

Appendix A- (1) - Supply and laying 350mm and 300mm DI gravity main/ pumping main pipe from Alady GLSR to Kalthotty sump (Re-arranging)- (a) Cost of materials

1 Specification Code: od41949/2020\_2021

od41949/2020\_2021 :Supply DI specials,Tees,Bends,Collars,Tapers etc.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
7682	Ductile Iron K-12 specials suitable for push on jointing upto 600 mm dia	quintal	1.00000	12400.00	12400.00	
TOTAL					12400.00	
Add Water Charges @ 1%					124.00	
Add CPOH @ 15%					1878.60	
cost for one quintal					14402.60	
say					14402.60	

Cost index <b>41.53 %</b>	5981.40
Total with Cost index	20384.0

Appendix A - (1) - Supply and laying 350mm and 300mm DI gravity main/ pumping main pipe from Alady GLSR to Kalthotty sump (Re-arranging)- (b) Working charges  
Appendix A - (2) - Supply and laying 300 mm DI pumping main from Kalthotty sump to Nariyanpara (Re-arranging)- (a) cost of materials

2 Specification Code: od41949/2020\_2021

od41949/2020\_2021 :Supply DI specials,Tees,Bends,Collars,Tapers etc.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
7682	Ductile Iron K-12 specials suitable for push on jointing upto 600 mm dia	quintal	1.00000	12400.00	12400.00	
TOTAL					12400.00	
Add Water Charges @ 1%					124.00	
Add CPOH @ 15%					1878.60	
cost for one quintal					14402.60	
say					14402.60	

Cost index <b>41.53 %</b>	5981.40
Total with Cost index	20384.0

Appendix A - (2) - Supply and laying 300 mm DI pumping main from Kalthotty sump to Nariyanpara (Re-arranging)- (b) Working charges  
 Appendix A - (3) - Supply and Laying 250mm DI pumping main from Nariyanpara to Idukki kavala (balance work re-arranging)- (a) Cost of materials

3 Specification Code: od41949/2020\_2021

od41949/2020\_2021 :Supply DI specials,Tees,Bends,Collars,Tapers etc.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
7682	Ductile Iron K-12 specials suitable for push on jointing upto 600 mm dia	quintal	1.00000	12400.00	12400.00	
TOTAL					12400.00	
Add Water Charges @ 1%					124.00	
Add CPOH @ 15%					1878.60	
cost for one quintal					14402.60	
say					14402.60	

Cost index <b>41.53 %</b>	5981.40
Total with Cost index	20384.0

Appendix A - (3) - Supply and Laying 250mm DI pumping main from Nariyanpara to Idukki kavala (balance work re-arranging)- (b) Working charges  
 Appendix B - (1) - Improvements at Kalthotty sump- (a) patch work, painting and providing toilet etc.

4 Specification Code: od41173/2020\_2021

od41173/2020\_2021 :Providing sanitary facilities including 500 ltr water tank,PVC septic tank,water closet,wash basin and other plumbing works and electrical works etc.complete.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
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17.3.1	Rate as per item number 17.3.1 of SH: Sanitary Installations	No	1.00000	5803.45	5803.45	
18.48A	Rate as per item number 18.48A of SH: Water Supply	Litre	200.00000	7.65	1530.00	
17.7.4	Rate as per item number 17.7.4 of SH: Sanitary Installations	No	1.00000	2179.40	2179.40	
17.28.1.1	Rate as per item number 17.28.1.1 of SH: Sanitary Installations	No	1.00000	76.15	76.15	
17.28.2.1	Rate as per item number 17.28.2.1 of SH: Sanitary Installations	No	1.00000	87.75	87.75	
17.40.1.1	Rate as per item number 17.40.1.1 of SH: Sanitary Installations	No	3.00000	434.45	1303.35	
17.35.1.3	Rate as per item number 17.35.1.3 of SH: Sanitary Installations	metre	3.00000	913.05	2739.15	
100.34.1	Rate as per item number 100.34.1 of SH: KWA Approved Data	No	3.00000	86.90	260.70	
18.7.1	Rate as per item number 18.7.1 of SH: Water Supply	metre	15.00000	209.70	3145.50	
100.98.10 08	Rate as per item number 100.98.1008 of SH: KWA Approved Data	Day	2.00000	648.10	1296.20	
MR	Cost of synthetic septic tank	Nos	1.00000	15000.00	15000.00	
MR	Charges for plumbing and electrical charge	L.S	1.00000	2500.00	2500.00	
TOTAL					35921.65	
Add Water Charges @ 1%					175.00	
Add CPOH @ 15%					2651.25	
cost for one No					38747.90	
say					38747.90	
Cost index <b>41.53 %</b>					7650.51	
Total with Cost index					46398.41	

Appendix B - (1) - Improvements at Kalthotty sump- (b) Construction of retaining wall and compound wall  
Appendix B - (2) - Design and Construction of Pipeline Bridge across kattappana river- (a)- RCC work  
Appendix B - (2) - Design and Construction of pipeline bridge across kattappana river- (b) Steel bridge  
Appendix B - (2) - Design and Construction of pipeline bridge

across at kattappana river- (c) Supply and laying M S pipe and connecting to the existing line  
Appendix B - (3) - Wash water disposal arrangements at TP- (a) - Cost of materials

5 Specification Code: od81358/2020\_2021

od81358/2020\_2021 :Supply DI specials,Tees,Bends,Collars,Tapers etc.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
7682	Ductile Iron K-12 specials suitable for push on jointing upto 600 mm dia	quintal	1.00000	12400.00	12400.00	
TOTAL					12400.00	
Add Water Charges @ 1%					124.00	
Add CPOH @ 15%					1878.60	
cost for one quintal					14402.60	
say					14402.60	

Cost index	<b>41.53 %</b>	5981.40
Total with Cost index		20384.0

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Appendix B - (3) - Wash water disposal arrangements at TP- (b) Working charges

6 Specification Code: od41799/2020\_2021

od41799/2020\_2021 :Construction of RCC valve chamber of size 1m x 1m x 1.4 m cost of excavation work, 75mm thick M10 concrete base, 150 mm side wall, 150mm bottom and cover slab of chamber with M20 concrete with reinforcement including plastering inside and out side of wall.etc.complete.

