SCHEDULE OF RATES

Water Supply Works

2018-19

With Effect from

5th October, 2018

Urban Development and Municipal Affairs Department
Government of West Bengal

WATER SUPPLY WORKS

2018-2019

WITH EFFECT FROM- 5th October, 2018

SCHEDULE OF RATES

GOVERNMENT OF WEST BENGAL

URBAN DEVELOPMENT & MUNICIPAL AFFAIRS DEPARTMENT

PREFACE

PWD Schedule of Rates (SOR) are used throughout the State of West Bengal in all types of works of civil, roads and electrical. Schedules of PWD are prepared mainly on general items which are being executed by PWD and being used for some maintenance works within the scope of PWD where required. But in case of urban infrastructure creation and maintenance like water supply, drainage, solid waste management, in remote areas, pumping stations whether big or small are not included in PWD SOR. Urban infrastructure is maintained by Corporations and different ULBs with engineering support of either in-house or with the help of MED.

The Schedule of Rates covered the items usually considered for Water Supply Works and which are not included in PWD (WB) SORs. However to arrive at rates for consolidated items (which are frequently used by the different organizations under this Department, the rates of different kind of labours and materials have been from the PWD Schedule of Rates, Government of West Bengal.

It has been felt that one SOR for the item of works which have not yet been covered in any SOR of West Bengal Government Department should be prepared to provide rational rates for various items at works related to water supply works for all urban local bodies and development authorities across the state.

So, in terms of Notification No. 879/MA/C-l/Misc.-19/2018 dt. 17.07.2018 of UD & MA Department, this Schedule of Rates (SOR), for Water Supply works (Civil Part) has been prepared, to avoid handling problem and reducing the probability of committing error during preparation of estimates, as well.

In this SOR the cost of material and the cost of labour have been considered as per the present rates. The rates of materials which are not available in the SOR of PWD has been taken from the present market rate.

GST and Construction Labour Welfare Cess (1%) have not been added within rate of item of works. This has to be added separately during preparation of actual estimate (Ref. Annexure- X).

This will take effect on & from 5th October, 2018.

All efforts have been taken for keeping this publication error free. However, effective suggestion for any correction, addition & alteration is always welcome for any further betterment.

It is pertinent to mention here that if any other item of works that may be frequently required for execution of water supply works in future shall be added to this SOR either as addendum or revised SOR.

At last, we on behalf of the Schedule committee would like to convey our sincere thanks to those Engineer Officers who have co-operated with suggestions and also expect fruitful comments and suggestions from all concerns in future, as ever.

Member Convenor,
SOR Committee &
Secretary, MED

Chairman, SOR Committee, &
CEO, KMDA.

ANNEXURE 'X'

Project Title: CONSTRUCTION OF PROPOSED WATER SUPPLY WORKS AT.

Sl. No.	Description	Amount (Rs)
1	Cost for Water Supply Works	X
2	Cost for Building & Sanitary Works	Y
3	Cost for Ancillary Work, if any	Z
4	Sub-total Cost (1 + 2 + 3)	A = (X + Y + Z)
5	GST, as applicable on Sl. No. - 4	B
6	Cost of civil works excluding labour welfare cess (4 + 5)	C = (A + B)
7	Labour welfare cess @1% on Sl. No. - 6	D
8	Cost of civil works including labour welfare cess (6 + 7)	E = (C + D)

Note: Contingency Charge @ 3% is to be considered on Sl. No. - 6.

CONTENTS

GENERAL CONDITIONS

The Schedule of Rates for works & materials. In all cases of contracts in respect of Water Supply Works, this entire volume of Schedule will be operative.

The "Engineer-in-Charge" shall mean the Executive Engineer of the Construction Division concerned. The Assistant Engineer concerned is authorized to carry out, on behalf of the "Engineer-in-Charge", general supervision, issue day to day instructions, approval of materials and workmanship. In case of any dispute, the decision of the Engineer-In-Charge shall be final and binding.

All unnecessary materials and obstructions on the alignments and or within the limits of contract including temporary structures etc, shall be removed for easy accessibility of men, material and construction equipment at site All necessary arrangements to commence work in waterlogged, swampy, low-lying areas or any other type of land shall be made. The contractor shall get himself fully acquainted with such site conditions well before hand and account for all these situations before quoting rates for the job concerned.

Before commencement of work, permission from respective Government Departments, Local Authorities, and Police as necessary, shall be obtained by the agency entrusted with the job.

All materials tools and plants, besides those to be supplied by the department, are to be arranged beforehand. All labours (skilled and unskilled) including their accommodation, water supply & sanitation, medical aid etc. shall be arranged by the contractor and he shall be responsible to bear the cost of transport of labour and materials at site.

Unless otherwise mentioned, the rates of all items of works in this schedule are inclusive of labour, material costs excluding GST & Labour Welfare Cess and all other incidental works Involved. **To arrive at complete rate of different items in this schedule, 2% tools & tackles, 5% overhead and 10% contractor profit have been considered along with aforesaid material cost, labour cost and other cost etc.**

Unless specifically mentioned otherwise in the description of item itself, no extra charges shall be paid for scaffolding, centering, shuttering, curing etc. and the rates are deemed to be inclusive of the same and of the cost of helping materials necessary for satisfactory completion of the work.

Arrangements for water to carry out hydraulic testing of pipeline including cost thereof shall be borne by the contractor.

All works shall be carried out with due regard to the convenience of the pedestrian and traffic, if any and the arrangements with programme of works must be planned accordingly.

Renewal works include dismantling and taking out old works and mending good damages after renewal.

Materials obtained in course of dismantling/cleaning shall be the property of the department. The contractor shall sort out and stack the serviceable materials and also dispose off unserviceable solid wastes as per instruction of the Engineer-In- Charge .The contractor shall remain the custodian of such dismantled mater is till the charge of the same is taken over by the Engineer-in-Charge.

All materials brought at site must be to the approval of the Engineer-in-Charge. Rejected materials must be removed by the contractor from the site within 24 hours of issue of orders to that effect. In case of non-compliance with such orders the Engineer-in-Charge shall have the authority to cause such removal at the cost and expenses of the contractor and the contractor shall not be entitled to any loss or damage on that account.

All departmental materials shall be issued to the contractor to the extent of requirements as assessed and in installment as decided by the Engineer-in-Charge. Issue of all departmental materials to the contractor may be of two categories:

Materials for which value is to be recovered from the contractor (if applicable).

1. Materials, which are issued direct to the work (i.e. in respect of items the rates for which do not include the cost of these materials)

2. All departmental materials shall be issued at the Departmental godown or godowns and for this purpose a Stack-yard shall also be deemed as a godown as may be specified in the contract stipulations for any particular work. The contractor shall have to carry the materials at his own cost at the work site and his quoted rate shall be deemed to be inclusive of all costs including costs for loading unloading and stacking. Lead, in any special condition, shall be issued to the contractor at issue rates noted against each item.

The contractor shall act as custodian of all departmental materials issued to him for respective jobs. The materials shall be properly stored near the site of work. Under no circumstances whatsoever shall any material be removed from the site of work without Prior written permission from the Engineer-in-Charge. The contractor shall be responsible for any damage or loss of such materials unless he can satisfy the Engineer-in-Charge that the reasons for such damage or loss are due to circumstances beyond his control. The contractor shall also have to satisfy the Engineer-in-Charge regarding proper utilization of such materials.

Rate of all items except those involving of labour only are to be enhanced by 30% for hill Municipalities in Darjeeling and Kalimpong Districts.

Any material which may be surplus on completion of work may at the discretion of the Superintending Engineer concerned be taken back provided those are in good condition and fit for re-use in other works.

Surplus materials shall be returned in good condition to the Engineer-in-Charge by the contractor if not mentioned otherwise in the items themselves, all pipes and specials shall conform to the specifications of the Bureau of Indian Standards and bear necessary Standardization Marks. Under very special circumstances, materials manufactured as per specifications laid down by the Bureau of Indian Standard. But not bear any such Standardization Mark, may be accepted with prior approval of the Engineer-in-Charge. For such items, a reduction in price by 20% shall be made.

The work site must be cleared of rubbish refuse etc. from time to time by the contractor and on completion of work the entire site must be left in a clean condition as per direction of the Engineer-in-Charge.

All materials to be used in work shall conform to the specifications laid down by the Bureau of Indian Standard in respective Standards published from time to time. In absence of such standard, the materials shall be of best quality and approved by the Engineer-in-Charge.

All works shall be carried out as per specifications laid down by the Bureau of Indian Standard in respective Standards published from time to time.

CHAPTER - I [SUPPLEMENTARY]

EXCAVATION, SHORING, BAMBOO PILING, FENCING & SIGN BOARD, LIGHTING & SIGNALING AND SITE CLEANING ETC.

[NOTE: In this chapter major items are taken from PC Sch. 2017 and the rates varies accordingly. Addendum/Corrigendum of PWD towards SOR will also be applicable]

Sl. No.	Description	Unit	Rate
	EXCAVATION		
1.1	Earth work in excavation of foundation trenches or drains, in all sorts of soil (including mixed soil but excluding laterite or sandstone) including removing, spreading or stacking the spoils within a lead of 75 m. as directed. The item includes necessary trimming the sides of trenches, levelling, dressing and ramming the bottom, bailing out water as required complete.		
	(a) Depth of excavation not exceeding 1,500 mm.	% Cu.M	11927.00
	(b) Depth of excavation for additional depth beyond 1,500 mm. and upto 3,0 mm. but not requiring shoring	% Cu.M	19238.00
	(c) Depth of excavation for additional depth beyond 3000 mm. upto 4000mm. excluding cost of shoring as necessary	% Cu.M	23470.00
1.2	Earth work in filling in foundation trenches or plinth with good earth, in layers not exceeding 150 mm. including watering and ramming etc. layer by layer complete. (Payment to be made based on the basis of measurement of finished quantity of work.		
	(a) With earth obtained from excavation of foundation	% Cu.M	7754.00
	(b) With earth obtained by fresh excavation (including cost of excavation upto 1,800 mm. depth) from land arranged by the Deptt. within alead of 100 m.	% Cu.M	13718.00
	(c) (i) With carried earth arranged by the contractor within a radius of 1 km. including cost of carried earth.	% Cu.M	31271.00
	(ii) With carried earth arranged by the contractor within a radius of 3 km. including cost of carried earth.	% Cu.M	35541.00
	(iii) With carried earth arranged by the contractor within a radius exceeding 3km. but not exceeding 5 km. including the cost of carried earth.	% Cu.M	39901.00
	(iv) With carried earth arranged by the contractor within a radius exceeding 5 km. but not exceeding 10 km. including cost of carried earth.	% Cu.M	49179.00
1.3	Filling in foundation or plinth by silver sand in layers not exceeding 150 mm as directed and consolidating the same by thorough saturation with water, ramming complete including the cost of supply of sand. (Payment to be made on measurement of finished quantity)	% Cu.M	93621.00
	B) Do - by fine sand	% Cu.M	104841.00

Sl. No.	Description	Unit	Rate
1.4	Excavation of trial pit (3.0 m x 1.0 m x (upto) 3.0 m) for fixing of pumping main, washout line raking every detection against damage of S.W. pipe line electrical cable etc. as underground obstruction including 37.5 mm timber shuttering, earth cutting, dewatering, barricading and back filling etc. as per directionj of E-I-C	Each	1867.00
1.5	Cutting & picking up existing metalled black top portion of road surface to an average depth of 300 mm by using Jack hammer with all necessary tool and plant including reening the serviceable materials & stacking within a lead of 75 mtr. all complete as per direction of the Engineer-in- Charge.	Cu.M	636.00
	SHORING		
1.6	Hire and labour charges for shoring work (including necessary close plank walling, framing, Eucalyptus/Jhou bulla piling, strutting etc) complete as per direction of the Engineer-in charge for foundation excavation (vertical surface are in contact with supported earth is to be measured.) (This item should be executed on specific direction of the Enginner in charge).		
	(a) Depth upto 1.5 m.	Sq. M	386.00
	(b) For additional depth beyond 1.5 m. and upto 3.00 m	Sq. M	439.00
	(c) For additional depth beyond 3.00 m.	Sq. M	498.00
	(d) (i) For basement work and Depth upto 1.50 m	Sq. M	532.00
	(ii) For basement work and Depth beyond 1.50 mand upto 3.00 m.	Sq. M	590.00
	(iii) For basement work and Depth beyond 3.00 m	Sq. M	626.00
	BAMBOO PILING		
1.7	Bamboo pile walling made of 65 mm to 75 mm dia. Bamboo (in single line) driven about half length into the ground at very close spacing side by side including necessary bamboo stays ties runners etc and lining the exposed portion with sheets made form cutdrums fitted and fixed complete as per direction.		
	(Payment to be made on length of wall)		
	(a) With bamboos of length between 1.20 m. and 1.80 m. each.	Metre	837.00
	(b) With bamboos of length above 1.80 m. and up to 2.40 m. each	Metre	982.00
	(c) With bamboos of length above 2.40 m. and up to 3.00 m. each	Metre	1207.00
	FENCING AND SIGN BOARD		
1.8	Hire and labour charges for 75 mm dia bamboo railing on Jhau/Eucalyptus or other approved timber\bamboo posts 1.4 m above G.L and 0.60 m below G.L including tying strongly with coir ropes and boring holes for posts in any soil/ concrete surface/Bituminious surface packing the sides etc including cost of carriage of all materials and labour complete including cost of restoration to the damages of the ground to its original condition as per direction of Engineer in charge after removing the barricade.(Cost of restoration would be paid seperately.)		

