



KERALA WATER AUTHORITY

Office of the Superintending Engineer

PH Circle, Kannur

PIN 670012

Tel: 0497-2705902

Fax: 0497-2707133

e-mail: sephcknr@gmail.com

Regd. with A/D

No.KWA/PHC/KNR/D1-17758/JJM/2021

Date: 07/09/2023

From

The Superintending Engineer

To

**M/s Surya Constructions,
4th Floor, Malayil Majesty,
Near Railway Over bridge,
Refinery Road, Tripunithura,
Ernakulam.**

Sir,

Sub- : Jal Jeevan Mission- Kannur District- Chengalayi Grama Panchayath-WSS to Chengalayi Panchayath -Construction of 2 Nos.OHSR, Supplying and laying Gravity main, Pumping main,Supply and erection of pump sets & Laying Distribution system and providing FHTCs – Revised Work Order Issued-Reg.

- Ref: -
1. This Office Tender No.45/2021-22/PHC/KNR .
 2. Proceedings No.814/D2/2022/CENR-KKD dated 24/03/2022 of Chief Engineer, Northern Region, Kozhikode.
 3. This office work order on even No. Dated 29/03/2022.
 4. Judgement of Hon'ble High Court of Kerala, dated 09/08/2023 on WP (C) No.13723 of 2022.
 5. Order No. KWA/JB/LS3/13723/2022 dated 4/9/2023 of the Managing Director, KWA, Thiruvananthapuram.
 6. Order No. WS- C3/237/2023-WRD dated 23-6-2023 of Addl.Chief Secretary to Government, Water Resources Department, TVM.
 7. Order No. WS- C3/237/2023-WRD dated 29-7-2023 of Secretary to Government, Water Resources Department, Thiruvananthapuram.

With reference to the above you are hereby informed that your tender Joint Venture with M/s.Veiji Ratna Sorathia Infra Pvt. Ltd. for the above work is accepted for an amount of **₹ 54,98,09,158/- (Rupees Fifty Four Crore Ninety Eight Lakh Nine Thousand One Hundred Fifty Eight Only)**.

You are directed to attend this office within **14 days from the date of receipt of this order** with the required Kerala Stamp paper to execute an agreement and start the work within 10 days after getting necessary instructions from the **Executive Engineer, KWA, WS Division, Taliparamba**.

1. The work agreement should be executed in stamp paper costing 0.1% of the contract value (minimum ₹200/-maximum ₹1.00 Lakh). For this work the amount is ₹1,00,000/-
2. Before executing the agreement on Stamp paper you should remit Performance Guarantee for an amount of **₹2,74,90,458/- (Rupees Two Crore Sevanty Four Lakh Ninety Thousand Four Hundred Seventy Five Eight Only)** for a period of not less than **36 months** from the date of this work order. At least 50% of this deposit shall be in the form of treasury fixed deposit and the rest in the form of guarantee issued from any-

Nationalized -Bank / Scheduled Bank/ Kerala Financial Corporation or any other forms prescribed in the revised Kerala PWD manual. The pass book is to be duly pledged in favour of Superintending Engineer, PH Circle, Kannur for the fulfilment of the contract.

3. Any failure in this direction will be liable to result the forfeiture of your special and permanent Earnest Money and the cancellation of the proposed contract and the contractor shall be liable to pay the Kerala Water Authority the entire loss that maybe caused to Authority by the re-tender or re-arrangements of the work or otherwise consequent on the contractor's failure to execute the agreement or execute the work as provided for in the clause 13 of the Notice inviting tender and all such loss shall be recovered from the contractor under the provision of the Revenue Recovery Act or otherwise.
4. It must be understood that on no account will rates once fixed be increased.
5. The work should be completed in all respects within **12 months** from the date of this Order.
6. Time of executing Agreement
Execution of agreement for works will be made within the time limit prescribed as follows.
 - a. Time allowed for executing agreement without fine will be 15 days from the date of receipt selection notice.
 - b. Further time of 10 days shall be allowed to execute agreement by realising a fine of 1% of PAC subject to a minimum of ₹500/- and maximum of ₹15,000/-.
 - c. Tenders will be rejected if agreement is not executed within 30 days and work will be awarded to the next lowest tender as per existing rules.
7. All the terms and conditions of the Notice Inviting Tenders (NIT Vol I & Vol II) shall be binding on the contract. The work should be carried out fully in accordance with NIT Vol.II and the sanctioned estimate.
8. Supply order of materials including pipes shall be given according to the phased supply schedule prepared by the agreement authority vide Clause No.9.14.1.1. to 9.14.1.6 of NIT Vol I.
9. The awarded amount is exclusive of GST. After arriving the value of work done without GST, the prevailing GST as applicable shall be paid to the Contractor.
Acc: Accepted Schedule



SUPERINTENDING ENGINEER

KWA, P.H.CIRCLE, KANNUR-12

(For and on behalf of the Kerala Water authority)

Copy submitted to the Managing Director KWA, Thiruvananthapuram with copy of accepted Schedule

Copy submitted to the Chief Engineer(NR), KWA, Kozhikode with copy of accepted schedule.

Copy to the Resident Audit Officer, KWA, Thiruvananthapuram with copy of accepted schedule.

Copy to the Executive Engineer, KWA, WS Division, Taliparamba with copy of accepted schedule..

Copy to the Assistant Executive Engineer, KWA, HW Sub Division, Irikkur with copy of accepted schedule.

Copy to the Assistant Engineer, KWA , HW Section , Irikkur with copy of accepted schedule.

Copy to Agreement

SPECIAL CONDITION

General

**Extension of time of completion of work and fine will be as per GO(P)
No,84/97/PW&T dated 19/8/1997**

1. Termination of contract

The present system of risk and cost termination will continue.

2. The valves and specials such as bends, tee etc shall conform to relevant IS standards and shall bear ISI/ISO markings. The name and manufacture/Registered trade mark and Hydraulic proof test shall be marked on such special/fittings.
3. The supplied specials should be tested as per relevant specification and relevant code of practice. The certificate of testing should be authenticated by technically qualified officer of Kerala Water Authority.
4. The valves shall be supplied with two coats of black Japan paint conforming to type B of IS 31/197 or paint conforming to IS 9862/1981.
5. The sizes, tolerances, weights, inspection and testing, coating and making shall be strictly as per relevant clause of ISS. The valves to be suitable for use in horizontal, vertical and inclined position.
6. For all works , the total quantity of RCC is more than 15.0m³, mix design shall be done through the contractor. The department officers have to check and approve the mix so designed.
7. The mix shall be designed in accordance with the relevant clause of IS 456 2000 (refer table 3, table 5 and clause 7 of the code)
8. All pipes as per the scope of the work supplied should be factory tested and test certificate as per relevant specification/latest code of practice should be produced along with the pipe supplied. The testing of pipes and the authentication of test certificate should be done by an approved third party inspection agency agreeable to KWA and witnessed by the technically qualified officers of KWA, if the contract value exceeds `100 lakhs and by a Departmental Officer deputed by KWA if the contract value is less than `100 lakhs. In case the pipes are imported from abroad, samples for metallurgical and mechanical tests shall be taken from pipes selected at random and the final acceptance of the pipes will be based on the results of such tests conducted at any of the reputed laboratories.

9. The valves and specials such as bends, tee etc shall conform to relevant IS standards and shall bear ISI/ISO markings. These shall be of flanged type unless state otherwise.
10. The GI pipes and fittings to be supplied should be as per relevant specifications.
11. The pipes shall legibly marked with manufacturers name or trade mark, nominal size (as per relevant ISS), class & grade, relevant ISI/ISO markings.
12. Under no circumstances, any price variations shall be allowed for the pipes and other materials to be supplied and the prices quoted shall remain firm.
13. Before the delivery of pipe, a KWA Engineer has to witness the entire test at factory. The Certificate should be attached along with the bill.
14. As per Jal Jeevan Mission guide lines 10% of the cost of project will be raised through beneficiary contribution in the form of cash and / or kind and / or labour. Hence if beneficiary contribution is in any forms others than cash such things will be considered in such a way that measurements will be made separately as per KWA rates and deducted from the payment due to Contractors. In any way the total beneficiary contribution in the form of cash and / or kind and / or labour should be 10% of the total project cost.
15. FHTC works will be treated as completed only on effecting the water connection, commissioning and Geo tagging of each connection as directed by Engineer in charge of the work.
16. No tender excess or below will be applicable for statutory items of KWA connection fee upto 30m length of connection and above 30m length of connection included in the schedule of work as the case may be. The amount of such fee included in the schedule of items of work shall be remitted to KWA exactly as per schedule rate.
17. Direct house connection from existing lines, inter connection works etc. which can provide maximum number of FHTCs should be attended first as far as possible, since the aim of JJM is to provide maximum FHTCs as early as possible.
18. For each FHTC, Consumer Number shall be marked on the Meter Cover / Meter Box using permanent markers / paints / stencils as per the direction of the Engineer in charge.
19. If any leakage and breakage occurs in the existing pipe line during execution of work it should be repaired within 24 hours by the contractor as per the direction of the Departmental Officer concerned. If the repair work is not done

rectification will be carried out departmentally and the actual cost incurred for the repair will be recovered from the contractors claim.

20. The quantities of items / materials given in the schedule of items are only approximate quantities. Contractors are advised to make actual requirement assessment at site before ordering for the purchase of materials.
21. All existing rules in KWA for water connection are to be followed while effecting connections. Preparation and submission of files for providing FHTCs to the beneficiaries selected by Grama Panchayath and approved by KWA shall be accompanied with all documents necessary for obtaining KWA water connection as directed by Engineer in charge. FHTCs shall be effected after getting necessary approvals from Engineer in charge.


SUPERINTENDING ENGINEER


KERALA WATER AUTHORITY
P.H.CIRCLE, KANNUR
ACCEPTED SCHEDULE

NAME OF WORK:Jal Jeevan Mission- Kannur District- Chengalayi Grama Panchayath-WSS to Chengalayi Panchayath –Construction of 2 Nos.OHSR, Supplying and laying Gravity main,Pumping main,Supply and erection of pumpsets & Laying Distribution system and providing FHTCs

SI No.	Description of work	Quantity	Unit	Rate(in Rupees)		Aamount Rs.
				(in figures) Rs.	(in words)	
1	APPENDIX -A- LAYING GRAVITY MAIN FROM EXISTING OHSR AT KOONAM TO OHSR AT KIRATH -COST OF MATERIALS					
1.01	Supply of DI K9 Pipe Conforming to IS 8329/2000, 300mm Dia.	4840.000	metre	3537.65	(Rupees three thousand five hundred thirty seven and paise sixty five only)	₹ 1,71,22,226
1.02	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.6, Size 300mm.	3.000	No	22275.80	(Rupees twenty two thousand two hundred seventy five and paise eighty only)	₹ 66,827.40
1.03	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.6, Size 200mm.	4.000	No	11938.60	(Rupees eleven thousand nine hundred thirty eight and paise sixty only)	₹ 47,754.40
1.04	Supply of CI Air Valve, Conforming to IS 14848 - 2000, Kinetic Air Valve Type DK, Size 80mm.	7.000	No	5691.80	(Rupees five thousand six hundred ninety one and paise eighty only)	₹ 39,842.60
1.05	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.6, Size 80mm.	7.000	No	3131.05	(Rupees three thousand one hundred thirty one and paise five only)	₹ 21,917.35
2	APPENDIX -A1 -LAYING GRAVITY MAIN FROM EXISTING OHSR AT KOONAM TO OHSR AT KIRATH -WORKING CHARGES					
2.01	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	2420.000	cum	548.59	(Rupees five hundred forty eight and paise fifty nine only)	₹ 13,27,587.80
2.02	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 :"Ordinary Rock.	1815.000	cum	796.710	(Rupees seven hundred ninety six and paise seventy one only)	₹ 14,46,028.65

2.03	"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 :Medium Rock (blasting prohibited)	1512.500	cum	1324.870	(Rupees one thousand three hundred twenty four and paise eighty seven only)	₹ 20,03,865.88
2.04	"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 : Hard Rock(Blasting Prohibited)	302.500	cum	1536.9000	(Rupees one thousand five hundred thirty six and paise ninety only)	₹ 4,64,912.25
2.05	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.	600.000	Kwh	36.4900	(Rupees thirty six and paise forty nine only)	₹ 21,894.00
2.06	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.	1694.000	metre	27.7800	(Rupees twenty seven and paise seventy eight only)	₹ 47,059.32
2.07	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.	484.000	metre	95.4700	(Rupees ninety five and paise forty seven only)	₹ 46,207.48
2.08	Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials : 300 mm dia Ductile Iron Class K-9 Pipes	4840.000	metre	202.5900	(Rupees two hundred two and paise fifty nine only)	₹ 9,80,535.60
2.09	Providing and laying D.I specials of class K - 12 suitable for push - on jointing as per IS : 9523 :	25.771	quintal	19870.7600	(Rupees nineteen thousand eight hundred seventy and paise seventy six only)	₹ 5,12,089.36
2.1	Providing and laying D.I Specials of Class K - 12 suitable for mechanical jointing as per IS : 9523 :	12.600	quintal	20881.710	(Rupees twenty thousand eight hundred eighty one and paise seventy one only)	₹ 2,63,109.55
2.11	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	930.000	joint	407.46	(Rupees four hundred seven and paise forty six only)	₹ 3,78,937.80
2.12	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:300 mm diameter pipe	30.000	Nos	571.220	(Rupees five hundred seventy one and paise twenty two only)	₹ 17,136.60
2.13	Labour for cutting D.I. pipe with steel saw. 300 mm diameter D.I. pipe	40.000	Each Cut	635.4100	(Rupees six hundred thirty five and paise forty one only)	₹ 25,416.40
2.14	Testing 300mm DI/CI pipeline with potable water to the required test pressure. 300 mm dia	4840.000	metre	54.960	(Rupees fifty four and paise ninety six only)	₹ 2,66,006.40