Valve chamber 1m x 1m x 0.7m 100.1.1 All classes of soil 70% 1x1.65x1.65x1.0 = 1.91 m<sup>3</sup> 100.2.1 Ordinary rock <br> 20% 1x1.65x1.65x1.0 = 0.54 m<sup>3</sup> 100.1.5 Medium rock 7% 1x1.65x1.65x1.0 = 0.19 m<sup>3</sup> 100.1.3 Hard rock (blasting <br> prohibited) 3% 1x1.65x1.65x1.0 = 0.08 m<sup>3</sup> 4.1.6 M10 for base 1x1.65x1.65x0.075 = 0.20 m<sup>3</sup> 5.1.2 M20 for side wall <br> 1x1.125\*4x0.15x1.40 = 0.945 cover slab and bottom of chamber 2x1.3x1.3x0.15 = 0.26 deduction for man hole cover <br> 0.03 total 1.44 m<sup>3</sup> 5.2.2.6 Reinforcement - 8mm dia side wall (vertical 200mm c/c) 2\*4x6 x(1+.4) = 67.2 horizontal <br> 200mm c/c 2\*8x(1.125\*4) + .45\*4 = 10.8 bottom of chamber - both wise 4\*12x1.3+0.1 = 67.2 8mm dia bar <br> (0.39kg/m) 146m 56.94kg 12mm dia bar 33.6 12mm dia bar (0.88kg/m) 33.6m 29.57kg 10mm dia bar cover slab tensile <br> bar (200mm c/c) 2\*9x1.3+0.1 = 25.2 10mm dia bar (0.62kg/m) 25.2m 15.624kg total 102.13kg Form work <br> Base 1x4\*1.65x0.075 = 0.495 bottom slab of chamber 1x4\*1.3x0.15 = 0.78 side wall - outer 1x4\*1.25x1.4 = 7 side wall <br> inside 1x4\*1.0x1.25 = 5 Cover slab 1x4\*1.3x0.15 = .78 Addnl for vertical 10% (0.495+0.78+7+5+.78)x10% = 1.405 <br> total 15.46m<sup>2</sup> 13.7.1 Plastering (4x1x0.7)\*2 = 5.6m<sup>2</sup> <br> <br>

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.1.1	Rate as per item number 100.1.1 of SH: KWA Approved Data	cum	1.91000	409.70	782.53	
100.2.1	Rate as per item number 100.2.1 of SH: KWA Approved Data	cum	0.54000	529.30	285.82	
100.1.5	Rate as per item number 100.1.5 of SH: KWA Approved Data	cum	0.19000	595.00	113.05	
100.1.3	Rate as per item number 100.1.3 of SH: KWA Approved Data	cum	0.08000	566.60	45.33	
4.1.6	Rate as per item number 4.1.6 of SH: Concrete work	cum	0.20000	5318.35	1063.67	
5.1.2	Rate as per item number 5.1.2 of SH: Reinforced Cement Concrete	cum	1.44000	6700.45	9648.65	
5.9.1	Rate as per item number 5.9.1 of SH: Reinforced Cement Concrete	sqm	15.46000	247.30	3823.26	
5.22.6	Rate as per item number 5.22.6 of SH: Reinforced Cement Concrete	kilogram	102.13000	72.50	7404.43	
13.7.1	Rate as per item number 13.7.1 of SH: Finishing	sqm	5.60000	295.90	1657.04	
100.41.33	Rate as per item number 100.41.33 of SH: KWA Approved Data	Nos	1.00000	5536.60	5536.60	
TOTAL					30360.38	
cost for one No					30360.38	
say					30360.38	

Cost index <b>41.53 %</b>	12608.67
Total with Cost index	42969.05

Appendix B - (4) - supply and laying 80 mm GI pumping main from intermediate sump at Nariyanpara to GLSR at Nariyanpara top using 80 mm GI pipe- (a) Cost of materials

7 Specification Code: od41959/2020\_2021

od41959/2020\_2021 :Supply of 80mm GI pipe(m)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
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1552	G.I. pipes 80 mm dia	metre	1.00000	505.00	505.00	
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TOTAL					505.00
Add Water Charges @ 1%					5.05
Add CPOH @ 15%					76.51
cost for one metre					586.56
say					586.56

Cost index <b>41.53 %</b>					243.60
Total with Cost index					830.16

8 Specification Code: od41983/2020\_2021

od41983/2020\_2021 :Specials for 80mm GI pipe -10 % of value of pipe supply-(supplying and laying 80 mm GI pipes from intermediate sump at Nariyanpara to GLSR at Nariyanpara top-(a) Cost of materials)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Cost of 10 % G.I. pipes 80 mm dia	set	1177.0000 0	69.09	81318.93	
TOTAL					81318.93	
cost for one set					81318.93	
say					81318.93	

Cost index <b>41.53 %</b>					.00
Total with Cost index					81318.93

Appendix B - (4) - supply and laying 80 mm GI pumping main from intermediate sump at Nariyanpara to GLSR at Nariyanpara top using 80 mm GI pipe-(b) Working charges  
Appendix B - (5) - Design and construction of intermediate sump at Nariyanpara

9 Specification Code: od149225/2018\_2019

od149225/2018\_2019 : DOWEL BARS - Supplying and providing MS dowel bars of size 16 mm dia of 2m long (1m in rock and 1m in concrete ) including drilling holes of 20mm dia to a depth of 1m in rock and filling the gap with cement

grout( 0.10kg/each) etc complete.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
1003	Mild Steel round bar above 12 mm dia	quintal	0.03318	4400.00	145.99	
0367	Portland Cement	tonne	0.00010	4940.00	0.49	
2205	Steel	tonne	0.00332	92.24	0.31	
2209	Cement	tonne	0.00010	92.24	0.01	
0134	Rock Hole Driller	Day	0.20000	558.00	111.60	
0115	Coolie	Day	0.05000	558.00	27.90	
0103	Blacksmith 2nd class	Day	0.01000	679.00	6.79	
TOTAL					293.09	
Add Water Charges @ 1%					2.93	
Add CPOH @ 15%					44.40	
cost for one No					340.42	
say					340.42	

Cost index <b>41.53 %</b>	141.38
Total with Cost index	481.8

**10** Specification Code: od148944/2018\_2019

od148944/2018\_2019 :Supplying and fixing 100mm dia vent cowl incl. fitting charges etc. complete

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supplying and fixing 100mm dia vent cowl incl. fitting charges etc. complete	No	1.00000	3000.00	3000.00	
TOTAL					3000.00	
Add Water Charges @ 1%					30.00	
Add CPOH @ 15%					454.50	
cost for one No					3484.50	
say					3484.50	

Cost index <b>41.53 %</b>	.00
Total with Cost index	3484.5

11 Specification Code: od148945/2018\_2019

od148945/2018\_2019 :Supplying & fixing wall casting pipes 300mm - 2 Nos ,150mm - 3 Nos, 80mm - 1 Nos for outlet, scour and overflow including labour charges etc. Complete and interconnecting overflow units distribution line ( rate as per order no : KWA/HO/SP-5160/2014-15/CI Specials dated 29.07.2015)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	300mm C.I Wall casting pipe (inlet and scour)	No	2.00000	12106.80	24213.60	
MR	150mm C.I Wall casting pipe (out let and overflow)	No	3.00000	5044.50	15133.50	
MR	80mm C.I Wall casting pipe (out let)	No	1.00000	2129.90	2129.90	
TOTAL					41477.00	
Add Water Charges @ 1%					414.77	
Add CPOH @ 15%					6283.77	
cost for one No					48175.54	
say					48175.54	

Cost index <b>41.53 %</b>	.00
Total with Cost index	48175.54

Appendix B - (6) - construction of intermediate pump house at Nariyanpara- (a) Construction of pump house