Sl. No.	Description	Unit	Rate
	a) 75mm. dia bamboo railing & 125mm. Dia Jhau/Eucalyptus/other approved timber posts @ 1.60m apart		
	(i) Railing with 4 rows.	Metre	57.00
	(ii) Railing with 3 rows.	Metre	49.00
1.9	Hire and labour charges for 100 mm dia bamboo railing on Jhau / Eucalyptus post 1.40 m above G.L and 0.60 m below G.L. tied strongly with bamboo railing with coir rope, digging holes for posts in any sort of soil or concrete surface packing the sides etc including cost of carriage of all materials and labour complete including cost of restoration to the damages of the ground to its original condition as per direction of Engineer-in-charge after removing the barricade. (Cost of restoration to be paid separately.)		
	(a) 100 mm. dia bamboo railing and 150 mm. dia. Jhaubullah / Eucalyptus posts @1.80 m. apart		
	(i) Railing with 4 rows.	Metre	82.00
	(ii) Railing with 3 rows.	Metre	68.00
1.10	Hire and labour charges for coir rope fencing 25 mm dia rope single on 120 m dia bamboo posts 1.40 m above G.L. and 600 mm below G.L.1.50 m apart including digging holes complete.	Metre	17.00
1.11	Hire and labour charges for coloured and twisted cloth rope fencing as per design approved by Engineer-in-charge one line with 100 mm dia Eucalyptus or bamboo posts 0.60 m above G.L. and 300 mm below G.L. 1.50 m apart fitted and fixed complete including painting with white zinc painting (2 coat) complete.Payment of painting to be made seperately.	Metre	20.00
1.12	Supplying sign-board made of 25 mm thick sal plank with frame on all side of sal batten 50 mm x 32 mm with nailed on post 3.15m x 100mm x 100mm and fitting fixing such with digging holes of dia 300 mm and depth 750 mm in all sorts of soil and repacking and consolidating the gap around the post with cement concrete (1:3:6) painting 2 coats including cost of nails, bolts and nuts etc. complete in all respect as per direction of the Engineer-in-charge. Payment of concrete and painting to be made separately.		
	(i) 600 mm. x 450 mm. size of board.	Each	427.00
	(ii) 900 mm. x 600 mm. size of board.	Each	813.00
	LIGHTING & SIGNALING		
1.13	Hire & labour charges for diesel generating set for lighting including fuel, 300M wire, 11 points with 200 Watt bulb with post for hanging & maintaining the same for day & night for the period.	Day	1650.00
1.14	Signalling arrangement at both sides of site to avoid any accident during working period 4 nos. red flags during sunlight at 4 corners and 2 nos light (lamp) in other than sunlight.	Day	202.00

Sl. No.	Description	Unit	Rate
	SITE CLEANING		
1.15	Uprooting and removing plants from the surface of walls parapet etc and making good damages. Repairing of damages to be paid seperately.		
	(a) Small plant of girth of exposed stem upto 75 mm. lift upto 6 mtr.	Each	50.00
	b) Medium size plant of girth of exposed stem above 75 mm. but not exceeding 150 mm. lift upto 6 mtr.	Each	60.00
	(c) Large plant of girth of exposed stem above 150 mm. but not exceeding 225 mm.lift upto 6 mtr.	Each	187.00
	Note : For lift beyond initial 6 mtr. the rate will be increased @ 20% for each additional lift if 6 mtr. or part hereof.		
1.16	Cleaning and removing conservancy garbage mixed with rubbish & other filthy materials from the road side flank, drain and compound including sutting, loading, unloading to and from truck or cart by Mathor labour & removing the same to any distance	Sq M	5662.00
1.17	Clearing compound premises of shurbs, plants, jungles etc. by cutting and removing as directed (Specific permission of Engineer-in- charge prior to execution will be necessary). (Payment to be made on area cleared)	Sq.M	11.00
1.18	Removal of rubbish, earth etc. from the working site and disposal of the same beyond the compound, in conformity with the Municipal / Corporation Rules for such disposal, loading into truck and cleaning the site in all respect as per direction of Engineer in charge.	Cu.M	166.00

CHAPTER - II

Sl. No.	Description	Unit	Rate
	LAYING & JOINTING PIPES, SPECIALS ETC.		
2.1	**C.I. / D.I. Pipe & Specials**		
2.1.1	Lowering any type C I. pipes & specials and laying along trench at any depth as per specification and direction of the Engineer-in-charge. [For laying over ground, the rates shall be reduced by 10 % and tile rates so reduced shall be inclusive of cost of holding arrengements)		
	Diameter In mm		
	80mm dia.	% Metre	1464.00
	100mm dia.	% Metre	1782.00
	150mm dia.	% Metre	2293.00
	200mm dia.	% Metre	2929.00
	225mm dia.	% Metre	2929.00
	250mm dia.	% Metre	2929.00
	300mm dia.	% Metre	5226.00
	350mm dia.	% Metre	5226.00
	400mm dia.	% Metre	5544.00
	450mm dia.	% Metre	5544.00
	500mm dia.	% Metre	6180.00
	600mm dia.	% Metre	7327.00
	700mm dia.	% Metre	10923.00
	750mm dia.	% Metre	10923.00
	800mm dia.	% Metre	13999.00
	900mm dia.	% Metre	17393.00
	1000mm dia.	% Metre	21742.00
2.1.2	Lowering any type of Ductile Iron (DI) pipes & specials and laying along trench at any depth as per specification and direction of the Engineer-in-charge, (laying over ground, the rates shall be, reduced by 10% and the rates so reduced shall be inclusive of cost of all sorts of holding arrangements]		
	Diameter in mm		
	80mm dia.	% Metre	1082.00
	100mm dia.	% Metre	1400.00
	150mm dia.	% Metre	1878.00
	200mm dia.	% Metre	2293.00

Sl. No.	Description	Unit	Rate
	225mm dia.	% Metre	2293.00
	250mm dia.	% Metre	2293.00
	300mm dia.	% Metre	5862.00
	350mm dia.	% Metre	5862.00
	400mm dia.	% Metre	5226.00
	450mm dia.	% Metre	5226.00
	500mm dia.	% Metre	5544.00
	600mm dia.	% Metre	6180.00
	700mm dia.	% Metre	7327.00
	750mm dia.	% Metre	7327.00
	800mm dia.	% Metre	9555.00
	900mm dia.	% Metre	12072.00
	1000mm dia.	% Metre	13699.00
2.1.3	Lead jointing to C.I. pipes and specials with supply of lead and spun yarn all complete to make the joint water tight at required hydraulic pressure as per specification & direction of the Engineer-in-charge. (Lead shall be supplied departmentally to the Agency at specified Issue rates and cost thereof shall be recovered from the works Bill of the Agency) **Diameter in mm**		
	80mm dia.	Each	687.00
	100mm dia.	Each	822.00
	150mm dia.	Each	1241.00
	200mm dia.	Each	1759.00
	225mm dia.	Each	1921.00
	250mm dia.	Each	2114.00
	300mm dia.	Each	2511.00
	350mm dia.	Each	2904.00
	400mm dia.	Each	3303.00
	450mm dia.	Each	4753.00
	500mm dia.	Each	5146.00
	600mm dia.	Each	6508.00
	700mm dia.	Each	7546.00
	750mm dia.	Each	8580.00
	800mm dia.	Each	10726.00

Sl. No.	Description	Unit	Rate
	900mm dia.	Each	11942.00
	1000mm dia.	Each	13937.00
2.1.4	Lead jointing to C.I. pipes and specials excluding cost of lead and spun yarn all complete to make the joint water tight at required hydraulic pressure as per specification and direction of the Engineer-in-charge. [Lead shall be supplied departmentally to the Agency at free of cost as per availability]		
	Diameter in mm		
	80mm dia.	Each	263.00
	100mm dia.	Each	304.00
	150mm dia.	Each	440.00
	200mm dia.	Each	581.00
	225mm dia.	Each	625.00
	250mm dia.	Each	676.00
	300mm dia.	Each	815.00
	350mm dia.	Each	925.00
	400mm dia.	Each	1065.00
	450mm dia.	Each	1455.00
	500mm dia.	Each	1612.00
	600mm dia.	Each	2031.00
	700mm dia.	Each	2363.00
	750mm dia.	Each	2690.00
	800mm dia.	Each	3304.00
	900mm dia.	Each	3695.00
	1000mm dia.	Each	4277.00
2.1.5	Rubber gasket joints to C.I./D.I. pipes and specials all complete to makes the joint water tight as required hydraulic pressure as per specification and direction of the Engineer-in-charge. [Cost of Rubber. gasket of approved make induding supply to any point within the Kolkata Municipal Area shall be paid separately.]		
	Diameter in mm		
	80mm dia.	Each	51.00
	100mm dia.	Each	59.00
	150mm dia.	Each	67.00
	200mm dia.	Each	83.00
	225mm dia.	Each	91.00

Sl. No.	Description	Unit	Rate
	250mm dia.	Each	108.00
	300mm dia.	Each	124.00
	350mm dia.	Each	140.00
	400mm dia.	Each	166.0
	450mm dia.	Each	182.00
	500mm dia.	Each	213.00
	600mm dia.	Each	261.0
	700mm dia.	Each	280.00
	750mm dia.	Each	296.00
	800mm dia.	Each	312.00
	900mm dia.	Each	363.00
	1000mm dia.	Each	395.00
2.1.6	Flange joint to C.I./D.I/M.S. pipes and specials including supply of rubber gasket, nuts, bolts, washers etc. of best quality to make the joint watertight at required hydraulic pressure all complete as per specification & direction of the Engineer-in-charge.		
	Diameter in mm		
	50mm dia.	Each	255.00
	80mm dia.	Each	316.00
	100mm dia.	Each	461.00
	150mm dia.	Each	723.00
	200mm dia.	Each	850.00
	225mm dia.	Each	1006.00
	250mm dia.	Each	1186.00
	300mm dia.	Each	1033.00
	350mm dia.	Each	1341.00
	400mm dia.	Each	1452.00
	450mm dia.	Each	2122.00
	500mm dia.	Each	2435.00
	600mm dia.	Each	3440.00
	700mm dia.	Each	4271.00
	750mm dia.	Each	4478.00
	800mm dia.	Each	5769.00
	900mm dia.	Each	6877.00
	1000mm dia.	Each	8408.00

Sl. No.	Description	Unit	Rate
	1100mm dia.	Each	10188.00
	1200mm dia.	Each	12450.00
	1300mm dia.	Each	14155.00
	1400mm dia.	Each	16949.00
	1500mm dia.	Each	18336.00
2.1.7	Cutting of C.I/D.I pipes for fitting with pipes and-or specials of similar or dissimilar materials at the time of laying without damaging any part of the required length including taking out of the broken pieces from the trench and restacking the same at the specified location as per direction of the Engineer-in-charge.		
	Diameter in mm		
	80mm dia.	Each	76.00
	100mm dia.	Each	91.00
	150mm dia.	Each	126.00
	200mm dia.	Each	180.00
	225mm dia.	Each	197.00
	250mm dia.	Each	211.00
	300mm dia.	Each	248.00
	350mm dia.	Each	277.00
	400mm dia.	Each	375.00
	450mm dia.	Each	495.00
	500mm dia.	Each	607.00
	600mm dia.	Each	716.00
	700mm dia.	Each	850.00
	750mm dia.	Each	1126.00
	800mm dia.	Each	1347.00
	900mm dia.	Each	1625.00
	1000mm dia.	Each	1780.00
2.1.8	Chamfering the spigot end of C.I./D.I. pipes for fitting with the socket of C.I./D.I. pipes and/or specials in tyton jointed water mains or other wise using electric grinder as per specification and direction of the Engineer-in- charge.		
	Diameter in mm		
	80mm dia.	Each	61.00
	100mm dia.	Each	74.00
	150mm dia.	Each	113.00