2.15	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	1690.000	sqm	151.0400	(Rupees one hundred fifty one and paise four only)	₹ 2,55,257.60
2.16	Supply ,stacking,spreading and consolidating of Red earth in the trench of pipe line for cushion including carriage, loading ,unloading & stacking up to any lead.	240.000	cum	350.750	(Rupees three hundred fifty and paise seventy five only)	₹ 84,180.00
2.17	"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) :300 mm diameter. Class I"	3.000	Nos	2562.1100	(Rupees two thousand five hundred sixty two and paise eleven only)	₹ 7,686.33
2.18	"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 I"	4.000	Nos	1538.240	(Rupees one thousand five hundred thirty eight and paise twenty four only)	₹ 6,152.96
2.19	"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) :80 mm diameter. Class I"	7.000	Nos	580.660	(Rupees five hundred eighty and paise sixty six only)	₹ 4,064.62
2.20	Conveying and fixing C I Single acting Air Valve of approved quality with bolts,nuts,rubber insertions etc . excluding the cost of air valve(the tail pieces if required will be paid seperately): 80 mm Double acting Air Valve	7.000	Nos	216.8500	(Rupees two hundred sixteen and paise eighty five only)	₹ 1,517.95
2.21	Fabricating MS pipes of size 300mm (ID) using 8 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	70.000	metre	7715.120	(Rupees seven thousand seven hundred fifteen and paise twelve only)	₹ 5,40,058.40
2.22	Fabricating MS flanges of diameter 300 mm using 12 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	10.000	Nos	2876.42	(Rupees two thousand eight hundred seventy six and paise forty two only)	₹ 28,764.20
2.23	Cutting 300 mm (ID) MS pipes for making bends and other specials by gas cutting including cost of gas, all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	20.000	No	305.76	(Rupees three hundred five and paise seventy six only)	₹ 6,115.20
2.24	Welding 300 mm (ID) MS pipes for making bends and other specials by gas/electric welding machine including cost of gas and welding rods ,all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	40.000	No	1169.75	(Rupees one thousand one hundred sixty nine and paise seventy five only)	₹ 46,790.00
2.25	Grinding cut and weld edges of 300 mm (ID) MS pipes during fabrication work including all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	40.000	No	219.33	(Rupees two hundred nineteen and paise thirty three only)	₹ 8,773.20

2.26	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 manufacturer should have the calibration standard as per ISO 17.0.25 and the product shall have sufficient warranty provisions.	1.000	No	187450.00	(Rupees one Lakhs eighty seven thousand four hundred fifty only)	₹ 1,87,450.00
2.27	Providing push through arrangements for BM & BC Roads for 500 mm casing pipe	15.000	metre	19778.54	(Rupees nineteen thousand seven hundred seventy eight and paise fifty four only)	₹ 2,96,678.10
2.28	Fabricating MS pipes of size 500mm (ID) using 10 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 10mm thick MS plates.	15.000	metre	13838.57	(Rupees thirteen thousand eight hundred thirty eight and paise fifty seven only)	₹ 2,07,578.55
2.29	Cutting 500 mm (ID) MS pipes for making bends and other specials by gas cutting including cost of gas, all labour and hire charges of tools etc. complete: For pipes fabricated with 10mm thick MS plates.	3.000	No	503.13	(Rupees five hundred three and paise thirteen only)	₹ 1,509.39
2.30	Welding 500 mm (ID) MS pipes for making bends and other specials by gas/electric welding machine including cost of gas and welding rods, all labour and hire charges of tools etc. complete: For pipes fabricated with 10mm thick MS plates.	6.000	No	1924.95	(Rupees one thousand nine hundred twenty four and paise ninety five only)	₹ 11,549.70
2.31	Grinding cut and weld edges of 500 mm (ID) MS pipes during fabrication work including all labour and hire charges of tools etc. complete: For pipes fabricated with 10mm thick MS plates.	6.000	No	360.93	(Rupees three hundred sixty and paise ninety three only)	₹ 2,165.58
2.32	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	96.001	cum	293.24	(Rupees two hundred ninety three and paise twenty four only)	₹ 28,151.33

2.33	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 from 1.5 m up to 3.0 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.	18.432	cum	398.29	(Rupees three hundred ninety eight and paise twenty nine only)	₹ 7,341.28
2.34	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 40 mm nominal size)	7.993	cum	7121.27	(Rupees seven thousand one hundred twenty one and paise twenty seven only)	₹ 56,920.31
2.35	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)	99.356	cum	8481.43	(Rupees eight thousand four hundred eighty one and paise forty three only)	₹ 8,42,680.96
2.36	Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete	666.543	sqm	331.13	(Rupees three hundred thirty one and paise thirteen only)	₹ 2,20,712.38
2.37	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	40.364	cum	8971.90	(Rupees eight thousand nine hundred seventy one and paise ninety only)	₹ 3,62,141.77
2.38	Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	219.520	sqm	708.26	(Rupees seven hundred eight and paise twenty six only)	₹ 1,55,477.24
2.39	Centering and shuttering including strutting, etc. and removal of form work	68.600	sqm	805.61	(Rupees eight hundred five and paise sixty one only)	₹ 55,264.85
2.40	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	6490.340	kilogram	97.08	(Rupees ninety seven and paise eight only)	₹ 6,30,082.21
2.41	Supplying and fixing 500mm dia CI manhole cover with frame(medium duty) charges including all cost, labour charges etc complete.	15.000	Nos	7413.51	(Rupees seven thousand four hundred thirteen and paise fifty one only)	₹ 1,11,202.65
2.42	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:	182.250	cum	7114.98	(Rupees seven thousand one hundred fourteen and paise ninety eight only)	₹ 12,96,705.11
3	APPENDIX-B- CONSTRUCTION OF 12.5 LL OHSR AT KIRATH				zero	₹ 0.00
3.01	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	725.000	sqm	14.60	(Rupees fourteen and paise sixty only)	₹ 10,585.00

3.02	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	134.903	cum	293.24	(Rupees two hundred ninety three and paise twenty four only)	₹ 39,558.96
3.03	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	352.868	cum	409.67	(Rupees four hundred nine and paise sixty seven only)	₹ 1,44,559.43
3.04	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 from 1.5m up to 3.0 m, disposed earth to be levelled and neatly dressed: Ordinary rock.	357.476	cum	398.29	(Rupees three hundred ninety eight and paise twenty nine only)	₹ 1,42,379.12
3.05	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)1 cement : 2 coarse sand : 4 graded stone aggregate 40 mm nominal size)	45.992	cum	7765.26	(Rupees seven thousand seven hundred sixty five and paise twenty six only)	₹ 3,57,139.84
3.06	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	154.231	cum	9762.78	(Rupees nine thousand seven hundred sixty two and paise seventy eight only)	₹ 15,05,723.32
3.07	Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete	276.920	sqm	331.13	(Rupees three hundred thirty one and paise thirteen only)	₹ 91,696.52
3.08	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	7.716	cum	8971.90	(Rupees eight thousand nine hundred seventy one and paise ninety only)	₹ 69,227.18

3.09	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	368.751	cum	11394.29	(Rupees eleven thousand three hundred ninety four and paise twenty nine only)	₹ 42,01,655.83
3.10	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).	522.982	cum	81.08	(Rupees eighty one and paise eight only)	₹ 42,403.38
3.11	Providing and mixing integral crystalline admixture for waterproofing treatment toRCC structures like basement raft, retaining walls, reservoir, sewage & watertreatment plant, tunnels / subway and bridge deck etc.. at the time of transportingof concrete into the drum of the ready-mix truck , using integral crystalline admixture@0.80% (minimum) to the weight of cement content per cubic meter of concrete)or higher as recommended by the manufacturer's specification in reinforced cementconcrete at site of work. The material shall meet the requirements as specified inACI-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 hydrostaticpressure. The crystalline admixture shall be capable of self-healing of cracks up toa width of 0.50mm. The work shall be carried out all complete as per specificationand the direction of the Engineer-in-charge. The product performance shall carryguarantee for 10 years against any leakage.	601.000	kg	450.10	(Rupees four hundred fifty and paise ten only)	₹ 2,70,510.10
3.12	Providing and Placing in position suitable PVC water stops conforming to IS : 12200 for construction / expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete:Serrated with central bulb (225 mm wide, 8-11 mm thick)	207.200	metre	329.19	(Rupees three hundred twenty nine and paise nineteen only)	₹ 68,208.17

3.130	Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	880.356	sqm	708.26	(Rupees seven hundred eight and paise twenty six only)	₹ 6,23,520.94
3.14	Centering and shuttering including strutting, etc. and removal of form for:Columns, Pillars, Piers, Abutments, Posts and Struts	223.201	sqm	852.88	(Rupees eight hundred fifty two and paise eighty eight only)	₹ 1,90,363.67
3.15	Centering and shuttering including strutting, etc. and removal of form for:	497.000	sqm	641.72	(Rupees six hundred forty one and paise seventy two only)	₹ 3,18,934.84
3.16	Centering and shuttering including strutting, etc. and removal of form for:	1059.063	sqm	805.61	(Rupees eight hundred five and paise sixty one only)	₹ 8,53,191.74
3.17	Centering and shuttering including strutting, etc. and removal of form for:Stairs, (excluding landings) except spiral - staircases)	177.105	sqm	723.39	(Rupees seven hundred twenty three and paise thirty nine only)	₹ 1,28,115.99
3.18	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer.	369.721	kg	183.71	(Rupees one hundred eighty three and paise seventy one only)	₹ 67,921.44
3.19	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	10727.821	kilogram	97.08	(Rupees ninety seven and paise eight only)	₹ 10,41,456.86
3.20	Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete above plinth level.Thermo - Mechanically Treated bars of grade Fe-500D or more	37290.562	kg	97.08	(Rupees ninety seven and paise eight only)	₹ 36,20,167.76
3.21	Laterate masonry with neatly dressed laterate stone of size 40x20x15cm or nearest size in cement mortar 1:6 for foundation and basement including all cost of materials, labour charges etc.	18.000	cum	7159.07	(Rupees seven thousand one hundred fifty nine and paise seven only)	₹ 1,28,863.26
3.22	12 mm cement plaster of mix:1:3	2205.582	sqm	310.18	(Rupees three hundred ten and paise eighteen only)	₹ 6,84,127.42
3.23	12 mm cement plaster finished with a floating coat of neat cement of mix:	1073.676	sqm	396.21	(Rupees three hundred ninety six and paise twenty one only)	₹ 4,25,401.17
3.24	Extra for providing and mixing water proofing material in cement plaster work in proportion recommended by the manufacturers.	962.670	kg	1.41	(Rupees one and paise forty one only)	₹ 1,357.36
3.25	Finishing walls with water proofing cement paint of required shade:New work (Two or more coats applied @ 3.84 kg/10 sqm)	2205.580	sqm	106.05	(Rupees one hundred six and paise five only)	₹ 2,33,901.76

3.26	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.80x1.20 mm M.S. laths with 1.20 mm thick top cover	7.500	sqm	3258.99	(Rupees three thousand two hundred fifty eight and paise ninety nine only)	₹ 24,442.43
3.27	Providing and fixing M.S. Grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.	3.000	kg	213.30	(Rupees two hundred thirteen and paise thirty only)	₹ 639.90
3.28	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS : 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing /paneling, C.P. brass/ stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge.(Glazing, paneling and dash fasteners to be paid for separately):For fixed portionPowder coated aluminium (minimum thickness of powder coating 50 micron)	53.971	kg	530.38	(Rupees five hundred thirty and paise thirty eight only)	₹ 28,625.14
3.29	For shutters of doors, windows & ventilators including providing and fixing hinges / pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber/ neoprene gasket required (Fittings shall be paid for separately)Powder coated aluminium (minimum thickness of powder coating 50 micron)	20.250	kg	635.09	(Rupees six hundred thirty five and paise nine only)	₹ 12,860.57
3.3	Providing and fixing 12 mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS : 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of Engineer - in- Charge.Pre-laminated particle board with decorative lamination on one side and balancing lamination on other side	1.000	sqm	1159.77	(Rupees one thousand one hundred fifty nine and paise seventy seven only)	₹ 1,159.77

