FINAL REPORT



Asian Development Bank National Capital Region Planning Board

Capacity Development of the National Capital Region Planning Board Package 2 Component B TA No. 7055-IND

Volume I-D : Detailed Estimates

Detailed Project Report for Water Supply System in Panipat







July 2010

NCR Planning Board Asian Development Bank

Capacity Development of the National Capital Region Planning Board (NCRPB) – Component B (TA No. 7055-IND)

FINAL REPORT Volume I-D: Detailed Project Report for Panipat Water Supply Detailed Estimate

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Appendix E-1 : Details of Cost Estimate

Appendix E-1: Abstract Cost Estimate

S. No	Item	Cost in Rs. Million
1	Providing out lets in WJC Canal and Delhi Parallel Canal of 100 cusecs each and construction of inlet channel up to RWPS site (As per estimate from Irrigation Department)	47.88
2	Construction of Raw Water Pumping Station comprising of Sump, Pump House building and 5nos. VT Pumping sets with required electrical switch gear (Total KW 225)@Rs25000 per KW	5.625
3	Construction of Water Treatment Plant complete of 100 MLD including SCADA system @ Rs.25 lac/MLD	250.00
4	Construction of Clear Water Pumping Station comprising of Sump, Pump House building and 3 nos. Pumping sets with required electrical switch gear(Total 1140 KW)@Rs25000 per KW	28.50
5	Construction of Clear Water Reservoir near WTP of 10 ML capacity @Rs.2000 per KL	20.00
6	Providing 33 KV Electrical feeder line from 132 KV GSS to WTP site along with construction of 33/11 KV & 33/0.4KV substation 1500KVA & 315KVA (As per estimate of Electricity department)	21.60
7	Cost of land 4 hectares land required for construction of WTP, RWPH, CWPS, supporting infrastructure etc.@ Rs.100 lac/Hectare	40.00
8	Cost of pumping main pipe line BWSC/MS/DI complete with valves, chambers, rail line and NHW crossings etc. complete	256.72
9	Construction of 17 nos. OHSR with a staging of 20m and a total storage capacity of 26.75 ML complete in all respect @Rs.8000 per KL and one GLSR of 2 ML @ 3000	217.00
10	Improvement of distribution system in zones where water supply network already exist or un-served areas by laying of new, additional or higher sized pipelines with required appurtenances, chambers, thrust blocks etc.	251.61
11	Providing Bulk water meters (1 no EMFB type) and 33000 Domestic water meters complete including installation and commissioning	155.00
12	Replacement of consumer service pipe lines with MDPE pipes for 33000 connections @Rs.1500 per connection	54.45
13	NRW Identification and Reduction Works lump sum	214.76
14	Centralized Training Center of PHED lump sum	50.00
	Sub Total	1613.15
	Physical contingencies @3% of sub total	48.39
	Design Supervision and third party inspection @ 3%	48.39
	Provision for Information Education and Communication @ 1%	16.13
	Provision for Environmental Mitigation @ 1%	16.13
	Provision for Institutional Development @ 1%	16.13
	Provision for Incremental Administration @ 2%	32.263
	Total	1790.60

Appendix E-2 : Rate Analysis of Various Pipes

Appendix E-2: Basis for Cost Estimates

The costing of Water Supply Project of Panipat City has been performed based on the following sources:

- Design of the Proposed Improvements.
- PWD Standard Schedule of Rates (SOR) of Haryana state.
- RUIDP Rajasthan Standard Schedule of Rates (SOR)
- Consultant's data bank and experience on similar projects.
- Nominally applicable labor and material costs for items not present in the aforementioned SOR.

Block rates have been determined for improvement of construction of WTP, Pumping Stations etc. as these items are proposed to be put for bidding on turn key basis on Lump sum rates. In respect of distribution system block cost estimate has been made for the time being and detailed estimate will be incorporated at the time of final report. For projecting the cost of each activity reference has been made to prevailing rates for current projects like Rohatak, Jhalawar and Meerut Water supply Projects involving construction of Water Treatment Plant with Raw and Clear Water pumping stations and also improvement of distribution system.

- <u>Canal outlet, Inlet Channel and road bridge</u>: This work will be executed by the Irrigation department who owns and operate the canals. An estimate has been obtained from the Executive Engineer, Irrigation Department, Panipat and the provision of Rs.47.88 m has been made based on the same.
- 2. <u>Raw Water Pumping Station including Sump</u>:

It is proposed to provide a raw water sump with pump house located above it. There will be 5 VT pump sets installed in the pump house. Three of these will work at a time and remaining 2 will act as stand bye. The cost of a pumping station including building, electro-mechanical equipment, piping and instrumentation is normally taken as Rs.25000/- per KW of installed capacity (Rs.12000 for electro-mechanical equipment and Rs.13000 for civil and misc. works). The total installed capacity in RWPH is estimated at 225 KW (Five pumps of 45 KW each). This gives the estimated cost as 5.625 m.

3. Construction of Water Treatment Plant:

It is proposed to construct WTP complete with SCADA system, fully automatic operation along with sludge disposal etc. for a total capacity of 100 MLD. Recently tenders were invited for a WTP of 100MLD for Meerut city where rate received was around Rs.250m. The same in case of a 200MLD WTP for Ghaziabad city was around Rs.550m. In Rohatak, a WTP of 18.5 MLD has been constructed for which work was awarded about 2 years back at Rs.35 m. Looking to these experiences, cost of Rs.2.5m per MLD has been adopted. Thus cost of providing a WTP 100MLD is estimated at Rs.250 m.

4. <u>Clear Water Pumping Station:</u>

It is proposed to provide a Clear Water Pumping Station with sump. There will be 3 pump sets installed in the pump house. Two of these will work at a time and one will act as stand bye. The cost of a pumping station including building, electro-mechanical equipment, piping and instrumentation is normally taken as Rs.25000/- per KW of installed capacity (Rs.12000 for electro-mechanical equipment and Rs.13000 for civil and misc.works). The total installed capacity in CWPS is estimated at 1140 KW (Three pumps of 380 KW each). This gives the estimated cost as Rs.28.50 m.

5. <u>Clear Water Reservoir:</u>

It is proposed to construct a CWR near WTP for storing treated water before pumping with a capacity of 10ML. This capacity is based on 2 hours treatment capacity. The general market rate for construction of CWR of such large capacities is estimated at Rs.2000 per KL. Accordingly, estimated cost of construction of 10ML CWR will be Rs.20.00m.

6. Feeder Power Line and Electric Sub Station:

It is proposed to draw power from the 132 KV Grid Sub Station located nearly 6 km away at 33KV. An electric sub station 33/11KV of 2000KVA shall be constructed near the CWPS and one 33/0.4 KV sub station near RWPS for the power requirement on HT in CWPS and on LT in RWPS, WTP, Campus and in CWPS. Haryana State Electricity board has indicated cost of providing power line and sub stations at Rs.21.60m. Accordingly, provision is made at Rs.21.60m.

7. Land Acquisition:

PWD(WSSD) Panipat has already initiated action for acquisition of 16.5 acres of land required for construction of WTP, RWPH, CWPS and other infrastructure near the canals. The case has been recommended by the Senior Town Planner to the Director Town and Country Planning Department GOH vide letter dated 13.6.2008(Annexure-8) for amendment in the development plan. The reserve price for land prescribed by the respective revenue agency is reported to be Rs.2.5m per acre along with an annual royalty payment of Rs.15000 per year with an increase of Rs.500 per year for 33 years. Thus a value of Rs.3 m per acre may be adopted for acquiring this land. The estimated cost of this land thus comes to Rs.49.5 m. The total land will have to be acquired in Phase I only.

The land required for construction of Zonal OHSRs has been identified. However, attempt has been made to get land for this purpose in existing parks or other government land as far as possible. Land required in sectors will be allotted by HUDA in its area free of charge as provision is kept by them in newly developed areas for providing infrastructure facilities.

8. <u>Pumping Main Pipe Lines:</u>

It is proposed to provide two pumping main pipe lines after a short distance from the CWPS. These two pipe lines will be interconnected at the tail to make a loop. Every OHSR will be connected to one of these pipe lines. These pipe lines are proposed to be of DI. The present cost estimate is based on the prices of DI pipes offered by M/S Electrosteels Ltd. Vide letter dated 4.2.2009 as follows:

DI pipe K7	300mm	Rs. 2543.00 per meter
DI pipe K7	350mm	Rs. 3197.00 per meter
DI pipe K7	400mm	Rs. 3833.00 per meter
DI pipe K7	450mm	Rs. 4547.00 per meter
DI pipe K7	500mm	Rs. 5325.00 per meter
DI pipe K7	600mm	Rs. 7015.00 per meter
DI pipe K7	700mm	Rs. 9622.00 per meter
DI pipe K7	800mm	Rs.12550.00 per meter
DI pipe K7	900mm	Rs.15314.00 per meter

The pipes are to be laid on roads requiring road cutting. Air valves, Scour valves, sluice valves together with chambers will have to be provided. Laying of pipe lines will require crossing of railway line at 4 locations and National highway at two locations and canal at two locations and oil pipe line at one place. This will require using trench less technology for pipe laying. Detailed cost estimate is given in a separate annexure

9. Construction of 17 OHSRs and One GLSR:

It is proposed to construct 17 OHSRs for Zones with a total storage capacity of 25.75ML with a staging of 20m in each case. The per liter rate for OHSR of such large capacities with 20m staging is coming to Rs.8 these days in different states and accordingly adopted. The total cost of this activity is estimated to be Rs.206 m. This cost includes all pipes, valves, plinth protection, and bulk water meters with data transmission, level data transmission and electric connection. One GLSR will be constructed for Zone 9 on hill top of 2 ML capacity. Estimated cost of constructing CWR at ground level is normally taken as rs.2000/Kl but in the present case the GLSR will be constructed on hill top and the approach is through congested area of city. Accordingly, per KL cost is estimated to be Rs.3000. The total estimated cost of this GLSR thus comes to Rs.6.00m. Total estimated cost of this activity thus comes to Rs.212 m. These tanks will be got constructed on Lump sum basis on design build concept.

10. Improvement of distribution system in areas already covered:

As detailed analysis of distribution network has been done for the 18 distribution zones. The design sheets and abstract of pipes zone wise of different pipe dia is given in design annexure. In some streets pipe will be replaced and in some new pipes will be provided. Detailed estimate of each zone is given in estimate annexure. Rate analysis has been done for some items which is also given in estimate annexure.

11. Bulk and Domestic Water Meters:

It is proposed to provide 1 Electromagnetic full bore flow meter on pumping main immediately after CWPS. These will be complete with control panel and data transmission system etc. The cost of one such meter for 900mm size has been reported to be Rs.650000/- as per market enquiry.

There are in all 33000 connections in both HUDA and PHED areas. Most of these connections are 15mm size. It is proposed to use EC certified good quality water meters to last long and give trouble free service. The meters are proposed to be with interface for remote reading and required modem for actual data transmission. The cost one such meter has been reported to be Rs.4500 including installation. The estimated cost of these meters comes to 148.5m.

Total estimated cost of both EMF flow meters and domestic meters comes to Rs.155 m.

12. Consumer service line replacement:

There are in all 33000 service connections in Panipat town. Consumer service pipe lines are proposed to be replaced with MDPE pipes. The cost of replacement of existing 15mm GI pipe with MDPE pipe for an average length of 10m per connection including ferrule, compression coupling and road cutting etc. has been estimated at Rs.1650/- per connection. This is based on estimation done in other similar projects like Jhalawar where it was taken as Rs.1500 per connection during 2007 and hence increase by 10%. The total estimated cost comes to 54.45 m.

13. NRW Identification and reduction program:

The water meters both on production system and on consumer end are proposed to be provided now under this project. As such there is no assessment of UFW or NRW. It would be desirable that leak detection and rectification through DMA strategy suggested is undertaken for one area and results analyzed before taking up full scale leak detection and rectification work. Accordingly for the present a lump sum provision of Rs.198.755 million is proposed in the estimate.

14. Centralised Training Center:

A lump sum cost of Rs.50.00m is proposed for establishing a Central Training Institute for the Department. Detailed estimate for the center may developed after identification of training needs and its quantum for the whole state.

15. Physical & Price Contingency:

A lump sum provision of 3% of total cost has been made to take care of any unforeseen items at the time of implementation. The period of construction has been taken as 36 months including bidding. Additional provision of 3% has been made for Design and Supervision consultants and third party inspection, 1% for Information education and communication, 1% for Environmental Mitigation, 1% for Institutional Development and 2% for Incremental Administration (Expenditure of Implementing agency for the project Implementation)

Appendix E-3 : Detailed Estimate of Pumping/Rising Main

HDPE Pipes Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete.	Rate of Pipe as per quotation of M/S Kriti letter dated 4-3-09	Local Handling & storage at 1%	Laying and Jointing at 3%	Testing and commissio ning at 4%	Contractor s Profit at 10%	Total Rate	10% of	Total Rate including specials at 10%
110mm PN8	261.19	2.61	7.84	10.45	28.21	310.29	31.03	341.32
125mm PN8	335.93	3.36	10.08	13.44	36.28	399.08	39.91	438.99
140mm PN8	420.00	4.20	12.60	16.80	45.36	498.96	49.90	548.86
160mm PN8	547.48	5.47	16.42	21.90	59.13	650.41	65.04	715.45
180mm PN8	694.14	6.94	20.82	27.77	74.97	824.64	82.46	907.10
200mm PN8	855.38	8.55	25.66	34.22	92.38	1,016.19	101.62	1,117.81
225mm PN8	1,078.91	10.79	32.37	43.16	116.52	1,281.75	128.17	1,409.92
250mm PN8	1,334.26	13.34	40.03	53.37	144.10	1,585.10	158.51	1,743.61
280mm PN8	1,669.80	16.70	50.09	66.79	180.34	1,983.72	198.37	2,182.09
315mm PN8	2,113.74	21.14	63.41	84.55	228.28	2,511.12	251.11	2,762.24
355mm PN8	2,676.70	26.77	80.30	107.07	289.08	3,179.92	317.99	3,497.91
400mm PN8	3,475.93	34.76	104.28	139.04	375.40	4,129.40	412.94	4,542.35
450mm PN8	4,398.75	43.99	131.96	175.95	475.07	5,225.72	522.57	5,748.29
500mm PN8	5,423.37	54.23	162.70	216.93	585.72	6,442.96	644.30	7,087.26
560mm PN8	6,795.87	67.96	203.88	271.83	733.95	8,073.49	807.35	8,880.84
630mm PN8	8,547.90	85.48	256.44	341.92	923.17	10,154.91	1,015.49	11,170.40

Appendix E-3: Rate Analysis

FOR:NCR, Excise 8.24% included, CST at 2% against form C included, Inspection extra

Rate Analysis: MDPE Pipes

Service Connections: Supply, Laying, Jointing, Field Testing, Commissioning complete at site of MDPE (PE 80 Grade Coumpound) Pipes PN-16 (16 kg/sqcm) as per ISO4427 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking	Jain irrigation letter		Local handling and storage at 1%	at 1%	Laying and jointing at 3%	Contractors profit at 10%	Total
etc. complete.							
16 mm Dia							
20 mm Dia SDR 9	22.85	2.29	0.23	0.02	0.69	0.26	26.33
25 mm Dia SDR 11	29.10	2.91	0.29	0.03	0.87	0.33	33.54
32 mm Dia SDR 11	47.95	4.80	0.48	0.05	1.44	0.55	55.26
40 mm Dia							
50 mm Dia							

Inclusive of excise; CST/LST extra; rates are ex-jalgaon

Rate Analysis: uPVC Pipe Class III (6kg/sqcm)

Supply, Laying, Jointing, Field Testing & Commissioning complete at site of uPVC Pipe Class III (6kg/sqcm) as per IS 4985 : 2000, ISI marked, suitable for elastomeric sealing rings, with Rubber Rings ISI marked EPDM as per IS 5382 : 1985, transporting to site, lowering in trenches, aligning, laying & jointing as per L-Section and field testing the laid pipelines etc. complete work as per specifications. The bulk density of uPVC pipe shall be 1.39 to 1.44 gm/cc. The total quantity of additives like plasticizers, stabilizers, lubricants & fillers shall not exceed more than 7%. The rates includes all cost of material, labour required, transportation, loading, unloading & stacking etc. complete and also includes the cost of EPDM 'ISI marked' rubber gasket	
110 mm	297.00
125 mm	
140 mm	490.00
160 mm	632.00
180 mm	812.00
200 mm	1015.00
225 mm	1277.00
250 mm	1584.00
280 mm	1986.00
315 mm	2546.00

Rate of Kriti 10-7-09

Supply, Laying, Jointing Field Testing & Commissioning complete at site as per specifications of centrifugally cast (spun) Ductile Iron K7 Pressure Pipes (S &S) ISI marked for water conforming to IS 8329/2000 with push on type EPDM 'ISI marked' rubber gasket jointing as per IS 5382 specifications. Pipe shall be outside Zinc coated with finishing layer of Bitumen and have factory cement mortar lining as per IS 8329/2000. The rates includes all cost of material, labour required, transportation, loading, unloading & stacking etc. complete and also includes the cost of EPDM 'ISI marked' rubber gasket	Rate of electrosteel 449/4-2-09 Rs per Meter	from	Local handling and storage @1%	Breakag e @ 1%	Total	Laying and Jointing of pipes & hydrauli c testing @2.5%	Contractors Profit at 10%	Total	Specials at 3%	Total Rate inclusive of specials
100 mm	918	832	8.32	8.32	848.92	21.22	87.01	957	28.71	986
150 mm	1,395	1,265	12.65	12.65	1,290.03	32.25	132.23	1,455	43.64	1,498
200 mm	1,540	1,540	15.40	15.40	1,570.80	39.27	161.01	1,771	53.13	1,824
250 mm	2,005	2,005	20.05	20.05	2,045.10	51.13	209.62	2,306	69.18	2,375
300 mm	2,543	2,543	25.43	25.43	2,593.86	64.85	265.87	2,925	87.74	3,012
350 mm	3,197	3,197	31.97	31.97	3,260.94	81.52	334.25	3,677	110.30	3,787
400 mm	3,833	3,833	38.33	38.33	3,909.66	97.74	400.74	4,408	132.24	4,540
450 mm	4,547	4,547	45.47	45.47	4,637.94	115.95	475.39	5,229	156.88	5,386
500 mm	5,325	5,325	53.25	53.25	5,431.50	135.79	556.73	6,124	183.72	6,308
600 mm	7,015	7,015	70.15	70.15	7,155.30	178.88	733.42	8,068	242.03	8,310
700 mm	9,622	9,622	96.22	96.22	9,814.44	245.36	1,005.98	11,066	331.97	11,398
750 mm	11,135	11,135	111.35	111.35	11,357.70	283.94	1,164.16	12,806	384.17	13,190
800 mm	12,550	12,550	125.50	125.50	12,801.00	320.03	1,312.10	14,433	432.99	14,866
900 mm	15,314	15,314	153.14	153.14	15,620.28	390.51	1,601.08	17,612	528.36	18,140
1000 mm	18,354	18,354	183.54	183.54	18,721.08	468.03	1,918.91	21,108	633.24	21,741

Rate Analysis: Ductile Iron (DI) K-7 Pipes

With 10.3% excise duty in 100 mm and 150 mm, with Nill Excise duty against valid Excise Duty Exemption certificate to be provided by the buyer along with the order / before production Central Excise Notification No. 6/2006 as amended by Central Excise Notification No. 6/2007 dated 1st March 2007.

Inspection charges included, FOR NCR, rubber gasket included, No CST against form C.

Appendix D-4 :Detailed Estimate of Distribution System
Summary & Details of Zone-1 to Zone-18

S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe
A	Without timbering and shoring upto 1.5	8082	100 CUM	4732		382,434	
В	metres depth Excavation for thrust block	98.0	100 CUM	4732		4,637	
2	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)						Factor for Excavation Quantity
	110 mm	8200	RM	310	RA	2,544,409	0.5166
	125 mm		RM	399		166,817	0.5334
	140 mm		RM	499		124,740	0.5676
	160 mm		RM	650		84,878	0.6026
	180 mm		RM	825		409,021	0.6384
	225 mm		RM	1282		117,921	0.7314
	Sub Total	9587		1202	1011	117,921	0.7514
3	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)						
	125 mm	1838	RM	399	RA	733,318	0.5334
	140 mm		RM	499		422,370	0.5676
	160 mm	1366		650		888,130	0.6026
	180 mm		RM	825		331,092	0.6384
	200 mm		RM	1016		284,534	0.675
	200 mm		RM	1010		362,734	0.7314
	250 mm		RM	1585		55,479	0.77
	280 mm	50	RM	1984	RA	99,186	0.8294
	355 mm		RM	3180	RA	46,109	0.975

4							
	Dismantling pipeline of	5114	RM	12	LS	61,368	
	G.I./A.C./P.V.C./S.W./H.D.P.E. pipe						
	including breaking the joints, lifting the						
	pipes and stacking to the place as directed by						
	Engineer-in-charge with all leads and lifts						
	including cleaning the surface, etc. complete.						
	(In place of dismentaled pipe another pipe is						
	to be laid as such excavation for						
	dismentalling is included in excavation for						
	laying new pipe line)						
5	Dismentaling flanged joints for cast iron						
5							
	pipes, valves and specials including carriage						
	of bolts, nuts and washers to store,						
	50 to 100 mm internal diameter of size	10	Der	2.50	Hamana DWD	25	
	50 to 100 mm internal diameter of pipe,	10	Per	3.50	Haryana PWD	35	
	valve, special		Joint		item 28.38		
	125 to 200 mm internal diameter of pipe,	6	Per	6.83	plus 250%	41	
	valve, special		Joint	15.50	vide		
	300 to 375 mm internal diameter of pipe,	4	Per	17.50	amendment dt	70	
	valve, special		Joint		23-1-09		
6	Providing and fixing cast iron double						Quantity of valves taken roughly
J	flanged sluice valves PN -1.6 marked with						at one per KM
	IS 14846 including nuts and bolts marked						at one per ixin
	ε						
	with IS 1363, rubber sheet marked with IS						
	638 etc carriage, loading, unloading,						
	stacking, handling, rehandling etc complete						
	in all respect to the satisfaction of engineer						
	in charge (Makes AARKO, VENUS,						
	100 mm i/d	11		2600		10 (79	
			each		Haryana PWD	40,678	
	150 mm i/d	3	each		A & C slip No	17,127	
	200 mm i/d	1	each		CZC-6 dated 3-	9,945	
	250 mm i/d	1	each	15589	7-09	15,589	
	350 mm i/d	1	each	30395		30,395	
7	Providing and fixing cast iron single air				Haryana PWD		size of air valve taken one sixth of
,	valves marked with IS 14845 including				A & C Slip		pipe dia and nomber of air valves
	6				*		
	carriage, loading, unloading, stacking,				CZC/3-7-09		taken at one per km
	handling, rehandling etc drilling, tapping,						
	screwing etc in valve connections complete						
	8						
	in all respect to the satisfaction of engineer-						
	in all respect to the satisfaction of engineer- in-charge	15	each	1610		24 285	
	in all respect to the satisfaction of engineer- in-charge 40 mm i/d		each	1619		24,285	
8	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber:		each each	1619 5000	LS	24,285	
8	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry				LS		
8	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber:				LS		
8	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6				LS		
8	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding				LS		
8	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5				LS		
8	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast				LS		
8	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as				LS		
8	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall				LS		
	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and	32	each	5000		160,000	
8	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement	32		5000	Haryana PWD		
	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone	32	each	5000		160,000	
	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement	32	each	5000	Haryana PWD	160,000	
	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust	32	each	5000	Haryana PWD item 10.79	160,000	
	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness: 0.23 M for depth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing,	32	each	5000	Haryana PWD item 10.79 plus 340% vide	160,000	
	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement &	32	each	5000	Haryana PWD item 10.79 plus 340% vide amendment 23-	160,000	
	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings	32	each	5000	Haryana PWD item 10.79 plus 340% vide	160,000	
9	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by	32 98	cum	5000 2754	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09	269,845	
	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Thrust Block: Shuttering for precast plain	32 98	each	5000 2754	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09 Haryana PWD	160,000	
9	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by	32 98	cum	5000 2754	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15	269,845	
9	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness: 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc.	32 98 392	each cum Sqm	5000 2754 40	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15 plus225% vide	160,000 269,845 15,861	
9	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc. Providing TMT Steel Reinforcement as per	32 98 392	cum	5000 2754 40	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15 plus225% vide Haryana PWD	269,845	
9	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness: 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc.	32 98 392	each cum Sqm	5000 2754 40	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15 plus225% vide	160,000 269,845 15,861	
9	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc. Providing TMT Steel Reinforcement as per	32 98 392	each cum Sqm	5000 2754 40	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15 plus225% vide Haryana PWD	160,000 269,845 15,861	
9	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc. Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in	32 98 392	each cum Sqm	5000 2754 40	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15 nlus225% vide Haryana PWD item 18.22	160,000 269,845 15,861	
9	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates <u>shelves etc.</u> Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all	32 98 392	each cum Sqm	5000 2754 40	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15 nlus225% vide Haryana PWD item 18.22 plus 350% vide	160,000 269,845 15,861	
9	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates <u>shelves etc</u> Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire,	32 98 392	each cum Sqm	5000 2754 40	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15 nlus225% vide Haryana PWD item 18.22 plus 350% vide amendment 23-	160,000 269,845 15,861	
9	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates <u>shelves etc</u> Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	32 98 392	each cum Sqm	5000 2754 40	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15 nlus225% vide Haryana PWD item 18.22 plus 350% vide	160,000 269,845 15,861	
9	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates <u>shelves etc</u> Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire,	32 98 392	each cum Sqm	5000 2754 40	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15 nlus225% vide Haryana PWD item 18.22 plus 350% vide amendment 23-	160,000 269,845 15,861	
9	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates <u>shelves etc</u> Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	32 98 392	each cum Sqm	5000 2754 40	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15 nlus225% vide Haryana PWD item 18.22 plus 350% vide amendment 23-	160,000 269,845 15,861 161,768	
9 10 11 12	in all respect to the satisfaction of engineer- in-charge 40 mm i/d Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates <u>shelves etc.</u> Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc. Road Work:	32 98 392	each cum Sqm	5000 2754 40	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15 nlus225% vide Haryana PWD item 18.22 plus 350% vide amendment 23-	160,000 269,845 15,861 161,768 1,179,722	