Sl. No.	Description	Unit	Rate
	200mm dia.	Each	148.00
	225mm dia.	Each	164.00
	250mm dia.	Each	186.00
	300mm dia.	Each	217.00
	350mm dia.	Each	254.00
	400mm dia.	Each	300.00
	450mm dia.	Each	356.00
	500mm dia.	Each	377.00
	600mm dia.	Each	487.00
	700mm dia.	Each	514.00
	750mm dia.	Each	653.00
	800mm dia.	Each	786.0
	900mm dia.	Each	1028.00
	1000mm dia.	Each	1306.00
2.1.9	Cutting of Single bit/Double bits of socket of rubber gasket jointed C.I/ D.I socket & spigot pipes without damaging any portion of the pipe end making the pipe free from all broken pieces as per direction of the Engineer-in-charge.		
	Diameter in mm		
	80mm dia.	Each	92.00
	100mm dia.	Each	115.00
	150mm dia.	Each	131.00
	200mm dia.	Each	192.00
	225mm dia.	Each	217.00
	250mm dia.	Each	251.00
	300mm dia.	Each	300.00
	350mm dia.	Each	335.00
	400mm dia.	Each	493.00
	450mm dia.	Each	569.00
	500mm dia.	Each	737.00
	600mm dia.	Each	881.00
	700mm dia.	Each	959.00
	750mm dia.	Each	1130.00
	800mm dia.	Each	1360.00
	900mm dia.	Each	1641.00
	1000mm dia.	Each	1724.00

Sl. No.	Description	Unit	Rate
2.2	**A. C. Pipes**		
2.2.1	Lowering AC pipes and laying / relaying along treanches at any depth including taking out and removing all unserviceable materials as per specification and direction of the Engineer-in-charge		
	Diameter in mm		
	80mm dia.	% Metre	732.00
	100mm dia.	% Metre	1082.00
	150mm dia.	% Metre	1464.00
2.2.2	Cutting AC pipes for fitting with pipes and/or specials of similar or disimilar materials at the time of laying/relaying without damaging any part of the required length including taking out of the broken pieces from the treanch and restacking the same as specified location as per direction of the Engineer-in-charge.		
	Diameter in mm		
	80mm dia.	Each	29.00
	100mm dia.	Each	51.00
	150mm dia.	Each	89.00
2.2.3	Detachable joints to AC pipes including supply of rubber gasket, nuts, bolts etc. of best quality to make the joint water tight at required hydraulic pressure all complete as per specification and direction o the Engineer-in- charge.		
	Diameter in mm		
	80mm dia.	Each	272.00
	100mm dia.	Each	328.00
	150mm dia.	Each	498.00
2.2.4	Labour for detachable joints to AC pipes to make the joint water tight at required hydraulic pressure all complete as per specification and direction of the Engineer-in-charge		
	Diameter in mm		
	80mm dia.	Each	43.00
	100mm dia.	Each	51.00
	150mm dia.	Each	68.00
2.3	**M.S. Pipes**		
2.3.1	Gas cutting of M.S. pipes and/or M.S. plates of different thickness all complete as per specification and direction of the Engineer-in- charge.		
	Thikness in mm		
	5mm to 8mm thick plate	Metre	213.00
	10mm thick plate	Metre	298.00

Sl. No.	Description	Unit	Rate
	12mm thick plate	Metre	372.00
	15mm thick plate	Metre	406.00
	Above 15 upto 25mm thick plate	Metre	496.00
	Above 25 upto 36mm thick plate	Metre	558.00
	Above 36 upto 45mm thick plate	Metre	596.00
2.3.2	Shop welding of M.S plates for fabrication of different diameter of M.S. pipes and specials by means of electric arc welding as per relevant I.S. specification using standard electrodes including edge preparation and charges for deployment of all types of tools and plants with electricity all complete as per specification and direction of the Engineer-in-Charge. (The Engineer-in-charge shall approve the electrode for arc welding before use)		
	Throat thickness in mm		
	6mm	Metre	330.00
	8mm	Metre	412.00
	10mm	Metre	494.00
	12mm	Metre	659.00
	16mm	Metre	824.00
	20mm	Metre	989.00
2.3.3	Field welding of M.S. plate by means of electric arc welding as per relevent IS specification using standard electrodes including edge preparation and charges of deployment of electric generator set with fuel, lubricant, and all other tools and plants all complete as per specification and direction of Engineer-in-charge. [Engineer-in-charge shall approve the electrodes for arc welding before use]		
	Throat thickness in mm		
	5mm to 6mm	Metre	1087.00
	8mm	Metre	1359.00
	10mm	Metre	1631.00
	12mm	Metre	2175.00
	16mm	Metre	2718.00
	20mm	Metre	3262.00
2.3.4	Field welding of machined ends of pieces of M.S pipes and specials for laying the same inside trench/over ground by means of electric arc welding as per relevant IS specification using standard electrodes including edge preparation and charges of deployment of electric generator set with fuel, lubricant, and all other tools and plants all complete as per specification and direction of Engineer-in-charge. [Engineer-in-charge shall approve the electrodes for arc welding before use]		

Sl. No.	Description	Unit	Rate
	Throat thickness in mm		
	6mm	Metre	1444.00
	8mm	Metre	1806.00
	10mm	Metre	2167.00
	12mm	Metre	2889.00
	16mm	Metre	3611.00
	20mm	Metre	4333.00
2.3.5	Fabricating M.S. pipes of different diameter in shop out of 8mm to 12mm thick M.S plates supplied departmentally, cutting the plates to exact size & shape by gas cutting device and/or by adopting any other approved type of mechanical means, bending the same in true curvature by template and rolling machine of approved design including proper marking, levelling joints followed by electric arc welding as per relevant I.S. specification - longitudinal and circumferential, as necessary, usiug standard electrodes including edge preparation, electricity charges and hydraulic testing of the fabricated piece all complete as per specification and direction of the Engineer-in-charge. [The Engineer-in-charge shall approve the electrodes for arc welding before use.]		
	a) Diameter from 450 mm & upto 600 mm.		
	i) 8mm thick plate.	M.Ton	14711.00
	ii) 10mm thick plate	M.Ton	13721.00
	b) 700 mm dlameter		
	i) 10mm thick	M.Ton	12704.00
	ii) 12mm thick	M.Ton	12079.00
	c) 750 mm diameter		
	i) 10mm thick	M.Ton	12297.00
	ii) 12mm thick	M.Ton	11714.00
	d) 800mm diameter		
	i) 10mm thick	M.Ton	11941.00
	ii) 12mm thick	M.Ton	11394.00
	e) 900 mm diameter		
	i) 10mm thick	M.Ton	11347.00
	ii) 12mm thick	M.Ton	10862.00
	f) 1000 mm diameter		
	i) 10mm thick	M.Ton	10873.00
	ii) 12mm thick	M.Ton	10435.00

Sl. No.	Description	Unit	Rate
	g) 1100 mm diameter		
	i) 10mm thick	M.Ton	10484.00
	ii) 12mm thick	M.Ton	10087.00
	h) 1200 mm diameter		
	i) 10mm thick	M.Ton	10160.00
	ii) 12mm thick	M.Ton	9796.00
	i) 1300 mm diameter		
	i) 10mm thick	M.Ton	9887.00
	ii) 12mm thick	M.Ton	9550.00
	j) 1400 mm diameter		
	i) 10mm thick	M.Ton	9652.00
	ii) 12mm thick	M.Ton	9340.00
	k) 1500 mm diameter		
	i) 10mm thick	M.Ton	9448.00
	ii) 12mm thick	M.Ton	9157.00
2.3.6	Fabricating M.S. Specials of different diameter in shop out of 8 mm to 12 mm thick M.S plates supplied departmentally, cutting the plates to exact size & shape by gas cutting device and/or by adopting any other approved type of mechanical means, bending the same in true curvature by template and rolling machine of approved design including proper marking, levelling joints followed by electric arc welding - longitudinal and circumferential, as necessary, using standard electrodes as per I.S. specification including edge preparation, electricity charges and hydraulic testing of the fabricated piece all complete as per specification and direction of the Engineer-in-charge. [The Engineer-in-charge shall approve the electrodes for are welding before use. Fabrication of M.S. flange to form M.S Flanged Tail Piece shall not be considered as M.S. special]		
	a) Diameter horn 450 mm & upto 600 mm.		
	i) 8 mm thick plate.	M.Ton	30275.00
	ii) 10 mm thick plate	M.Ton	29799.00
	b) 700 mm diameter		
	i) 10mm thick	M.Ton	40790.00
	ii) 12mm thick	M.Ton	39162.00
	c) 750 mm diameter		
	i) 10mm thick	M.Ton	38827.00
	ii) 12mm thick	M.Ton	37293.00

Sl. No.		Description	Unit	Rate
	d)	**800mm thick**		
	i)	10mm thick	M.Ton	37078.00
	ii)	12mm thick	M.Ton	35626.00
	e)	**900 mm thick**		
	i)	10mm thick	M.Ton	34092.00
	ii)	12mm thick	M.Ton	32783.00
	f)	**1000 mm thick**		
	i)	10mm thick	M.Ton	31640.00
	ii)	12mm thick	M.Ton	30447.00
	g)	**1100 mm diameter**		
	i)	10mm thick	M.Ton	38879.00
	ii)	12mm thick	M.Ton	37148.00
	h)	**1200 mm diameter**		
	i)	10mm thick	M.Ton	36435.00
	ii)	12mm thick	M.Ton	34836.00
	i)	**1300 mm diameter**		
	i)	10mm thick	M.Ton	34336.00
	ii)	12mm thick	M.Ton	32849.00
	j)	**1400 mm diameter**		
	i)	10mm thick	M.Ton	32512.00
	ii)	12mm thick	M.Ton	31123.00
	k)	**1500 mm diameter**		
	i)	10mm thick	M.Ton	30914.00
	ii)	12mm thick	M.Ton	29610.00
2.3.7		Supplying and fabricating 20 mm to 32mm thick (finished thickness) M.S flange, properly ribbed, one face machined, including drilling holes as per standard table, fitting and fixing the same with M.S. pipe by electric arc welding as per relevant I.S. specification using standard electrodes and direction of the Engineer-in-charge. [The Engineer-in-Charge shall approve the electrodes for arc welding before use]		
		Diameter in mm		
		450mm dia.	Each	10394.00
		500mm dia.	Each	11619.00
		600mm dia.	Each	14285.00
		700mm dia.	Each	17100.00

Sl. No.	Description	Unit	Rate
	750mm dia.	Each	18637.00
	800mm dia.	Each	20174.00
	900mm dia.	Each	24926.00
	1000mm dia.	Each	28454.00
	1100mm dia.	Each	32468.00
	1200mm dia.	Each	36782.00
	1300mm dia.	Each	41108.00
	1400mm dia.	Each	52268.00
	1500mm dia.	Each	57408.00
2.3.8	Supplying and fabricating 20 mm to 32mm thick (finished thickness) M.S. Blank Flange properly ribbed, one face machined including drilling holes as per standard table, fitting and fixing the same with M.S. flanged pipe with supply of nuts, bolts, washers, gasket etc. of best quality all complete as per specification and direction of the Engineer-in-charge.		
	Diameter in mm		
	450mm dia.	Each	6892.00
	500mm dia.	Each	7862.00
	600mm dia.	Each	10441.00
	700mm dia.	Each	13022.00
	750mm dia.	Each	14264.00
	800mm dia.	Each	16597.00
	900mm dia.	Each	21939.00
	1000mm dia	Each.	26120.00
	1100mm dia.	Each	31160.00
	1200mm dia.	Each	36903.00
	1300mm dia.	Each	42278.00
	1400mm dia.	Each	56860.00
	1500mm dia.	Each	62923.00
2.3.9	Lowering M.S pipes & specials in trench up to a depth of 3.00 metre below G.L, laying and jointing the same inside the trench / over ground by means of electric arc welding using standard electrodes as per I.S. specification, all complete as per direction of the Engineer-in-charge.		
	[The Engineer-in-charge shall approve the electrodes for arc welding before use. (For laying over ground, the rates shall be reduced by 10% and that is inclusive of holding arrangements)]		
	Diameter in mm		
	450mm dia.	% Metre	21960.00
	500mm dia.	% Metre	23775.00

