\_2022

od324512/2021\_2022 :Pessure sand filter<br>Supply at site erection and commissioning of pressure sand filter vertical type pressure vessel fabricated with MS construction with epoxy coatinginside and anti corrosive treatment outside,2 coatsof paint outside withstand a minimum test pressure of 7 kg/cm with an operating pressure of 3.5 kg/cm complete with valves and dual filter media including graded pabble and sand and antracite.frontal piping.butterflyvalves.internals.pressure gauges.strainers.supporting structures etc and all other accessories tested twice complete as per specification or as directed by engineer in charge

Kerala Water Authority

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Pessure sand filter Supply at site erection and commissioning of pressure sand filter vertical type pressure vessel fabricated with MS construction with epoxy coatinginside and anti corrosive treatment outside,2 coatsof paint outside	No	1.00000	450000.00	450000.00	
TOTAL					450000.00	
Add Water Charges @ 1%					4500.00	
Add CPOH @ 15%					68175.00	
cost for one No					522675.00	
say					522675.00	

Cost index <b>37.29 %</b>	.00
Total with Cost index	522675.0



22 Specification Code: od324513/2021\_2022

od324513/2021\_2022 :Activated carbon filter<br>Supply at site erection and commissioning of activated carbon filter vertical type pressure vessel fabricated with MS construction with epoxy coatinginside and anti corrosive treatment outside,2 coatsof paint outside withstand a minimum test pressure of 7 kg/cm with an operating pressure of 3.5 kg/cm complete with valves and filter media including activated carbon of approved grade and quality.frontal piping.butterflyvalves.internals.pressure gauges.strainers.supporting structures.backwash arrangement etc and all other accessories tested twice complete as per specification or as directed by engineer in charge.The scope shall include complete piping with MS fabricatedpipes and specials including valves<br>Flow rate-250 m/hr<br>Dia-3m<br>Height-2.5m

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Activated carbon filter Supply at site erection and commissioning of activated carbon filter vertical type pressure vessel fabricated with MS construction with epoxy coatinginside and anti corrosive treatment outside,2 coatsof paint outside	No	1.00000	475000.00	475000.00	
TOTAL					475000.00	
Add Water Charges @ 1%					4750.00	
Add CPOH @ 15%					71962.50	
cost for one No					551712.50	
say					551712.50	

Cost index <b>37.29 %</b>	.00
Total with Cost index	551712.5

23 Specification Code: od324514/2021\_2022

od324514/2021\_2022 :Centrifuge system<br>Supply at site.installation and commissioning of fiter press/centrifuge system.Filter press shall be automatedrecessed type press with SS fabricated structure pipe button surface and SS flat parallel bar with PP cloth.Filter operations to be mechanical .Outlet cake consistency should not be more than 35% moisture.The capacity of the filter press should be 1 cum/hr.The filter press unit shall be mounted on a platform and all around drain systemto be provided to prevent the filtratewater contaminating the entire surroundings as per the specifications

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supply at site.installation and commissioning of filter press/centrifuge system.Filter press shall be automated recessed type press with SS fabricated structure pipe button surface and SS flat parallel bar with PP cloth	No	1.00000	300000.00	300000.00	
TOTAL					300000.00	
Add Water Charges @ 1%					3000.00	
Add CPOH @ 15%					45450.00	
cost for one No					348450.00	
say					348450.00	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		348450.0

### Supply And Fitting Diesel Generator

24 Specification Code: od324488/2021\_2022

## Kerala Water Authority

od324488/2021_2022 :500 KVA Diesel generator providing,installing,testing and commissioning of silent type ,Diesel generating set along with having prime power rating 250 KVA,415 volts at 1500 RPM,0.8 lagging power factor at 415V suitable for 50 HZ,3Phase system& for 0.85 load factor
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Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Providing,installing,testing and commissioning of silent type ,Diesel generating set along with having prime power rating 250 KVA,415 volts at 1500 RPM	No	1.00000	3200000.00	3200000.00	
TOTAL					3200000.00	
Add Water Charges @ 1%					32000.00	
Add CPOH @ 15%					484800.00	
cost for one No					3716800.00	
say					3716800.00	

Cost index	<b>37.29 %</b>	.00
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PRICE