12 Specification Code: od148939/2018\_2019

od148939/2018\_2019 :Providing sanitary facilities and electrical works including water closet ,flushing cistern ,wash basin,septic tank and 100ltr water tank and other required sanitary and electrical fittings.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
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17.2.1	Rate as per item number 17.2.1 of SH: Sanitary Installations	No	1.00000	4567.20	4567.20	
17.5.2	Rate as per item number 17.5.2 of SH: Sanitary Installations	No	1.00000	12171.80	12171.80	
17.7.7	Rate as per item number 17.7.7 of SH: Sanitary Installations	No	1.00000	1906.45	1906.45	
MR	PVC septic tank and including fittings	No	1.00000	25000.00	25000.00	
MR	Water tank	No	1.00000	1500.00	1500.00	
MR	electrification and other charges	L.S	1.00000	25000.00	25000.00	
TOTAL					70145.45	
Add Water Charges @ 1%					515.00	
Add CPOH @ 15%					7802.25	
cost for one No					78462.70	
say					78462.70	
Cost index <b>41.53 %</b>					7743.46	
Total with Cost index					86206.16	

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13 Specification Code: od148926/2018\_2019

## PRICE

od148926/2018\_2019 :Dry 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:

*Details of cost for 1 cum*

**MATERIAL**

Code	Description	Unit	Quantity	Rate	Amount	Remarks
1157	Stone for masonry work	cum	1.00000	1100.00	1100.00	
1154	Through and bond stone size 24 x 24 x 39cm CARRIAGE:	100 nos	7.00000	5000.00	350.00	
2215	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	1.16000	122.08	141.61	

0125	Mason (for plain stone work) 2nd class	Day	1.07000	679.00	726.53	
0114	Beldar	Day	1.07000	558.00	597.06	
9999	Sundries Cement concrete 1:6:12	L.S	45.76000	2.00	91.52	
9999	Sundries	L.S	4.42000	2.00	8.84	
TOTAL					3015.56	
Add Water Charges @ 1%					30.16	
Add CPOH @ 15%					456.86	
cost for one cum					3502.57	
say					3502.57	
Cost index <b>41.53 %</b>					1454.62	
Total with Cost index					4957.19	

Appendix B - (6) - construction of intermediate pump house at Nariyanpara- (b) Construction of protection wall and compound wall Appendix B - (7) - Supplying and laying 80mm GI pumping main from sump at TP to Alady Kurisumala GLSR - (a) Cost of materials

14 Specification Code: od190319/2018\_2019 Kerala Water Authority

# PRICE

od190319/2018\_2019 :Supply of 80mm GI pipe(m)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
1552	G.I. pipes 80 mm dia	metre	1.00000	505.00	505.00	
TOTAL					505.00	
Add Water Charges @ 1%					5.05	
Add CPOH @ 15%					76.51	
cost for one metre					586.56	
say					586.56	
Cost index <b>41.53 %</b>					243.60	
Total with Cost index					830.16	

15 Specification Code: od190323/2018\_2019

od190323/2018\_2019 :Specials for 80mm GI pipe

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Specials G.I. pipes 80 mm dia	set	310.00000	69.09	21417.90	
TOTAL					21417.90	
cost for one set					21417.90	
say					21417.90	

Cost index	<b>41.53 %</b>	.00
Total with Cost index		21417.9

Appendix B - (7) - Supplying and laying 80mm GI pumping main from sump at TP to Alady Kurisumala GLSR- (b) Working charges

16 Specification Code: od1153/2019\_2020

Kerala Water Authority

od1153/2019\_2020 :DOWEL BARS - Supplying and providing MS dowel bars of size 16 mm dia of 2m long (1m in rock and 1m in concrete ) including drilling holes of 20mm dia to a depth of 1m in rock and filling the gap with cement grout( 0.10kg/each) etc complete.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
1003	Mild Steel round bar above 12 mm dia	quintal	0.03318	4400.00	145.99	
0367	Portland Cement	tonne	0.00010	4940.00	0.49	
2205	Steel	tonne	0.00332	92.24	0.31	
2209	Cement	tonne	0.00010	92.24	0.01	
0134	Rock Hole Driller	Day	0.20000	558.00	111.60	
0115	Coolie	Day	0.05000	558.00	27.90	
0103	Blacksmith 2nd class	Day	0.01000	679.00	6.79	
TOTAL					293.09	
Add Water Charges @ 1%					2.93	
Add CPOH @ 15%					44.40	

cost for one No	340.42
say	340.42

Cost index <b>41.53 %</b>	141.38
Total with Cost index	481.8

**17** Specification Code: od1154/2019\_2020

od1154/2019\_2020 :80mm GI pipes by cutting and jointing by three run welding to make a water tight point,painting the welded portion,testing the line to the required pressure, including the charges hire and conveyance of tools, plant and materials to site, as per the direction of departmental officers etc.complete.

3.14\*8=25.12cm

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.37.1	Rate as per item number 100.37.1 of SH: KWA Approved Data	cm	25.12000	2.30	57.78	
100.37.2	Rate as per item number 100.37.2 of SH: KWA Approved Data	cm	25.12000	1.65	41.45	
100.37.3	Rate as per item number 100.37.3 of SH: KWA Approved Data	cm	25.12000	8.80	221.06	
100.39.1	Rate as per item number 100.39.1 of SH: KWA Approved Data	metre	0.25210	41.95	10.58	
TOTAL					330.87	
cost for one No					330.87	
say					330.87	

Cost index <b>41.53 %</b>	137.41
Total with Cost index	468.28

Appendix B - (8)- Line charging, stabilization& interconnectionAppendix B - (8)- Line charging, stabilization& interconnection - (a) Interconnection work of Distribution Zone I from T P sump using 200 mm D I K9 Pipe

**18** Specification Code: od190175/2018\_2019

od190175/2018\_2019 :Construction of RCC valve chamber of size 1mx1mx1m -cost excavation work,75mm thick M10 concrete base,125mm side wall,150mm bottom and cover slab of chamber with M20 concrete with reinforcement including plastering inside and out side of wall.etc.complete.including man hole cover.