Sl. No.	Description	Unit	Rate
	600mm dia.	% Metre	27404.00
	700mm dia.	% Metre	57505.00
	750mm dia.	% Metre	61135.00
	800mm dia.	% Metre	65591.00
	900mm dia.	% Metre	72933.00
	1000mm dia.	% Metre	80936.00
	1100mm dia.	% Metre	88195.00
	1200mm dia.	% Metre	95455.00
	1300mm dia.	% Metre	104104.00
	1400mm dia.	% Metre	111963.00
	1500mm dia.	% Metre	120014.00
2.4	**Valves**		
2.4.1	Lowering, fitting and fixing of all types of valves in proper position and alignment using chain pully block or crane (for diameter above 250 mm) by providing temporary support, as required, gaskets, nuts & bolts etc. all cornplete as per specification and direction of the Engineer-in-charge. [The rate Includes cost of flange joints]		
	Diameter in mm		
	50mm dia.	Each	563.00
	80mm dia.	Each	696.00
	100mm dia.	Each	986.00
	150mm dia.	Each	1510.00
	200mm dia.	Each	1764.00
	225mm dia.	Each	2171.00
	250mm dia.	Each	2627.00
	300mm dia.	Each	2321.00
	350mm dia.	Each	2979.00
	400mm dia.	Each	3201.00
	450mm dia.	Each	4601.00
	500mm dia.	Each	5316.00
	600mm dia.	Each	7326.00
	700mm dia.	Each	9137.00
	750mm dia.	Each	9551.00
	800mm dia.	Each	12133.00
	900mm dia.	Each	14941.00
	1000mm dia.	Each	18003.00
	1100mm dia.	Each	22156.00
	1200mm dia.	Each	26680.00
	1300mm dia.	Each	30973.00
	1400mm dia.	Each	36561.00
	1500mm dia.	Each	39856.00

CHAPTER - III

TAKING OUT PIPES AND SPECIALS

Sl. No.	Description	Unit	Rate
	Cast Iron / Ductile Iron Pipes and Specials		
3.1	Taking out C.I. / D.I. pipes with specials and valves including stacking the same within a lead of 30 M as per instruction of the Engineer-in-charge,		
	(Excavation. dewatering, earth filling etc. will be paid separately).		
	a) Pipe up to 150 mm diameter and depth of trench up to 2 Metre.	Metre	80.00
	b) Pipe up to 150 mm diameter & depth of trench beyond 2 Metre up to 3 Metre.	Metre.	120.00
	c) Pipe above 150 mm diameter and up to 250 diameter Depth of trench up to 2 Metre.	Metre	103.00
	d) Pipe above 150 mm diameter and up to 250 mm diameter, Depth of trench beyond 2 Metre and upto 3 Metre.	Metre	144.00
	e) Pipe above 250 mm diameter and up to 400 mm diameter Depth of trench up to 2 Metre.	Metre	139.00
	f) Pipe above 250 mm diameter and up to 400 mm diameter Depth of trench beyond 2 Meter and upto 3 metre.	Metre	208.00
	g) Pipe above 400 mm diameter and up to 750mm diameter Depth of trench up to 2 metre.	Metre	135.00
	h) Pipe above 400 mm diameter and up to 750mm diameter Depth of trench beyond 2 Meter and upto 3 metre.	Metre	303.00
	i) Pipe above 750 mm diameter and up to 1000mm diameter Depth of trench beyond 2 Meter and upto 3 metre.	Metre	364.00
3.2	Taking out A.C. Pipes with specials and valves including stacking the same within a lead of 30M as per instruction of the Engineer-in-charge (Excavation, dewatering, earth filling etc. will be paid separately).		
	Pipe upto 150 mm diameters and depth of trench upto 2 Metre.	Metre	79.00
	P.V.C. Pipes and Specials		
3.3	Taking out P.V.C. Pipes with specials and valves including stacking the same within a lead of 30M as per instruction of the Engineer-in-charge (Excavation, dewatering, earth filling etc. will be paid separately).		
a)	Pipe upto 110 mm diameter and depth of trench upto 2 Metre.	Metre	73.00
b)	Pipe above 110 mm diameter and upto 200 mm dia. Depth of trench upto 2M	Metre	89.00
	Pre-stresses Concrete Pipes and Specials		
3.4	Taking out Pre-stresses Concrete Pipes with specials and valves including stacking the same within a lead of 30M as per instruction of the Engineer-in-charge (Excavation, dewatering, earth filling etc. will be paid separately).		

Sl. No.	Description	Unit	Rate
a)	Pipe upto 750 mm diameter and depth of trench upto 2 Metre.	Metre	222.00
b)	Pipe above 750 mm diameter and upto 1500 mm dia. Depth of trench beyond 2 M & upto 3 M.	Metre	258.00
M.S. Pipes and Specials			
3.5	Taking out M,S, Pipes with specials and valves including stacking the same within a lead of 30M as per instruction of the Engineer-in- charge (Excavation. dewatering, earth filling etc. will be paid separately).		
a)	Pipe upto 750 mm diameter and depth of trench upto 2 Metre.	Metre	1,118.00
b)	Pipe above 750mm diameter and upto 1500 mm diameter depth of trench beyond 2 Metre and upto 3 Metre.	Metre	1574.00
3.6	Taking out sluice valve by unscrewing nuts and bolts carefully and stacking the same within a lead of 30M including bailing out water from the Sluice valve chamber due to normal seepage, if any, all complete as per direction of the Engineer-in-charge. (Dismantling of Sluice Value Chcmber, where necessary shall be paid extra as per relevant items of Schedule of Rates)		
	Diameter in mm		
	80-150	Each	76.00
	200	Each	97.00
	250	Each	118.00
	300/350	Each	128.00
	400/450	Each	307.00
	500	Each	669.00
	600	Each	1104.00
	700/750	Each	2231.00
	800	Each	2520.00
	900	Each	2867.00
	1000	Each	3156.00
3.7	Shifting house connection or stand post connection from existing main to new main after excavation through any kind of soil and road materials up to required depth. Dismantling existing ferrule with all fittings. Plugging hole of old main with G.I. plug. Drilling and tapping the new main. refixing the ferrule on the new main with serviceable old G.I pipes and other specials (New G.I. pipes and other specials, if required to be installed shall be paid extra) and back filling the trench with excavated materials all complete as per specification and direction of the Engineer- in-charge.	Each	1427.00

CHAPTER - IV

INSERTING PIPES AND SPECIALS

Sl. No.	Description	Unit	Rate
4.1	Inserting C.I./D.I. pipes and or specials in the gap formed by cutting existing C.I./D.I. main. bailing out water from the trench due to normal seepage. if any. including fitting. fixing of ancillary C.I/D.I. specials with supply of Spun Yam all complete to make the joints water tight at required hydraulic pressure as per specification and direction of the Engineer-in-charge. [Cost of C.I/D.I. Specials. cutting of pipes. lead ioints. earth work in excavation road metal. earth work ill filling. shoring. where necessary. shall be paid extra as per relevant items of schedule of rates.]		
	Diameter in mm		
	80	Meter	61.00
	100	Meter	91.00
	125/150	Meter	107.00
	200/250	Meter	166.00
	300/350	Meter	197.00
	400/450	Meter	253.00
	500	Meter	414.00
	600	Meter	497.00
	700/750	Meter	644.00
	800	Meter	1724.00
	900	Meter	2298.00
	1000	Meter	2873.00
4.2	Inserting M.S. pipe and/or special up to a length of 5.50 metre in the gap formed by cutting existing M.S. main, bailing out of water from the trench due to normal seepage if any, providing temporary support including gas cutting all complete as per specification and direction of the Engineer-in-Charge. [The Engineer-in-Charge shall approve the electrodes for arc welding before use and the cost of ere welding of joints shall be paid extra as per the relevant item of the Schedule of Rates]		
	Diameter in mm		
	450/500	Meter	2332.00
	600	Meter	2425.00
	700	Meter	2555.00
	750	Meter	2602.00
	800	Meter	2649.00
	900	Meter	2790.00
	1000	Meter	2884.00
	1100	Meter	3278.00
	1200	Meter	3372.00
	1300	Meter	3504.00
	1400	Meter	3598.00
	1500	Meter	3717.00

CHAPTER - V

HYDRAULIC TESTING

Sl. No.	Description	Unit	Rate
5.1	Hydraulically testing of C.I./D.I/A.C pipe lines in sections, under a head of water not less than 60m (6Kg/Cm^2 .pressure) or above as per specific requirements by filling the main with supply of water including supply of all specials and equipment like pump sets, gauges, end caps blank flange etc. all complete as per specification and direction of the Engineer-in-charge. [After successful completion of test, removal of ancillary specials, equipments, plugging arrangements and disposal of water shall be made at no extra cost]		
	Diameter in mm		
	80	% Meter	2173.00
	100	% Meter	2178.00
	150	% Meter	2210.00
	200	% Meter	2234.00
	225	% Meter	2249.00
	250	% Meter	2265.00
	300	% Meter	2352.00
	350	% Meter	2431.00
	400	% Meter	2517.00
	450	% Meter	2576.00
	500	% Meter	2722.00
	600	% Meter	3045.00
	700	% Meter	3259.00
	750	% Meter	3374.00
	800	% Meter	3824.00
	900	% Meter	4386.00
	1000	% Meter	4916.00
5.2	Hydraulically testing of M.S. pipes in sections under a head of water not less than 60 (6Kg/Cm pressure) or above as per specific requirements by filling the main with supply of water including supply of all specials and equipment like pump sets, gauges, end caps/blank flange etc. and providing suitable thrust block all complete as per specification and direction of the Engineer-in-charge. (After successful completion of test, removal of ancillary specials, equipment. plugging arrangements, thrust block and disposal of water shall be made at no extra cost)		

Sl. No.	Description	Unit	Rate
	Diameter in mm		
	450	% Meter	8892.00
	500	% Meter	9761.00
	600	% Meter	11586.00
	700	% Meter	13529.00
	750	% Meter	14448.00
	800	% Meter	15623.00
	900	% Meter	17811.00
	1000	% Meter	20039.00
	1100	% Meter	22221.00
	1200	% Meter	24360.00
	1300	% Meter	26756.00
	1400	% Meter	29027.00
	1500	% Meter	31394.00

CHAPTER - VI

DISINFECTION OF PIPELINE

Sl. No.	Description	Unit	Rate
6.1	Disinfection of water main by filling with water containing bleaching powder of sufficient quantity capable of maintaining a residual chlorine concentration of 10mg/l within the main after a detention period of two hours and flushing the same with fresh water all complete as per specification and direction of the Engineer-in- Charge. [After successful completion of the process, disposal of water and bacteriological testing of sample of flushed out water from the mains should be made at no extra cost]		
	Diameter in mm		
	80	% Meter	816.00
	100	% Meter	822.00
	150	% Meter	842.00
	200	% Meter	871.00
	225	% Meter	888.00
	250	% Meter	908.00
	300	% Meter	1097.00
	350	% Meter	1150.00
	400	% Meter	1212.00
	450	% Meter	1426.00
	500	% Meter	1504.00
	600	% Meter	1829.00
	700	% Meter	2042.00
	750	% Meter	2161.00
	800	% Meter	2464.00
	900	% Meter	2951.00
	1000	% Meter	3503.00
	1100	% Meter	4233.00
	1200	% Meter	4610.00
	1300	% Meter	5597.00
	1400	% Meter	6329.00
	1500	% Meter	7382.00