S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe
A	Without timbering and shoring upto 1.5 metres depth	5261	100 CUM	4732		248,962	
В	Excavation for thrust block	63.1	100	4732		2,985	
2	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)		CUM				Factor for Excavation Quantity
	110 mm	3755	RM	310	RA	1,165,153	0.5166
	140 mm	149	RM	499	RA	74,345	0.5676
	160 mm		RM	650	RA	203,902	0.6026
3	Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)	4218	КМ				
	110 mm		RM	310		163,525	0.5166
	125 mm	1522.5		399		607,607	0.5334
	140 mm	1431.5		499		714,261	0.5676
	1.00	1039	RM	650		675,772	0.6026
	160 mm				1 D 1	210 202	0.6204
	180 mm		RM	825		210,283	0.6384
	180 mm 200 mm	239	RM	1016	RA	242,870	0.675
	180 mm 200 mm 225 mm	239 26.5	RM RM	1016 1282	RA RA	242,870 33,966	0.675 0.7314
	180 mm 200 mm 225 mm 280 mm	239 26.5 110.5	RM RM RM	1016 1282 1984	RA RA RA	242,870 33,966 219,201	0.675 0.7314 0.8294
	180 mm 200 mm 225 mm	239 26.5 110.5 33.5	RM RM	1016 1282	RA RA RA RA	242,870 33,966	0.675 0.7314

C1AC.P.V.C.S.W.HD.P.E. pipe including breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in-charge with all leads and lifts including cleaning the surface, etc. complete. (In place of Samenald-Pipe is nother pipe is to b laid as such excavation for dismeratibility is including carriage of bolts, nuts and vusbers to store, 5 Dismentaling flanged joints for cast iron pipes, valves and specials including carriage of bolts, nuts and vusbers to store, 50 to 100 mm internal diameter of pipe, valve, special 125 to 200 mm internal diameter of pipe, valve, special 125 to 200 mm internal diameter of pipe, valve, special 10 per valve, special 10 int 1-09 70 10 per valve, special 10 antecd with langed 10 stor, rubes taken 10 antecd with langed 10 stor, rubes taken 14846 including nuts and bolts marked with IS 163, rubes raket marked with langed 10 stor, rubes taken 10 anticd with langes and family etc. complete in charge (Makes AARKO, VENUS. 100 mm it/d 11 copi A & C slip NO 22, 836 230 mm it/d 12 cach 18944 18944 18944 18944 18944 19, 945 15, 580 100 mm it/d 10 cach 100 mm it/d 10 cach 100 mm it/d 10 cach 100 m it/d 10 cach 100 m it/d 100 m it/d 100 m it/d 100 m it/d<!--</th--><th>4</th><th>Dismantling pipeline of</th><th>5246</th><th>RM</th><th>12</th><th>LS</th><th>62,952</th><th></th>	4	Dismantling pipeline of	5246	RM	12	LS	62,952	
including cleaning the surface, etc. complete. (In place of dismentaled pipe another pipe is to be laid as such excavation for laying new pipe line) issuentaling is including carriage of boils, must and washers to store, 5 Dismentaling fanged joints for cast iron pipes, valves and specials including carriage of boils, must and washers to store, issuentaling fanged joints for cast iron pipes, valves and specials including carriage of boils, must and washers to store, issuentaling fanged joints for cast iron pipes, valves, special issuentaling fanged joints for cast iron pipes, valves, special issuentaling fanged joints for cast iron joint issuentaling fanged joints for cast iron pipes, valve, special issuentaling fanged joints for cast iron joint issuentaling fanged joints issuentaling fanged joint issuentaling fanged joint joint 6 Providing and fixing cast iron double flanged sluice valves PN - I.6 antwick with IS 1484 for louding must and boils marked with IS 1636, rubber sheet marked with IS 638 et carriage, loading, induding, stacking, handling, rehandling et complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, 100 mm id is act iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling et complete in all respect to the satisfaction of engineer- in-charge <		including breaking the joints, lifting the						
In place of dismentaled pipe another pipe is Image: Constraint of the bind as such exervation for dismentaling is included in excavation for dismentaling flanged joints for cast tron pipes, valves and specials including carriage of bolts, nuts and washers to store, Image: Constraint of the pipe, valves and specials including carriage of bolts, nuts and washers to store, Image: Constraint of the pipe, valves, special Image: Constraint of the pipe, valves, special Image: Constraint of the pipe, valves, special Image: Constraint of the pipe, valve, special Image: C		Engineer-in-charge with all leads and lifts						
dismentaling is included in excavation for laying new pipe line) Image: Construction of the image of points for cast iron pipes, valves and specials including carriage of bolts, nuts and washers to store, Image: Construction of the image of pipe, valve, special Image: Construction of the image of pipe, valve, spe		(In place of dismentaled pipe another pipe is						
laying new pipe line) interval interval interval 5 Dismentaling flanged joints for cast iron opipes, valves and specials including carriage of bolts, nuts and washers to store, interval item 28.38 plus 5 Dismentaling flanged joints for cast iron opipe, valve, special Joint item 28.38 plus item 28.38 plus 125 to 200 mm internal diameter of pipe, valve, special G Per Joint amendment dt 23 300 to 375 mm internal diameter of pipe, valve, special Joint Per Joint 1-09 300 to 375 nm internal diameter of pipe, valve, special Joint Per Joint 1-09 6 Providing and fixing cast iron double flangets duice valves PN -1.6 marked with IS 638 et carriage, loading, unloading, stacking, handling, rebandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS.) Quantity of valves taken roughly at one per KM 100 mm i/d 4 each 5098 Haryana PWD 14,792 200 mm i/d 1 each 15589 90 15589 300 m i/d 1 each 15589 15589 15589 300 m i/d 1 each 1619 16,190 15,000 7 Providing and fixing cast iron single air								
pipes, valves and specials including carriage of bolts, nuts and washers to store, 10 Per 3.50 Haryana PWD 35 item 28.38 plus item 28.38 plus item 28.38 plus 250% vide 41 300 to 375 mm internal diameter of pipe, valve, special 6 Per 6.83 250% vide 41 300 to 375 mm internal diameter of pipe, valve, special 4 Per 10.50 1.09 70 300 to 375 mm internal diameter of pipe, valve, special 4 Per 10.50 1.09 70 300 to 375 mm internal diameter of pipe, valve, special 1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 63 set carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, 4 each 5709 A & C Slip No 22.2836 22.386 200 mm i/d 1 each 15709 A & C Slip AS size of air valve taken one walves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tupping, screwing etc in valve connections complete in exhaves marked with Slassification of engineer- in-charge 1 each 1519 16.190 size of air valve taken one km 4 0 mm i/d 10 each <t< td=""><td></td><td>laying new pipe line)</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>		laying new pipe line)						
of bolts, nuts and washers to store, Image: status and washers,	5							
valve, special Joint item 28.38 plus 125 to 200 mm internal diameter of pipe, valve, special 6 Per 6.83 250% vide amendment dt 23- 300 to 375 mm internal diameter of pipe, valve, special 4 Per 17.50 1-09 70 6 Providing and fixing cast iron double flanged shuce valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1636, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, 4 each 3698 Haryana PWD 14,792 100 mm i/d 4 each 5070 A & C slip No 22.836 200 mm i/d 1 each 18944 15589 300 mm i/d 1 each 18944 18.944 7 Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, undoading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve chambere: rin-charge 10 each 1619 16.190 8 Shuice valve and air valve chamber: rin-charge 21 each 1619 16.190 8 Shuice valve and air valve chamber: rin-charge 10 each 1619 16.190 8 Shuice valve and air valve chamber: rin-charge 10 each 1619 16								
125 to 200 mm internal diameter of pipe, valve, special 6 Per Joint 6.83 250% vide amendment dt 23 amendment dt 23 Joint 41 300 to 375 mm internal diameter of pipe, valve, special 4 Per Joint 17.50 1-09 70 6 Providing and fixing cast iron double flanged stuice valves PN -1.6 marked with IS 14846 foncluding nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in charge (Makes AARKO, VENUS, 0 14,792 100 mm i/d 4 each 3698 Haryana PWD 14,792 200 mm i/d 1 each 3698 Haryana PWD 22,836 200 mm i/d 1 each 3598 18,944 5589 300 mm i/d 1 each 18944 18,944 18,944 7 Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling, tech drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-charge 10 each 1619 16,190 8 Stuice valve and air valve chamber: n-charge 21 each 5000 LS 105,000 8 Stuice valve and air valve chamber:			10		3.50		35	
and the spectral 100 mile 300 to 375 mm internal diameter of pipe, valve, special 4 Perviding and fixing cast iron double flanged sluice valves PN-1.6 marked with IS 18486 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc. carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, 4 100 mm i/d 4 each 3698 100 mm i/d 4 each 3698 200 mm i/d 1 each 9945 200 mm i/d 1 each 10544 100 mm i/d 1 each 15589 300 mm i/d 1 each 18944 7 Providing and fixing cast iron single air valves marked with IS 14945 including carriage, loading, unloading, stacking, handling, rehandling, tacking, handling, rehandling, tacking, handling, rehandling, tacking, handling, rehandling, tacking, handling, rehandling, tacking, handling, rehandling, tacking, handling, trading, stacking, handling, trading, tacking, handling, trading, tacking, screwing et in valve connections complete in all respect to the sa		125 to 200 mm internal diameter of pipe,	6	Per	6.83	250% vide	41	
valve, special Joint 6 Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, Image: Complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, Image: Complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, Image: Complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, Image: Complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, Image: Complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, Image: Complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, Image: Complete in all respect to the satisfaction of engineer in charge Image: Complete in all respect to the satisfaction of engineer- in charge Image: Complete in all respect to the satisfaction of engineer- in charge Image: Complete in all respect to the satisfaction of engineer- in charge Image: Complete in all respect to the satisfaction of engineer- in charge Image: Complete in all respect to the satisfaction of engineer- in charge Image: Complete in all respect to the satisfaction of engineer- in charge Image: Complete in all respect to the satisfaction of engineer- in charge Image: Complete in all respect to the satisfaction of engineer- in charge Image: Complete in all respect to the satisfaction of engineer- in charge Image: Complete in all respect to the satisfactin of engineer- in charge Image: Complete in		•	4		17 50		70	
flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 et carriage, loading, unloading, stacking, handling, rehandling et complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS,Haryana PWD 4 each14,792Image: Provide the satisfaction of engineer100 mm i/d4 each3698Haryana PWD 2.83622,836200 mm i/d1 each9945CZC-6 dated 3-7- 9.9459.945200 mm i/d1 each1894418,9447Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling et complete in all respect to the satisfaction of engineer- in-charge10each1619size of air valve taken one sixth of pipe dia and nomber 7-098Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge.10each1619105,0008Sluice valve and air valve chamber: ercavion, Brick masonry valve chamber with 15 cm thick 1:3:6 proportion 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge.21each5000LS105,0008Sluice valve and air valve chamber: ercavion, Brick masonry valve chamber with 15 cm thick 1:3:6 proportion 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge.21each5000LS105,000 </td <td></td> <td>valve, special</td> <td>4</td> <td></td> <td>17.50</td> <td></td> <td>70</td> <td></td>		valve, special	4		17.50		70	
IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, 4 each 3698 Haryana PWD 14,792 100 mm i/d 4 each 5709 A & C slip No 22,836 200 mm i/d 1 each 9945 CZC-6 dated 3-7- 9,945 9,945 250 mm i/d 1 each 15589 09 15,589 300 mm i/d 1 each 18944 18,944 7 Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-charge Haryana PWD A & C Slip CZC/3- 7-09 size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km 40 mm i/d 10 each 1619 16,190 8 Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and Intervent of the state is the	6							
638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, 4 each 3698 Haryana PWD 14,792 100 mm i/d 4 each 5709 A & C Slip No 22,836 200 mm i/d 1 each 150 mm i/d 22,836 300 mm i/d 1 each 15589 09 15,589 300 mm i/d 1 each 18944 15,589 15,589 7 Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-charge Haryana PWD A & C Slip CZC/3- 7-09 size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km 40 mm i/d 10 each 1619 16,190 8 Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC beding, excluding excavation, Brick masonry valve chamber with 15 cm thick 1:3:6 proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thick mess : 0.23 M for depth of 1.2 M and 10		IS 14846 including nuts and bolts marked						rouging at one per rait
in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS,4each3698Haryana PWD (A & C slip No)150 mm i/d4each3698Haryana PWD (A & C slip No)14,792200 mm i/d1each5709A & C slip No)22,836200 mm i/d1each155899915,589300 mm i/d1each1894418,9447Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-chargeHaryana PWD A & C Slip CZC/3- 7-09size of air valve taken one w for air valves taken at one per km40 mm i/d10each161916,1908Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm tikk 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness: 0.23 M for depth of 1.2 M andII								
in charge (Makes AARKO, VENUS, </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
150 mm i/d 4 each 5709 A & C slip No 22,836 200 mm i/d 1 each 9945 CZC-6 dated 3-7- 9,945 250 mm i/d 1 each 15589 09 15,589 300 mm i/d 1 each 18944 18,944 7 Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-charge A & C Slip CZC/3- size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km 40 mm i/d 10 each 1619 16,190 8 Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and 5000 LS 105,000								
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300 mm i/d 1 each 18944 18,944 7 Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge Haryana PWD A size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km 40 mm i/d 10 each 1619 16,190 8 Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and Image: Display and the set of					9945	CZC-6 dated 3-7-		
7 Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge Haryana PWD A & & Size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km 40 mm i/d 10 each 1619 16,190 8 Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and 10 each 1619 105,000						09		
valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling et drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-charge&S Slice valve and air valve chamber: 21sixth of pipe dia and nomber of air valves taken at one per km8Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and10each1619105,000	7		1	each	18944	Haryana PWD A	18,944	size of air valve taken one
handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-chargekm40 mm i/d10 each161916,1908Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and10 each1619105,000		e				& C Slip CZC/3-		
in all respect to the satisfaction of engineer- in-charge 40 mm i/d 10 each 1619 16,190 8 Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and						7-09		-
in-charge in-charge in-charge in-charge 40 mm i/d 10 each 1619 16,190 8 Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and Suide value and subscription								
8 Sluice valve and air valve chamber: 21 each 5000 LS 105,000 Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 105,000 105,000 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and 105,000 105,000		1 0						
Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and		40 mm i/d	10	each	1619		16,190	
valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and	8		21	each	5000	LS	105,000	
excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and								
Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and								
directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and								
thickness : 0.23 M for depth of 1.2 M and								
0.35 M for balance depth exceeding 1.2 M)								
		0.35 M for balance depth exceeding 1.2 M)						
9 Thrust Block: Providing and laying cement 63.09 cum 2754 Haryana PWD 173,720	9	Thrust Block: Providing and laying cement	63.09	cum	2754	Haryana PWD	173,720	
concrete in RCC (M-15, 1:2:4) with stone item 10.79 plus		concrete in RCC (M-15, 1:2:4) with stone				item 10.79 plus		
blocks including compaction, curing, amendment 23-1-		blocks including compaction, curing,						
finishing, excluding cost of reinforcement & 09 shuttering etc., Complete as per drawings						09		
and specifications and as directed by								
Engineer.		Engineer.						

10	Thrust Block: Shuttering for precast plain	252.36	Sqm	40	Haryana PWD	10,211	
	or RC concrete wall plates, bed plates				item 9.15		
	shelves etc				plus225% vide		
-					amendment 23-1-		
11	Providing TMT Steel Reinforcement as per	25	Quintal	4127	Haryana PWD	104,142	
	IS: 1786 for RCC work including				item 18.22 plus		
	straightening, cutting, bending, placing in				350% vide		
	position and binding etc as per drawing all				amendment 23-1-		
	complete including cost of binding wire,				09		
	labour, wastage etc.						
12	Road Work:					809,548	
13	Mislenious Items					539,699	
	Total					6,206,535	

					uon System - Zon		Annexure E 2-3		
S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations		
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm Minimum earth cover of 1 meter, average earth cover of 1.15 m, Averag depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe		
A	Without timbering and shoring upto 1.5 metres depth	9112	100 CUM	4732		431,192			
В	Excavation for thrust block	112	100 CUM	4732		5,285			
2	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)						Factor for Excavation Quantity		
	110 mm	10287	RM	310	RA	3,191,836	0.5160		
	125 mm		RM	399	RA	353,190	0.5334		
	140 mm 160 mm	688 635	RM RM	499 650	RA RA	343,284 412,683	0.567		
	Sub Total	12494		030	KA	412,085	0.0020		
3	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)								
	110 mm	403	RM	310	RA	124,893	0.516		
	125 mm	1712		399	RA	683,233	0.533		
	140 mm		RM	499	RA	194,844	0.567		
	160 mm 180 mm		RM RM	650 825	RA RA	204,228 505,503	0.602		
	200 mm		RM	1016	RA	160,050	0.67		
	225 mm		RM	1282	RA	224,946	0.731		
	250 mm		RM	1585	RA	618,189	0.7		
	315 mm	81		2511 3180	RA	203,401	0.890		
	355 mm Sub Total	4260	RM	3180	RA	74,728	0.97		
4	Dismantling pipeline of G.I./A.C./P.V.C./S.W./H.D.P.E. pipe including breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in- charge with all leads and lifts including cleaning the surface, etc. complete. (In place of dismentaled pipe another pipe is to be laid as such excavation for dismentalling is included in excavation for laying new pipe line)	4260	RM	12	LS	51,114			
	80 mm.		R.M.			-			
	100 mm.		R.M.			-			
	125 mm.		R.M.			-			
	150 mm.		R.M.			-			
	200 mm. 250 mm.		R.M. R.M.			-			
	300 mm.		R.M.			-			
	350 mm.		R.M.			-			
	400 mm.		R.M.			-			
	450 mm.		R.M.			-			

			,				
5	Dismentaling flanged joints for cast iron pipes,						
	valves and specials including carriage of bolts,						
	nuts and washers to store,						
	50 to 100 mm internal diameter of pipe, valve,	10	Per Joint	3.50	Haryana PWD	35	
	special				item 28.38 plus		
	125 to 200 mm internal diameter of pipe, valve,	6	Per Joint	6.83	250% vide	41	
	special	-			amendment dt 23-		
	-	4	Per Joint	17.50		70	
	300 to 375 mm internal diameter of pipe, valve,	4	Per Joint	17.50	1-09	/0	
	special						
6	Providing and fixing cast iron double flanged						Quantity of valves taken roughly at one
	sluice valves PN -1.6 marked with IS 14846						per KM
	including nuts and bolts marked with IS 1363,						1
	rubber sheet marked with IS 638 etc carriage,						
	loading, unloading, stacking, handling,						
	rehandling etc complete in all respect to the						
	satisfaction of engineer in charge (Makes						
	AARKO, VENUS, LEADER, SI, PANJA,						
	100 mm i/d	13	each	3698	Haryana PWD A	48,074	
	150 mm i/d	2	each	5709	& C slip No CZC-	11,418	
	200 mm i/d	1	each	9945	6 dated 3-7-09	9,945	
	250 mm i/d		each	15589	-	15,589	
	300 mm i/d		each	18944	-	18,944	
7		1	each	18944		16,944	
7	Providing and fixing cast iron single air valves				Haryana PWD A		size of air valve taken one sixth of pipe
	marked with IS 14845 including carriage,				& C Slip CZC/3-7-		dia and nomber of air valves taken at
	loading, unloading, stacking, handling,				09		one per km
	rehandling etc drilling, tapping, screwing etc in						
	valve connections complete in all respect to the						
	satisfaction of engineer-in-charge						
	6 6						
	40 mm i/d	17	each	1619		27,523	
0			each	5000	I.C.	175.000	
8	Sluice valve and air valve chamber: Providing	35	each	5000	LS	175,000	
	and constructing Brick masonry valve chamber						
	with 15 cm thick 1:3:6 proportion PCC bedding,						
	excluding excavation, Brick masonry in C.M.						
	1:5 Proportion, 20 mm thick 1:4 plaster, precast						
	RCC frame and cover, etc. complete as directed						
	by Engineer-in-charge. (Wall thickness : 0.23 M						
	for depth of 1.2 M and 0.35 M for balance depth						
	exceeding 1.2 M)						
	exceeding 1.2 W)						
9	Thrust Block: Providing and laying cement	111.69	cum	2754	Haryana PWD	307,541	
	concrete in RCC (M-15, 1:2:4) with stone				item 10.79 plus		
	aggregate 20 mm nominal size for thrust blocks				340% vide		
	including compaction, curing, finishing,				amendment 23-1-		
	excluding cost of reinforcement & shuttering				09		
					07		
	etc., Complete as per drawings and						
	specifications and as directed by Engineer.						
10	Thrust Block: Shuttering for precast plain or	446.76	Sqm	40	Haryana PWD	18,077	
	RC concrete wall plates, bed plates shelves etc				item 9.15		
					plus225% vide		
11	Providing TMT Steel Reinforcement as per IS:	45	Quintal	4127	Haryana PWD	184,366	
	1786 for RCC work including straightening,				item 18.22 plus		
	cutting, bending, placing in position and				350% vide		
	binding etc as per drawing all complete				amendment 23-1-		
	including cost of binding wire, labour, wastage				09		
			1		~~		
10	etc.					1 000 00 1	
	etc. Road Work:					1,289,884	
	etc.					1,289,884 859,922 10,749,029	