EST NO:

Total with Cost index	3716800.0
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Providing Solar Panel System INSIDE ELECTRICAL WORKS, PANNEL BOARD AND  
COMPOUND LIGHTING ARRANGEMENT TRANSFORMER CONTROL ROOM &  
GENERATOR ROOM INSTALLATION OF TRANSFORMER AND ELECTRICAL INSTALLATION  
WORKS MISCELLANEOUS ITEMS



Kerala Water Authority

PRICE



# **DATA ANALYSIS**

## **O&M**

PRICE

EST NO:

STP-Providing skilled and experienced personnels for the monitoring of the day to day operation and maintenance of the all systems for STP

1 Specification Code: od341341/2021\_2022

od341341/2021\_2022 :Plant Manager

*Providing skilled and experienced personnels for the monitoring of the day to day operation and maintenance of the all systems*

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Plant Manager	Day	1.00000	1563.28	1563.28	
TOTAL					1563.28	
cost for one Day					1563.28	
say					1563.28	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		1563.28

2 Specification Code: 100.98.1030

**100.98.1030** Engaging Operator ( pile/ Special Machine)

Code	Description	Unit	Quantity	Rate	Amount
0157	Operator (Pile/Special machine)	Day	1.0	738.00	738.00
TOTAL					738.00
Add Water Charges @ 1%					7.38
TOTAL					745.38
Add CPOH @ 15%					111.81
TOTAL					857.19
Cost of 1.0 Day					857.19
Cost per Day					857.19
Say					857.2

	Cost index <b>37.29%</b>				319.65
	Total with Cost index				1176.85

3 Specification Code: 100.98.1032

**100.98.1032** Engaging Technician

Code	Description	Unit	Quantity	Rate	Amount
0160	Technician	Day	1.0	775.00	775.00
TOTAL					775.00
Add Water Charges @ 1%					7.75
TOTAL					782.75
Add CPOH @ 15%					117.41
TOTAL					900.16
Cost of 1.0 Day					900.16
Cost per Day					900.16
Say					900.15

	Cost index <b>37.29%</b>				335.67
	Total with Cost index				1235.82

4 Specification Code: 100.98.1009

**100.98.1009** Engaging Fitter ( grade 1)

Code	Description	Unit	Quantity	Rate	Amount

PRICE

EST NO:

0116	Fitter(grade1)	Day	1.0	738.00	738.00
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TOTAL					738.00
Add Water Charges @ 1%					7.38
TOTAL					745.38
Add CPOH @ 15%					111.81
TOTAL					857.19
Cost of 1.0 Day					857.19
Cost per Day					857.19
Say					857.2

	Cost index	<b>37.29%</b>			319.65
	Total with Cost index				1176.85

5 Specification Code: 100.98.1008

Kerala Water Authority

**100.98.1008** Engaging Coolie

PRICE

Code	Description	Unit	Quantity	Rate	Amount
0115	Coolie	Day	1.0	558.00	558.00
TOTAL					558.00
Add Water Charges @ 1%					5.58
TOTAL					563.58
Add CPOH @ 15%					84.54
TOTAL					648.12
Cost of 1.0 Day					648.12
Cost per Day					648.12
Say					648.1



	Cost index	<b>37.29%</b>				241.68
	Total with Cost index					889.78

6 Specification Code: 100.98.1036

**100.98.1036** Supply of Security Guard without gun.

Code	Description	Unit	Quantity	Rate	Amount
0164	Security guard without gun (8 hours shift duty per day)	Day	1.0	617.00	617.00
TOTAL					617.00
Add Water Charges @ 1%					6.17
TOTAL					623.17
Kerala Water Authority Add CPOH @ 15%					93.48
TOTAL					716.65
Cost of 1.0 each					716.65
Say					716.65

	Cost index	<b>37.29%</b>				267.24
	Total with Cost index					983.89

STP-Periodical cleaning STP units

7 Specification Code: 2.31

**2.31**

Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 100 sqm LABOUR:				
0114	Beldar	Day	1.08	558.00	602.64
0115	Coolie	Day	0.6	558.00	334.80
TOTAL					937.44
Add Water Charges @ 1%					9.37
TOTAL					946.81
Add CPOH @ 15%					142.02
TOTAL					1088.83
Cost of 100.0 sqm					1088.83
Cost per sqm					10.89
Say					10.9

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	Cost index	<b>37.29%</b>			4.06
	Total with Cost index				14.96

STP-Upkeep of Civil structures, maintaining Landscaping etc.