CHAPTER - VII

MISCELLANEOUS ITEMS

Sl. No.	Description	Unit	Rate
7.1	Derusting, scraping, brushing and cleaning (to the extent of exposing the original surface) the outer surface of manufactured M.S. pipes and specials, applying first coat of synthetic primer Type-B as per IS : 15337 : 2003 of approved make over it and wrapping the same with coal tar based insulating tape 2 mm thick as per IS : 15337 : 2003 of approved make and applying the second coat of synthetic primer Type - B (as specified above) over the first layer of insulating tape and wrapping the same with second layer of 2 mm thick coal tar based insulating tape (as specified above) in staggered pattern (including overlapping at ends) by torching etc. as per manufacturer's specification and as per direction of EIC. Each layer of protective wrapping shall be tested with Holiday detector at Contractor's cost and the Contractors shall repair all holidays to the satisfaction of EIC at no extra cost (Payment will be made on finished area of work)	Sq.M	1068.00
7.2	Dewatering by pumps including all leads, lifts and making all arrangements of disposal, where continuous flow of water from a source other than natural or ground water is encountered in case of emergency maintenance works related to leakage, breakage and making wet connections. [Note : - In case of any other situation demanding such emergency dewatering. use of this item is to be approved by the Superintending Engineer/Tender Accepting Authority. This item shall be executed on the specific direction duly supported by proper clarification of the E.I.C. who will be satisfied in absolute discretion that such work has not been necessitated due to any natural source of water or any fault of the Contractor]	Hp-Hr	33.00
7.3	Labour for cleaning & Washing CI / DI / AC Pipe line upto 150mm dia, including scraping internal deposits if necessary, as per direction of Engineer-in-charge.	Metre	7.00
7.4	Cleaning distribution pipelines by opening of valves of any size including string, stirrups and draining out of the accumulated water there of using portable pump if necessary.	Each	503.00
7.5	Opening of sluice valves of distribution mains upto 200 mm size including arrangement for tools and tackles.	Each	409.00
7.6	Refitting of sluice valves up to 200 mm dia after repairing including supplying and fixing of insulation gland, nut bolts etc. and putting the same in operational condition all complete as per direction of E.I.C.	Each	336.00
7.7	Coating of 'Epoxy' Resin of thickness not less than 160 micron with a low-viscosity, crystallization-resistant epoxy resin base with a reactive diluents combined with high build epoxy amine adducts as per BS 5493 standard and a polyamide or amido polyamine or any other suitable	Sq.m	449.00

Sl. No.	Description	Unit	Rate
	hardener. It shall react with epoxy resin at normal ambient temperature, suitable for solvent-free coatings as per recommended proportion for use on metal, concrete and wood surface to protect from corrosion as well as damage from chemical reaction after making the surface free from dust, oil and moisture etc. all complete as per instruction and to the satisfaction of EIC. [This item will be operated on prior permission from the concerned SE/Dy Chief Engineer]		
7.8	Coating of 'Food Gr. Epoxy' Resin of thickness not less than 240 micron with a low-viscosity, crystallization-resistant food grade epoxy resin base with a reactive diluents combined with high build epoxy amine adducts as per BS 5493 standard and a polyamide or amido polyamine or any other suitable hardener. It shall react with epoxy resin at normal ambient temperature, suitable for solvent-free coatings as per recommended proportion for use on metal, concrete and wood surface to protect from corrosion, give anti-fungal properties, as per guide line of FDA and USDA as well as damage from chemical reaction after making the surface free from dust, oil and moisture etc. all complete as per instruction and to the satisfaction of EIC. [This item will be operated on prior permission from the concerned SE/Dy Chief Engineer]	Sq.m	802.00
7.9	Repair of Air valve by supplying ebonite and rubber ball, gasket, nuts and bolts with washers and labour all complete.		
	Diameter in mm		
	80	Each	2428.00
	100	Each	3012.00
	150	Each	3897.00
	200	Each	4792.00
7.10	Supplying, fitting and fixing air valve splash plate using 24 mm thick MS plate) according to necessary site measurement as per direction of EIC.	Each	4224.00
7.11	Application of two coats of Epoxy primer as per BS 5493 by brush on the cleaned dry concrete surface with epoxy resin primer with reactive suitable hardener mixture as per specification and direction of EIC all complete. [This item will be operated on prior permission from the concerned SE/Dy Chief Engineer]	Sq.m	396.00
7.12	Sealing of uneven gap in PSC Socket/spigot joint by insertion of 19 mm thick asbestos graphite packing (AMP-32) including supplying. fitting and fixing all complete.	Metre	870.00

Sl. No.	Description	Unit	Rate
7.13	Repairing of leakage in socket-spigot type PSC pipe-joint by providing requisite quantity best quality spun yam asbestos ropes and finally with the help of Epoxy resin and machine Hardner mixed with silica flouer-400 pbw and quartz sand -500 pbw as per specification and direction		
	Diameter in mm		
	600	Each	3324.00
	700	Each	3810.00
	750	Each	4294.00
	800	Each	6405.00
7.14	Repairing of leakage in socket-spigot type PSC pipe-joint by providing spun yarn gasketing in layer all round with cement-soda mortar covered over the packed gasket by providing materials and labours as per specefication and direction of EIC all complete.		
	Diameter in mm		
	600	Each	1932.00
	700	Each	2195.00
	750	Each	2318.00
	800	Each	3655.00
7.15	Mechanical scrubbing cleaning scouring & flushing of water mains by cutting at least 50mts. Appart by cutting trenches irrespective of any pavements & making joints with matching Mechanical Compression Flexible Collar Coupling jointing (as per IS: 8329) complete with Sealing Rubber Gasket of EPDM quality (IS:5382/1985 Type - 4), Cast Iron Follower Glands and Mild Steel Nut Bolts (Zinc Coated), mending good the trenches temporarily as per direction of engineer-in-charge by supply pipe cleaning machine pump for dewatering and socket piece double collar etc. all complete.		
	Diameter in mm		
	80	Metre	98.00
	100	Metre	120.00
	150	Metre	162.00
7.16	Supplying, fitting and fixing of C.I. Mechanical Compression flexible Collar Couplings suitable for C.I. Spun Pipes (as per IS: 1536) and D. I. Pipes (as per IS: 8329) complete with Sealing Rubber Gasket of EPDM quality (IS:5382/1985 Type - 4), Cast Iron Follower Glands and Mild Steel Nut Bolts (Zinc Coated). The whole assembly should be mechanically and		

Sl. No.	Description	Unit	Rate
	hydraulically tested to the provisions as laid down in IS: 1538. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.		
	Diameter in mm		
	100	Each	1650.00
	125	Each	2155.00
	150	Each	2649.00
	200	Each	3425.00
	250	Each	5178.00
	300	Each	6748.00
	350	Each	9502.00
	400	Each	12091.00
	450	Each	13829.00
	500	Each	19359.00
	600	Each	25886.00
	700	Each	34221.00
	750	Each	39686.00
	800	Each	50514.00
	900	Each	60025.00
	1000	Each	74707.00
7.17	Supplying, fitting and fixing of C.I. Mechanical Compression flexible Collar Couplings suitable for Inch size C.I. Pipes conforming to Class-B of BS: 1211 complete with Sealing Rubber Gasket of EPDM quality (IS:5382/ 1985 Type- 4), Cast Iron Follower Glands and Mild Steel Nut Bolts (Zinc Coated). The whole assembly should be mechanically and hydraulically tested to the provisions as laid down in IS: 1538. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.		
	Diameter in inch with minimum barrel length in mm.		
	4 inch with length 100mm	Each	2079.00
	5inch with length 100mm	Each	2509.00
	6 inch with length 100mm	Each	3534.00
	7 inch with length 100mm	Each	4598.00
	8 inch with length 100mm	Each	5240.00

Sl. No.	Description	Unit	Rate
	9 inch with length 125mm	Each	6268.00
	10 inch with length 125mm	Each	7393.00
	12 inch with length 125mm	Each	9008.00
	14 inch with length 150mm	Each	11085.00
	15 inch with length 150mm	Each	12582.00
	16 inch with length 150mm	Each	14791.00
	18 inch with length 150mm	Each	18737.00
	20 inch with length 200mm	Each	22131.00
	21inch with length 200mm	Each	23580.00
	24 inch with length 200mm	Each	28119.00
	27 inch with length 200mm	Each	36791.00
	30 inch with length 200mm	Each	42313.00
7.18	Supplying, fitting and fixing of C.I. Mechanical flexible Flange Socket Tailpiece suitable for making flanged connection with the plain barrel of C.I. Spun Pipes (as per IS : 1536) and D.I. Pipes (as per IS : 8329). The Tailpieces to be supplied complete with Sealing Rubber Gasket of EPDM quality (IS:5382/1985 Type-4), Cast Iron Follower Glands and Mild Steel Nut Bolts (Zinc Coated). The whole assembly should be mechanically and hydraulically tested to the provisions as laid down in IS: 1538. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.		
	Diameter in mm with minimum barrel length in mm.		
	100mm with length 100mm	Each	1912.00
	125mm with length 100mm	Each	2574.00
	150mm with length 100mm	Each	3341.00
	200mm with length 100mm	Each	4612.00
	250mm with length125mm	Each	6610.00
	300mm with length 125mm	Each	7742.00
	350mm with length 150mm	Each	10701.00
	400mm with length 150mm	Each	13731.00
	450mm with length 150mm	Each	16389.00
	500mm with length 200mm	Each	19953.00
	600mm with length 200mm	Each	27460.00
	700mm with length 200mm	Each	36880.00
	750mm with length 200mm	Each	45723.00
	800mm with length 225mm	Each	70338.00
	900mm with length 225mm	Each	83948.00
	1000mm with length 250mm	Each	108882.00

Sl. No.	Description	Unit	Rate
7.19	Supplying, fitting and fixing of D.I. Mechanical flexible Flange Socket Tailpiece suitable for making flanged connection with the plain barrel of C.I. Spun Pipes (as per IS : 1536) and D.I. Pipes (as per IS : 8329). The Tailpieces to be supplied complete with Sealing Rubber Gasket of EPDM quality (IS:5382/1985 Type-4), Cast Iron Follower Glands and Mild Steel Nut Bolts (Zinc Coated) . The whole assembly should be mechanically and hydraulically tested to the provisions as laid down in IS: 1538. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.		
	Diameter in mm with minimum length of Barrel Pipe in mm.		
	100mm with length 100mm	Each	1639.00
	150mm with length 100mm	Each	2482.00
	200mm with length 100mm	Each	3312.00
	250mm with length 125mm	Each	4871.00
	300mm with length 125mm	Each	5750.00
	350mm with lenght150mm	Each	8942.00
	400mm with length 150mm	Each	11213.00
	450mm with length 150mm	Each	13211.00
	500mm with length 200mm	Each	15982.00
	600mm with length 200mm	Each	21507.00
	700mm with length 200mm	Each	33926.00
	750mm with lenght 200mm	Each	38272.00
	800mm with length 225mm	Each	43392.00
	900mm with length 225mm	Each	50025.00
	1000mm with length 250mm	Each	66322.00
7.20	Supplying, fitting and fixing of C.I. Mechanical Compression Transition Collar Couplings suitable for jointing C.I. Spun Pipes (as per IS: 1536) and D.I. Pipes (as per IS: 8329) with corresponding Inch size Pipes (as per Class- B of BS: 1211). The Couplings to be supplied complete with Sealing Rubber Gasket of EPDM quality (IS:5382/1985 Type-4), Cast Iron Follower Glands and Mild Steel Nut Bolts. The whole assembly should be mechanically and hydraulically tested to the provisions as laid down in IS: 1538. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.		
	Diameter in mm x inch with minimum barrel length in mm.		
	100mm x 4 inch with length 100 mm	Each	1859.00
	125mmx 5 inch with length 100 mm	Each	2376.00
	150mm x 6 inch with length 100 mm	Each	3144.00

Sl. No.	Description	Unit	Rate
	200mm x 8 inch with length100mm	Each	3828.00
	250mm x 10 inch with length125mm	Each	5844.00
	300mm x 12 inch with length125mm	Each	7531.00
	350mm x 14 inch with length150mm	Each	10424.00
	400mm x 16 inch with length150mm	Each	13504.00
	450mm x 18 inch with length150mm	Each	15891.00
	500mm x 20 inch with length200mm	Each	21812.00
	600mm x 24 inch with length200mm	Each	28843.00
	700mm x 27 inch with length200mm	Each	38253.00
	750mm x 30 inch. with length200mm	Each	44959.00
7.21	Supplying, fitting and fixing of C.I. Mechanical Compression Long Sleeve Collar Coupling (popularly known as Cut-N-Repair Coupling) suitable for jointing C.I. Spun Pipes (as per IS: 1536) and D.I. Pipes (as per IS: 8329) with BS:1211 Class-B Pipes. The Couplings will be supplied complete with Sealing Rubber Gasket of EPDM quality (IS:5382/1985 Type-4), Cast Iron Follower Glands and Mild Steel (Zinc Coated) Nut Bolts . The whole assembly should be mechanically and hydraulically tested to the provisions as laid down in IS: 1538. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.		
	Diameter in mm with minimum barrel pipe length in mm.		
	100mm with length 300mm.	Each	2992.00
	125mm with length 300mm.	Each	3921.00
	150mm with length 300mm.	Each	4824.00
	200mm with length 300mm.	Each	6043.00
	250mm with length 300mm.	Each	8944.00
	300mm with length 300mm.	Each	11214.00
	350mm with length 400mm.	Each	17723.00
	400mm with length 400mm.	Each	25858.00
	450mm with length 400mm.	Each	28805.00
	500mm with length 400mm.	Each	33526.00
	600mm with length 400mm.	Each	43289.00
	700mm with length 400mm.	Each	52745.00
	750mm with length 400mm.	Each	62327.00
	800mm with length 400mm.	Each	72773.00
	900mm with length 400mm.	Each	83092.00