3.31	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of Engineer - in -Charge. (Cost of aluminium snap beading shall be paid in basic item):With float glass panes of 4.0 mm thickness	4.816	sqm	1161.98	(Rupees one thousand one hundred sixty one and paise ninety eight only)	₹ 5,596.10
3.32	Supplying and fixing 500mm dia CI manhole cover with frame(medium duty) charges including all cost, labour charges etc complete.	6.000	Nos	7413.51	(Rupees seven thousand four hundred thirteen and paise fifty one only)	₹ 44,481.06
3.330	Supplying and fixing 300mm wall casting pipe to floor slab or side wall of tank	2.000	L.S	8771.95	(Rupees eight thousand seven hundred seventy one and paise ninety five only)	₹ 17,543.90
3.34	Supplying and fixing 200mm wall casting pipe to floor slab or side wall of tank	2.000	No	6560.20	(Rupees six thousand five hundred sixty and paise twenty only)	₹ 13,120.40
3.35	Supplying and fixing 450mm wall casting pipe to floor slab or side wall of tank	3.000	L.S	17748.30	(Rupees seventeen thousand seven hundred forty eight and paise thirty only)	₹ 53,244.90
3.36	Supplying and fixing 350 mm wall casting pipe to floor slab or side wall of tank	2.000	L.S	10773.38	(Rupees ten thousand seven hundred seventy three and paise thirty eight only)	₹ 21,546.76
3.37	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)"	1250.000	Kilo litre	183.52	(Rupees one hundred eighty three and paise fifty two only)	₹ 2,29,400.00
3.38	Fabricating, supplying and fixing water level indicator for Tank/sump 3.0m long using 30x30x5 mm MS angle framework, graduations are marked on hylam sheet using weather proof stickers, moving MS plate indicator with reflective stickers, counter weight ball in perforated PVC pipe 140mm size connected with plastic twine running through brass pulley and all arrangements are enclosed in casing pipe etc complete	2.000	No	10000.00	(Rupees ten thousand only)	₹ 20,000.00
3.39	Supplying and fixing Lightning Arrestor including lightning conductor of GI 7/10" SWG (10mm) diameter standard wire with lightning rod of 25mm diameter, 0.9 meters long with earth electrode 25mm diameter, 2.75 meters long GI pipe from ground level connecting 50mm diameter, 1.40 meters long perforated GI pipe including fixing of clamps as per IS:2309. fixing all accessories etc complete	1.000	No	50000.00	(Rupees fifty thousand only)	₹ 50,000.00
3.40	"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 I"	2.000	Nos	1538.24	(Rupees one thousand five hundred thirty eight and paise twenty four only)	₹ 3,076.48

3.41	Preparation of structural Design and drawing of 12.5Lakh litres OHSR	1.000	L.S	87500.00	(Rupees eighty seven thousand five hundred only)	₹ 87,500.00
4	APPENDIX-B1-CONSTRUCTION OF 12.5LL OHSR AT KIRATH -COST OF SPECIALS					
4.010	Providing and laying Double Flanged (Screwed / Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS: 8329 :	16.000	metre	3372.47	(Rupees three thousand three hundred seventy two and paise forty seven only)	₹ 53,959.52
4.02	Providing and laying Double Flanged (Screwed / Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS: 8329 :	14.000	metre	6145.88	(Rupees six thousand one hundred forty five and paise eighty eight only)	₹ 86,042.32
4.03	Providing and laying Double Flanged (Screwed / Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS: 8329 :	16.000	metre	9928.62	(Rupees nine thousand nine hundred twenty eight and paise sixty two only)	₹ 1,58,857.92
4.04	Providing and laying Double Flanged (Screwed / Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS: 8329 :	16.000	metre	10467.77	(Rupees ten thousand four hundred sixty seven and paise seventy seven only)	₹ 1,67,484.32
4.05	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.6, Size 200mm.	2.000	No	11938.60	(Rupees eleven thousand nine hundred thirty eight and paise sixty only)	₹ 23,877.20
4.06	Providing and laying D.I specials of class K - 12 suitable for push - on jointing as per IS : 9523 :	11.840	quintal	19870.76	(Rupees nineteen thousand eight hundred seventy and paise seventy six only)	₹ 2,35,269.80
5	APPENDIX-B2- CONSTRUCTION OF COMPOUND WALL AT OHSR KIRATH					
5.01	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	46.440	cum	409.67	(Rupees four hundred nine and paise sixty seven only)	₹ 19,025.07
5.02	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 40 mm nominal size)	7.290	cum	7121.27	(Rupees seven thousand one hundred twenty one and paise twenty seven only)	₹ 51,914.06
5.03	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:	34.200	cum	7114.98	(Rupees seven thousand one hundred fourteen and paise ninety eight only)	₹ 2,43,332.32
5.040	Laterate masonry with neatly dressed laterate stone of size 40x20x15cm or nearest size in cement mortar 1:6 for foundation and basement including all cost of materials, labour charges etc.	39.481	cum	7159.07	(Rupees seven thousand one hundred fifty nine and paise seven only)	₹ 2,82,647.24

5.05	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)	2.173	cum	8971.90	(Rupees eight thousand nine hundred seventy one and paise ninety only)	₹ 19,495.94
5.06	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)	1.512	cum	7891.26	(Rupees seven thousand eight hundred ninety one and paise twenty six only)	₹ 11,931.59
5.07	Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete	27.602	sqm	331.13	(Rupees three hundred thirty one and paise thirteen only)	₹ 9,139.85
5.08	Centering and shuttering including strutting, etc. and removal of form for:Columns, Pillars, Piers, Abutments, Posts and Struts	5.761	sqm	852.88	(Rupees eight hundred fifty two and paise eighty eight only)	₹ 4,913.44
5.09	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	108.650	kilogram	97.08	(Rupees ninety seven and paise eight only)	₹ 10,547.74
5.10	12 mm cement plaster of mix: 1:3	390.269	sqm	310.18	(Rupees three hundred ten and paise eighteen only)	₹ 1,21,053.64
5.11	Colour washing such as green, blue or buff to give an even shade:New work (two or more coats) with a base coat of white washing with lime	390.269	sqm	45.26	(Rupees forty five and paise twenty six only)	₹ 17,663.57
5.12	Steel work welded in built up sections/framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.	168.000	kg	152.24	(Rupees one hundred fifty two and paise twenty four only)	₹ 25,576.32
5.13	Finishing with Deluxe Multi surface paint system for interiors and exteriors using primer as per manufacturers specifications:Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied @ 0.80 ltr/10 sqm of approved brand and manufacture	6.000	sqm	146.29	(Rupees one hundred forty six and paise twenty nine only)	₹ 877.74
5.140	Supplying at site Angle iron post & strut of required size including bottom to be split and bent at right angle in opposite direction for 10 cm length and drilling holes upto 10 mm dia. etc. complete.	409.500	kilogram	107.39	(Rupees one hundred seven and paise thirty nine only)	₹ 43,976.21

5.15	Fencing with angle iron post placed at required distance embedded in cement concrete blocks, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on one side only and provided with horizontal lines and two diagonals interwoven with horizontal wires, of barbed wire weighing 9.38 kg per 100 metres (minimum), between the two posts fitted and fixed with G.I. staples, turn buckles etc. complete. (Cost of posts, struts, earth work and concrete work to be paid for serarately) :- Payment to be made per metre cost of total length of barbed wire used.	456.000	metre	22.16	(Rupees twenty two and paise sixteen only)	₹ 10,104.96
5.16	Providing and laying 60 mm thick factory made cement concrete interlocking paver block of M - 30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required 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.	544.250	sqm	998.96	(Rupees nine hundred ninety eight and paise ninety six only)	₹ 5,43,683.98
6	APPENDIX-C-PUMPING MAIN FROM OHSR AT KIRATH TO OHSR AT MAVILAMPARA					
6.01	Supply of DI K9 Pipe Conforming to IS 8329/2000, 150mm Dia.	7800.000	metre	1673.35	(Rupees one thousand six hundred seventy three and paise thirty five only)	₹ 1,30,52,130
6.02	Supply of CI Non Return Valve, Conforming to IS 5312 Part I - 1984, PN 1.0, Size 150mm.	1.000	No	8318.30	(Rupees eight thousand three hundred eighteen and paise thirty only)	₹ 8,318.30
6.03	Supply of CI Air Valve with Flanges, Conforming to IS 14845 - 2000, Kinetic Air Valve Type DS2, Size 80mm.	8.000	No	4367.90	(Rupees four thousand three hundred sixty seven and paise ninety only)	₹ 34,943.20
6.04	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.6, Size 80mm.	8.000	No	3131.05	(Rupees three thousand one hundred thirty one and paise five only)	₹ 25,048.40
6.05	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.6, Size 100mm.	4.000	No	4186.85	(Rupees four thousand one hundred eighty six and paise eighty five only)	₹ 16,747.40
6.06	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.6, Size 150mm.	5.000	No	6770.65	(Rupees six thousand seven hundred seventy and paise sixty five only)	₹ 33,853.25
6.07	Supplying a 150mm 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	2.000	No	28750.00	(Rupees twenty eight thousand seven hundred fifty only)	₹ 57,500.00
6.08	C.I .Spring loaded Angle type pressure relief valve 100 mm	3.000	No	9477.84	(Rupees nine thousand four hundred seventy seven and paise eighty four only)	₹ 28,433.52

6.09	Providing and fixing C.I dirt box strainer for bulk type water meter with nuts, bolts, rubber insertions etc. complete conforming to IS : 2373 :	2.000	No	9700.79	(Rupees nine thousand seven hundred and paise seventy nine only)	₹ 19,401.58
7	APPENDIX C1- PUMPING MAIN FROM OHSR AT KIRATH TO OHSR AT MAVILAMPARA -WORKING CHARGES					
7.01	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	1965.601	cum	548.59	(Rupees five hundred forty eight and paise fifty nine only)	₹ 10,78,309.05
7.02	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 : "Ordinary Rock.	1719.900	cum	796.71	(Rupees seven hundred ninety six and paise seventy one only)	₹ 13,70,261.53
7.03	"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 :Medium Rock (blasting prohibited)	982.801	cum	1324.87	(Rupees one thousand three hundred twenty four and paise eighty seven only)	₹ 13,02,083.56
7.04	"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 : Hard Rock(Blasting Prohibited)	245.701	cum	1536.90	(Rupees one thousand five hundred thirty six and paise ninety only)	₹ 3,77,617.87
7.05	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	7800.000	metre	86.57	(Rupees eighty six and paise fifty seven only)	₹ 6,75,246.00
7.06	Providing and laying D.I specials of class K - 12 suitable for push - on jointing as per IS : 9523 :	12.411	quintal	19870.76	(Rupees nineteen thousand eight hundred seventy and paise seventy six only)	₹ 2,46,616.00

7.07	Providing and laying D.I Specials of Class K - 12 suitable for mechanical jointing as per IS : 9523 :	7.001	quintal	20881.71	(Rupees twenty thousand eight hundred eighty one and paise seventy one only)	₹ 1,46,192.85
7.08	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:150 mm diameter pipe	20.000	Nos	380.61	(Rupees three hundred eighty and paise sixty one only)	₹ 7,612.20
7.09	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:150 mm dia pipes	1520.000	joint	174.20	(Rupees one hundred seventy four and paise twenty only)	₹ 2,64,784.00
7.10	Labour for cutting 150 mm DI pipe	40.000	No	318.92	(Rupees three hundred eighteen and paise ninety two only)	₹ 12,756.80
7.11	Testing 150mm DI/CI pipeline with potable water to the required test pressure 150 mm dia	7800.000	metre	31.18	(Rupees thirty one and paise eighteen only)	₹ 2,43,204.00
7.12	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	2730.000	metre	27.78	(Rupees twenty seven and paise seventy eight only)	₹ 75,839.40
7.13	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.	780.000	metre	95.47	(Rupees ninety five and paise forty seven only)	₹ 74,466.60
7.14	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.	100.000	Kwh	36.49	(Rupees thirty six and paise forty nine only)	₹ 3,649.00
7.15	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	315.000	sqm	151.04	(Rupees one hundred fifty one and paise four only)	₹ 47,577.60
7.16	Supply ,stacking,spreading and consolidating of Red earth in the trench of pipe line for cushion including carriage, loading ,unloading & stacking up to any lead.	180.000	cum	350.75	(Rupees three hundred fifty and paise seventy five only)	₹ 63,135.00
7.17	"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) :80 mm diameter. Class I"	8.000	Nos	580.66	(Rupees five hundred eighty and paise sixty six only)	₹ 4,645.28
7.18	"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 mm diameter. Class I"	4.000	Nos	875.51	(Rupees eight hundred seventy five and paise fifty one only)	₹ 3,502.04
7.19	Conveying and fixing C.I. sluice valves (with cap) by providing co	6.000	Nos	1185.75	(Rupees one thousand one hundred eighty five and paise seventy five only)	₹ 7,114.50
7.20	Conveying and fixing C I Single acting Air Valve of approved quality with bolts,nuts,rubber insertions etc . excluding the cost of air valve(the tail pieces if required will be paid seperately): 80 mm Double acting Air Valve	8.000	Nos	216.85	(Rupees two hundred sixteen and paise eighty five only)	₹ 1,734.80

7.21	Fabricating MS pipes of size 150mm (ID) using 8 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	80.000	metre	4895.65	(Rupees four thousand eight hundred ninety five and paise sixty five only)	₹ 3,91,652.00
7.22	Fabricating MS flanges of diameter 150 mm using 12 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	8.000	No	1469.42	(Rupees one thousand four hundred sixty nine and paise forty two only)	₹ 11,755.36
7.23	Cutting 150mm (ID)MS pipes for making bends and other specials by gas cutting including cost of gas, all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	8.000	No	160.61	(Rupees one hundred sixty and paise sixty one only)	₹ 1,284.88
7.24	Welding 150mm (ID) MS pipes for making bends and other specials by gas/electric welding machine including cost of gas and welding rods ,all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	16.000	No	614.47	(Rupees six hundred fourteen and paise forty seven only)	₹ 9,831.52
7.25	Grinding cut and weld edges of 150mm (ID) MS pipes during fabrication work including all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	16.000	No	115.22	(Rupees one hundred fifteen and paise twenty two only)	₹ 1,843.52
7.26	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	164.235	cum	293.24	(Rupees two hundred ninety three and paise twenty four only)	₹ 48,160.27
7.270	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 40 mm nominal size)	22.718	cum	7121.27	(Rupees seven thousand one hundred twenty one and paise twenty seven only)	₹ 1,61,781.01
7.28	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)	59.736	cum	8481.43	(Rupees eight thousand four hundred eighty one and paise forty three only)	₹ 5,06,646.70
7.29	Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete	310.661	sqm	331.13	(Rupees three hundred thirty one and paise thirteen only)	₹ 1,02,869.18
7.30	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	61.295	cum	8971.90	(Rupees eight thousand nine hundred seventy one and paise ninety only)	₹ 5,49,932.61