8 Specification Code: od341334/2021\_2022

od341334/2021_2022 :Maintaining the garden as per the direction of department officers						
<i>Maintaining the garden as per the direction of department officers including engaging gardeners daily, cost of manure for gardening, hire charges for gardening tools, lawn mover,etc. for the proper maintenance of garden and premises.&lt;br&gt;Cost of manure, pesticides and hire for tools</i>						

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Maintaining the garden as per the direction of department officers	Month	1.00000	5264.39	5264.39	
TOTAL					5264.39	

cost for one Month	5264.39
say	5264.39

Cost index <b>37.29 %</b>	.00
Total with Cost index	5264.39

9 Specification Code: 13.99.1

**13.99** Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade :

**13.99.1** One or more coats on old work

Code	Description	Unit	Quantity	Rate	Amount
	Detail of cost for 10 sqm MATERIAL				
0833	Synthetic enamel paint in black or chocolate shade	Litre	0.7	170.00	119.00
9977	Carriage of paint and materials LABOUR	L.S	0.52	2.00	1.04
0131	Painter	Day	0.36	679.00	244.44
0115	Coolie	Day	0.36	558.00	200.88
9999	Sundries-	L.S	2.73	2.00	5.46
9999	Sundries-Brushes sand paper etc.	L.S	5.33	2.00	10.66
9999	Sundries-	L.S	8.06	2.00	16.12
TOTAL					597.60
Add Water Charges @ 1%					5.98
TOTAL					603.58
Add CPOH @ 15%					90.54
TOTAL					694.12
Cost of 10.0 sqm					694.12

	Cost per sqm	69.41
	Say	69.4

	Cost index	37.29%			25.88
	Total with Cost index				95.28

10 Specification Code: 13.51.2

**13.51** Painting with silicon & acrylic emulsion based water thinnable sealer of approved brand and manufacture on wet or patchy portion of plastered surfaces:

**13.51.2** Two coats

Code	Description	Unit	Quantity	Rate	Amount
	Details of cost for 10 sqm MATERIAL:				
0801	Silicon and acrylic emulsion	Litre	2.88	130.00	374.40
9977	Carriage	L.S	0.52	2.00	1.04
9999	Sundries-Putty etc. LABOUR:	L.S	2.73	2.00	5.46
0131	Painter	Day	0.43	679.00	291.97
0115	Coolie	Day	0.43	558.00	239.94
9999	Sundries-Brushes, sand paper etc.	L.S	8.53	2.00	17.06
9999	Sundries-	L.S	17.26	2.00	34.52
TOTAL					964.39
Add Water Charges @ 1%					9.64
TOTAL					974.03
Add CPOH @ 15%					146.10
TOTAL					1120.13
Cost of 10.0 sqm					1120.13

PRICE

EST NO:

	Cost per sqm	112.01
	Say	112.0

	Cost index	<b>37.29%</b>			41.76
	Total with Cost index				153.76

## STP-Annual Chemicals charges

11 Specification Code: od341336/2021\_2022

od341336/2021\_2022 :Supply of liquid chlorine in Tonne Cylinders (5 PPM dosage)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supply of liquid chlorine in Tonne Cylinders (3.5 PPM dosage)  	kg	1.00000	26.45	26.45	
TOTAL					26.45	
cost for one kg					26.45	
say					26.45	

	Cost index	<b>37.29 %</b>	.00
	Total with Cost index		26.45

12 Specification Code: od341337/2021\_2022

od341337/2021\_2022 :Supply and delivery of Hydrated lime as per specification (7 PPM dosage)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supply and delivery of Hydrated lime as per specification (7 PPM dosage)  	kg	1.00000	14.05	14.05	
TOTAL					14.05	

PRICE

EST NO:

cost for one kg	14.05
say	14.05

Cost index <b>37.29 %</b>	.00
Total with Cost index	14.05

13 Specification Code: od341342/2021\_2022

od341342/2021\_2022 :Supply and delivery of Alum at (7 PPM dosage) as per specification