~ . 10	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(3+.11) ie 0.5166*L where L is length of Pipe
А	Without timbering and shoring upto 1.5	5461	100 CUM	4732		258,435	
В	metres depth Excavation for thrust block	69.6	100 CUM	4732		3,291	
С	With timbering and shoring upto 1.5 metres		100 CUM	6300		-	
D	depth With timbering and shoring exceeding 1.5 matrix don'th but unto 2.25 matrix don'th		100 CUM	6492		-	
E 2	metres depth, but upto 2.25 metres depth With timbering and shoring exceeding 2.25 metres depth, but upto 3 metres depth Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)		100 CUM	6992		-	Factor for Excavation Quantity
	110 mm	4688		310	RA	1,454,502	0.5166
└──	125 mm 140 mm	62 39	RM RM	399 499	RA RA	24,544 19,459	0.5334
	160 mm	57	RM	650	RA	-	0.6026
	180 mm		RM	825	RA	-	0.6384
	200 mm		RM	1016	RA	-	0.675
	225 mm 250 mm		RM RM	1282 1585	RA RA	-	0.7314
	280 mm	-	RM	1385	RA	-	0.77
	315 mm		RM	2511	RA	-	0.8906
	355 mm		RM	3180	RA	-	0.975
	400 mm		RM	4129		-	1.085
	450 mm 500 mm	-	RM RM	5226 6443	RA RA	-	1.2
	Sub Total	4788		0445	RA .		1.52
3	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE						
	(PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)						
	kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete.	4052	RM	310	RA	1,257,155	0.5166
	kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm	1140	RM	399	RA	454,957	0.5334
	kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm	1140 185	RM RM	399 499	RA RA	454,957 92,308	0.5334 0.5676
	kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm	1140 185 121	RM RM RM	399 499 650	RA RA RA	454,957 92,308 78,699	0.5334 0.5676 0.6026
	kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm	1140 185 121 37	RM RM RM RM	399 499	RA RA RA RA	454,957 92,308 78,699 30,512	0.5334 0.5676
	kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 180 mm	1140 185 121 37	RM RM RM	399 499 650 825	RA RA RA RA	454,957 92,308 78,699	0.5334 0.5676 0.6026 0.6384
	kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm	1140 185 121 37	RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585	RA RA RA RA RA RA RA	454,957 92,308 78,699 30,512 48,269 - 71,330	0.5334 0.5676 0.6026 0.6384 0.675 0.7314 0.77
	kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm 280 mm	1140 185 121 37 48 45	RM RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585 1984	RA RA RA RA RA RA RA RA RA	454,957 92,308 78,699 30,512 48,269 - 71,330	0.5334 0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294
	kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm 250 mm 315 mm	1140 185 121 37 48	RM RM RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585 1984 2511	RA RA RA RA RA RA RA RA RA RA	454,957 92,308 78,699 30,512 48,269 - 71,330 - 43,945	0.5334 0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294 0.8906
	kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 225 mm 280 mm 315 mm 355 mm	1140 185 121 37 48 45	RM RM RM RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585 1984 2511 3180	RA RA RA RA RA RA RA RA RA RA RA RA	454,957 92,308 78,699 30,512 48,269 - 71,330	0.5334 0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294 0.8906 0.975
	kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm 250 mm 315 mm	1140 185 121 37 48 45	RM RM RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585 1984 2511	RA RA RA RA RA RA RA RA RA RA RA RA	454,957 92,308 78,699 30,512 48,269 - 71,330 - 43,945	0.5334 0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294 0.8906

4	Dismantling pipeline of	5645	RM	12	LS	67,734	
	G.I./A.C./P.V.C./S.W./H.D.P.E. pipe	5045	IXIVI	12	LO	07,734	
	including breaking the joints, lifting the						
	pipes and stacking to the place as directed by						
	Engineer-in-charge with all leads and lifts						
	including cleaning the surface, etc. complete.						
	(In place of dismentaled pipe another pipe is						
	to be laid as such excavation for						
	dismentalling is included in excavation for						
	laying new pipe line)						
	80 mm.		R.M.			-	
	100 mm.		R.M.			-	
	125 mm.		R.M.			-	
	150 mm.		R.M.			-	
	200 mm.		R.M.			-	
	250 mm.		R.M.			-	
	300 mm.		R.M.			-	
	350 mm.		R.M.			-	
	400 mm.		R.M.			-	
	450 mm.		R.M.			-	
	500 mm.		R.M.			-	
	Dismentaling flanged joints for cast iron						
	pipes, valves and specials including carriage						
	of bolts, nuts and washers to store,						
	,						
	50 to 100 mm internal diameter of pipe,	10	Per Joint	3 50	Haryana PWD item	35	
	valve, special	10	r er jonn	5.50	28.38 plus 250% vide	35	
	125 to 200 mm internal diameter of pipe,	6	Per Joint	6.02	amendment dt 23-1-09	41	
	valve, special	0	Fel John	0.85	amendment ut 25-1-07	41	
	300 to 375 mm internal diameter of pipe,	4	Per Joint	17.50	-	70	
	valve, special	4	Fel John	17.50		70	
	400 to 450 mm internal diameter of pipe,			19.95	-	-	
	valve, special			19.95		-	
				22.05	-		
	500 to 525 mm internal diameter of pipe,			22.05		-	
	valve, special						
	Taking out dismentaled cast iron socketed or					-	
	flanged pipes, valves and specials etc outside						
	from the trenches and stacking at a nearest						
	convenient place						
	80 mm.		10 m	18.20		-	
	100 mm.		10 m	22.23		-	
	125 mm.		10 m	22.75	amendment dt 23-1-09	-	
	150 mm.		10 m	27.13		-	
	200 mm.		10 m	36.23		-	
	250 mm.		10 m	49.18		-	
	300 mm.		10 m	57.58] [-	
	350 mm.		10 m	72.63		-	
	400 mm.		10 m	95.73		-	
	450 mm.		10 m	107.45		-	
	500 mm.		10 m	115.33		-	
	Providing and fixing cast iron double		-				Quantity of valves taken roughly at one
	flanged sluice valves PN -1.6 marked with						per KM
	IS 14846 including nuts and bolts marked						r
	with IS 1363, rubber sheet marked with IS						
	638 etc carriage, loading, unloading,						
U.							
	stacking, handling, rehandling etc complete						
	in all respect to the satisfaction of engineer						
	in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS,						
	in all respect to the satisfaction of engineer						
	in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY						
	in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d		each		Haryana PWD A & C	-	
	in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d	10	each	3698	slip No CZC-6 dated 3-		
	in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 150 mm i/d	10 1	each each	3698 5709	slip No CZC-6 dated 3- 7-09	5,709	
	in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 150 mm i/d 200 mm i/d	10 1 1	each each each	3698 5709 9945	slip No CZC-6 dated 3- 7-09	5,709 9,945	
	in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 150 mm i/d 250 mm i/d 250 mm i/d	10 1 1 1	each each each each	3698 5709 9945 15589	slip No CZC-6 dated 3- 7-09	5,709 9,945 15,589	
	in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 150 mm i/d 250 mm i/d 250 mm i/d 300 mm i/d	10 1 1	each each each each each	3698 5709 9945 15589 18944	slip No CZC-6 dated 3- 7-09	5,709 9,945	
	in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 150 mm i/d 200 mm i/d 250 mm i/d 300 mm i/d 350 mm i/d	10 1 1 1	each each each each each each	3698 5709 9945 15589 18944 30395	slip No CZC-6 dated 3- 7-09	5,709 9,945 15,589 18,944	
	in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 200 mm i/d 200 mm i/d 200 mm i/d 300 mm i/d 300 mm i/d 400 mm i/d	10 1 1 1	each each each each each each each	3698 5709 9945 15589 18944 30395 41120	slip No CZC-6 dated 3- 7-09	5,709 9,945 15,589 18,944	
	in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 200 mm i/d 200 mm i/d 250 mm i/d 350 mm i/d 450 mm i/d 450 mm i/d	10 1 1 1	each each each each each each each each	3698 5709 9945 15589 18944 30395 41120 48981	slip No CZC-6 dated 3- 7-09	5,709 9,945 15,589 18,944	
	in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 200 mm i/d 200 mm i/d 200 mm i/d 300 mm i/d 300 mm i/d 400 mm i/d	10 1 1 1 1	each each each each each each each	3698 5709 9945 15589 18944 30395 41120	slip No CZC-6 dated 3- 7-09	5,709 9,945 15,589 18,944 -	

9	Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-charge 40 mm i/d 50 mm i/d Providing and fixing cast iron double air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-charge	0	each each each each	1619 1771	Haryana PWD A & C Slip CZC/3-7-09		size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km
	65 mm i/d 80 mm i/d		each each		Haryana PWD A & C Slip CZC/3-7-09	-	
	100 mm i/d		each	2103	5np CLC/3*1=07	-	
	Providing and fixing cast iron kinetic air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-charge						
	80 mm i/d		each		Haryana PWD A & C	-	
	100 mm i/d		each		Slip CZC/3-7-09	-	
<u> </u>	150 mm i/d		each	7514		-	
11	200 mm i/d Sluice valve and air valve chamber:		each each	13267	- ~	- 120,000	
	Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and 0.35 M for balance depth exceeding 1.2 M)						
	Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer.	69.55	cum	2754	Haryana PWD item 10.79 plus 340% vide amendment 23-1-09	191,507	
13	concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by	69.55 278.2			10.79 plus 340% vide	191,507	
13	concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer. Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	278.2		40	10.79 plus 340% vide amendment 23-1-09 Haryana PWD item 9.15 plus225% vide	11,257	
13 14	concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer. Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire,	278.2	Sqm	40	10.79 plus 340% vide amendment 23-1-09 Haryana PWD item 9.15 plus225% vide amendment 23-1-09 Haryana PWD item 18.22 plus 350% vide	11,257	

S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe
	signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)						
A	Without timbering and shoring upto 1.5 metres depth	13221	100	4732		625,640	
В	Excavation for thrust block	163.1		4732		7,716	
С	With timbering and shoring upto 1.5 metres depth		CUM 100 CUM	6300		-	
D	With timbering and shoring exceeding 1.5 metres depth, but upto 2.25 metres depth		100 CUM	6492		-	
E	With timbering and shoring exceeding 2.25 metres depth, but upto 3 metres depth		100 CUM	6992		-	
2	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)						Factor for Excavation Quantity
	110 mm	17494		310		5,428,278	0.5166
	125 mm 140 mm		RM RM	399 499	RA RA	101,368 296,382	0.5334
	140 mm	125.5		650	RA	81,626	0.5876
	180 mm	378.5		825	RA	312,126	0.6384
	200 mm	171.5		1016	RA	174,277	0.675
	225 mm 250 mm		RM RM	1282	RA RA	-	0.7314
	280 mm		RM	1984	RA	-	0.8294
	315 mm		RM	2511	RA	-	0.8906
	355 mm 400 mm		RM RM	3180 4129	RA RA	-	0.975
	450 mm		RM	5226	RA	-	1.003
	500 mm		RM	6443	RA	-	1.32
3	Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)	19018	RM				
	110 mm	20	RM	310	RA	6,206	0.5166
	125 mm	1865		399	RA	744,293	0.5334
	140 mm	1288		499	RA	642,660	0.5676
	160 mm 180 mm	245.5	RM RM	650 825	RA RA	545,691 202,449	0.6026
	200 mm		RM	1016		417,655	0.675
	225 mm	19.5	RM	1282	RA	24,994	0.7314
_	250 mm	713.5		1585	RA	1,130,969	0.77
	280 mm	12 5	RM	1984	RA	-	0.8294
	315 mm	13.5	RM RM	2511 3180	RA RA	33,900 87,448	0.8906
	355 mm					07,440	0.775
	355 mm 400 mm	21.5	RM	4129	RA	-	1.085
		21.5		4129 5226 6443	RA RA RA		1.085 1.2 1.32

	Dismantling pipeline of G.I./A.C./P.V.C./S.W./H.D.P.E. pipe including breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in-charge with all leads and lifts including cleaning the surface, etc. complete. (In place of dismentaled pipe another pipe is to be laid as such excavation for dismentalling is included in excavation for laying new pipe line)	5443	RM	12	LS	65,316	
	80 mm.		R.M.			-	
	100 mm.		R.M.			-	
	125 mm. 150 mm.		R.M. R.M.			-	
	200 mm.		R.M.			-	
	250 mm.		R.M.			-	
	300 mm.		R.M.			-	
	350 mm. 400 mm.		R.M. R.M.			-	
	450 mm.		R.M.			-	
	500 mm.		R.M.			-	
5	Dismentaling flanged joints for cast iron pipes, valves and specials including carriage of bolts, nuts and washers to store,						
	50 to 100 mm internal diameter of pipe, valve, special	10	Per Joint		Haryana PWD item 28.38 plus 250%	35	
	125 to 200 mm internal diameter of pipe, valve, special	6	Per Joint	6.83	vide amendment dt 23-1-09	41	
	300 to 375 mm internal diameter of pipe, valve, special	4		17.50		70	
	400 to 450 mm internal diameter of pipe, valve, special			19.95		-	
	500 to 525 mm internal diameter of pipe, valve, special			22.05		-	
6	Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place					-	
	80 mm.		10 m	18.20	Haryana PWD item	-	
	100 mm.		10 m	22.23		-	
	125 mm.		10 m	22.75	-	-	
	150 mm. 200 mm.		10 m 10 m	27.13 36.23	23-1-09	-	
	250 mm.		10 m	49.18		-	
	300 mm.		10 m	57.58		-	
	350 mm. 400 mm.		10 m 10 m	72.63		-	
	400 mm.		10 m 10 m	107.45		-	
	500 mm.		10 m	115.33		-	
	Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY						Quantity of valves taken roughly at one per KM
	80 mm i/d	0	each	2573	Haryana PWD A	-	
_	100 mm i/d		each		& C slip No CZC-	73,960	
	150 mm i/d 200 mm i/d		each each	5709 9945	6 dated 3-7-09	17,127 9,945	
	200 mm i/d 250 mm i/d		each each	15589	1	9,945	
	300 mm i/d		each	18944		18,944	
	350 mm i/d	1		30395		30,395	
	400 mm i/d 450 mm i/d		each each	41120 48981		-	
	450 mm i/d 500 mm i/d		each	66911			
	600 mm i/d		each	95126		-	
8	Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge				Haryana PWD A & C Slip CZC/3-7-09		size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km

	Providing and fixing cast iron double air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge 65 mm i/d 80 mm i/d 100 mm i/d Providing and fixing cast iron kinetic air valves marked	0	each each each		Haryana PWD A & C Slip CZC/3-7-09		
	vith IS 14845 including carriage, boading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge						
	80 mm i/d	0	each	2824	Haryana PWD A &	-	
	100 mm i/d		each		C Slip CZC/3-7-09	-	
	150 mm i/d		each	7514	ľ	-	
	200 mm i/d		each	13267		-	
	Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and 0.35 M for balance depth exceeding 1.2 M)	51	each	5000	LS	255,000	
	Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer.	163.0667	cum	2754	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09	449,007	
	Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc	652.2667	Sqm		Haryana PWD item 9.15 plus225% vide amendment 23- 1-09	26,392	
	Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	65	Quintal	4127	Haryana PWD item 18.22 plus 350% vide amendment 23- 1-09	269,173	
-	Road Work:					1,820,029	
16	Mislenious Items			-		1,213,353	
	Total					15,166,911	

S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe
A	Without timbering and shoring upto 1.5 metres depth	14716	CUM	4732		696,377	
В	Excavation for thrust block	184.4	100 CUM	4732		8,727	
2	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)						Factor for Excavation Quantity
	110 mm	21766	RM	310	RA	6,753,853	0.5166
	125 mm	2639	RM	399	RA	1,053,185	0.5334
	140 mm	693.5		499	RA	346,029	0.5676
	160 mm	493.5		650	RA	320,975	0.6026
	180 mm 200 mm	209.5	RM	825 1016	RA RA	503,029 212,892	0.6384
	225 mm	209.3		1010	RA	212,892	0.07314
	250 mm		RM	1585		91,936	0.77
	315 mm		RM	2511	RA	303,846	0.8906
	355 mm	95	RM	3180	RA	302,092	0.975
3	Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)	26904					
	125 mm		RM	399		105,358	0.5334
	140 mm		RM	499		20,457	0.5676
	160 mm Sub Total		RM RM	650	RA	295,284	0.6026
4	Dismantling pipeline of G.I./A.C./P.V.C./S.W./H.D.P.E. pipe including breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in-charge with all leads and lifts including cleaning the surface, etc. complete. (In place of dismentaled pipe another pipe is to be laid as such excavation for dismentalling is included in excavation for laying new pipe line)	759	RM	12	LS	9,108	

S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
5	Dismentaling flanged joints for cast iron pipes, valves and specials including carriage of bolts, nuts and washers to store,						
	50 to 100 mm internal diameter of pipe, valve, special	4	Per Joint	3.50	Haryana PWD item 28.38	14	
	125 to 200 mm internal diameter of pipe, valve, special	2		6.83	plus 250% vide	14	
7	Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS,						Quantity of valves taken roughly at one per KM
	100 mm i/d		each		Haryana PWD	88,752	
	150 mm i/d	1			A & C slip No	5,709	
-	200 mm i/d	1	each		CZC-6 dated 3-	. ,	
	250 mm i/d 300 mm i/d	1	each each	15589 18944	7-09	15,589 18,944	
8	Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-charge	1	each	18944	Haryana PWD A & C Slip CZC/3-7-09	18,944	size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km
	40 mm i/d	28	each	1619		45,332	
11	Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for denth of 1.2 M and	56	each	5000	LS	280,000	
12	Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by	184.42	cum		Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09	507,804	
13	Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc.	737.68	Sqm	40	Haryana PWD item 9.15 plus225% vide	29,848	
14	Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	74	Quintal	4127	Haryana PWD item 18.22 plus 350% vide amendment 23- 1-09		
15 16	Road Work: Mislenious Items					1,891,437 1,260,958	

	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe
A	Without timbering and shoring upto 1.5 metres depth	13458	100 CUM	4732		636,820	
В	Excavation for thrust block	170.3	100 CUM	4732		8,060	
D	With timbering and shoring exceeding 1.5 metres depth, but upto 2.25 metres depth	3	100 CUM	6492		195	
2	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)						Factor for Excavation Quantity
	110 mm	10255	RM	310	RA	3.182.062	0.5166
	110 mm 125 mm	10255 237	RM RM	310 399	RA RA	3,182,062 94,583	0.5166 0.5334
		237					
	125 mm	237	RM RM	399	RA	94,583	0.5334
	125 mm 140 mm 160 mm 180 mm	237 60.5 124.5 37	RM RM RM RM	399 499 650 825	RA RA RA RA	94,583 30,187 80,976 30,512	0.5334 0.5676 0.6026 0.6384
	125 mm 140 mm 160 mm 180 mm 250 mm	237 60.5 124.5 37 27	RM RM RM RM RM	399 499 650	RA RA RA	94,583 30,187 80,976	0.5334 0.5676 0.6026
3	125 mm 140 mm 160 mm 180 mm 250 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)	237 60.5 124.5 37 27 10741	RM RM RM RM RM	399 499 650 825 1585	RA RA RA RA	94,583 30,187 80,976 30,512 42,798	0.5334 0.5676 0.6026 0.6384 0.77
3	125 mm 140 mm 160 mm 180 mm 250 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm	237 60.5 124.5 37 27 10741	RM RM RM RM RM RM	399 499 650 825 1585 310	RA RA RA RA RA	94,583 30,187 80,976 30,512 42,798 3,695,288	0.5334 0.5676 0.6026 0.6384 0.77
3	125 mm 140 mm 160 mm 180 mm 250 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm	237 60.5 124.5 37 27 10741 10741	RM RM RM RM RM RM RM	399 499 650 825 1585 310 310 399	RA RA RA RA RA RA	94,583 30,187 80,976 30,512 42,798 3,695,288 507,636	0.5334 0.5676 0.6026 0.6384 0.77 0.77 0.77
3	125 mm 140 mm 160 mm 180 mm 250 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm	237 60.5 124.5 37 10741 10741 11909 1272 406.5	RM RM RM RM RM RM RM RM RM	399 499 650 825 1585 310 310 399 499	RA RA RA RA RA RA RA RA	94,583 30,187 80,976 30,512 42,798 3,695,288 507,636 202,827	0.5334 0.5676 0.6026 0.6384 0.77 0.77 0.77 0.5166 0.5334 0.5676
3	125 mm 140 mm 160 mm 180 mm 250 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm	237 60.5 124.5 37 10741 10741 11909 1272 406.5 452.5	RM RM RM RM RM RM RM RM RM RM	399 499 650 825 1585 310 310 399 499 650	RA RA RA RA RA RA RA RA RA	94,583 30,187 80,976 30,512 42,798 3,695,288 507,636 202,827 294,309	0.5334 0.5676 0.6026 0.6384 0.77 0.77 0.77 0.5166 0.5334 0.5676 0.6026
3	125 mm 140 mm 160 mm 180 mm 250 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 180 mm	237 60.5 124.5 37 10741 10741 11909 1272 406.5 452.5 268	RM RM RM RM RM RM RM RM RM RM RM	399 499 650 825 1585 310 310 399 499 650 825	RA RA RA RA RA RA RA RA RA RA	94,583 30,187 80,976 30,512 42,798 3,695,288 507,636 202,827 294,309 221,003	0.5334 0.5676 0.6026 0.6384 0.77 0.77 0.77 0.5166 0.5334 0.5676 0.6026 0.6384
3	125 mm 140 mm 160 mm 180 mm 250 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 180 mm 200 mm	237 60.5 124.5 37 10741 10741 11909 1272 406.5 452.5 268 163	RM RM RM RM RM RM RM RM RM RM RM	399 499 650 825 1585 310 310 399 499 650 825 1016	RA RA RA RA RA RA RA RA RA RA RA	94,583 30,187 80,976 30,512 42,798 3,695,288 507,636 202,827 294,309 221,003 165,639	0.5334 0.5676 0.6026 0.6384 0.77 0.77 0.77 0.5166 0.5334 0.5676 0.6026 0.6384 0.675
3	125 mm 140 mm 160 mm 180 mm 250 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 180 mm	237 60.5 124.5 37 27 10741 10741 11909 1272 406.5 452.5 268 163 184.5	RM RM RM RM RM RM RM RM RM RM RM	399 499 650 825 1585 310 310 399 499 650 825	RA RA RA RA RA RA RA RA RA RA	94,583 30,187 80,976 30,512 42,798 3,695,288 507,636 202,827 294,309 221,003	0.5334 0.5676 0.6026 0.6384 0.77 0.77 0.77 0.5166 0.5334 0.5676 0.6026 0.6384
3	125 mm 140 mm 160 mm 180 mm 250 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 180 mm 200 mm 225 mm	237 60.5 124.5 37 27 10741 10741 11909 1272 406.5 452.5 268 163 184.5	RM RM RM RM RM RM RM RM RM RM RM RM RM R	399 499 650 825 1585 310 399 499 650 825 1016 1282	RA RA RA RA RA RA RA RA RA RA RA RA RA	94,583 30,187 80,976 30,512 42,798 3,695,288 507,636 202,827 294,309 221,003 165,639 236,482	0.5334 0.5676 0.6026 0.6384 0.77 0.77 0.77 0.5166 0.5334 0.5676 0.6026 0.6384 0.675 0.7314
3	125 mm 140 mm 160 mm 180 mm 250 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm	237 60.5 124.5 37 27 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 5 268 163 184.5 268 163 184.5 34.5	RM RM RM RM RM RM RM RM RM RM RM RM RM R	399 499 650 825 1585 310 399 499 650 825 1016 1282 1585	RA RA RA RA RA RA RA RA RA RA RA RA RA R	94,583 30,187 80,976 30,512 42,798 3,695,288 507,636 202,827 294,309 221,003 165,639 236,482 54,686	0.5334 0.5676 0.6026 0.6384 0.77 0.77 0.77 0.5166 0.5334 0.5676 0.6026 0.6384 0.675 0.7314 0.77
3	125 mm 140 mm 160 mm 180 mm 250 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 200 mm 225 mm 250 mm 280 mm	237 60.5 124.5 37 27 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 10741 5 268 163 184.5 268 163 184.5 34.5	RM RM RM RM RM RM RM RM RM RM RM RM RM R	399 499 650 825 1585 310 399 499 650 825 1016 1282 1585 1984	RA RA RA RA RA RA RA RA RA RA RA RA RA R	94,583 30,187 80,976 30,512 42,798 3,695,288 507,636 202,827 294,309 221,003 165,639 236,482 54,686 209,283	0.5334 0.5676 0.6026 0.6384 0.77 0.77 0.5166 0.5334 0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294
3	125 mm 140 mm 160 mm 180 mm 250 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 200 mm 225 mm 250 mm 280 mm 315 mm	237 60.5 124.5 37 27 10741 1075 1075 1075 1075 1075 1075 1075 107	RM RM RM RM RM RM RM RM RM RM RM RM RM R	399 499 650 825 1585 310 399 499 650 825 1016 1282 1585 1984 2511	RA RA RA RA RA RA RA RA RA RA RA RA RA R	94,583 30,187 80,976 30,512 42,798 3,695,288 507,636 202,827 294,309 221,003 165,639 236,482 54,686 209,283	0.5334 0.5676 0.6026 0.6384 0.77 0.77 0.5166 0.5334 0.5576 0.6026 0.6384 0.675 0.7314 0.77 0.8294 0.8906
3	125 mm 140 mm 160 mm 180 mm 250 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm 250 mm 355 mm	237 60.5 124.5 37 27 10741 1075 1075 1075 1075 1075 1075 1075 107	RM RM RM RM RM RM RM RM RM RM RM RM RM R	399 499 650 825 1585 310 310 399 499 650 825 1016 1282 1585 1984 2511 3180	RA RA RA RA RA RA RA RA RA RA RA RA RA R	94,583 30,187 80,976 30,512 42,798 3,695,288 507,636 202,827 294,309 221,003 165,639 236,482 54,686 209,283 -	0.5334 0.5676 0.6026 0.6384 0.77 0.77 0.5166 0.5334 0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.7314 0.77 0.8294 0.8906 0.975