Sl. No.	Description	Unit	Rate
7.22	Supplying, fitting and fixing of C.I. Mechanical Compression Split Collars suitable for instantaneous repair of longitudinal and vertical splits in C.I. Spun Pipes (as per IS: 1536) and D.I. Pipes (as per IS: 8329) by encasing the damaged part completely. The Split Collars to be supplied complete with Sealing Rubber Gasket of EPDM quality (IS:5382/1985 Type-4), Cast Iron Follower Glands and Mild Steel Nut Bolts (Zinc Coated). The whole assembly should be mechanically and hydraulically tested to the provisions as laid down in IS: 1538. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.		
	Diameter in mm with minimum barrel pipe length in mm.		
	100mm with length 300mm.	Each	6630.00
	150mm with length 300mm.	Each	8672.00
	200mm with length 300mm.	Each	11094.00
	250mm with length 300mm.	Each	13677.00
	300mm with length 300mm.	Each	15407.00
	350mm with length 400mm.	Each	26285.00
	400mm with length 400mm.	Each	32169.00
	450mm with length 400mm.	Each	40541.00
	500mm with length 400mm.	Each	46585.00
	600mm with length 400mm.	Each	52526.00
	700mm with length 400mm.	Each	68222.0
	750mm with length 400mm.	Each	78243.00
7.23	Supplying including cost of installation of cast iron Dismantling joint Double Flanged Flexible Short piece with collapsible arrangement, flanged face drilled to IS: 1538-93 table 4 & 6, flat face conforming to IS: 210-85, GR 150 FG complete with sealing rubber gasket made of EPDM quality with ISI mark to 5382-1985, type 4, cast iron follower gland and mild steel fastener with zinc coating. The whole assembly is to be mechanically and hydraulically tested to provision in IS: 1533.93. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.		
	Diameter in mm with minimum barrel pipe length in mm.		
	100mm with length 190 to 265mm.	Each	4863.00
	125mm with length 195 to 270mm.	Each	6089.00
	150mm with length 200 to 300mm.	Each	7701.00
	200mm with length 210 to 320mm.	Each	10249.00
	250mm with length 235 to 355mm.	Each	14875.00
	300mm with length 235 to 360mm.	Each	19965.00

Sl. No.	Description	Unit	Rate
	350mm with length 240 to 375mm.	Each	25963.00
	400mm with length 250 to 380mm.	Each	31815.00
	450mm with length 260 to 390mm.	Each	35784.00
	500mm with length 300 to 460mm.	Each	45704.00
	600mm with length 310 to 460mm.	Each	58809.00
	700mm with length 315 to 480mm.	Each	80093.00
	750mm with length 315 to 490mm.	Each	93562.00
7.24	Supplying including cost of installation of D.I. Dismantling Joints is a variable length Double Flanged Short Piece constituted by a flange / Spigot Tailpiece inserted into the other Tailpiece which allows the distance between the two flanges to be varied within certain limits thus providing a variable distance piece between two fixed flange end devices like Pumps and Valves. The Dismantling Joint to be supplied complete with Sealing Rubber Gaskets of EPDM quality (IS:5382/1985 Type-4), Cast Iron Follower Glands and Mild Steel (Zinc Coated) Nut Bolts as per manufacturer specification. The whole assembly should be mechanically and hydraulically tested to the provisions as laid down in IS: 1538. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.		
	Diameter in mm with minimum barrel pipe length in mm.		
	100mm with length 190 to 265mm.	Each	2501.00
	150mm with length 200 to 300mm.	Each	3776.00
	200mm with length 210 to 320mm.	Each	5144.00
	250mm with length 235 to 355mm.	Each	7349.00
	300mm with length 235 to 360mm.	Each	8983.00
	350mm with length 240 to 375mm.	Each	14115.00
	400mm with length 250 to 380mm.	Each	17931.00
	450mm with length 260 to 390mm.	Each	21407.00
	500mm with length 300 to 460mm.	Each	26194.00
	600mm with length 310 to 460mm.	Each	36622.00
	700mm with length 315 to 480mm.	Each	55601.00
	750mm with length 315 to 490mm.	Each	62998.00
	800mm with length 315 to 490mm.	Each	73112.00
	900mm with length 315 to 490mm.	Each	85504.00
	1000mm with length 315 to 490mm.	Each	111708.00

Sl. No.	Description	Unit	Rate
7.25	Supplying including cost of installation of M.S. Patch Clamps suitable for instantaneous repair of horizontal cracks in C.I. Spun Pipes (as per IS: 1536) and D.I. Pipes (as per IS: 8329). The Clamp constitutes of two semicircular halves made out of 5/6 mm thick Steel Plate duly contoured to match the circumference of the pipes. The Clamp should be with suitable rubber lining / trey so that on fixing over the damaged pipe, it instantly repairs longitudinal cracks or hole in the pipe body. The length of the Clamp should be 300 mm up to 300 mm nominal dia and 500 mm in case of pipes of larger nominal diameter of pipe. Sealing Rubber Gasket should be of EPDM quality and Nut Bolts should be Zinc coated. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.		
	Diameter in mm		
	100	Each	3640.00
	125	Each	4060.00
	150	Each	4658.00
	200	Each	6149.00
	250	Each	7371.00
	300	Each	9020.00
	350	Each	14560.00
	400	Each	15463.00
	450	Each	17078.00
	500	Each	18122.00
	600	Each	21226.00
	700	Each	23367.00
	750	Each	25916.00
7.26	Supplying including cost of installation of C.I. Leak Repair Clamps suitable for permanent repair of leakages in Socket / Spigot joints in C.I. Spun Pipes (as per IS: 1536) and D.I. Pipes (as per IS: 8329). The Clamp consists of two Cast Iron Rings supplied in overlapping semi circular halves which compress a specially shaped / contoured rubber gasket made of EPDM quality (IS:5382 Type-4) on the socket face making the Socket / Spigot Joint water right at the operating pressure. The Clamp to be supplied complete with Rubber Gaskets made of EPDM quality and coated Nut Bolts as per manufacturer specification. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.		
	Diameter in mm		
	100	Each	2245.00
	150	Each	3639.00

Sl. No.	Description	Unit	Rate
	200	Each	4447.00
	250	Each	5751.00
	300	Each	7116.00
	350	Each	8133.00
	400	Each	9694.00
	450	Each	10681.00
	500	Each	13562.00
	600	Each	17290.00
	700	Each	21904.00
	750	Each	28360.00
	800	Each	30064.00
	900	Each	34500.00
	1000	Each	42340.00
7.27	Supplying including cost of installation of D.I. Leak Repair Clamps suitable for permanent repair of leakages in Socket / Spigot joints in C.I. Spun Pipes (as per IS: 1536) and D.I. Pipes (as per IS: 8329). The Clamp consists of two Cast Iron Rings supplied in overlapping semi circular halves which compress a specially shaped / contoured rubber gasket made of EPDM quality (IS:5382 Type-4) on the socket face making the Socket / Spigot Joint water right at the operating pressure. The Clamp to be supplied complete with Rubber Gaskets made of EPDM quality and coated Nut Bolts. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.		
	Diameter in mm		
	100	Each	2515.00
	150	Each	3577.00
	200	Each	4264.00
	250	Each	4667.00
	300	Each	5233.00
	400	Each	8213.00
	450	Each	8503.00
7.28	Supplying including cost of installation of C.I. Leak Repair Clamps suitable for permanent repair of leakages in Socket / Spigot joints in C.I. Spun Pipes (as per BS: 1211). The Clamp consists of two Cast Iron Rings supplied in overlapping semi circular halves which compress a specially shaped / contoured rubber gasket made of EPDM quality on the socket face making		

Sl. No.	Description	Unit	Rate
	the Socket / Spigot Joint water right at the operating pressure. The Clamp to be supplied complete with Rubber Gaskets made of EPDM quality (IS:5382/1985 Type-4)and coated Nut Bolts. Fitting and fixing should be in proper position with proper care of main pipe line for leak proof condition.		
	Diameter in mm		
	4" Class-B	Each	2439.00
	5" Class-B	Each	3050.00
	6" Class-B	Each	4240.00
	8" Class-B	Each	5109.00
	9" Class-B	Each	6130.00
	12" Class-B	Each	7980.00
	14" Class-B	Each	9189.00
	15" Class-B	Each	11611.00
	16" Class-B	Each	12418.00
	18" Class-B	Each	13101.00
	20" Class-B	Each	15812.00
	21" Class-B	Each	18093.00
	24" Class-B	Each	19763.00
	27" Class-B	Each	27503.00
	30" Class-B	Each	34941.00
7.29	Supplying including cost of installation of cast iron mechanical joint Double socket 90° Bend as dimentionally described in IS : 13382/2004 for connecting two plain ends of Cl/DI pipes with C.I body and follower gland, zinc coated MS. fasteners and sealing rubber gasket of EPDM quality as per IS:13382:2004 complete.		
	Diameter in mm		
	100	Each	3328.00
	150	Each	6165.00
	200	Each	8994.00
	250	Each	13307.00
	300	Each	16578.00
	350	Each	32932.00
	400	Each	48303.00
	450	Each	60855.00
	500	Each	76009.00
	600	Each	105146.00

Sl. No.	Description	Unit	Rate
	700	Each	167956.00
	750	Each	195020.00
	800	Each	229425.00
	900	Each	285281.00
7.30	Supplying including cost of installation of cast iron mechanical joint Double socket 45° Bend as dimentionally described in IS : 13382/2004 for connecting two plain ends of Cl/DI pipes with C.I body and follower gland, zinc coated MS. fasteners and sealing rubber gasket of EPDM quality as per IS: 13382:2004 complete.		
	Diameter in mm		
	100	Each	3060.00
	150	Each	4905.00
	200	Each	7053.00
	250	Each	9797.00
	300	Each	13423.00
	350	Each	27055.00
	400	Each	32762.00
	450	Each	45885.00
	500	Each	50554.00
	600	Each	71238.00
	700	Each	103318.00
	750	Each	138718.00
	800	Each	151329.00
	900	Each	176972.00
7.31	Supplying including cost of installation of cast iron mechanical joint Double socket 22½° Bend as dimentionally described in IS : 13382/ 2004 for connecting two plain ends of Cl/DI pipes with C.I body and follower gland, zinc coated MS. fasteners and sealing rubber gasket of EPDM quality as per IS: 13382:2004 complete.		
	Diameter in mm		
	100	Each	2788.00
	150	Each	4282.00
	200	Each	6335.00
	250	Each	9134.00
	300	Each	11175.00

Sl. No.	Description	Unit	Rate
	350	Each	23479.00
	400	Each	29721.00
	450	Each	37775.00
	500	Each	44378.00
	600	Each	59792.00
	700	Each	89847.00
	750	Each	102761.00
	800	Each	114723.00
	900	Each	140869.00
7.32	Supplying including cost of installation of cast iron mechanical joint Double socket $11^{1}/_{4}°$ Bend as dimentionally described in IS : 13382/ 2004 for connecting two plain ends of Cl/DI pipes with C.I body and follower gland, zinc coated MS. fasteners and sealing rubber gasket of EPDM quality as per IS: 13382:2004 complete.		
	Diameter in mm		
	100	Each	2597.00
	150	Each	4027.00
	200	Each	5928.00
	250	Each	8333.00
	300	Each	10521.00
	350	Each	20127.00
	400	Each	27342.00
	450	Each	34022.00
	500	Each	37291.00
	600	Each	51796.00
	700	Each	72302.00
	750	Each	81857.00
	800	Each	97419.00
	900	Each	116949.00
7.33	Supplying including cost of installation of C.I. Mechanical joint All Socket Tee as dimensionally described in IS: 13382/2004 (With Modified Socket). Each Tee consists of One C.I. Body, Three C.I. Follower Glands, Three sealing Rubber Gaskets of EPDM quality (Conforming to IS:5382/85 Type-		