7.31	Centering and shuttering including strutting, etc. and removal of form for: Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.	392.840	sqm	708.26	(Rupees seven hundred eight and paise twenty six only)	₹ 2,78,232.86
7.32	Centering and shuttering including strutting, etc. and removal of form for:	44.161	sqm	805.61	(Rupees eight hundred five and paise sixty one only)	₹ 35,576.54
7.33	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	6067.141	kilogram	97.08	(Rupees ninety seven and paise eight only)	₹ 5,88,998.05
7.34	Supplying and fixing 500mm dia CI manhole cover with frame(medium duty) charges including all cost, labour charges etc complete.	23.000	Nos	7413.51	(Rupees seven thousand four hundred thirteen and paise fifty one only)	₹ 1,70,510.73
7.35	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:	84.075	cum	7114.98	(Rupees seven thousand one hundred fourteen and paise ninety eight only)	₹ 5,98,191.94
8	APPENDIX-D- CONSTRUCTION OF 2 LL OHSR AT MAVILAMPARA					
8.01	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	196.000	sqm	14.60	(Rupees fourteen and paise sixty only)	₹ 2,861.60
8.02	Excavation work 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 soils as directed, within a lead of 50 m. Ordinary rock	91.380	cum	520.940	(Rupees five hundred twenty and paise ninety four only)	₹ 47,603.50
8.03	Excavation work 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 from 1.5m up to 3.0 m, including getting out the excavated soil and disposal of surplus excavated soils as directed, within a lead of 50 m: Ordinary rock.	27.580	cum	625.980	(Rupees six hundred twenty five and paise ninety eight only)	₹ 17,264.53
8.04	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) 1 cement : 2 coarse sand : 4 graded stone aggregate 40 mm nominal size)	8.274	cum	7765.2600	(Rupees seven thousand seven hundred sixty five and paise twenty six only)	₹ 64,249.76

8.05	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	49.383	cum	9762.7800	(Rupees nine thousand seven hundred sixty two and paise seventy eight only)	₹ 4,82,115.36
8.06	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	3.858	cum	8971.9000	(Rupees eight thousand nine hundred seventy one and paise ninety only)	₹ 34,613.59
8.07	Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete	56.280	sqm	331.1300	(Rupees three hundred thirty one and paise thirteen only)	₹ 18,636.00
8.08	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	129.216	cum	11394.2900	(Rupees eleven thousand three hundred ninety four and paise twenty nine only)	₹ 14,72,324.58
8.09	Extra for additional height centering. Shuttering where ever required with adequate bracing ,propping etc. including cost of de-shuttering and decentering at all levels over a height of 3.5m for every additional height of 1 meter or part there of suspended floors, roofs,landing,beams and balconies (Plan area to be measured)	12.000	sqm	3007.3300	(Rupees three thousand seven and paise thirty three only)	₹ 36,087.96

8.10	Extra for additional height centering. Shuttering where ever required with adequate bracing ,propping etc. including cost of de-shuttering and decentering at all levels over a height of 3.5m for every additional height of 1 meter or part there of suspended floors, roofs,landing,beams and balconies (Plan area tobe measured)	12.000	sqm	2004.880	(Rupees two thousand four and paise eighty eight only)	₹ 24,058.56
8.11	Extra for additional height centering. Shuttering where ever required with adequate bracing ,propping etc. including cost of de-shuttering and decentering at all levels over a height of 3.5m for every additional height of 1 meter or part there of suspended floors, roofs,landing,beams and balconies (Plan area tobe measured)	12.000	sqm	1002.44	(Rupees one thousand two and paise forty four only)	₹ 12,029.28
8.12	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).	178.597	cum	81.080	(Rupees eighty one and paise eight only)	₹ 14,480.64
8.13	Providing and mixing integral crystalline admixture for waterproofing treatment toRCC structures like basement raft, retaining walls, reservior, sewage & watertreatment plant, tunnels / subway and bridge deck etc.. at the time of transportingof concrete into the drum of the ready-mix truck , using integral crystalline admixture@0.80% (minimum) to the weight of cement content per cubic meter of concrete)or higher as recommended by the manufacturer's specification in reinforced cementconcrete at site of work. The material shall meet the requirements as specified inACI-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 hydrostaticpressure. The crystalline admixture shall be capable of self-healing of cracks up toa width of 0.50mm. The work shall be carried out all complete as per specificationand the direction of the Engineer-in-charge. The product performance shall carryguarantee for 10 years against any leakage.	69.696	kg	450.1000	(Rupees four hundred fifty and paise ten only)	₹ 31,370.17
8.14	Providing and Placing in position suitable PVC water stops conforming to IS : 12200 for construction / expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete:Serrated with central bulb (225 mm wide, 8-11 mm thick)	70.400	metre	329.190	(Rupees three hundred twenty nine and paise nineteen only)	₹ 23,174.98
8.15	Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	279.442	sqm	708.2600	(Rupees seven hundred eight and paise twenty six only)	₹ 1,97,917.59
8.16	Centering and shuttering including strutting, etc. and removal of form for:	69.311	sqm	641.720	(Rupees six hundred forty one and paise seventy two only)	₹ 44,478.25

8.17	Centering and shuttering including strutting, etc. and removal of form for:Columns, Pillars, Piers, Abutments, Posts and Struts	87.120	sqm	852.8800	(Rupees eight hundred fifty two and paise eighty eight only)	₹ 74,302.91
8.18	Centering and shuttering including strutting, etc. and removal of form for:	229.504	sqm	805.610	(Rupees eight hundred five and paise sixty one only)	₹ 1,84,890.72
8.19	Extra additional height of centering , shuttering where ever requierd with adequate bracing over a height of 3.50 m for every additional height of 1 m	131.041	sqm	4343.920	(Rupees four thousand three hundred forty three and paise ninety two only)	₹ 5,69,231.62
8.20	Centering and shuttering including strutting, etc. and removal of form for:Stairs, (excluding landings) except spiral - staircases)	85.449	sqm	723.3900	(Rupees seven hundred twenty three and paise thirty nine only)	₹ 61,812.95
8.21	Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approves steel primer.	967.562	kg	183.710	(Rupees one hundred eighty three and paise seventy one only)	₹ 1,77,750.82
8.22	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	3787.141	kilogram	97.08	(Rupees ninety seven and paise eight only)	₹ 3,67,655.65
8.23	Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete above plinth level.Thermo - Mechanically Treated bars of grade Fe-500D or more	14106.150	kg	97.08	(Rupees ninety seven and paise eight only)	₹ 13,69,425.04
8.24	12 mm cement plaster of mix:1:3	1068.772	sqm	310.18	(Rupees three hundred ten and paise eighteen only)	₹ 3,31,511.70
8.25	12 mm cement plaster finished with a floating coat of neat cement of mix:	185.692	sqm	396.21	(Rupees three hundred ninety six and paise twenty one only)	₹ 73,573.03
8.26	Extra for providing and mixing water proofing material in cement plaster work in proportion recommended by the manufacturers.	185.692	kg	1.41	(Rupees one and paise forty one only)	₹ 261.83
8.27	Finishing walls with water proofing cement paint of required shade:New work (Two or more coats applied @ 3.84 kg/10 sqm)	1068.772	sqm	106.05	(Rupees one hundred six and paise five only)	₹ 1,13,343.27
8.28	Supplying and fixing 500mm dia CI manhole cover with frame(medium duty) charges including all cost, labour charges etc complete.	3.000	Nos	7413.51	(Rupees seven thousand four hundred thirteen and paise fifty one only)	₹ 22,240.53
8.29	Supplying and fixing 100mm wall casting pipe to floor slab or side wall of tank	1.000	No	2249.10	(Rupees two thousand two hundred forty nine and paise ten only)	₹ 2,249.10
8.30	Supplying and fixing 150 mm wall casting pipe to floor slab or side wall of tank	3.000	No	3380.88	(Rupees three thousand three hundred eighty and paise eighty eight only)	₹ 10,142.64
8.31	Supplying and fixing 200mm wall casting pipe to floor slab or side wall of tank	1.000	No	6560.20	(Rupees six thousand five hundred sixty and paise twenty only)	₹ 6,560.20

8.32	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)"	200.000	Kilo litre	183.52	(Rupees one hundred eighty three and paise fifty two only)	₹ 36,704.00
8.33	Fabricating, supplying and fixing water level indicator for Tank/sump 3.0m long using 30x30x5 mm MS angle framework, graduations are marked on hylam sheet using weather proof stickers, moving MS plate indicator with reflective stickers, counter weight ball in perforated PVC pipe 140mm size connected with plastic twine running through brass pulley and all arrangements are enclosed in casing pipe etc complete	1.000	No	10000.00	(Rupees ten thousand only)	₹ 10,000.00
8.34	Supplying and fixing Lightning Arrestor including lightning conductor of GI 7/10" SWG (10mm) diameter standard wire with lightning rod of 25mm diameter, 0.9 meters long with earth electrode 25mm diameter, 2.75 meters long GI pipe from ground level connecting 50mm diameter, 1.40 meters long perforated GI pipe including fixing of clamps as per IS:2309. fixing all accessories etc complete	1.000	No	50000.00	(Rupees fifty thousand only)	₹ 50,000.00
8.35	"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 mm diameter. Class I"Data derived from item no.18.31.1.1of DAR	1.000	Nos	875.51	(Rupees eight hundred seventy five and paise fifty one only)	₹ 875.51
8.36	Design and drawing charges of 2Lakh litre OHSR as per the direction of Engineer	1.000	L.S	35000.00	(Rupees thirty five thousand only)	₹ 35,000.00
9	APPENDIX-D1-CONSTRUCTION OF 2 LL OHSR AT MAVILAMPARA -COST OF SPECIALS					
9.01	Providing and laying Double Flanged (Screwed / Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS: 8329 :	19.000	metre	1781.27	(Rupees one thousand seven hundred eighty one and paise twenty seven only)	₹ 33,844.13
9.02	Providing and laying Double Flanged (Screwed / Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS: 8329 :	36.000	metre	2672.18	(Rupees two thousand six hundred seventy two and paise eighteen only)	₹ 96,198.48
9.03	Providing and laying Double Flanged (Screwed / Welded) Centrifugally (Spun) Ductile Iron Pipes of Class K - 9 conforming to IS: 8329 :	19.000	metre	3372.47	(Rupees three thousand three hundred seventy two and paise forty seven only)	₹ 64,076.93
9.04	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.6, Size 100mm.	1.000	No	4368.05	(Rupees four thousand three hundred sixty eight and paise five only)	₹ 4,368.05
9.05	Providing and laying D.I specials of class K - 12 suitable for push - on jointing as per IS : 9523 :	1.580	quintal	19870.76	(Rupees nineteen thousand eight hundred seventy and paise seventy six only)	₹ 31,395.80

10	APPENDIX-D2 -CONSTRUCTION OF COMPOUND WALL AT MAVILAMPARA						
10.01	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	39.960	cum	409.67	(Rupees four hundred nine and paise sixty seven only)	₹ 16,370.41	
10.02	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 40 mm nominal size)	6.210	cum	7121.27	(Rupees seven thousand one hundred twenty one and paise twenty seven only)	₹ 44,223.09	
10.03	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:	28.800	cum	7114.98	(Rupees seven thousand one hundred fourteen and paise ninety eight only)	₹ 2,04,911.42	
10.04	Laterate masonry with neatly dressed laterate stone of size 40x20x15cm or nearest size in cement mortar 1:6 for super structure above plinth level up to floor two level including all cost of materials, labour charges etc.	32.795	cum	7896.99	(Rupees seven thousand eight hundred ninety six and paise ninety nine only)	₹ 2,58,981.79	
10.05	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	2.173	cum	8971.90	(Rupees eight thousand nine hundred seventy one and paise ninety only)	₹ 19,495.94	
10.06	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)	1.153	cum	7891.26	(Rupees seven thousand eight hundred ninety one and paise twenty six only)	₹ 9,098.62	
10.07	Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete	21.602	sqm	331.13	(Rupees three hundred thirty one and paise thirteen only)	₹ 7,153.07	
10.08	Centering and shuttering including strutting, etc. and removal of form for:Columns, Pillars, Piers, Abutments, Posts and Struts	5.761	sqm	852.88	(Rupees eight hundred fifty two and paise eighty eight only)	₹ 4,913.44	
10.09	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	108.650	kilogram	97.08	(Rupees ninety seven and paise eight only)	₹ 10,547.74	
10.1	12 mm cement plaster of mix:1:3	326.486	sqm	310.18	(Rupees three hundred ten and paise eighteen only)	₹ 1,01,269.43	
10.11	Colour washing such as green, blue or buff to give an even shade:New work (two or more coats) with a base coat of white washing with lime	326.486	sqm	45.26	(Rupees forty five and paise twenty six only)	₹ 14,776.76	