4	Dismantling pipeline of G.I./A.C./P.V.C./S.W./H.D.P.E. pipe including breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in-charge with all leads and lifts including cleaning the surface, etc. complete. (In place of dismentaled pipe another pipe is to be laid as such excavation for dismentalling is included in excavation for laying new pipe line) Dismentaling flanged joints for cast iron	14809	RM	12	LS	177,708	
	pipes, valves and specials including carriage of bolts, nuts and washers to store,						
	50 to 100 mm internal diameter of pipe, valve, special		Per Joint		Haryana PWD item 28.38	105	
	125 to 200 mm internal diameter of pipe, valve, special 300 to 375 mm internal diameter of pipe,	20		17.50	plus 250% vide amendment dt	137	
7	valve snecial Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS,						Quantity of valves taken roughly at one per KM
	100 mm i/d	24	each		Haryana PWD	88,752	
	150 mm i/d	1	each		A & C slip No	5,709	
	200 mm i/d		each		CZC-6 dated 3-	9,945	
	250 mm i/d 300 mm i/d	1	each each	15589 18944	/-09	15,589 18,944	
8	Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-charge				Haryana PWD A & C Slip CZC/3-7-09		size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km
	40 mm i/d	28	each	1619		45,332	
11	Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and 0.35 M for balance depth exceeding 1.2 M)		each	5000		280,000	
12	Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by	170.33			Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09	469,007	
13	Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc.	681.32	Sqm	40	Haryana PWD item 9.15 nlus225% vide	27,568	
14	Include bit Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in	68	Quintal	4127	Haryana PWD item 18.22 plus 350% vide	281,162	
15	position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.				amendment 23- 1-09	1 677 212	
15 16	complete including cost of binding wire,					1,677,212	

	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, leveling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside				Rate Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15
(the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)						plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe
	Without timbering and shoring upto 1.5 metres depth	7952	100 CUM	4732		376,288	
B	Excavation for thrust block	95.1	100 CUM	4732		4,501	
	With timbering and shoring upto 1.5 metres depth		100 CUM	6300		-	
D	With timbering and shoring exceeding 1.5	5	100 CUM	6492		325	
Е	metres depth, but upto 2.25 metres depth With timbering and shoring exceeding 2.25 metres depth, but upto 3 metres depth		100 CUM	6992		-	
) 	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)						Factor for Excavation Quantity
	110 mm	6523	RM	310	RA	2,024,046	0.5166
	125 mm	377		399	RA	150,455	0.5334
	140 mm 160 mm	249.5 843.5		499 650	RA RA	124,491 548,618	0.5676
	180 mm	045.5	RM	825	RA	-	0.6384
	200 mm	120.5	RM	1016	RA	122,451	0.675
	225 mm		RM	1282	RA	-	0.7314
	250 mm 280 mm		RM RM	1585 1984	RA RA	-	0.77
	315 mm		RM	2511	RA	-	0.8906
	355 mm		RM	3180	RA	-	0.975
	400 mm		RM	4129		-	1.085
	450 mm 500 mm		RM RM	5226 6443	RA RA	-	1.2
	Sub Total	8114		0115	101		1.02
) 	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)						
-	110 mm	1341.5	RM	310	RA	416,259	0.5166
	125 mm	1175	RM	399	RA	468,925	0.5334
	140 mm		RM	499		229,522	0.5676
	160 mm	1550.5		650 825		1,008,455	0.6026
	180 mm 200 mm	491.5	RM RM	825		405,310 696,091	0.6384
	200 mm 225 mm	233.5		1282	RA	299,287	0.7314
	250 mm		RM	1585	RA	76,085	0.77
	280 mm	142	RM	1984	RA	281,689	0.8294
	315 mm		RM	2511	RA	-	0.8906
Ľ	355 mm 400 mm		RM RM	3180 4129		-	0.975
	400 mm 450 mm	27.5		5226		143,707	1.083
4			RM	6443		-	1.32

4 biosensing project of GLAC, CPC, VCS, WLDP 1: prior enduing brackage with labels and its including charging the strates, etc. complex. (n place of discretized per souther, per to be lab as det sceward ner being new pipe into) 6155 RM 12 LS 73,869 90 mm, 100 m								
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specialImage: Control of the set of pipe, the set of the set of pipe, the set of t		50 to 100 mm internal dimentary of size 1	10	Dog Island	2.50	Homiono DWD	25	
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valve, special valve,		· •			22.05	1		
6 Taking out dismentaled cast ion socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place - 80 mm. 10 m 18.20 Haryana PWD - 100 mm. 10 m 22.23 item 28.38 plus - 125 mm. 10 m 27.13 amendment dt 23 - 200 mm. 10 m 27.13 amendment dt 23 - 200 mm. 10 m 9 - - 200 mm. 10 m 97.58 - - 300 mm. 10 m 97.53 - - 400 mm. 10 m 97.53 - - - 500 mm. 10 m 10.33 - - - - 7 Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including, nut and bolts marked with IS 14846 including, nut and bolts marked with IS 14846 including, stacking, handling, rehandling etc complete in all respect to the satisfactorin charge (Makes AARRO, VENUS, LEADER, SL PANJA, UPADHAY - - - - 80 mm id 0 each 500 m - - - - 100 mm id 0 <td></td> <td></td> <td></td> <td></td> <td>22.05</td> <td></td> <td>-</td> <td></td>					22.05		-	
flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place Io In		valve, special					L	
flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place Io In	6	Taking out dismentaled cast iron socketed or					-	
from the trenches and stacking at a nearest convenient place Image: main stacking stacking at a nearest convenient place Image: main stacking	0							
convenient place IO IO ISO Haryana PWD . 100 mm. 10 m 22.23 Haryana PWD . . 125 mm. 10 m 22.74 Jost Sa plus . . 200 mm. 10 m 22.75 amendment dt 23 . . 200 mm. 10 m 7.13 amendment dt 24 . . 200 mm. 10 m 40.13 10 m 40.13 . . 300 mm. 10 m 10 m 10.74 . . . 400 mm. 10 m 10.75 7 broviding and fixing cast iron double flanged slucic valves PV 1.6 marked with IS 1363, rubber sheet marked with IS 1363, rubber sheet marked with IS 1363, rubber sheet marked with IS 638 etc carrage, loading, unloading, stacking, handling, rehandling, stacking, handling, stacking,								
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100 mm.10 m22.23 220item 28.38 plus 220% vide.125 mm.10 m22.75 200 mm. 300 mm. 10 m 27.13 amendment d 23- 1-09.200 mm.10 m36.23 300 mm. 10 m 49.18 300 mm. 10 m 49.18 9.75.88350 mm.10 m 72.63 4400 nm. 10 m 95.73 450 mm 300 mm.10 m 107.45 . 500 mm.10 m 107.45 . 500 mm.10 m 115.33 . 7 Providing and fixing cast iron double flanged slucic valves PN-1.6 marked with IS 14846 including nuts and bolts marked with IS 14846 including nuts and bolts marked with IS 14846 including unus and bolts marked with IS 1363, rubber sheet marked with IS 638 etc arriage, loading, unloading, stacking, handling, rehandling, tecking handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY0each2573 250 mm i/dHaryana PWD A 3 each.80 mm i/d0each3698 & C slip No CZC- 33,28233,282150 mm i/d1each15589 15,589300 mm i/d1each15589 18,944250 mm i/d1each16304 19,880300 mm i/d1each40305 400 mm i/d450 mm i/d1each41120 48,981450 mm i/d1each48981 48,981500 mm i/d1each48981 48,981450 mm i/d								
100 mm.10 m22.23 125 mm.item 28.38 plus 250% vide.125 mm.10 m22.75 250% vide200 mm.10 m36.23 10 m200 mm.10 m36.23 350 mm.1-09.300 mm.10 m72.63 440 mm400 mm.10 m95.78 450 mm500 mm.10 m107.45500 mm.10 m107.457Providing and fixing cast iron double flanged slutice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 14846 including und fixing. handling, rehandling, technology, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY80 mm i/d0 each2503 3098 & C 2lip No CZC- 32.8232.82150 mm i/d1 each15589 3000 mm i/d1 each250 mm i/d1 each18944 15.589300 mm i/d1 each48081 48,981400 mm i/d1 each48081 48,981300 mm i/d1 each48081 48,981400 mm i/d1 each </td <td></td> <td>80 mm.</td> <td></td> <td>10 m</td> <td>18.20</td> <td>Haryana PWD</td> <td>-</td> <td></td>		80 mm.		10 m	18.20	Haryana PWD	-	
125 mm. 10 m 22.75 10 m 220% vide 10 m - 200 mm. 10 m 37.13 mendment dt 23- 1-09 - 250 mm. 10 m 36.23 350 mm. - 300 mm. 10 m 57.83 450 mm. - 400 mm. 10 m 77.63 500 mm. - - 500 mm. 10 m 10.75.63 500 mm. - - 7 Providing and fixing cast iron double flanged sluice valves PN - 1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 0 each 2573 6 dated 37-09 - 80 mm i/d 0 each 2573 200 mm i/d 420 seach 5709 6 dated 37-09 - 100 mm i/d 2 each 9945 250 mm i/d 6 dated 37-09 - - 200 mm i/d 2 each 9945 15,589 - - - 300 mm i/d 1 each 15589 19,890 - - - 300 mm i/d 1 each 15589 19,890 - - - 300 mm i/d 1 each 168944		100 mm		10 m	22.23			
150 mm. 10 m 27.13 200 mm. amendment dt 23- 1.09 - 200 mm. 10 m 36.23 300 mm. 10 m 36.23 350 mm. 1.09 - - 300 mm. 10 m 7.75 500 mm. 10 m 70.75 500 mm. - - - - 7 Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 14846 including nuts and bolts marked with IS 14846 including nuts and bolts marked with IS 14846 including unstand bolts marked with IS 3163, rubber sheet marked with IS 3163, rubber in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY Auguantity of valves taken roughly at one per KM Ouantity of valves taken roughly at one per KM 80 mm i/d 0 each 2573 3 each Haryana PWD A - 100 mm i/d 9 each 3608 K C slip No CZC- 33.282 32.82 150 mm i/d 2 each 9945 919,880 - 220 mm i/d 1 each 18844 188,941 - 300 mm i/d 1 each 18844 48.981 - 400 mm i/d 1 each 48981 488,981 -								
200 mm. 10 m 36.23 1-09 - 250 mm. 10 m 49.15.8 - - 300 mm. 10 m 57.8 - - 400 mm. 10 m 77.63 - - 7 Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including runts and boths marked with IS 14846 juck during runts and boths marked with IS 14846 juck during runts and boths marked with IS 1535, rubber sheet marked with IS 363 etc carriage, loading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 0 each 2573 Haryana PWD A - 80 mm i/d 0 each 2573 Haryana PWD A - - 100 mm i/d 2 each 5700 6 dated 3-7.09 91,127 200 mm i/d 2 each 1508 4C slip No CZC- 33,282 100 mm i/d 1 each 1588 - 33,282 100 mm i/d 1 each 1588 15,589 200 mm i/d 1 each 15894				-		1	-	
box mm. 10 m 49.18 250 mm. 10 m 49.18 300 mm. 10 m 57.58 350 mm. 10 m 72.63 450 mm. 10 m 10.75 450 mm. 10 m 10.75 500 mm. 10 m 10.75 7 Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 13436, nubler, stacking, handling, rehandling etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY - 80 mm i/d 0 each 2503 150 mm i/d 2 each 3698 & C slip No CZC-33,282 150 mm i/d 2 each 3003 - 200 mm i/d 2 each 3698 & C slip No CZC-33,282 150 mm i/d 2 each 945 15,589 200 mm i/d 1 each 18944 350 mm i/d 1 each 48948 350 mm i/d 1 each 48948 500 mm i/d 1 each 48948		150 mm.		10 m	27.13	amendment dt 23-	-	
box mm. 10 m 49.18 250 mm. 10 m 49.18 300 mm. 10 m 57.58 350 mm. 10 m 72.63 450 mm. 10 m 10.75 450 mm. 10 m 10.75 500 mm. 10 m 10.75 7 Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 13436, nubler, stacking, handling, rehandling etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY - 80 mm i/d 0 each 2503 150 mm i/d 2 each 3698 & C slip No CZC-33,282 150 mm i/d 2 each 3003 - 200 mm i/d 2 each 3698 & C slip No CZC-33,282 150 mm i/d 2 each 945 15,589 200 mm i/d 1 each 18944 350 mm i/d 1 each 48948 350 mm i/d 1 each 48948 500 mm i/d 1 each 48948		200 mm		10 m	36.23	1-09		
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$								
350 mm. 10 m 72.63 400 mm. 10 m 95.73 450 mm. 10 m 107.45 500 mm. 10 m 10.745 7 Providing and fixing cast iron double flanged sluice valves PN - 1.6 marked with IS 1363, rubber sheet marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satiafaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY Quantity of valves taken roughly at seach 80 mm i/d 0 each 2573 Haryana PWD A - 150 mm i/d 2 each 3698 & C Slip No CZC- 33,282 150 mm i/d 1 each 15589 15,589 15,589 300 mm i/d 1 each 18944 15,589 15,589 300 mm i/d 1 each 41120 - - 450 mm i/d 1 each 4894 15,589 - - 300 mm i/d 1 each 41120 - - - 450 mm i/d 1 each 4894 18,944 - - 350 mm i/d 1 each 4894 - - - 450 mm i/d </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td>							-	
350 mm. 10 m 72.63 400 mm. 10 m 95.73 450 mm. 10 m 107.45 500 mm. 10 m 10.745 7 Providing and fixing cast iron double flanged sluice valves PN - 1.6 marked with IS 1363, rubber sheet marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satiafaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY Quantity of valves taken roughly at seach 80 mm i/d 0 each 2573 Haryana PWD A - 150 mm i/d 2 each 3698 & C Slip No CZC- 33,282 150 mm i/d 1 each 15589 15,589 15,589 300 mm i/d 1 each 18944 15,589 15,589 300 mm i/d 1 each 41120 - - 450 mm i/d 1 each 4894 15,589 - - 300 mm i/d 1 each 41120 - - - 450 mm i/d 1 each 4894 18,944 - - 350 mm i/d 1 each 4894 - - - 450 mm i/d </td <td></td> <td>300 mm.</td> <td></td> <td>10 m</td> <td>57.58</td> <td></td> <td>-</td> <td></td>		300 mm.		10 m	57.58		-	
$ \begin{array}{ c c c c c } \hline 400 \mbox{ m.} & 10 \mbox{ m} & 95.73 \\ \hline 450 \mbox{ m.} & 10 \mbox{ m} & 107.45 & - \\ \hline 500 \mbox{ m.} & 10 \mbox{ m} & 107.45 & - \\ \hline 500 \mbox{ m.} & 10 \mbox{ m} & 115.33 & - \\ \hline 7 \mbox{ Providing and fixing cast iron double flanged sluice valves PN - 1.6 marked with IS 14846 including nuts and bolts marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY & - \\ \hline 80 \mbox{ mn} i/d & 0 \each & 2573 \\ \hline 100 \mbox{ mi} i/d & 9 \each & 3698 \\ \hline 200 \mbox{ mi} i/d & 3 \each & 5709 \\ \hline 300 \mbox{ mi} i/d & 1 \each & 1589 \\ \hline 300 \mbox{ mi} i/d & 1 \each & 1589 \\ \hline 300 \mbox{ mi} i/d & 1 \each & 41120 \\ \hline 450 \mbox{ mi} i/d & 1 \each & 418941 \\ \hline 350 \mbox{ mi} i/d & 1 \each & 48981 \\ \hline 500 \mbox{ mi} i/d & 1 \each & 48981 \\ \hline 500 \mbox{ mi} i/d & 1 \each & 48981 \\ \hline 500 \mbox{ mi} i/d & 1 \each & 66911 \\ \hline \end{array}$								
450 mm.10 m107.45-500 mm.10 m115.33-7Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY0each2573 eachHaryana PWD A sech-80 mm i/d0each2573 eachHaryana PWD A sech100 mm i/d1each3698 eachC slip No CZC- 33,28233,282150 mm i/d1each1589 each19,890200 mm i/d1each1589 each19,890300 mm i/d1each18944 each18,944350 mm i/d1each48081 each-450 mm i/d1each48981 each-500 mm i/d1each48981 each-								
500 mm.10 m115.33-7Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY0each2573 2573 2573Haryana PWD A Complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY80 mm i/d0each2573 250 mm i/dHaryana PWD A 2 each-100 mm i/d9each3698 2 for mi/d-200 mm i/d1each1589 2 for mi/d19,890300 mm i/d1each18944 4 for mi/d350 mm i/d1each41120 4 for mi/d450 mm i/d1each48981 4 for mi/d500 mm i/d1each66911		400 mm.		10 m	95.73]	-	
500 mm.10 m115.33-7Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY0each2573 2573 2573Haryana PWD A Complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY80 mm i/d0each2573 250 mm i/dHaryana PWD A 2 each-100 mm i/d9each3698 2 for mi/d-200 mm i/d1each1589 2 for mi/d19,890300 mm i/d1each18944 4 for mi/d350 mm i/d1each41120 4 for mi/d450 mm i/d1each48981 4 for mi/d500 mm i/d1each66911		450 mm.		10 m	107.45		-	
7Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 14846 including nuts and bolts marked with IS 14846 joading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAYQuantity of valves taken roughly at one per KM80 mm i/d0each2573 eachHaryana PWD A Steve marked vide State to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY-80 mm i/d0each2573 eachHaryana PWD A Steve marked vide State to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY-100 mm i/d9each3698 each-150 mm i/d2each9945 1558917,127200 mm i/d1each18944 15589300 mm i/d1each18944 41120 350 mm i/d1each18981 400 mm i/d-450 mm i/d1each48981 48,981-500 mm i/d1each66911-								
sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAYone per KM80 mm i/d0each2573 400 mm i/d-100 mm i/d9each3698 400 mm i/d-200 mm i/d2each9945 1558917,127200 mm i/d1each15889 400 mm i/d1350 mm i/d1each18944 1209350 mm i/d1each30395 400 mm i/d-450 mm i/d1each48981 48981500 mm i/d1each66911				10 111	115.33		-	
including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 200 mm i/d 250 mm i/d 300 mm i/d 250 mm i/d 300 mm i/d 400 mm i/d 26ach 15589 300 mm i/d 1 each 18944 350 mm i/d 1 each 18944 18944 18,	7							Quantity of valves taken roughly at
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350 mm i/d each 30395 - 400 mm i/d each 41120 - 450 mm i/d 1 each 48981 48,981 500 mm i/d each 66911 -		satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 150 mm i/d 200 mm i/d 250 mm i/d	9 3 2	each each each	3698 5709 9945 15589	& C slip No CZC- 6 dated 3-7-09	17,127 19,890 15,589	
400 mm i/d each 41120 - 450 mm i/d 1 each 48981 48,981 500 mm i/d each 66911 -		satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 150 mm i/d 200 mm i/d 250 mm i/d	9 3 2 1	each each each each	3698 5709 9945 15589	& C slip No CZC- 6 dated 3-7-09	17,127 19,890 15,589	
450 mm i/d 1 each 48981 48,981 500 mm i/d each 66911 -		satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 150 mm i/d 250 mm i/d 250 mm i/d 300 mm i/d	9 3 2 1	each each each each each	3698 5709 9945 15589 18944	& C slip No CZC- 6 dated 3-7-09	17,127 19,890 15,589 18,944	
500 mm i/d each 66911 -		satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 150 mm i/d 200 mm i/d 250 mm i/d 300 mm i/d 350 mm i/d	9 3 2 1	each each each each each each	3698 5709 9945 15589 18944 30395	& C slip No CZC- 6 dated 3-7-09	17,127 19,890 15,589 18,944	
500 mm i/d each 66911 -		satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 150 mm i/d 200 mm i/d 250 mm i/d 300 mm i/d 350 mm i/d	9 3 2 1	each each each each each each	3698 5709 9945 15589 18944 30395	& C slip No CZC- 6 dated 3-7-09	17,127 19,890 15,589 18,944	
		satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 150 mm i/d 200 mm i/d 200 mm i/d 300 mm i/d 300 mm i/d 400 mm i/d	9 3 2 1 1	each each each each each each each	3698 5709 9945 15589 18944 30395 41120	& C slip No CZC- 6 dated 3-7-09	17,127 19,890 15,589 18,944 -	
600 mm i/d each 95126 -		satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 100 mm i/d 200 mm i/d 250 mm i/d 300 mm i/d 350 mm i/d 450 mm i/d	9 3 2 1 1	each each each each each each each each	3698 5709 9945 15589 18944 30395 41120 48981	& C slip No CZC- 6 dated 3-7-09	17,127 19,890 15,589 18,944 -	
		satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY 80 mm i/d 100 mm i/d 100 mm i/d 200 mm i/d 200 mm i/d 300 mm i/d 300 mm i/d 400 mm i/d 450 mm i/d 500 mm i/d	9 3 2 1 1 1	each each each each each each each each	3698 5709 9945 15589 18944 30395 41120 48981 66911	& C slip No CZC- 6 dated 3-7-09	17,127 19,890 15,589 18,944 - - - - 48,981 -	