Valve chamber 1mx1mx1m 100.1.1 All classes of soil 70% 1x1.65x1.65x1.25.=2.38 m<sup>3</sup> 100.2.1 Ordinary rock 20% 1x1.65x1.65x1.25.=0.68 m<sup>3</sup> 100.1.5 Medium rock 7% 1x1.65x1.65x1.25.=0.24 m<sup>3</sup> 100.1.3 Hard rock (blasting prohibited) 3% 1x1.65x1.65x1.25.=0.10 m<sup>3</sup> 4.1.6 M10 for base 1x1.65x1.65x0.075.=0.20 m<sup>3</sup> 5.1.2 M20 for side wall 1x1.125\*4x0.125x1.=.57 cover slab 1x1.3x1.3x0.15.=0.26 bottom of chamber 1x1.3x1.3x0.15.=0.26 deduction for man hole cover = 2\*3.14\*.025=0.03 total 1.06m<sup>3</sup> 5.22.6 Reinforcement - 8mm dia side wall (vertical 200mm c/c) 2\*4x6x(1.1+.45).=74.4 horizontal 200mm c/c 2\*6x(1.125\*4)+.45\*4.=15.3 bottom of chamber-both wise 12\*4x1.65+0.1.=84 8mm dia bar (0.39kg/m) 173.7m 67.743kg 12mm dia bar cover slab main bar (140mm c/c) 2\*12x1.65+0.1.=42 12mm dia bar (0.88kg/m) 42m 36.96kg 10mm dia bar cover slab tensile bar (200mm c/c) 2\*9x1.65+0.1.=31.5 10mm dia bar (0.62kg/m) 31.5m 19.53kg total 124.233kg Form work -Base 1x4\*1.65x0.075.=0.495 bottom slab of chamber 1x4\*1.65x0.15.=0.99 side wall-outer 1x4\*1.25x1.=5 side wall-inside 1x4\*1.0x1.=4 Cover slab 1x4\*1.65x0.15.=0.99 Addnl for vertical 10%(0.495+0.99+7+5.6+.99)x10%=1.1475 total 12.6225m<sup>2</sup> 13.7.1 Plastering 2\*(4x1x1).=8m<sup>2</sup>

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.1.1	Rate as per item number 100.1.1 of SH: KWA Approved Data	cum	2.38000	409.70	975.09	
100.2.1	Rate as per item number 100.2.1 of SH: KWA Approved Data	cum	0.68000	529.30	359.92	
100.1.5	Rate as per item number 100.1.5 of SH: KWA Approved Data	cum	0.24000	595.00	142.80	
100.1.3	Rate as per item number 100.1.3 of SH: KWA Approved Data	cum	0.10000	566.60	56.66	
4.1.6	Rate as per item number 4.1.6 of SH: Concrete work	cum	0.20000	5318.35	1063.67	
5.1.2	Rate as per item number 5.1.2 of SH: Reinforced Cement Concrete	cum	1.06000	6700.45	7102.48	
5.9.1	Rate as per item number 5.9.1 of SH: Reinforced Cement Concrete	sqm	12.62000	247.30	3120.93	
5.22.6	Rate as per item number 5.22.6 of SH: Reinforced Cement Concrete	kilogram	124.20000	72.50	9004.50	
13.7.1	Rate as per item number 13.7.1 of SH: Finishing	sqm	8.00000	295.90	2367.20	
100.41.33	Rate as per item number 100.41.33 of SH: KWA Approved Data	Nos	1.00000	5536.60	5536.60	
TOTAL					29729.85	

cost for one No	29729.85
say	29729.85

Cost index <b>41.53 %</b>	12346.81
Total with Cost index	42076.66

Appendix B - (8)- Line charging, stabilization& interconnection- (b) Interconnection work to Zone 1A-Marykulam using 80 mm G I pipe

19 Specification Code: od190319/2018\_2019

od190319/2018\_2019 :Supply of 80mm GI pipe(m)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
1552	G.I. pipes 80 mm dia	metre	1.00000	505.00	505.00	
TOTAL					505.00	
Add Water Charges @ 1%					5.05	
Add CPOH @ 15%					76.51	
cost for one metre					586.56	
say					586.56	

Cost index <b>41.53 %</b>	243.60
Total with Cost index	830.16

20 Specification Code: od3655/2019\_2020

od3655/2019\_2020 :Specials for 80 mm GI(m) pipe - 10 % of value of pipe supply.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Specials for 80 mm GI(m) pipe - 10 % of value of pipe supply.	set	250.00000	69.09	17272.50	
TOTAL					17272.50	

cost for one set	17272.50
say	17272.50

Cost index <b>41.53 %</b>	.00
Total with Cost index	17272.5

Appendix B - (8)- Line charging, stabilization& interconnection - (c)- Interconnection work to Labbakada Tank using 150 mm D I K9 Pipe for Pumping main  
 Appendix B - (8)- Line charging, stabilization& interconnection - (d) Interconnection work to distribution line at Labbakada using 250 mm D I k9 pipe  
 Appendix B - (8)- Line charging, stabilization& interconnection - (e) Interconnection to Kochuthovala Gravity main using 125 mm G I pipe

21 Specification Code: od189995/2018\_2019

od189995/2018\_2019 :Supplying 125mm GI(m) pipe

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	G.I.(m) pipes 125 mm dia	metre	1.00000	1235.00	1235.00	
TOTAL					1235.00	
Add Water Charges @ 1%					12.35	
Add CPOH @ 15%					187.10	
cost for one metre					1434.45	
say					1434.45	

Cost index <b>41.53 %</b>	.00
Total with Cost index	1434.45

22 Specification Code: od3663/2019\_2020

od3663/2019\_2020 :Specials for 125 mm GI(m) pipe - 10 % of value of pipe supply.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
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MR	Specials for 125 mm GI(m) pipe - 10 % of value of pipe supply.	set	100.00000	143.45	14345.00	
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TOTAL					14345.00
cost for one set					14345.00
say					14345.00

Cost index <b>41.53 %</b>					.00
Total with Cost index					14345.0

Appendix B - (8)- Line charging, stabilization& interconnection - (f) Interconnection work to Distribution from Kochuthovala G I tank using 200 mm D I pipe

23 Specification Code: od192891/2018\_2019

od192891/2018\_2019 :Construction of RCC valve chamber of size 1mx1mx1.4 m cost of excavation work,75mm thick M10 concrete base,150 mm side wall,150mm bottom and cover slab of chamber with M20 concrete with reinforcement including plastering inside and out side of wall.etc.complete.

Valve chamber 1mx1mx0.7m 100.1.1All classes of soil 70%1x1.65x1.65x1.0 .=1.91 m3 100.2.1Ordinary rock 20%1x1.65x1.65x1.0 .=0.54 m3 100.1.5Medium rock 7%1x1.65x1.65x1.0 .=0.19 m3 100.1.3Hard rock (blasting prohibited)3%1x1.65x1.65x1.0 .=0.08 m3 4.1.6M10 for base1x1.65x1.65x0.075.=0.20 m3 5.1.2M20for side wall 1x1.125\*4x0.15x1.40.=0.945 cover slab and bottom of chamber2x1.3x1.3x0.15.=0.26 deduction for man hole cover - 0.03 total1.44 m3 5.2.2.6Reinforcement - 8mm dia side wall (vertical 200mm c/c)2\*4x6 x(1+.4).=67.2 horizontal 200mm c/c2\*8x(1.125\*4)+.45\*4.=10.8 bottom of chamber-both wise4\*12x1.3+0.1.=67.2 8mm dia bar (0.39kg/m)146m56.94kg 12mm dia bar 33.6 12mm dia bar (0.88kg/m)33.6m29.57kg 10mm dia bar cover slab tensile bar (200mm c/c)2\*9x1.3+0.1.=25.2 10mm dia bar (0.62kg/m)25.2m15.624kg total102.13kg Form work - Base1x4\*1.65x0.075.=0.495 bottom slab of chamber1x4\*1.3x0.15.=0.78 side wall-outer1x4\*1.25x1.4.=7 side wall-inside1x4\*1.0x1.25.=5 Cover slab1x4\*1.3x0.15.=.78 Addnl for vertical 10%(0.495+0.78+7+5+.78)x10%=1.405 total15.46m2 13.7.1Plastering(4x1x0.7)\*2.=5.6m2