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supply and delivery of Alum at (7 PPM dosage) as per specification 	kg	1.00000	13.75	13.75	
TOTAL					13.75	
cost for one kg					13.75	
say					13.75	

Cost index <b>37.29 %</b>	.00
Total with Cost index	13.75

14 Specification Code: od341344/2021\_2022

od341344/2021\_2022 :Other Chemicals

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Other Chemicals	L.S	1.00000	50000.00	50000.00	
TOTAL					50000.00	
Add Water Charges @ 1%					500.00	
Add CPOH @ 15%					7575.00	
cost for one L.S					58075.00	

PRICE

EST NO:

say	58075.00
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Cost index <b>37.29 %</b>	.00
Total with Cost index	58075.0

**STP-Major repairs and maintenance of Electro Mechanical work (Break down maintenance).**

**15** Specification Code: od341350/2021\_2022

od341350/2021\_2022 :Repairs to Motor and Pumps, rewinding of motors and its assembly and putting into use for the break down maintenance for the pumps of the following considering the salvage values of the components.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	i	No	1.00000	60000.00	60000.00	
TOTAL					60000.00	
cost for one set					60000.00	
say					60000.00	

Kerala Water Authority

Cost index <b>37.29 %</b>	.00
Total with Cost index	60000.0

**STP-Others**

**16** Specification Code: od341340/2021\_2022

od341340/2021\_2022 :Testing and calibration of electrical meters and relays,ammeter and voltmeters,cranes and hoists,testing of ELCB,testing of earth pit,testing and cathodic protection of MS line,environmental monitoring,sludge testing,transformer testing and other inspection charges payable to inspecting agencies excluding the Govt.agencies.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Testing and calibration of electrical meters and relays,ammeter and voltmeters and other inspection charges payable to inspecting agencies excluding Govt.agencies.	No	1.00000	5000.00	5000.00	

PRICE

EST NO:

TOTAL	5000.00
cost for one No	5000.00
say	5000.00

Cost index <b>37.29 %</b>	.00
Total with Cost index	5000.0

**17** Specification Code: od341348/2021\_2022

od341348/2021\_2022 :Attending the repairs in the valves,actuators,electro magnetic flow meters and connected works

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Attending the repairs in the valves,actuators,electro magnetic flow meters and connected works	No	1.00000	5000.00	5000.00	
TOTAL					5000.00	
cost for one No					5000.00	
say					5000.00	

Cost index <b>37.29 %</b>	.00
Total with Cost index	5000.0

**18** Specification Code: od341349/2021\_2022

od341349/2021\_2022 :Attending repairs in the E.O.T crane including changing of spare if any during servicing

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Attending repairs in the E.O.T crane including changing of spare if any during servicing	No	1.00000	4000.00	4000.00	
TOTAL					4000.00	



PRICE

EST NO:

cost for one No	4000.00
say	4000.00

Cost index <b>37.29 %</b>	.00
Total with Cost index	4000.0

19 Specification Code: od341351/2021\_2022

od341351/2021\_2022 :Transformer air filtration and topup oil in transformer, replacement of tap changing mechanism, replacement of dial thermometer, replacement of terminal bushes(HT), painting of the transformer etc.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Transformer air filtration and topup oil in transformer	No	1.00000	5000.00	5000.00	
TOTAL					5000.00	
cost for one No					5000.00	
Kerala Water Authority say					5000.00	

Cost index <b>37.29 %</b>	.00
Total with Cost index	5000.0

20 Specification Code: od341352/2021\_2022

od341352/2021\_2022 :Attending emergency repair works in starter like replacement of fixed contacts, moving contacts, auxiliary contacts, replacement of over load relays, replacement of timer, no volt coil, repair work in switches like replacement of fixed contacts, moving contacts, fuse carrier sets. HRC fuse base and carriers, replacement of isolator, isolator bridges, repair of oil circuit breaker and air circuit breaker like replacement of fixed contacts, moving contacts, replacement of operating mechanism sets, tripping mechanism sets, no volt coils control circuit etc.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
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PRICE

EST NO:

MR	Attending emergency repair works in starter like replacement of fixed contacts,moving contacts	No	1.00000	5000.00	5000.00	
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TOTAL					5000.00
cost for one No					5000.00
say					5000.00

Cost index <b>37.29 %</b>					.00
Total with Cost index					5000.0

**21** Specification Code: od341353/2021\_2022

od341353/2021\_2022 :Hire charges of Tools and Plants required for the day to day operation of the Plant and equipment s

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Hire charges of Tools and Plants required for the day to day operation of the Plant and equipment s	No	1.00000	5000.00	5000.00	
TOTAL					5000.00	
cost for one No					5000.00	
say					5000.00	

Cost index <b>37.29 %</b>					.00
Total with Cost index					5000.0

**22** Specification Code: od341354/2021\_2022

od341354/2021\_2022 :Supply and maintenance of emergency personal and fire fighting equipment s including periodical check up,refilling and getting sanction from concerned departments,license renewal etc except renewal of Factories and Boilers and Electrical Inspectorate

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supply and maintenance of emergency personal and fire fighting equipment s including periodical check up,refilling and getting sanction from concerned departments,license renewal etc except renewal of Factories and Boilers and Electrical Inspectorate	No	1.00000	5000.00	5000.00	
TOTAL					5000.00	
cost for one No					5000.00	
say					5000.00	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		5000.0

**23** Specification Code: od341355/2021\_2022

od341355/2021\_2022 :Repair and maintenance of control/instrumentation cabling,communication cabling,instrumentation cabling etc for the proper upkeep of SCADA and telemetry system including repair of all faulty components whenever necessary

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Repair and maintenance of control/instrumentation cabling,communication cabling,instrumentation cabling etc for the proper upkeep of SCADA and telemetry system including repair of all faulty components whenever necessary	No	1.00000	6000.00	6000.00	
TOTAL					6000.00	
cost for one No					6000.00	
say					6000.00	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		6000.0

24 Specification Code: od341356/2021\_2022

od341356/2021\_2022 :Maintenance of SCADA system like Hardware including servers,printers,monitors etc for control room Scada,office stationary items.software for control room Scada,ups for control room including batteries,interface to regional telemetry system, etc including replacing of all faulty components whenever necessary

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Maintenance of SCADA system like Hardware including servers	No	1.00000	8000.00	8000.00	
TOTAL					8000.00	
cost for one No					8000.00	
say					8000.00	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		8000.0

25 Specification Code: od341357/2021\_2022

od341357/2021\_2022 :Replacement of Catridge one time between 5 to 10 years

One time- Rs. 400000/- Equal divide for 10 years  $400000/10=40000$

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Replacement of Catridge one time between 5 to 10 years	L.S	1.00000	40000.00	40000.00	
TOTAL					40000.00	
cost for one L.S					40000.00	
say					40000.00	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		40000.0

26 Specification Code: od341347/2021\_2022

od341347/2021\_2022 :Vehicle hire charges

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Vehicle hire charges	No	12.00000	12000.00	144000.00	
TOTAL					144000.00	
Add Water Charges @ 1%					1440.00	
Add CPOH @ 15%					21816.00	
cost for one No					167256.00	
say					167256.00	
Cost index <b>37.29 %</b>					.00	
Total with Cost index					167256.0	

27 Specification Code: od341358/2021\_2022

od341358/2021\_2022 :Generator Fuel charges

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Generator Fuel charges . Deisel consumption @56.9 L/Hour	hour	56.90000	100.00	5690.00	
TOTAL					5690.00	
Add Water Charges @ 1%					56.90	
Add CPOH @ 15%					862.03	
cost for one hour					6608.93	
say					6608.93	
Cost index <b>37.29 %</b>					-.00	
Total with Cost index					6608.93	

## STP-Annual Operation and Maintenance for 9 years (2nd year to 9th year)

28 Specification Code: od341346/2021\_2022

od341346/2021\_2022 :Annual Operation and Maintenance for 9 years (2nd year to 9th year)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Annual Operation and Maintenance for 9 years (2nd year to 9th year)	No	1.00000	6844540.33	6844540.33	
TOTAL					6844540.33	
cost for one No					6844540.33	
say					6844540.33	