			-	-r			
ma	oviding and fixing cast iron single air valves arked with IS 14845 including carriage, ading, unloading, stacking, handling,				Haryana PWD A & C Slip CZC/3-7- 09		size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km
rel in	handling etc drilling, tapping, screwing etc valve connections complete in all respect to e satisfaction of engineer-in-charge						
40	mm i/d	14	each	1619		22,666	
	mm i/d		each	101)		22,000	
9 Prova va cai ha scr all	voiding and fixing cast iron double air lves marked with IS 14845 including rriage, loading, unloading, stacking, ndling, rehandling etc drilling, tapping, rewing etc in valve connections complete in respect to the satisfaction of engineer-in- arge	0	cuch				
65	mm i/d	0	each		Haryana PWD A	-	
80	mm i/d	0	each	2103	& C Slip CZC/3-7-	-	
10	0 mm i/d	0	each	2491	09	-	
va ca ha scr all	oviding and fixing cast iron kinetic air Ives marked with IS 14845 including rriage, loading, unloading, stacking, ndling, rehandling etc drilling, tapping, rewing etc in valve connections complete in respect to the satisfaction of engineer-in- arge						
80	mm i/d	0	each	2824	Haryana PWD A	-	
10	0 mm i/d	0	each		& C Slip CZC/3-7-	-	
15	0 mm i/d	0	each	7514	09	-	
20	0 mm i/d	0	each	13267		-	
Prova pro ex Pro RC din thi	uice valve and air valve chamber: oviding and constructing Brick masonry lve chamber with 15 cm thick 1:3:6 oportion PCC bedding, excluding cavation, Brick masonry in C.M. 1:5 oportion, 20 mm thick 1:4 plaster, precast CC frame and cover, etc. complete as rected by Engineer-in-charge. (Wall ickness : 0.23 M for depth of 1.2 M and 0.35 for balance depth exceeding 1.2 M)		each	5000		155,000	
co ag blo fin sh	arust Block: Providing and laying cement ncrete in RCC (M-15, 1:2:4) with stone gregate 20 mm nominal size for thrust ocks including compaction, curing, hishing, excluding cost of reinforcement & uttering etc., Complete as per drawings and ecifications and as directed by Engineer.	95.12	cum	2754	Haryana PWD item 10.79 plus 340% vide amendment 23-1- 09	261,915	
	hrust Block : Shuttering for precast plain or C concrete wall plates, bed plates shelves etc	380.48	Sqm	40	Haryana PWD item 9.15 plus225% vide amendment 23-1- 09	15,395	
17 cu bii	oviding TMT Steel Reinforcement as per IS: '86 for RCC work including straightening, tting, bending, placing in position and nding etc as per drawing all complete cluding cost of binding wire, labour, wastage 2.	38	Quintal	4127	Haryana PWD item 18.22 plus 350% vide amendment 23-1- 09	157,014	
	oad Work:					1,232,447	
6 M	islenious Items					821,631	
To	otal					10,270,389	

Detailed Estimate for Distribution System - Zone 9	

S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides,				Item 6.9 Haryana PWD & 300% above		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth
	levelling of beds of trenches to correct grade,				vide		cover of 1.15 m, Average
	cutting joint holes, cutting trees and bushes,				amendment		depth of excavation is 1.15
	etc. refilling consolidation and watering of				dated 1.1 08		plus pipe dia. For 110 mm
	refill, in 15 cm layers and restoration of				and 23.1.09		pipe excavation is
	unmetalled or unpaved surface to its original						(1.15+.11)*(.3+.11) ie
	condition, including the cost of dewatering						0.5166*L where L is length of
	of rain water, diversion of traffic, night						Pipe
	signals, fixing caution boards, crossing over trenches for access to the houses, watching,						
	fancing etc. and disposal of surplus soil						
	outside and inside the town, involving lead						
	upto one km in ordinary soil (for new pipe						
	line and replacement pipes)						
A	Without timbering and shoring upto 1.5	13458		4732		636,820	
	metres depth		CUM				
В	Excavation for thrust block	170.3	100 CUM	4732		8,060	
С	With timbering and shoring upto 1.5 metres depth		100 CUM	6300		-	
D	With timbering and shoring exceeding 1.5	3	100	6492		195	
	metres depth, but upto 2.25 metres depth		CUM				
Е	With timbering and shoring exceeding 2.25		100	6992		-	
	metres depth, but upto 3 metres depth		CUM				
2	Supply, Laying, Jointing, Field Testing,						Factor for Excavation Quantity
	Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0						
	(8.0 kg/sqcm) as per IS:4984 and						
	specifications for water application,						
	including all cost of material, labour						
	required, transportation, loading, unloading						
	& stacking etc. complete. (New Pipe Line)						
	110 mm	10255		310	RA	3,182,062	0.5166
	125 mm		RM	399	RA	94,583	0.5334
	140 mm	60.5		499	RA	30,187	0.5676
	160 mm 180 mm	124.5	RM RM	650 825	RA RA	80,976 30,512	0.6026
	200 mm	57	RM	1016			0.675
	225 mm		RM	1282	RA		0.7314
	250 mm	27	RM	1585		42,798	0.77
	280 mm		RM	1984	RA	-	0.8294
	315 mm		RM	2511	RA	-	0.8906
	355 mm		RM	3180	RA	-	0.975
	400 mm		RM	4129		-	1.085
	450 mm		RM	5226		-	1.2
	500 mm Sub Total	10741	RM	6443	RA	-	1.32
3	Supply, Laying, Jointing, Field Testing,	10/41	NIVI				
5	Commissioning complete at site of HDPE						
	(PE80 Grade Coumpound) Pipes PN-8.0 (8.0						
	kg/sqcm) as per IS:4984 and specifications						
	for water application, including all cost of						
	material, labour required, transportation,						
	loading, unloading & stacking etc. complete.						
	(replacement of line with a new pipeline)						
	110 mm	11909	RM	310	RA	3,695,288	0.5166
		11/0/		510		2,373,200	5.5100
125	mm	1272	RM	399	RA	507,636	0.53
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140		406.5		499	RA	202,827	0.56
160		452.5		650		294,309	0.602
180			RM	825	RA	221,003	0.63
200			RM	1016		165,639	0.6
200		184.5		1282		236,482	0.73
250			RM	1585	RA	54,686	0.75
		105.5			RA	,	
280		105.5		1984		209,283	0.829
315			RM	2511	RA	-	0.890
355			RM	3180	RA	-	0.9
400			RM	4129	RA	-	1.0
450	mm	13	RM	5226	RA	67,934	1
500	mm		RM	6443	RA	-	1.
Sub	Total	14809	RM				
G.I./ inclu pipe: Engi inclu (In p to be dism	nantling pipeline of A.C./P.V.C./S.W./H.D.P.E. pipe using breaking the joints, lifting the s and stacking to the place as directed by neer-in-charge with all leads and lifts using cleaning the surface, etc. complete. blace of dismentaled pipe another pipe is e laid as such excavation for nentalling is included in excavation for new pipe line)	14809	RM	12	LS	177,708	
80 m			R.M.			-	
100			R.M.			-	
125			R.M.			-	
	mm.		R.M.			-	
200	mm.		R.M.			-	
250	mm.		R.M.			-	
300	mm.		R.M.			-	
350	mm.		R.M.			-	
400	mm.		R.M.			-	
450	mm		R.M.			_	
500			R.M.			_	
pipe	nentaling flanged joints for cast iron s, valves and specials including carriage olts, nuts and washers to store,						
valv	o 100 mm internal diameter of pipe, e, special	30	Per Joint		Haryana PWD item 28.38	105	
valv	to 200 mm internal diameter of pipe, e, special	20	Per Joint		plus 250% vide amendment dt	137	
valv	to 375 mm internal diameter of pipe, e, special to 450 mm internal diameter of pipe,	10	Per Joint		23-1-09	175	
valv	e, special to 525 mm internal diameter of pipe,			19.95 22.05		-	
valv	e, special ng out dismentaled cast iron socketed or					-	
flang from	eed pipes, valves and specials etc outside the trenches and stacking at a nearest renient place						
80 m	1m.		10 m	18.20	Haryana PWD	-	
100			10 m	22.23		_	
125			10 m	22.25		_	
150			10 m	27.13	· ·	-	
	mm.		10 m	36.23			
				49.18			
	mm.		10 m			-	
300			10 m	57.58		-	
350			10 m	72.63		-	
	mm.		10 m	95.73		-	
450			10 m	107.45		-	
500	mm.		10 m	115.33		-	

				1			I
7	Providing and fixing cast iron double						Quantity of valves taken
	flanged sluice valves PN -1.6 marked with						roughly at one per KM
	IS 14846 including nuts and bolts marked						
	with IS 1363, rubber sheet marked with IS						
	638 etc carriage, loading, unloading,						
	stacking, handling, rehandling etc complete						
	in all respect to the satisfaction of engineer						
	in charge (Makes AARKO, VENUS,						
	LEADER, SI, PANJA, UPADHAY						
	80 mm i/d	0	each	2573	Haryana PWD		
	100 mm i/d		each		A & C slip No	88,752	
			each		CZC-6 dated 3-		
	150 mm i/d					11,418	
	200 mm i/d	1		9945	7-09	9,945	
	250 mm i/d		each	15589	-	15,589	
	300 mm i/d	1	each	18944		18,944	
	350 mm i/d		each	30395		-	
	400 mm i/d	1	each	41120	-	41,120	
	450 mm i/d		each	48981		-	
	500 mm i/d		each	66911		-	
	600 mm i/d		each	95126		-	
8	Providing and fixing cast iron single air				Haryana PWD		size of air valve taken one
	valves marked with IS 14845 including				A & C Slip		sixth of pipe dia and nomber
	carriage, loading, unloading, stacking,				CZC/3-7-09		of air valves taken at one per
	handling, rehandling etc drilling, tapping,						km
	screwing etc in valve connections complete						
	in all respect to the satisfaction of engineer-						
	in-charge						
				1.610		12 00 1	
	40 mm i/d		each	1619		42,094	
	50 mm i/d	0	each	1771		-	
9	Providing and fixing cast iron double air						
	valves marked with IS 14845 including						
	carriage, loading, unloading, stacking,						
	handling, rehandling etc drilling, tapping,						
	screwing etc in valve connections complete						
	in all respect to the satisfaction of engineer-						
	in-charge						
	65 mm i/d	0	each	1883	Haryana PWD	-	
	80 mm i/d	0	each		A & C Slip	-	
	100 mm i/d	0	each	2491	CZC/3-7-09	-	
10	Providing and fixing cast iron kinetic air			1			
	valves marked with IS 14845 including						
	carriage, loading, unloading, stacking,						
	handling, rehandling etc drilling, tapping,						
	screwing etc in valve connections complete						
	in all respect to the satisfaction of engineer-						
	in-charge						
	80 mm i/d	0	each	2824	Haryana PWD		
	100 mm i/d		each		A & C Slip		
	150 mm i/d	0			CZC/3-7-09	-	
	200 mm i/d		each	13267		-	
1	Sluice valve and air valve chamber:		each	5000	IS	280,000	
1	Providing and constructing brick masonry	50	cacii	5000	ப	280,000	
	valve chamber with 15 cm thick 1:3:6						
	proportion PCC bedding, excluding						
	excavation, Brick masonry in C.M. 1:5						
	Proportion, 20 mm thick 1:4 plaster, precast						
			1	1			
	RCC frame and cover, etc. complete as						
	RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall						
	RCC frame and cover, etc. complete as						

12	Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer.	170.33	cum		Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09	469,007	
13	Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc	681.32	Sqm	40	Haryana PWD item 9.15 plus225% vide amendment 23- 1-09	27,568	
14	Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	68	Quintal		Haryana PWD item 18.22 plus 350% vide amendment 23- 1-09	281,162	
15	Road Work:					1,683,750	
16	Mislenious items					1,122,500	
	Total					14,031,253	

S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides,				Item 6.9 Haryana PWD & 300% above		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth
	levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes,				vide amendment		cover of 1.15 m, Average depth of excavation is 1.15
	etc. refilling consolidation and watering of				dated 1.1 08		plus pipe dia. For 110 mm
	refill, in 15 cm layers and restoration of				and 23.1.09		pipe excavation is
	unmetalled or unpaved surface to its original condition, including the cost of dewatering						(1.15+.11)*(.3+.11) ie 0.5166*L where L is length of
	of rain water, diversion of traffic, night						Pipe
	signals, fixing caution boards, crossing over						r
	trenches for access to the houses, watching,						
	fancing etc. and disposal of surplus soil outside and inside the town, involving lead						
	upto one km in ordinary soil (for new pipe						
	line and replacement pipes)						
А	Without timbering and shoring upto 1.5 metres depth	13617	100 CUM	4732		644,344	
В	Excavation for thrust block	169.7		4732		8,032	
			CUM			- ,	
С	With timbering and shoring upto 1.5 metres depth		100 CUM	6300		-	
D	With timbering and shoring exceeding 1.5	5		6492		325	
	metres depth, but upto 2.25 metres depth		CUM				
E	With timbering and shoring exceeding 2.25 metres depth, but upto 3 metres depth		100 CUM	6992		-	
2							Factor for Excavation
	Commissioning complete at site of HDPE						Quantity
	(PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and						
	specifications for water application,						
	including all cost of material, labour						
	required, transportation, loading, unloading						
	& stacking etc. complete. (New Pipe Line)						
	110 mm	17043		310		5,288,336	0.5166
	125 mm 140 mm	322.5 272.5		399 499		128,705 135,967	0.5334
	160 mm		RM	650		303,089	0.6026
	180 mm		RM	825	RA	60,199	0.6384
	200 mm	55	RM	1016		55,891	0.675
	225 mm		RM	1282	RA	-	0.7314
	250 mm 280 mm		RM RM	1585 1984	RA RA	-	0.77
	315 mm		RM	2511	RA		0.8906
	355 mm	93.5		3180		297,322	0.975
	400 mm	33.5	RM	4129		138,335	1.085
	450 mm		RM	5226		-	1.2
	500 mm	19250	RM	6443	RA	-	1.32
3	Sub Total Supply, Laying, Jointing, Field Testing,	18359	KIVI				
5	Commissioning complete at site of HDPE						
	(PE80 Grade Coumpound) Pipes PN-8.0 (8.0						
	kg/sqcm) as per IS:4984 and specifications						
	for water application, including all cost of						
	material, labour required, transportation, loading, unloading & stacking etc. complete.						
	(replacement of line with a new pipeline)						
	110 mm	4938.5	RM	310	RA	1,532,386	0.5166
	125 mm	630.5		399		251,623	0.5334
	140 mm	277.5		499		138,461	0.5676

	160 mm	149.5	RM	650	RA	97,236	0.6026
	180 mm		RM	825	RA	252,339	0.6384
	200 mm		RM	1016	RA	51,826	0.675
	225 mm		RM	1282	RA	125,611	0.7314
	250 mm	121.5		1282	RA	192,590	0.7314
	280 mm	183.5		1984	RA	364,013	0.8294
				2511	RA	,	0.8294
	315 mm		RM			791,004	
	355 mm	31.5	RM	3180	RA	100,167	0.975
	400 mm		RM	4129	RA	-	1.085
	450 mm		RM	5226	RA	-	1.2
	500 mm		RM	6443	RA	-	1.32
	Sub Total	7103					
4	Dismantling pipeline of	7103	RM	12	LS	85,236	
	G.I./A.C./P.V.C./S.W./H.D.P.E. pipe						
	including breaking the joints, lifting the						
	pipes and stacking to the place as directed by						
	Engineer-in-charge with all leads and lifts						
	including cleaning the surface, etc. complete.						
	(In place of dismentaled pipe another pipe is						
	to be laid as such excavation for						
	dismentalling is included in excavation for						
	laying new pipe line)						
	80 mm.		R.M.			ì	
	100 mm.		R.M.			-	
	125 mm.		R.M.			-	
	150 mm.		R.M.			-	
	200 mm.		R.M.			-	
	250 mm.		R.M.			-	
	300 mm.		R.M.			-	
	350 mm.		R.M.			-	
	400 mm.		R.M.			-	
	450 mm.		R.M.			-	
	500 mm.		R.M.			-	
5	Dismentaling flanged joints for cast iron		K.IVI.			-	
5	pipes, valves and specials including carriage						
	of bolts, nuts and washers to store,						
	or boils, huis and washers to store,						
	50 to 100 mm internal diameter of air a	10	Den	2.50	Hamman DWD	EC	
	50 to 100 mm internal diameter of pipe,	16	Per		Haryana PWD	56	
	valve, special		Joint		item 28.38		
	125 to 200 mm internal diameter of pipe,	8	Per	6.83	plus 250%	55	
	valve, special		Joint		vide		
	300 to 375 mm internal diameter of pipe,	6	Per	17.50	amendment dt	105	
	valve, special		Joint		23-1-09		
	-		Joint		20 1 07		
	400 to 450 mm internal diameter of pipe,		Joint	19.95	20 1 07	-	
	valve, special		Joint			-	
	valve, special 500 to 525 mm internal diameter of pipe,		Joint	19.95 22.05	20 1 07	-	
	valve, special 500 to 525 mm internal diameter of pipe, valve, special		Joint			-	
6	valve, special 500 to 525 mm internal diameter of pipe,		Joint			-	
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special					-	
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special Taking out dismentaled cast iron socketed or						
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside						
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest						
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place			22.05			
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest		10 m	22.05	Haryana PWD item 28.38	-	
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place 80 mm. 100 mm.		10 m 10 m	22.05 18.20 22.23	Haryana PWD item 28.38		
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place 80 mm. 100 mm. 125 mm.		10 m 10 m 10 m	22.05 18.20 22.23 22.75	Haryana PWD item 28.38 plus 250%		
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place 80 mm. 100 mm. 125 mm. 150 mm.		10 m 10 m 10 m 10 m	22.05 18.20 22.23 22.75 27.13	Haryana PWD item 28.38 plus 250% vide		
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place 80 mm. 100 mm. 125 mm. 150 mm. 200 mm.		10 m 10 m 10 m 10 m 10 m	22.05 18.20 22.23 22.75 27.13 36.23	Haryana PWD item 28.38 plus 250% vide amendment dt	- - - - - - - - - - - - - -	
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place 80 mm. 100 mm. 125 mm. 150 mm. 200 mm. 250 mm.		10 m 10 m 10 m 10 m 10 m 10 m	22.05 18.20 22.23 22.75 27.13 36.23 49.18	Haryana PWD item 28.38 plus 250% vide		
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place 80 mm. 100 mm. 125 mm. 150 mm. 200 mm. 250 mm. 300 mm.		10 m 10 m 10 m 10 m 10 m 10 m	22.05 18.20 22.23 22.75 27.13 36.23 49.18 57.58	Haryana PWD item 28.38 plus 250% vide amendment dt		
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place 80 mm. 100 mm. 125 mm. 150 mm. 200 mm. 250 mm. 300 mm. 350 mm.		10 m 10 m 10 m 10 m 10 m 10 m 10 m	22.05 18.20 22.23 22.75 27.13 36.23 49.18 57.58 72.63	Haryana PWD item 28.38 plus 250% vide amendment dt		
6	valve, special 500 to 525 mm internal diameter of pipe, valve, special Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place 80 mm. 100 mm. 125 mm. 150 mm. 200 mm. 250 mm. 300 mm.		10 m 10 m 10 m 10 m 10 m 10 m	22.05 18.20 22.23 22.75 27.13 36.23 49.18 57.58	Haryana PWD item 28.38 plus 250% vide amendment dt		

7	Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with						Quantity of valves taken roughly at one per KM
	IS 14846 including nuts and bolts marked						roughly at one per Kivi
	with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading,						
	stacking, handling, rehandling etc complete						
	in all respect to the satisfaction of engineer						
	in charge (Makes AARKO, VENUS,						
	LEADER, SI, PANJA, UPADHAY						
	80 mm i/d	0	each	2573	Haryana PWD		
	100 mm i/d	23			A & C slip No	85,054	
	150 mm i/d		each	5709	-	28,545	
	200 mm i/d		each	9945		9,945	
	250 mm i/d		each	15589		31,178	
	300 mm i/d		each	18944		37,888	
	350 mm i/d	2		30395		60,790	
	400 mm i/d		each	41120		-	
	450 mm i/d		each	48981		-	
	500 mm i/d		each	66911		-	
	600 mm i/d		each	95126		-	
8	Providing and fixing cast iron single air						size of air valve taken one
	valves marked with IS 14845 including						sixth of pipe dia and nomber
	carriage, loading, unloading, stacking,						of air valves taken at one per
	handling, rehandling etc drilling, tapping,						km
	screwing etc in valve connections complete						
	in all respect to the satisfaction of engineer-						
	in-charge						
	40 mm i/d		each		Haryana PWD	42,094	
	50 mm i/d	0	each	1771	A & C Slip	-	
9	Providing and fixing cast iron double air						
	valves marked with IS 14845 including						
	carriage, loading, unloading, stacking,						
	handling, rehandling etc drilling, tapping, screwing etc in valve connections complete						
	in all respect to the satisfaction of engineer-						
	in-charge						
	65 mm i/d	0	each	1883	Haryana PWD	_	
	80 mm i/d		each		A & C Slip		
	100 mm i/d		each		CZC/3-7-09		
10	Providing and fixing cast iron kinetic air	0	Juch	2771		_	
10	valves marked with IS 14845 including						
	carriage, loading, unloading, stacking,						
	handling, rehandling etc drilling, tapping,						
	screwing etc in valve connections complete						
	in all respect to the satisfaction of engineer-						
	in-charge						
	80 mm i/d	0	each		Haryana PWD	-	
·	100 mm i/d		each	3098	A & C Slip	-	
	150 mm i/d		each		CZC/3-7-09	-	
	200 mm i/d		each	13267		-	
11	Sluice valve and air valve chamber:	61	each	5000	LS	305,000	
	Providing and constructing Brick masonry						
	valve chamber with 15 cm thick 1:3:6						
	proportion PCC bedding, excluding						
	excavation, Brick masonry in C.M. 1:5 Proportion 20 mm thick 1:4 plaster process						
	Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as						
	directed by Engineer-in-charge. (Wall						
	thickness : 0.23 M for depth of 1.2 M and						
			1	1			1
	0.35 M for balance depth exceeding 1.2 M)						

12	Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer.	169.7433333	cum	2754	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09	467,392	
13	Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc	678.9733333	Sqm	40	Haryana PWD item 9.15 plus225% vide amendment 23- 1-09	27,473	
14	Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	68	Quint al	4127	Haryana PWD item 18.22 plus 350% vide amendment 23- 1-09	280,194	
15	Road Work:					1,862,821	
16	Mislenious items					1,241,880	
	Total					15,523,505	