Code	Description	Unit	Quantity	Rate	Amount	Remarks
100.1.1	Rate as per item number 100.1.1 of SH: KWA Approved Data	cum	1.91000	409.70	782.53	
100.2.1	Rate as per item number 100.2.1 of SH: KWA Approved Data	cum	0.54000	529.30	285.82	
100.1.5	Rate as per item number 100.1.5 of SH: KWA Approved Data	cum	0.19000	595.00	113.05	
100.1.3	Rate as per item number 100.1.3 of SH: KWA Approved Data	cum	0.08000	566.60	45.33	



4.1.6	Rate as per item number 4.1.6 of SH: Concrete work	cum	0.20000	5318.35	1063.67	
5.1.2	Rate as per item number 5.1.2 of SH: Reinforced Cement Concrete	cum	1.44000	6700.45	9648.65	
5.9.1	Rate as per item number 5.9.1 of SH: Reinforced Cement Concrete	sqm	15.46000	247.30	3823.26	
5.22.6	Rate as per item number 5.22.6 of SH: Reinforced Cement Concrete	kilogram	102.13000	72.50	7404.43	
13.7.1	Rate as per item number 13.7.1 of SH: Finishing	sqm	5.60000	295.90	1657.04	
100.41.33	Rate as per item number 100.41.33 of SH: KWA Approved Data	Nos	1.00000	5536.60	5536.60	
TOTAL					30360.38	
cost for one No					30360.38	
say					30360.38	

Cost index <b>41.53 %</b>	12608.67
Total with Cost index	42969.05

## Kerala Water Authority

Appendix B - (8)- Line charging, stabilization & interconnection- (g) Interconnection between Idukkikavala to Market junction Kattappana

24 Specification Code: od189995/2018\_2019

od189995/2018\_2019 :Supplying 125mm GI(m) pipe

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	G.I.(m) pipes 125 mm dia	metre	1.00000	1235.00	1235.00	
TOTAL					1235.00	
Add Water Charges @ 1%					12.35	
Add CPOH @ 15%					187.10	
cost for one metre					1434.45	
say					1434.45	

Cost index <b>41.53 %</b>	.00
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Total with Cost index	1434.45
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**25** Specification Code: od3664/2019\_2020

od3664/2019\_2020 :Specials for 125 mm GI(m) pipe - 10 % of value of pipe supply.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Specials for 125 mm GI(m) pipe - 10 % of value of pipe supply.	set	950.00000	143.45	136277.50	
TOTAL					136277.50	
cost for one set					136277.50	
say					136277.50	

Cost index	<b>41.53 %</b>	.00
Total with Cost index		136277.5

### Kerala Water Authority

Appendix B - (8)- Line charging, stabilization & interconnection - (h) Gap filling works at various places of distribution system

**26** Specification Code: od189999/2018\_2019

od189999/2018\_2019 :Supply of 50mm GI pipe (M).

Code	Description	Unit	Quantity	Rate	Amount	Remarks
1550	G.I pipes 50 mm dia	metre	1.00000	310.00	310.00	
TOTAL					310.00	
Add Water Charges @ 1%					3.10	
Add CPOH @ 15%					46.97	
cost for one metre					360.06	
say					360.06	

Cost index	<b>41.53 %</b>	149.53
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Total with Cost index	509.59
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27 Specification Code: od190454/2018\_2019

od190454/2018\_2019 :Supply 65 mm GI pipe(m) as per direction

Code	Description	Unit	Quantity	Rate	Amount	Remarks
1551	G.I. pipes 65 mm dia	metre	1.00000	395.00	395.00	
TOTAL					395.00	
Add Water Charges @ 1%					3.95	
Add CPOH @ 15%					59.84	
cost for one metre					458.79	
say					458.79	

Cost index <b>41.53 %</b>	190.54
Total with Cost index	649.33

28 Specification Code: od190319/2018\_2019

od190319/2018\_2019 :Supply of 80mm GI pipe(m)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
1552	G.I. pipes 80 mm dia	metre	1.00000	505.00	505.00	
TOTAL					505.00	
Add Water Charges @ 1%					5.05	
Add CPOH @ 15%					76.51	
cost for one metre					586.56	
say					586.56	

Cost index <b>41.53 %</b>	243.60
Total with Cost index	830.16

29 Specification Code: od190456/2018\_2019

od190456/2018\_2019 :Supply of 100 mm GI(m) pipe

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supply of 100 mm GI(m) pipe	metre	1.00000	906.00	906.00	
TOTAL					906.00	
Add Water Charges @ 1%					9.06	
Add CPOH @ 15%					137.26	
cost for one metre					1052.32	
say					1052.32	
Cost index 41.53 %					.00	
Total with Cost index					1052.32	

30 Specification Code: od189995/2018\_2019

od189995/2018\_2019 :Supplying 125mm GI(m) pipe

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	G.I.(m) pipes 125 mm dia	metre	1.00000	1235.00	1235.00	
TOTAL					1235.00	
Add Water Charges @ 1%					12.35	
Add CPOH @ 15%					187.10	
cost for one metre					1434.45	
say					1434.45	
Cost index 41.53 %					.00	
Total with Cost index					1434.45	

31 Specification Code: od269/2019\_2020

od269/2019\_2020 :Specials for GI (m) pipes- KIIFB Ayyappancovil Gap filling works - 50mm, 65mm, 80mm, 100mm, 125mm GI(m) pipes.

Specials for 50mm (m) GI pipe- 10% of cost of pipe =  $380 \times 10\% = 38$  , Specials for 65mm (m) GI pipe- 10% of cost of pipe =  $509.54 \times 10\% = 50.954$  , Specials for 80mm (m) GI pipe- 10% of cost of pipe =  $690.91 \times 10\% = 69.091$  , Specials for 100mm (m) GI pipe- 10% of cost of pipe =  $1052.32 \times 10\% = 105.232$  , Specials for 125mm (m) GI pipe- 10% of cost of pipe =  $1434.45 \times 10\% = 143.445$

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Specials for 50mm (m) GI pipe- 10% of cost of pipe	set	300.00000	38.00	11400.00	
MR	Specials for 65mm (m) GI pipe- 10% of cost of pipe	set	450.00000	50.95	22927.50	
MR	Specials for 80mm (m) GI pipe- 10% of cost of pipe	set	600.00000	69.09	41454.00	
MR	Specials for 100mm (m) GI pipe- 10% of cost of pipe	set	300.00000	105.23	31569.00	
MR	Specials for 125mm (m) GI pipe- 10% of cost of pipe	set	150.00000	143.45	21517.50	
TOTAL					128868.00	
cost for one set					128868.00	
say					128868.00	