10.12	Steel work welded in built up sections/framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.	168.000	kg	152.24	(Rupees one hundred fifty two and paise twenty four only)	₹ 25,576.32
10.130	Finishing with Deluxe Multi surface paint system for interiors and exteriors using primer as per manufacturers specifications:Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied @ 0.80 ltr/10 sqm of approved brand and manufacture	36.000	sqm	146.29	(Rupees one hundred forty six and paise twenty nine only)	₹ 5,266.44
10.14	Supplying at site Angle iron post & strut of required size including bottom to be split and bent at right angle in opposite direction for 10 cm length and drilling holes upto 10 mm dia. etc. complete.	312.000	kilogram	107.39	(Rupees one hundred seven and paise thirty nine only)	₹ 33,505.68
10.15	Fencing with angle iron post placed at required distance embedded in cement concrete blocks, every 15th post, last but one end post and corner post shall be strutted on both sides and end post on one side only and provided with horizontal lines and two diagonals interwoven with horizontal wires, of barbed wire weighing 9.38 kg per 100 metres (minimum), between the two posts fitted and fixed with G.I. staples, turn buckles etc. complete. (Cost of posts, struts, earth work and concrete work to be paid for serarately) :- Payment to be made per metre cost of total length of barbed wire used.	384.000	metre	22.16	(Rupees twenty two and paise sixteen only)	₹ 8,509.44
10.16	Providing and laying 60 mm thick factory made cement concrete interlocking paver block of M - 30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required 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.	151.200	sqm	998.96	(Rupees nine hundred ninety eight and paise ninety six only)	₹ 1,51,042.75
11	APPENDIX-E -DISTRIBUTION SYSTEM IN ZONE I- COST OF SPECIALS					
11.01	Supply of DI K9 Pipe Conforming to IS 8329/2000, 450mm Dia.	1802.000	metre	6420.75	(Rupees six thousand four hundred twenty and paise seventy five only)	₹ 1,15,70,192
11.02	Supply of DI K9 Pipe Conforming to IS 8329/2000, 350mm Dia.	1926.000	metre	4333.00	(Rupees four thousand three hundred thirty three only)	₹ 83,45,358.00
11.03	Supply of DI K9 Pipe Conforming to IS 8329/2000, 300mm Dia.	4010.000	metre	3537.65	(Rupees three thousand five hundred thirty seven and paise sixty five only)	₹ 1,41,85,977
11.04	Supply of DI K9 Pipe Conforming to IS 8329/2000, 250mm Dia.	2647.000	metre	2811.20	(Rupees two thousand eight hundred eleven and paise twenty only)	₹ 74,41,246.40

11.05	Supply of DI K9 Pipe Conforming to IS 8329/2000, 200mm Dia.	2839.000	metre	2100.55	(Rupees two thousand one hundred and paise fifty five only)	₹ 59,63,461.45
11.06	Supplying 160 mm PVC Pipe 12.5 Kg/ cm2 including specials	1620.000	metre	1223.41	(Rupees one thousand two hundred twenty three and paise forty one only)	₹ 19,81,924.20
11.07	Supply of uPVC Pipe, IS 4985: 2000 , 10kg/cm2, 160mm Dia. including specials	2210.000	metre	1056.27	(Rupees one thousand fifty six and paise twenty seven only)	₹ 23,34,356.70
11.08	Supply of uPVC Pipe, IS 4985: 2000 , 8kg/cm2, 160mm Dia.including specials	349.000	metre	933.13	(Rupees nine hundred thirty three and paise thirteen only)	₹ 3,25,662.37
11.09	Supply of uPVC Pipe, IS 4985: 2000 , 6kg/cm2, 160mm Dia.including specials	159.000	metre	640.25	(Rupees six hundred forty and paise twenty five only)	₹ 1,01,799.75
11.10	Supplying 140 mm PVC Pipe 12.5Kg/Cm2.including specials	1308.000	metre	938.70	(Rupees nine hundred thirty eight and paise seventy only)	₹ 12,27,819.60
11.11	Supply of uPVC Pipe, IS 4985: 2000 , 10kg/cm2, 140mm Dia.including specials	23.000	metre	811.64	(Rupees eight hundred eleven and paise sixty four only)	₹ 18,667.72
11.12	Supply of uPVC Pipe, IS 4985: 2000 , 8kg/cm2, 140mm Dia.including specials	36.000	metre	711.83	(Rupees seven hundred eleven and paise eighty three only)	₹ 25,625.88
11.13	Supply of uPVC Pipe, IS 4985: 2000 , 6kg/cm2, 140mm Dia.including specials	422.000	metre	485.95	(Rupees four hundred eighty five and paise ninety five only)	₹ 2,05,070.90
11.14	Supplying 110 mm PVC Pipe 12.5 Kg/cm2 including specials	2285.000	metre	585.36	(Rupees five hundred eighty five and paise thirty six only)	₹ ,13,37,547.60
11.15	Supply of uPVC Pipe, IS 4985: 2000 , 10kg/cm2, 110mm Dia.including specials	2309.000	metre	503.46	(Rupees five hundred three and paise forty six only)	₹ ,11,62,489.14
11.16	Supply of uPVC Pipe, IS 4985: 2000 , 8kg/cm2, 110mm Dia.including specials	1036.000	metre	430.69	(Rupees four hundred thirty and paise sixty nine only)	₹ 4,46,194.84
11.17	Supply of uPVC Pipe, IS 4985: 2000 , 6kg/cm2, 110mm Dia.including specials	647.000	metre	300.55	(Rupees three hundred and paise fifty five only)	₹ 1,94,455.85
11.18	Supplying 90 mm PVC Pipe 12.5 kg /cm2 including specials	68968.000	metre	394.19	(Rupees three hundred ninety four and paise nineteen only)	₹ 2,71,86,496
11.19	Supply of uPVC Pipe, IS 4985: 2000 , 10kg/cm2, 90mm Dia. including specials	31098.000	metre	333.98	(Rupees three hundred thirty three and paise ninety eight only)	₹ 1,03,86,110
11.20	Supply of uPVC Pipe, IS 4985: 2000 , 8kg/cm2, 90mm Dia.including specials	23240.000	metre	286.06	(Rupees two hundred eighty six only)	₹ 66,48,127.36
11.21	Supply of uPVC Pipe, IS 4985: 2000 , 6kg/cm2, 90mm Dia.including specials	7436.000	metre	207.37	(Rupees two hundred seven and paise thirty seven only)	₹ 15,42,003.32

11.22	Supply of uPVC Pipe, IS 4985: 2000 , 6kg/cm2, 63mm Dia..	7000.000	metre	98.85	(Rupees ninety eight and paise eighty five only)	₹ 6,91,950.00
11.23	Supplying 100mm GI (M) pipe including specials	80.000	metre	1231.29	(Rupees one thousand two hundred thirty one and paise twenty nine only)	₹ 98,503.20
11.24	Supplying 125mm GI (M) pipe including specials	60.000	metre	1584.84	(Rupees one thousand five hundred eighty four and paise eighty four only)	₹ 95,090.40
11.25	Supplying 150mm GI (M) pipe including specials	80.000	metre	1938.48	(Rupees one thousand nine hundred thirty eight and paise forty eight only)	₹ 1,55,078.40
11.260	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.6, Size 80mm.	16.000	No	3275.90	(Rupees three thousand two hundred seventy five and paise ninety only)	₹ 52,414.40
11.27	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.6, Size 100mm.	6.000	No	4368.05	(Rupees four thousand three hundred sixty eight and paise five only)	₹ 26,208.30
11.28	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.0, Size 125mm.	6.000	No	4732.10	(Rupees four thousand seven hundred thirty two and paise ten only)	₹ 28,392.60
11.29	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.0, Size 150mm.	12.000	No	6734.30	(Rupees six thousand seven hundred thirty four and paise thirty only)	₹ 80,811.60
11.3	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.0, Size 200mm.	8.000	No	11065.65	(Rupees eleven thousand sixty five and paise sixty five only)	₹ 88,525.20
11.31	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.0, Size 250mm.	4.000	No	18054.25	(Rupees eighteen thousand fifty four and paise twenty five only)	₹ 72,217.00
11.32	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.0, Size 300mm.	3.000	No	22129.85	(Rupees twenty two thousand one hundred twenty nine and paise eighty five only)	₹ 66,389.55
11.33	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.0, Size 350mm.	2.000	No	31884.90	(Rupees thirty one thousand eight hundred eighty four and paise ninety only)	₹ 63,769.80
11.34	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.0, Size 450mm.	1.000	No	60856.90	(Rupees sixty thousand eight hundred fifty six and paise ninety only)	₹ 60,856.90
11.35	Supply of CI Air Valve with Flanges, Conforming to IS 14845 - 2000, Kinetic Air Valve Type DS1, Size 80mm.	12.000	No	3568.20	(Rupees three thousand five hundred sixty eight and paise twenty only)	₹ 42,818.40

11.36	Supply of CI Air Valve with Flanges, Conforming to IS 14845 - 2000, Kinetic Air Valve Type DS1, Size 100mm.	2.000	No	4295.00	(Rupees four thousand two hundred ninety five only)	₹ 8,590.00
11.37	Supply of CI Air Valve, Conforming to IS 14848 - 2000, Kinetic Air Valve Type DK, Size 50mm.	10.000	No	3600.75	(Rupees three thousand six hundred and paise seventy five only)	₹ 36,007.50
11.38	Supply of CI Air Valve, Conforming to IS 14848 - 2000, Single Orifice, Small Orifice Type S1, Size 25mm.	55.000	No	966.75	(Rupees nine hundred sixty six and paise seventy five only)	₹ 53,171.25
11.39	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :80 mm nominal bore	45.000	No	2578.11	(Rupees two thousand five hundred seventy eight and paise eleven only)	₹ 1,16,014.95
11.40	C.I .Spring loaded Angle type pressure relief valve 100mm.	5.000	No	9477.84	(Rupees nine thousand four hundred seventy seven and paise eighty four only)	₹ 47,389.20
11.41	C.I .Spring loaded Angle type pressure relief valve 50mm.	4.000	No	5133.83	(Rupees five thousand one hundred thirty three and paise eighty three only)	₹ 20,535.32
11.42	Supplying and fixing Water pressure guage	4.000	No	984.95	(Rupees nine hundred eighty four and paise ninety five only)	₹ 3,939.80
12	APPENDIX-E1 -DISTRIBUTION SYSTEM IN ZONE I- WORKING CHARGE					
12.001	Cutting the bituminous / concrete roads with cutting machine for a minimum depth of 200mm along the sides of proposed alignment of the pipe to be laid without causing any damage to other utilities, including the charges for hire and conveyance of tools and plant, cost of consumables and charges for lighting, watching, ribbon fencing, caution boards, traffice diversion, and as per the direction of departmental officers etc. complete, before carrying out the demolition of bituminous / concrete road by mechanical means and carrying out the excavation.	15000.000	metre	30.06	(Rupees thirty and paise six only)	₹ 4,50,900.00
12.002	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	33638.925	cum	548.59	(Rupees five hundred forty eight and paise fifty nine only)	₹ 1,84,53,978
12.003	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 : :"Ordinary Rock.	21024.326	cum	796.71	(Rupees seven hundred ninety six and paise seventy one only)	₹ 1,67,50,291

12.004	"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 :Medium Rock (blasting prohibited)	25229.191	cum	1324.87	(Rupees one thousand three hundred twenty four and paise eighty seven only)	₹ 3,34,25,398
12.005	"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 : Hard Rock(Blasting Prohibited)	4204.870	cum	1536.90	(Rupees one thousand five hundred thirty six and paise ninety only)	₹ 64,62,464.70
12.006	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.	3000.000	Kwh	36.49	(Rupees thirty six and paise forty nine only)	₹ 1,09,470.00
12.007	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	50101.100	metre	27.78	(Rupees twenty seven and paise seventy eight only)	₹ 13,91,808.56
12.008	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	50101.100	metre	95.47	(Rupees ninety five and paise forty seven only)	₹ 47,83,152.02
12.009	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	2839.000	metre	120.58	(Rupees one hundred twenty and paise fifty eight only)	₹ 3,42,326.62
12.01	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	2647.000	metre	161.01	(Rupees one hundred sixty one and paise one only)	₹ 4,26,193.47
12.011	Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials : 300 mm dia Ductile Iron Class K-9 Pipes	4010.000	metre	202.59	(Rupees two hundred two and paise fifty nine only)	₹ 8,12,385.90
12.012	Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials :350 mm dia Ductile Iron Class K-9 Pipes	1926.000	metre	268.40	(Rupees two hundred sixty eight and paise forty only)	₹ 5,16,938.40
12.013	Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials : 450 mm dia Ductile Iron Class K-9 Pipes	1802.000	metre	380.08	(Rupees three hundred eighty and paise eight only)	₹ 6,84,904.16

12.014	Providing and laying D.I specials of class K - 12 suitable for push - on jointing as per IS : 9523 :	117.132	quintal	19870.76	(Rupees nineteen thousand eight hundred seventy and paise seventy six only)	₹ 23,27,501.86
12.015	Providing and laying D.I Specials of Class K - 12 suitable for mechanical jointing as per IS : 9523 :	26.940	quintal	20881.71	(Rupees twenty thousand eight hundred eighty one and paise seventy one only)	₹ 5,62,553.27
12.016	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:200 mm dia pipes	570.000	joint	255.55	(Rupees two hundred fifty five and paise fifty five only)	₹ 1,45,663.50
12.017	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:250 mm dia pipes	520.000	joint	312.05	(Rupees three hundred twelve and paise five only)	₹ 1,62,266.00
12.018	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	800.000	joint	407.46	(Rupees four hundred seven and paise forty six only)	₹ 3,25,968.00
12.019	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:350 mm dia pipes	380.000	joint	432.30	(Rupees four hundred thirty two and paise thirty only)	₹ 1,64,274.00
12.02	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:450 mm dia pipes	350.000	joint	774.48	(Rupees seven hundred seventy four and paise forty eight only)	₹ 2,71,068.00
12.021	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:200 mm diameter pipe	22.000	Nos	413.28	(Rupees four hundred thirteen and paise twenty eight only)	₹ 9,092.16
12.022	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:250 mm diameter pipe	20.000	Nos	563.45	(Rupees five hundred sixty three and paise forty five only)	₹ 11,269.00
12.023	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:300 mm diameter pipe	38.000	Nos	571.22	(Rupees five hundred seventy one and paise twenty two only)	₹ 21,706.36
12.024	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:350 mm diameter pipe	15.000	Nos	767.72	(Rupees seven hundred sixty seven and paise seventy two only)	₹ 11,515.80
12.025	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:450 mm diameter pipe	12.000	Nos	1296.29	(Rupees one thousand two hundred ninety six and paise twenty nine only)	₹ 15,555.48
12.026	Labour for cutting D.I. pipe with steel saw. 450 mm diameter D.I. pipe	15.000	No	949.07	(Rupees nine hundred forty nine and paise seven only)	₹ 14,236.05
12.027	Labour for cutting D.I. pipe with steel saw. 350 mm diameter D.I pipe	11.000	Each Cut	739.02	(Rupees seven hundred thirty nine and paise two only)	₹ 8,129.22
12.028	Labour for cutting D.I. pipe with steel saw. 300 mm diameter D.I. pipe	15.000	Each Cut	635.41	(Rupees six hundred thirty five and paise forty one only)	₹ 9,531.15
12.029	Labour for cutting D.I. pipe with steel saw. 250 mm diameter D.I. pipe	16.000	Each Cut	528.97	(Rupees five hundred twenty eight and paise ninety seven only)	₹ 8,463.52