S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe
A	replacement pipes) Without timbering and shoring upto 1.5	9032	100	4732		427381	
	metres depth		CUM				
В	Excavation for thrust block	103.0	100 CUM	4732		4873	
С	With timbering and shoring upto 1.5 metres depth		100 CUM	6300		0	
D	With timbering and shoring exceeding 1.5 metres depth, but upto 2.25 metres depth	5	100 CUM	6492		325	
E 2	With timbering and shoring exceeding 2.25 metres depth, but upto 3 metres depth Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)		100 CUM	6992		0	Factor for Excavation Quantity
	110 mm	4708.5	RM	310	RA	1461017.981	0.5166
	110 mm	110010		510			
	125 mm	905	RM	399	RA	361171.7802	0.5334
	125 mm 140 mm	905 1290.5	RM	399 499	RA RA	643907.88	0.5676
	125 mm 140 mm 160 mm	905 1290.5 1041.5	RM RM	399 499 650	RA RA RA	643907.88 677398.099	0.5676 0.6026
	125 mm 140 mm	905 1290.5	RM RM RM	399 499	RA RA RA RA	643907.88	0.5676
	125 mm 140 mm 160 mm 180 mm 200 mm 225 mm	905 1290.5 1041.5 1140.5 435.5	RM RM RM RM RM	399 499 650 825 1016 1282	RA RA RA RA RA RA	643907.88 677398.099 940500.004 442551.3721 0	0.5676 0.6026 0.6384 0.675 0.7314
	125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm	905 1290.5 1041.5 1140.5 435.5 9	RM RM RM RM RM	399 499 650 825 1016 1282 1585	RA RA RA RA RA RA	643907.88 677398.099 940500.004 442551.3721 0 14265.90792	0.5676 0.6026 0.6384 0.675 0.7314 0.77
	125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm 280 mm	905 1290.5 1041.5 1140.5 435.5 9	RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585 1984	RA RA RA RA RA RA RA	643907.88 677398.099 940500.004 442551.3721 0 14265.90792 56536.0884	0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294
	125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm 280 mm 315 mm	905 1290.5 1041.5 1140.5 435.5 9	RM RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585 1984 2511	RA RA RA RA RA RA	643907.88 677398.099 940500.004 442551.3721 0 14265.90792	0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294 0.8906
	125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm 280 mm	905 1290.5 1041.5 1140.5 435.5 9	RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585 1984	RA RA RA RA RA RA RA RA	643907.88 677398.099 940500.004 442551.3721 0 14265.90792 56536.0884 0	0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294 0.8906 0.975
	125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm 280 mm 315 mm 355 mm 400 mm 450 mm	905 1290.5 1041.5 1140.5 435.5 9	RM RM RM RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585 1984 2511 3180 4129 5226	RA RA RA RA RA RA RA RA RA RA RA	643907.88 677398.099 940500.004 442551.3721 0 14265.90792 56536.0884 0 0 0 0 0 0 0 0	0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294 0.8906 0.975 1.085 1.2
	125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm 280 mm 315 mm 355 mm 400 mm 450 mm 500 mm	905 1290.5 1041.5 1140.5 435.5 9 28.5	RM RM RM RM RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585 1984 2511 3180 4129	RA RA RA RA RA RA RA RA RA RA RA	643907.88 677398.099 940500.004 442551.3721 0 14265.90792 56536.0884 0 0 0 0	0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294 0.8906 0.975 1.085 1.2
3	125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm 280 mm 315 mm 355 mm 400 mm 450 mm	905 1290.5 1041.5 1140.5 435.5 9	RM RM RM RM RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585 1984 2511 3180 4129 5226	RA RA RA RA RA RA RA RA RA RA RA	643907.88 677398.099 940500.004 442551.3721 0 14265.90792 56536.0884 0 0 0 0 0 0 0 0	0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294 0.8906 0.975 1.085 1.2
3	125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm 280 mm 315 mm 355 mm 400 mm 450 mm 500 mm Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete.	905 1290.5 1041.5 1140.5 435.5 9 28.5	RM RM RM RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585 1984 2511 3180 4129 5226	RA RA RA RA RA RA RA RA RA RA RA	643907.88 677398.099 940500.004 442551.3721 0 14265.90792 56536.0884 0 0 0 0 0 0 0 0	0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294 0.8906 0.975 1.085 1.2
3	125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm 280 mm 315 mm 355 mm 400 mm 450 mm 500 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm 125 mm	905 1290.5 1041.5 435.5 9 28.5 9 28.5 9 559 9559 9559 9559	RM RM RM RM RM RM RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585 1984 2511 3180 4129 5226 6443	RA RA RA RA RA RA RA RA RA RA RA RA	643907.88 677398.099 940500.004 442551.3721 0 14265.90792 56536.0884 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294 0.8906 0.975 1.085 1.2 1.32 0.5166 0.5334
3	125 mm 140 mm 160 mm 180 mm 200 mm 225 mm 250 mm 280 mm 315 mm 355 mm 400 mm 450 mm 500 mm Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline) 110 mm	905 1290.5 1041.5 435.5 9 28.5 9 28.5 9 559 9559 9559 9559 9559 221.5 406.5	RM RM RM RM RM RM RM RM RM RM RM RM RM	399 499 650 825 1016 1282 1585 1984 2511 3180 4129 5226 6443	RA RA RA RA RA RA RA RA RA RA RA RA RA R	643907.88 677398.099 940500.004 442551.3721 0 14265.90792 56536.0884 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0.5676 0.6026 0.6384 0.675 0.7314 0.77 0.8294 0.8906 0.975 1.085 1.2 1.32 0.5166 0.5334

	200 mm	517.5	RM	1016	RA	525879.0702	0.675
	225 mm	540.5		1282	RA	692783.2157	0.7314
	250 mm	814.5		1585	RA	1291064.667	0.77
	280 mm		RM	1984	RA	155722.2084	0.8294
	315 mm		RM	2511	RA	175778.6184	0.8906
	355 mm	78		3180	RA	248033.7288	0.975
	400 mm	70	RM	4129	RA	240033.7200	1.085
	450 mm	11.5	RM	5226	RA	60095.7225	1.005
	500 mm	11.5	RM	6443	RA	00075.7225	1.32
	Sub Total	5887		0443	KA	0	1.32
	Dismantling pipeline of	5887	RM	12	LS	70644	
	G.I./A.C./P.V.C./S.W./H.D.P.E. pipe	5007	IXIVI	12	LS	70044	
	including breaking the joints, lifting the						
	pipes and stacking to the place as directed by						
	Engineer-in-charge with all leads and lifts						
	including cleaning the surface, etc. complete.						
	(In place of dismentaled pipe another pipe is						
	to be laid as such excavation for						
	dismentalling is included in excavation for						
	laying new pipe line)						
			D 1/				
	80 mm.		R.M.			0	
	100 mm.		R.M.			0	
	125 mm.		R.M.			0	
	150 mm.		R.M.			0	
	200 mm.		R.M.			0	
	250 mm.		R.M.			0	
	300 mm.		R.M.			0	
	350 mm.		R.M.			0	
	400 mm.		R.M.			0	
	450 mm.		R.M.			0	
	500 mm.		R.M.			0	
	Dismentaling flanged joints for cast iron						
	pipes, valves and specials including carriage						
	of bolts, nuts and washers to store,						
	50 to 100 mm internal diameter of pipe,	12	Per	3.50	Haryana PWD	42	
	valve, special		Joint		item 28.38		
	125 to 200 mm internal diameter of pipe,	8	Per	6.83	plus 250%	54.6	
	valve, special		Joint		vide		
	300 to 375 mm internal diameter of pipe,	4	Per	17.50	amendment dt	70	
	valve, special		Joint		23-1-09		
	400 to 450 mm internal diameter of pipe,			19.95	-	0	
	valve, special					Ĩ	
	500 to 525 mm internal diameter of pipe,			22.05	-	0	
	valve, special			22.05		0	
6	Taking out dismentaled cast iron socketed or					0	
	flanged pipes, valves and specials etc outside					0	
	from the trenches and stacking at a nearest						
	convenient place						
	80 mm.		10 m	10 20	Haryana PWD	0	
	80 mm. 100 mm.			22.23	item 28.38	0	
			10 m				
	125 mm.		10 m	22.75	plus 250% vide	0	
	150 mm.		10 m	27.13		0	
	200 mm.		10 m	36.23	amendment dt 23-1-09	0	
	250 mm.		10 m	49.18	23-1-09	0	
	300 mm.		10 m	57.58		0	
	350 mm.		10 m	72.63		0	
	400 mm.		10 m	95.73		0	
	450 mm.		10 m	107.45		0	
	500 mm.		10 m	115.33		0	

7	Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846						Quantity of valves taken roughly at one per KM
	including nuts and bolts marked with IS						roughly at one per Kivi
	1363, rubber sheet marked with IS 638 etc						
	carriage, loading, unloading, stacking,						
	handling, rehandling etc complete in all						
	respect to the satisfaction of engineer in						
	charge (Makes AARKO, VENUS, LEADER,						
	SI, PANJA, UPADHAY						
	80 mm i/d 100 mm i/d		each each		Haryana PWD A & C slip No	0 29584	
	150 mm i/d		each	5709	-	17127	
-	200 mm i/d		each	9945		29835	
	250 mm i/d	2		15589		31178	
	300 mm i/d		each	18944		37888	
	350 mm i/d		each	30395		30395	
	400 mm i/d		each	41120		0	
	450 mm i/d	1		48981		48981	
<u> </u>	500 mm i/d	1	each	66911		0	
<u> </u>	600 mm i/d		each	95126		0	
8	Providing and fixing cast iron single air			,0120		0	size of air valve taken one
	valves marked with IS 14845 including						sixth of pipe dia and nomber
1	carriage, loading, unloading, stacking,						of air valves taken at one per
	handling, rehandling etc drilling, tapping,						km
	screwing etc in valve connections complete in						
	all respect to the satisfaction of engineer-in-						
	charge						
	40 mm i/d	15	each	1619	Haryana PWD	24285	
	50 mm i/d		each		A & C Slip	0	
9	Providing and fixing cast iron double air					-	
Í	valves marked with IS 14845 including						
	carriage, loading, unloading, stacking,						
	handling, rehandling etc drilling, tapping,						
	screwing etc in valve connections complete in						
	all respect to the satisfaction of engineer-in-						
	charge						
	65 mm i/d	0	each	1883	Haryana PWD	0	
	80 mm i/d	0	each		A & C Slip	0	
	100 mm i/d	0			CZC/3-7-09	0	
10	Providing and fixing cast iron kinetic air	-					
_	valves marked with IS 14845 including						
	carriage, loading, unloading, stacking,						
	handling, rehandling etc drilling, tapping,						
	screwing etc in valve connections complete in						
	all respect to the satisfaction of engineer-in-						
1	charge						
<u> </u>	80 mm i/d	0	each	2824	Haryana PWD	0	
	100 mm i/d		each		A & C Slip	0	
	150 mm i/d		each		CZC/3-7-09	0	
	200 mm i/d	0		13267		0	
11	Sluice valve and air valve chamber:		each	5000	LS	175000	
	Providing and constructing Brick masonry	55		2000		1,2000	
	valve chamber with 15 cm thick 1:3:6						
	proportion PCC bedding, excluding						
	excavation, Brick masonry in C.M. 1:5						
	Proportion, 20 mm thick 1:4 plaster, precast						
	RCC frame and cover, etc. complete as						
	directed by Engineer-in-charge. (Wall						
	thickness : 0.23 M for depth of 1.2 M and						
	0.35 M for balance depth exceeding 1.2 M)						
1	= - /		1	1			

12	Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer.	102.9733	cum	2754	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09	283539.1328	
13	Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc	411.8933	Sqm	40	Haryana PWD item 9.15 plus225% vide amendment 23- 1-09	16666	
14	Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	41	Quint al	4127	Haryana PWD item 18.22 plus 350% vide amendment 23- 1-09	169977	
15	Road Work:					1649657.411	
16	Mislenious items					1099771.607	
	Total					13747145	

S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe
A	Without timbering and shoring upto 1.5 metres depth	13100	100 CUM	4732		619,913	
В	Excavation for thrust block	161.3	100 CUM	4732		7,632	
2	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)						Factor for Excavation Quantity
	110 mm	8749.5	RM	310	RA	2,714,915	0.5166
	125 mm	357.5		310	RA	142,673	0.5334
	140 mm	465.5		499	RA	232,266	0.5576
	160 mm	235.5		650	RA	153,171	0.6026
	180 mm	161.5		825	RA	133,179	0.6384
	200 mm	402.5		1016		409,017	0.675
	225 mm	86.5		1010	RA	110,871	0.7314
	280 mm		RM	1984	RA	33,723	0.8294
	355 mm	54.5		3180	RA	173,306	0.975
	Sub Total	10530				,	
3	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)						
	110 mm	9213		310	RA	2,858,736	0.5166
	125 mm	1467.5		399	RA	585,657	0.5334
	140 mm	400.5	RM	499	RA	199,833	0.5676
	160 mm	602.5	RM	650	RA	391,870	0.6026
	200 mm	1849.5		1016		1,879,446	0.675
	225 mm	81.5		1282		104,462	0.7314
	250 mm		RM	1585	RA	77,670	0.77
	Sub Total	13664	RM	1			

-	1		1	r			
4	Dismantling pipeline of G.I./A.C./P.V.C./S.W./H.D.P.E. pipe including breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in-charge with all leads and lifts including cleaning the surface, etc. complete. (In place of dismentaled pipe another pipe is to be laid as such excavation for dismentalling is included in excavation for laying new pipe line)	13664	RM	12	LS	163,968	
5	Dismentaling flanged joints for cast iron pipes, valves and specials including carriage of bolts, nuts and washers to store,						
	50 to 100 mm internal diameter of pipe, valve, special	30	Per Joint	3.50	Haryana PWD item 28.38	105	
	125 to 200 mm internal diameter of pipe, valve, special	20	Per Joint	6.83	plus 250% vide	137	
	300 to 375 mm internal diameter of pipe,	10	Per Joint	17.50	amendment dt	175	
7	Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS,						Quantity of valves taken roughly at one per KM
	100 mm i/d		each		Haryana PWD	73,960	
	150 mm i/d		each		A & C slip No CZC-6 dated 3-	11,418	
	200 mm i/d 250 mm i/d	3	each each	9945 15589		29,835 15,589	
-	350 mm i/d	1	each	30395	7-09	30,395	
8	Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-charge				Haryana PWD A & C Slip CZC/3-7-09		size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km
	40 mm i/d	24	each	1619		38,856	
11	Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and 0.35 M for balance depth exceeding 1.2 M)	51	each	5000	LS	255,000	
12	Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by	161.29	cum		Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09	444,115	
	· ·	645.16	Sqm	40	Haryana PWD item 9.15	26,105	
13	Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates						
14	or RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.		Quintal	4127	nlus225% vide Haryana PWD item 18.22 plus 350% vide amendment 23- 1-09	266,240	
	or RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire,		Quintal	4127	nlus225% vide Haryana PWD item 18.22 plus 350% vide amendment 23-	266,240 1,827,636 1,218,424	

Detailed Estimate for Distribution System - Zone 13

S No	Item	Quantity	Unit	Rate	Reference for	Amount	Quantity
1	Excavation for pipelines running under				Rate Item 6.9		Reference/Calculations Trench Width is pipe dia plus
1	pressure in trenches and pits, in streets and				Haryana PWD		300 mm, Minimum earth
	lanes including trimming and dressing				& 300% above		cover of 1 meter, average earth
	sides, levelling of beds of trenches to				vide		cover of 1.15 m, Average
	correct grade, cutting joint holes, cutting				amendment		depth of excavation is 1.15
	trees and bushes, etc. refilling				dated 1.1 08		plus pipe dia. For 110 mm
	consolidation and watering of refill, in 15				and 23.1.09		pipe excavation is
	cm layers and restoration of unmetalled or						$(1.15+.11)^*(.3+.11)$ ie
	unpaved surface to its original condition,						0.5166*L where L is length of
	including the cost of dewatering of rain						Pipe
	water, diversion of traffic, night signals,						-
	fixing caution boards, crossing over						
	trenches for access to the houses, watching,						
	fancing etc. and disposal of surplus soil						
	outside and inside the town, involving lead						
	upto one km in ordinary soil (for new pipe						
	line and replacement pipes)						
А	Without timbering and shoring upto 1.5	10278	100 CUM	4732		486,361	
D	metres depth	129.5	100 CUN	4720		C 001	
B C	Excavation for thrust block	128.5		4732		6,081	
C	With timbering and shoring upto 1.5 metres depth		100 CUM	6300		-	
D	With timbering and shoring exceeding 1.5 metres depth, but upto 2.25 metres depth	5	100 CUM	6492		325	
Е	With timbering and shoring exceeding 2.25 metres depth, but upto 3 metres depth		100 CUM	6992		-	
2	Supply, Laying, Jointing, Field Testing,						Factor for Excavation
	Commissioning complete at site of HDPE						Quantity
	(PE 80 Grade Coumpound) Pipes PN-8.0						
	(8.0 kg/sqcm) as per IS:4984 and						
	specifications for water application,						
	including all cost of material, labour						
	required, transportation, loading, unloading						
	& stacking etc. complete. (New Pipe Line)						
	110 mm	10510		310		3,261,187	0.5166
	125 mm	919.5		399	RA	366,959	0.5334
	140 mm		RM	499	RA	188,108	0.5676
	160 mm	233.5		650	RA	151,870	0.6026
	180 mm	459.5		825	RA	378,921	0.6384
	200 mm		RM	1016		-	0.675
	225 mm		RM	1282	RA	-	0.7314
	250 mm		RM	1585	RA	66,574	0.77
	280 mm	27.5		1984	RA	54,552	0.8294
	315 mm		RM	2511	RA	-	0.8906
	355 mm		RM	3180	RA	-	0.975
	400 mm		RM	4129	RA	-	1.085
	450 mm		RM	5226	RA	-	1.2
	500 mm		RM	6443	RA	-	1.32

3	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)						
	110 mm	3290	RM	310	RA	1,020,866	0.5166
	125 mm	1822.5		399	RA	727,332	0.5334
	140 mm	736.5		499	RA	367,484	0.5676
	160 mm	433.5	RM	650	RA	281,951	0.6026
	180 mm	234	RM	825	RA	192,965	0.6384
	200 mm	70.5	RM	1016	RA	71,641	0.675
	225 mm		RM	1282	RA	-	0.7314
	250 mm		RM	1585	RA	-	0.77
	280 mm	88.5	RM	1984	RA	175,559	0.8294
	315 mm		RM	2511	RA	-	0.8906
	355 mm		RM	3180	RA	-	0.975
	400 mm	31	RM	4129	RA	128,012	1.085
	450 mm		RM	5226	RA	-	1.2
	500 mm		RM	6443	RA	-	1.32
	Sub Total Dismantling pipeline of	6707	RM				
	G.I./A.C./P.V.C./S.W./H.D.P.E. pipe including breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in-charge with all leads and lifts including cleaning the surface, etc. complete. (In place of dismentaled pipe another pipe is to be laid as such excavation for dismentalling is included in excavation for laying new pipe line)						
	80 mm.		R.M.			-	
	100 mm.		R.M.			-	
	125 mm.		R.M.			-	
	150 mm.		R.M.			-	
	200 mm.		R.M.			-	
	250 mm.		R.M.			-	
	300 mm.		R.M.			-	
	350 mm.		R.M.			-	
	400 mm.		R.M.			-	
	450 mm.		R.M.			-	
	500 mm.		R.M.			-	
5	Dismentaling flanged joints for cast iron pipes, valves and specials including carriage of bolts, nuts and washers to store,						
	50 to 100 mm internal diameter of pipe, valve, special	24	Per Joint		Haryana PWD item 28.38	84	
	125 to 200 mm internal diameter of pipe, valve, special	16	Per Joint		plus 250% vide	109	
	300 to 375 mm internal diameter of pipe, valve, special	6	Per Joint	17.50	amendment dt 23-1-09	105	
	400 to 450 mm internal diameter of pipe, valve, special			19.95		-	
	500 to 525 mm internal diameter of pipe, valve, special			22.05		-	

6	Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place					-	
	80 mm.		10 m	18.20	Haryana PWD	-	
	100 mm.		10 m	22.23	item 28.38	-	
	125 mm.		10 m	22.75	plus 250%	-	
	150 mm.		10 m	27.13	vide	-	
	200 mm.		10 m	36.23	amendment dt	-	
	250 mm.		10 m	49.18	23-1-09	-	
	300 mm.		10 m	57.58		-	
	350 mm.		10 m	72.63		-	
	400 mm.		10 m	95.73		-	
	450 mm.		10 m	107.45		-	
7	500 mm. Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY		10 m	115.33			Quantity of valves taken roughly at one per KM
	80 mm i/d		each		Haryana PWD	-	
	100 mm i/d	17			A & C slip No	62,866	
	150 mm i/d	2			CZC-6 dated 3-	11,418	
	200 mm i/d		each	9945	/-09	19,890	
	250 mm i/d	1		15589		15,589	
	300 mm i/d	1		18944	-	18,944	
	350 mm i/d 400 mm i/d		each each	30395 41120		-	
	450 mm i/d	1	each	48981		48,981	
	500 mm i/d	1	each	66911		40,901	
	600 mm i/d		each	95126		-	
8	Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-charge				Haryana PWD A & C Slip CZC/3-7-09		size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km
	40 mm i/d	19	each	1619		30,761	
9	50 mm i/d Providing and fixing cast iron double air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer- in-charge		each	1771		-	
	65 mm i/d	0	each	1883	Haryana PWD	-	
	80 mm i/d	0	each		A & C Slip	-	
	100 mm i/d	0	each	2491	CZC/3-7-09	-	
10	Providing and fixing cast iron kinetic air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-						
	in-charge				4 11 5		
	in-charge	Λ	each	2824	Harvana PWD		
	in-charge 80 mm i/d		each		Haryana PWD A & C Slip	-	
	in-charge	0	each each each	3098	Haryana PWD A & C Slip CZC/3-7-09		

11	Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in- charge. (Wall thickness : 0.23 M for depth of 1.2 M and 0.35 M for balance depth exceeding 1.2 M)	43	each	5000	LS	215,000	
12	Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer.	128.5033	cum	2754	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09	353,836	
13	Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc	514.0133	Sqm	40	Haryana PWD item 9.15 plus225% vide amendment 23- 1-09	20,798	
14	Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	51	Quintal	4127	Haryana PWD item 18.22 plus 350% vide amendment 23- 1-09	212,119	
15	Road Work:					1,352,660	
16	Mislenious Items					901,773	
	Total		1			11,272,167	

S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe
A	Without timbering and shoring upto 1.5 metres depth	15900	100 CUM	4732		752,370	
В	Excavation for thrust block	185.9	100 CUM	4732		8,794	
С	With timbering and shoring upto 1.5 metres depth		100 CUM	6300		-	
D	With timbering and shoring exceeding 1.5 metres depth, but upto 2.25 metres depth		100 CUM	6492		-	
Е	With timbering and shoring exceeding 2.25 metres depth, but upto 3 metres depth		100 CUM	6992		-	
	Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)						
	110 mm	13862.5		310		4,301,447	0.5166
	125 mm 140 mm	4277.5 2046		399 499	RA RA	1,707,085 1,020,872	0.5334 0.5676
	160 mm	2145.5		650		1,395,447	0.6026
	180 mm	1258.5	RM	825	RA	1,037,807	0.6384
	200 mm 225 mm	1749	RM RM	1016	RA RA	1,777,319	0.675
	250 mm	1507		1282		2,388,747	0.7514
	280 mm		RM	1984	RA	-	0.8294
	315 mm	803		2511	RA	2,016,432	0.8906
	355 mm 400 mm	14	RM RM	3180 4129		44,519	0.975
	450 mm		RM	5226		-	1.2
	500 mm		RM	6443	RA	-	1.32
3	Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)	27663	<u>KM</u>			1	
	110 mm		RM	310	RA	-	0.5166
	125 mm		RM	399	RA	-	0.5334
	140 mm	215	RM	499		-	0.5676
	160 mm 180 mm	215	RM RM	650 825		139,512	0.6026
	200 mm		RM	1016		-	0.675
	225 mm		RM	1282	RA	-	0.7314
	250 mm		RM	1585	RA	-	0.77
	280 mm 315 mm		RM RM	1984 2511	RA RA	-	0.8294
	355 mm		RM	3180		-	0.975
	400 mm		RM	4129	RA	-	1.085
	450 mm		RM	5226		-	1.2
	500 mm Sub Total	215	RM RM	6443	RA	-	1.32