Cost index	41.53 %	.00
Total with Cost index		128868.0

Appendix B - (8)- Line charging, stabilization & interconnection - (i) Leak rectification works in distribution system in Zone I, II, III, IV & VI  
 Appendix B - (8)- Line charging, stabilization & interconnection - (j) Interconnection work of raw water pumping main with aerator at treatment plant using 350mm DIK9 pipes and providing surge arrestor in raw water pumping main

32 Specification Code: od83893/2020\_2021

od83893/2020\_2021 :Providing 350mm surge arrestor- 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 classes of soil (Rate as per DSR Observed data)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Providing 350mm surge arrestor- 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 classes of soil (Rate as per DSR Observed data)	cum	1.00000	425.54	425.54	
TOTAL					425.54	
cost for one cum					425.54	
say					425.54	

Kerala Water Authority	Cost index	41.53 %	.00
		Total with Cost index	425.54

**33** Specification Code: od83894/2020\_2021

od83894/2020\_2021 :Providing 350mm surge arrestor- Providing 350mm surge arrestor having test pressure 45Kg/cm2 to the clear water pumping main including cost of specials such as 2 Nos. Tail piece, 2 Nos. Mechanical joints, cutting the existing DI pipe, inserting surge arrestor, jointing with flanged joints etc. including cost of surge arrestor.(Rate as per DSR Observed data)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
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MR	Providing 350mm surge arrestor- Providing 350mm surge arrestor having test pressure 45Kg/cm2 to the clear water pumping main including cost of specials such as 2 Nos. Tail piece, 2 Nos. Mechanical joints, cutting the existing DI pipe, inserting surge arrestor, jointing with flanged joints etc. including cost of surge arrestor.(Rate as per DSR Observed data)	Nos	1.00000	600000.00	600000.00	
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TOTAL		600000.00
cost for one No		600000.00
say		600000.00

Cost index <b>41.53 %</b>		.00
Total with Cost index		600000.0

**34** Specification Code: od83895/2020\_2021

od83895/2020\_2021 :Providing 350mm surge arrestor- Cement concrete 1:2:4 using 20mm nominay size metal for anchore block including charges of form work and labour charges etc. complete.(Rate as per DSR Observed data)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Providing 350mm surge arrestor- Cement concrete 1:2:4 using 20mm nominay size metal for anchore block including charges of form work and labour charges etc. complete.(Rate as per DSR Observed data)	cum	1.00000	8941.83	8941.83	
TOTAL					8941.83	
cost for one cum					8941.83	
say					8941.83	

Cost index <b>41.53 %</b>		.00
Total with Cost index		8941.83

**35** Specification Code: od83896/2020\_2021

od83896/2020\_2021 :Providing 350mm surge arrestor- Providing air cushion valve of diameter - 200mm & test pressure 45 Kg/cm2 with flanged ends including all cost of materials such as 200mm air cushion valve - 1 No., 200mm D/F CI sluice valve - 1 No. etc and all labour charges for fitting the same in position as directed by the departmental officers.(Rate as per DSR Observed data)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Providing 350mm surge arrestor- Providing air cushion valve of diameter - 200mm & test pressure 45 Kg/cm2 with flanged ends including all cost of materials such as 200mm air cushion valve - 1 No., 200mm D/F CI sluice valve - 1 No. etc and all labour charges for fitting the same in position as directed by the departmental officers.(Rate as per DSR Observed data)	Nos	1.00000	409500.00	409500.00	
TOTAL					409500.00	
cost for one No					409500.00	
say					409500.00	

Kerala Water Authority	Cost index	41.53 %	.00
PRICE		Total with Cost index	409500.0

36 Specification Code: od83897/2020\_2021

od83897/2020\_2021 :Providing 350mm surge arrestor- Constructing RCC valve chamber of size 2.50m x 1.20m x 1.20m for providing the zero velocity valve including all cost of materials, labour charge, form work etc complete as directed by the departmental officers. (Rate as per DSR Observed data)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Providing 350mm surge arrestorConstructing RCC valve chamber of size 2.50m x 1.20m x 1.20m for providing the zero velocity valve including all cost of materials, labour charge, form work etc complete as directed by the departmental officers. (Rate as per DSR Observed data)	Nos	1.00000	63841.40	63841.40	



TOTAL	63841.40
cost for one No	63841.40
say	63841.40

Cost index <b>41.53 %</b>	.00
Total with Cost index	63841.4

**Appendix B- (9) - Road restoration works-(a) PWD road**

**37** Specification Code: od178589/2018\_2019

od178589/2018\_2019 :Removal of unserviceable soil including excavation, loading and disposal upto 1000 metres lead but excluding replacement by suitable soil which shall be paid separately (PWD sanctioned price rate-specification code- 3.11)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Removal of unserviceable soil including excavation, loading and disposal upto 1000 metres lead but excluding replacement by suitable soil which shall be paid separately (PWD sanctioned price rate-specification code- 3.11)	cum	1.00000	47.61	47.61	
TOTAL					47.61	
cost for one cum					47.61	
say					47.61	

Cost index <b>41.53 %</b>	.00
Total with Cost index	47.61

**38** Specification Code: od178591/2018\_2019

od178591/2018\_2019 :Maintenance of Earthen Shoulder (filling with fresh soil) Making up loss of material/ irregularities on shoulder to the design level by adding fresh approved soil and compacting it with appropriate equipment.(PWD sanctioned rate-specification code- 10.2)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Maintenance of Earthen Shoulder (filling with fresh soil) Making up loss of material/irregularities on shoulder to the design level by adding fresh approved soil and compacting it with appropriate equipment.(PWD sanctioned rate-specification code- 10.2)	sqm	1.00000	41.25	41.25	
TOTAL					41.25	
cost for one sqm					41.25	
say					41.25	

Cost index	<b>41.53 %</b>	.00
Total with Cost index		41.25

**39** Specification Code: od178592/2018\_2019

od178592/2018\_2019 :Construction of granular sub-base by providing graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401. Grading-IV - For lower sub base - Mix in Place Method (PWD sanctioned rate-specification code-4.2.A2)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Construction of granular sub-base by providing graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401. Grading-IV - For lower sub base - Mix in Place Method (PWD sanctioned rate-specification code-4.2.A2)	cum	1.00000	3178.82	3178.82	
TOTAL					3178.82	
cost for one cum					3178.82	
say					3178.82	

Cost index	<b>41.53 %</b>	.00
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Total with Cost index	3178.82
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<b>40</b> Specification Code: od178593/2018_2019
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od178593/2018_2019 :Providing, laying, spreading and compacting graded stone aggregate to Wet Mix Macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.(PWD sanctioned rate-specification code- 4.12)
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Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Providing, laying, spreading and compacting graded stone aggregate to Wet Mix Macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.(PWD sanctioned rate-specification code- 4.12)	cum	1.00000	3344.36	3344.36	
TOTAL					3344.36	
cost for one cum					3344.36	
say					3344.36	