12.03	Labour for cutting D.I. pipe with steel saw. 200 mm diameter D.I. pipe	20.000	Each Cut	425.36	(Rupees four hundred twenty five and paise thirty six only)	₹ 8,507.20
12.031	Testing 200mm DI/CI pipeline with potable water to the required test pressure 200 mm dia	2839.000	metre	39.43	(Rupees thirty nine and paise forty three only)	₹ 1,11,941.77
12.032	Testing 250mm DI/CI pipeline with potable water to the required test pressure . 250 mm dia	2647.000	metre	50.32	(Rupees fifty and paise thirty two only)	₹ 1,33,197.04
12.033	Testing 300mm DI/CI pipeline with potable water to the required test pressure. 300 mm dia	4010.000	metre	54.96	(Rupees fifty four and paise ninety six only)	₹ 2,20,389.60
12.034	Testing 350mm DI/CI pipeline with potable water to the required test pressure. 350 mm dia	1926.000	metre	67.09	(Rupees sixty seven and paise nine only)	₹ 1,29,215.34
12.035	Testing 450mm DI/CI pipeline with potable water to the required t	1802.000	metre	93.30	(Rupees ninety three and paise thirty only)	₹ 1,68,126.60
12.036	Laying UPVC pipes of class 2 to class 6 and specials, lowering to the trenches already made, placing in position aligning the pipe line to the lines and levels and jointing the pipes and specials with solvent cement and testing the pipe line with water to the required test pressure (excluding cost of pipes and specials). 90 mm nominal outer dia pipes."	130742.000	metre	85.96	(Rupees eighty five and paise ninety six only)	₹ 1,12,38,582
12.037	Laying UPVC pipes of class 2 to class 6 and specials, lowering to the trenches already made, placing in position aligning the pipe line to the lines and levels and jointing the pipes and specials with solvent cement and testing the pipe line with water to the required test pressure (excluding cost of pipes and specials).110 mm nominal outer dia pipes.	6277.000	metre	126.67	(Rupees one hundred twenty six and paise sixty seven only)	₹ 7,95,107.59
12.038	Laying UPVC pipes of class 2 to class 6 and specials, lowering to the trenches already made, placing in position aligning the pipe line to the lines and levels and jointing the pipes and specials with solvent cement and testing the pipe line with water to the required test pressure (excluding cost of pipes and specials). 140 mm nominal outer dia pipes.	1789.000	metre	166.17	(Rupees one hundred sixty six and paise seventeen only)	₹ 2,97,278.13
12.039	Laying UPVC pipes of class 2 to class 6 and specials, lowering to the trenches already made, placing in position aligning the pipe line to the lines and levels and jointing the pipes and specials with solvent cement and testing the pipe line with water to the required test pressure (excluding cost of pipes and specials).160 mm nominal outer dia pipes.	4338.000	metre	200.25	(Rupees two hundred and paise twenty five only)	₹ 8,68,684.50
12.04	Providing and fixing G.I. pipes complete with G.I fittings including trenching and refilling etc. External work80 mm dia nominal bore	220.000	metre	1007.13	(Rupees one thousand seven and paise thirteen only)	₹ 2,21,568.60
12.041	Conveying and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. but excluding cost of pipes and fittings - External work. 100 mm dia nominal bore	80.000	metre	232.25	(Rupees two hundred thirty two and paise twenty five only)	₹ 18,580.00

12.042	"Conveying and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. but excluding cost of pipes and fittings - External work. 125 mm dia nominal bore	60.000	metre	260.17	(Rupees two hundred sixty and paise seventeen only)	₹ 15,610.20
12.043	Conveying and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. but excluding cost of pipes and fittings - External work. 150 mm dia nominal ore	80.000	metre	287.75	(Rupees two hundred eighty seven and paise seventy five only)	₹ 23,020.00
12.044	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	4792.500	sqm	151.04	(Rupees one hundred fifty one and paise four only)	₹ 7,23,859.20
12.045	Supply ,stacking,spreading and consolidating of Red earth in the trench of pipe line for cushion including carriage, loading ,unloading & stacking up to any lead.	501.000	cum	350.75	(Rupees three hundred fifty and paise seventy five only)	₹ 1,75,725.75
12.046	"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) :80 mm diameter. Class I"	16.000	Nos	580.66	(Rupees five hundred eighty and paise sixty six only)	₹ 9,290.56
12.047	"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 mm diameter. Class I"	6.000	Nos	875.51	(Rupees eight hundred seventy five and paise fifty one only)	₹ 5,253.06
12.048	"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) :125 mm diameter. Class I"	6.000	Nos	976.87	(Rupees nine hundred seventy six and paise eighty seven only)	₹ 5,861.22
12.049	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) :150 mm diameter. Class I"	12.000	Nos	1185.75	(Rupees one thousand one hundred eighty five and paise seventy five only)	₹ 14,229.00
12.05	"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 I"	8.000	Nos	1538.24	(Rupees one thousand five hundred thirty eight and paise twenty four only)	₹ 12,305.92
12.051	"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) :250 mm diameter. Class I"	4.000	Nos	2180.56	(Rupees two thousand one hundred eighty and paise fifty six only)	₹ 8,722.24
12.052	"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) :300 mm diameter. Class I"	3.000	Nos	2562.110	(Rupees two thousand five hundred sixty two and paise eleven only)	₹ 7,686.33
12.053	"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) :350 mm diameter. Class I"	2.000	Nos	3421.35	(Rupees three thousand four hundred twenty one and paise thirty five only)	₹ 6,842.70

12.054	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) : 450 mm diameter. Class I"	1.000	Nos	5591.330	(Rupees five thousand five hundred ninety one and paise thirty three only)	₹ 5,591.33
12.055	Conveying and fixing C I Single acting Air Valve of approved quality with bolts,nuts,rubber insertions etc . excluding the cost of air valve(the tail pieces if required will be paid seperately): 25 mm Single acting Air Valve	55.000	Nos	138.720	(Rupees one hundred thirty eight and paise seventy two only)	₹ 7,629.60
12.06	Conveying and fixing C I Single acting Air Valve of approved quality with bolts,nuts,rubber insertions etc . excluding the cost of air valve(the tail pieces if required will be paid seperately):50 mm Double acting Air Valve	10.000	Nos	216.8500	(Rupees two hundred sixteen and paise eighty five only)	₹ 2,168.50
12.057	Conveying and fixing C I Single acting Air Valve of approved quality with bolts,nuts,rubber insertions etc . excluding the cost of air valve(the tail pieces if required will be paid seperately): 80 mm Double acting Air Valve	12.000	Nos	216.8500	(Rupees two hundred sixteen and paise eighty five only)	₹ 2,602.20
12.058	Conveying and fixing C I Single acting Air Valve of approved quality with bolts,nuts,rubber insertions etc . excluding the cost of air valve(the tail pieces if required will be paid seperately):100 mm Double acting Air Valve	2.000	Nos	332.2700	(Rupees three hundred thirty two and paise twenty seven only)	₹ 664.54
12.059	Supplying 450 mm dia an electro-magnetic 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.The flow meter should have the housing (flow sensor) to be made of SS 304/ carbon steel with anti corrossive protection and inside liner to be made up of hard rubber / neoprene all conforming to drinking water standards.The flow meter should be coupled with HART for data acquisition and transfer ,with provision for wireless transfer through GSM.The manufacturers should have the calibration standards as per ISO 17025 and the product shall have sufficient warranty provisions	1.000	No	213900.0000	(Rupees two Lakhs thirteen thousand nine hundred only)	₹ 2,13,900.00
12.06	Fabricating MS pipes of size 200mm (ID) using 8 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	80.000	metre	5833.4200	(Rupees five thousand eight hundred thirty three and paise forty two only)	₹ 4,66,673.60
12.061	Fabricating MS pipes of size 250mm (ID) using 8 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	70.000	metre	6777.3500	(Rupees six thousand seven hundred seventy seven and paise thirty five only)	₹ 4,74,414.50
12.062	Fabricating MS pipes of size 300mm (ID) using 8 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	80.000	metre	7715.120	(Rupees seven thousand seven hundred fifteen and paise twelve only)	₹ 6,17,209.60

12.063	Fabricating MS pipes of size 350mm (ID) using 8 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	60.000	metre	8652.89	(Rupees eight thousand six hundred fifty two and paise eighty nine only)	₹ 5,19,173.40
12.064	Fabricating MS pipes of size 450mm (ID) using 8 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	60.000	metre	10529.290	(Rupees ten thousand five hundred twenty nine and paise twenty nine only)	₹ 6,31,757.40
12.065	Fabricating MS flanges of diameter 200 mm using 12 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	6.000	Nos	1982.0600	(Rupees one thousand nine hundred eighty two and paise six only)	₹ 11,892.36
12.07	Fabricating MS flanges of diameter 250 mm using 12 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	6.000	Nos	2437.590	(Rupees two thousand four hundred thirty seven and paise fifty nine only)	₹ 14,625.54
12.067	Fabricating MS flanges of diameter 300 mm using 12 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	8.000	Nos	2876.4200	(Rupees two thousand eight hundred seventy six and paise forty two only)	₹ 23,011.36
12.068	Fabricating MS flanges of diameter 350 mm using 12 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	4.000	No	3513.180	(Rupees three thousand five hundred thirteen and paise eighteen only)	₹ 14,052.72
12.069	Fabricating MS flanges of diameter 450 mm using 16 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	4.000	Nos	5466.3300	(Rupees five thousand four hundred sixty six and paise thirty three only)	₹ 21,865.32
12.07	Cutting 200 mm (ID) MS pipes for making bends and other specials by gas cutting including cost of gas, all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	10.000	No	208.950	(Rupees two hundred eight and paise ninety five only)	₹ 2,089.50
12.071	Cutting 250 mm (ID) MS pipes for making bends and other specials by gas cutting including cost of gas, all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	8.000	No	257.360	(Rupees two hundred fifty seven and paise thirty six only)	₹ 2,058.88

12.072	Cutting 300 mm (ID) MS pipes for making bends and other specials by gas cutting including cost of gas, all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	8.000	No	305.7600	(Rupees three hundred five and paise seventy six only)	₹ 2,446.08
12.073	Cutting 350 mm (ID) MS pipes for making bends and other specials by gas cutting including cost of gas, all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	10.000	No	354.100	(Rupees three hundred fifty four and paise ten only)	₹ 3,541.00
12.074	Cutting 450 mm (ID) MS pipes for making bends and other specials by gas cutting including cost of gas, all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	10.000	No	450.84	(Rupees four hundred fifty and paise eighty four only)	₹ 4,508.40
12.075	Welding 200 mm (ID) MS pipes for making bends and other specials by gas/electric welding machine including cost of gas and welding rods ,all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	15.000	No	799.58	(Rupees seven hundred ninety nine and paise fifty eight only)	₹ 11,993.70
12.08	Welding 250mm (ID) MS pipes for making bends and other specials by gas/electric welding machine including cost of gas and welding rods ,all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	15.000	No	984.70	(Rupees nine hundred eighty four and paise seventy only)	₹ 14,770.50
12.077	Welding 300 mm (ID) MS pipes for making bends and other specials by gas/electric welding machine including cost of gas and welding rods ,all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	18.000	No	1169.75	(Rupees one thousand one hundred sixty nine and paise seventy five only)	₹ 21,055.50
12.078	Welding 350 mm (ID) MS pipes for making bends and other specials by gas/electric welding machine including cost of gas and welding rods ,all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	12.000	No	1354.87	(Rupees one thousand three hundred fifty four and paise eighty seven only)	₹ 16,258.44
12.079	Welding 450mm (ID) MS pipes for making bends and other specials by gas/electric welding machine including cost of gas and welding rods ,all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	12.000	No	1725.03	(Rupees one thousand seven hundred twenty five and paise three only)	₹ 20,700.36
12.08	Grinding cut and weld edges of 200 mm (ID) MS pipes during fabrication work including all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	30.000	No	149.90	(Rupees one hundred forty nine and paise ninety only)	₹ 4,497.00
12.081	Grinding cut and weld edges of 250 mm (ID) MS pipes during fabrication work including all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	30.000	No	184.65	(Rupees one hundred eighty four and paise sixty five only)	₹ 5,539.50
12.082	Grinding cut and weld edges of 300 mm (ID) MS pipes during fabrication work including all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	36.000	No	219.33	(Rupees two hundred nineteen and paise thirty three only)	₹ 7,895.88