4 Dismantling pipeline of GLI/AC.PV.CS.WHD.P.E. pipe including breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in- charge with all leads and fifts including cleaning the surface, etc. complete. (In place of dismentaled pipe another pipe is to be laid as such excavation for dismentalling is included in excavation for dismentalling is methylation and the probability of the probability of the probability 200 mm. R.M. - 100 mm. R.M. - - 125 mm. R.M. - - 200 mm. R.M. - - 300 mm. R.M. - - 300 mm. R.M. - - 400 mm. R.M. - - 500 mm. R.M. - - <td< th=""><th></th></td<>	
C1/AC.P.V.C.8.W./H.D.P.E. pipe including breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in- charge with all leads and lifts included in excavation for laying new pipe line) 80 mm. R.M. 100 mm. R.M. 125 mm. 200 mm. R.M. 200 mm. 200 mm. R.M. 200 mm. 2	
breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in- charge with all leads and lifts including cleaning the surface, etc. complete. (In place of dismentaled pipe an other pipe is to be lad as such excavation for dismentalling is included in such excavation for laying new pipe line) R.M. 80 mm. R.M. 100 mm. R.M. 200 mm. R.M. 200 mm. R.M. 300 mm. R.M. 300 mm. R.M. 400 mm. R.M. 500 to 375 mm internal diameter of pipe, valve, special	
stacking to the place as directed by Engineer-in- charge with all leads and lifts included in excavation for dismentalling is included in excavation for laying new pipe line) 80 mm. 80 mm. 80 mm. 80 mm. 80 mm. 80 mm. 100 mm. 100 mm. 200 mm. 500 mm. 500 nm. 500 n	
ehrage with all leads and lifts including cleaning the surface, etc. complete. (In place of dismentaled pipe another pipe is to be laid as such excavation for dismentaling is included in excavation for dismentaling is included in excavation for laying new pipe line)R.M	
cleaning the surface, etc. complete. (In place of dismentaled pipe another pipe is to be laid as such excavation for laying new pipe line)	
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such excavation for dismentalling is included in excavation for laying new pipe line) R.M. - 80 mm. R.M. - 100 mm. R.M. - 125 mm. R.M. - 200 mm. R.M. - 200 mm. R.M. - 200 mm. R.M. - 300 mm. R.M. - 300 mm. R.M. - 400 mm. R.M. - 400 mm. R.M. - 400 mm. R.M. - 500 imm. R.M. - 500 imm. R.M. - 500 inm. R.M. - 500 inm. R.M. - 500 inm. R.M. - 500 inm. Item 28.38 plus - internal diameter of pipe, valve, special 17.50 109 - 300 to 375 mm internal diameter of pipe, valve, special 17.50 1-09 - 400 to 450 mm internal diameter of pipe, valve, special 22.05 -	
such excavation for dismentalling is included in excavation for laying new pipe line) R.M. - 80 mm. R.M. - 100 mm. R.M. - 125 mm. R.M. - 200 mm. R.M. - 200 mm. R.M. - 200 mm. R.M. - 300 mm. R.M. - 300 mm. R.M. - 400 mm. R.M. - 400 mm. R.M. - 400 mm. R.M. - 500 imm. R.M. - 500 imm. R.M. - 500 inm. R.M. - 500 inm. R.M. - 500 inm. R.M. - 500 inm. Item 28.38 plus - internal diameter of pipe, valve, special 17.50 109 - 300 to 375 mm internal diameter of pipe, valve, special 17.50 1-09 - 400 to 450 mm internal diameter of pipe, valve, special 22.05 -	
excavation for laying new pipe line) R - - 80 mm. R.M. - - 125 mm. R.M. - - 125 mm. R.M. - - 200 mm. R.M. - - 200 mm. R.M. - - 200 mm. R.M. - - 300 mm. R.M. - - 300 mm. R.M. - - 300 mm. R.M. - - 400 mm. R.M. - - 400 mm. R.M. - - 500 mm. R.M. - - 500 nm. R.M. - - 500 nm. R.M. - - 500 nm. R.M. - - 500 nm internal diameter of pipe, valve, special S00 to 375 mm internal diameter of pipe, valve, special - 100 300 to 375 mm internal diameter of pipe, valve, special 12.50 - -	
No. R.M. - 100 mm. R.M. - 125 mm. R.M. - 150 mm. R.M. - 200 mm. R.M. - 200 mm. R.M. - 200 mm. R.M. - 300 mm. R.M. - 300 mm. R.M. - 300 mm. R.M. - 400 mm. R.M. - 400 mm. R.M. - 50 bismentaling flanged joints for cast iron pipes, valves and specials including carriage of bolts, nuts and washers to store. - 50 to 100 mm internal diameter of pipe, valve, special 3.50 Haryana PWD item 28.38 plus amendment dt 23- amend	
100 mm. R.M. - - 125 mm. R.M. - - 200 mm. R.M. - - 200 mm. R.M. - - 300 mm. R.M. - - 400 nm. R.M. - - 450 mm. R.M. - - 500 mm. R.M. - - 500 nm. R.M. - - 50 to 100 mm internal diameter of pipe, valve, special 3.50 Haryana PWD item 28.38 plus - 125 to 200 nm internal diameter of pipe, valve, special 17.50 1-09 - - 400 to 450 mm internal diameter of pipe, valve, special 22.05 - - - 500 to 525 mm internal diameter of pipe, valve, special 22.05 </td <td></td>	
100 mm. R.M. - - 125 mm. R.M. - - 200 mm. R.M. - - 200 mm. R.M. - - 300 mm. R.M. - - 400 nm. R.M. - - 450 mm. R.M. - - 500 mm. R.M. - - 500 nm. R.M. - - 50 to 100 mm internal diameter of pipe, valve, special 3.50 Haryana PWD item 28.38 plus - 125 to 200 nm internal diameter of pipe, valve, special 17.50 1-09 - - 400 to 450 mm internal diameter of pipe, valve, special 22.05 - - - 500 to 525 mm internal diameter of pipe, valve, special 22.05 </td <td></td>	
125 mm. R.M. - - 150 mm. R.M. - - 200 mm. R.M. - - 300 mm. R.M. - - 300 mm. R.M. - - 300 mm. R.M. - - 350 mm. R.M. - - 400 mm. R.M. - - 450 mm. R.M. - - 5 Dismentaling flanged joints for cast iron pipes, valves and specials including carriage of bolts, nuts and vashers to store, - - 5 D to 100 mm internal diameter of pipe, valve, special 4 Per joint 6.83 250% vide menet dt 23- 300 to 375 mm internal diameter of pipe, valve, special - 11.09 - - 400 to 450 mm internal diameter of pipe, valve, special 19.95 - - - 500 to 525 mm internal diameter of pipe, valve, special 10 m 12.09 - - - 6 Taking out dismentaled cast iron socketed or flanged pipes, valves and specials et outside from the trenches and stacking at a nearest convenient place - - - - -	
150 mm. R.M. - - 200 mm. R.M. - - 250 mm. R.M. - - 300 mm. R.M. - - 300 mm. R.M. - - 400 mm. R.M. - - 400 mm. R.M. - - 500 to 100 mm internal diameter of pipe, valve, special - - - 125 to 200 mm internal diameter of pipe, valve, special - 10.9 - - 400 to 450 mm internal diameter of pipe, valve, special 19.95 - - - - 400 to 450 mm internal diameter of pipe, valve, special 10 m 19.95 -	
150 mm. R.M. - - 200 mm. R.M. - - 250 mm. R.M. - - 300 mm. R.M. - - 300 mm. R.M. - - 400 mm. R.M. - - 400 mm. R.M. - - 500 to 100 mm internal diameter of pipe, valve, special - - - 125 to 200 mm internal diameter of pipe, valve, special - 10.9 - - 400 to 450 mm internal diameter of pipe, valve, special 19.95 - - - - 400 to 450 mm internal diameter of pipe, valve, special 10 m 19.95 -	
200 mm. R.M. - - 250 mm. R.M. - - 300 mm. R.M. - - 350 mm. R.M. - - 400 mm. R.M. - - 450 mm. R.M. - - 500 nm. R.M. - - 500 nm. R.M. - - 50 to 100 mm internal diameter of pipe, valve, special - - - 125 to 200 mm internal diameter of pipe, valve, special - 10.50 - - 300 to 375 mm internal diameter of pipe, valve, special 17.50 1-09 - - - 400 to 450 mm internal diameter of pipe, valve, special 22.05 - - - - 500 to 525 mn internal diameter of pipe, valve, special - 10 m 22.05 - - - - - - - - - -	
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300 mm. R.M 350 mm. R.M 400 mm. R.M 400 mm. R.M 500 mm. internal diameter of pipe, valve, special $50 \text{ to 100 mm internal diameter of pipe, valve,special125 \text{ to 200 mm internal diameter of pipe, valve,special17.50300 \text{ to 375 mm internal diameter of pipe, valve,special17.50400 \text{ to 450 nm internal diameter of pipe, valve,special19.95500 \text{ to 525 mm internal diameter of pipe, valve,special10.m18.2060 \text{ Taking out dismentaled cast iron socketed orflanged pipes, valves and specials et outsidefrom the trenches and stacking at a nearestconvenient place10 m18.20100 \text{ mm.}10 m22.73250% videitem 28.38 plus125 \text{ mm.}10 m36.231-09100 \text{ mm.}10 m36.231-09100 \text{ mm.}10 m36.23$	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	
$ \begin{array}{ c c c c c c } \hline 400 \mathrm{mm.} & R.M. & $	
$ \begin{array}{ c c c c c c } \hline 400 \mathrm{mm.} & R.M. & $	
$ \begin{array}{ c c c c c c } \hline 450 \mbox{ mm.} & R.M. & R.M. & - & - & - & - & - & - & - & - & - & $	
500 mm.R.M5Dismentaling flanged joints for cast iron pipes, valves and specials including carriage of bolts, nuts and washers to store,50 to 100 mm internal diameter of pipe, valve, special3.50Haryana PWD item 28.38 plus-125 to 200 mm internal diameter of pipe, valve, special4Per joint6.83 250% vide amendment dt 23-27300 to 375 mm internal diameter of pipe, valve, special17.50400 to 450 mm internal diameter of pipe, valve, special19.95500 to 525 mm internal diameter of pipe, valve, special22.056Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place10 m18.20 100 mm.Haryana PWD item 28.38 plus 250% vide amendment dt 23-100 mm.10 m22.75200 mm.10 m22.75150 mm.10 m22.75200 mm.10 m22.75200 mm.10 m36.23250 mm.10 m77.13300 mm.10 m77.85100 mm.10 m27.75 <t< td=""><td></td></t<>	
5Dismentaling flanged joints for cast iron pipes, valves and specials including carriage of bolts, nuts and washers to store,1150 to 100 mm internal diameter of pipe, valve, special3.50Haryana PWD item 28.38 plus-125 to 200 mm internal diameter of pipe, valve, special4Per joint6.83 camendment dt 23-250% vide amendment dt 23-300 to 375 mm internal diameter of pipe, valve, special17.501-09-400 to 450 mm internal diameter of pipe, valve, special19.95-500 to 525 mm internal diameter of pipe, valve, special22.05-500 to 525 mm internal diameter of pipe, valve, special22.05-6Taking out dismentaled cast iron socketed or flanged pipes, valves and specials et outside from the trenches and stacking at a nearest convenient place10 m18.20Haryana PWD item 28.38 plus100 mm.10 m22.27200 mm.10 m36.23-200 mm.10 m36.23-250 mm.10 m77.13300 mm.10 m77.13300 mm.10 m77.13300 mm.10 m77.13300 mm.10 m77.13300 mm.10 m77.13100 m	
valves and specials including carriage of bolts, nuts and washers to store,Image: special status and washers to store,Image: special sta	
nuts and washers to store,Image: special spec	
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50 to 100 mm internal diameter of pipe, valve, special 3.50 Haryana PWD item 28.38 plus - 125 to 200 mm internal diameter of pipe, valve, special 4 Per joint 6.83 25% vide amendment dt 23- amendment dt 23- amendment dt 23- amendment dt 23- amendment dt 23- amendment dt 23- special 1-09 - 400 to 375 mm internal diameter of pipe, valve, special 19.95 - - 50 to 525 mm internal diameter of pipe, valve, special 22.05 - - 50 to 525 mm internal diameter of pipe, valve, special 22.05 - - 6 Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place 10 m 18.20 Haryana PWD item 28.38 plus - 100 mm. 10 m 22.75 1:em 28.38 plus - - 200 mm. 10 m 36.23 1:09 - - 250 mm. 10 m 36.23 - - - - 300 mm. 10 m 77.13 - - - - 250 mm. 10 m 77.13 - -	
specialitem 28.38 plus amendment dt 23- amendment dt 23- amendment dt 23- amendment dt 23- 1-0927300 to 375 mm internal diameter of pipe, valve, special17.501-09-400 to 450 mm internal diameter of pipe, valve, special19.95500 to 525 mm internal diameter of pipe, valve, special22.056Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place10 m18.20Haryana PWD item 28.38 plus item 28.38 plus 250% vide-100 mm.10 m22.75160 mm150 mm.10 m22.751-09100 mm.10 m22.751-09100 mm.10 m22.751-09100 mm.10 m22.75200 mm.10 m36.231-09300 mm.10 m77.13300 mm.10 m77.13300 mm.10 m77.13300 mm.10 m77.83300 mm.10 m77.83100 mm.10 m77.83100 mm.10 m77.83100 mm.10 m77.83300 mm.10 m77.83 <td></td>	
125 to 200 mm internal diameter of pipe, valve, special 4 Per joint 6.83 250% vide amendment dt 23- 27 300 to 375 mm internal diameter of pipe, valve, special 17.50 1-09 - - 400 to 450 mm internal diameter of pipe, valve, special 19.95 - - - 500 to 525 mm internal diameter of pipe, valve, special 22.05 - - - 6 Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place -	
special amendment dt 23- 300 to 375 mm internal diameter of pipe, valve, special 17.50 400 to 450 mm internal diameter of pipe, valve, special 19.95 500 to 525 mm internal diameter of pipe, valve, special 22.05 6 Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place - 80 mm. 10 m 18.20 100 mm. 10 m 22.05 150 mm. 10 m 22.05 250 mm. 10 m 22.05 100 mm. 10 m 22.05 250 mm. 10 m 22.05 250 mm. 10 m 300 mm. 100 m 7.13 300 mm. 10 m 7.13 300 mm. 10 m 7.263	
special amendment dt 23- 300 to 375 mm internal diameter of pipe, valve, special 17.50 400 to 450 mm internal diameter of pipe, valve, special 19.95 500 to 525 mm internal diameter of pipe, valve, special 22.05 6 Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place - 80 mm. 10 m 18.20 100 mm. 10 m 22.05 150 mm. 10 m 22.05 200 mm. 10 m 22.05 100 mm. 10 m 22.05 250 mm. 10 m 22.05 250 mm. 10 m 300 mm. 100 mm. 10 m 36.23 250 mm. 10 m 7.13 300 mm. 10 m 7.263	
300 to 375 mm internal diameter of pipe, valve, special 17.50 1-09 - 400 to 450 mm internal diameter of pipe, valve, special 19.95 - - 500 to 525 mm internal diameter of pipe, valve, special 22.05 - - 6 Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place - - - 80 mm. 10 m 18.20 Haryana PWD - - 125 mm. 10 m 22.75 250% vide - - 150 mm. 10 m 22.75 150 mm. - - 200 mm. 10 m 30.23 - - - 300 mm. 10 m 36.23 - - - 300 mm. 10 m 57.85 - - - 300 mm. 10 m 77.13 - - - - 300 mm. 10 m 57.85 - - - - 300 mm. 10 m 72.63 - - - -	
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400 to 450 mm internal diameter of pipe, valve, special19.95 1500 to 525 mm internal diameter of pipe, valve, special22.056Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place10 m80 mm.10 m18.20100 mm.10 m22.23125 mm.10 m22.75150 mm.10 m22.75200 mm.10 m36.23250 mm.10 m57.58350 mm.10 m72.63	
specialSpecial <t< td=""><td></td></t<>	
500 to 525 mm internal diameter of pipe, valve, special 22.05 - 6 Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place - - 80 mm. 10 m 18.20 - - 80 mm. 10 m 22.05 - - 100 mm. 10 m 22.23 - - 250 mm. 10 m 300 mm. 10 m 35.23 - 300 mm. 10 m 57.88 - - 350 mm. 10 m 72.63 - -	
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flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place 10 m 18.20 Haryana PWD - 80 mm. 10 m 22.23 taryana PWD - 100 mn. 10 m 22.23 taryana PWD - 125 mm. 10 m 22.75 taryana PWD - 150 mm. 10 m 22.75 250% vide - 200 mm. 10 m 36.23 1-09 - 250 mm. 10 m 49.18 - - 300 mm. 10 m 57.58 - - 350 mm. 10 m 72.63 - -	
from the trenches and stacking at a nearest convenient place 10 m 18.20 Haryana PWD item 28.38 plus - 100 mm. 10 m 22.23 item 28.38 plus - 125 mm. 10 m 22.75 250% vide - 150 mm. 10 m 27.13 amendment dt 23- - 200 mm. 10 m 36.23 1-09 - 300 mm. 10 m 57.58 - - 350 mm. 10 m 72.63 - -	
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125 mm. 10 m 22.75 250% vide - 150 mm. 10 m 27.13 amendment dt 23- - 200 mm. 10 m 36.23 1-09 - 250 mm. 10 m 49.18 - - 300 mm. 10 m 57.58 - - 350 mm. 10 m 72.63 - -	
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250 mm. 10 m 49.18 - 300 mm. 10 m 57.58 - 350 mm. 10 m 72.63 -	
300 mm. 10 m 57.58 - 350 mm. 10 m 72.63 -	
300 mm. 10 m 57.58 - 350 mm. 10 m 72.63 -	
350 mm. 10 m 72.63 -	
400 mm. 10 m 95.73 -	
450 mm. 10 m 107.45 -	
500 mm. 10 m 115.33 -	
	f valves taken roughly at
sluice valves PN -1.6 marked with IS 14846 one per KN	Л
including nuts and bolts marked with IS 1363,	
rubber sheet marked with IS 638 etc carriage,	
loading, unloading, stacking, handling,	
rehanding et complete in all respect to the	
satisfaction of engineer in charge (Makes	
AARKO, VENUS, LEADER, SI, PANJA,	
UPADHAY	
80 mm i/d 0 each 2573 Haryana PWD A -	
100 mm i/d 18 each 3698 & C slip No CZC- 66,564	
200 mm i/d 2 each 9945 19,890	
250 mm i/d 2 each 15589 31,178	
300 mm i/d 1 each 18944 18,944	
350 mm /d 1 each 30395 30,395	
400 mm i/d each 41120 -	
450 mm i/d each 48981 -	
500 mm i/d each 66911 -	
600 mm i/d each 95126 -	

8	Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge				Haryana PWD A & C Slip CZC/3-7- 09		size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km
	40 mm i/d		each	1619		45,332	
9	50 mm i/d Providing and fixing cast iron double air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge	0	each	1771			
	65 mm i/d		each		Haryana PWD A	-	
	80 mm i/d	0	each	2103	& C Slip CZC/3-7-	-	
	100 mm i/d	0	each	2491	09	-	
10	Providing and fixing cast iron kinetic air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge						
	80 mm i/d	0	each	2824	Haryana PWD A	-	
	100 mm i/d	0	each		& C Slip CZC/3-7-	-	
	150 mm i/d	0	each	7514	09	-	
	200 mm i/d	0	each	13267		-	
	Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and 0.35 M for balance depth exceeding 1.2 M)						
12	Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks	185.85	cum	2754	Haryana PWD item 10.79 plus 340% vide	511,742	
	including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer.				amendment 23-1- 09		
13	excluding cost of reinforcement & shuttering etc., Complete as per drawings and	743.4	Sqm	40		30,080	
14	excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer. Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.		Sqm Quintal		09 Haryana PWD item 9.15 plus225% vide amendment 23-1-	306,781	
	excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer. Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage		-		09 Haryana PWD item 9.15 plus225% vide amendment 23-1- 09 Haryana PWD item 18.22 plus 350% vide amendment 23-1-		

S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe
А	Without timbering and shoring upto 1.5 metres depth	13764	100 CUM	4732		651,305	
В	Excavation for thrust block	154.7		4732		7,319	
D	With timbering and shoring exceeding 1.5 metres depth, but upto 2.25 metres depth	5	100 CUM	6492		325	
2	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)						Factor for Excavation Quantity
	110 mm	8468	RM	310	RA	2,627,567	0.5166
	125 mm	212	RM	399	RA	84,606	0.5334
	140 mm	212.5		499	RA	106,029	0.5676
-	160 mm	467.5		650	RA	304,065	0.6026
	180 mm		RM	825	RA	260,586	0.6384
	200 mm 225 mm	1332.5 107.5		1016	RA RA	1,354,075 137,788	0.675
	250 mm	581.5		1282	RA	921,736	0.7314
	315 mm	618.5		2511	RA	1,553,130	0.8906
	355 mm	206.5		3180	RA	656,653	0.975
	400 mm	232.5		4129	RA	960,087	1.085
	Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)	12755					
	125 mm	3837.5		399		1,531,488	0.5334
	140 mm 160 mm	2284		499	RA PA	1,139,625	0.5676
<u> </u>	160 mm 180 mm	2465	RM RM	650 825		1,603,251 389,229	0.6026
	200 mm		RM	1016		471,513	0.675
	225 mm		RM	1282	RA	174,317	0.7314
	250 mm	204.5		1585	RA	324,153	0.77
	280 mm		RM	1984	RA	104,145	0.8294
	315 mm	283.5		2511	RA	711,903	0.8906
1	355 mm	213	RM	3180	RA	677,323	0.975
	400 mm		RM	4129	RA	144,529	1.085