Sl. No.	Description	Unit	Rate
	4) and Zinc coated M.S. Fasteners . The whole assembly is mechanically and hydraulically tested to provisions as laid down in IS: 13382/2004.		
	Diameter in mm		
	100 x 100 x 100	Each	4842.00
	150 x 150 x 100	Each	5770.00
	150 x 150 x 150	Each	7457.00
	200 x 200 x 100	Each	8198.00
	200 x 200 x 150	Each	9165.00
	200 x 200 x 200	Each	11277.00
	250 x 250 x 100	Each	9381.00
	250 x 250 x 150	Each	12266.00
	250 x 250 x 200	Each	14428.00
	250 x 250 x 250	Each	16277.00
	300 x 300 x 100	Each	13651.00
	300 x 300 x 150	Each	16310.00
	300 x 300 x 200	Each	17791.00
	300 x 300 x 250	Each	21681.00
	300 x 300 x 300	Each	23753.00
7.34	Supplying including cost of installation of C.I. Mechanical joint Tee as dimensionally described in IS:13382/2004. Each Tee consists of One C.I. Body, Two C.I. Follower Glands, Two sealing Rubber Gaskets of EPDM quality (Conforming to IS:5382/1985 Type-4) and Zinc coated M.S. Fasteners. The Branch Flange is drilled as per IS: 1538. The whole assembly is mechanically and hydraulically tested to provisions as laid down in IS: 13382/2004.		
	Diameter in mm		
	100 x 100 x 100	Each	3965.00
	150 x 150 x 100	Each	6135.00
	150 x 150 x 150	Each	7591.00
	200 x 200 x 100	Each	7908.00
	200 x 200 x 150	Each	9706.00
	200 x 200 x 200	Each	10902.00
	250 x 250 x 100	Each	10435.00

Sl. No.	Description	Unit	Rate
	250 x 250 x 150	Each	11262.00
	250 x 250 x 200	Each	13717.00
	250 x 250 x 250	Each	15911.00
	300 x 300 x 100	Each	14981.00
	300 x 300 x 150	Each	17140.00
	300 x 300 x 200	Each	17913.00
	300 x 300 x 250	Each	21288.00
	300 x 300 x 300	Each	23616.00
	350 x 350 x 100	Each	26351.00
	350 x 350 x 150	Each	28914.00
	350 x 350 x 200	Each	31683.00
	350 x 350 x 300	Each	34685.00
	350 x 350 x 350	Each	39699.00
	400 x 400 x 100	Each	32612.00
	400 x 400 x 150	Each	35060.00
	400 x 400 x 200	Each	35806.00
	400 x 400 x 300	Each	43457.00
	400 x 400 x 400	Each	49984.00
	450 x 450 x 100	Each	36938.00
	450 x 450 x 150	Each	41111.00
	450 x 450 x 200	Each	45416.00
	450 x 450 x 300	Each	56218.00
	450 x 450 x 450	Each	63988.00
	500 x 500 x 100	Each	39856.00
	500 x 500 x 250	Each	55768.00
	500 x 500 x 300	Each	56626.00
	500 x 500 x 400	Each	69235.00
	500 x 500 x 500	Each	84567.00
	600 x 600 x 100	Each	56664.00
	600 x 600 x 300	Each	79015.00
	600 x 600 x 400	Each	89847.00
	600 x 600 x 500	Each	97984.00
	600 x 600 x 600	Each	119857.00
	700 x 700 x 100	Each	77785.00

Sl. No.	Description	Unit	Rate
	700 x 700 x 200	Each	88541.00
	700 x 700 x 350	Each	107520.00
	700 x 700 x 400	Each	114975.00
	750 x 750 x 150	Each	92651.00
	750 x 750 x 250	Each	107341.00
	750 x 750 x 750	Each	204528.00
7.35	Supplying including cost of installation of C.I. Mechanical joint Reducer/ Enlarger as dimensionally described in IS:13382/2004. Each Reducer consists of One C.I. Body, Two C.I. Follower Glands of different diameter, Two sealing Rubber Gaskets (Conforming to IS:5382/1985 Type- 4) and Zinc coated M.S. Fasteners of adequate numbers. The whole assembly is mechanically and hydraulically tested to provisions as laid down in IS: 13382/2004.		
	Diameter in mm		
	200 x100	Each	4073.00
	200x150	Each	5118.00
	250x100	Each	5564.00
	250x150	Each	8177.00
	250x200	Each	7333.00
	300 x 100	Each	7599.00
	300 x 150	Each	11565.00
	300 x 200	Each	10946.00
	300 x 250	Each	9648.00
	350x200	Each	10152.00
	350x250	Each	20386.00
	350x300	Each	20285.00
	400 x 250	Each	20026.00
	400 x 300	Each	27741.00
	400x350	Each	24463.00
	450x300	Each	25862.00
	450x350	Each	31210.00
	450x400	Each	30658.00
	500 x 350	Each	30166.00
	500 x 400	Each	37431.00
	500 x 450	Each	36226.00
	600 x 400	Each	35263.00

Sl. No.	Description	Unit	Rate
	600 x 450	Each	53675.00
	600 x 500	Each	52135.00
	700 x 500	Each	49522.00
	700 x 600	Each	73956.00
	750x600	Each	67307.00
	750x700	Each	80330.00
7.36	Supplying including cost of installation of C.I. Mechanical joint End Cap as dimensionally described in IS:13382/2004. Each Cap consists of one C.I. Body, one C.I. Follower Glands, one sealing Rubber Gaskets of EPDM quality (Conforming to IS: 5382/1985 Type-4) and Zinc coated M.S. Fasteners of adequate numbers. The whole assembly is mechanically and hydraulically tested to provisions as laid down in IS: 13382/2004.		
	Diameter in mm		
	100	Each	1500.00
	150	Each	2551.00
	200	Each	3984.00
	250	Each	5464.00
	300	Each	7559.00
	350	Each	14245.00
	400	Each	19272.00
	450	Each	23522.00
	500	Each	27955.00
	600	Each	39426.00
	700	Each	53681.00
	750	Each	61671.00
	800	Each	74141.00
	900	Each	93258.00
7.37	Manufacturing and, supplying M.S. Saddle with 10 mm thick M.S. pipe, 250mm thick M.S. Flange including fabrication true to size with M.S. clamp, drilling hole on angle/ flat, gas cutting and welding etc. complete.		
	12 in / 4 in dia	Each	11483.00
	18 in / 4 in dia	Each	12966.00
	18 in / 6 in dia	Each	14562.00
	24 in / 4 in dia	Each	17441.00
	24 in / 6 in dia	Each	19047.00

Sl. No.	Description	Unit	Rate
	24 in / 8 in dia	Each	20503.00
	30 in / 4 in dia	Each	19366.00
	30 in / 6 in dia	Each	20962.00
	30 in / 8 in dia	Each	22419.00
	30 in / 10 in dia	Each	24551.00
7.38	Wet connection with M.S. saddle on running mains by drilling with electric drill, plugging with wooden plug, using nuts and bolts, rubber insertion, dewatering trenches all complete excluding cost of M.S. saddle & Earthwork.		
	12in /4in dia	Each	16330.00
	18 in/4in dia & 18 in/6in dia	Each	16983.00
	24 in/4in dia, 24in/6in dia & 24in/8in dia	Each	18179.00
	30 in/4in dia, 30in/6in dia, 30in/8in dia & 30in/10in dia	Each	18896.00

CHAPTER - VIII

SUPPLYING OF MATERIALS

Sl. No.	Description	Unit	Rate
8.1	All types of CI specials (viz. Bend, Tee, Teper, Tail piece, Collar, Bell mouth with Puddle coller etc. size conforming to IS specification 1538 : 1993)		
	a) Socket and Spigot ended		
	i) 80mm to 300mm	Kg.	61.00
	ii) 350mm to 600mm	Kg.	79.00
	iii) 700mm and above	Kg.	92.00
	b) Flanged socket spigot		
	i) 80mm to 300mm	Kg.	63.00
	ii) 350mm to 600mm	Kg.	84.00
	iii) 700mm and above	Kg.	99.00
	B. D.I. PIPES & SPECIALS		
8.2	Centrifugally cast (spun) Ductile iron pressure pipes for water gas and sewage conforming to IS : 8329-2000 with cement morter lining (Inside) and bituminous coating (Outside).		
	A. Class K-9		
	Diameter in mm		
	100mm to 1000mm	Metre	
	[Note: Rate to be arrived as per departmental procurement]		
	B. Class K-7		
	Diameter in mm		
	100mm to 1000mm	Metre	
	[Note: Rate to be arrived as per departmental procurement]		
8.3	All types of Ductile Iron (D.I) Specials (viz. Bend, Tee, Taper, Tail piece etc), size conforming to I.S. Specification No. 9523/2000 with cement mortar lining (inside) and bituminous coating (outside). (25% of payment will be held up till successful hydraulic testing)		
	a) All Socket Tee		
	100 mm to 300mm dia.	kg	128.00
	350mm to 450mm dia.	kg	159.00
	500mm to 600mm dia.	kg	164.00
	700mm to 900mm dia.	kg	202.00
	1000mm dia.	kg	205.00

Sl. No.	Description	Unit	Rate
	b) Doubled Socketed Bend		
	100mm to 300mm dia.	kg	125.00
	350mm to 450mm dia.	kg	154.00
	500mm to 600mm dia.	kg	172.00
	700mm to 900mm dia.	kg	190.00
	1000mm dia.	kg	228.00
	c) Tail Piece		
	100mm to 300mm dia.	kg	144.00
	350mm to 450mm dia.	kg	185.00
	500mm to 600mm dia.	kg	199.00
	700mm to 900mm dia.	kg	234.00
	1000mm dia.	kg	258.00
	d) Flanged Tee		
	100mm to 300mm dia.	kg	150.00
	350mm to 450mm dia.	kg	188.00
	500mm to 600mm dia.	kg	205.00
	700mm to 900mm dia.	kg	242.00
	1000mm dia.	kg	267.00
	e) Double Flanged Bend		
	100mm to 300mm dia.	kg	136.00
	350mm to 450mm dia.	kg	159.00
	500mm to 600mm dia.	kg	176.00
	700mm to 900mm dia.	kg	210.00
	1000mm dia.	kg	275.00
	C. RUBBER GASKET		
8.4	Supply of **Flat Rubber Gasket** of EPDM Quality with ISI Mark to IS: 5382/1985 Type-4 suitable for flange joint, drilled to IS: 1538 (Table–VI). The gasket should have dual thickness 3/6 mm with 6 mm thickness at the sealing cross section.		
	Diameter in MM (NB)		
	100	each	80.00
	150	each	129.00
	200	each	159.00
	250	each	220.00
	300	each	241.00

Sl. No.	Description	Unit	Rate
	350	each	288.00
	400	each	360.00
	450	each	393.00
	500	each	457.00
	600	each	618.00
	700	each	677.00
	750	each	719.00
	800	each	819.00
	900	each	955.00
	1000	each	1058.00
8.5	Supply of Single/Double bit SBR gasket suitable for jointing CI/DI pressure pipes, conforming to IS : 5382 : 1985 [Popularly known as **'Tyton Gasket'**]		
	100	Each	39.00
	150	Each	50.00
	200	Each	77.00
	250	Each	98.00
	300	Each	131.00
	350	Each	156.00
	400	Each	223.00
	450	Each	230.00
	500	Each	324.00
	600	Each	419.00
	700	Each	600.00
	750	Each	703.00
	800	Each	780.00
	900	Each	1011.00
	1000	Each	1592.00
	D. VALVE [APPLICABLE FOR DISTRIBUTION SYSTEM]		
8.6	**Cost iron** double flanged manually operated sluice valves generally conforming to IS 14846 : 2000, having four faces and spindle nut of gunmetal, inside screw non- rising type quality gunmetal /AISI 410 spindle: seat tested to 10kg/CM^2 and body tested to 15kg/CM^2, flanges flat faced and drilled to 1S. : 1538 : 1993. Painted black all over with asphalt base paint. Valves tested by closed end method.		