Cost index	37.29 %	.00
Total with Cost index		6844540.33

## Sewer- Operation and maintenance for one year

29 Specification Code: od341335/2021\_2022

od341335/2021\_2022 :Labour for operation the well and connected works(Operator,Work assistant,fitter,electrician,Technician etc ) as per the direction of departmental officers.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
0157	Operator (Pile/Special machine)	Day	2190.0000 0	738.00	1616220.00	
0115	Coolie	Day	2190.0000 0	558.00	1222020.00	
0160	Technician	Day	365.00000	775.00	282875.00	
MR	electrician	Day	365.00000	1175.00	428875.00	
0116	Fitter(grade1)	Day	365.00000	738.00	269370.00	
TOTAL					3819360.00	
Add Water Charges @ 1%					38193.60	

PRICE

EST NO:

Add CPOH @ 15%	578633.04
cost for one No	4436186.64
say	4436186.64

Cost index <b>37.29 %</b>	1468498.22
Total with Cost index	5904684.86

**30** Specification Code: od341339/2021\_2022

od341339/2021\_2022 :Annul maintenance( Day today if needed) of electrical, civil ,mechanical and other connected items and including replacement damaged of electrical , mechanical and civil, Including painting of items as per the direction of departmental officials

Code	Description	Unit	Quantity	Rate	Amount	Remarks
0115	Coolie	Day	365.00000	558.00	203670.00	
MR	Replacement/ Repair of electrical items (Including painting existing items )	L.S	1.00000	200000.00	200000.00	
MR	Replacement/Repair of mechanical items (Including motor, painting existing items, etc )	L.S	1.00000	250000.00	250000.00	
MR	Replacement/Repair of civil items and (Including painting existing items )	L.S	1.00000	200000.00	200000.00	
TOTAL					853670.00	
cost for one No					853670.00	
say					853670.00	

Cost index <b>37.29 %</b>	75948.54
Total with Cost index	929618.54

**31** Specification Code: od341343/2021\_2022

od341343/2021\_2022 :Consumable Cotton waste ,Lubricants (oil and Grease)soap ,chemicals,Glass ware,safety equipment & Devices, Cleaning etc.. for wet well and pumping station

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Cotton waste ,Lubricants (oil and Grease)soap ,chemicals,Glass ware,safety equipment & Devices, Cleaning etc.. for wet well and pumping station	No	12.00000	10000.00	120000.00	
TOTAL					120000.00	
cost for one No					120000.00	
say					120000.00	

Cost index <b>37.29 %</b>	.00
Total with Cost index	120000.0

**32** Specification Code: od341345/2021\_2022

od341345/2021\_2022 :Sewer line,well maintenance - Sewer cleaners including necessary accessories required for cleaning of sewer lines with safety equipment.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
0129	Sewer Man	Day	365.00000	558.00	203670.00	
0115	Coolie	Day	365.00000	558.00	203670.00	
0116	Fitter(grade1)	Day	365.00000	738.00	269370.00	
MR	Rent for sewer cleaning machine	L.S	1.00000	150000.00	150000.00	
TOTAL					826710.00	
Add Water Charges @ 1%					8267.10	
Add CPOH @ 15%					125246.57	
cost for one No					960223.67	
say					960223.67	

Cost index <b>37.29 %</b>	293098.90
Total with Cost index	1253322.57

**33** Specification Code: od341347/2021\_2022



od341347/2021\_2022 :Vehicle hire charges

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Vehicle hire charges	No	12.00000	12000.00	144000.00	
TOTAL					144000.00	
Add Water Charges @ 1%					1440.00	
Add CPOH @ 15%					21816.00	
cost for one No					167256.00	
say					167256.00	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		167256.0

Sewer-O&M for 2nd year to 10th Year

34 Specification Code: od341338/2021\_2022

### Kerala Water Authority

od341338/2021\_2022 :Operation and Maintenance for 9 years (2nd year to 10th year)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Operation and Maintenance for 9 years (2nd year to 10th year)	No	1.00000	8332996.39	8332996.39	
TOTAL					8332996.39	
cost for one No					8332996.39	
say					8332996.39	

Cost index	<b>37.29 %</b>	.00
Total with Cost index		8332996.39