4	Dismantling pipeline of	10447	RM	12	LS	125,364	
	G.I./A.C./P.V.C./S.W./H.D.P.E. pipe including						
	breaking the joints, lifting the pipes and						
	0 0 11						
	stacking to the place as directed by Engineer-in-						
	charge with all leads and lifts including						
	cleaning the surface, etc. complete. (In place of						
	dismentaled pipe another pipe is to be laid as						
	such excavation for dismentalling is included						
	in excavation for laying new pipe line)						
	in excavation for laying new pipe line)						
5	Dismentaling flanged joints for cast iron pipes,						
	valves and specials including carriage of bolts,						
	nuts and washers to store,						
	50 to 100 mm internal diameter of pipe, valve,	20	Per	3.50	Haryana PWD	70	
	special		Joint		item 28.38		
	125 to 200 mm internal diameter of pipe,	12		6.83	plus 250%	82	
	valve special		Ioint		vide		
	300 to 375 mm internal diameter of pipe,	8		17.50	amendment dt	140	
	valve special	-	Ioint				
	Providing and fixing cast iron double flanged						Quantity of valves taken
	sluice valves PN -1.6 marked with IS 14846						roughly at one per KM
	including nuts and bolts marked with IS 1363,						2 9 m r
	rubber sheet marked with IS 638 etc carriage,						
	loading, unloading, stacking, handling,						
	rehandling etc complete in all respect to the						
1	satisfaction of engineer in charge (Makes						
	AARKO, VENUS, LEADER, SI, PANJA,						
	100 mm i/d	13	each	3698	Haryana PWD	48,074	
	150 mm i/d	6			A & C slip No	34,254	
					· ·		
	200 mm i/d	2			CZC-6 dated 3-	19,890	
	250 mm i/d	2		15589	7-09	31,178	
	300 mm i/d	2	each	18944		37,888	
	350 mm i/d	1	each	30395		30,395	
	400 mm i/d		each	41120		41,120	
	Providing and fixing cast iron single air valves	1	Such	71120		41,120	size of air valve taken one
	marked with IS 14845 including carriage,						sixth of pipe dia and nomber
	loading, unloading, stacking, handling,						of air valves taken at one per
:	rehandling etc drilling, tapping, screwing etc in						km
	valve connections complete in all respect to the						
	satisfaction of engineer-in-charge						
	substaction of engineer in enalge						
	40			1.610	u pup	27.227	
·	40 mm i/d	23	each	1619	Haryana PWD	37,237	
11	Sluice valve and air valve chamber:	50	each	5000	LS	250,000	
	Providing and constructing Brick masonry	20	cuen	2000	20	200,000	
	valve chamber with 15 cm thick 1:3:6						
	proportion PCC bedding, excluding						
	excavation, Brick masonry in C.M. 1:5						
	Proportion, 20 mm thick 1:4 plaster, precast						
	RCC frame and cover, etc. complete as						
	directed by Engineer-in-charge. (Wall						
	thickness : 0.23 M for depth of 1.2 M and 0.35						
12	Thrust Block: Providing and laying cement	154.68	cum	2754	Haryana PWD	425,914	
	concrete in RCC (M-15, 1:2:4) with stone				item 10.79		
	aggregate 20 mm nominal size for thrust				plus 340%		
	blocks including compaction, curing, finishing,				vide		
					amendment 23-		
	excluding cost of reinforcement & shuttering						
	etc., Complete as per drawings and				1-09		
	specifications and as directed by Engineer.						
		618.72	Sqm	40	Haryana PWD	25,035	
	Thrust Block: Shuttering for precast plain or				item 9.15		
13	Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc				nlus225% vide		
13	RC concrete wall plates, bed plates shelves etc				DHUS/./. 1/0 VIII.		
13	<u> </u>	62	Quinta	4127	Haryana PWD	255,329	
13 14	RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS:	62	Quinta 1	4127		255,329	
13 14	RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening,	62	Quinta l	4127	Haryana PWD item 18.22	255,329	
13	RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and	62	Quinta 1	4127	Haryana PWD item 18.22 plus 350%	255,329	
13	RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete	62	Quinta 1	4127	Haryana PWD item 18.22 plus 350% vide	255,329	
13	RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage	62	Quinta 1	4127	Haryana PWD item 18.22 plus 350% vide amendment 23-	255,329	
13	RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	62	Quinta I	4127	Haryana PWD item 18.22 plus 350% vide	255,329	
13	RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage	62	Quinta 1	4127	Haryana PWD item 18.22 plus 350% vide amendment 23-	255,329	
13 14 15	RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	62	Quinta 1	4127	Haryana PWD item 18.22 plus 350% vide amendment 23-		

S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe
A	Without timbering and shoring upto 1.5 metres depth	23505	100 CUM	4732		1,112,243	
В	Excavation for thrust block	290.5	100 CUM	4732		13,745	
С	With timbering and shoring upto 1.5 metres depth		100 CUM	6300		-	
D	With timbering and shoring exceeding 1.5 metres depth, but upto 2.25 metres depth		100 CUM	6492		-	
Е	With timbering and shoring exceeding 2.25 metres depth, but upto 3 metres depth Supply, Laying, Jointing, Field Testing,		100 CUM	6992		-	Factor for Excavation Quantity
	Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)						
	110 mm	24965.5		310		7,746,638	0.5166
	125 mm	2232.5		399		890,957	0.5334
	140 mm 160 mm	2004.5		499 650		1,000,165 876,097	0.5676
	180 mm		RM	825		238,320	0.6384
	200 mm		RM	1016		533,501	0.675
	225 mm		RM	1282	RA	-	0.7314
	250 mm	278.5		1585		441,451	0.77
	280 mm	20.5	RM	1984		-	0.8294
	315 mm 355 mm	30.5	RM	2511 3180		76,589	0.8906
	400 mm		RM	4129		-	1.085
	450 mm		RM	5226		-	1.2
	500 mm		RM	6443	RA	-	1.32
3	Sub Total Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)	31673	<u>RM</u>				
	110 mm	7497.5	RM	310	RA	2,326,427	0.5166
	125 mm	1086	RM	399	RA	433,406	0.5334
	140 mm	423.5		499		211,310	
	160 mm 180 mm	381 1045	RM RM	650 825		247,805 861,747	0.6026
	200 mm	658.5		1016		669,162	0.675
	225 mm		RM	1282		-	0.7314
	250 mm		RM	1585		841,689	0.77
	280 mm	160	RM	1984		317,396	
	315 mm	114	RM	2511		-	0.8906
	355 mm 400 mm	114	RM RM	3180 4129		362,511	0.975
	400 mm		RM	5226		-	1.083
	500 mm		RM	6443		-	1.32
	Sub Total	11897	RM				

4	Dismantling pipeline of	11897	RM	12	LS	142,764	
	G.I./A.C./P.V.C./S.W./H.D.P.E. pipe including breaking the joints, lifting the pipes and stacking						
	to the place as directed by Engineer-in-charge						
	with all leads and lifts including cleaning the						
	surface, etc. complete. (In place of dismentaled pipe another pipe is to be laid as such excavation						
	for dismentalling is included in excavation for						
	laying new pipe line)						
	80 mm.		R.M.				
	100 mm.		R.M.			-	
	125 mm.		R.M.			-	
	150 mm.		R.M.			-	
	200 mm. 250 mm.		R.M. R.M.			-	
	300 mm.		R.M.			-	
	350 mm.		R.M.			-	
	400 mm.		R.M.			-	
	450 mm.		R.M.			-	
	500 mm.		R.M.			-	
5	Dismentaling flanged joints for cast iron pipes, valves and specials including carriage of bolts, nuts and washers to store,						
	50 to 100 mm internal diameter of pipe, valve, special	20	Per Joint		Haryana PWD item 28.38 plus 250%	70	
	125 to 200 mm internal diameter of pipe, valve, special	16	Per Joint	6.83	vide amendment dt 23-1-09	109	
	300 to 375 mm internal diameter of pipe, valve, special	6	Per Joint	17.50		105	
	400 to 450 mm internal diameter of pipe, valve, special			19.95		-	
	500 to 525 mm internal diameter of pipe, valve, special			22.05		-	
6	Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place					-	
	80 mm.		10 m	18.20	Haryana PWD item	-	
	100 mm.		10 m	22.23		-	
	125 mm.		10 m	22.75		-	
	150 mm.		10 m	27.13	23-1-09	-	
	200 mm. 250 mm.		10 m 10 m	36.23 49.18		-	
	300 mm.		10 m 10 m	49.18		-	
	350 mm.		10 m	72.63		-	
	400 mm.		10 m	95.73		-	
	450 mm.		10 m	107.45		-	
	500 mm.		10 m	115.33		-	
7	Providing and fixing cast iron double flanged					-	Quantity of valves taken roughly
	sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363,						at one per KM
	rubber sheet marked with IS 638 etc carriage,						
	loading, unloading, stacking, handling, rehandling						
	etc complete in all respect to the satisfaction of						
	engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY						
	80 mm i/d		each		Haryana PWD A &	-	
	100 mm i/d		each		C slip No CZC-6	133,128	
	150 mm i/d 200 mm i/d		each	5709	dated 3-7-09	28,545	
	200 mm i/d 250 mm i/d		each each	9945 15589	-	19,890 15,589	
	300 mm i/d		each each	15589	-	15,589	
	350 mm i/d		each	30395	4	30,395	
	400 mm i/d		each	41120		-	
	450 mm i/d		each	48981		-	
	500 mm i/d		each	66911		-	
	600 mm i/d		each	95126		-	

	Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge						size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km
	40 mm i/d		each		Haryana PWD A &	71,236	
-	50 mm i/d	0	each	1771	C Slip CZC/3-7-09	-	
9	Providing and fixing cast iron double air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge						
	65 mm i/d		each		Haryana PWD A &	-	
	80 mm i/d		each		C Slip CZC/3-7-09	-	
	100 mm i/d	0	each	2491		-	
10	Providing and fixing cast iron kinetic air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge						
	80 mm i/d	0	each		Haryana PWD A &	-	
	100 mm i/d		each		C Slip CZC/3-7-09	-	
<u> </u>	150 mm i/d		each	7514		-	
11	200 mm i/d Sluice valve and air valve chamber: Providing	0	each each	13267 5000		- 450,000	
	and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and 0.35 M for balance depth						
	exceeding 1.2 M)						
12		290.46	cum	2754	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09	799,787	
12	exceeding 1.2 M) Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and	290.46			10.79 plus 340% vide amendment 23-	799,787 47,011	
13	exceeding 1.2 M) Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer. Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	1161.84		40	10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15 plus225% vide	47,011 479,459	
13	exceeding 1.2 M) Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer. Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of	1161.84	Sqm	40	10.79 plus 340% vide amendment 23- 1-09 Haryana PWD item 9.15 plus225% vide amendment 23-1-09 Haryana PWD item 18.22 plus 350% vide amendment 23-	47,011	

	Detailed Estimate for Distribution System - Zone 17						
S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe
А	Without timbering and shoring upto 1.5 metres depth	26292	100 CUM	4732		1,244,123	
В	Excavation for thrust block		100 CUM	4732		15,557	
D	With timbering and shoring exceeding 1.5 metres depth, but upto 2.25 metres depth	10	100 CUM	6492		649	
2	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)						Factor for Excavation Quantity
	110 mm	24262	RM	310	RA	7,528,346	0.5166
	125 mm	3124		399	RA	1,246,741	0.5334
	140 mm	1915		499	RA	955,508	0.5676
	160 mm	735.5		650	RA	478,374	0.6026
	180 mm	719.5		825	RA	593,327	0.6384
	200 mm	1178		1016	RA	1,197,074	0.675
	225 mm	231.5		1282	RA	296,724	0.7314
	250 mm 280 mm	168	RM	1585 1984	RA RA	266,297 237.055	0.77
	315 mm		RM	2511	RA	76,589	0.8294
	355 mm		RM	3180	RA	260,753	0.975
	400 mm	-	RM	4129	RA	421,199	1.085
	Sub Total	32668		.112)	101		1.000
3	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (replacement of line with a new pipeline)						
	110 mm	14270.5	RM	310	RA	4,428,047	0.5166
	125 mm	1623		399	RA	647,715	0.5334
	140 mm	373	RM	499	RA	186,112	0.5676
	160 mm	151.5	RM	650	RA	98,537	0.6026
	180 mm	188.5	RM	825	RA	155,444	0.6384
	200 mm	14.5	RM	1016	RA	14,735	0.675
	250 mm	26.5	RM	1585	RA	42,005	0.77
	Sub Total	16648	RM				

-	Detailed Estimate	for Distrib	ution Syste	em - Zone	17		
S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
4	Dismantling pipeline of G.I./A.C./P.V.C./S.W./H.D.P.E. pipe including breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in-charge with all leads and lifts including cleaning the surface, etc. complete. (In place of dismentaled pipe another pipe is to be laid as such excavation for dismentalling is included in excavation for laying new pipe line)	16648	RM	12	LS	199,776	Received actualities
5	Dismentaling flanged joints for cast iron pipes, valves and specials including carriage of bolts, nuts and washers to store,						
	50 to 100 mm internal diameter of pipe, valve, special	30	Per Joint	3.50	Haryana PWD item 28.38 plus	105	
	125 to 200 mm internal diameter of pipe, valve, special	20			250% vide amendment dt	137	
	300 to 375 mm internal diameter of pipe, valve, special	10	Per Joint	17.50	23-1-09	175	
6	Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place					-	
7	Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY				Haryana PWD A & C slip No CZC-6 dated 3- 7-09		Quantity of valves taken roughly at one per KM
	100 mm i/d	43	each	3698		159,014	
	150 mm i/d		each	5709		22,836	
	200 mm i/d		each	9945		29,835	
	250 mm i/d 300 mm i/d		each each	15589 18944		31,178 18,944	
	350 mm i/d		each	30395		30,395	
	400 mm i/d		each	41120		41,120	
8	Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge				Haryana PWD A & C Slip CZC/3-7-09		size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km
	40 mm i/d	49	each	1619		79,331	
11	Soluce valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall thickness : 0.23 M for depth of 1.2 M and 0.35 M for balance depth exceeding 1.2 M.)		each	5000	LS	515,000	
12	Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as directed by Engineer.	328.7667	cum	2754	Haryana PWD item 10.79 plus 340% vide amendment 23- 1-09	905,266	
13	Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc	1315.067	Sqm	40	Haryana PWD item 9.15 plus225% vide	53,211	
14	Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	132	Quintal	4127	Haryana PWD item 18.22 plus 350% vide amendment 23- 1-09	542,692	
15	Road Work:					3452988.84	
16	Mislenious items					2,301,993	

	Detailed Estin	nate for Di	stribution S	System - Z	Cone 18		
S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
1	Excavation for pipelines running under pressure in trenches and pits, in streets and lanes including trimming and dressing sides, levelling of beds of trenches to correct grade, cutting joint holes, cutting trees and bushes, etc. refilling consolidation and watering of refill, in 15 cm layers and restoration of unmetalled or unpaved surface to its original condition, including the cost of dewatering of rain water, diversion of traffic, night signals, fixing caution boards, crossing over trenches for access to the houses, watching, fancing etc. and disposal of surplus soil outside and inside the town, involving lead upto one km in ordinary soil (for new pipe line and replacement pipes)				Item 6.9 Haryana PWD & 300% above vide amendment dated 1.1 08 and 23.1.09		Trench Width is pipe dia plus 300 mm, Minimum earth cover of 1 meter, average earth cover of 1.15 m, Average depth of excavation is 1.15 plus pipe dia. For 110 mm pipe excavation is (1.15+.11)*(.3+.11) ie 0.5166*L where L is length of Pipe
A	Without timbering and shoring upto 1.5 metres depth	3043	100 CUM	4732		144,012	
В	Excavation for thrust block	34.0	100 CUM	4732		1,611	
С	With timbering and shoring upto 1.5 metres depth		100 CUM	6300		-	
D	With timbering and shoring exceeding 1.5 metres depth, but upto 2.25 metres depth		100 CUM	6492		-	
Е	With timbering and shoring exceeding 2.25 metres depth, but upto 3 metres depth		100 CUM	6992		-	
2	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE 80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking etc. complete. (New Pipe Line)						Factor for Excavation Quantity
	110 mm		RM	310		22,651	0.5166
	125 mm	128.5		399		51,282	0.5334
	140 mm 160 mm	1041	RM RM	499 650	RA RA	519,417	0.5676
	180 mm		RM	825	RA	-	0.6384
	200 mm		RM	1016		-	0.675
	225 mm		RM	1282		-	0.7314
	250 mm		RM	1585	RA	-	0.77
	280 mm	62.5	RM	1984	RA	123,983	0.8294
	315 mm	164	RM	2511	RA	411,824	0.8906
	355 mm		RM	3180		-	0.975
	400 mm 450 mm		RM RM	4129 5226		-	1.085
	500 mm		RM	6443		-	1.32
	Sub Total	1469		01.0			1.02
3	Supply, Laying, Jointing, Field Testing, Commissioning complete at site of HDPE (PE80 Grade Coumpound) Pipes PN-8.0 (8.0 kg/sqcm) as per IS:4984 and specifications for water application, including all cost of material, labour required, transportation, loading, unloading & stacking at complete (replecement of line)				D.		
	110 mm	276.5		310		85,796	0.5166
	125 mm 140 mm	1255.5	RM RM	399 499		501,051 338,794	0.5334
	140 mm 160 mm		RM RM	499 650		338,794	0.5676
	180 mm		RM	825		234,197	0.6384
	200 mm	263.5		1016		267,766	
	225 mm	14.5	RM	1282	RA	18,585	0.7314
-	250 mm	176.5		1585		279,770	0.77
	280 mm	121.5		1984		241,022	0.8294
	315 mm	8	RM	2511	RA	20,089	0.8906
	355 mm		RM	3180		-	0.975
	400 mm 450 mm		RM	4129		-	1.085
	430 mm 500 mm		RM RM	5226 6443		-	1.2
	500 mm	1	14141	0443	NЛ	-	1.34

	Detailed Estin	nate for Dis	stribution S	System - Z	Cone 18		
S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
4	Dismantling pipeline of G.I./A.C./P.V.C./S.W./H.D.P.E. pipe including breaking the joints, lifting the pipes and stacking to the place as directed by Engineer-in-charge with all leads and lifts including cleaning the surface, etc. complete. (In place of dismentaled pipe another pipe is to be laid as such excavation for dismentalling is included in excavation for laying new pipe line)	3638	RM	12	LS	43,656	
	80 mm.		R.M.			-	
	100 mm.		R.M.			-	
	125 mm.		R.M.			-	
	150 mm.		R.M.			-	
	200 mm.		R.M.			-	
	250 mm. 300 mm.		R.M. R.M.			-	
	350 mm.		R.M.			-	
	400 mm.		R.M.			-	
	400 mm.		R.M.			-	
	500 mm.		R.M.			-	
5	Dismentaling flanged joints for cast iron pipes, valves and specials including carriage of bolts, nuts and washers to store, 50 to 100 mm internal diameter of pipe, valve, special	8		3 50	Haryana PWD	28	
	125 to 200 mm internal diameter of pipe, valve, special	6	Per Joint		item 28.38 plus 250%	41	
	300 to 375 mm internal diameter of pipe, valve, special	6	Per Joint	17.50	amendment dt	105	
	400 to 450 mm internal diameter of pipe, valve, special			19.95	23-1-09	-	
	500 to 525 mm internal diameter of pipe, valve, special			22.05		-	
6	Taking out dismentaled cast iron socketed or flanged pipes, valves and specials etc outside from the trenches and stacking at a nearest convenient place					-	
	80 mm.		10 m	18.20	Haryana PWD	-	
	100 mm.		10 m	22.23	item 28.38	-	
	125 mm.		10 m	22.75	plus 250%	-	
	150 mm.		10 m	27.13	1	-	
	200 mm.		10 m	36.23	23-1-09	-	
	250 mm. 300 mm.		10 m 10 m	49.18 57.58		-	
	350 mm.		10 m 10 m	72.63		-	
	400 mm.		10 m	95.73		-	
	450 mm.		10 m	107.45	-	-	
	500 mm.		10 m	115.33		-	
7	Providing and fixing cast iron double flanged sluice valves PN -1.6 marked with IS 14846 including nuts and bolts marked with IS 1363, rubber sheet marked with IS 638 etc carriage, loading, unloading, stacking, handling, rehandling etc complete in all respect to the satisfaction of engineer in charge (Makes AARKO, VENUS, LEADER, SI, PANJA, UPADHAY						Quantity of valves taken roughly at one per KM
	80 mm i/d		each		Haryana PWD	-	
	100 mm i/d		each		A & C slip No	11,094	
	150 mm i/d		each		CZC-6 dated 3-		
	200 mm i/d		each	9945	7-09	9,945	
	250 mm i/d		each	15589	-	15,589	
	300 mm i/d 350 mm i/d	1	each	18944 30395	1	18,944	
	400 mm i/d		each each	41120	1	-	
	400 mm i/d		each	48981	-	-	
	500 mm i/d		each	66911	1	-	
	600 mm i/d		each	95126		-	

	Detailed Estimate for Distribution System - Zone 18						
S No	Item	Quantity	Unit	Rate	Reference for Rate	Amount	Quantity Reference/Calculations
8	Providing and fixing cast iron single air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge				Haryana PWD A & C Slip CZC/3-7-09		size of air valve taken one sixth of pipe dia and nomber of air valves taken at one per km
	40 mm i/d	5	each	1619		8,095	
	50 mm i/d	0	each	1771		-	
9	Providing and fixing cast iron double air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge						
	65 mm i/d		each		Haryana PWD	-	
	80 mm i/d		each		A & C Slip	-	
	100 mm i/d	0	each	2491	CZC/3-7-09	-	
10	Providing and fixing cast iron kinetic air valves marked with IS 14845 including carriage, loading, unloading, stacking, handling, rehandling etc drilling, tapping, screwing etc in valve connections complete in all respect to the satisfaction of engineer-in-charge						
	80 mm i/d	0	each	2824	Haryana PWD	-	
	100 mm i/d	0	each		A & C Slip	-	
	150 mm i/d	0	each	7514	CZC/3-7-09	-	
	200 mm i/d	0	each	13267		-	
11	Sluice valve and air valve chamber: Providing and constructing Brick masonry valve chamber with 15 cm thick 1:3:6 proportion PCC bedding, excluding excavation, Brick masonry in C.M. 1:5 Proportion, 20 mm thick 1:4 plaster, precast RCC frame and cover, etc. complete as directed by Engineer-in-charge. (Wall	13	each	5000	LS	65,000	
12	Thrust Block: Providing and laying cement concrete in RCC (M-15, 1:2:4) with stone aggregate 20 mm nominal size for thrust blocks including compaction, curing, finishing, excluding cost of reinforcement & shuttering etc., Complete as per drawings and specifications and as	34.05	cum	2754	Haryana PWD item 10.79 plus 340% vide amendment 23-	93,748	
13	Thrust Block: Shuttering for precast plain or RC concrete wall plates, bed plates shelves etc	136.19	Sqm	40	Haryana PWD item 9.15 plus225% vide amendment 23- 1-09	5,510	
14	Providing TMT Steel Reinforcement as per IS: 1786 for RCC work including straightening, cutting, bending, placing in position and binding etc as per drawing all complete including cost of binding wire, labour, wastage etc.	14	Quintal	4127	Haryana PWD item 18.22 plus 350% vide amendment 23- 1-09	56,200	
15	Road Work:					594,721	
16	Mislenious Items					396,480	
	Total					4,956,006	

Appendix E-5

Cost Summary : Remodelling & Expansion of Distribution System in Zone 1 to Zone 18

Zone No	Estimated Cost (INR)	Reference
1	9,831,018	Refer Zone 1 Detailed Estimate
2	6,206,535	Refer Zone 2 Detailed Estimate
3	10,749,029	Refer Zone 3 Detailed Estimate
4	5,557,763	Refer Zone 4 Detailed Estimate
5	15,166,911	Refer Zone 5 Detailed Estimate
6	15,761,978	Refer Zone 6 Detailed Estimate
7	13,976,764	Refer Zone 7 Detailed Estimate
8	10,270,389	Refer Zone 8 Detailed Estimate
9	14,031,253	Refer Zone 9 Detailed Estimate
10	15,523,505	Refer Zone 10 Detailed Estimate
11	13,747,145	Refer Zone 11 Detailed Estimate
12	15,230,297	Refer Zone 12 Detailed Estimate
13	11,272,167	Refer Zone 13 Detailed Estimate
14	22,445,875	Refer Zone 14 Detailed Estimate
15	22,823,397	Refer Zone 15 Detailed Estimate
16	26,797,738	Refer Zone 16 Detailed Estimate
17	28,774,907	Refer Zone 17 Detailed Estimate
18	4,956,006	Refer Zone 18 Detailed Estimate
Total	263,122,678	

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