Cost index <b>41.53 %</b>	.00
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Total with Cost index	3344.36
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<b>41</b> Specification Code: od178594/2018_2019
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od178594/2018_2019 :Prime Coat- Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.7kg/sqm using mechanical means.(PWD sanctioned rate- specification code-5.1)
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Code	Description	Unit	Quantity	Rate	Amount	Remarks
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MR	Prime Coat- Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.7kg/sqm using mechanical means.(PWD sanctioned rate- specification code-5.1)	sqm	1.00000	54.39	54.39	
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TOTAL					54.39
cost for one sqm					54.39
say					54.39

Cost index <b>41.53 %</b>					.00
Total with Cost index					54.39

**42** Specification Code: od178595/2018\_2019

od178595/2018\_2019 :Supplying and stacking 12mm hard blue granite broken stone in standard heaps for measurement(IRC 3.2.1.a)- PWD sanctioned rate-specification code- 55.2

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supplying and stacking 12mm hard blue granite broken stone in standard heaps for measurement(IRC 3.2.1.a)- PWD sanctioned rate-specification code- 55.2	cum	1.00000	2631.07	2631.07	
TOTAL					2631.07	
cost for one cum					2631.07	
say					2631.07	

Cost index <b>41.53 %</b>					.00
Total with Cost index					2631.07

**43** Specification Code: od178596/2018\_2019

od178596/2018\_2019 :Supplying and stacking 6mm hard blue granite broken stone in standard heaps for

measurement(IRC 3.2.1.a)- PWD sanctioned rate-specification code- 55.3

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supplying and stacking 6mm hard blue granite broken stone in standard heaps for measurement(IRC 3.2.1.a)- PWD sanctioned rate-specification code- 55.3	cum	1.00000	2631.07	2631.07	
TOTAL					2631.07	
cost for one cum					2631.07	
say					2631.07	

Cost index	<b>41.53 %</b>	.00
Total with Cost index		2631.07

44 Specification Code: od178597/2018\_2019

od178597/2018\_2019 :Supplying and stacking 36mm size hard broken stone in standard heaps for measurement.(PWD sanctioned rate- specification code- 55.4)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supplying and stacking 36mm size hard broken stone in standard heaps for measurement.(PWD sanctioned rate-specification code- 55.4)	cum	1.00000	2537.36	2537.36	
TOTAL					2537.36	
cost for one cum					2537.36	
say					2537.36	

Cost index	<b>41.53 %</b>	.00
Total with Cost index		2537.36

45 Specification Code: od178598/2018\_2019

od178598/2018\_2019 :Providing, laying and rolling of open graded premix carpet of 20 mm thickness with 0.27 cum of 12 mm departmental aggregates premixed with 12.96 kg of bitumen per 10 sqm using penetration grade bitumen to required line, grade and level on a previously prepared base, after priming the existing surface with 5 kg of bitumen (VG 30) 10 sqm including mixing in a suitable plant, laying and rolling with a three wheel static roller of 80-100 KN capacity, finished to required level and grades, followed by a seal coat of 0.09 cum of 6 mm departmental aggregates premixed with 8.64 kg of bitumen per 10 sqm. By Manual Means- PWD sanctioned rate-specification code-55.1.a

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Providing, laying and rolling of open graded premix carpet of 20 mm thickness with 0.27 cum of 12 mm departmental aggregates premixed with 12.96 kg of bitumen per 10 sqm using penetration grade bitumen to required line, grade and level on a previously prepared base, after priming the existing surface with 5 kg of bitumen (VG 30) 10 sqm including mixing in a suitable plant, laying and rolling with a three wheel static roller of 80-100 KN capacity, finished to required level and grades, followed by a seal coat of 0.09 cum of 6 mm departmental aggregates premixed with 8.64 kg of bitumen per 10 sqm. By Manual Means- PWD sanctioned rate-specification code-55.1.a	sqm	1.00000	192.02	192.02	
TOTAL					192.02	
cost for one sqm					192.02	
say					192.02	

Cost index	<b>41.53 %</b>	.00
Total with Cost index		192.02

**46** Specification Code: od178599/2018\_2019

od178599/2018\_2019 :Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.( PWD sanctioned rate- specification code- 12.4)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.( PWD sanctioned rate- specification code- 12.4)	cum	1.00000	7032.06	7032.06	
TOTAL					7032.06	
cost for one cum					7032.06	
say					7032.06	

Cost index <b>41.53 %</b>	.00
Total with Cost index	7032.06

**47** Specification Code: od178600/2018\_2019

od178600/2018\_2019 :CPlain/Reinforced Cement Concrete in Open Foundation complete as per Drawing and Technical Specifications<br>PCC Grade M20 (Without formwork) -PWD sanctioned rate-spfcification code-12.8.b

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	CPlain/Reinforced Cement Concrete in Open Foundation complete as per Drawing and Technical Specifications PCC Grade M20 (Without formwork) -PWD sanctioned rate-spfcification code-12.8.b	cum	1.00000	8523.47	8523.47	
TOTAL					8523.47	
cost for one cum					8523.47	
say					8523.47	

Cost index <b>41.53 %</b>	.00
Total with Cost index	8523.47

**Appendix B - (9) - Road restoration works- (b) Village/ Panchayat/ PMGSY roads**

**48** Specification Code: od178592/2018\_2019

od178592/2018\_2019 :Construction of granular sub-base by providing graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401. Grading-IV - For lower sub base - Mix in Place Method (PWD sanctioned rate-specification code-4.2.A2)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Construction of granular sub-base by providing graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401. Grading-IV - For lower sub base - Mix in Place Method (PWD sanctioned rate-specification code-4.2.A2)	cum	1.00000	3178.82	3178.82	
TOTAL					3178.82	
cost for one cum					3178.82	
say					3178.82	

Kerala Water Authority	Cost index	41.53 %	.00
PRICE		Total with Cost index	3178.82

49 Specification Code: od178593/2018\_2019

od178593/2018\_2019 :Providing, laying, spreading and compacting graded stone aggregate to Wet Mix Macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.(PWD sanctioned rate-specification code- 4.12)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
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MR	Providing, laying, spreading and compacting graded stone aggregate to Wet Mix Macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub-base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.(PWD sanctioned rate-specification code- 4.12)	cum	1.00000	3344.36	3344.36	
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TOTAL					3344.36
cost for one cum					3344.36
say					3344.36

Cost index <b>41.53 %</b>					.00
Total with Cost index					3344.36

**50** Specification Code: od178594/2018\_2019

### Kerala Water Authority

od178594/2018\_2019 :Prime Coat- Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.7kg/sqm using mechanical means.(PWD sanctioned rate- specification code-5.1)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Prime Coat- Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.7kg/sqm using mechanical means.(PWD sanctioned rate- specification code-5.1)	sqm	1.00000	54.39	54.39	
TOTAL					54.39	
cost for one sqm					54.39	
say					54.39	

Cost index <b>41.53 %</b>					.00
Total with Cost index					54.39

51 Specification Code: od178595/2018\_2019

od178595/2018\_2019 :Supplying and stacking 12mm hard blue granite broken stone in standard heaps for measurement(IRC 3.2.1.a)- PWD sanctioned rate-specification code- 55.2