12.083	Grinding cut and weld edges of 350 mm (ID) MS pipes during fabrication work including all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	24.000	No	254.01	(Rupees two hundred fifty four and paise one only)	₹ 6,096.24
12.084	Grinding cut and weld edges of 450 mm (ID) MS pipes during fabrication work including all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	24.000	No	323.44	(Rupees three hundred twenty three and paise forty four only)	₹ 7,762.56
12.085	Providing push through arrangements for BM & BC Roads for 800 mm casing pipe	20.000	metre	25929.88	(Rupees twenty five thousand nine hundred twenty nine and paise eighty eight only)	₹ 5,18,597.60
12.09	Fabricating MS pipes of size 800 mm (ID) using 10 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 10mm thick MS plates.	20.000	metre	20845.75	(Rupees twenty thousand eight hundred forty five and paise seventy five only)	₹ 4,16,915.00
12.087	Cutting 800 mm (ID) MS pipes for making bends and other specials by gas cutting including cost of gas, all labour and hire charges of tools etc. complete: For pipes fabricated with 10mm thick MS plates.	10.000	No	793.36	(Rupees seven hundred ninety three and paise thirty six only)	₹ 7,933.60
12.088	Welding 800 mm (ID) MS pipes for making bends and other specials by gas/electric welding machine including cost of gas and welding rods ,all labour and hire charges of tools etc. complete: For pipes fabricated with 10mm thick MS plates.	12.000	No	3035.51	(Rupees three thousand thirty five and paise fifty one only)	₹ 36,426.12
12.089	Grinding cut and weld edges of 800 mm (ID) MS pipes during fabrication work including all labour and hire charges of tools etc. complete: For pipes fabricated with 10mm thick MS plates.	24.000	No	569.14	(Rupees five hundred sixty nine and paise fourteen only)	₹ 13,659.36
12.09	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	248.642	cum	293.24	(Rupees two hundred ninety three and paise twenty four only)	₹ 72,911.78
12.091	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 from 1.5m up to 3.0 m, disposed earth to be levelled and neatly dressed: Ordinary rock.	54.720	cum	398.29	(Rupees three hundred ninety eight and paise twenty nine only)	₹ 21,794.43
12.092	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 40 mm nominal size)	29.601	cum	7121.27	(Rupees seven thousand one hundred twenty one and paise twenty seven only)	₹ 2,10,796.71

12.093	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)	326.338	cum	8481.43	(Rupees eight thousand four hundred eighty one and paise forty three only)	₹ 27,67,812.90
12.094	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)	105.555	cum	8971.90	(Rupees eight thousand nine hundred seventy one and paise ninety only)	₹ 9,47,028.90
12.095	Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete	1602.248	sqm	331.13	(Rupees three hundred thirty one and paise thirteen only)	₹ 5,30,552.38
12.096	Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	598.800	sqm	708.26	(Rupees seven hundred eight and paise twenty six only)	₹ 4,24,106.09
12.097	Centering and shuttering including strutting, etc. and removal of form for:	181.631	sqm	805.61	(Rupees eight hundred five and paise sixty one only)	₹ 1,46,323.75
12.098	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	22652.300	kilogram	97.08	(Rupees ninety seven and paise eight only)	₹ 21,99,085.28
12.099	Supplying and fixing 500mm dia CI manhole cover with frame(medium duty) charges including all cost, labour charges etc complete.	41.000	Nos	7413.51	(Rupees seven thousand four hundred thirteen and paise fifty one only)	₹ 3,03,953.91
12.100	Supplying and fixing surface box with protection tube for valves as directed by Engineer in charge	123.000	No	1382.11	(Rupees one thousand three hundred eighty two and paise eleven only)	₹ 1,69,999.53
12.101	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:	740.250	cum	7114.98	(Rupees seven thousand one hundred fourteen and paise ninety eight only)	₹ 52,66,863.95
13	APPENDIX-F-DISTRIBUTION SYSTEM IN ZONE II-COST OF SPECIALS					
13.01	Supply of DI K9 Pipe Conforming to IS 8329/2000, 200mm Dia.	192.000	metre	2100.55	(Rupees two thousand one hundred and paise fifty five only)	₹ 4,03,305.60
13.02	Supply of uPVC Pipe, IS 4985: 2000 , 6kg/cm ² , 160mm Dia.including specials	1499.000	metre	640.25	(Rupees six hundred forty and paise twenty five only)	₹ 9,59,734.75
13.03	Supply of uPVC Pipe, IS 4985: 2000 , 10kg/cm ² , 140mm Dia.including specials	2419.000	metre	811.64	(Rupees eight hundred eleven and paise sixty four only)	₹ 19,63,357.16
13.04	Supply of uPVC Pipe, IS 4985: 2000 , 8kg/cm ² , 140mm Dia.including specials	183.000	metre	711.83	(Rupees seven hundred eleven and paise eighty three only)	₹ 1,30,264.89

13.05	Supply of uPVC Pipe, IS 4985: 2000 , 6kg/cm2, 140mm Dia.including specials	95.000	metre	485.95	(Rupees four hundred eighty five and paise ninety five only)	₹ 46,165.25
13.060	Supply of uPVC Pipe, IS 4985: 2000 , 10kg/cm2, 110mm Dia.including specials	2192.000	metre	503.46	(Rupees five hundred three and paise forty six only)	₹ 11,03,584.32
13.07	Supply of uPVC Pipe, IS 4985: 2000 , 8kg/cm2, 110mm Dia.including specials	141.000	metre	430.69	(Rupees four hundred thirty and paise sixty nine only)	₹ 60,727.29
13.08	Supply of uPVC Pipe, IS 4985: 2000 , 6kg/cm2, 110mm Dia.including specials	486.000	metre	300.55	(Rupees three hundred and paise fifty five only)	₹ 1,46,067.30
13.09	Supplying 90 mm PVC Pipe 12.5 kg /cm2 including specials	4939.000	metre	394.19	(Rupees three hundred ninety four and paise nineteen only)	₹ 19,46,904.41
13.1	Supply of uPVC Pipe, IS 4985: 2000 , 10kg/cm2, 90mm Dia.including specials	22719.000	metre	333.98	(Rupees three hundred thirty three and paise ninety eight only)	₹ 75,87,691.62
13.11	Supply of uPVC Pipe, IS 4985: 2000 , 8kg/cm2, 90mm Dia.including specials	4825.000	metre	286.06	(Rupees two hundred eighty six only)	₹ 13,80,258.80
13.12	Supply of uPVC Pipe, IS 4985: 2000 , 6kg/cm2, 90mm Dia.including specials	3653.000	metre	207.37	(Rupees two hundred seven and paise thirty seven only)	₹ 7,57,522.61
13.13	Supply of PE Pipe, PE100, PN10, 90mm dia, conforming to IS 4984/2016. including specials	2293.000	metre	280.50	(Rupees two hundred eighty and paise fifty only)	₹ 6,43,186.50
13.14	Supply of PE Pipe, PE100, PN10, 110mm dia, conforming to IS 4984/2016. including specials	2274.000	metre	412.22	(Rupees four hundred twelve and paise twenty two only)	₹ 9,37,388.28
13.15	150 mm GI pipe (Medium) including specials	50.000	metre	1938.48	(Rupees one thousand nine hundred thirty eight and paise forty eight only)	₹ 96,924.00
13.16	Supplying 125 mm G.I Pipe (Medium) including specials	50.000	metre	1584.84	(Rupees one thousand five hundred eighty four and paise eighty four only)	₹ 79,242.00
13.17	Supplying 100mm GI (m) pipe including specials	60.000	metre	1231.29	(Rupees one thousand two hundred thirty one and paise twenty nine only)	₹ 73,877.40
13.18	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.6, Size 100mm.	2.000	No	4368.05	(Rupees four thousand three hundred sixty eight and paise five only)	₹ 8,736.10
13.19	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.0, Size 125mm.	2.000	No	4732.10	(Rupees four thousand seven hundred thirty two and paise ten only)	₹ 9,464.20
13.20	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.0, Size 150mm.	5.000	No	6734.30	(Rupees six thousand seven hundred thirty four and paise thirty only)	₹ 33,671.50

13.21	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Hand Wheel PN 1.0, Size 200mm.	1.000	No	11065.65	(Rupees eleven thousand sixty five and paise sixty five only)	₹ 11,065.65
13.22	Supply of CI Air Valve with Flanges, Conforming to IS 14845 - 2000, Kinetic Air Valve Type DS1, Size 80mm.	1.000	No	3568.20	(Rupees three thousand five hundred sixty eight and paise twenty only)	₹ 3,568.20
13.23	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.6, Size 80mm.	1.000	No	3131.05	(Rupees three thousand one hundred thirty one and paise five only)	₹ 3,131.05
13.24	Supply of CI Air Valve with Flanges, Conforming to IS 14845 - 2000, Kinetic Air Valve Type DS1, Size 50mm.	2.000	No	2913.15	(Rupees two thousand nine hundred thirteen and paise fifteen only)	₹ 5,826.30
13.25	Supply of CI Air Valve, Conforming to IS 14848 - 2000, Single Orifice, Small Orifice Type S1, Size 25mm.	30.000	No	966.75	(Rupees nine hundred sixty six and paise seventy five only)	₹ 29,002.50
13.260	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :80 mm nominal bore	35.000	No	2578.11	(Rupees two thousand five hundred seventy eight and paise eleven only)	₹ 90,233.85
13.27	C.I .Spring loaded Angle type pressure relief valve 50mm	6.000	No	5133.83	(Rupees five thousand one hundred thirty three and paise eighty three only)	₹ 30,802.98
13.28	Supplying and fixing Water pressure guage of approved make as directed by Engineer in charge	2.000	No	984.95	(Rupees nine hundred eighty four and paise ninety five only)	₹ 1,969.90

14	APPENDIX-F1-DISTRIBUTION SYSTEM IN ZONE II - WORKING CHARGES					
14.01	Cutting the bituminous / concrete roads with cutting machine for a minimum depth of 200mm along the sides of proposed alignment of the pipe to be laid without causing any damage to other utilities, including the charges for hire and conveyance of tools and plant, cost of consumables and charges for lighting, watching, ribbon fencing, caution boards, traffic diversion, and as per the direction of departmental officers etc. complete, before carrying out the demolition of bituminous / concrete road by mechanical means and carrying out the excavation.	5000.000	metre	30.06	(Rupees thirty and paise six only)	₹ 1,50,300.00
14.02	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	10188.343	cum	548.59	(Rupees five hundred forty eight and paise fifty nine only)	₹ 55,89,223.09
14.03	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 : "Ordinary Rock.	5094.173	cum	796.71	(Rupees seven hundred ninety six and paise seventy one only)	₹ 40,58,578.57
14.04	"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 :Medium Rock (blasting prohibited)	8914.799	cum	1324.87	(Rupees one thousand three hundred twenty four and paise eighty seven only)	₹ 1,18,10,950
14.05	"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 : Hard Rock(Blasting Prohibited)	1273.546	cum	1536.90	(Rupees one thousand five hundred thirty six and paise ninety only)	₹ 19,57,312.85

14.06	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	4000.000	Kwh	36.49	(Rupees thirty six and paise forty nine only)	₹ 1,45,960.00
14.07	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.	16701.300	metre	27.78	(Rupees twenty seven and paise seventy eight only)	₹ 4,63,962.11
14.08	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	4771.802	metre	95.47	(Rupees ninety five and paise forty seven only)	₹ 4,55,563.94
14.09	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	192.000	metre	120.58	(Rupees one hundred twenty and paise fifty eight only)	₹ 23,151.36
14.10	Providing and laying D.I specials of class K - 12 suitable for push - on jointing as per IS : 9523 :	5.000	quintal	19870.76	(Rupees nineteen thousand eight hundred seventy and paise seventy six only)	₹ 99,353.80
14.11	Providing and laying D.I Specials of Class K - 12 suitable for mechanical jointing as per IS : 9523 :	0.360	quintal	20881.71	(Rupees twenty thousand eight hundred eighty one and paise seventy one only)	₹ 7,517.42
14.12	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:200 mm dia pipes	38.000	joint	255.55	(Rupees two hundred fifty five and paise fifty five only)	₹ 9,710.90
14.13	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:200 mm diameter pipe	8.000	Nos	413.28	(Rupees four hundred thirteen and paise twenty eight only)	₹ 3,306.24
14.14	Labour for cutting C.I. pipe with steel saw.200 mm diameter C.I. pipe	4.000	Each Cut	425.33	(Rupees four hundred twenty five and paise thirty three only)	₹ 1,701.32
14.15	Testing 200mm DI/CI pipeline with potable water to the required test pressure 200 mm dia	192.000	metre	39.43	(Rupees thirty nine and paise forty three only)	₹ 7,570.56
14.16	Laying UPVC pipes of class 2 to class 6 and specials, lowering to the trenches already made, placing in position aligning the pipe line to the lines and levels and jointing the pipes and specials with solvent cement and testing the pipe line with water to the required test pressure (excluding cost of pipes and specials).160 mm nominal outer dia pipes.	1499.000	metre	200.25	(Rupees two hundred and paise twenty five only)	₹ 3,00,174.75
14.170	Laying UPVC pipes of class 2 to class 6 and specials, lowering to the trenches already made, placing in position aligning the pipe line to the lines and levels and jointing the pipes and specials with solvent cement and testing the pipe line with water to the required test pressure (excluding cost of pipes and specials). 140 mm nominal outer dia pipes.	2697.000	metre	166.17	(Rupees one hundred sixty six and paise seventeen only)	₹ 4,48,160.49