Sl. No.	Description	Unit	Rate
	NB Diameter in mm		
	50	Each	2757.00
	80	Each	3857.00
	100	Each	5067.00
	150	Each	7487.00
	200	Each	14769.00
	250	Each	20429.00
	300	Each	24205.00
8.7	**Cost iron** double flanged manually operated **sluice valves** generally conforming to IS 14846 : 2000, having four faces and spindle nut inside screw non- rising spindle type gunmetal/AISI 410 suitable for PN 1.0 rating complete with ball thrust bearing and enclosed gearbox (EN-8 with hardened by nitriding pinions of EN-19), flanges flat faced and drilled to IS.: 1538 : 1993. Valves tested by closed end method.		
	NB Diameter in mm		
	350	Each	94478.00
	400	Each	105429.00
	450	Each	133524.00
	500	Each	167487.00
	600	Each	252770.00
	700	Each	379932.00
	750	Each	460910.00
	800	Each	481216.00
8.8	**Ductile iron** double flanged manually operated **sluice valve** generally conforming to IS : 14846, having body, door, dome, gland in graded ductile iron to IS 1865, four faces and spindle nut of gun metal to IS : 318, inside screw non-rising stainless steel AISI-410 spindle valves suitable for maximum working pressure of 10/16 kg/cm^2 and body tested 15/24 kg/cm^2. Flanges drilled to IS: 1538 table 4 & 6. Valves tested by closed end method only. 350mm and above valves are complete with enclosed gear box with anti friction device.		
	Diameter in mm		
	50	Each	5778.00
	80	Each	8583.00
	100	Each	10794.00
	150	Each	16381.00
	200	Each	29744.00
	250	Each	41895.00

Sl. No.	Description	Unit	Rate
	300	Each	54810.00
	350	Each	119785.00
	400	Each	152715.00
	450	Each	191514.00
	500	Each	217432.00
	600	Each	329341.00
	700	Each	485870.00
	750	Each	529792.00
	800	Each	592199.00
8.9	**Cast iron** double flanged single door swing **Non-Return Valve** generally conforming to IS 14846 having body, door cover in graded cast iron to IS 210 Gr. FG 200, body and door rings and bearing block of leaded tin bronze to I.S 318 Gr. LTB 2, hinge pin of ST AISI410 valves suitable for maximum working pressure of 10/16 kg/cm^2 and body tested 15/24 kg/cm^2.		
	Diameter in mm		
	50	Each	3798.00
	80	Each	5436.00
	100	Each	7377.00
	125	Each	13952.00
	150	Each	23702.00
8.10	Double flanged double eccentric design manually operated **cast iron butterfly valve** having body disc, and end cover in graded cast iron to IS : 210, synthetic rubber face ring secured on disc by a SS/AISI 304 retaining ring with stainless steel screws the rubbering sitting on a corresponding integral monel 60 seat in body stub shaft of AISI 431 riding in TEFLON lined bearing, valves suitable for maximum working pressure of 10/16 kg/cm^2 and body tested 15/24 kg/cm^2. Flanges drilled to I.S 1538 TABLE 4 & 6.		
	Diameter in mm		
	200	Each	25245.00
	250	Each	31489.00
	300	Each	37267.00
	350	Each	46838.00
	400	Each	56611.00
	450	Each	67079.00
	500	Each	73788.00
	600	Each	120957.00

Sl. No.	Description	Unit	Rate
	700	Each	152152.00
	750	Each	198601.00
	800	Each	229634.13
8.11	Double flanged double eccentric design manually operated **ductile iron butterfly valve** having body disc, and end cover in graded ductile iron to 65, synthetic rubber face ring secured on disc by a SS/AISI 304 retaining ring with stainless steel screws the rubbering sitting on a corresponding integral monel 60 seat in body stub shaft of AISI 431 riding in PTFE lined stainless steel bearing, valves suitable for maximum working pressure of 10/16 kg/cm^2 and body tested 15/24 kg/cm^2.		
	Diameter in mm		
	200	Each	26838.00
	250	Each	37250.00
	300	Each	48190.00
	350	Each	50871.00
	400	Each	62417.00
	450	Each	79314.00
	500	Each	80795.00
	600	Each	146421.00
	700	Each	175730.00
	750	Each	208620.00
	800	Each	273373.00
8.12	**Cast iron kinetic double orifice type air release valve** having small orifice elastic ball resting on gun metal orifice nipple large orifice vulcanite ball seating on moduled seat ring, valve with built-in-Kinetic features, isolating sluice valve mounted in horizontal position and operated by a metre wheel gearing:inlet faced and drilled to IS 1538 Table 4 & 6. valve suitable for maximum working pressure of 10 kg/CM^2		
	Diameter in mm		
	80	Each	15691.00
	100	Each	20931.00
	150	Each	38131.00
	200	Each	54602.00
8.13	**Ductile iron Single Chamber type air release valve** having small orifice elastic ball resting on gun metal orifice nipple large orifice vulcanite ball seating on moduled seat ring, valve with built-in-Kinetic features, isolating sluice valve mounted in horizontal position and operated by a metre wheel gearing:inlet faced and drilled to IS 1538 Table 4 & 6. valve suitable for maximum working pressure of 10 kg/CM^2		

Sl. No.	Description	Unit	Rate
	80	Each	21374.00
	100	Each	29026.00
	150	Each	40179.00
	200	Each	55539.00
8.14	Cast Iron ball valve (Flange Type) with stainless steel ball & CI body and MS Bolt-nuts and drilling as per specification.		
	Diameter in mm		
	50	Each	2730.00
	80	Each	5096.00
	100	Each	8736.00
	150	Each	27300.00
	E. E. R. W. MS BLACK PIPE		
8.15	Supply of E.R.W.M.S. (Electrical Resistant Welded M.S.) black pipe of ISI Mark as per relevent IS Specification (heavy quality) having wall thickness not less than 5 mm. [N.B.: The rates for supply of TATA Make pipe will be arrived at by adding 20% of the corresponding rates]		
	Diameter in mm (Internal)		
	50	Metre	436.00
	65	Metre	566.00
	80	Metre	697.00
	100	Metre	871.00
	150	Metre	1268.00
	200	Metre	1515.00
	250	Metre	2078.00
	300	Metre	2788.00
8.16	Supply of E.R.W.M.S. (Electrical Resistant Welded M.S.) black pipe of ISI mark as per relevent IS Specification (heavy quality) having wall thickness not less than 8 mm. [N.B.: The rates for supply of TATA Make pipe will be arrived at by adding 20% of the corresponding rates]		
	Diameter in mm (Internal)		
	200	Metre	2017.00
	250	Metre	2264.00
	300	Metre	3037.00
	F. MS FLANGE		
8.17	Supply of M.S. Flange (slipper type) as per IS-6392 TABLE 17 Thickness 12mm		

Sl. No.	Description	Unit	Rate
	NB Diameter in mm		
	50	Each	220.00
	65	Each	324.00
	80	Each	415.00
	100	Each	440.00
	150	Each	508.00
	200	Each	924.00
	250	Each	1385.00
	300	Each	1847.00
	350	Each	2540.00
8.18	Supply of M.S. Flange (slipper type) as per IS-6392 TABLE 17 Thickness - 20mm -22mm		
	NB Diameter in mm		
	50	Each	346.00
	65	Each	415.00
	80	Each	484.00
	100	Each	635.00
	150	Each	1039.00
	200	Each	1732.00
	250	Each	2078.00
	300	Each	3463.00
	350	Each	4618.00
	400	Each	5772.00
8.19	Supply of M.S. blank Flange as per IS-6392 TABLE 20 Thickness 12mm		
	NB Diameter in mm		
	50	Each	324.00
	65	Each	415.00
	80	Each	484.00
	100	Each	508.00
	150	Each	599.00
	200	Each	1385.00
	250	Each	2078.00
	300	Each	2540.00
	350	Each	3463.00

Sl. No.	Description	Unit	Rate
8.20	M.S. blank Flange as per IS-6392 TABLE 20 for 50 mm to size & for 200mm & above as IS -6329 (Table-14) thickness 20mm-22mm		
	NB Diameter in mm		
	50	Each	415.00
	65	Each	531.00
	80	Each	577.00
	100	Each	750.00
	150	Each	1385.00
	200	Each	2424.00
	250	Each	3647.00
	300	Each	4618.00
	350	Each	5772.00
	400	Each	6926.00
	LEAD		
8.21	Supply of Pig Lead 99.999% purity	M.T	220.00
	A.C PIPES		
8.22	Supply of A.C PIPES conforming to relevant I.S Specification.		
	Diameter in mm		
	80		200.00
	100		259.00
	150		442.00
8.23	C.I detachable joint with rubber ring for A.C pipe conforming to the I.S Specification (clamp joint)		
	Diameter in mm		
	80	Each	215.00
	100	Each	259.00
	150	Each	402.00
	LOADING UNLOADING, STACKING & CARRIAGE OF MATERIAL		
8.24	Carriage of Different materials including loading into truck at the lifting point, unloading at destination and stacking properly in godown or yard etc. as directed (Including carriage by head load upto 30 metres at each of the two points. The rate covers all the above operations, actual transport all complete)		

Materials	Unit	Upto 5 KM	Per KM Beyond 5 KM to 10 KM	Per KM Beyond 10 KM to 20KM	Per KM Beyond 20 KM per addl.
Steel	Tonne	106.00	8.00	6.00	5.00
Timber	Cum	136.00	10.00	8.00	7.00
Steam Coal	Tonne	136.00	10.00	8.00	7.00
Solvent, diesel	Qtl.	12.00	0.87	0.71	0.58

Sl. No.	Description	Unit	Rate

8.25 Carriage of CI / DI / ERWMS / AC pipes including loading into truck at the lifting point, unloading at destination and stacking properly in godown or yard etc. as directed (Including carriage by head load upto 30 metres at each of the two points. The rate covers all the above operations, actual transport all complete)

Diameter in mm	Unit	Upto 5 KM	Per KM Beyond 5 KM to 10 KM	Per KM Beyond 10 KM to 20KM	Per KM Beyond 20 KM per addl.
100	% Metre	261.00	19.00	16.00	13.00
125	% Metre	348.00	25.00	21.00	17.00
150	% Metre	435.00	32.00	26.00	21.00
200	% Metre	707.00	51.00	42.00	34.00
250	% Metre	1005.00	73.00	60.00	49.00
300	% Metre	1242.00	90.00	74.00	60.00
350	% Metre	1739.00	126.00	104.00	85.00
400	% Metre	2371.00	172.00	142.00	115.00
450 & 500	% Metre	2898.00	211.00	173.00	141.00
600, 700, 750 & 800	% Metre	4347.00	316.00	260.00	211.00
900	% Metre	6521.00	474.00	390.00	317.00
1000, 1100 & 1200	% Metre	8895.00	632.00	519.00	423.00

HIRE CHARGES OF MACHINERIES

8.26 Hire charges of moveable crane with fuel & manpower having load handling capacity upto 14MT with the 45 deg. moveable arrangement & the boom length of 40 feets for loading & unloading of various materials / accessories of water supply works.

For minimum engagement of 8 hrs. in a day	Day	7936.00
For beyond 8hrs. of working	Hr.	992.00

8.27 Hire charges of moveable type mounted earth excavator having minimum cutter size (1.0 cubic meter) & loader size (2.0 meter length x 0.75m width) for cutting & removal of any kind of soil, spoli etc. including cost of fuel, lubricants & manpower etc. in Water Supply Works. [This item will be operated on prior permission from the concerned SE/Dy. Chief Engineer]

For minimum engagement of 8 hrs. in a day	Day	8951.00
For beyond 8hrs. of working	Hr.	1119.00

8.28 Hire charges of lighting generator of capacity 5KVA including fuel, mobil, operator, carriage etc. including all complete for water supply works.

Sl. No.	Description	Unit	Rate
	For minimum engagement of 8 hrs. in a day	Day	1650.00
	For beyond 8hrs. of working	Hr.	206.00
8.29	Hire charges for engaging Air Compressor machine with minimum pressure capacity of 5.0 Kg/sq.cm arrangement including all necessary equipment and operating staff, carriage, fuel, Tools and plants all complete for cutting Road / hard crust cutting with pneumatic hammer at desired point in water supply works as per direction of EIC.		
	a) With Pneumatic hammers		
	For minimum engagement of 8 hrs. in a day	Day	6000.00
	For beyond 8hrs. of working	Hr.	750.00
	b) Without Pneumatic hammers		
	For minimum engagement of 8 hrs. in a day	Day	5500.00
	For beyond 8hrs. of working	Hr.	688.00

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