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supplying and stacking 12mm hard blue granite broken stone in standard heaps for measurement(IRC 3.2.1.a)- PWD sanctioned rate-specification code- 55.2	cum	1.00000	2631.07	2631.07	
TOTAL					2631.07	
cost for one cum					2631.07	
say					2631.07	

Cost index	<b>41.53 %</b>	.00
Total with Cost index		2631.07

Kerala Water Authority

52 Specification Code: od178596/2018\_2019

od178596/2018\_2019 :Supplying and stacking 6mm hard blue granite broken stone in standard heaps for measurement(IRC 3.2.1.a)- PWD sanctioned rate-specification code- 55.3

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supplying and stacking 6mm hard blue granite broken stone in standard heaps for measurement(IRC 3.2.1.a)- PWD sanctioned rate-specification code- 55.3	cum	1.00000	2631.07	2631.07	
TOTAL					2631.07	
cost for one cum					2631.07	
say					2631.07	

Cost index	<b>41.53 %</b>	.00
Total with Cost index		2631.07

53 Specification Code: od178597/2018\_2019

od178597/2018\_2019 :Supplying and stacking 36mm size hard broken stone in standard heaps for measurement.(PWD sanctioned rate- specification code- 55.4)

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supplying and stacking 36mm size hard broken stone in standard heaps for measurement.(PWD sanctioned rate- specification code- 55.4)	cum	1.00000	2537.36	2537.36	
TOTAL					2537.36	
cost for one cum					2537.36	
say					2537.36	
Cost index <b>41.53 %</b>					.00	
Total with Cost index					2537.36	

Kerala Water Authority

54 Specification Code: od178598/2018\_2019

od178598/2018\_2019 :Providing, laying and rolling of open graded premix carpet of 20 mm thickness with 0.27 cum of 12 mm departmental aggregates premixed with 12.96 kg of bitumen per 10 sqm using penetration grade bitumen to required line, grade and level on a previously prepared base, after priming the existing surface with 5 kg of bitumen (VG 30) 10 sqm including mixing in a suitable plant, laying and rolling with a three wheel static roller of 80-100 KN capacity, finished to required level and grades, followed by a seal coat of 0.09 cum of 6 mm departmental aggregates premixed with 8.64 kg of bitumen per 10 sqm. By Manual Means- PWD sanctioned rate-specification code-55.1.a

Code	Description	Unit	Quantity	Rate	Amount	Remarks
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MR	Providing, laying and rolling of open graded premix carpet of 20 mm thickness with 0.27 cum of 12 mm departmental aggregates premixed with 12.96 kg of bitumen per 10 sqm using penetration grade bitumen to required line, grade and level on a previously prepared base, after priming the existing surface with 5 kg of bitumen (VG 30) 10 sqm including mixing in a suitable plant, laying and rolling with a three wheel static roller of 80-100 KN capacity, finished to required level and grades, followed by a seal coat of 0.09 cum of 6 mm departmental aggregates premixed with 8.64 kg of bitumen per 10 sqm. By Manual Means- PWD sanctioned rate-specification code-55.1.a	sqm	1.00000	192.02	192.02	
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	TOTAL	192.02
	cost for one sqm	192.02
	say	192.02

	Cost index	41.53 %	.00
	Total with Cost index		192.02

### Appendix B - (8)- Line charging, stabilization & interconnection - (k)- Providing Flow Meters

55 Specification Code: od90786/2020\_2021

od90786/2020\_2021 :Supplying and fixing 200mm Dia Mechanical Flow meter of Woltman type conforming to ISO 4064 Class B of ARAD/ ZENNER/ REYCHEM RPG/ ITRON make and the flow meter shall be tested and certified by FCRI- Palakkad.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supplying 200 mm dia Mechanical Flow meter	No	1.00000	30000.00	30000.00	
MR	Add 3% for transportation and insurance charge and price escalation	No	1.00000	900.00	900.00	
0116	Fitter(grade1)	Day	1.00000	738.00	738.00	
0117	Assistant Fitter or 2nd class fitter	Day	1.00000	679.00	679.00	

0114	Beldar	Day	1.00000	558.00	558.00	
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9999	Sundries	L.S	1.00000	2.00	2.00	
TOTAL					32877.00	
Add Water Charges @ 1%					328.77	
Add CPOH @ 15%					4980.87	
cost for one No					38186.64	
say					38186.64	

Cost index <b>41.53 %</b>					953.65	
Total with Cost index					39140.29	

**56** Specification Code: od90787/2020\_2021

od90787/2020\_2021 :Supplying and fixing 250mm Dia Mechanical Flow meter of Woltman type conforming to ISO 4064 Class B of ARAD/ ZENNER/ REYCHEM RPG/ ITRON make and the flow meter shall be tested and certified by FCRI- Palakkad.

### Kerala Water Authority

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supplying 250mm Dia Mechanical Flow meter	No	1.00000	65000.00	65000.00	
MR	3% cost for transportation and insurances	No	1.00000	1950.00	1950.00	
0116	Fitter(grade1)	Day	1.00000	738.00	738.00	
0117	Assistant Fitter or 2nd class fitter	Day	1.00000	679.00	679.00	
0114	Beldar	Day	1.00000	558.00	558.00	
9999	Sundries	L.S	1.00000	2.00	2.00	
TOTAL					68927.00	
Add Water Charges @ 1%					689.27	
Add CPOH @ 15%					10442.44	
cost for one No					80058.71	
say					80058.71	

Cost index <b>41.53 %</b>					953.65	
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Total with Cost index	81012.36
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57 Specification Code: od93515/2020_2021
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od93515/2020\_2021 :Supplying and fixing 300mm Dia Electromagnetic Flow meter conforming to protection level of IP-68 for flow sensor and IP-67 for transmitter and having an accuracy level of 0.5 % with (LED/LCD) display unit,UPS and battery.This flow meter should have the housing(flow sensor) to be made of SS304/ carbon steel with anti corrosive protection and inside liner to be made of hard rubber or neoprene all conforming to drinking water standards. The flow meter should be coupled Hart for data acquisition and transfer ,with provision for wireless transfer through GSM.The manufactures Should have the calibration standard.AS per ISO 17.0.25 and the product shall have sufficient warranty provisions.

Code	Description	Unit	Quantity	Rate	Amount	Remarks
MR	Supplying 300mm Dia Electromagnetic Flow meter	No	1.00000	163000.00	163000.00	
MR	3% extra for transportation and insurances	No	1.00000	4890.00	4890.00	
0116	Fitter(grade1)	Day	1.00000	738.00	738.00	
0117	Assistant Fitter or 2nd class fitter	Day	1.00000	679.00	679.00	
0114	Beldar	Day	1.00000	558.00	558.00	
9999	Sundries	L.S	1.00000	2.00	2.00	
TOTAL					169867.00	
Add Water Charges @ 1%					1698.67	
Add CPOH @ 15%					25734.85	
cost for one No					197300.52	
say					197300.52	

Cost index <b>41.53 %</b>	953.65
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Total with Cost index	198254.17
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