14.18	Laying UPVC pipes of class 2 to class 6 and specials, lowering to the trenches already made, placing in position aligning the pipe line to the lines and levels and jointing the pipes and specials with solvent cement and testing the pipe line with water to the required test pressure (excluding cost of pipes and specials). 90 mm nominal outer dia pipes."	36136.000	metre	85.96	(Rupees eighty five and paise ninety six only)	₹ 31,06,250.56
14.19	Laying UPVC pipes of class 2 to class 6 and specials, lowering to the trenches already made, placing in position aligning the pipe line to the lines and levels and jointing the pipes and specials with solvent cement and testing the pipe line with water to the required test pressure (excluding cost of pipes and specials).110 mm nominal outer dia pipes.	2819.000	metre	126.67	(Rupees one hundred twenty six and paise sixty seven only)	₹ 3,57,082.73
14.2	"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. 90 mm OD HDPE pipe"	2293.000	metre	92.12	(Rupees ninety two and paise twelve only)	₹ 2,11,231.16
14.21	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.110 mm OD HDPE pipe	2274.000	metre	124.93	(Rupees one hundred twenty four and paise ninety three only)	₹ 2,84,090.82
14.22	Providing and fixing G.I. pipes complete with G.I fittings including trenching and refilling etc. External work80 mm dia nominal bore	120.000	metre	1007.13	(Rupees one thousand seven and paise thirteen only)	₹ 1,20,855.60
14.23	Conveying and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. but excluding cost of pipes and fittings - External work. 100 mm dia nominal bore	60.000	metre	232.25	(Rupees two hundred thirty two and paise twenty five only)	₹ 13,935.00
14.24	"Conveying and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. but excluding cost of pipes and fittings - External work. 125 mm dia nominal bore	50.000	metre	260.17	(Rupees two hundred sixty and paise seventeen only)	₹ 13,008.50

14.25	Conveying and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. but excluding cost of pipes and fittings - External work. 150 mm dia nominal ore	50.000	metre	287.75	(Rupees two hundred eighty seven and paise seventy five only)	₹ 14,387.50
14.26	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	4960.000	sqm	151.04	(Rupees one hundred fifty one and paise four only)	₹ 7,49,158.40
14.27	Supply ,stacking,spreading and consolidating of Red earth in the trench of pipe line for cushion including carriage, loading ,unloading & stacking up to any lead.	458.000	cum	350.75	(Rupees three hundred fifty and paise seventy five only)	₹ 1,60,643.50
14.28	"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 I"	1.000	Nos	1538.24	(Rupees one thousand five hundred thirty eight and paise twenty four only)	₹ 1,538.24
14.29	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) :150 mm diameter. Class I"	5.000	Nos	1185.75	(Rupees one thousand one hundred eighty five and paise seventy five only)	₹ 5,928.75
14.30	"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) :125 mm diameter. Class I"	2.000	Nos	976.87	(Rupees nine hundred seventy six and paise eighty seven only)	₹ 1,953.74
14.31	"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 mm diameter. Class I"	2.000	Nos	875.51	(Rupees eight hundred seventy five and paise fifty one only)	₹ 1,751.02
14.32	"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) :80 mm diameter. Class II"	1.000	Nos	617.55	(Rupees six hundred seventeen and paise fifty five only)	₹ 617.55
14.33	Conveying and fixing C I Single acting Air Valve of approved quality with bolts,nuts,rubber insertions etc . excluding the cost of air valve(the tail pieces if required will be paid seperately): 80 mm Double acting Air Valve	1.000	Nos	216.85	(Rupees two hundred sixteen and paise eighty five only)	₹ 216.85
14.34	"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) :80 mm diameter. Class I"	1.000	Nos	580.66	(Rupees five hundred eighty and paise sixty six only)	₹ 580.66
14.35	Conveying and fixing C I Single acting Air Valve of approved quality with bolts,nuts,rubber insertions etc . excluding the cost of air valve(the tail pieces if required will be paid seperately):50 mm Double acting Air Valve	2.000	Nos	216.85	(Rupees two hundred sixteen and paise eighty five only)	₹ 433.70
14.36	Conveying and fixing C I Single acting Air Valve of approved quality with bolts,nuts,rubber insertions etc . excluding the cost of air valve(the tail pieces if required will be paid seperately): 25 mm Single acting Air Valve	30.000	Nos	138.72	(Rupees one hundred thirty eight and paise seventy two only)	₹ 4,161.60

14.37	Fabricating MS pipes of size 200mm (ID) using 8 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	20.000	metre	5833.42	(Rupees five thousand eight hundred thirty three and paise forty two only)	₹ 1,16,668.40
14.38	Fabricating MS flanges of diameter 200 mm using 12 mm thick MS plate including cost and conveyance charges of MS plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under coat of primer etc. complete: For pipes fabricated with 8mm thick MS plates.	6.000	Nos	1982.06	(Rupees one thousand nine hundred eighty two and paise six only)	₹ 11,892.36
14.39	Cutting 200 mm (ID) MS pipes for making bends and other specials by gas cutting including cost of gas, all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	3.000	No	208.95	(Rupees two hundred eight and paise ninety five only)	₹ 626.85
14.4	Welding 200 mm (ID) MS pipes for making bends and other specials by gas/electric welding machine including cost of gas and welding rods ,all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	6.000	No	799.58	(Rupees seven hundred ninety nine and paise fifty eight only)	₹ 4,797.48
14.41	Grinding cut and weld edges of 200 mm (ID) MS pipes during fabrication work including all labour and hire charges of tools etc. complete: For pipes fabricated with 8mm thick MS plates.	6.000	No	149.90	(Rupees one hundred forty nine and paise ninety only)	₹ 899.40
14.42	Supplying a 200mm 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	1.000	No	34500.00	(Rupees thirty four thousand five hundred only)	₹ 34,500.00
14.43	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	86.401	cum	293.24	(Rupees two hundred ninety three and paise twenty four only)	₹ 25,336.23
14.44	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 40 mm nominal size)	6.574	cum	7121.27	(Rupees seven thousand one hundred twenty one and paise twenty seven only)	₹ 46,815.23
14.45	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)	73.475	cum	8481.43	(Rupees eight thousand four hundred eighty one and paise forty three only)	₹ 6,23,173.07
14.46	Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete	803.264	sqm	331.13	(Rupees three hundred thirty one and paise thirteen only)	₹ 2,65,984.81

14.470	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	37.681	cum	8971.90	(Rupees eight thousand nine hundred seventy one and paise ninety only)	₹ 3,38,070.16
14.48	Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	210.880	sqm	708.26	(Rupees seven hundred eight and paise twenty six only)	₹ 1,49,357.87
14.49	Centering and shuttering including strutting, etc. and removal of form for:	73.700	sqm	805.61	(Rupees eight hundred five and paise sixty one only)	₹ 59,373.46
14.5	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	5935.061	kilogram	97.08	(Rupees ninety seven and paise eight only)	₹ 5,76,175.72
14.510	Supplying and fixing 500mm dia CI manhole cover with frame(medium duty) charges including all cost, labour charges etc complete.	20.000	Nos	7413.51	(Rupees seven thousand four hundred thirteen and paise fifty one only)	₹ 1,48,270.20
14.52	Supplying and fixing surface box with protection tube for valves as directed by Engineer in charge	67.000	No	1382.11	(Rupees one thousand three hundred eighty two and paise eleven only)	₹ 92,601.37
14.53	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:	639.000	cum	7114.98	(Rupees seven thousand one hundred fourteen and paise ninety eight only)	₹ 45,46,472.22
14.54	Surveying using Electronic Total Station with double prism in normal terrain and normal traffic., Investigation & Design Charges.	47.000	km	2619.39	(Rupees two thousand six hundred nineteen and paise thirty nine only)	₹ 1,23,111.33

15	APPENDIX-G PROVIDING WATER CONNECTION					
15.01	<p>Providing 15mm (1/2 inch) house connection with 15mm (1/2 inch) water meter from existing PVC / HDPE mains up to 110 mm dia., up to a length of 5 m using 20mm Indian Standard Class 6 uPVC pipe and uPVC / GM / Brass specials viz. brass ferrule, GM full way wheel valve, Elbow, MTA, FTA, couplers, PVC Service Saddle of suitable size etc. and connecting with the mains, testing the joints etc. complete including trenching and refilling in all kinds of soil up to a depth of 1.50m for main line tracing and trench of average cross section 0.3m x 0.75m for laying connection pipe and service pipe, fixing water meter, lighting, watching, providing caution boards, traffic control etc. complete including cost of materials, hire for tools, cost of consumables and labour charges, including the cost of tested Class B Multijet water meter with ISI mark and weather resistant PP / PE meter box of minimum size 300mm x 200mm x 150mm, but excluding charges for cutting the concrete / tarred / bituminous roads etc, and as per the direction of the departmental officers.</p>	5855.000	Nos	5797.98	(Rupees five thousand seven hundred ninety seven and paise ninety eight only)	₹ 3,39,47,173
15.02	<p>Providing 15mm (1/2 inch) house connection with 15mm (1/2 inch) water meter from existing PVC / HDPE mains from 140mm to 200mm dia., up to a length of 5 m using 20mm Indian Standard Class 6 uPVC pipe and uPVC / GM / Brass specials viz. brass ferrule, GM full way wheel valve, Elbow, MTA, FTA, couplers, PVC Service Saddle of suitable size etc. and connecting with the mains, testing the joints etc. complete including trenching and refilling in all kinds of soil up to a depth of 1.50m for main line tracing and trench of average cross section 0.3m x 0.75m for laying connection pipe and service pipe, fixing water meter, lighting, watching, providing caution boards, traffic control etc. complete including cost of materials, hire for tools, cost of consumables and labour charges, including the cost of tested Class B Multijet water meter with ISI mark and weather resistant PP / PE meter box of minimum size 300mm x 200mm x 150mm, but excluding charges for cutting the concrete / tarred / bituminous roads etc, and as per the direction of the departmental officers.</p>	1950.000	Nos	5997.98	(Rupees five thousand nine hundred ninety seven and paise ninety eight only)	₹ 1,16,96,061

15.03	Providing additional length of house connection pipe using 20mm Indian Standard Class 6 uPVC pipe and specials and testing the joints etc., by trenching and refilling in all kinds of soil with trench of average cross section 0.3m x 0.75m for laying of connection pipe and service pipe, lighting, watching, providing caution boards, traffic control etc., including cost of materials, hire for tools, cost of consumables and labour charges etc. complete, but excluding the cost of cutting of concrete / tarred / bituminous roads etc., and as per the directions of the department officers.	235000.000	metre	172.38	(Rupees one hundred seventy two and paise thirty eight only)	₹ 4,05,09,300
15.04	Providing 15mm PVC Tap in the water meter assembly for 15mm	7805.000	Nos	566.04	(Rupees five hundred sixty six and paise four only)	₹ 44,17,942.20
15.05	Providing 20mm (1/2 inch) PVC Air Valve in the water meter assembly for 20mm connection, using 25mm Indian Standard Class 6 uPVC pipes and specials including cost of materials, consumables, hire for tools and labour charges etc. complete and as per the directions of the department officers.	620.000	Nos	384.96	(Rupees three hundred eighty four and paise ninety six only)	₹ 2,38,675.20
15.06	KWA Water connection Charges upto 30 m length of service main.	7805.000	No	576.00	(Rupees five hundred seventy six only)	₹ 44,95,680.00
15.07	KWA Water connection Charges from above 30m length of service main.	1800.000	No	500.00	(Rupees five hundred only)	₹ 9,00,000.00
15.08	Geo tagging of FHTCs as per the direction of Departmental officers	7805.000	No	20.00	(Rupees twenty only)	₹ 1,56,100.00
15.09	Dismantling manually/by mechanical means and disposal of material within 50 metres lead as per direction of engineer-in-charge:(Bituminous road).	2190.000	sqm	86.78	(Rupees eighty six and paise seventy eight only)	₹ 1,90,048.20
15.10	Demolishing cement concrete manually / by mechanical means as per direction of Engineer - in-Charge.Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	37.125	cum	755.01	(Rupees seven hundred fifty five and paise one only)	₹ 28,029.75

15.11	Cutting the bituminous / concrete roads with cutting machine for a minimum depth of 200mm along the sides of proposed alignment of the pipe to be laid without causing any damage to other utilities, including the charges for hire and conveyance of tools and plant, cost of consumables and charges for lighting, watching, ribbon fencing, caution boards, traffic diversion, and as per the direction of departmental officers etc. complete, before carrying out the demolition of bituminous / concrete road by mechanical means and carrying out the excavation.	2650.000	metre	30.06	(Rupees thirty and paise six only)	₹ 79,659.00
15.12	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)	634.127	cum	7891.26	(Rupees seven thousand eight hundred ninety one and paise twenty six only)	₹ 50,04,061.03
16	APPENDIX -H- SUPPLY AND ERECTION OF PUMPSETS					
16.01	Supply and erection and commissioning of centrifugal pumpset of KWA approved manufacturers with bronze/SS impeller,SS shaft ,CI pump casing with panel board, starter, earthing and pipe connection works etc. at pump house including suitable type base plate with coupling gaurd foundation bolts & nuts suitable for pump and motor, including providing suitable concrete foundation etc complete meeting following specification . Discharge - 10 lps, Total head - 125 m, Min. efficiency - 70%, two years warranty. 2 sets (one running at a time ,one standby)	2.000	Set	399933.00	(Rupees three Lakhs ninety nine thousand nine hundred thirty three only)	₹ 7,99,866.00
	TENDERED PAC					₹ 46,28,85,998.00
	Deduct Connection fee payable to KWA					₹ 53,95,680.00
	Net Amount					₹ 45,74,90,318.00
	Accepted tender excess @19% Above					₹ 5444,13,478.00
	Add Connection Fee payable to KWA					₹ 53,95,680.00
	Accepted PAC of work					₹ 54,98,09,158.00
(Rupees fifty four Crore ninety eight Lakhs nine thousand one hundred fifty eight only)						

CONTRACTOR


 SUPERINTENDING ENGINEER